RESOLUTION RECEIVING BIDS AND AWARDING FOR CONTRACT B: SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2, TO RUDZIK EXCAVATING, INC., STRUTHERS OHIO, ACDES

WHEREAS, a request and recommendation has been received for the approval of the Board of Commissioners to award the South River Rd Waterline Extension Phase 2 Project, contract B; and

WHEREAS, On September 9, 2025, by Resolution No 2025-386, bids were ordered, and bids were received on October 3, 2025 for the South River Rd Waterline Extension Phase 2 Project, contract B part B1 and B2, as follows:

	Contract B Part B1 South River Rd, Brandt Rd and Atkins Rd.	Contract B Part B2 South Broadway	Total Bid Parts B1 & B2
Rudzik Excavating, Inc.	$1,280,864.41	$134,846.28	$1,415,710.69
Union Industrial Contractors	$1,349,164.00	$175,234.00	$1,524,398.00
Pollard Land Services, Inc.	$1,500,727.00	$147,431.00	$1,648,158.00
Chivers Construction Co. Inc.	$1,574,455.00	$128,455.00	$1,702,910.00
Fabrizi Trucking & Paving Co., Inc.	$1,659,482.70	$184,536.00	$1,844,018.70
Cronin Enterprises, LLC	$1,718,953.78	$195,328.35	$1,914,282.13
Great Lakes Crushing, LTD	$1,740,814.00	$193,128.00	$1,933,942.00
S.E.T Inc.	$2,192,945.00	$241,274.00	$2,434,219.00
J.S. Bova Excavating	$2,318,864.00	$325,295.00	$2,644,159.00

WHEREAS, Douglas Starkey, Director of the Ashtabula County Department of Environmental Services, along with Verdantas and staff, reviewed the bids and has recommended the bid be awarded to Rudzik Excavating, Inc. for the total of the total bid of $1,415,710.69 for part B1 and B2 for the South River Waterline Extension phase 2, as the lowest and best bid received; and

WHEREAS, this Board would concur with that recommendation; now

THEREFORE, BE IT RESOLVED, By the Board of Commissioners of Ashtabula County, Ohio, that the bid for the South River Rd Waterline Extension Phase 2 Project be awarded to Rudzik Excavating, Inc, as outlined above.

ASHTABULA COUNTY COMMISSIONERS

CERTIFICATION PAGE

Resolution No. 2025-444 **October 16, 2025**

RESOLUTION RECEIVING BIDS AND AWARDING FOR CONTRACT B: SOUTH RIVER RD WATERLINE EXTENSION PHASE 2, TO RUDZIK EXCAVATING, INC., STRUTHERS OHIO, ACDES

Upon the motion of Kathryn L. Whittington, seconded by Casey R. Kozlowski.

VOTE:

J.P. Ducro IV	**Aye**
Casey R. Kozlowski	**Aye**
Kathryn L. Whittington	**Aye**

CERTIFICATE OF CLERK

IT IS HEREBY CERTIFIED that the foregoing is a true and correct transcript of a resolution acted upon and duly passed by the Board of County Commissioners of Ashtabula County, Ohio, on the date noted above.

Lisa Hawkins

Lisa Hawkins, Clerk of the Board
Board of County Commissioners
Ashtabula County, Ohio

PROJECT: Contract B - South River Road Waterline Extension Phase 2

OWNER: Ashtabula Co. Bd. of Commissioners

PROJECT NO.: 241222

BID OPENING: October 3, 2025

BID SUMMARY

	BIDDER	PART B1 South River Rd, Brandt Rd. & Atkins Rd.	PART B2 South Broadway	TOTAL BID PARTS B1 & B2
1	Rudzik Excavating, Inc.	$1,280,864.41	$134,846.28	$1,415,710.69
2	Union Industrial Contractors, Inc.	$1,349,164.00	$175,234.00	$1,524,398.00
3	Pollard Land Services, Inc.	$1,500,727.00	$147,431.00	$1,648,158.00
4	Chivers Construction Co., Inc.	$1,574,455.00	$128,455.00	$1,702,910.00
5	Fabrizi Trucking & Paving Co., Inc.	$1,659,482.70	$184,536.00	$1,844,018.70
6	Cronin Enterprises, LLC	$1,718,953.78	$195,328.35	$1,914,282.13
7	Great Lakes Crushing, LTD	$1,740,814.00	$193,128.00	$1,933,942.00
8	S.E.T. Inc.	$2,192,945.00	$241,274.00	$2,434,219.00
9	J. S. Bova Excavating	$2,318,864.00	$325,295.00	$2,644,159.00

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF BIDDERS

BIDDER

1 Rudzik Excavating, Inc.
401 Lowellville Road
PO 206
Struthers, OH 44471
Phone number: (330) 755-1540

2 Union Industrial Contractors, Inc.
1800 East 21st Street
PO Box 1718
Ashtabula, OH 440051718
Phone number: (440) 998-7871

3 Pollard Land Services, Inc.
8150 Franklin Road
Girard, PA 16417
Phone number: (814) 474-1107

4 Chivers Construction Co., Inc.
6700 Tow Road
Fairview, PA 16415
Phone number: (814) 474-2637

5 Fabrizi Trucking & Paving Co., Inc.
20389 First Avenue
Middleburg Hts., OH 44130
Phone number: (440) 973-4929

6 Cronin Enterprises, LLC
667 Route 30
Imperial, PA 15126
Phone number: (412) 302-1341

7 Great Lakes Crushing, LTD
30831 Euclid Avenue
Willowick, OH 44092
Phone number: (440) 944-5500

8 S.E.T. Inc.
235 East Water Street, Suite C
Lowellville, OH 444361273
Phone number: (330) 536-6724

9 J. S. Bova Excavating
235 State Street
Struthers, OH 44471
Phone number: (234) 254-4040

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF TOTALS

NOTE: Bidders Informal Totals appear if different than bid tab calculated total.

	Name	Calculated Total	Bidder's Informal Totals
1.	Rudzik Excavating, Inc.	$1,280,864.41	
2.	Union Industrial Contractors, Inc.	$1,349,164.00	$1,349,344.00
3.	Pollard Land Services, Inc.	$1,500,727.00	
4.	Chivers Construction Co., Inc.	$1,574,455.00	
5.	Fabrizi Trucking & Paving Co., Inc.	$1,659,482.70	
6.	Cronin Enterprises, LLC	$1,718,953.78	$1,722,376.87
7.	Great Lakes Crushing, LTD	$1,740,814.00	
8.	S.E.T. Inc.	$2,192,945.00	
9.	J. S. Bova Excavating	$2,318,864.00	$2,235,564.00

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
1. 33.00 SY OF (SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN						
Rudzik Excavating, Inc.	$250.00	$139.95	$389.95		$12,868.35	
Union Industrial Contractors, Inc.	$100.00	$95.00	$195.00		$6,435.00	
Pollard Land Services, Inc.	$40.00	$45.00	$85.00		$2,805.00	
Chivers Construction Co., Inc.	$65.00	$34.00	$99.00		$3,267.00	
Fabrizi Trucking & Paving Co., Inc.	$265.00	$160.00	$425.00		$14,025.00	
Cronin Enterprises, LLC	$65.03	$44.47	$109.50		$3,613.50	
Great Lakes Crushing, LTD	$175.00	$175.00	$350.00		$11,550.00	
S.E.T. Inc.	$170.00	$30.00	$200.00		$6,600.00	
J. S. Bova Excavating	$65.00	$34.00	$99.00		$3,267.00	
2. 144.00 SY OF (SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN						
Rudzik Excavating, Inc.	$150.00	$66.26	$216.26		$31,141.44	
Union Industrial Contractors, Inc.	$100.00	$20.00	$120.00		$17,280.00	
Pollard Land Services, Inc.	$40.00	$45.00	$85.00		$12,240.00	
Chivers Construction Co., Inc.	$43.00	$23.00	$66.00		$9,504.00	
Fabrizi Trucking & Paving Co., Inc.	$250.00	$104.00	$354.00		$50,976.00	
Cronin Enterprises, LLC	$42.15	$52.16	$94.31		$13,580.64	
Great Lakes Crushing, LTD	$145.00	$135.00	$280.00		$40,320.00	
S.E.T. Inc.	$160.00	$25.00	$185.00		$26,640.00	
J. S. Bova Excavating	$65.00	$34.00	$99.00		$14,256.00	
3. 1,283.00 SY OF (SPC) TYPE "F" PAVEMENT REPLACEMENT (STONE), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN						
Rudzik Excavating, Inc.	$6.00	$10.75	$16.75		$21,490.25	
Union Industrial Contractors, Inc.	$30.00	$15.00	$45.00		$57,735.00	
Pollard Land Services, Inc.	$10.00	$20.00	$30.00		$38,490.00	
Chivers Construction Co., Inc.	$5.00	$11.00	$16.00		$20,528.00	
Fabrizi Trucking & Paving Co., Inc.	$15.00	$15.00	$30.00		$38,490.00	
Cronin Enterprises, LLC	$7.75	$7.92	$15.67		$20,104.61	
Great Lakes Crushing, LTD	$72.00	$12.00	$84.00		$107,772.00	
S.E.T. Inc.	$10.00	$15.00	$25.00		$32,075.00	
J. S. Bova Excavating	$11.00	$13.00	$24.00		$30,792.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
4. 2.00 EACH OF (638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN						
Rudzik Excavating, Inc.	$2,200.00	$637.27	$2,837.27		$5,674.54	
Union Industrial Contractors, Inc.	$7,200.00	$1,300.00	$8,500.00		$17,000.00	
Pollard Land Services, Inc.	$2,000.00	$1,000.00	$3,000.00		$6,000.00	
Chivers Construction Co., Inc.	$3,601.00	$1,279.00	$4,880.00		$9,760.00	
Fabrizi Trucking & Paving Co., Inc.	$2,418.00	$1,560.00	$3,978.00		$7,956.00	
Cronin Enterprises, LLC	$6,852.00	$6,852.00	$13,704.00	$13,704.22	$27,408.00	$27,409.94
Great Lakes Crushing, LTD	$8,300.00	$2,900.00	$11,200.00		$22,400.00	
S.E.T. Inc.	$3,000.00	$3,000.00	$6,000.00		$12,000.00	
J. S. Bova Excavating	$10,000.00	$4,400.00	$14,400.00		$28,800.00	
5. 7,162.00 FT OF (638) 6 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN						
Rudzik Excavating, Inc.	$25.82	$29.61	$55.43		$396,989.66	
Union Industrial Contractors, Inc.	$31.00	$26.00	$57.00		$408,234.00	
Pollard Land Services, Inc.	$36.00	$30.00	$66.00		$472,692.00	
Chivers Construction Co., Inc.	$36.00	$48.00	$84.00		$601,608.00	
Fabrizi Trucking & Paving Co., Inc.	$34.35	$38.00	$72.35		$518,170.70	
Cronin Enterprises, LLC	$48.17	$36.12	$84.29		$603,684.98	
Great Lakes Crushing, LTD	$40.00	$30.00	$70.00		$501,340.00	
S.E.T. Inc.	$60.00	$55.00	$115.00		$823,630.00	
J. S. Bova Excavating	$60.00	$27.00	$87.00		$623,094.00	
6. 8,000.00 FT OF (638) 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN						
Rudzik Excavating, Inc.	$31.45	$43.40	$74.85		$598,800.00	
Union Industrial Contractors, Inc.	$34.00	$30.50	$64.50		$516,000.00	
Pollard Land Services, Inc.	$36.00	$37.00	$73.00		$584,000.00	
Chivers Construction Co., Inc.	$32.00	$41.00	$73.00		$584,000.00	
Fabrizi Trucking & Paving Co., Inc.	$34.00	$47.30	$81.30		$650,400.00	
Cronin Enterprises, LLC	$55.37	$39.58	$94.95		$759,600.00	
Great Lakes Crushing, LTD	$40.00	$40.00	$80.00		$640,000.00	
S.E.T. Inc.	$60.00	$60.00	$120.00		$960,000.00	
J. S. Bova Excavating	$110.00	$48.00	$158.00		$1,264,000.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
7. 6.00 EACH OF (638) 6 INCH GATE VALVE AND VALVE BOX, AS PER PLAN						
Rudzik Excavating, Inc.	$500.00	$1,626.56	$2,126.56		$12,759.36	
Union Industrial Contractors, Inc.	$1,855.00	$1,700.00	$3,555.00	$3,585.00	$21,330.00	$21,510.00
Pollard Land Services, Inc.	$1,000.00	$2,000.00	$3,000.00		$18,000.00	
Chivers Construction Co., Inc.	$992.00	$1,994.00	$2,986.00		$17,916.00	
Fabrizi Trucking & Paving Co., Inc.	$613.00	$1,870.00	$2,483.00		$14,898.00	
Cronin Enterprises, LLC	$2,112.00	$1,331.60	$3,443.60		$20,661.60	$20,662.74
Great Lakes Crushing, LTD	$1,725.00	$1,900.00	$3,625.00		$21,750.00	
S.E.T. Inc.	$800.00	$1,700.00	$2,500.00		$15,000.00	
J. S. Bova Excavating	$750.00	$1,655.00	$2,405.00		$14,430.00	
8. 5.00 EACH OF (638) 8 INCH GATE VALVE AND VALVE BOX						
Rudzik Excavating, Inc.	$500.00	$2,337.80	$2,837.80		$14,189.00	
Union Industrial Contractors, Inc.	$2,080.00	$2,450.00	$4,530.00		$22,650.00	
Pollard Land Services, Inc.	$1,000.00	$3,000.00	$4,000.00		$20,000.00	
Chivers Construction Co., Inc.	$992.00	$2,576.00	$3,568.00		$17,840.00	
Fabrizi Trucking & Paving Co., Inc.	$730.00	$2,621.00	$3,351.00		$16,755.00	
Cronin Enterprises, LLC	$2,650.15	$2,098.46	$4,748.61		$23,743.05	$23,744.35
Great Lakes Crushing, LTD	$1,725.00	$2,710.00	$4,435.00		$22,175.00	
S.E.T. Inc.	$800.00	$2,700.00	$3,500.00		$17,500.00	
J. S. Bova Excavating	$850.00	$2,375.00	$3,225.00		$16,125.00	
9. 19.00 EACH OF (638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, TYPE B, AS PER PLAN						
Rudzik Excavating, Inc.	$750.00	$6,989.04	$7,739.04		$147,041.76	
Union Industrial Contractors, Inc.	$5,500.00	$7,000.00	$12,500.00		$237,500.00	
Pollard Land Services, Inc.	$3,500.00	$10,000.00	$13,500.00		$256,500.00	
Chivers Construction Co., Inc.	$2,611.00	$9,844.00	$12,455.00		$236,645.00	
Fabrizi Trucking & Paving Co., Inc.	$3,311.00	$7,120.00	$10,431.00		$198,189.00	
Cronin Enterprises, LLC	$4,222.00	$7,805.87	$12,027.87		$228,529.53	$231,947.25
Great Lakes Crushing, LTD	$3,460.00	$9,093.00	$12,553.00		$238,507.00	
S.E.T. Inc.	$3,500.00	$7,000.00	$10,500.00		$199,500.00	
J. S. Bova Excavating	$3,000.00	$8,900.00	$11,900.00		$226,100.00	$142,800.00

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
10. 1.00 LS OF (SPC) LAWN RESTORATION (GRADING, SEEDING, & MULCHING)						
Rudzik Excavating, Inc.	$22,119.75	$17,790.30	$39,910.05		$39,910.05	
Union Industrial Contractors, Inc.	$25,000.00	$20,000.00	$45,000.00		$45,000.00	
Pollard Land Services, Inc.	$47,000.00	$43,000.00	$90,000.00		$90,000.00	
Chivers Construction Co., Inc.	$43,495.00	$29,892.00	$73,387.00		$73,387.00	
Fabrizi Trucking & Paving Co., Inc.	$88,278.00	$61,345.00	$149,623.00		$149,623.00	
Cronin Enterprises, LLC	$10,500.00	$7,527.87	$18,027.87		$18,027.87	$18,028.86
Great Lakes Crushing, LTD	$60,000.00	$75,000.00	$135,000.00		$135,000.00	
S.E.T. Inc.	$50,000.00	$50,000.00	$100,000.00		$100,000.00	
J. S. Bova Excavating	$70,000.00	$28,000.00	$98,000.00		$98,000.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B2 - South Broadway
Project No. 241222

LIST OF BIDDERS

BIDDER

1 Chivers Construction Co., Inc.
6700 Tow Road
Fairview, PA 16415
Phone number: (814) 474-2637

2 Rudzik Excavating, Inc.
401 Lowellville Road
PO 206
Struthers, OH 44471
Phone number: (330) 755-1540

3 Pollard Land Services, Inc.
8150 Franklin Road
Girard, PA 16417
Phone number: (814) 474-1107

4 Union Industrial Contractors, Inc.
1800 East 21st Street
PO Box 1718
Ashtabula, OH 440051718
Phone number: (440) 998-7871

5 Fabrizi Trucking & Paving Co., Inc.
20389 First Avenue
Middleburg Hts., OH 44130
Phone number: (440) 973-4929

6 Great Lakes Crushing, LTD
30831 Euclid Avenue
Willowick, OH 44092
Phone number: (440) 944-5500

7 Cronin Enterprises, LLC
667 Route 30
Imperial, PA 15126
Phone number: (412) 302-1341

8 S.E.T. Inc.
235 East Water Street, Suite C
Lowellville, OH 444361273
Phone number: (330) 536-6724

9 J. S. Bova Excavating
235 State Street
Struthers, OH 44471
Phone number: (234) 254-4040

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B2 - South Broadway
Project No. 241222

LIST OF TOTALS

NOTE: Bidders Informal Totals appear if different than bid tab calculated total.

	Name	Calculated Total	Bidder's Informal Totals
1.	Chivers Construction Co., Inc.	$128,455.00	
2.	Rudzik Excavating, Inc.	$134,846.28	
3.	Pollard Land Services, Inc.	$147,431.00	
4.	Union Industrial Contractors, Inc.	$175,234.00	
5.	Fabrizi Trucking & Paving Co., Inc.	$184,536.00	
6.	Great Lakes Crushing, LTD	$193,128.00	
7.	Cronin Enterprises, LLC	$195,328.35	$195,329.85
8.	S.E.T. Inc.	$241,274.00	
9.	J. S. Bova Excavating	$325,295.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B2 - South Broadway
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
1. 30.00 SY OF (SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN						
Chivers Construction Co., Inc.	$65.00	$34.00	$99.00		$2,970.00	
Rudzik Excavating, Inc.	$250.00	$139.95	$389.95		$11,698.50	
Pollard Land Services, Inc.	$40.00	$45.00	$85.00		$2,550.00	
Union Industrial Contractors, Inc.	$100.00	$95.00	$195.00		$5,850.00	
Fabrizi Trucking & Paving Co., Inc.	$265.00	$160.00	$425.00		$12,750.00	
Great Lakes Crushing, LTD	$175.00	$175.00	$350.00		$10,500.00	
Cronin Enterprises, LLC	$65.03	$44.47	$109.50		$3,285.00	
S.E.T. Inc.	$380.00	$30.00	$410.00		$12,300.00	
J. S. Bova Excavating	$65.00	$34.00	$99.00		$2,970.00	
2. 36.00 SY OF (SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN						
Chivers Construction Co., Inc.	$47.00	$25.00	$72.00		$2,592.00	
Rudzik Excavating, Inc.	$150.00	$66.26	$216.26		$7,785.36	
Pollard Land Services, Inc.	$40.00	$45.00	$85.00		$3,060.00	
Union Industrial Contractors, Inc.	$100.00	$20.00	$120.00		$4,320.00	
Fabrizi Trucking & Paving Co., Inc.	$250.00	$104.00	$354.00		$12,744.00	
Great Lakes Crushing, LTD	$145.00	$135.00	$280.00		$10,080.00	
Cronin Enterprises, LLC	$42.15	$52.16	$94.31		$3,395.16	
S.E.T. Inc.	$330.00	$25.00	$355.00		$12,780.00	
J. S. Bova Excavating	$70.00	$37.00	$107.00		$3,852.00	
3. 2.00 EACH OF (638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN						
Chivers Construction Co., Inc.	$3,018.00	$868.00	$3,886.00		$7,772.00	
Rudzik Excavating, Inc.	$2,200.00	$710.57	$2,910.57		$5,821.14	
Pollard Land Services, Inc.	$2,000.00	$1,000.00	$3,000.00		$6,000.00	
Union Industrial Contractors, Inc.	$7,500.00	$1,500.00	$9,000.00		$18,000.00	
Fabrizi Trucking & Paving Co., Inc.	$1,400.00	$1,101.00	$2,501.00		$5,002.00	
Great Lakes Crushing, LTD	$8,300.00	$2,900.00	$11,200.00		$22,400.00	
Cronin Enterprises, LLC	$6,852.11	$6,852.11	$13,704.22		$27,408.44	$27,409.94
S.E.T. Inc.	$3,000.00	$3,000.00	$6,000.00		$12,000.00	
J. S. Bova Excavating	$10,000.00	$4,400.00	$14,400.00		$28,800.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B2 - South Broadway
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
4. 1,477.00 FT OF (638) 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN						
Chivers Construction Co., Inc.	$32.00	$28.00	$60.00		$88,620.00	
Rudzik Excavating, Inc.	$27.94	$36.28	$64.22		$94,852.94	
Pollard Land Services, Inc.	$36.00	$37.00	$73.00		$107,821.00	
Union Industrial Contractors, Inc.	$52.00	$30.00	$82.00		$121,114.00	
Fabrizi Trucking & Paving Co., Inc.	$34.50	$47.50	$82.00		$121,114.00	
Great Lakes Crushing, LTD	$40.00	$40.00	$80.00		$118,160.00	
Cronin Enterprises, LLC	$55.37	$39.58	$94.95		$140,241.15	
S.E.T. Inc.	$62.00	$60.00	$122.00		$180,194.00	
J. S. Bova Excavating	$123.00	$51.00	$174.00		$256,998.00	
5. 1.00 EACH OF (638) 8 INCH GATE VALVE AND VALVE BOX						
Chivers Construction Co., Inc.	$992.00	$2,576.00	$3,568.00		$3,568.00	
Rudzik Excavating, Inc.	$500.00	$2,337.80	$2,837.80		$2,837.80	
Pollard Land Services, Inc.	$1,000.00	$3,000.00	$4,000.00		$4,000.00	
Union Industrial Contractors, Inc.	$3,000.00	$2,500.00	$5,500.00		$5,500.00	
Fabrizi Trucking & Paving Co., Inc.	$730.00	$2,622.00	$3,352.00		$3,352.00	
Great Lakes Crushing, LTD	$1,725.00	$2,710.00	$4,435.00		$4,435.00	
Cronin Enterprises, LLC	$2,650.15	$2,098.46	$4,748.61		$4,748.61	
S.E.T. Inc.	$800.00	$2,700.00	$3,500.00		$3,500.00	
J. S. Bova Excavating	$850.00	$2,375.00	$3,225.00		$3,225.00	
6. 1.00 EACH OF (638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, TYPE B, AS PER PLAN						
Chivers Construction Co., Inc.	$2,611.00	$9,844.00	$12,455.00		$12,455.00	
Rudzik Excavating, Inc.	$900.00	$7,064.74	$7,964.74		$7,964.74	
Pollard Land Services, Inc.	$3,500.00	$10,000.00	$13,500.00		$13,500.00	
Union Industrial Contractors, Inc.	$7,500.00	$8,000.00	$15,500.00		$15,500.00	
Fabrizi Trucking & Paving Co., Inc.	$3,841.00	$7,120.00	$10,961.00		$10,961.00	
Great Lakes Crushing, LTD	$3,460.00	$9,093.00	$12,553.00		$12,553.00	
Cronin Enterprises, LLC	$4,222.00	$7,805.87	$12,027.87		$12,027.87	
S.E.T. Inc.	$3,500.00	$7,000.00	$10,500.00		$10,500.00	
J. S. Bova Excavating	$3,050.00	$8,600.00	$11,650.00		$11,650.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B2 - South Broadway
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
7. 1.00 LS OF (SPC) LAWN RESTORATION (GRADING, SEEDING, & MULCHING)						
Chivers Construction Co., Inc.	$5,807.00	$4,671.00	$10,478.00		$10,478.00	
Rudzik Excavating, Inc.	$2,230.00	$1,655.80	$3,885.80		$3,885.80	
Pollard Land Services, Inc.	$5,500.00	$5,000.00	$10,500.00		$10,500.00	
Union Industrial Contractors, Inc.	$2,500.00	$2,450.00	$4,950.00		$4,950.00	
Fabrizi Trucking & Paving Co., Inc.	$10,803.00	$7,810.00	$18,613.00		$18,613.00	
Great Lakes Crushing, LTD	$7,000.00	$8,000.00	$15,000.00		$15,000.00	
Cronin Enterprises, LLC	$3,000.00	$1,222.12	$4,222.12		$4,222.12	
S.E.T. Inc.	$5,000.00	$5,000.00	$10,000.00		$10,000.00	
J. S. Bova Excavating	$15,000.00	$2,800.00	$17,800.00		$17,800.00	

8150 Sterling Court
Mentor, Ohio 44060

October 7, 2025

Doug Starkey, Director
Department of Environmental Services
Ashtabula County Board of Commissioners
25 West Jefferson Street
Jefferson, Ohio 44047

Re: Contract B – South River Road Waterline Extension Phase 2
Bid Results

Dear Mr. Starkey:

Bids were received for the above referenced project on October 3, 2025 and attached you will find a copy of the Bid Summary and Tabulation outlining each bid for your review. The bids ranged from a low bid of $1,415,710.69 to a high bid of $2,644,159.00 as compared to the Opinion of Probable Construction Cost of $2,293,000.00.

The low bidder for this improvement is Rudzik Excavating, Inc. of Struthers, Ohio whose bid has been reviewed and found to be in conformance with all contract requirements. It is our opinion that they are experienced and qualified to perform the work within the contract.

Should you have any questions or require additional information, please feel free to contact our office.

Respectfully,

VERDANTAS LLC

Georgia Conway, P.E.
Project Manager

GBC:alc

Enclosures

H:\2024\241222\SPEC - Contract B\Bid Results Letter - Contract B.doc

Executed Contract Book

Contract A - Harpersfield Water Tank & Waterline Improvements and Contract B - South River Road Waterline Extension Phase 2

Ashtabula County Board of Commissioners

WPCLF, ARC & CDS-EPA Community Grant Funded Project

September 2025





241222

verdantas

8150 Sterling Ct. | Mentor | OH | 44060 |
440.951.9000 | www.verdantas.com

To: All Plan Holders of Record

From: Verdantas LLC
For the Owner

Re: ***Addendum No. 1***
Contract A - Harpersfield Water Tank & Waterline Improvements
Contract B - South River Road Waterline Extension Phase 2
Ashtabula County Board of Commissioners

Date: September 22, 2025

This Addendum forms a part of the contract documents and modifies the original bidding documents dated September 2025 and all previous addenda, if any. Acknowledge receipt of this addendum in the space provided in the bid forms. Failure to do so may subject the bidder to disqualification.

BID OPENING DATE

The date of receiving and opening bids shall be changed from September 26, 2025 to October 3, 2025. The time and place shall remain the same.

OPINION OF PROBABLE CONSTRUCTION COST

The Opinion of Probable Construction Cost for Contract A – Alternate - Glass Fused to Steel Bolted Elevated Tank & Waterline shall be $4,321,000.00.

QUESTIONS AND ANSWERS

Q1. What is the requirement for backfill along the new waterline extension for Contract B?

A1. Final backfill in the Trenching, Embedment, and Backfill details on Sheet 9 of 43 is to read:

4. FINAL BACKFILL: IN ALL AREAS PARALLEL TO THE ROAD AT A MINIMUM OF 3-FEET FROM EDGE OF PAVEMENT, FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER. ALL AREAS UNDER PAVEMENT OR STRUCTURES SHALL BE SPECIAL BACKFILL MATERIAL.

Q2. Specification 323113 calls for 6’ fence height + 3 stands of barb wire while Sheet 16 calls for 8’ fence height + 3 stands barb wire, which is correct?

A2. 8’ high fence and 3 strands of barbed wire.

Q3. Are Contracts A and B separate? Contract B does not have items for mobilization, preconstruction video, bonds and insurances, and clearing and grubbing.

A3. Yes, the contracts are separate. Those items for Contract B are listed in PART 1 – GENERAL on Page BD.16.

Q4. Can the contractors propose an alternate material for the framework?

A4. Please bid per plan. For substitution of materials, post award, please fill out the following paperwork per spec section 012513 for owner review of the alternative.

Q5. Is the $15,000 SCADA allowance to be included in the general construction item?

A5. The SCADA Allowance, for Contract A, is to be its own line item for $15,000. The bid proposal forms will be reissued as a part of this Addendum.

Q6. Does the drive for Contract A have a 5’ berm on both sides? If so, can you provide a detail or match the surface aggregate detail? Bid item or incidental to general construction?

A6. The drive has a 5’ shoulder on both sides, on the way into the tank area. This area is not proposed to have aggregate and can be simply seeded with grass. This would be covered under REF no.4 for Excavation & Embankment, seeing is to fall under lawn restoration.

Q7. The site for Contract A has rough grading, is the intention of the contract to restore the entire are disturbed by a previous contract?

A7. The intention of the Lawn Restoration Item is to restore what is disturbed by the work performed for the Tank Site and over the Waterline.

CLARIFICATIONS

C1. The eclipse hydrant pricing is to be included in the price of the 4 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS as indicated on Page BD.18.

C2. Barbed wire and fencing enclosure is to follow the fence detail on Sheet 16, 3 strands of barbed wire and 8 feet tall.

C3. The pricing for replacing driveway culverts is to be included in the respective pavement replacement type line item as indicated on BD.17.

BID FORMS

CONTRACT A – Base Bid and Alternate:
Replace Bid Form, Pages BF.8 to BF.9, with the enclosed Bid Form, Pages BF.8A to BF.9A.

SPECIFICATIONS

ADD enclosed 'Ashtabula County Medallion Fire Hydrant' Specification Review & Hydrant Specifications to the end of Specification Section 331113.01 – Water Utility Distribution System.

PREVAILING WAGES

Section 9, Prevailing Wage Rates - **Replace** the Wage Rate Schedule with the following:

Heavy and Highway – Decision No. OH20250001, Modification No. 19, dated 09/12/2025

Bidders shall utilize this revised decision when compiling their Bid.

PLANS

Replace plan sheet 7/43 with the enclosed Revised plan sheet 7/43.

GC/TM:mep

Enclosures

H:\2024\241222\SPEC - Contract B\Addenda\Addendum 01\Addendum 01.Doc

Proposal to Ashtabula Co. Bd. of Commissioners
For Harpersfield Water Tank & Waterline Improvements
Base Bid - Spheroid Tank & Waterline
Project No. 200426

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) PRECONSTRUCTION VIDEO DOCUMENTATION	1.00	LS	$	$	$	$
2	(SPC) BONDS AND INSURANCES, AS PER PLAN	1.00	LS	$	$	$	$
3	(201) CLEARING AND GRUBBING, AS PER PLAN	1.00	LS	$	$	$	$
4	(203) EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN	1.00	LS	$	$	$	$
5	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	30.00	SY	$	$	$	$
6	(451) 6 INCH REINFORCED CONCRETE DRIVES AND APRONS, AS PER PLAN	410.00	SY	$	$	$	$
7	(SPC) GENERAL CONSTRUCTION, AS PER PLAN	1.00	LS	$	$	$	$
8	(601) ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN	5.00	CY	$	$	$	$
9	(606) BOLLARD, AS PER PLAN	4.00	EACH	$	$	$	$
10	(607) DOUBLE GATE, AS PER PLAN	1.00	EACH	$	$	$	$
11	(611) 12" CONDUIT, TYPE A, AS PER PLAN	34.00	FT	$	$	$	$
12	(624) MOBILIZATION	1.00	LS	$	$	$	$
13	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	1.00	EACH	$	$	$	$
14	(638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN	1.00	EACH	$	$	$	$
15	(638) 12 INCH WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND CAST IRON MECHANICAL JOINT FITTINGS, AS PER PLAN	240.00	FT	$	$	$	$
16	(SPC) LAWN RESTORATION, AS PER PLAN	1.00	LS	$	$	$	$
17	(SPC) INSTRUMENTATION AND CONTROL (SCADA) SYSTEM INTEGRATION ALLOWANCE	1.00	LS	$ ----------	$ ----------	$ 15,000.00	$ 15,000.00
18	(SPC) TEMPORARY SEDIMENT AND EROSION CONTROL, AS PER PLAN	1.00	LS	$	$	$	$
19	(SPC) ELECTRIC COMPANY CHARGES ALLOWANCE	1.00	LS	$ ----------	$ ----------	$ 15,000.00	$ 15,000.00

INFORMAL TOTAL BID $

Proposal to Ashtabula Co. Bd. of Commissioners
For Harpersfield Water Tank & Waterline Improvements
Alternate - Glass Fused to Steel Bolted Elevated Tank & Waterline
Project No. 200426

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) PRECONSTRUCTION VIDEO DOCUMENTATION	1.00	LS	$	$	$	$
2	(SPC) BONDS AND INSURANCES, AS PER PLAN	1.00	LS	$	$	$	$
3	(201) CLEARING AND GRUBBING, AS PER PLAN	1.00	LS	$	$	$	$
4	(203) EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN	1.00	LS	$	$	$	$
5	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	30.00	SY	$	$	$	$
6	(451) 6 INCH REINFORCED CONCRETE DRIVES AND APRONS, AS PER PLAN	410.00	SY	$	$	$	$
7	(SPC) GENERAL CONSTRUCTION, AS PER PLAN	1.00	LS	$	$	$	$
8	(601) ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN	5.00	CY	$	$	$	$
9	(606) BOLLARD, AS PER PLAN	4.00	EACH	$	$	$	$
10	(607) DOUBLE GATE, AS PER PLAN	1.00	EACH	$	$	$	$
11	(611) 12" CONDUIT, TYPE A, AS PER PLAN	34.00	FT	$	$	$	$
12	(624) MOBILIZATION	1.00	LS	$	$	$	$
13	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	1.00	EACH	$	$	$	$
14	(638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN	1.00	EACH	$	$	$	$
15	(638) 12 INCH WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND CAST IRON MECHANICAL JOINT FITTINGS, AS PER PLAN	240.00	FT	$	$	$	$
16	(SPC) LAWN RESTORATION, AS PER PLAN	1.00	LS	$	$	$	$
17	(SPC) INSTRUMENTATION AND CONTROL (SCADA) SYSTEM INTEGRATION ALLOWANCE	1.00	LS	$ ----------	$ ----------	$ 15,000.00	$ 15,000.00
18	(SPC) TEMPORARY SEDIMENT AND EROSION CONTROL, AS PER PLAN	1.00	LS	$	$	$	$
19	(SPC) ELECTRIC COMPANY CHARGES ALLOWANCE	1.00	LS	$ ----------	$ ----------	$ 15,000.00	$ 15,000.00

INFORMAL TOTAL BID $

BF.9A

Medallion Fire Hydrant

Specification Review

End User: Ashtabula County Environmental Services

Specification Revision:

First Reviewer: Date:

Second Reviewer: Date:

Part Number(s): New ✔ Update

Completed By: Date:

Subittal Drawing: New Update

Number: Revision:

Completed By: Date:

Approvals:

Engineering Manager: Date:

Sales Manager: Date:

Medallion Fire Hydrant

Specification Review

End User: Ashtabula County Environmental Ser

Specification Revision:

Main Valve Opening: 5 1/4" ✔ | 4 1/2"

Rated Pressure: 250 psi

Nozzle Section Details: A536 Ductile Iron

One Steamer - Two Hose	✔
One Steamer*	

Two Steamer*	
Two Hose	

Standards	
AWWA C502	✔
UL 246	
FM 1510	
NSF 61	

Outlet Details	Steamer		4" Storz
	Hose		2 1/2" Threaded
			NST
Color	Body		TGIC Safety Yellow
	Cover		TGIC Red Blush
	Caps		TGIC Red Blush
	Weather Shield		TGIC Red Blush
Operation	Open Direction		Open Left
	Operating Nuts	Shape	Pentagon
		Size	11/2"
Internals	Drain Feature		Drain
	Stop Method		Shoe Stop
	Stem Material		304 Stainless Steel
	Valve Rubber		Rubber
	Wetted Parts Alloy		Copper Alloy
	Non-Wetted Parts Alloy		Copper Alloy
	Lower Valve Plate		Eco Brass (C87850)
Accessories	Bolts & Nuts		Stainless Steel
	O-Ring Seals		Rubber
	Chains		Zinc Plated Steel

End Connection Details:

	Size		
	4"	6"	8"
MJ - Standard[1,2]		✔	
MJ - with Lugs	-		-
MCJ[2]			-
Flange[2]			-
Tyton	-		-
Vertical	-		-
HDPE*	-		-
Male MJ*	-		-

Comments:

*Only available with 5 1/4" MVO

**Storz option not available in 350 psi pressure rating

[1] 8" size only available with 5 1/4" MVO

[2] 4" size only available with 4 1/2" MVO

Medallion Fire Hydrant

Hydrant Specifications

End User: Ashtabula County Environmenta

Specification Revision:

Main Valve Opening: 5 1/4" ✔ 4 1/2" ☐

Rated Pressure: 250 psi

Nozzle Section Details: A536 Ductile Iron



One Steamer - Two Hose ✔



One Steamer ☐



Two Steamer ☐



Two Hose ☐

Outlet Details	Steamer		4" Storz
	Hose		2 1/2" Threaded
			NST
Color	Body		TGIC Safety Yellow
	Cover		TGIC Red Blush
	Caps		TGIC Red Blush
	Weather Shield		TGIC Red Blush
Operation	Open Direction		Open Left
	Operating Nuts	Shape	Pentagon
		Size	11/2"
Internals	Drain Feature		Drain
	Stop Method		Shoe Stop
	Stem Material		304 Stainless Steel
	Valve Rubber		Rubber
	Wetted Parts Alloy		Copper Alloy
	Non-Wetted Parts Alloy		Copper Alloy
	Lower Valve Plate		Eco Brass (C87850)
Accessories	Bolts & Nuts		Stainless Steel
	O-Ring Seals		Rubber
	Chains		Zinc Plated Steel

Standards	
AWWA C502	✔
UL 246	
FM 1510	
NSF 61	

Comments:

End Connection Details:



Mechanical Joint
**4" ☐
6" ✔
*8" ☐



MJ with Lugs
6" ☐



MCJ
**4" ☐
6" ☐



Flange
**4" ☐
6" ☐



Tyton
6" ☐



Vertical Shoe
6" ☐



HDPE
*6" ☐



Male MJ
*6" ☐

Approvals:

Sales Representative: Date:

Customer: Date:

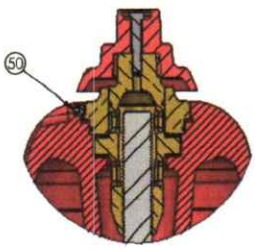
*Size only available with 5 1/4" MVO
**Size only available with 4 1/2" MVO

CLOW

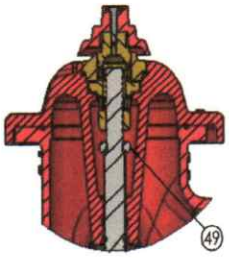
Valve Company

902 South 2nd St. Oskaloosa, IA 52577
1-800-829-2569 info@clowvalve.com

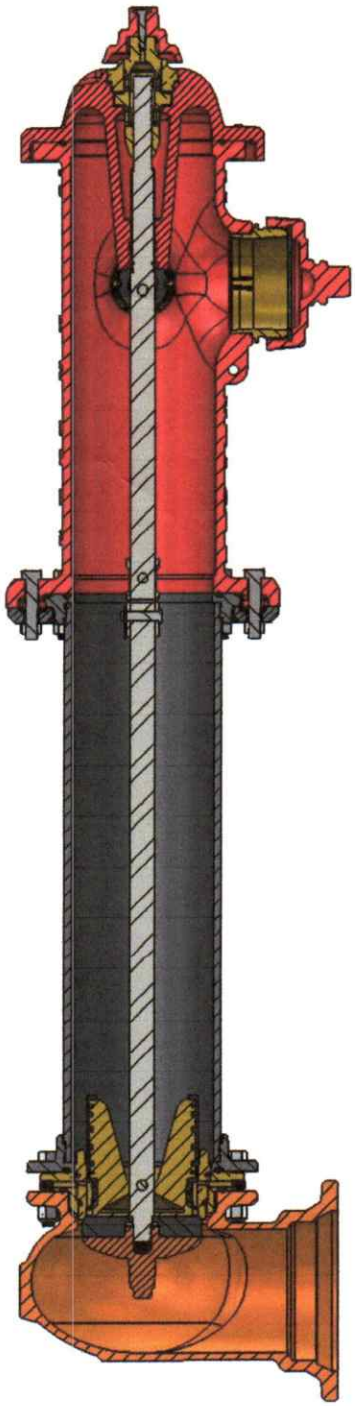
Medallion Hydrant



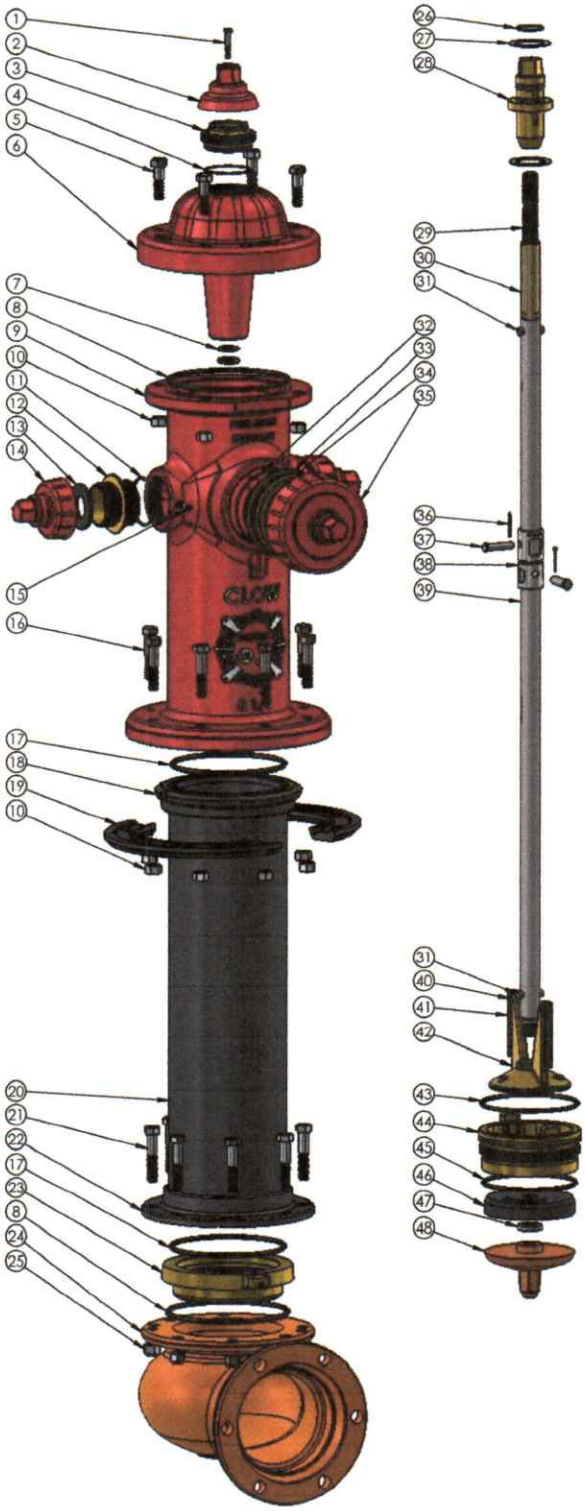
Open Right
Thrust Nut Lock Feature



Bonnet Stop Option



ITEM NO.	DESCRIPTION	MATERIAL
1	Hex Head Bolt	Stainless Steel
2	Weather Shield	A536 Ductile Iron
3	Thrust Nut	Copper Alloy
4	O-Ring #151	Rubber
5	Bonnet Bolt	Stainless Steel
6	Cover	A536 Ductile Iron
7	O-Ring #217	Rubber
8	O-Ring #444	Rubber
9	Nozzle Section[1]	A536 Ductile Iron
10	Hex Nut 5/8"	Stainless Steel
11	O-Ring #235	Rubber
12	Nozzle - Hose	Copper Alloy
13	Cap Gasket	Rubber
14	Nozzle Cap - Hose	A536 Ductile Iron
15	Locking Set Screw	Stainless Steel
16	Nozzle Section Bolt	Stainless Steel
17	O-Ring #442	Rubber
18	Upper Flange	A536 Ductile Iron
19	Safety Flange	A126 Gray Iron
20	Stand Pipe	A536 Ductile Iron
21	Bottom Bolts	Stainless Steel
22	Lower Flange	A536 Ductile Iron
23	Drain Ring	Copper Alloy
24	Shoe[1]	A536 Ductile Iron
25	Lock Nut	Stainless Steel
26	O-Ring #131	Rubber
27	Thrust Bearing	Delrin
28	Operating Nut	Copper Alloy
29	Upper Stem	304 Stainless Steel
30	Upper Stem Sleeve	Copper Alloy
31	Type E Groove Pin	Stainless Steel
32	O-Ring #250	Rubber
33	Nozzle - Steamer	Copper Alloy
34	Cap Gasket	Rubber
35	Nozzle Cap - Steamer	A536 Ductile Iron
36	Cotter Pin	Stainless Steel
37	Safety Coupling Pin	Stainless Steel
38	Safety Coupling	Stainless Steel
39	Lower Stem	304 Stainless Steel
40	Pin	Stainless Steel
41	Drain Slide	Rubber
42	Upper Valve Plate	Copper Alloy
43	O-Ring #361	Rubber
44	Seat Ring	Copper Alloy
45	O-Ring #360	Rubber
46	Valve Seat	Rubber
47	Lock Washer	Stainless Steel
48	Lower Valve Plate	Eco Brass (C87850)
49	Shoe Stop Jam Nut	N/A
50	Thrust Nut Lock Set Screw[2]	N/A
51	O-Ring #119[3]	Rubber
52	Chain Assembly[3]	Zinc Plated Steel



[1] See "Hydrant Specifications" sheet for detailed information
[2] Only on Open Right hydrant models
[3] Item not shown

TREE/VEGETATION PROTECTION:

1. TREE REMOVAL WILL BE LIMITED TO THE TIME PERIOD BETWEEN OCTOBER 1 AND MARCH 31.
2. NO TREES MAY BE REMOVED, CUT, OR TRIMMED WITHOUT APPROVAL FROM THE OWNER AND COUNTY.
3. NO TREE REMOVAL WILL BE PERMITTED OUTSIDE THE TEMPORARY OR PERMANENT EASEMENT WITHOUT PERMISSION OF THE ENGINEER.
4. TREES WHICH ARE NOT REMOVED WILL BE PROTECTED BY ENSURING THAT TREES TO BE REMOVED ARE FELLED SO AS NOT TO INJURE THE REMAINING TREES.
5. PRIOR TO CLEARING, THE CONTRACTOR AND ENGINEER SHALL WALK THE ACQUIRED EASEMENTS IN AN EFFORT TO DESIGNATE THE TREES THAT ARE TO BE SAVED. TREES TO BE SAVED WITH BE CLEARLY MARKED BY PAINT WITH THE LETTER "S". TREES TO BE PROTECTED BY AN APPROPRIATE BARRIER SHALL BE MARKED WITH AN "S" ENCLOSED IN A CIRCLE. TREES MARKED FOR REMOVAL IN THE PLANS WILL BE INSPECTED BY THE OWNER AND THE ENGINEER BEFORE REMOVAL & WILL BE SAVED WHERE POSSIBLE.
6. SOIL AND OTHER MATERIAL WILL NOT BE STORED NEXT TO OR WITHIN THE DRIP LINE OF TREES.
7. PRESERVATION OF LANDSCAPING SHOULD TAKE PRECEDENCE OVER REMOVAL. IF REMOVAL OR DAMAGE IS UNAVOIDABLE, EXISTING VEGETATION SHOULD BE REPAIRED OR REPLACED "IN-KIND" UNLESS THE PROPERTY OWNER SPECIFIES OTHERWISE.
8. IF TREES/ SHRUBS CANNOT BE REPLACED IN THE SAME LOCATION DUE TO THE INSTALLATION OF THE WATERLINE, RELOCATION SHOULD BE CONSIDERED.
9. THE CONTRACTORS ARBORIST SHALL REPAIR ALL INJURIES TO BARK, TRUNKS, LIMBS, AND ROOTS OF REMAINING VEGETATION BY PROPERLY DRESSING, CUTTING, BRACING, AND PAINTING, USING ONLY APPROVED TREE SURGERY METHODS, TOOLS, AND MATERIALS.
10. SELECTIVE PRUNING OF TREE LIMBS PRIOR TO INITIATION OF CONSTRUCTION SHOULD ONLY BE USED WITHIN ESTABLISHED EASEMENTS WHERE REMOVAL IS NECESSARY FOR OPERATION OF EQUIPMENT.
11. LIMIT THE USE OF RIP-RAP TO AREAS WHERE STREAM FLOW CONDITIONS PREEMPT VEGETATIVE STABILIZATION.
12. TREE REMOVAL WILL BE LIMITED TO THAT NECESSARY FOR CONSTRUCTION AND WILL BE LIMITED FURTHER TO THE PERMANENT EASEMENT WHENEVER POSSIBLE. IF THE PROJECT IS LOCATED WITHIN THE RANGE OF THE FEDERALLY-ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND TREES MUST BE CUT, THIS MUST OCCUR BETWEEN SEPTEMBER 30 AND APRIL 1. INDIANA BATS ARE HIGHLY DEPENDENT UPON TREES INCLUDING DEAD AND DYING TREES OF SPECIES WITH EXFOLIATING BARK, CREVICES, OR CAVITIES IN UPLAND AREAS OR RIPARIAN CORRIDORS AND LIVING TREES OF SPECIES LISTED ABOVE WITH EXFOLIATING BARK, CAVITIES, OR HOLLOW AREAS FORMED FROM BROKEN BRANCHES OR TOPS. IF SUITABLE TREES MUST BE CUT DURING THE PROHIBITED PERIOD, A NET SURVEY MUST BE CONDUCTED TO DETERMINE THE PRESENCE OR ABSENCE OF INDIANA BATS PRIOR TO CUTTING.

ENVIRONMENTAL PROTECTION - PROHIBITED CONSTRUCTION ACTIVITIES:

1. LOCATING STOCKPILE STORAGE AREAS IN ENVIRONMENTALLY SENSITIVE AREAS.
2. INDISCRIMINATE, ARBITRARY OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, WETLANDS, SURFACE WATERS OR OUTSIDE THE EASEMENT LIMITS.
3. PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS DIRECTLY INTO ANY SURFACE WATERS, STREAM CORRIDORS, WETLANDS OR STORM SEWERS; ALL SUCH WATER WILL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO RELEASE.
4. DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE AND OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, WETLANDS, SURFACE WATERS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.
5. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF ANY STREAM.
6. DAMAGING ANY VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.
7. DISPOSAL OF TREES, BRUSH, AND OTHER DEBRIS IN ANY STREAM CORRIDORS, WETLANDS, SURFACE WATERS OR AT UNSPECIFIED LOCATIONS.
8. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT.
9. STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED ON THE PLANS BY THE ENGINEER FOR SUCH PURPOSES.
10. RUNNING WELL POINT OR PUMP DISCHARGE LINES THROUGH PRIVATE PROPERTY OR PUBLIC PROPERTY AND RIGHTS-OF-WAY WITHOUT THE WRITTEN PERMISSION OF THE OWNER AND THE CONSENT OF THE ENGINEER.
11. OPERATIONS ENTAILING THE USE OF VIBRATORY HAMMERS OR COMPACTORS OUTSIDE THE HOURS OF 8:00 A.M. AND 4:30 P.M. OR OUTSIDE THE HOURS ALLOWED FOR CONSTRUCTION BY LOCAL ORDINANCES OR REGULATIONS.
12. CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE OR BOULEVARD WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS, STATE OF OHIO, THE ENGINEER, AND CLOSING CLEAR ACCESS:
    - BY FIRE PROTECTION EQUIPMENT AND EMERGENCY VEHICLES.
    - BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, QUASI-PUBLIC OR PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE.
    - BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.

MAINTENANCE OF TRAFFIC:

1. A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT AND ITEM 614 - TEMPORARY PAVEMENT MARKINGS. ACCESS TO ALL DRIVEWAYS SHALL ALSO BE MAINTAINED AT ALL TIMES EXCEPTING THE TIME WHEN CONCRETE CURB OR DRIVE APRONS ARE CURING.
2. PRIOR TO THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL SUBMIT TO THE COUNTY A PROPOSED PROJECT CONSTRUCTION SCHEDULE AND A DETAILED MAINTENANCE OF TRAFFIC PLAN. BOTH THE SCHEDULE AND MAINTENANCE OF TRAFFIC PLAN SHALL BE APPROVED BY THE COUNTY AND ODOT PRIOR TO THE START OF CONSTRUCTION.
3. MAINTAINING TRAFFIC SHALL BE IN ACCORDANCE WITH ODOT CONSTRUCTION & MATERIALS SPECIFICATIONS (CMS) ITEM 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE AND SATISFACTORY LOCAL ACCESS, VEHICULAR AND PEDESTRIAN, TO ALL ABUTTING PROPERTIES WITHIN THE PROJECT. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND SUBSEQUENTLY REMOVE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, BARRIERS, TEMPORARY PAVEMENT, LIGHTING, FLAGMEN, CONSTRUCTION SIGNING AND OTHER TRAFFIC CONTROLS SO AS TO AVOID DAMAGE AND/OR INJURY TO AND ENSURE THE SAFETY OF VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION BOTH WITHIN AND OUTSIDE OF THE PROJECT LIMITS.
5. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND ON THE ODOT STANDARD MAINTENANCE OF TRAFFIC DRAWINGS.

OHIO DEPARTMENT OF NATURAL RESOURCES:

1. ONCE THE SITE IS CLEARED AND GRUBBED, A TEMPORARY SEDIMENT AND EROSION CONTROL SHOULD BE IMPLEMENTED AND MAINTAINED UNTIL FINAL SITE STABILIZATION IS ACHIEVED. ALL TEMPORARY SEDIMENT AND EROSION CONTROLS SHOULD BE REMOVED UPON COMPLETION OF SITE STABILIZATION. ANY AREA WHERE THE UTILITY LINE HAS BEEN COMPLETELY INSTALLED, STABILIZATION SHOULD OCCUR WITHINT 7 DAYS. FOR THE DISTURBED AREAS WITHIN 120 FEET OF THE STREAM, TEMPORARY AND/OR PERMANENT EROSION CONTROL COVER SHOULD BE REQUIRED WITHIN 2 DAYS FOLLOWING THE INSTALLATION OF THE UTILITY LINE. TEMPORARY SEEDING AND MULCHING SHOULD BE NO MORE THAN 500 FEET BEHIND THE POINT OF INSTALLATION AT ANY GIVEN TIME.
2. NO MORE THAN 500 FEET OF TRENCH SHOULD BE OPEN AT ANY GIVEN TIME WITHIN1000 FEET OF THE GRAND RIVER WILD AND SCENIC RIVER. TRENCH OPENING, INSTALLATION OF PIPE AND BACKFILLING SHOULD OCCUR TO MINIMIZE THE AMOUNT OF AREA DISTURBED. ALL OPEN TRENCHES SHOULD IMMEDIATELY BE BACKFILLED AND SEEDED AND MULCHED WITHIN SEVEN DAYS OF COMPLETION OF PIPE INSTALLATION.
3. NO WASTEWATER OF ANY KIND SHALL BE DIRECTLY DISCHARGED INTO THE SCENIC RIVER, ANY TRIBUTARY WATERCOURSE OR STORM WATER SYSTEM. ANY WATER PUMPED FROM OPEN TRENCHES SHOULD BE PASSED THROUGH A SEDIMENT IMPOUNDMENT STRUCTURE THAT PROVIDES FOR COMPLETE SETTLING OF ALL SUSPENDED SOLIDS OR PUMPED INTO A VEGETATED AREA A SUFFICIENT DISTANCE FROM THE STREAM TO PROVIDE FOR COMPLETE INFILTRATION OR THE USE OF DEWATERING BAG. ADEQUATE OUTLET PROTECTION MUST BE PROVIDED FOR EACH IMPOUNDMENT. THERE SHALL BE NO DISCHARGE OF TURBID WATER TO THE SCENIC RIVER OR ITS TRIBUTARIES. IF CHEMICALS AVE BEEN ADDED TO ANY OF THE WATER USED FOR THE DIRECTIONAL DRILLING PROCESS, THE RESULTING SLURRY SHALL BE PUMPED INTO A CONTAINER AND HAULED TO AN APPROVED DISPOSAL SITE.
4. JEFFRY HAYES, NORTHEAST OHIO REGIONAL SCENIC RIVERS MANAGER (614-546-8067 OR JEFFRY.HAYES@DNR.OHIO.GOV) SHOULD BE NOTIFIED OF THE PROJECT START DATE ONE WEEK PRIOR TO THE COMMENCEMENT OF WORK.

WATER MAIN SPECIFICATIONS & NOTES:

1. WATER MAINS (4" THROUGH 24") SHALL BE PVC AWWA C909.
2. ALL FITTINGS, BENDS, TEES, PLUGS, ETC. SHALL BE TIED TO THE WATER MAIN WITH EITHER M.J. TYPE CONNECTIONS, TIE RODS OR MEGA-LUGS. TIE RODS SHALL BE 3/4" DIAMETER STAINLESS STEEL. FOR 8" DIAMETER PIPE USE FOUR RODS.
3. TAPPING SLEEVES SHALL HAVE A STAINLESS STEEL BODY WITH A DUCTILE IRON FLANGED OUTLET WHICH COMPLIES WITH ANSI B16.1, CLASS 125 AND WITH MSS SP-60. THE GASKET SHALL COMPLETELY SURROUND THE INSIDE OF THE STAINLESS STEEL BODY. THE SLEEVE SHALL COME EQUIPPED WITH A ¾" NPT BRASS TEST PLUG. MAXIMUM WORKING PRESSURE FOR 4" - 12" SIZES (250 psig) AND FOR 14" - 24" SIZES (200 psig).
4. WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA C600. ALL TEST RESULTS MUST BE APPROVED BY THE COUNTY BEFORE INSTALLATION OF WATER SERVICES. COST SHALL BE SUBSIDIARY TO THE INSTALLATION OF WATER MAIN. TEST PRESSURE SHALL BE 250 PSI.
5. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651. COST SHALL BE SUBSIDIARY TO THE INSTALLATION OF WATER MAIN.
6. THE PROPOSED WATER SYSTEM SHALL MAINTAIN A MINIMUM STATIC PRESSURE OF 35psi DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
7. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.
8. THE CONTRACTOR SHALL MAINTAIN A MINIMUM 10 FOOT HORIZONTAL SEPARATION AND 18 INCH VERTICAL SEPARATION BETWEEN THE PROPOSED WATER MAIN AND EXISTING STORM SEWERS AS MEASURED FROM OUTSIDE EDGE TO OUTSIDE EDGE UNLESS NOTED ON THE PLAN AND PROFILE SHEETS.
9. THE CONTRACTOR SHALL NOT OPERATE OR TURN ANY EXISTING WATER VALVE, UNLESS OTHERWISE SPECIFIED. IF VALVES NEED TO BE OPENED OR CLOSED HE SHALL NOTIFY THE COUNTY.
10. ALL ROUGH GRADING TO WITHIN SIX (6) INCHES OF FINISH GRADE SHALL BE COMPLETED OVER THE PROPOSED WATER MAIN PRIOR TO IT'S INSTALLATION.
11. THE LOCATION OF EXISTING WATER UTILITIES AS SHOWN ON THESE PLANS WERE DETERMINED FROM AVAILABLE DATA AT THE TIME OF FIELD SURVEYING IN ACCORDANCE WITH SECTION 153.63 OF THE OHIO REVISED CODE.
12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS, PAYING ALL FEES, AND FOLLOWING ALL REQUIREMENTS ASSOCIATED WITH THE PERMITS. THE COUNTY ASSUMES NO LIABILITY FOR NOT FOLLOWING THE ABOVE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OHIO UTILITY PROTECTION SERVICE (OUPS) AS REQUIRED BY LAW.
14. NO WATERLINE TIE-INS SHALL BE DONE ON FRIDAYS OR THE DAY BEFORE A COUNTY HOLIDAY.
15. DEFLECT WATER MAIN AS REQUIRED TO MAINTAIN ALIGNMENT AS SHOWN ON PLANS. MAXIMUM DEFLECTION IS 3 DEGREES PER JOINT.
16. TEMPORARY BLOW-OFF AND FLUSHING ASSEMBLY:
17. PIPE SHALL BE TYPE K COPPER WITH COMPRESSION FITTINGS.
18. CORPORATION STOPS SHALL BE GROUND KEY DESIGN, CAST FROM A BRASS ALLOY AND CONFORM TO AWWA C800. INLET END SHALL HAVE AWWA TAPER THREADS. OUTLET END SHALL HAVE COPPER COMPRESSION QUARTER BEND CONNECTION. ALL TAPS SHALL BE MADE ON TOP OF THE WATER MAIN. CORPORATION STOPS AND QUARTER BENDS SHALL BE BLOCKED.
19. CURB VALVES (STOPS) SHALL BE ONE PIECE DESIGN, CAST FROM A BRASS ALLOY, CONFORM TO AWWA C800, HAVE A MAXIMUM WORKING PRESSURE OF 175 PSIG AND HAVE A QUARTER TURN CHECK. BOTH ENDS SHALL HAVE COPPER COMPRESSION FITTINGS.
20. LOCATIONS SHALL BE AS SHOWN ON THE DRAWINGS, AT A MINIMUM. CONTRACTOR SHALL INSTALL ADDITIONAL ASSEMBLIES AS NEEDED TO EXHAUST AIR AND TO COMPLY WITH REGULATIONS REGARDING PRESSURE TESTING, BACTERIA SAMPLING AND FLUSHING.
21. AT COMPLETION OF TESTING, CLOSE CORPORATION STOP, REMOVE COPPER PIPING AND INSERT PLUG ON CORPORATION STOP.
22. NO SEPARATE PAYMENT SHALL BE MADE FOR TEMPORARY BLOW-OFFS AND FLUSHING ASSEMBLIES.

EXCAVATION, BACKFILL, AND COMPACTION:

1. ALL UTILITY LINES (i.e. STORM SEWERS, STORM LATERALS, SANITARY LATERALS, WATER MAINS, WATER SERVICE CONNECTIONS, GAS MAINS, GAS SERVICE CONNECTIONS, UNDERGROUND OBT CONDUITS, CABLE T.V. LINES) CROSSING THE PROPOSED IMPROVEMENTS, WHETHER SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS OR REMOVED AND REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. NO ADDITIONAL COMPENSATION WILL BE PAID FOR THE ABOVE WORK. IF ANY OF THESE LINES ARE DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPLACED.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER FORTY-EIGHT (48) HOURS IN ADVANCE OF BEGINNING WORK WHICH REQUIRES COMPACTION TESTING AND/OR PRE-POUR INSPECTION PRIOR TO PLACEMENT OF PAVEMENT. WORK WILL NOT BEGIN UNTIL TESTING AND/OR INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE ENGINEER.

STATE OF OHIO
GEORGIA CONWAY
E-85401
REGISTERED PROFESSIONAL ENGINEER

verdantas
8150 STERLING COURT
MENTOR, OHIO 44060
(440) 951-9000

NO	REVISION	DATE
1	Addendum No.1	9/22/25

ISSUED FOR: REVIEW SET
ISSUE DATE: 6/3/2024
SCALE: AS NOTED
DESIGNED BY: MLB
DRAWN BY: MLB
CHECKED BY: GBC

ASHTABULA COUNTY
SOUTH RIVER ROAD WATERLINE EXTENSION
ASHTABULA COUNTY HARPERSFILED, OHIO

GENERAL - 00 SERIES
GENERAL NOTES

PROJECT NO.
241222
DISCIPLINE
CIVIL
SHEET NAME
00G-07
SHEET 7 OF 43

To: All Plan Holders of Record

From: Verdantas LLC
For the Owner

Re: ***Addendum No. 2***
Contract A - Harpersfield Water Tank & Waterline Improvements
Contract B - South River Road Waterline Extension Phase 2
Ashtabula County Board of Commissioners

Date: September 30, 2025

This Addendum forms a part of the contract documents and modifies the original bidding documents dated September 2025 and all previous addenda, if any. Acknowledge receipt of this addendum in the space provided in the bid forms. Failure to do so may subject the bidder to disqualification.

QUESTIONS AND ANSWERS

Q1. Are the inlet and overflow pipes supposed to be stainless steel?
A1. Yes, Inlet and overflow pipes shall be stainless Steel.

Q2. I cannot find the liquidated damages.
A2. Liquidated damages for this project shall follow the schedule set by ODOT, found in Table 108.07-1: SCHEDULE OF LIQUIDATED DAMAGES. This is a reference from the Construction and Material Specifications Book.

Q3. Is the roof manhole, access tube manhole, and exhaust fan manhole 24” or 30”?
A3. The exhaust fan manhole is 24” diameter. The roof manhole and access tube manholes shall be 30” diameter.

Q4. Can you please highlight what other room is available around the tank for use with laydown?
A4. Please see attached photo from the County GIS website, detailing the entirety of the parcel. The County owns the entirety of the subject parcel and the open areas around the proposed site area can be utilized for laydown. Please provide an exhibit of the intended laydown scheme with the Owner at the pre-construction meeting.



Q5. Sheet 8/22 shows two sets of conduits coming up through the floor, but nothing showing where they go after that. I assume one set is for the electrical service and power that comes from the road. Is the other set for future and just being stubbed through the floor and foundation, or is it a duct bank to the street?

A5. On sheet E-02 there is two sets of conduit banks stubbed through the floor, but we only have one shown in sheet 10D-01. Please refer to sheet E-02. One set is for the antenna and lights on top of the tower and will be part of the new underground service to be installed as noted on sheet 02C-01.

BID DOCUMENTS

Contract B - **Replace** Prices to Include, Pages BD.16 to BD.19, with the enclosed Prices to Include, Pages BD.16A to BD.19A.

BID FORMS

Contract B, Part 1 - **Replace** Bid Form, Page BF.11, with the enclosed Bid Form, Page BF.11A.

SPECIFICATIONS

Contract B - **Replace** Specification Section 011100 Summary of Work with the enclosed Revised Section.

PREVAILING WAGES

Section 9, Prevailing Wage Rates - **Replace** the Wage Rate Schedule with the following:

Heavy and Highway – Decision No. OH20250001, Modification No. 20, dated 09/26/2025

Bidders shall utilize this revised decision when compiling their Bid.

PLANS

Replace plan sheets 32-40 with the enclosed Revised plan sheets 32-40.

GC/TM:mep

Enclosures

H:\2024\241222\SPEC - Contract B\Addenda\Addendum 02\Addendum 02.Doc

PRICES TO INCLUDE

CONTRACT B - SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2

PART 1 - GENERAL

Any work shown on the plans or required in the specifications but not paid for separately as a bid item shall be included in the cost of other bid items. The amount bid for each Bid Item shall include the following:

1.1 All labor, materials, tools, equipment, and transportation necessary for the proper execution of the work in accordance with the Contract Documents.
1.2 All assistance required by the Engineer to verify compliance with the Contract Documents, including measuring for final pay quantities.
1.3 Project coordination and scheduling.
1.4 Detailed breakdown of lump sum bid items as requested by the Engineer.
1.5 All provisions necessary to protect workers, the general public, and property along the work in accordance with the Contract Documents.
1.6 Protection and/or replacement of existing property corner monuments.
1.7 Record drawings of the installed location of all underground electrical conduit, sewers, tees, wyes, laterals, etc.
1.8 Materials testing.
1.9 Reimbursement to Owner for costs of re-inspection or re-testing of any work not installed in compliance with the Contract Documents.
1.10 All erosion control measures in accordance with the Contract Documents.
1.11 Mobilization.
1.12 Bonds and insurances and/or endorsements required to fully comply with and adhere to the Contract specifications.
1.13 Preconstruction video documentation.

PART 2 - ITEMS

All work proposed by this contract shall be quantified and paid for in accordance with the pertinent O.D.O.T. specification except as specifically altered by other provisions of this contract. ODOT 104.02 D., 611.04, 611.12, and 611.13 shall not apply to this project.

2.1 LAWN RESTORATION (GRADING, SEEDING AND MULCHING)

Basis of Payment

The lump sum price shall include furnishing and placement of topsoil, testing of topsoil, finish grading, seed, fertilizers, lime, water, maintenance, mowing, all else necessary to establish a grass turf over all disturbed areas, and restoration of ditches to same grade.

2.2 PAVEMENT REPLACEMENT TYPE C, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 253 as applicable with the exception that lengths used for calculation of each individual repair area shall not exceed the width and length indicated on the drawings.

Basis of Payment

The basis of payment shall be as per ODOT 253 as applicable with the following additions:

The unit price shall also include saw cutting; integral or non-integral curb removal; integral curb replacement; furnishing, installation, maintenance, removal, and disposal of temporary road materials or temporary pavement courses; preparation for permanent pavement courses; any additional expenses for cold weather protection; and replacement of any driveway culverts underneath apron replacement with in-kind size of HDPE.

2.3 PAVEMENT REPLACEMENT TYPE F, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 253 as applicable with the exception that lengths used for calculation of each individual repair area shall not exceed the width and length indicated on the drawings.

Basis of Payment

The basis of payment shall be as per ODOT 253 as applicable with the following additions:

The unit price shall also include saw cutting; integral or non-integral curb removal; integral curb replacement; furnishing, installation, maintenance, removal, and disposal of temporary road materials or temporary pavement courses; preparation for permanent pavement courses; any additional expenses for cold weather protection; and replacement of any driveway culverts underneath apron replacement with in-kind size of HDPE.

2.4 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, PVCO, AS PER PLAN

2.5 6 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, PVCO, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 638.

Basis of Payment

The basis of payment shall be as per ODOT 638 with the following additions: The unit price shall be irrespective of the depth of pipe or pipe material type and shall include rock excavation, all

necessary pipe fittings, bends, tees, reducers, adapters or mechanical couplers, caps, specials, branches, plugs, bulkheads, backfilling as specified, blow off and sampling assemblies as needed or directed; chlorination, chlorination sampling and testing, bacteria sampling and testing, zinc anode caps for all bolts; joint restraint; blow off assemblies as needed or directed; furnishing, installing and operation necessary pumps, pipes and appurtenances necessary for trench dewatering; support protection, relocation and/or replacement of all existing utilities (sanitary force mains, storm and sanitary sewers, culverts, gas lines, curb drains, catch basins, underground conduit, wires, cables, utility poles, signs, etc.); exploratory digs to confirm subsurface conditions; installing and maintaining temporary traffic surface in paved areas; maintenance, removal and replacement of all signs, mailboxes, paper boxes, fences, guardrails, or other structures; regrading of ditches and/or swales; and the furnishing of all labor, materials, tools and appurtenances necessary to complete the work as specified or as shown.

2.6 CONNECT TO EXISTING WATER MAIN – IN-LINE CONNECTION, AS PER PLAN

Measurement

The quantity to be paid shall be the number of locations the new pipe is connected to the existing pipe with the specified fitting as shown on the plans or as directed.

Basis of Payment

The unit price shall be full compensation for each connection made including, but not limited to: earth and/or rock excavation, backfill, disposal of surplus material, furnishing and installing joint material, long solid sleeve, fittings, saw cutting pipe, removal of existing caps or plugs and making connections as required, hypochlorite swabbing, joint restrains, thrust blocking, polyethylene encasement, removal, and furnishing all labor, tools, materials and appliances necessary to complete the work as specified or as shown.

2.7 TYPE B FIRE HYDRANT ASSEMBLY, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 638.

Basis of Payment

The basis of payment shall be as per ODOT 638 with the following additions: The unit price shall also include the hydrant branch tee, restrained fittings and nipples, restrained pipe between the tee and valve and/or valve and hydrant, nuts and bolts, zinc anode caps if specified, gate valve, and valve box.

2.8 6 INCH GATE VALVE AND VALVE BOX
2.9 8 INCH GATE VALVE AND VALVE BOX

Method of Measurement

The quantity to be paid shall be the number each of valve and box installed per the plans and specifications.

Basis of Payment

The unit price shall include each valve and valve box set to finish grade, where shown on the plans and as specified, installed complete including excavation regardless of soil or rock type, backfill per typical trench details, testing, and furnishing all labor, materials, tools, and appurtenances necessary to complete the work as specified or shown.

Proposal to Ashtabula Co. Bd. of Commissioners
For South River Road Waterline Extension Phase 2
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	33.00	SY	$	$	$	$
2	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN	144.00	SY	$	$	$	$
3	(SPC) TYPE "F" PAVEMENT REPLACEMENT (STONE), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN	1,283.00	SY	$	$	$	$
4	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	2.00	EACH	$	$	$	$
5	(638) 6 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN	7,162.00	FT	$	$	$	$
6	(638) 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN	8,000.00	FT	$	$	$	$
7	(638) 6 INCH GATE VALVE AND VALVE BOX, AS PER PLAN	6.00	EACH	$	$	$	$
8	(638) 8 INCH GATE VALVE AND VALVE BOX	5.00	EACH	$	$	$	$
9	(638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, TYPE B, AS PER PLAN	19.00	EACH	$	$	$	$
10	(SPC) LAWN RESTORATION (GRADING, SEEDING, & MULCHING)	1.00	LS	$	$	$	$

INFORMAL TOTAL BID $ _____

BF.11A

SECTION 011100 - SUMMARY OF WORK – CONTRACT B

PART 1 - GENERAL

1.1 LOCATION OF THE PROJECT

A. The project is located along South River Road, Brandt Road, Atkins Road, and South Broadway.

1.2 PROJECT DESCRIPTION

A. Part B1 involves the installation of the following new waterlines in Ashtabula County:
   1. Approximately 8,000 linear feet of 8-inch waterline extending down South River Rd.
   2. Approximately 5,600 linear feet of 6-inch waterline down Brandt Rd.
   3. Approximately 1,600 linear feet of 6-inch waterline extending down Atkins Rd.

B. Part B2 involves the installation of new waterline along South Broadway in Ashtabula County. The 8-inch waterline will extend approximately 1,480 linear feet down South Broadway between Harpersfield Rd and State Rd.

1.3 SPECIFICATIONS

A. In general, these Specifications describe the work to be performed by the various trades, other than work specifically excluded. It shall be the responsibility of the Contractor and Subcontractors to perform all work incidental to their trade, whether or not specific mention is made of each item, unless such incidentals are included under another Item.

B. It is advised that the Contractor and all Subcontractors familiarize themselves with the contents of the complete Specifications, particularly for the trades preceding, following, related or adjacent to their work.

1.4 PROJECT FUNDING

A. This project is funded by WSRLA.

1.5 DRAWING SCHEDULE

A. The work to be done under this Contract is shown on the following Drawings:

Title	Sheet No.
Cover Sheet	1
Sheet Index	2-4
Legend & Symbology	5
General Notes	6-7
Construction Details	8-10
Plan and Profiles	11-43

END OF SECTION 011100

"General Decision Number: OH20250001 09/26/2025

Superseded General Decision Number: OH20240001

State: Ohio

Construction Types: Heavy and Highway

Counties: Ohio Statewide.

Heavy and Highway Construction Projects

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025
1	02/07/2025
2	02/14/2025

3	02/28/2025
4	03/07/2025
5	03/14/2025
6	04/25/2025
7	05/02/2025
8	05/09/2025
9	05/16/2025
10	05/30/2025
11	06/06/2025
12	06/27/2025
13	07/11/2025
14	07/18/2025
15	07/25/2025
16	08/08/2025
17	08/15/2025
18	09/05/2025
19	09/12/2025
20	09/26/2025

BROH0001-001 06/01/2024

DEFIANCE, FULTON (Excluding Fulton, Amboy & Swan Creek Townships), HENRY (Excluding Monroe, Bartlow, Liberty, Washington, Richfield, Marion, Damascus & Townships & that part of Harrison Township outside corporate limits of city of Napoleon), PAULDING, PUTNAM and WILLIAMS COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0001-004 06/01/2023

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.40	19.30

BROH0003-002 06/01/2024

FULTON (Townships of Amboy, Swan Creek & Fulton), HENRY (Townships of Washington, Damascus, Richfield, Bartlow, Liberty, Harrison, Monroe, & Marion), LUCAS and WOOD (Townships of Perrysburg, Ross, Lake, Troy, Freedom, Montgomery, Webster, Center, Portage, Middleton, Plain, Liberty, Henry, Washington, Weston, Milton, Jackson & Grand Rapids) COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0005-003 06/01/2020

CUYAHOGA, LORAIN & MEDINA (Hinckley, Granger, Brunswick, Liverpool, Montville, York, Homer, Harrisville, Chatham, Litchfield & Spencer Townships and the city of Medina)

	Rates	Fringes
BRICKLAYER		
BRICKLAYERS; CAULKERS; CLEANERS; POINTERS; & STONEMASONS	$ 36.64	17.13

SANDBLASTERS	$ 36.39	17.13
SEWER BRICKLAYERS & STACK BUILDERS	$ 36.64	17.13
SWING SCAFFOLDS	$ 37.14	17.13

BROH0006-005 06/01/2024

CARROLL, COLUMBIANA (Knox, Butler, West & Hanover Townships), STARK & TUSCARAWAS

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0007-002 06/01/2024

LAWRENCE

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0007-005 06/01/2023

PORTAGE & SUMMIT

	Rates	Fringes
BRICKLAYER	$ 32.40	19.30

BROH0007-010 06/01/2024

PORTAGE & SUMMIT

	Rates	Fringes
MASON - STONE	$ 33.39	20.06

BROH0008-001 06/01/2024

COLUMBIANA (Salem, Perry, Fairfield, Center, Elk Run, Middleton, & Unity Townships and the city of New Waterford), MAHONING & TRUMBULL

	Rates	Fringes
BRICKLAYER	$ 33.39	20.06

BROH0009-002 06/01/2024

BELMONT & MONROE COUNTIES and the Townships of Warren & Mt. Pleasant and the Village of Dillonvale in JEFFERSON COUNTY

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06
Refractory	$ 31.45	19.01

BROH0010-002 06/01/2024

COLUMBIANA (St. Clair, Madison, Wayne, Franklin, Washington, Yellow Creek & Liverpool Townships) & JEFFERSON (Brush Creek &

Saline Townships)

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0014-002 06/01/2024

HARRISON & JEFFERSON (Except Mt. Pleasant, Warren, Brush Creek, Saline & Salineville Townships & the Village of Dillonvale)

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0016-002 06/01/2023

ASHTABULA, GEAUGA, and LAKE COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 32.40	19.30

BROH0018-002 06/01/2024

BROWN, BUTLER, CLERMONT, HAMILTON, PREBLE (Gasper, Dixon, Israel, Lanier, Somers & Gratis Townships) & WARREN COUNTIES:

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0022-004 06/01/2024

CHAMPAIGN, CLARK, CLINTON, DARKE, GREENE, HIGHLAND, LOGAN, MIAMI, MONTGOMERY, PREBLE (Jackson, Monroe, Harrison, Twin, Jefferson & Washington Townships) and SHELBY COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0032-001 06/01/2024

GALLIA & MEIGS

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0035-002 06/01/2024

ALLEN, AUGLAIZE, MERCER and VAN WERT COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0039-002 06/01/2024

ADAMS & SCIOTO

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0040-003 06/01/2024

ASHLAND, CRAWFORD, HARDIN, HOLMES, MARION, MORROW, RICHLAND, WAYNE and WYANDOT (Except Crawford, Ridge, Richland & Tymochtee Townships) COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

FOOTNOTE: Layout Man and Sawman rate: $1.00 per hour above journeyman rate.
Free standing stack work ground level to top of stack; Sandblasting and laying of carbon masonry material in swing stage and/or scaffold; Ramming and spading of plastics and gunniting: $1.50 per hour above journeyman rate.
""Hot"" work: $2.50 above journeyman rate.

BROH0044-002 06/01/2024

	Rates	Fringes
Bricklayer, Stonemason COSHOCTON, FAIRFIELD, GUERNSEY, HOCKING, KNOX, KICKING, MORGAN, MUSKINGUM, NOBLE (Beaver, Buffalo, Seneca & Wayne Townships) & PERRY COUNTIES:	$ 33.39	20.06

BROH0045-002 06/01/2023

FAYETTE, JACKSON, PIKE, ROSS and VINTON COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 35.39	17.47

BROH0046-002 06/01/2024

ERIE, HANCOCK, HURON, OTTAWA, SANDUSKY, SENECA, WOOD (Perry & Bloom Townships) and WYANDOT (Tymochtee, Crawford, Ridge & Richland Townships) COUNTIES & the Islands of Lake Erie north of Sandusky

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

FOOTNOTE: Layout Man and Sawman rate: $1.00 per hour above journeyman rate.
Free standing stack work ground level to top of stack; Sandblasting and laying of carbon masonry material in swing stage and/or scaffold; Ramming and spading of plastics and gunniting: $1.50 per hour above journeyman rate.
""Hot"" work: $2.50 above journeyman rate.

BROH0052-001 06/01/2024

ATHENS COUNTY

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0052-003 06/01/2024

NOBLE (Brookfield, Noble, Center, Sharon, Olive, Enoch, Stock, Jackson, Jefferson & Elk Townships) and WASHINGTON COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

BROH0055-003 06/01/2024

DELAWARE, FRANKLIN, MADISON, PICKAWAY and UNION COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 33.39	20.06

CARP0002-024 05/01/2025

BROWN, BUTLER, CHAMPAIGN, CLARK, CLERMONT, CLINTON, DARKE, GREENE, HAMILTON, LOGAN, MIAMI, MONTGOMERY, PREBLE, SHELBY & WARREN

	Rates	Fringes
Carpenter & Piledrivermen	$ 35.94	23.59
Diver	$ 40.58	9.69

CARP0171-001 05/01/2025

MAHONING & TRUMBULL

	Rates	Fringes
CARPENTER	$ 33.19	25.02

CARP0171-002 05/01/2025

BELMONT, COLUMBIANA, HARRISON, JEFFERSON & MONROE

	Rates	Fringes
CARPENTER	$ 32.50	26.19

CARP0200-002 05/01/2025

ADAMS, ATHENS, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GUERNSEY, HIGHLAND, HOCKING, JACKSON, LAWRENCE, LICKING, MADISON, MARION, MEIGS, MORGAN, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, ROSS, SCIOTO, UNION, VINTON and WASHINGTON COUNTIES

	Rates	Fringes
CARPENTER	$ 35.94	23.59
Diver	$ 39.41	10.40
PILEDRIVERMAN	$ 35.94	23.59

CARP0285-001 05/01/2025

CARROLL, STARK, TUSCARAWAS and WAYNE

	Rates	Fringes
CARPENTER	$ 34.07	24.28

CARP0285-002 05/01/2025

COSHOCTON, HOLMES, KNOX & MORROW

	Rates	Fringes
CARPENTER	$ 33.38	24.69

CARP0285-008 05/01/2025

MEDINA, PORTAGE & SUMMIT

	Rates	Fringes
CARPENTER	$ 37.18	25.07

CARP0351-005 05/01/2025

LUCAS & WOOD

	Rates	Fringes
CARPENTER	$ 35.44	27.56

CARP0351-006 05/01/2025

	Rates	Fringes
CARPENTER DEFIANCE, FULTON, HANCOCK, HENRY, PAULDING & WILLIAMS COUNTIES	$ 32.05	26.13

CARP0372-002 05/01/2025

ALLEN, AUGLAIZE, HARDIN, MERCER, PUTNAM & VAN WERT

	Rates	Fringes
CARPENTER	$ 31.80	26.33

CARP0435-005 05/01/2025

ASHTABULA, CUYAHOGA, GEAUGA & LAKE

	Rates	Fringes
CARPENTER	$ 38.57	24.64

CARP0735-001 05/01/2025

ASHLAND, HURON & RICHLAND

	Rates	Fringes
CARPENTER	$ 34.67	23.57

CARP0735-002 05/01/2025

LORAIN

	Rates	Fringes
CARPENTER	$ 38.42	24.01

CARP0735-004 05/01/2025

ERIE

	Rates	Fringes
CARPENTER	$ 36.71	24.14

CARP0744-001 05/01/2025

CRAWFORD, OTTAWA, SANDUSKY, SENECA & WYANDOT

	Rates	Fringes
CARPENTER	$ 33.74	27.05

CARP1090-002 05/01/2025

ALLEN, AUGLAIZE, HARDIN, MERCER, PUTNAM, VAN WERT & WYANDOT

	Rates	Fringes
Piledrivermen & Diver's Tender	$ 35.94	28.39

DIVERS - $250.00 per day

CARP1090-003 05/01/2025

BELMONT, HARRISON, & MONROE

	Rates	Fringes
Diver, Wet	$ 58.52	24.91
Piledrivermen; Diver, Dry	$ 39.01	24.91

CARP1090-004 05/01/2025

CARROLL, STARK, TUSCARAWAS & WAYNE

	Rates	Fringes
Diver, Wet	$ 49.82	25.40
Piledrivermen; Diver, Dry	$ 33.21	25.40

CARP1090-005 05/01/2025

ASHLAND, ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE,
LORAIN, MEDINA, PORTAGE, RICHLAND & SUMMIT

	Rates	Fringes

Diver, Wet	$ 54.51	27.50
Piledrivermen; Diver, Dry	$ 36.34	27.50

CARP1090-006 05/01/2025

COSHOCTON, HOLMES, KNOX & MORROW

	Rates	Fringes
Diver, Wet	$ 54.36	22.54
Piledrivermen; Diver, Dry	$ 36.24	22.54

CARP1090-007 05/01/2025

MAHONING & TRUMBULL

	Rates	Fringes
Diver, Wet	$ 50.85	24.82
Piledrivermen; Diver, Dry	$ 33.90	24.82

CARP1090-008 05/01/2025

COLUMBIANA & JEFFERSON

	Rates	Fringes
PILEDRIVERMAN	$ 39.01	24.91

CARP1090-009 05/01/2025

CRAWFORD, DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, SANDUSKY, SENECA, WILLIAMS & WOOD

	Rates	Fringes
Piledrivermen & Diver's Tender	$ 37.98	28.63

DIVERS - $250.00 per day

ELEC0008-002 05/27/2024

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS & WOOD

	Rates	Fringes
CABLE SPLICER	$ 38.98	18.96
ELECTRICIAN	$ 48.40	4.5%+23.06

ELEC0032-003 06/01/2025

ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, SHELBY, VAN WERT & WYANDOT (Crawford, Jackson, Marseilles, Mifflin, Ridgeland, Ridge & Salem Townships)

	Rates	Fringes
ELECTRICIAN	$ 39.17	23.60

ELEC0038-002 04/28/2025

CUYAHOGA, GEAUGA (Bainbridge, Chester & Russell Townships) &
LORAIN (Columbia Township)

	Rates	Fringes
ELECTRICIAN		
Excluding Sound & Communications Work	$ 46.63	24.92

FOOTNOTES;
a. 6 Paid Holidays: New Year's Day; Memorial Day; July 4th; Labor Day; Thanksgiving Day; & Christmas Day
b. 1 week's paid vacation for 1 year's service; 2 weeks' paid vacation for 2 or more years' service

---

ELEC0038-008 04/28/2025

CUYAHOGA, GEAUGA (Bainbridge, Chester & Russell Townships) &
LORAIN (Columbia Township)

	Rates	Fringes
Sound & Communication Technician		
Communications Technician	$ 34.30	14.95
Installer Technician	$ 33.05	14.91

FOOTNOTES;
a. 6 Paid Holidays: New Year's Day; Memorial Day; July 4th; Labor Day; Thanksgiving Day; & Christmas Day
b. 1 week's paid vacation for 1 year's service; 2 weeks' paid vacation for 2 or more years' service

---

ELEC0064-003 11/25/2024

COLUMBIANA (Butler, Fairfield, Perry, Salem & Unity Townships)
MAHONING (Austintown, Beaver, Berlin, Boardman, Canfield,
Ellsworth, Coitsville, Goshen, Green, Jackson, Poland,
Springfield & Youngstown Townships), & TRUMBULL (Hubbard &
Liberty Townships)

	Rates	Fringes
ELECTRICIAN	$ 39.80	21.03

ELEC0071-005 01/06/2025

ASHTABULA, CUYAHOGA, GEAUGA, LAKE & LORAIN

	Rates	Fringes
LINE CONSTRUCTION: Equipment Operator		
DOT/Traffic Signal & Highway Lighting Projects	$ 39.97	27%+8.00
Municipal Power/Transit Projects	$ 49.46	27%+8.25
LINE CONSTRUCTION: Groundman		
DOT/Traffic Signal &		

Highway Lighting Projects	$ 31.10	27%+8.00
Municipal Power/Transit Projects	$ 38.47	27%+8.25
LINE CONSTRUCTION:		
Linemen/Cable Splicer		
DOT/Traffic Signal & Highway Lighting Projects	$ 43.89	27%+8.00
Municipal Power/Transit Projects	$ 54.96	27%+8.25

ELEC0071-010 01/06/2025

Statewide

	Rates	Fringes
Line Construction		
Equipment Operator	$ 40.44	4%+16.09
Groundman	$ 29.07	4%+13.81
Lineman & Cable Splicers	$ 46.02	4%+17.20

ELEC0082-002 12/02/2024

CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE & WARREN
(Wayne, Clear Creek & Franklin Townships)

	Rates	Fringes
ELECTRICIAN	$ 38.00	22.49

---

* ELEC0082-006 11/25/2024

CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE & WARREN
(Wayne, Clear Creek & Franklin Townships)

	Rates	Fringes
Sound & Communication Technician		
Cable Puller	$ 13.85 **	5.30
Installer/Technician	$ 27.70	15.71

ELEC0129-003 02/24/2025

LORAIN (Except Columbia Township) & MEDINA (Litchfield &
Liverpool Townships)

	Rates	Fringes
ELECTRICIAN	$ 42.95	18.81

ELEC0129-004 02/24/2025

ERIE & HURON (Lyme, Ridgefield, Norwalk, Townsend, Wakeman,
Sherman, Peru, Bronson, Hartland, Clarksfield, Norwich,
Greenfield, Fairfield, Fitchville & New London Townships)

	Rates	Fringes
ELECTRICIAN	$ 42.95	18.81

ELEC0141-003 06/02/2025

BELMONT COUNTY

	Rates	Fringes
CABLE SPLICER	$ 42.94	27.74
ELECTRICIAN	$ 39.25	31.23

ELEC0212-003 11/26/2018

BROWN, CLERMONT & HAMILTON

	Rates	Fringes
Sound & Communication Technician	$ 24.35	10.99

ELEC0212-005 06/02/2025

BROWN, CLERMONT, and HAMILTON COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 38.05	22.97

ELEC0245-001 08/26/2024

ALLEN, HARDIN, VAN WERT & WYANDOT (Crawford, Jackson, Marseilles, Mifflin, Richland, Ridge & Salem Townships)

	Rates	Fringes
Line Construction		
Equipment Operator	$ 32.95	28%+7.85
Groundman Truck Driver	$ 20.59	28%+7.85
Lineman	$ 47.07	28%+7.85

FOOTNOTE: a. Half day's Paid Holiday: The last 4 hours of the workday prior to Christmas or New Year's Day

---

ELEC0245-003 01/01/2025

DEFIANCE, FULTON, HANCOCK, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, and WOOD COUNTIES

	Rates	Fringes
Line Construction		
Cable Splicer	$ 53.90	8.10+28%
Groundman/Truck Driver	$ 20.51	8.10+28%
Heli-arc Welding	$ 47.17	8.10+28%
Lineman	$ 46.87	8.10+28%
Operator - Class 1	$ 37.50	8.10+28%
Operator - Class 2	$ 32.81	8.10+28%
Traffic Signal & Lighting Technician	$ 42.18	8.10+28%

FOOTNOTE: a. 6 Observed Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; & Christmas Day. Employees who work on a holiday shall be paid at a rate of double their applicable classified

straight-time rates for the work performed on such holiday.

ELEC0245-004 01/01/2025

ERIE COUNTY

	Rates	Fringes
Line Construction		
Cable Splicer	$ 53.90	28%+8.10
Groundman/Truck Driver	$ 20.51	28%+8.10
Lineman	$ 46.87	28%+8.10
Operator - Class 1	$ 37.50	28%+8.10
Operator - Class 2	$ 32.81	28%+8.10

FOOTNOTE: a. 6 Observed Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; & Christmas Day. Employees who work on a holiday shall be paid at a rate of double their applicable classified straight-time rates for the work performed on such holiday.

ELEC0246-001 10/28/2024

Carroll, Columbiana, Harrison and Jefferson Counties in Ohio; Brooke and Hancock Counties in West Virginia.

	Rates	Fringes
ELECTRICIAN	$ 44.00	30.38%+24.31

FOOTNOTE: a. 1 1/2 Paid Holidays: The last scheduled workday prior to Christmas & 4 hours on Good Friday.

ELEC0306-005 05/27/2024

MEDINA (Brunswick, Chatham, Granger, Guilford, Harrisville, Hinckley, Homer, Lafayette, Medina, Montville, Sharon, Spencer, Wadsworth, Westfield & York Townships), PORTAGE (Atwater, Aurora, Brimfield, Deerfield, Franklin, Mantua, Randolph, Ravenna, Rootstown, Shalersville, Streetsboro & Suffield Townships), SUMMIT & WAYNE (Baughman, Canaan, Chester, Chippewa, Congress, Green, Milton, & Wayne Townships)

	Rates	Fringes
CABLE SPLICER	$ 46.81	20.95
ELECTRICIAN	$ 42.55	20.95

ELEC0317-002 06/02/2025

GALLIA & LAWRENCE

	Rates	Fringes
CABLE SPLICER	$ 32.68	18.13
ELECTRICIAN	$ 41.15	29.35

ELEC0540-005 06/30/2025

CARROLL (Northern half, including Fox, Harrison, Rose &

Washington Townhships), COLUMBIANA (Knox Township), HOLMES, MAHONING (Smith Township), STARK, TUSCARAWAS (North of Auburn, Clay, Rush & York Townships), and WAYNE (South of Baughman, Chester, Green & Wayne Townships) COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 39.86	29.19

ELEC0573-003 06/01/2025

ASHTABULA (Colebrook, Wayne, Williamsfield, Orwell & Windsor Townships), GEAUGA (Auburn, Middlefield, Parkman & Troy Townships), MAHONING (Milton Township), PORTAGE (Charlestown, Edinburg, Freedom, Hiram, Nelson, Palmyra, Paris & Windham Townships), and TRUMBULL (Except Liberty & Hubbard Townships)

	Rates	Fringes
ELECTRICIAN	$ 42.20	23.37

ELEC0575-001 05/29/2023

ADAMS, FAYETTE, HIGHLAND, HOCKING, JACKSON (Bloomfield, Franklin, Hamilton, Jefferson, Lick, Madison, Scioto, Coal, Jackson, Liberty, Milton & Washington Townships), PICKAWAY (Deer Creek, Perry, Pickaway, Salt Creek & Wayne Townships), PIKE (Beaver, Benton, Jackson, Mifflin, Pebble, PeePee, Perry, Seal, Camp Creek, Newton, Scioto, Sunfish, Union & Marion Townships), ROSS, SCIOTO & VINTON (Clinton, Eagle, Elk, Harrison, Jackson, Richland & Swan Townships)

	Rates	Fringes
ELECTRICIAN	$ 37.00	22.26

ELEC0648-001 09/01/2025

BUTLER and WARREN COUNTIES (Deerfield, Hamilton, Harlan, Massie, Salem, Turtle Creek, Union & Washington Townships)

	Rates	Fringes
CABLE SPLICER	$ 30.50	18.23
ELECTRICIAN	$ 38.00	24.162

---

* ELEC0673-004 05/26/2025

ASHTABULA (Excluding Orwell, Colebrook, Williamsfield, Wayne & Windsor Townships), GEAUGA (Burton, Chardon, Claridon, Hambden, Huntsburg, Montville, Munson, Newbury & Thompson Townships) and LAKE COUNTIES

	Rates	Fringes
CABLE SPLICER	$ 33.81	21.47
ELECTRICIAN	$ 41.17	24.58

---

* ELEC0683-002 06/02/2025

CHAMPAIGN, CLARK, DELAWARE, FAIRFIELD, FRANKLIN, MADISON, PICKAWAY (Circleville, Darby, Harrison, Jackson, Madison, Monroe, Muhlenberg, Scioto, Walnut & Washington Townships), and UNION COUNTIES

	Rates	Fringes
CABLE SPLICER	$ 44.00	26.40
ELECTRICIAN	$ 43.00	26.37

ELEC0688-003 05/30/2022

ASHLAND, CRAWFORD, HURON (Richmond, New Haven, Ripley & Greenwich Townships), KNOX (Liberty, Clinton, Union, Howard, Monroe, Middleberry, Morris, Wayne, Berlin, Pike, Brown & Jefferson Townships), MARION, MORROW, RICHLAND and WYANDOT (Sycamore, Crane, Eden, Pitt, Antrim & Tymochtee Townships) COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 32.30	21.83

ELEC0972-002 06/01/2024

ATHENS, MEIGS, MONROE, MORGAN, NOBLE, VINTON (Brown, Knox, Madison, Vinton & Wilkesville Townships), and WASHINGTON COUNITES

	Rates	Fringes
CABLE SPLICER	$ 40.25	33.33
ELECTRICIAN	$ 40.00	33.32

ELEC1105-001 05/27/2024

COSHOCTON, GUERNSEY, KNOX (Jackson, Clay, Morgan, Miller, Milford, Hilliar, Butler, Harrison, Pleasant & College Townships), LICKING, MUSKINGUM, PERRY, and TUSCARAWAS (Auburn, York, Clay, Jefferson, Rush, Oxford, Washington, Salem, Perry & Bucks Townships) COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 39.60	24.41

ENGI0018-003 05/01/2024

ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, and SUMMIT COUNTIES

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 45.63	16.41
GROUP 2	$ 45.53	16.41
GROUP 3	$ 44.49	16.41
GROUP 4	$ 43.27	16.41
GROUP 5	$ 37.98	16.41
GROUP 6	$ 46.63	16.41

GROUP 7.....$ 46.63 16.41

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating Equipment (All Types); Gradall; Helicopter Crew (Operator-Hoist or Winch); Hoe (all types); Hoisting Engine on Shaft or Tunnel Work; Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24"" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; Wheel Excavator; and Asphalt Plant Engineer (Cleveland District Only).

GROUP 2 - Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring Machine More than 48""; Bulldozer; Endloader; Horizontal Directional Drill (Over 50,000 ft lbs thrust); Hydro Milling Machine; Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24"" wide & under); Vermeer type Concrete Saw; and Maintenance Operators (Portage and Summit Counties Only).

GROUP 3 - A-Frame; Air Compressor on Tunnel Work (low pressure); Asphalt Plant Engineer (Portage and Summit Counties Only); Bobcat-type and/or Skid Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag capacity); Mixer, one bag capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4"" & over discharge); Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie Tampers (without lifting & aligning device); Utility Operator (Small equipment); Welding Machines; and Railroad Tie Inserter/Remover; Articulating/straight bed end dumps if assigned (minus $4.00 per hour.

GROUP 4 - Backfiller; Ballast Re-locator; Bars, Joint & Mesh Installing Machine; Batch Plant; Boring Machine Operator (48"" or less); Bull Floats; Burlap & Curing Machine; Concrete Plant (capacity 4 yd. & under); Concrete Saw (Multiple); Conveyor (Highway); Crusher; Deckhand;

Farm-type Tractor with attachments (highway); Finishing Machine; Fireperson, Floating Equipment (all types); Forklift; Form Trencher; Hydro Hammer expect masonary; Hydro Seeder; Pavement Breaker; Plant Mixer; Post Driver; Post Hole Digger (Power Auger); Power Brush Burner; Power Form Handling Equipment; Road Widening Trencher; Roller (Brick, Grade & Macadam); Self-Propelled Power Spreader; Self-Propelled Power Subgrader; Steam Fireperson; Tractor (Pulling Sheepfoot, Roller or Grader); and Vibratory Compactor with Integral Power.

GROUP 5 - Compressor (Portable, Sewer, Heavy & Highway); Drum Fireperson (Asphalt Plant); Generator; Masonry Fork Lift; Inboard-Outboard Motor Boat Launch; Oil Heater (asphalt plant); Oiler/Helper; Power Driven Heater; Power Sweeper & Scrubber; Pump (under 4"" discharge); Signalperson; Tire Repairperson; VAC/ALLS; Cranes - Compact, track or rubber under 4,000 pound capacity; fueling and greasing; and Chainmen.

GROUP 6 - Master Mechanic & Boom from 150 to 180.

GROUP 7 - Boom from 180 and over.

ENGI0018-004 05/01/2024

ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, and YANDOT COUNTIES

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 44.14	16.41
GROUP 2	$ 44.02	16.41
GROUP 3	$ 42.98	16.41
GROUP 4	$ 41.80	16.41
GROUP 5	$ 36.34	16.41
GROUP 6	$ 45.14	16.41
GROUP 7	$ 45.14	16.41

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating Equipment (All Types); Gradall; Helicopter Crew (Operator-Hoist or Winch); Hoe (all types); Hoisting Engine

on Shaft or Tunnel Work; Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24"" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; and Wheel Excavator.

GROUP 2 - Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring Machine More than 48""; Bulldozer; Endloader; Hydro Milling Machine; Horizontal Directional Drill (over 50,000 ft. lbs. thrust);Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24"" wide & under); and Vermeer type Concrete Saw.

GROUP 3 - A-Frame; Air Compressor on Tunnel Work (low pressure); Asphalt Plant Engineer; Bobcat-type and/or Skid Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag capacity); Mixer, one bag capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4"" & over discharge); Railroad Tie Inserter/Remover; Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie Tampers (without lifting & aligning device); Utility Operator (Small equipment); and Welding Machines; Artiaculating/straight bed end dumps if assigned (minus $4.00 per hour.

GROUP 4 - Backfiller; Ballast Re-locator; Bars, Joint & Mesh Installing Machine; Batch Plant; Boring Machine Operator (48"" or less); Bull Floats; Burlap & Curing Machine; Concrete Plant (capacity 4 yd. & under); Concrete Saw (Multiple); Conveyor (Highway); Crusher; Deckhand; Farm-type Tractor with attachments (highway); Finishing Machine; Fireperson, Floating Equipment (all types); Fork Lift; Form Trencher; Hydro Hammer expect masonary; Hydro Seeder; Pavement Breaker; Plant Mixer; Post Driver; Post Hole Digger (Power Auger); Power Brush Burner; Power Form Handling Equipment; Road Widening Trencher; Roller (Brick, Grade & Macadam); Self-Propelled Power Spreader; Self-Propelled Power Subgrader; Steam Fireperson; Tractor (Pulling Sheepfoot, Roller or Grader); and Vibratory Compactor with Integral Power.

GROUP 5 - Compressor (Portable, Sewer, Heavy & Highway); Drum Fireperson (Asphalt Plant); Generator; Masonary Forklift; Inboard-Outboard Motor Boat Launch; Oil Heater (asphalt plant); Oiler/Helper; Power Driven Heater; Power Sweeper & Scrubber; Pump (under 4"" discharge); Signalperson; Tire Repairperson; VAC/ALLS; Cranes - Compact, track or rubber under 4,000 pound capacity; fueling and greasing; and Chainmen.

GROUP 6 - Master Mechanic & Boom from 150 to 180.

GROUP 7 - Boom from 180 and over.

ENGI0066-023 06/01/2023

COLUMBIANA, MAHONING & TRUMBULL COUNTIES

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 1 - A & B	$ 44.63	24.30
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 2 - A & B	$ 44.30	24.30
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 3 - A & B	$ 38.47	24.30
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 4 - A & B	$ 34.52	24.30
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 5 - A & B	$ 31.13	24.30
HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 1 - C & D	$ 40.91	24.30
HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 2 - C & D	$ 40.61	24.30
HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 3 - C & D	$ 35.27	24.30
HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 4 - C & D	$ 31.65	24.30
HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 5 - C & D	$ 28.53	24.30
ALL OTHER WORK		
GROUP 1	$ 37.19	24.30
ALL OTHER WORK		
GROUP 2	$ 36.92	24.30
ALL OTHER WORK		
GROUP 3	$ 32.06	24.30
ALL OTHER WORK		
GROUP 4	$ 28.77	24.30
ALL OTHER WORK		
GROUP 5	$ 25.94	24.30

GROUP 1 - Rig, Pile Driver or Caisson Type; & Rig, Pile Hydraulic Unit Attached

GROUP 2 - Asphalt Heater Planer; Backfiller with Drag Attachment; Backhoe; Backhoe with Shear attached; Backhoe-Rear Pivotal Swing; Batch Plant-Central Mix Concrete; Batch Plant, Portable concrete; Berm Builder-Automatic; Boat Derrick; Boat-Tug; Boring Machine Attached to Tractor; Bullclam; Bulldozer; C.M.I. Road Builder & Similar Type; Cable Placer & Layer; Carrier-Straddle; Carryall-Scraper or Scoop; Chicago Boom;

Compactor with Blade Attached; Concrete Saw (Vermeer or similar type); Concrete Spreader Finisher; Combination, Bidwell Machine; Crane; Crane-Electric Overhead; Crane-Rough Terrain; Crane-Side Boom; Crane-Truck; Crane-Tower; Derrick-Boom; Derrick-Car; Digger-Wheel (Not trencher or road widener); Double Nine; Drag Line; Dredge; Drill-Kenny or Similar Type; Easy Pour Median Barrier Machine (or similar type); Electromatic; Frankie Pile; Gradall; Grader; Gurry; Self-Propelled; Heavy Equipment Robotics Operator/Mechanic; Hoist-Monorail; Hoist-Stationary & Mobile Tractor; Hoist, 2 or 3 drum; Horizontal Directional Drill Operator; Jackall; Jumbo Machine; Kocal & Kuhlman; Land-Seagoing Vehicle; Loader, Elevating; Loader, Front End; Loader, Skid Steer; Locomotive; Mechanic/Welder; Metro Chip Harvester with Boom; Mucking Machine; Paver-Asphalt Finishing Machine; Paver-Road Concrete; Paver-Slip Form (C.M.I. or similar); Place Crete Machine with Boom; Post Driver (Carrier mounted); Power Driven Hydraulic Pump & Jack (When used in Slip Form or Lift Slab Construction); Pump Crete Machine; Regulator-Ballast; Hydraulic Power Unit not attached to Rig for Pile Drillings; Rigs-Drilling; Roto Mill or similar Full Lane (8' Wide & Over); Roto Mill or similar type (Under 8'); Shovel; Slip Form Curb Machine; Speedwing; Spikemaster; Stonecrusher; Tie Puller & Loader; Tie Tamper; Tractor-Double Boom; Tractor with Attachments; Truck-Boom; Truck-Tire; Trench Machine; Tunnel Machine (Mark 21 Java or similar); & Whirley (or similar type)

GROUP 3 - Asphalt Plant; Bending Machine (Pipeline or similar type); Boring machine, Motor Driven; Chip Harvester without Boom; Cleaning Machine, Pipeline Type; Coating Machine, Pipeline Type; Compactor; Concrete Belt Placer; Concrete Finisher; Concrete Planer or Asphalt; Concrete Spreader; Elevator; Fork Lift (Home building only); Fork lift & Lulls; Fork Lift Walk Behind (Hoisting over 1 buck high); Form Line Machine; Grease Truck operator; Grout Pump; Gunnite Machine; Horizontal Directional Drill Locator; Single Drum Hoist with or without Tower; Huck Bolting Machine; Hydraulic Scaffold (Hoisting building materials); Paving Breaker (Self-propelled or Ridden); Pipe Dream; Pot Fireperson (Power Agitated); Refrigeration Plant; Road Widener; Roller; Sasgen Derrick; Seeding Machine; Soil Stabilizer (Pump type); Spray Cure Machine, Self-Propelled; Straw Blower Machine; Sub-Grader; Tube Finisher or Broom C.M.I. or similar type; & Tugger Hoist

GROUP 4 - Air Curtain Destructor & Similar Type; Batch Plant-Job Related; Boiler Operator; Compressor; Conveyor; Curb Builder, self-propelled; Drill Wagon; Generator Set; Generator-Steam; Heater-Portable Power; Hydraulic Manipulator Crane; Jack-Hydraulic Power driven; Jack-Hydraulic (Railroad); Ladavator; Minor Machine Operator; Mixer-Concrete; Mulching Machine; Pin Puller; Power Broom; Pulverizer; Pump; Road Finishing Machine (Pull Type); Saw-Concrete-Self-Propelled (Highway Work); Signal Person; Spray Cure Machine-Motor Powered; Stump Cutter; Tractor; Trencher Form; Water Blaster; Steam Jenny; Syphon; Vibrator-Gasoline; & Welding Machine

GROUP 5 - Brakeperson; Fireperson; & Oiler

ASHTABULA (North of Route 6, starting at the Geauga County Line, proceeding east to State Route 45), CUYAHOGA, ERIE (Eastern 2/3), GEAUGA, HURON (East of a line drawn from the north border through Monroeville & Willard), LAKE, LORAIN, MEDINA (North of Old Rte. #224), PORTAGE (West of a line from Middlefield to Shalersville to Deerfield), and SUMMIT (North of Old Rte. #224, including city limits of Barberton) COUNTIES

	Rates	Fringes
IRONWORKER		
Ornamental, Reinforcing, & Structural	$ 36.83	29.01

IRON0017-010 05/01/2024

ASHTABULA (Eastern part from Lake Erie on the north to route #322 on the south to include Conneaut, Kingsville, Sheffield, Denmark, Dorset, Cherry Valley, Wayne, Monroe, Pierpont, Richmond, Andover & Williamsfield Townships)

	Rates	Fringes
IRONWORKER		
Structural, including metal building erection & Reinforcing	$ 36.83	29.01

IRON0044-001 06/01/2025

ADAMS (Western Part), BROWN, BUTLER (Southern Part), CLERMONT, CLINTON (South of a line drawn from Blanchester to Lynchburg), HAMILTON, HIGHLAND (Excluding eastern one-fifth & portion of county inside lines drawn from Marshall to Lynchburg from the northern county line through E. Monroe to Marshall) and WARREN (South of a line drawn from Blanchester through Morrow to the west county line) COUNTIES

	Rates	Fringes
IRONWORKER, REINFORCING	$ 38.27	23.90

IRON0044-002 06/01/2025

CLINTON (South of a line drawn from Blanchester to Lynchburg), HAMILTON, HIGHLAND (Excluding eastern one-fifth & portion of county inside lines drawn from Marshall to Lynchburg from the northern county line through E. Monroe to Marshall) & WARREN (South of a line drawn from Blanchester through Morrow to the west county line)

	Rates	Fringes
IRONWORKER		
Fence Erector	$ 35.88	23.90
Ornamental; Structural	$ 37.77	23.90

IRON0055-003 07/01/2024

CRAWFORD (Area Between lines drawn from where Hwy #598 & #30 meet through N. Liberty to the northern border & from said Hwy

junction point due west to the border), DEFIANCE (S. of a line drawn from where Rte. #66 meets the northern line through Independence to the eastern county border), ERIE (Western 1/3), FULTON, HANCOCK, HARDIN (North of a line drawn from Maysville to a point 4 miles south of the northern line on the eastern line), HENRY, HURON (West of a line drawn from the northern border through Monroeville & Willard), LUCAS, OTTAWA, PUTNAM (East of a line drawn from the northern border down through Miller City to where #696 meets the southern border), SANDUSKY, SENECA, WILLIAMS (East of a line drawn from Pioneer through Stryker to the southern border), WOOD & WYANDOT (North of Rte. #30)

	Rates	Fringes
IRONWORKER		
Fence Erector	$ 26.40	24.62
Flat Road Mesh	$ 29.77	21.30
Tunnels & Caissons Under Pressure	$ 29.77	21.30
All Other Work	$ 35.50	29.20

IRON0147-002 06/01/2025

ALLEN (Northern half), DEFIANCE (Northern part, excluding south of a line drawn from where Rte. #66 meets the northern line through Independence to the eastern county border), MERCER (Northern half), PAULDING, PUTNAM (Western part, excluding east of a line drawn from the northern border down through Miller City to where #696 meets the southern border), VAN WERT, and WILLIAMS (Western part, excluding east of a line drawn from Pioneer through Stryker to the southern border) COUNTIES

	Rates	Fringes
IRONWORKER	$ 38.00	26.39

IRON0172-002 06/01/2025

CHAMPAIGN (Eastern one-third), CLARK (Eastern one-fourth), COSHOCTON (West of a line beginning at the northwestern county line going through Walhonding & Tunnel Hill to the southern county line), CRAWFORD (South of Rte. #30), DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, HARDIN (Excluding a line drawn from Roundhead to Maysville), HIGHLAND (Eastern one-fifth), HOCKING, JACKSON (Northern half), KNOX, LICKING, LOGAN (Eastern one-third), MADISON, MARION, MORROW, MUSKINGUM (West of a line starting at Adams Mill going to Adamsville & going from Adamsville through Blue Rock to the southern border), PERRY, PICKAWAY, PIKE (Northern half), ROSS, UNION, VINTON and WYANDOT (South of Rte. #30) COUNTIES

	Rates	Fringes
IRONWORKER	$ 40.87	23.15

IRON0207-004 06/01/2025

ASHTABULA (Southern part starting at the Geauga County line), COLUMBIANA (E. of a line from Damascus to Highlandtown), MAHONING (N. of Old Route #224), PORTAGE (E. of a line from Middlefield to Shalersville to Deerfield) & TRUMBULL

	Rates	Fringes
IRONWORKER		
Layout; Sheeter	$ 37.26	28.16
Ornamental; Reinforcing; Structural	$ 36.26	28.16

IRON0290-002 06/01/2025

ALLEN (Southern half), AUGLAIZE, BUTLER (North of a line drawn from east to the west county line going through Oxford, Darrtown & Woodsdale), CHAMPAIGN (Excluding east of a line drawn from Catawla to the point where #68 intersects the northern county line), CLARK (Western two-thirds), CLINTON (Excluding south of a line drawn from Blanchester to Lynchburg), DARKE, GREENE, HIGHLAND (Inside lines drawn from Marshall to Lynchburg & from the northern county line through East Monroe to Marshall), LOGAN (West of a line drawn from West Liberty to where the northern county line meets the western county line of Hardin), MERCER (Southern half), MIAMI, MONTGOMERY, PREBLE, SHELBY & WARREN (Excluding south of a line drawn from Blanchester through Morrow to the western county line) COUNTIES

	Rates	Fringes
IRONWORKER	$ 37.39	25.35

IRON0549-003 12/01/2022

BELMONT, GUERNSEY, HARRISON, JEFFERSON, MONROE & MUSKINGUM (Excluding portion west of a line starting at Adams Mill going to Adamsville and going from Adamsville through Blue Rock to the south border)

	Rates	Fringes
IRONWORKER	$ 35.19	25.66

IRON0550-004 05/01/2024

ASHLAND, CARROLL, COLUMBIANA (W. of a line from Damascus to Highlandtown), COSHOCTON (E. of a line beginning at NW Co. line going through Walhonding & Tunnel Hill to the South Co. line), HOLMES, HURON (S. of Old Rte. #224), MAHONING (S. of Old Rte. #224), MEDINA (S. of Old Rte. #224), PORTAGE (S. of Old Rte. #224), RICHLAND, STARK, SUMMIT (S. of Old Rte. #224, Excluding city limits of Barberton), TUSCARAWAS, & WAYNE

	Rates	Fringes
Ironworkers:Structural, Ornamental and Reinforcing	$ 34.70	22.88

IRON0769-004 06/01/2025

ADAMS (Eastern Half), GALLIA, JACKSON (Southern Half), LAWRENCE & SCIOTO

	Rates	Fringes
IRONWORKER	$ 39.70	29.59

IRON0787-003 06/01/2025

ATHENS, MEIGS, MORGAN, NOBLE, and WASHINGTON COUNTIES

	Rates	Fringes
IRONWORKER	$ 36.10	24.65

LABO0265-008 05/01/2024

	Rates	Fringes
LABORER		
ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK, SUMMIT, TRUMBULL & WOOD COUNTIES		
GROUP 1	$ 35.95	14.45
GROUP 2	$ 36.12	14.45
GROUP 3	$ 36.45	14.45
GROUP 4	$ 36.90	14.45
CUYAHOGA AND GEAUGA COUNTIES ONLY: SEWAGE PLANTS, WASTE PLANTS, WATER TREATMENT FACILITIES, PUMPING STATIONS, & ETHANOL PLANTS CONSTRUCTION	$ 38.56	14.45
CUYAHOGA, GEAUGA & LAKE COUNTIES		
GROUP 1	$ 37.18	14.45
GROUP 2	$ 37.35	14.45
GROUP 3	$ 37.68	14.45
GROUP 4	$ 38.13	14.45
REMAINING COUNTIES OF OHIO		
GROUP 1	$ 35.52	14.45
GROUP 2	$ 35.69	14.45
GROUP 3	$ 36.02	14.45
GROUP 4	$ 36.47	14.45

LABORER CLASSIFICATIONS

GROUP 1 - Asphalt Laborer; Carpenter Tender; Concrete Curing Applicator; Dump Man (Batch Truck); Guardrail and Fence Installer; Joint Setter; Laborer (Construction); Landscape Laborer; Mesh Handlers & Placer; Right-of-way Laborer; Riprap Laborer & Grouter; Scaffold Erector; Seal Coating; Surface Treatment or Road Mix Laborer; Sign Installer; Slurry Seal; Utility Man; Bridge Man; Handyman; Waterproofing Laborer; Flagperson; Hazardous Waste (level D); Diver Tender; Zone Person & Traffic Control

GROUP 2 - Asphalt Raker; Concrete Puddler; Kettle Man Pipeline); Machine Driven Tools (Gas, Electric, Air); Mason Tender; Brick Paver; Mortar Mixer; Power Buggy or Power Wheelbarrow; Paint Striper; Sheeting & Shoring Man; Surface Grinder Man; Plastic Fusing Machine Operator; Pug Mill Operator; & Vacuum Devices (wet or dry); Rodding Machine Operator; Diver; Screwman or Paver; Screed Person; Water Blast, Hand Held Wand; Pumps 4"" & Under (Gas, Air or

Electric) & Hazardous Waste (level C); Air Track and Wagon Drill; Bottom Person; Cofferdam (below 25 ft. deep); Concrete Saw Person; Cutting with Burning Torch; Form Setter; Hand Spiker (Railroad); Pipelayer; Tunnel Laborer (without air) & Caisson; Underground Person (working in Sewer and Waterline, Cleaning, Repairing & Reconditioning); Sandblaster Nozzle Person; & Hazardous Waste (level B)

GROUP 3 - Blaster; Mucker; Powder Person; Top Lander; Wrencher (Mechanical Joints & Utility Pipeline); Yarner; Hazardous Waste (level A); Concrete Specialist; Concrete Crew in Tunnels (With Air-pressurized - $1.00 premium); Curb Setter & Cutter; Grade Checker; Utility Pipeline Tapper; Waterline; and Caulker

GROUP 4 - Miner (With Air-pressurized - $1.00 premium); & Gunite Nozzle Person

TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE

SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING.

PAIN0006-002 05/01/2023

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE (N. of the East-West Turnpike) & SUMMIT (N. of the East-West Turnpike)

	Rates	Fringes
PAINTER		
COMMERCIAL NEW WORK; REMODELING; & RENOVATIONS		
GROUP 1	$ 30.75	18.95
GROUP 2	$ 31.15	18.95
GROUP 3	$ 31.45	18.95
GROUP 4	$ 37.01	18.95
COMMERCIAL REPAINT		
GROUP 1	$ 29.25	18.95
GROUP 2	$ 29.65	18.95
GROUP 3	$ 29.95	18.95

PAINTER CLASSIFICATIONS - COMMERCIAL NEW WORK; REMODELING; & RENOVATIONS

GROUP 1 - Brush; & Roller

GROUP 2 - Sandblasting & Buffing

GROUP 3 - Spray Painting; Closed Steel Above 55 feet; Bridges & Open Structural Steel; Tanks - Water Towers; Bridge Painters; Bridge Riggers; Containment Builders

GROUP 4 - Bridge Blaster

PAINTER CLASSIFICATIONS - COMMERCIAL REPAINT

GROUP 1 - Brush; & Roller

GROUP 2 - Sandblasting & Buffing

GROUP 3 - Spray Painting

PAIN0007-002 07/01/2025

FULTON, HENRY, LUCAS, OTTAWA (Excluding Allen, Bay, Bono, Catawba Island, Clay Center, Curtice, Danbury, Eagle Beach, Elliston, Elmore, Erie, Fishback, Gem Beach & Genova) & WOOD

	Rates	Fringes
PAINTER		
NEW COMMERCIAL WORK		
GROUP 1	$ 33.66	23.88
GROUP 2	$ 34.66	23.88
GROUP 3	$ 34.66	23.88
GROUP 4	$ 34.66	23.88
GROUP 5	$ 34.66	23.88
GROUP 6	$ 34.66	23.88
GROUP 7	$ 34.66	23.88
GROUP 8	$ 34.66	23.88
GROUP 9	$ 34.66	23.88

REPAINT IS 90% OF JR

PAINTER CLASSIFICATIONS

GROUP 1 - Brush; Spray & Sandblasting Pot Tender

GROUP 2 - Refineries & Refinery Tanks; Surfaces 30 ft. or over where material is applied to or labor performed on above ground level (exterior), floor level (interior)

GROUP 3 - Swing Stage & Chair

GROUP 4 - Lead Abatement

GROUP 5 - All Methods of Spray

GROUP 6 - Solvent-Based Catalized Epoxy Materials of 2 or More Component Materials, to include Solvent-Based Conversion Varnish (excluding water based)

GROUP 7 - Spray Solvent Based Material; Sand & Abrasive Blasting

GROUP 8 - Towers; Tanks; Bridges; Stacks Over 30 Feet

GROUP 9 - Epoxy Spray (excluding water based)

PAIN0012-008 05/01/2019

BUTLER COUNTY

	Rates	Fringes
PAINTER		
GROUP 1	$ 21.95	10.20
GROUP 2	$ 25.30	10.20
GROUP 3	$ 25.80	10.20
GROUP 4	$ 26.05	10.20
GROUP 5	$ 26.30	10.20

PAINTER CLASSIFICATIONS

GROUP 1: Bridge Equipment Tender; Bridge/Containment Builder

GROUP 2: Brush & Roller

GROUP 3: Spray

GROUP 4: Sandblasting; & Waterblasting

GROUP 5: Elevated Tanks; Steeplejack Work; Bridge; & Lead Abatement

---

PAIN0012-010 05/01/2019

BROWN, CLERMONT, CLINTON, HAMILTON & WARREN

	Rates	Fringes
PAINTER		
HEAVY & HIGHWAY BRIDGES-GUARDRAILS-LIGHTPOLES-STRIPING		
Bridge Equipment Tender and Containment Builder	$ 21.95	10.20
Bridges when highest point of clearance is 60 feet or more; & Lead Abatement Projects	$ 26.30	10.20
Brush & Roller	$ 25.30	10.20
Sandblasting & Hopper Tender; Water Blasting	$ 26.05	10.20
Spray	$ 25.80	10.20

PAIN0093-001 12/01/2024

ATHENS, GUERNSEY, HOCKING, MONROE, MORGAN, NOBLE and WASHINGTON COUNTIES

	Rates	Fringes
PAINTER		
Bridges; Locks; Dams; Tension Towers; & Energized Substations	$ 36.44	24.46
Power Generating Facilities	$ 33.29	24.46

PAIN0249-002 05/01/2025

CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE

	Rates	Fringes
PAINTER		
GROUP 1 - Brush & Roller	$ 29.15	13.97
GROUP 2 - Swing, Scaffold Bridges; Structural Steel; Open Acid Tank; High Tension Electrical Equipment; & Hot Pipes	$ 33.09	13.97
GROUP 3 - Spray; Sandblast; Steamclean; Lead Abatement	$ 29.90	13.97
GROUP 4 - Steeplejack Work	$ 30.10	13.97

GROUP 5 - Coal Tar	$ 30.65	13.97
GROUP 6 - Bridge Equipment Tender & or Containment Builder	$ 37.86	13.97
GROUP 7 - Tanks, Stacks & Towers	$ 33.86	13.97
GROUP 8 - Bridge Blaster, Rigger	$ 40.86	13.97

PAIN0356-002 09/01/2009

KNOX, LICKING, MUSKINGUM, and PERRY

	Rates	Fringes
PAINTER		
Bridge Equipment Tenders and Containment Builders	$ 27.93	7.25
Bridges; Blasters; andRiggers	$ 34.60	7.25
Brush and Roller	$ 20.93	7.25
Sandblasting; Steam Cleaning; Waterblasting; and Hazardous Work	$ 25.82	7.25
Spray	$ 21.40	7.25
Structural Steel and Swing Stage	$ 25.42	7.25
Tanks; Stacks; and Towers	$ 28.63	7.25

PAIN0438-002 12/01/2023

BELMONT, HARRISON and JEFFERSON COUNTIES

	Rates	Fringes
PAINTER		
Bridges, Locks, Dams, Tension Towers & Energized Substations	$ 36.09	19.49
Power Generating Facilities	$ 32.94	19.49

PAIN0476-001 06/01/2025

COLUMBIANA, MAHONING, and TRUMBULL COUNITES

	Rates	Fringes
PAINTER		
GROUP 1	$ 30.64	18.36
GROUP 2	$ 40.27	18.36
GROUP 3	$ 40.27	18.36
GROUP 4	$ 31.14	18.36
GROUP 5	$ 31.29	18.36
GROUP 6	$ 35.27	18.36
GROUP 7	$ 32.64	18.36

PAINTER CLASSIFICATIONS:

GROUP 1: Painters, Brush & Roller

GROUP 2: Bridges

GROUP 3: Structural Steel

GROUP 4: Spray, Except Bar Joist/Deck

GROUP 5: Epoxy/Mastic; Spray- Bar Joist/Deck; Working Above 50 Feet; and Swingstages

GROUP 6: Tanks; Sandblasting

GROUP 7: Towers; Stacks

PAIN0555-002 01/01/2025

ADAMS, HIGHLAND, JACKSON, PIKE & SCIOTO

	Rates	Fringes
PAINTER		
GROUP 1	$ 33.32	21.54
GROUP 2	$ 35.02	21.54
GROUP 3	$ 36.72	21.54
GROUP 4	$ 40.03	21.54

PAINTER CLASSIFICATIONS

GROUP 1 - Containment Builder

GROUP 2 - Brush; Roller; Power Tools, Under 40 feet

GROUP 3 - Sand Blasting; Spray; Steam Cleaning; Pressure Washing; Epoxy & Two Component Materials; Lead Abatement; Hazardous Waste; Toxic Materials; Bulk & Storage Tanks of 25,000 Gallon Capacity or More; Elevated Tanks

GROUP 4 - Stacks; Bridges

PAIN0639-001 05/01/2011

	Rates	Fringes
Sign Painter & Erector	$ 20.61	3.50+a+b+c

FOOTNOTES: a. 7 Paid Holidays: New Year's Day; Memorial Day; July 4th; Labor Day; Thanksgiving Day; Christmas Day & 1 Floating Day
b. Vacation Pay: After 1 year's service - 5 days' paid vacation; After 2, but less than 10 years' service - 10 days' paid vacation; After 10, but less than 20 years' service - 15 days' paid vacation; After 20 years' service - 20 days' paid vacation
c. Funeral leave up to 3 days maximum paid leave for death of mother, father, brother, sister, spouse, child, mother-in-law, father-in-law, grandparent and inlaw provided employee attends funeral

---

PAIN0788-002 06/01/2024

ASHLAND, CRAWFORD, ERIE, HANCOCK, HURON, MARION, MORROW, OTTAWA (Allen, Bay, Bono, Catawba Island, Clay Center, Curtice, Danbury, Eagle Beach, Elliston, Elmore, Erie, Fishback, Gem Beach & Genoa), RICHLAND, SANDUSKY, SENECA & WYANDOT

	Rates	Fringes

PAINTER
Brush & Roller.....$ 29.13 17.52
Structural Steel.....$ 30.73 17.52

WINTER REPAINT: Between December 1 to March 31 - 90%JR

$.50 PER HOUR SHALL BE ADDED TO THE RATE OF PAY FOR THE CLASSIFICATION OF WORK:

While working swingstage, boatswain chair, needle beam and horizontal cable. While operating sprayguns, sandblasting, cobblasting and high pressure waterblasting (4000psi).

$1.00 PER HOUR SHALL BE ADDED TO THE RATE OF PAY FOR THE CLASSIFICATION OF WORK:

For the application of catalized epoxy, including latex epoxy that is deemed hazardous, lead abatement, or for work or material where special precautions beyond normal work duties must be taken. For working on stacks, tanks, and towers over 40 feet in height.

PAIN0813-005 12/01/2008

GALLIA, LAWRENCE, MEIGS & VINTON

	Rates	Fringes
PAINTER		
Base Rate	$ 24.83	10.00
Bridges, Locks, Dams & Tension Towers	$ 27.83	10.00

PAIN0841-001 07/01/2025

MEDINA, PORTAGE (South of and including Ohio Turnpike), and SUMMIT (South of and including Ohio Turnpike) COUNTIES

	Rates	Fringes
Painters:		
GROUP 1	$ 31.93	18.15
GROUP 2	$ 32.58	18.15
GROUP 3	$ 32.68	18.15
GROUP 4	$ 32.78	18.15
GROUP 5	$ 33.18	18.15
GROUP 6	$ 38.60	18.15
GROUP 7	$ 33.18	18.15

PAINTER CLASSIFICATIONS:

GROUP 1 - Brush, Roller & Paperhanger

GROUP 2 - Epoxy Application

GROUP 3 - Swing Scaffold, Bosum Chair, & Window Jack

GROUP 4 - Spray Gun Operator of Any & All Coatings

GROUP 5 - Sandblast, Painting of Standpipes, etc. from Scaffolds, Bridge Work and/or Open Structural Steel, Standpipes and/or Water Towers

GROUP 6 - Public & Commerce Transportation, Steel or Galvanized, Bridges, Tunnels & Related Support Items (concrete)

GROUP 7 - Synthetic Exterior, Drywall Finisher and/or Taper, Drywall Finisher and Follow-up Man Using Automatic Tools

---

PAIN0841-002 07/01/2025

CARROLL, COSHOCTON, HOLMES, STARK, TUSCARAWAS & WAYNE

	Rates	Fringes
PAINTER		
Bridges; Towers, Poles & Stacks; Sandblasting Steel; Structural Steel & Metalizing	$ 33.18	18.15
Brush & Roller	$ 31.93	18.15
Spray; Tank Interior & Exterior	$ 32.78	18.15

PAIN1020-002 07/01/2025

ALLEN, AUGLAIZE, CHAMPAIGN, DEFIANCE, HARDIN, LOGAN, MERCER, PAULDING, PUTNAM, SHELBY, VAN WERT, and WILLIAMS COUNTIES

	Rates	Fringes
PAINTER		
Brush & Roller	$ 27.59	18.54
Drywall Finishing & Taping	$ 28.34	18.54
Lead Abatement	$ 29.34	18.54
Spray, Sandblasting Pressure Cleaning, & Refinery	$ 28.34	18.54
Swing Stage, Chair, Spiders, & Cherry Pickers	$ 27.84	18.54
Wallcoverings	$ 28.34	18.54

All surfaces 40 ft. or over where material is applied to or labor performed on, above ground level (exterior), floor level (interior) - $.50 premium

Applying Coal Tar Products - $1.00 premium

PAIN1275-002 05/01/2025

DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, MADISON, PICKAWAY, ROSS & UNION

	Rates	Fringes
PAINTER		
Bridges	$ 37.26	15.16
Brush; Roller	$ 30.20	15.16
Sandblasting; Steamcleaning; Waterblasting (3500 PSI or Over)& Hazardous Work	$ 32.35	15.16
Spray	$ 32.15	15.16

Stacks; Tanks; & Towers.....$ 34.46 15.16
Structural Steel & Swing
Stage.....$ 30.50 15.16

PLAS0109-001 06/01/2025

MEDINA, PORTAGE, STARK, and SUMMIT COUNTIES

	Rates	Fringes
PLASTERER	$ 33.00	23.83

PLAS0109-003 06/01/2025

CARROLL, HOLMES, TUSCARAWAS, and WAYNE COUNTIES

	Rates	Fringes
PLASTERER	$ 33.00	23.83

PLAS0132-002 07/01/2025

BROWN, BUTLER, CLERMONT, HAMILTON, HIGHLAND, WARREN COUNTIES

	Rates	Fringes
PLASTERER	$ 31.35	17.65

PLAS0404-002 05/01/2018

ASHTABULA, CUYAHOGA, GEAUGA, AND LAKE COUNTIES

	Rates	Fringes
PLASTERER	$ 29.63	17.11

PLAS0404-003 05/01/2018

LORAIN COUNTY

	Rates	Fringes
PLASTERER	$ 28.86	17.11

PLAS0526-022 05/01/2018

COLUMBIANA, MAHONING, and TRUMBULL COUNTIES

	Rates	Fringes
PLASTERER	$ 28.86	17.11

PLAS0526-023 05/01/2018

BELMONT, HARRISON, and JEFFERSON COUNTIES

	Rates	Fringes
PLASTERER	$ 28.21	17.11

PLAS0886-001 07/01/2024

FULTON, HANCOCK, HENRY, LUCAS, PUTNAM, and WOOD COUNTIES

	Rates	Fringes

PLASTERER.....$ 33.73 23.25

PLAS0886-003 07/01/2024

DEFIANCE, ERIE, HURON, OTTAWA, PAULDING, SANDUSKY, and SENECA

	Rates	Fringes
PLASTERER	$ 33.73	23.25

PLAS0886-004 07/01/2024

ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, and VAN WERT

	Rates	Fringes
PLASTERER	$ 33.73	23.25

PLUM0042-002 07/01/2025

ASHLAND, CRAWFORD, ERIE, HURON, KNOX, LORAIN, MORROW, RICHLAND & WYANDOT

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 43.02	26.45

PLUM0050-002 06/30/2025

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS & WOOD

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 51.00	32.56

PLUM0055-003 05/05/2025

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, MEDINA (N. of Rte. #18 & Smith Road) & SUMMIT (N. of Rte. #303, including the corporate limits of the city of Hudson)

	Rates	Fringes
PLUMBER	$ 44.86	30.03

PLUM0083-001 07/01/2023

BELMONT & MONROE (North of Rte. #78)

	Rates	Fringes
Plumber and Steamfitter	$ 35.94	37.35

PLUM0094-002 05/01/2025

CARROLL (Northen Half), STARK, and WAYNE COUNTIES

	Rates	Fringes

PLUMBER/PIPEFITTER.....$ 47.48 27.14

PLUM0120-002 05/01/2025

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN (the C.E.I. Power House in Avon Lake), MEDINA (N. of Rte. #18) & SUMMIT (N. of #303)

	Rates	Fringes
PIPEFITTER	$ 49.17	28.55

PLUM0162-002 06/01/2024

CHAMPAIGN, CLARK, CLINTON, DARKE, FAYETTE, GREENE, MIAMI, MONTGOMERY & PREBLE

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 43.05	27.18

PLUM0168-002 06/01/2025

MEIGS, MONROE (South of Rte. #78), MORGAN (South of Rte. #78) & WASHINGTON

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 40.92	37.20

PLUM0189-002 06/01/2024

DELAWARE, FAIRFIELD, FRANKLIN, HOCKING, LICKING, MADISON, MARION, PERRY, PICKAWAY, ROSS & UNION

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 43.25	26.94

PLUM0219-002 06/01/2025

MEDINA (Rte. #18 from eastern edge of Medina Co., west to eastern corporate limits of the city of Medina, & on the county road from the west corporate limits of Medina running due west to and through community of Risley to the western edge of Medina County - All territory south of this line), PORTAGE, and SUMMIT (S. of Rte. #303) COUNTIES

	Rates	Fringes
Plumber and Steamfitter	$ 46.87	28.39

PLUM0392-002 06/01/2025

BROWN, BUTLER, CLERMONT, HAMILTON & WARREN

	Rates	Fringes

PLUMBER/PIPEFITTER.....$ 43.30 27.40

PLUM0396-001 06/01/2025

COLUMBIANA (Excluding Washington & Yellow Creek Townships & Liverpool Twp. - Secs. 35 & 36 - West of County Road #427), MAHONING and TRUMBULL COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 40.55	29.25

PLUM0495-002 06/01/2025

CARROLL (Rose, Monroe, Union, Lee, Orange, Perry & Loudon Townships), COLUMBIANA (Washington & Yellow Creek Townships & Liverpool Township, Secs. 35 & 36, West of County Rd. #427), COSHOCTON, GUERNSEY, HARRISON, HOLMES, JEFFERSON, MORGAN (South to State Rte. #78 & from McConnelsville west on State Rte. #37 to the Perry County line), MUSKINGUM, NOBLE, and TUSCARAWAS COUNTIES

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 39.32	37.60

PLUM0577-002 06/01/2025

ADAMS, ATHENS, GALLIA, HIGHLAND, JACKSON, LAWRENCE, PIKE, SCIOTO & VINTON

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 42.65	28.56

PLUM0776-002 07/01/2025

ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, SHELBY and VAN WERT COUNTIES

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 42.76	30.81

TEAM0377-003 05/01/2025

STATEWIDE, EXCEPT CUYAHOGA, GEAUGA & LAKE

	Rates	Fringes
TRUCK DRIVER		
GROUP 1	$ 34.26	18.85
GROUP 2	$ 35.26	18.85

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Asphalt Distributor; Batch; 4- Wheel Service;

4-Wheel Dump; Oil Distributor & Tandem

GROUP 2 - Tractor-Trailer Combination: Fuel; Pole Trailer; Ready Mix; Semi-Tractor; & Asphalt Oil Spraybar Man When Operated From Cab; 5 Axles & Over; Belly Dump; End Dump; Articulated Dump; Heavy Duty Equipment; Low Boy; & Truck Mechanic

---

TEAM0436-002 05/01/2025

CUYAHOGA, GEAUGA & LAKE

	Rates	Fringes
TRUCK DRIVER		
GROUP 1	$ 34.92	19.30
GROUP 2	$ 35.73	19.30

GROUP 1: Straight & Dump, Straight Fuel

GROUP 2: Semi Fuel, Semi Tractor, Euclids, Darts, Tank, Asphalt Spreaders, Low Boys, Carry-All, Tourna-Rockers, Hi-Lifts, Extra Long Trailers, Semi-Pole Trailers, Double Hook-Up Tractor Trailers including Team Track & Railroad Siding, Semi-Tractor & Tri-Axle Trailer, Tandem Tractor & Tandem Trailer, Tag Along Trailer, Expandable Trailer or Towing Requiring Road Permits, Ready-Mix (Agitator or Non-Agitator), Bulk Concrete Driver, Dry Batch Truck, Articulated End Dump

---

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($17.75) or 13658 ($13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that

classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the

decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

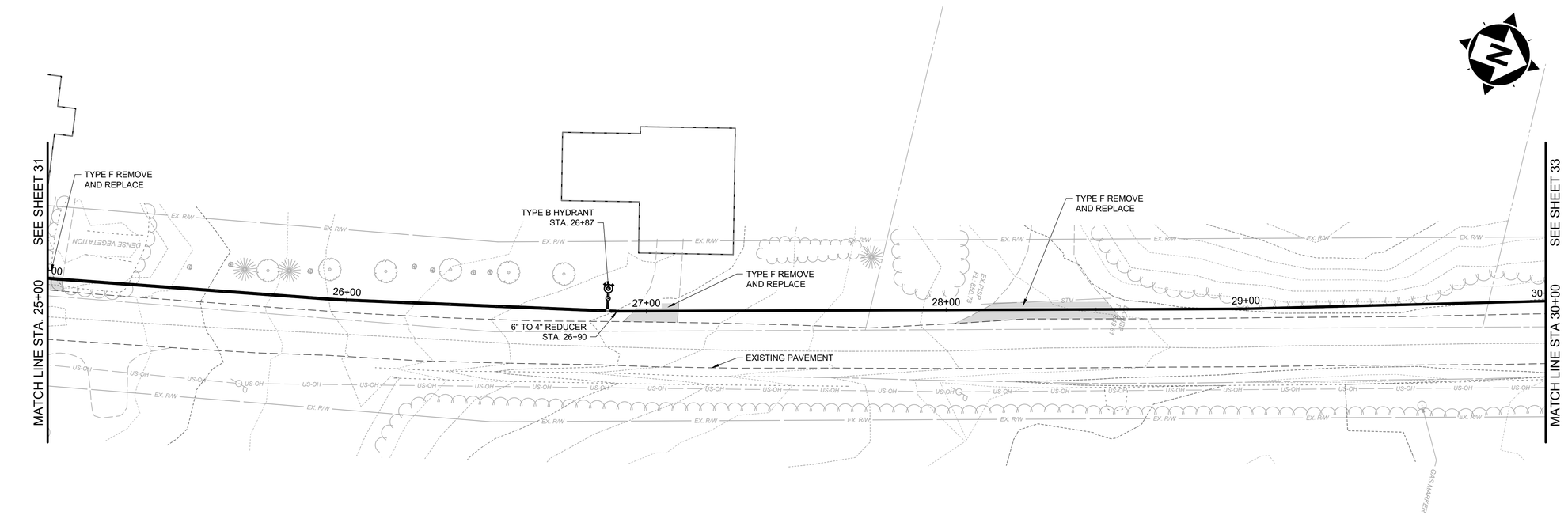
The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

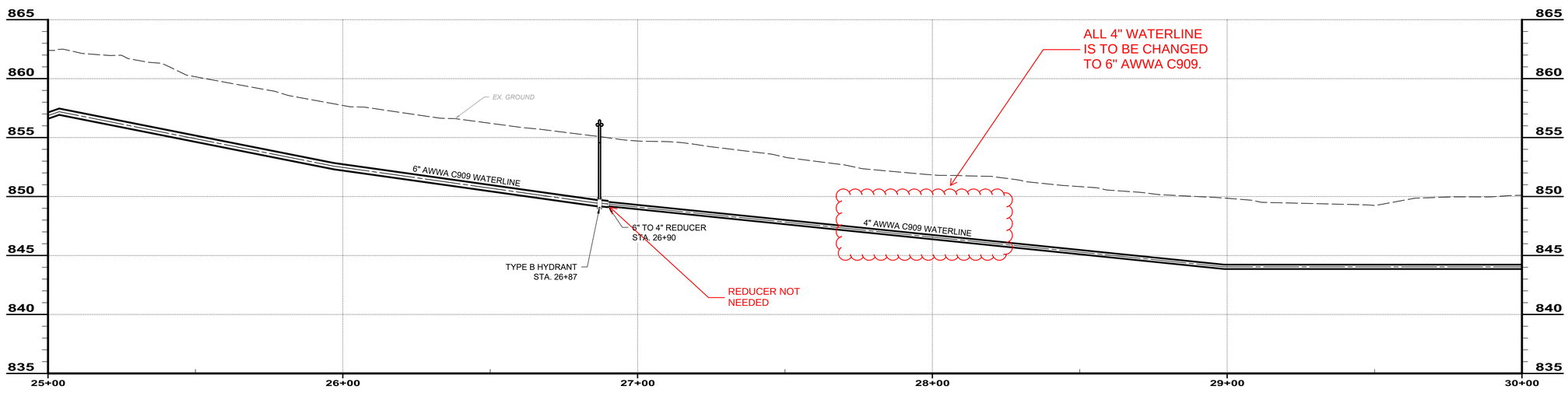
3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

==========

END OF GENERAL DECISION"





BRANDT ROAD 25+00 TO 30+00

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

GEORGIA CONWAY
E-85401
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

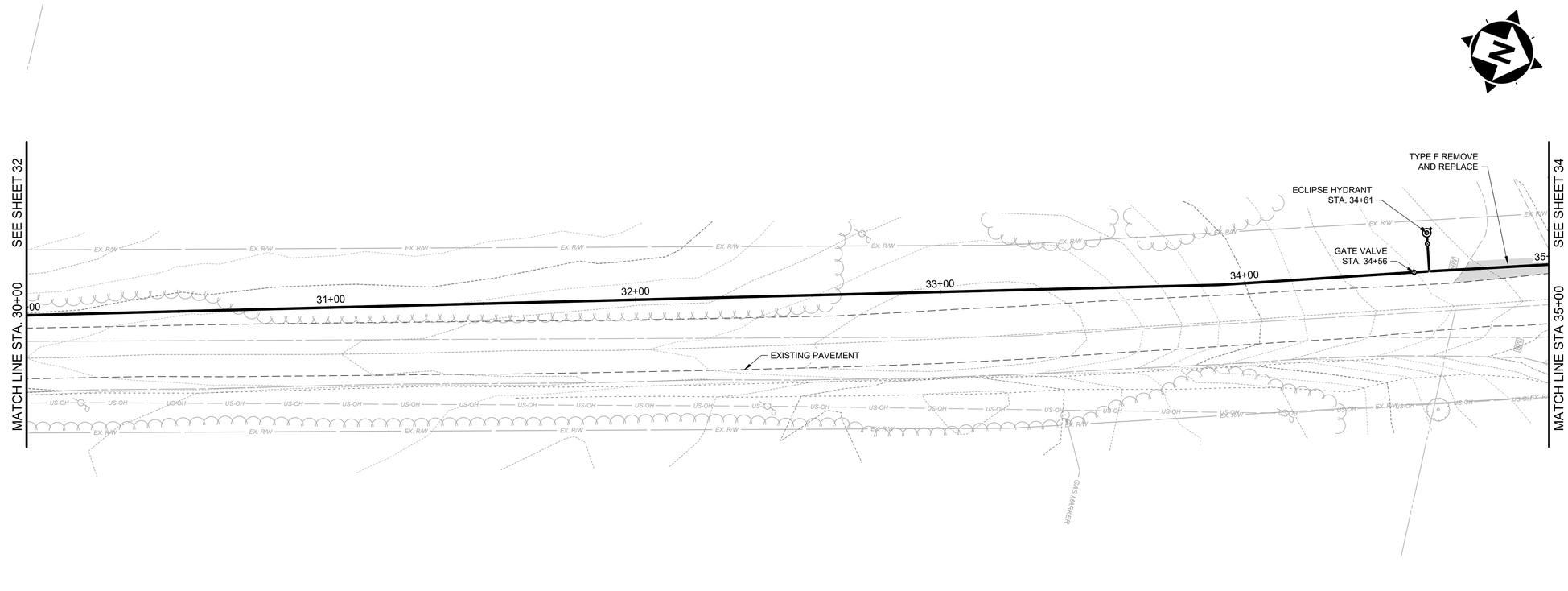
verdantas
8150 STERLING COURT
MENTOR, OHIO 44060
(440) 951-9000

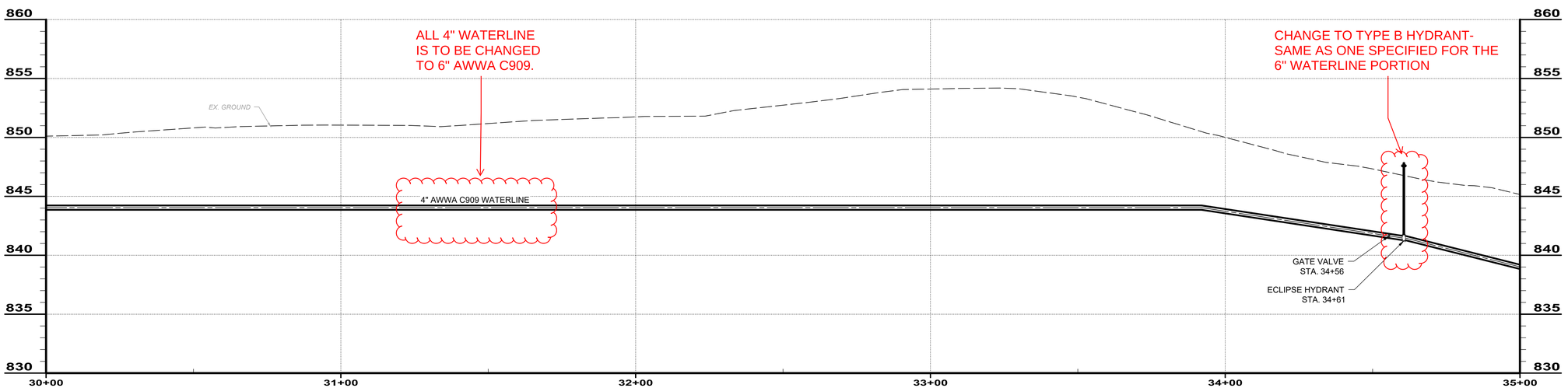
NO	REVISION	DATE
1	Addendum No. 2	9/30/2025

ISSUED FOR: REVIEW SET
ISSUE DATE: 6/3/2024
SCALE: AS NOTED
DESIGNED BY: MLB
DRAWN BY: MLB
CHECKED BY: GBC

ASHTABULA COUNTY
SOUTH RIVER ROAD WATERLINE EXTENSION
ASHTABULA COUNTY HARPERSFIELD, OHIO
PLAN AND PROFILE - 10 SERIES
BRANDT ROAD STA. 25+00 TO STA. 30+00

PROJECT NO. 241222
DISCIPLINE CIVIL
SHEET NAME PP-22
SHEET 32 OF 43





BRANDT ROAD 30+00 TO 35+00

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

GEORGIA CONWAY
E-85401
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

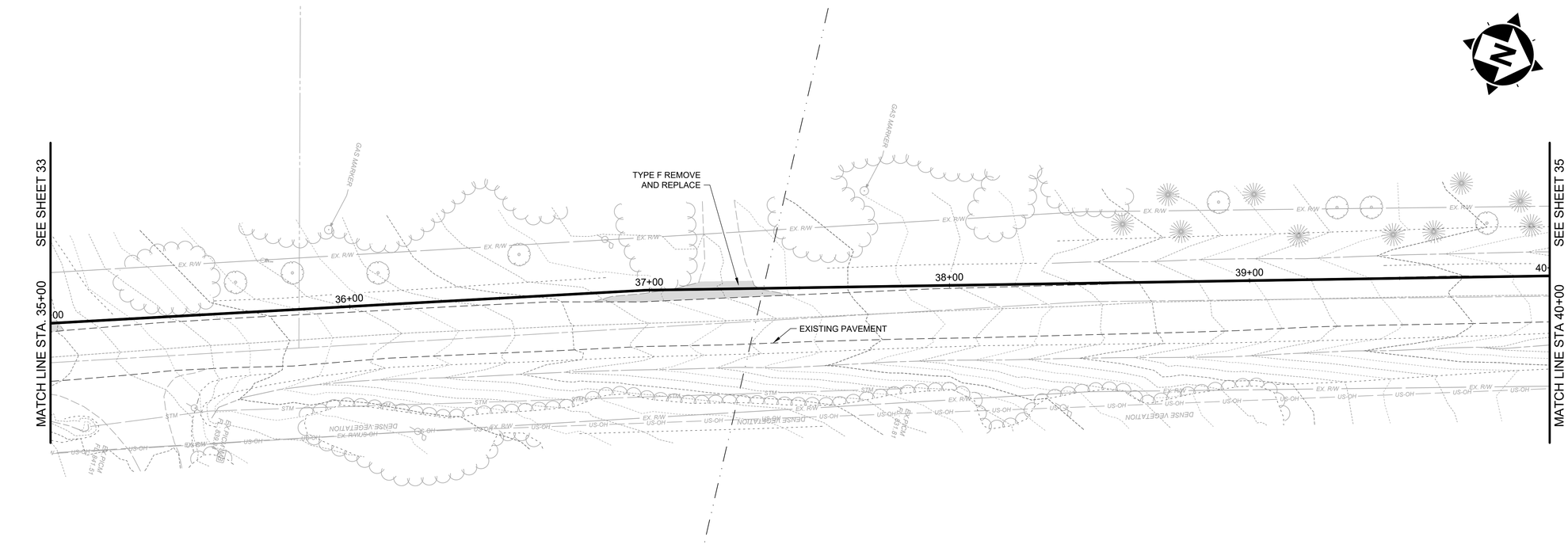
verdantas
8150 STERLING COURT
MENTOR, OHIO 44060
(440) 951-9000

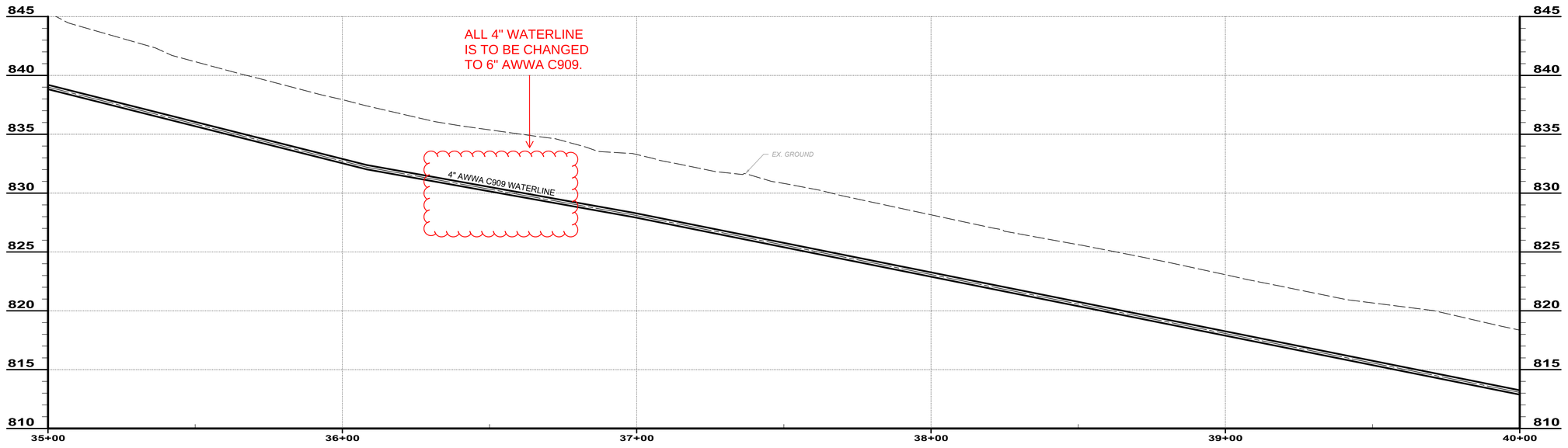
NO	REVISION	DATE
1	Addendum No. 2	9/30/2025

ISSUED FOR: REVIEW SET
ISSUE DATE: 6/3/2024
SCALE: AS NOTED
DESIGNED BY: MLB
DRAWN BY: MLB
CHECKED BY: GBC

ASHTABULA COUNTY
SOUTH RIVER ROAD WATERLINE EXTENSION
ASHTABULA COUNTY HARPERSFIELD, OHIO
PLAN AND PROFILE - 10 SERIES
BRANDT ROAD STA. 30+00 TO STA. 35+00

PROJECT NO.
241222
DISCIPLINE
CIVIL
SHEET NAME
PP-23
SHEET 33 OF 43





BRANDT ROAD 35+00 TO 40+00

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

H:\2024\241222\DWG\SHEETS_241222_PLANANDPROFILE BRANT.DWG - 34 BRANDT ROAD STA. 35+00 TO STA. 40+00 - 6/3/2025 2:29:49 PM - CORY SCOTT

STATE OF OHIO
GEORGIA CONWAY
E-85401
REGISTERED PROFESSIONAL ENGINEER

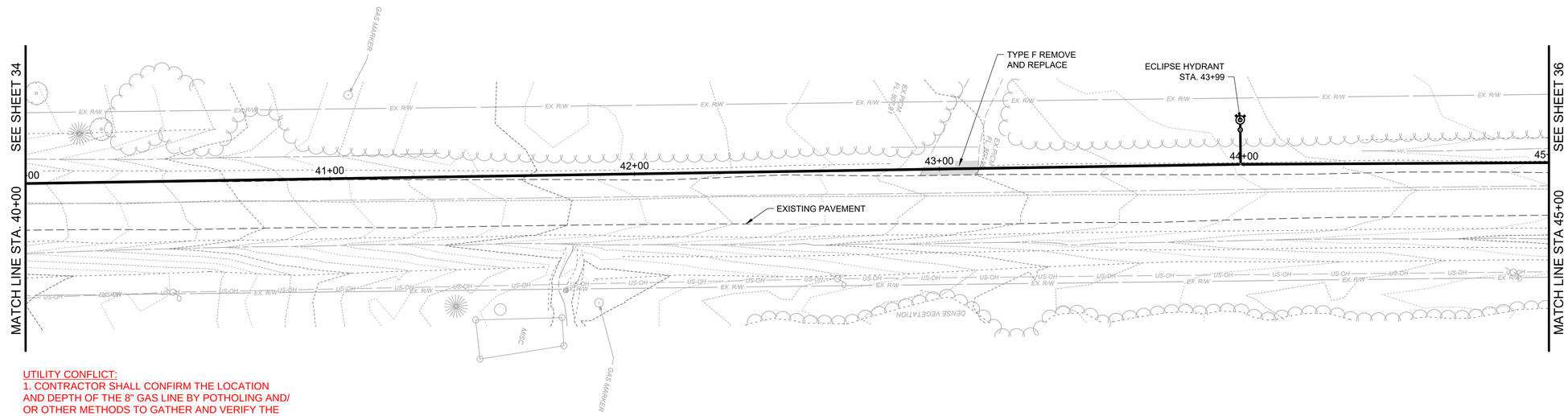
verdantas
8150 STERLING COURT
MENTOR, OHIO 44060
(440) 951-9000

NO	REVISION	DATE
1	Addendum No. 2	9/30/2025

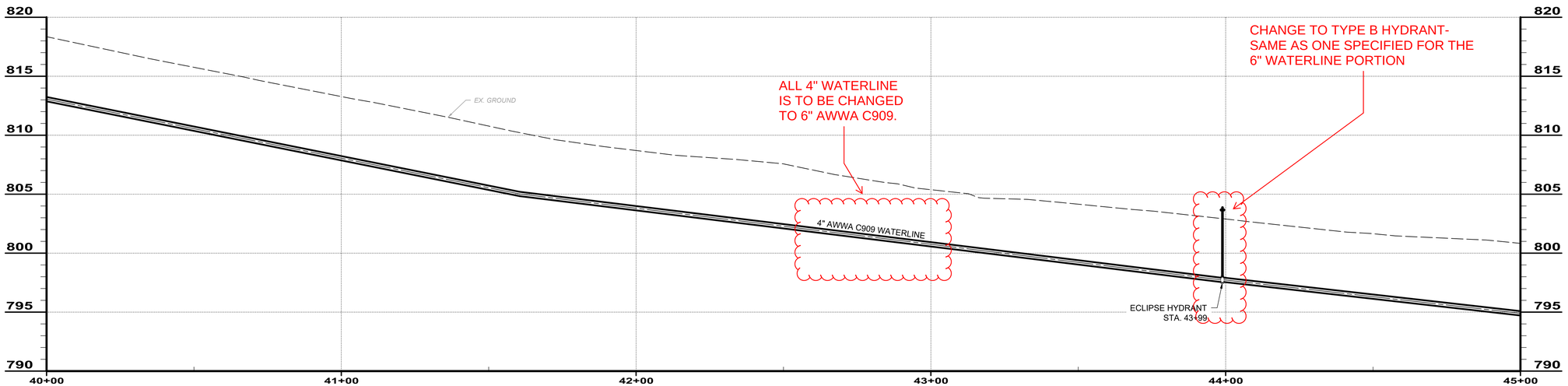
ISSUED FOR:	REVIEW SET
ISSUE DATE:	6/3/2024
SCALE:	AS NOTED
DESIGNED BY:	MLB
DRAWN BY:	MLB
CHECKED BY:	GBC

ASHTABULA COUNTY
SOUTH RIVER ROAD WATERLINE EXTENSION
ASHTABULA COUNTY HARPERSFIELD, OHIO
PLAN AND PROFILE - 10 SERIES
BRANDT ROAD STA. 35+00 TO STA. 40+00

PROJECT NO.
241222
DISCIPLINE
CIVIL
SHEET NAME
PP-24
SHEET 34 OF 43



UTILITY CONFLICT:
1. CONTRACTOR SHALL CONFIRM THE LOCATION AND DEPTH OF THE 8" GAS LINE BY POTHOLING AND/ OR OTHER METHODS TO GATHER AND VERIFY THE DEPTH.
2. ENDBRIDGE RECORDS CANNOT CONFRIM THE CROSSING LOCATION, AN APPROXIMATE CROSSING STATION IS 41+50.



BRANDT ROAD 40+00 TO 45+00

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

GEORGIA CONWAY
E-85401
STATE OF OHIO
REGISTERED PROFESSIONAL ENGINEER

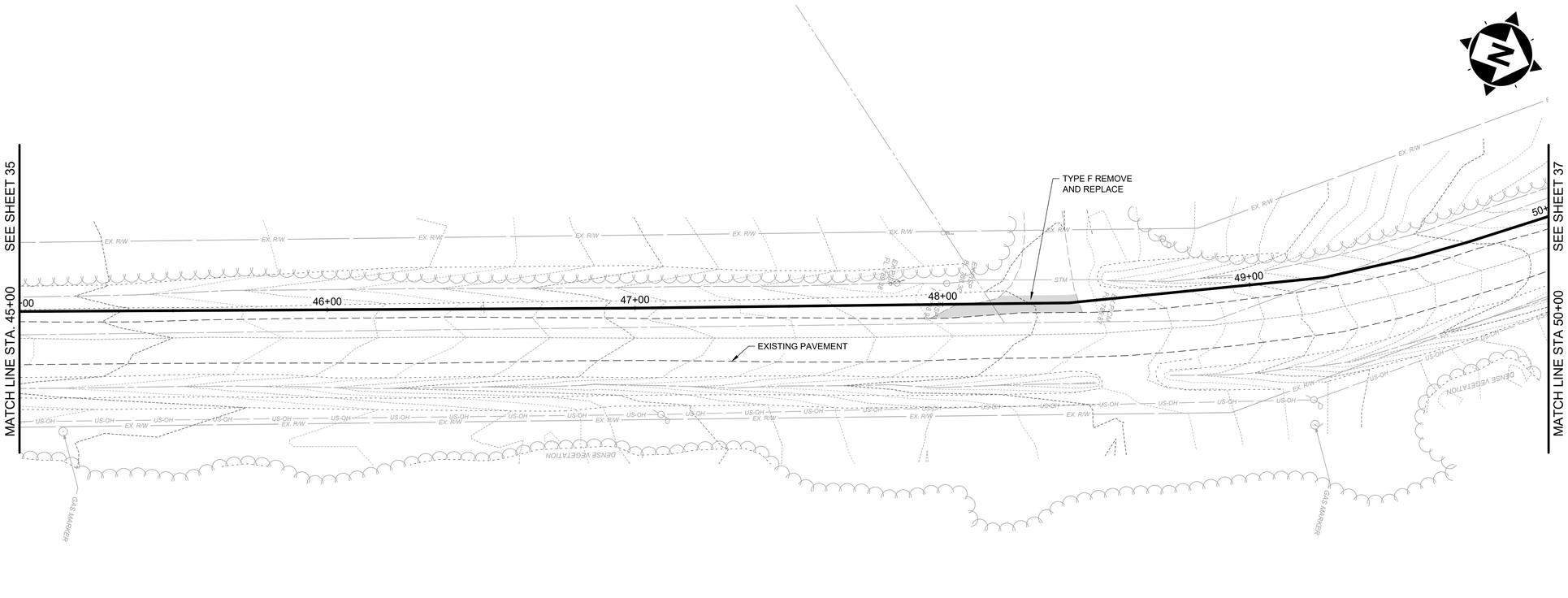
verdantas
8150 STERLING COURT
MENTOR, OHIO 44060
(440) 951-9000

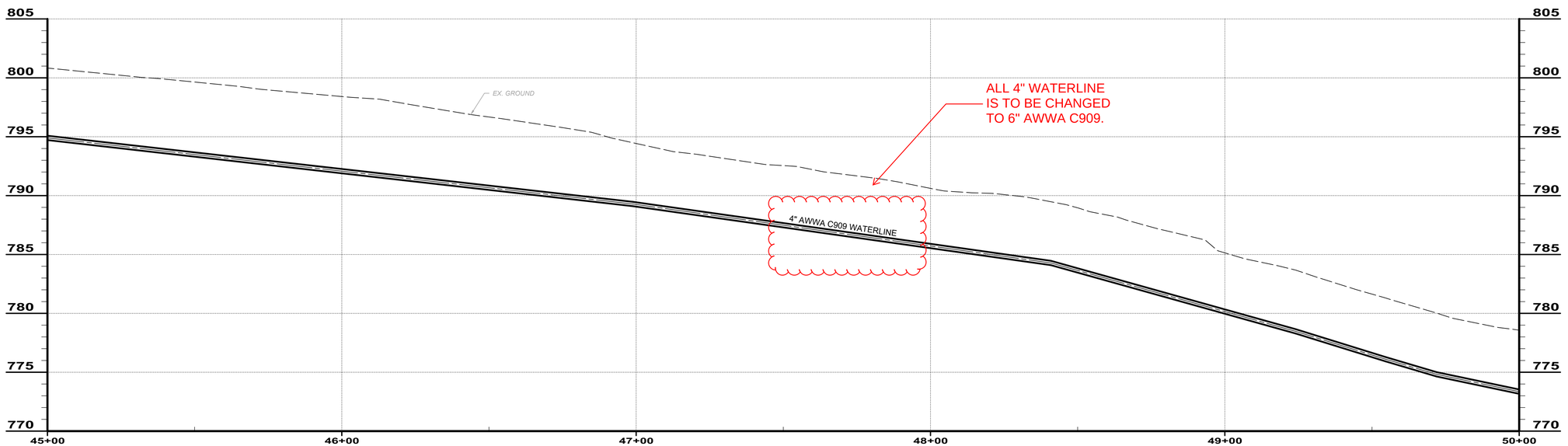
NO	REVISION	DATE
1	Addendum No.2	9/30/2025

ISSUED FOR:	REVIEW SET
ISSUE DATE:	6/3/2024
SCALE:	AS NOTED
DESIGNED BY:	MLB
DRAWN BY:	MLB
CHECKED BY:	GBC

ASHTABULA COUNTY
SOUTH RIVER ROAD WATERLINE EXTENSION
HARPERSFIELD, OHIO
ASHTABULA COUNTY
PLAN AND PROFILE - 10 SERIES
BRANDT ROAD STA. 40+00 TO STA. 45+00

PROJECT NO.
241222
DISCIPLINE
CIVIL
SHEET NAME
PP-25
SHEET 35 OF 43





BRANDT ROAD 45+00 TO 50+00

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

GEORGIA CONWAY
E-85401
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

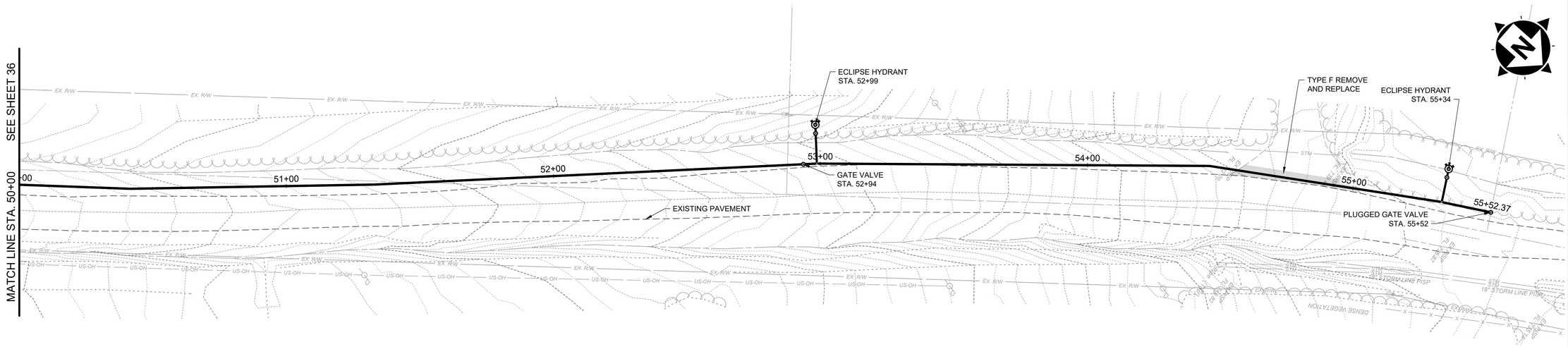
verdantas
8150 STERLING COURT
MENTOR, OHIO 44060
(440) 951-9000

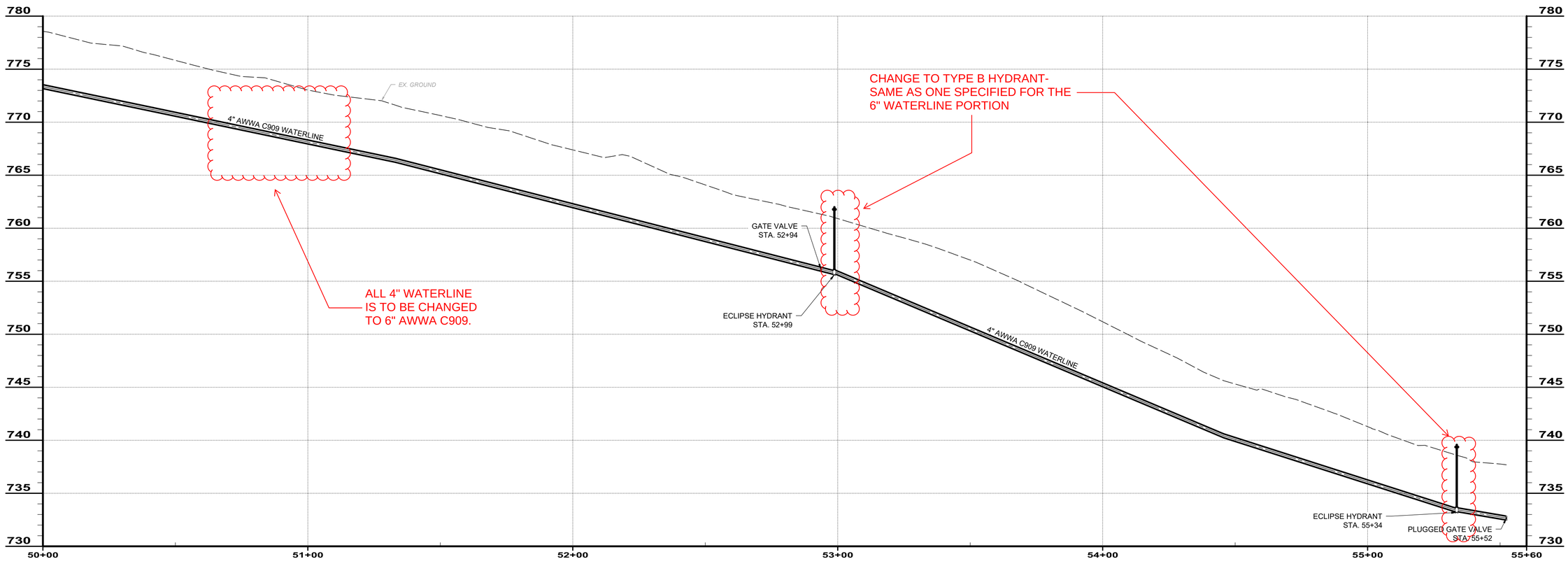
NO	REVISION	DATE
1	Addendum No. 2	9/30/2025

ISSUED FOR: REVIEW SET
ISSUE DATE: 6/3/2024
SCALE: AS NOTED
DESIGNED BY: MLB
DRAWN BY: MLB
CHECKED BY: GBC

ASHTABULA COUNTY
SOUTH RIVER ROAD WATERLINE EXTENSION
ASHTABULA COUNTY HARPERSFILED, OHIO
PLAN AND PROFILE - 10 SERIES
BRANDT ROAD STA. 45+00 TO STA. 50+00

PROJECT NO.
241222
DISCIPLINE
CIVIL
SHEET NAME
PP-26
SHEET 36 OF 43





BRANDT ROAD 50+00 TO END

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

verdantas
8150 STERLING COURT
MENTOR, OHIO 44060
(440) 951-9000

STATE OF OHIO
GEORGIA CONWAY
E-85401
REGISTERED
PROFESSIONAL ENGINEER

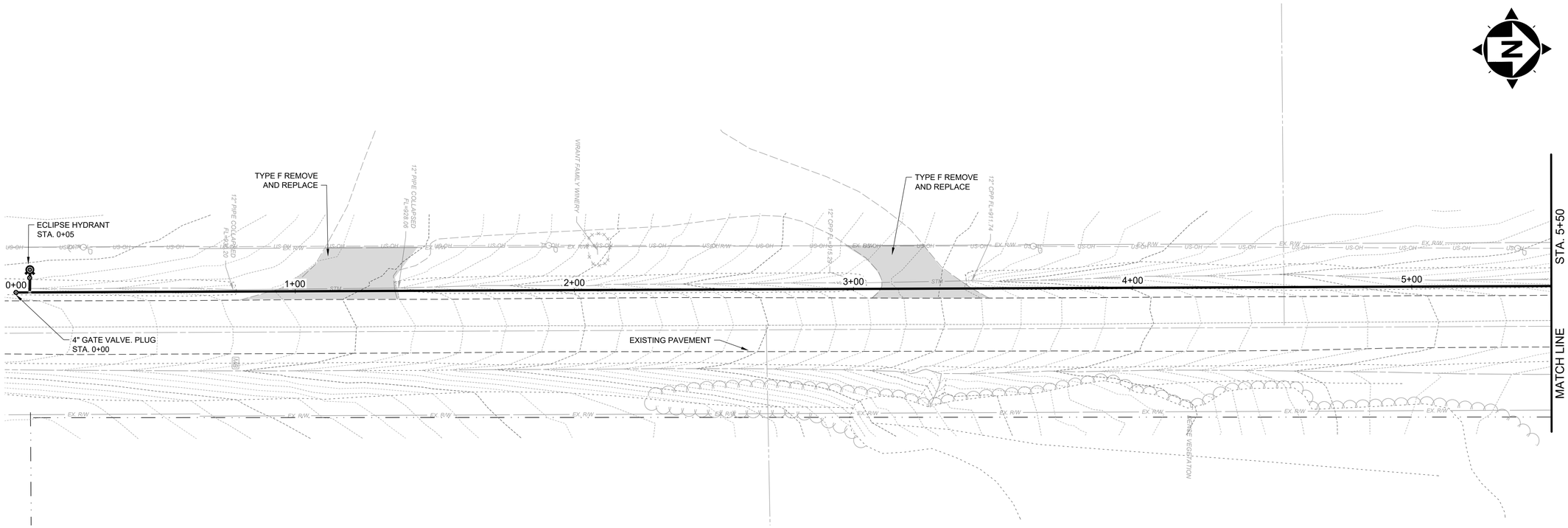
NO	REVISION	DATE
1	Addendum No.2	9/30/2025

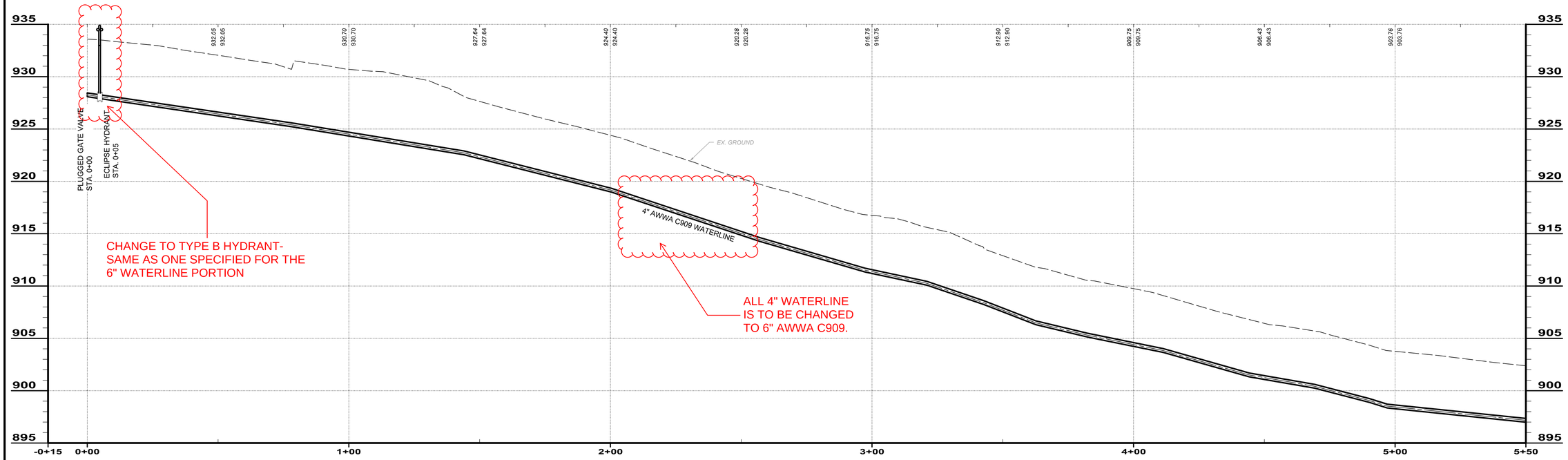
ISSUED FOR:	REVIEW SET
ISSUE DATE:	6/3/2024
SCALE:	AS NOTED
DESIGNED BY:	MLB
DRAWN BY:	MLB
CHECKED BY:	GBC

ASHTABULA COUNTY
SOUTH RIVER ROAD WATERLINE EXTENSION
ASHTABULA COUNTY HARPERSFILED, OHIO
PLAN AND PROFILE - 10 SERIES
BRANT ROAD STA. 50+00 TO END

PROJECT NO.
241222
DISCIPLINE
CIVIL
SHEET NAME
PP-27
SHEET 37 OF 43

H:\2024\241222\DWG\SHEETS_241222_PLANANDPROFILE BRANT.DWG - 37 BRANT ROAD STA. 50+00 TO END - 6/3/2025 2:29:49 PM - CORY SCOTT





ATKINS ROAD 0+00 TO 5+50

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

GEORGIA CONWAY
E-85401
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

verdantas
8150 STERLING COURT
MENTOR, OHIO 44060
(440) 951-9000

NO	REVISION	DATE
1	Addendum No. 2	9/30/2025

ISSUED FOR:	REVIEW SET
ISSUE DATE:	6/3/2024
SCALE:	AS NOTED
DESIGNED BY:	MLB
DRAWN BY:	MLB
CHECKED BY:	GBC

ASHTABULA COUNTY
SOUTH RIVER ROAD WATERLINE EXTENSION
ASHTABULA COUNTY HARPERSFIELD, OHIO

PLAN AND PROFILE - 10 SERIES

ATKINS ROAD STA. 0+00 TO STA. 5+50

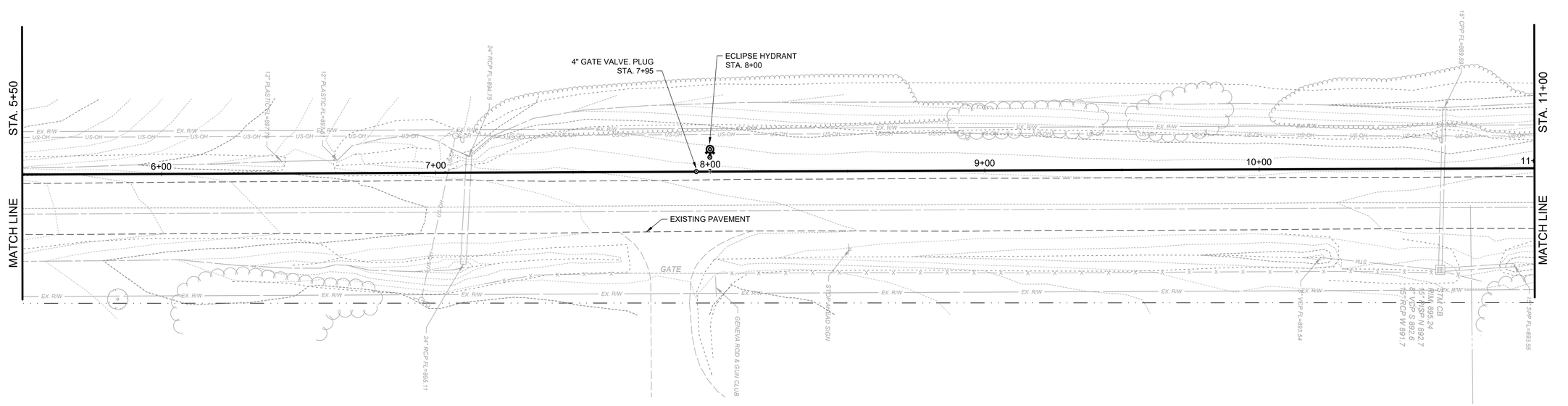
PROJECT NO.
241222

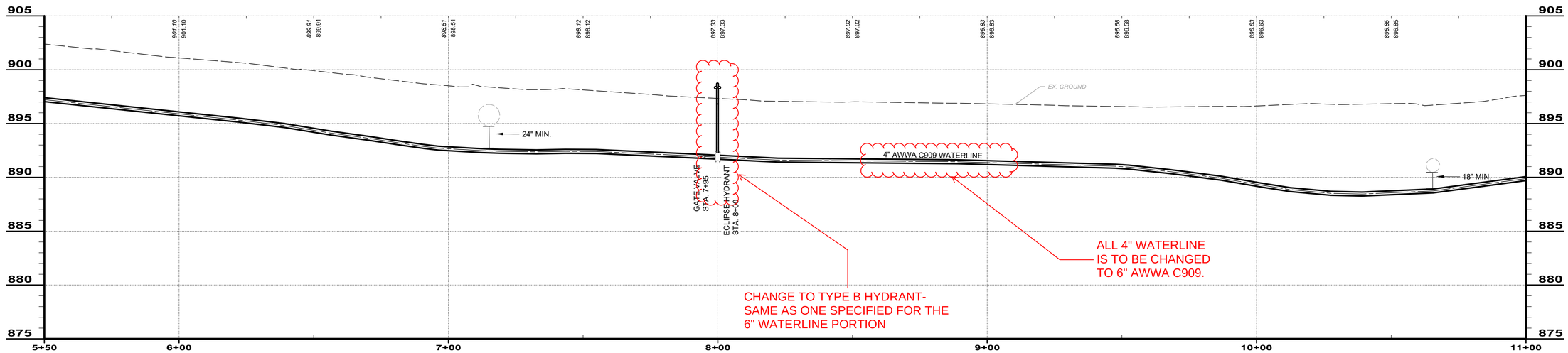
DISCIPLINE
CIVIL

SHEET NAME
PP-28

SHEET 38 OF 43

H:\2024\241222\DWG\SHEETS\PLANANDPROFILEATKINS.DWG - 38 ATKINS ROAD STA. 0+00 TO STA. 5+50 - 6/3/2025 2:30:58 PM - CORY SCOTT





ATKINS ROAD 5+50 TO 11+00

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

GEORGIA CONWAY
E-85401
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

verdantas
8150 STERLING COURT
MENTOR, OHIO 44060
(440) 951-9000

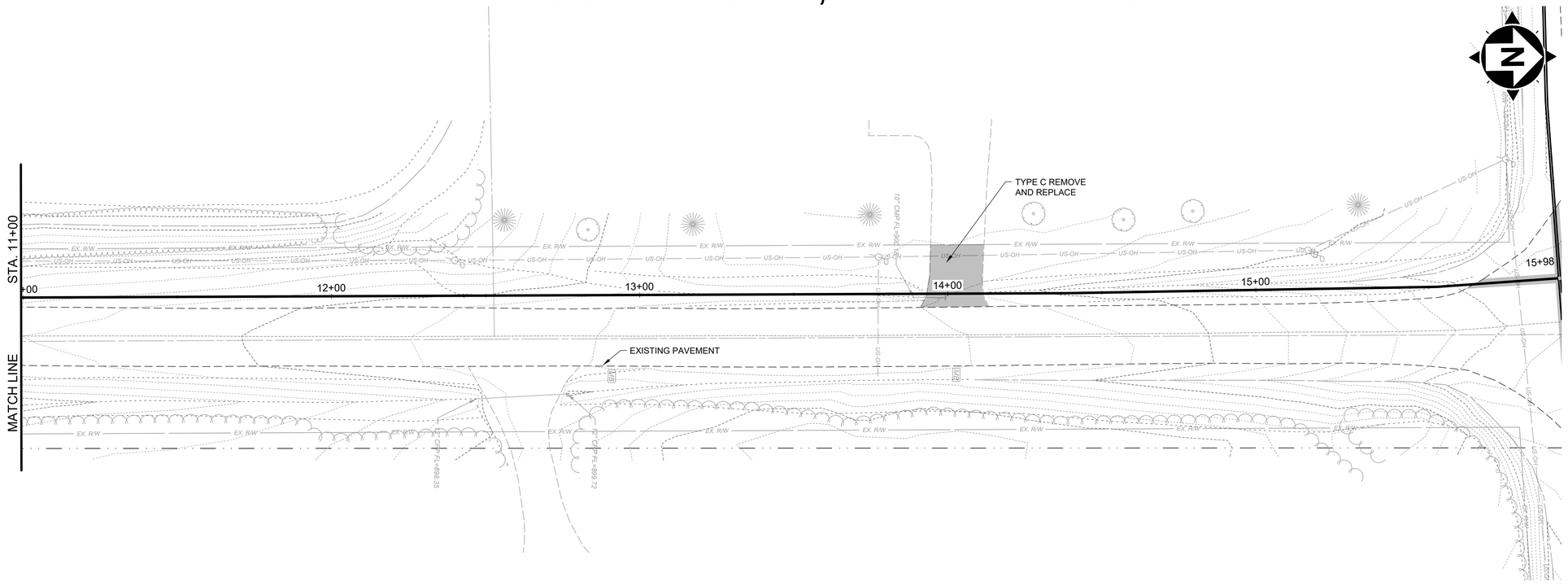
NO	REVISION	DATE
1	Addendum No. 2	9/30/2025

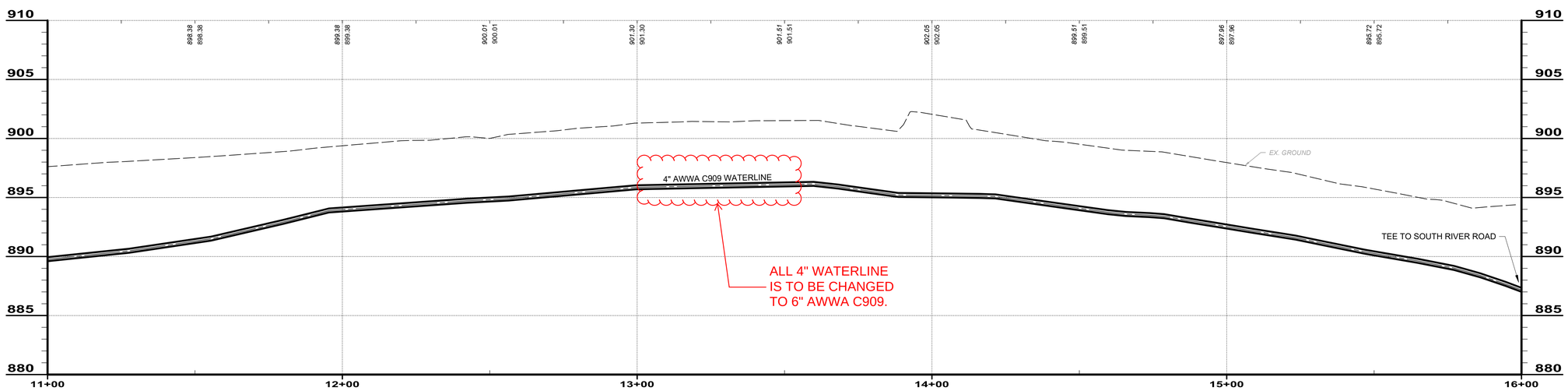
ISSUED FOR: REVIEW SET
ISSUE DATE: 6/3/2024
SCALE: AS NOTED
DESIGNED BY: MLB
DRAWN BY: MLB
CHECKED BY: GBC

ASHTABULA COUNTY
SOUTH RIVER ROAD WATERLINE EXTENSION
ASHTABULA COUNTY HARPERSFIELD, OHIO
PLAN AND PROFILE - 10 SERIES
ATKINS ROAD STA. 5+50 TO STA. 11+00

PROJECT NO.
241222
DISCIPLINE
CIVIL
SHEET NAME
PP-29
SHEET 39 OF 43

CONTRACT B, PART B1 ENDS





ATKINS ROAD 11+00 TO END

SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

GEORGIA CONWAY
E-85401
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

verdantas
8150 STERLING COURT
MENTOR, OHIO 44060
(440) 951-9000

NO	REVISION	DATE
1	Addendum No. 2	9/30/2025

ISSUED FOR:	REVIEW SET
ISSUE DATE:	6/3/2024
SCALE:	AS NOTED
DESIGNED BY:	MLB
DRAWN BY:	MLB
CHECKED BY:	GBC

ASHTABULA COUNTY
SOUTH RIVER ROAD WATERLINE EXTENSION
ASHTABULA COUNTY HARPERSFIELD, OHIO

PLAN AND PROFILE - 10 SERIES
ATKINS ROAD STA. 11+00 TO END

PROJECT NO.
241222
DISCIPLINE
CIVIL
SHEET NAME
PP-30
SHEET 40 OF 43

H:\2024\241222\DWG\SHEETS\PLANANDPROFILEATKINS.DWG - 40 ATKINS ROAD STA. 11+00 TO END - 6/3/2025 2:30:58 PM - CORY SCOTT

ASHTABULA COUNTY OFFICIALS

COMMISSIONERS

J.P. Ducro IV, President

Casey R. Kozlowski, Vice President

Kathryn L. Whittington

Lisa Hawkins, Clerk of the Board

ADMINISTRATION

Janet Discher, County Administrator

Scott Yamamoto, County Auditor

Angie Maki-Cliff, MBA, County Treasurer

April Grabman, County Prosecutor

Doug Starkey, Director, Department of Environmental Services

Timothy T. Martin, P.E., County Engineer

ADVERTISEMENT FOR BIDS/PUBLIC NOTICE TO BIDDERS

Sealed bids will be received at the office of the Ashtabula County Board of Commissioners, Attention Lisa Hawkins, Clerk, until 3:00 p.m. September 26, 2025, and will be opened and read immediately thereafter for the

CONTRACT A - HARPERSFIELD WATER TANK & WATERLINE IMPROVEMENTS
AND
CONTRACT B - SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2

WSRLA, ARC & CDS-EPA COMMUNITY GRANT FUNDED PROJECT

OPINION OF PROBABLE CONSTRUCTION COSTS:
CONTRACT A: $3,900,000.00 & CONTRACT B: $2,293,000.00

COMPLETION DATES: CONTRACT A: 12/31/27 & CONTRACT B: 9/25/26

The bid specifications, drawings, plan holders list, addenda, and other bid information (**but not the bid forms**) may be viewed and/or downloaded for free via the internet at https://bids. verdantas.com . The bidder shall be responsible to check for Addenda and obtain same from the web site.

Bids must be in accordance with drawings and specifications and on forms available from CT Consultants, Inc. at a non-refundable cost of One Hundred Seventy Fifty Dollars ($175.00) for hard copies and Forty Five Dollars $45.00 for electronic files. Documents may be ordered by registering and paying online at https://bids.verdantas.com. Please contact planroom@ verdantas.com or call (440) 530-2351 if you encounter any problems viewing, registering or paying for the documents.

This project will be funded by the Water Supply Revolving Loan Account Program as administered by the Ohio Environmental Protection Agency and the Ohio Water Development Authority. The Contractor shall note that there are Disadvantaged Business Enterprise participation goals for this project.

This procurement is subject to the EPA policy on encouraging the participation of small business in rural areas (SBRAs).

Build America, Buy America Act (BABA) requirements apply due to OEPA – H2OHIO Funding.

The Bid Notice may be obtained via the internet at www.ashtabulacounty.us by clicking on "Bid Opportunities" on the left of the screen.

BY ORDER OF
ASHTABULA COUNTY COMMISSIONERS

Lisa Hawkins, Clerk of the Board

Publish: *Ashtabula County Website & The Gazette News*
September 11, 2025

TABLE OF CONTENTS

	Page No.
Title Page	i
Officials Page	ii
Advertisement for Bids/Public Notice to Bidders	iii
Table of Contents	iv - viii

SECTION 1 BID DOCUMENTS AND BID FORMS

Instructions to Bidders	BD.1 – BD.8
Prices to Include - Contract A	BD.9 – BD.15
Prices to Include - Contract B	BD.16 – BD.19
Build America, Buy America Guidance	BABA.1 – BABA.17

ALL BID FORMS SHALL BE COMPLETED AND SUBMITTED WITH BID

Form of Non-Collusion Affidavit	BF.1
Corporate Resolution	BF.2
Proposed Subcontractors	BF.3
Experience Record	BF.4
Insurance Agent Affidavit	BF.5
Supplemental Bond Acknowledgement	BF.6
Bid Security	BF.7
Proposal Forms – Contract A	BF.8 – BF.10
Proposal Forms – Contract B (Parts B1 River Rd & B2 SR 534)	BF.11 – BF.13
Acknowledgement of American Rescue Plan Act Funding Compliance by Contractors and Byrd Anti-Lobbying Amendment Certification	ARPA.1 - ARPA.2
EEO Certification	BF.EPA.1
Debarment Form 5700-49	BF.EPA.2
MBE/WBE Data Sheet I	BF.EPA.3
MBE/WBE Form 1A – 6100-3 Proposed MBE/WBE Subcontractor* * To be signed by Bidder & Proposed Subcontractor – attach MBE/WBE Certificate	BF.EPA.4 - BF.EPA.5
MBE/WBE Form 1B – 6100-4 MBE/WBE Subcontractor List** ** Summary of All Subcontractors to be signed by Bidder	BF.EPA.6 - BF.EPA.7
American Iron & Steel Acknowledgement	BF.EPA.8
Byrd Anti-Lobbying Amendment Certification	BAL.1

SECTION 2 CONTRACT FORMS

Notice of Award	CF.1
Contract and Certificates of Fiscal Officer & Legal Counsel	CF.2 – CF.3
Contract Bond, Certificates of Insurance & Worker's Comp.	CF.4
Delinquent Personal Property Statement	CF.5
Lobbying Affidavit	CF.6
Escrow Agreement for Contractor's Retainage	CF.7
Escrow Waiver	CF.8
Notice to Proceed	CF.9
Findings for Recovery & Notifications	N.1

SECTION 3 GENERAL CONDITIONS, EJCDC No. C-700 (2007) 1 – 68

SECTION 4 SUPPLEMENTARY CONDITIONS SC.1 – SC.8

SECTION 5 SPECIFICATIONS

CONTRACT A - HARPERSFIELD WATER TANK & WATERLINE IMPROVEMENTS

DIVISION 1 - GENERAL REQUIREMENTS

011100 SUMMARY OF WORK
011419 USE OF SITE
011423 ADDITIONAL WORK, OVERTIME
012100 ALLOWANCES
012513 PRODUCT SUBSTITUTION PROCEDURES
013119 PROJECT MEETINGS
013216 CONSTRUCTION PROGRESS SCHEDULE
013223 SURVEY AND LAYOUT DATA
013236 VIDEO MONITORING AND DOCUMENTATION
013319 FIELD TEST REPORTING
013323 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
013326 PRODUCT TESTING AND CERTIFYING
013543 ENVIRONMENTAL PROTECTION
014126 GENERAL REGULATIONS AND PERMITS
014223 INDUSTRY STANDARDS
014323 QUALIFICATIONS OF TRADESMEN
015100 TEMPORARY POWER SERVICE
015136 TEMPORARY WATER DISTRIBUTION
015213 FIELD OFFICES
015213.01 FIRST AID
015526 TEMPORARY TRAFFIC CONTROL DEVICES
015713 TEMPORARY EROSION CONTROL
016600 PRODUCT HANDLING AND PROTECTION
017517 START-UP
017800 FINAL COMPLIANCE AND SUBMITTALS
017821 CLEANING AND PROTECTION
017823 MAINTENANCE MANUALS
017839 PROJECT RECORDS, DRAWINGS
018000 SYSTEM PERFORMANCES

DIVISION 2 - EXISTING CONDITIONS

024119 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

DIVISION 3 - CONCRETE

030000 CONCRETE WORK

DIVISION 9 - COATINGS

098000 WATER STORAGE TANK PROTECTIVE COATINGS

DIVISION 11 - EQUIPMENT

111060 EXPOSED PIPING SECTION

DIVISION 26 - ELECTRICAL

264200 CATHODIC PROTECTION SYSTEM

269001 REMOTE TELEMETRY SYSTEM

DIVISION 31 - EARTHWORK

310000 EARTHWORK

311100 CLEARING AND GRUBBING

DIVISION 32 - EXTERIOR IMPROVEMENTS

320190.33 TREE AND SHRUB PRESERVATION

321000 PAVEMENT REPLACEMENT

321623 CONCRETE WALKS AND STAIRS

323113 CHAIN LINK FENCING AND GATES

329200.19 SEEDING AND MULCHING

DIVISION 33 - UTILITIES

331113.01 WATER UTILITY DISTRIBUTION SYSTEM

331619 ELEVATED STEEL TANKS

DIVISION 46 - WATER AND WASTEWATER EQUPMENT

464148 IN TANK ACTIVE MIXERS

CONTRACT B - SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2

DIVISION 1 - GENERAL REQUIREMENTS

011100	SUMMARY OF WORK
011419	USE OF SITE
012513	PRODUCT SUBSTITUTION PROCEDURES
013119	PROJECT MEETINGS
013216	CONSTRUCTION PROGRESS SCHEDULE
013223	SURVEY AND LAYOUT DATA
013236	VIDEO MONITORING AND DOCUMENTATION
013319.01	FIELD TEST REPORTING
013323	SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
013326	PRODUCT TESTING AND CERTIFYING
013543	ENVIRONMENTAL PROTECTION
014223	INDUSTRY STANDARDS
014323	QUALIFICATIONS OF TRADESMEN
015526	TEMPORARY TRAFFIC CONTROL DEVICES
015713	TEMPORARY EROSION CONTROL
015800	PROJECT IDENTIFICATION
016600	PRODUCT HANDLING AND PROTECTION
017800	FINAL COMPLIANCE AND SUBMITTALS
017821	CLEANING AND PROTECTION
017839	PROJECT RECORDS, DRAWINGS

DIVISION 31 - EARTHWORK

310000	EARTHWORK
311100	CLEARING AND GRUBBING
312323.13	COMPACTED BACKFILL

DIVISION 32 - EXTERIOR IMPROVEMENTS

321000	PAVEMENT REPLACEMENT
321216	ASPHALT CONCRETE PAVING AND MATERIALS
329200.19	SEEDING AND MULCHING
331113.01	WATER UTILITY DISTRIBUTION SYSTEM

		Page No.
SECTION 6	STANDARD SPECIFICATIONS	SS.1
SECTION 7	SPECIFIC PROJECT REQUIREMENTS	SR.1 – SR.2
SECTION 8	SPECIAL REQUIREMENTS – EPA	
	WPCLF & WSRLA Projects	SR.EPA.1 – 5
	MBE/WBE Utilization	SR. EPA.6 – SR.EPA.17
	Violating Facilities	SR.EPA.18
	SBRA	SR.EPA.19
	Local Protest Procedure	SR.EPA.20
	Continuous Treatment Provisions	SR.EPA.21
	WPCLF/WSRLA Payments	SR.EPA.22
	WPCLF/WSRLA Contract Change Order	SR.EPA.23 – SR.EPA.24
	Build America, Buy America – Does Not Apply for WSRLA	SR.EPA.25 – SR.EPA.45
	Buy American Requirements for Iron and Steel Products	SR.EPA.46 – SR.EPA.78
	Prohibition on Telecommunications and Video Surveillance	SR.EPA.79
SECTION 9	PREVAILING WAGE RATES	
	Davis-Bacon Wage Rate Requirements	DB.1 – DB.10
	Payroll Form, Fringe Benefit Statement & Employee Notification	DB.11 – DB.19
	Davis-Bacon Prevailing Wage Schedule	
SECTION 10	APPENDIX	
	Federal Grant Compliance - American Rescue Plan Act of 2021	FGC-ARPA.1 - 3
	Build America, Buy America Act (BABA) requirements apply.	

SECTION 1
BID DOCUMENTS

INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

1.1 Sealed bids shall be received by the Owner at the location specified and until the time and date specified in the Advertisement for Bids/Public Notice to Bidders.

1.2 Each bid shall contain the full name and address of each person or company interested in said bid. If no other person be so interested, the Bidder shall distinctly so state the fact.

1.3 Bid forms must be completed in ink or by typewriter. Any corrections to the bid forms prior to submission must be initialed by the person signing the bid. Failure to submit any bid form(s) or other required document(s) may be cause for rejection of the bidder's bid at the sole discretion of the Owner.

1.4 Bids by Corporations must be executed in the corporate name by the President, Vice President, or other officer accompanied by evidence of authority to sign and the corporate seal must be affixed and attested by the Secretary on the Corporate Resolution form.

1.5 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature.

1.6 All names must be typed or printed below the signature.

1.7 The bid shall contain an acknowledgment of receipt of all Addenda.

1.8 If a Bidder wishes to withdraw their bid prior to the opening of bids, they shall state their purpose in writing to the Owner before the time fixed for the opening, and when reached it shall be handed to them unread.

1.9 After the opening of bids, no Bidder may withdraw their bid for a period of 150 days.

PART 2 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

2.1 Before submitting a bid, each Bidder must

A. Examine the Contract Documents thoroughly.

B. Visit the site to familiarize themselves with local conditions that may in any manner affect cost, progress, or performance of the work.

C. Familiarize themselves with Federal, State, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress, or performance of the work.

D. Study and carefully correlate Bidder's observations with the Contract Documents.

2.2 Reference is made to the Specific Project Requirements for the identification of any reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the work which have been relied upon by the Engineer in preparing the drawings and specifications. Owner will make copies of such reports available to any Bidder requesting them if not made available with the bid documents. These reports are not guaranteed as to accuracy or completeness; nor are they part of the Contract Documents. Before submitting their bid each Bidder will, at their own expense, make such additional investigations and tests as the Bidder may deem necessary to determine their bid for performance of the work in accordance with the time, price and other terms and conditions of the Contract Documents.

2.3 Upon request, the Owner will provide each Bidder access to the site to conduct such reasonable investigations and tests as each Bidder deems necessary for submission for their bid.

2.4 The lands upon which the work is to be performed, rights-of-way for access thereto, and other lands designated for use by Bidder in performing the work are identified on the Drawings.

2.5 The submission of a bid will constitute an incontrovertible representation by the Bidder that they have complied with every requirement of this section and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the work.

PART 3 ESTIMATED QUANTITIES

3.1 In Unit Price Contracts, the quantities of the work itemized in the bid are approximate only and the bidders are hereby notified that the estimated quantities made by the Engineer are merely for the guidance of the Owner in comparing on a uniform basis all bids received for the work.

3.2 The contract quantities, where itemized, are based on plan horizontal and vertical dimensions unless otherwise specified. It is the Contractor's responsibility to verify and determine actual quantities of materials such as pipe, pavement, subgrade, etc. in their ordering materials.

3.3 Payments, except for lump sum contracts and except for lump sum items in unit price contracts, will be made to the Contractor only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications.

3.4 The successful Bidder will be required to furnish the Owner with a complete breakdown of the lump sum bid items, to the satisfaction of the Engineer/Architect, before signing the Contract documents.

PART 4 CONTRACTOR'S QUALIFICATION

4.1 Bidder shall provide detailed information relating to similar projects completed within the past 5 years which demonstrates the bidder's capability, responsibility, experience, skill, and financial standing to undertake this type of project and shall include a list of all projects currently under construction including status and contact person.

4.2 Bidder shall own, have rental or lease agreements for, or otherwise have readily available any and all equipment and tools necessary for proper execution of the work. The Owner reserves the right to request lists of equipment or tools available for the project including sources.

4.3 Bidder shall provide pertinent information to the Owner relative to any pending suits or outstanding liens. If no information is provided by the Bidder, the Owner shall assume that any such suits or liens do not exist.

4.4 The Owner may require similar information on any or all subcontractors proposed by the Bidder.

4.5 Bids of corporations not chartered in the state in which the work will take place must be accompanied by proper certification that the corporation is authorized to do business in that state.

PART 5 SUBCONTRACTORS

5.1 The Bidder shall state on the appropriate bid form the names of all Subcontractors, Sub Consultants and other professional service providers proposed and the items of work they are to be assigned. All work not assigned to a Subcontractor shall be assumed by the Owner to be performed by the Bidder.

5.2 The Owner reserves the right to approve all subcontractors proposed by the Bidder. If the Owner, after due investigation, rejects the use of a proposed subcontractor, the apparent successful Bidder may either submit an acceptable substitution without increase in bid price or decline substitution and withdraw their bid without sacrificing their bid security. Any listed subcontractor to whom the Owner does not make written objection prior to award of contract, shall be deemed acceptable to the Owner.

5.3 Requests for changes of Subcontractor by the Bidder after the award shall be subject to the Owner's approval and shall not change the contract bid prices.

5.4 No contractor shall be required to employ any Subcontractor, person or organization against whom they have reasonable objection.

PART 6 BID REVIEW BY OWNER

6.1 The Owner reserves the right to reject any and all bids, to waive as an informality any and all irregularities, and to disregard all nonconforming, nonresponsive or conditional bids.

6.2 All extensions and totals of unit prices and quantities submitted as part of the bid shall be considered informal until verified by the Owner. All bids must be made on the forms contained herein and the bid prices must be written therein, in figures only. Unit prices shall be separately written for "Unit Price Labor," "Unit Price Material," and "Total Unit Price" for each item listed. Should an error in addition and/or multiplication be determined while checking the Contractor's math and verifying their total bid, the "Unit Price Labor" and the "Unit Price Material" figures shall govern in determining the correct "Total Unit Price" and the correct "Item Total."

6.3 Each bidder must bid on all Items, Alternates, Deductions, and Additions contained in the Bidding Forms. All bids not in conformity with this notice may be considered non-responsive and may be rejected.

6.4 More than one bid for the same work from an individual or entity under the same of different names will not be considered. Reasonable grounds for believing that any bidder has an interest in more than one bid for the work may be cause for disqualification of that bidder and the rejection of all bids in which the bidder has an interest. A subcontractor or supplier is not a bidder, and may submit prices to multiple bidders.

6.5 In evaluating bids, the Owner may consider:

A. The qualifications and experience of the Bidder, proposed subcontractors, and principal material suppliers as outlined in the plans and specifications.

B. Financial ability and soundness of the Bidder and proposed subcontractors.

C. Completeness of all bid forms and bid requirements.

D. Alternates and unit prices requested in the Bid Forms.

E. Unit prices or schedules of values that are or appear to be unbalanced.

F. Previous contractual experience with the Owner.

G. Whether or not the bid package complies with the prescribed requirements.

H. The proposed completion date, if applicable.

I. Any other matter allowed by law or local ordinance or resolution.

6.6 Owner may conduct further investigations as they deem necessary to assist in the evaluation of any bid and to establish the responsibility, qualifications, and financial ability of the Bidder, proposed Subcontractors, and other persons and organizations to do the work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

6.7 Owner reserves the right to reject the bid of any Bidder who does not pass any such evaluation to Owner's satisfaction.

6.8 The Contract award shall be based on the lowest and best bid or lowest responsive and responsible bid (as applicable for the public contracting agency receiving bids) for the base bid and selected alternate items (if any) for this project.

PART 7 BID SECURITY

7.1 Each bid must be accompanied by a certified or cashier's check in the amount of 10% of the amount bid, an irrevocable letter of credit in the amount of 10% of the amount bid or an original bond in the amount of 100% of the amount bid per ORC 153.54 and 153.571. The certified or cashier's check, or irrevocable letter of credit shall be from a financial institution authorized to transact business in the State of Ohio and acceptable to the Owner. The bond shall be underwritten by a Surety Company authorized to transact business in the State of Ohio having an Ohio agent and listed on the most current Department of the Treasury Circular 570, "Surety Companies Acceptable on Federal Bonds." The bond shall be a "Bid Guarantee and Contract Bond" ("rollover bond") per O.R.C. sections 153.54 and 153.571 submitted for the full amount of the bid **including all alternates**, if any.

If bid security is made by bond, the Bidder and their Surety shall sign the Supplemental Bond Acknowledgement form and submit with their bid.

7.2 The certified or cashier's check, irrevocable letter of credit, or bond shall be made payable to the Owner and shall serve as a guarantee that in the event the bid is accepted and a contract is awarded to the successful Bidder, the contract will be executed by the bidder including any certifications, certificates or additional bonds required by the contract.

7.3 Failure on the part of the successful Bidder to execute the contract documents will cause the certified or cashier's check, irrevocable letter of credit, or bond to be forfeited to the Owner as damages.

A. If the Owner awards the contract without rebidding, the Bidder (and the Surety on their bond if a bond was submitted) shall be liable to the Owner for a penal sum not to exceed the difference between the low bid and the next lowest bidder or 10% of the amount of the bid, whichever is less.

B. If the Owner does not award the Contract to the next lowest Bidder, but resubmits the project for bidding; the Bidder (and the Surety on their bond if a bond was submitted) shall be liable to the Owner for a penal sum not to exceed the costs in connection with the resubmission of bids or 10% of the amount of the bid, whichever is less.

7.4 Checks or letters of credit for bid security of all bidders will be returned in the manner and timeframe stipulated in the Ohio Revised Code.

PART 8 CONTRACT BOND

8.1 As security for faithful performance and payment of all obligations under the Contract, the Owner shall require and the successful Bidder shall furnish either:

A. *If submitted as Bid Security at time of bid:* "Bid Guarantee and Contract Bond" (AKA "rollover bond") per O.R.C. sections 153.54 and 153.571.

B. *If a cashier's check or irrevocable letter of credit is submitted as Bid Security at time of bid:* Contract Bond per Ohio Revised Code Sections 153.54 and 153.57, in the amount of 100% of the Contract Price. The Contractor and their Surety shall sign the Supplemental Bond Acknowledgement form and submit with the Contract forms

8.2 The bond shall be underwritten by a Surety Company authorized to transact business in the State of Ohio having an Ohio agent and listed on the most current Department of the Treasury Circular 570, "Surety Companies Acceptable on Federal Bonds."

8.3 The contract bond shall cover correction of the work for the period stated in the specifications and the correction period shall start upon Final Acceptance of the entire project and final payment by the Owner.

8.4 Nothing in the performance of the Engineer's service to the Owner in connection with this project shall in any way imply any undertaking for the benefit of the successful Bidder, its subcontractor(s), or the surety of any of them.

PART 9 AWARD AND EXECUTION OF CONTRACT

9.1 After the Owner's legislative body awards the project, the successful bidder will receive the unsigned contract documents. Within 10 days after their receipt, the successful Bidder shall sign and deliver to the Owner said contract documents including any certifications, certificates, or additional bonds required by the contract.

9.2 The Owner shall execute the Contract within 150 days after the day of the bid opening. When necessary and by mutual consent between the Owner and the Successful Bidder, this 150-day period may be extended.

9.3 The date of the Owner's signature on the Contract Agreement shall be the effective contract date.

9.4 The Owner shall execute and deliver to the successful Bidder one set of fully executed contract documents.

PART 10 INSURANCE

10.1 Verification of limits for public liability, property damage, automobile, Worker's Compensation, or any other insurance required by the provisions of this Contract must be submitted to the Owner prior to execution of the Contract.

10.2 All insurance shall be endorsed so that it cannot be cancelled for non-payment of premium for 10 days or cancelled or non-renewed for any other reason in less than 30 days after a written notice of such proposed action by the insurer is given to the Owner. The cancellation clause on the Certificate(s) of Insurance shall read as specified in the Supplementary Conditions and failure to submit an insurance certificate and/or policy endorsement verifying same shall be reason for the Owner to consider the Contractor non-responsive in complying with the requirements for contract execution and may be cause for forfeiture of the Bid Security to Owner.

10.3 The Insurer's affording coverage shall be authorized to transact business in the State of Ohio and be listed on the most current Ohio Department of Insurance list of Ohio Licensed Companies.

10.4 The Contractor's Liability Insurance policy(s) shall be endorsed such that limits are on a Per Project basis.

10.5 The Contractor shall also provide an Owner's and Contractor's Protective Policy.

PART 11 NON-COLLUSION AFFIDAVIT

11.1 Collusion between bidders will be cause for rejection of affected bids and may be cause for rejection of all bids. Multiple bids submitted by one bidder under the same name or different names, whether as an individual, firm, partnership, corporation, profit or non-profit, affiliate, or association will be cause for rejection of bids. A subcontractor is not a bidder, and may submit prices to multiple bidders.

11.2 All bidders shall submit an affidavit that their bid is genuine and not collusive or sham; that such bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any bidder or person, to put in a sham bid, or that such other bidder or person shall refrain from bidding; that such bidder has not in any manner, directly or indirectly sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant or any other bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other bidder, or to secure any advantage against the Owner or any person or persons interested in the proposed contract; that such bidder is the only party (or parties) who has an interest with the bidder in the profits of any contract which may result from the herein contained proposal; that no individual affiliated with the Owner, including but not limited to the head of any department, any employee, or any other official or officer of the Owner, is or will be directly or indirectly interested in this bid, and/or the profits from this bid if successful; that no individual affiliated with the Owner, including but not limited to the head of any department, any employee, or any other official or officer of the Owner, has or will receive anything of value as a result of the submission of this bid or its award; that no individual affiliated with the Owner, including but not limited to the head of any department, any employee, or any other official or officer of the Owner, has been solicited to provide assistance and/or provided assistance to the bidder which might give the bidder a competitive advantage or circumvent the competitive bidding process; and that all statements contained in said proposal are true; and further, that such bidder has not, directly or indirectly submitted this bid, or the contents thereof, or divulged information or data relative thereto to any association or to any member or

agent thereof.

11.3 Each bid must be accompanied by a completed Noncollusion Affidavit provided within the contract documents.

11.4 Where there is reason to believe collusion or combination among bidders exists, the Owner reserves the right to reject the bid of those concerned.

PART 12 DELINQUENT PERSONAL PROPERTY STATEMENT

12.1 Included with the contract documents is a Delinquent Personal Property Statement to be filled out by the successful Bidder.

12.2 The statement shall be sent to both the County Auditor and the County Treasurer. A signed copy shall remain in the contract documents as well.

PART 13 ORIGINAL DOCUMENTS

13.1 All bid forms, contract forms, bonds and any other bid documents or contract documents requiring signatures shall be submitted with original signatures. No photo copies or faxed copies of signed documents shall be accepted.

PART 14 ADDENDA

14.1 The bidder shall be responsible to obtain Addenda from the web at https://bids.ctconsultants.com .

END OF SECTION 10/31/23

PRICES TO INCLUDE

CONTRACT A - HARPERSFIELD WATER TANK & WATERLINE IMPROVEMENTS

PART 1 - GENERAL

Any work shown on the plans or required in the specifications but not paid for separately as a bid item shall be included in the cost of other bid items. The amount bid for each Bid Item shall include the following:

1.1 All labor, materials, tools, equipment, and transportation necessary for the proper execution of the work in accordance with the Contract Documents.
1.2 All assistance required by the Engineer to verify compliance with the Contract Documents, including measuring for final pay quantities.
1.3 Project coordination and scheduling.
1.4 Detailed breakdown of lump sum bid items as requested by the Engineer.
1.5 All provisions necessary to protect workers, the general public, and property along the work in accordance with the Contract Documents.
1.6 Protection and/or replacement of existing property corner monuments.
1.7 Record drawings of the installed location of all underground electrical conduit, sewers, tees, wyes, laterals, etc.
1.8 Materials testing.
1.9 Reimbursement to Owner for costs of re-inspection or re-testing of any work not installed in compliance with the Contract Documents.
1.10 Construction staking of the improvements.
1.11 Maintaining traffic.

PART 2 - ITEMS

All work proposed by this contract shall be quantified and paid for in accordance with the pertinent O.D.O.T. specification except as specifically altered by other provisions of this contract.

2.1 PRECONSTRUCTION VIDEO DOCUMENTATION, AS PER PLAN

Basis of Payment

The lump sum price shall include all costs associated with hiring a professional videotaping firm to document in detail the existing conditions of the entire work area and potential disturbed areas and submitting a high-quality USB-Flash Drive with audio commentary and video log.

2.2 BONDS AND INSURANCES, AS PER PLAN

Basis of Payment

A "Bonds and Insurances" item (including "Owner/Contractor Protective Policy," "All Risk Builder's Risk Insurance," and/or "Installation Floater Insurance", and/or endorsements to fully comply with all contract requirements) has been included in the bid proposal.

2.3 CLEARING AND GRUBBING, AS PER PLAN

Basis of Payment

The lump sum price shall include the removal of all trees and brush as needed in the improvement areas and the furnishing of all labor, materials, tools, and appurtenances necessary to complete the work as specified or as shown.

2.4 EXCAVATION INCLUDING EMBANKMNET CONSTRUCTION, AS PER PLAN

Method of Measurement

The quantity to be paid shall be a Lump Sum to perform all topsoil stripping, stockpiling of topsoil, excavation, embankment, topsoil respread, and related work for the construction of the designated stream channel and meet grades as proposed within the Contract Documents. Lump sum price shall include the haul off and disposal of any surplus material off the site.

Basis of Payment

The lump sum price shall include all labor, equipment, excavation for channel construction, placement of embankment material, topsoil removal, stockpiling, and respread on greenspace areas of the site.

2.5 TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 253 or 255 as applicable with the exception that lengths used for calculation of each individual repair area shall not exceed the maximum pay length indicated on the drawings.

Basis of Payment

The basis of payment shall be as per ODOT 253 or 255 as applicable with the following additions:

The unit price shall also include saw cutting; integral or non-integral curb removal; integral curb replacement; furnishing, installation, maintenance, removal, and disposal of temporary road materials or temporary pavement courses; preparation for permanent pavement courses; and any additional expenses for cold weather protection.

2.6 6 INCH REINFORCED CONCRETE DRIVES AND APRONS, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 451.

Basis of Payment

The basis of payment shall be as per ODOT 451 as applicable with the following additions:

The unit price shall also include disposal of temporary road materials or temporary pavement courses; preparation for permanent pavement courses; and any additional expenses for cold weather protection.

2.7 GENERAL CONSTRUCTION, AS PER PLAN

Basis of Payment

The lump sum price bid shall include all work not specifically included under other bid items and alternate items. The price includes the construction and erection of proposed elevated water storge tank, all tank internals, fittings, valving, piping, fixtures, wiring, and other appurtenances. This item shall also include the chain-link security fence and dual swing gate enclosure around the tank; tank splash pad per detail; ODOT #57 limestone and weed proof fabric around the base of the tank; proposed meter and service rack; utility and site lighting pole within the tank enclosure, and the furnishing of all labor, materials, tools, and appurtenances necessary to complete the work as specified or as shown. Payment will be made in accordance with an approved schedule of values and agreed percent of completion of the scheduled work.

2.8 BOLLARD, AS PER PLAN

Method of Measurement

The quantity to be paid shall be the number installed, as indicated in the plans.

Basis of Payment

The price shall include all costs for labor, materials, tools, and appurtenances necessary to complete the work as specified and in accordance with manufacturer's recommendations and details in the contract documents. Payment shall be made upon completion of installation.

2.9 DOUBLE GATE, AS PER PLAN

Method of Measurement

The quantity to be paid shall be the number installed, as indicated in the plans. Gate shall be 16' wide (in total) galvanized tubular double barrier gate with posts installed near the entrance of the

concrete access driveway. Contractor shall submit a shop drawing of gate selection for review and approval by Owner before ordering

Basis of Payment

The price shall include all costs for labor, materials, tools, and appurtenances necessary to complete the work as specified and in accordance with manufacturer's recommendations and details in the contract documents. Contractor shall submit a shop drawing of gate selection for review and approval by Owner before ordering. Payment shall be made upon completion of installation.

2.10 12" CONDUIT, TYPE A, AS PER PLAN

Method of Measurement

The quantity to be paid shall be the number of linear feet of 12-inch storm sewer conduit, installed per the plans and specifications measured by the plan difference in horizontal distance; between ends of culvert pipe, or faces of headwalls. Any increase in installed length due to change in length of pipe or location of structures not directed by the Engineer shall not be measured for payment.

Basis of Payment

The unit price shall be irrespective of the depth of pipe and if not called out as a separate pay item shall include the furnishing and laying of pipe; field location, exploratory excavation, and verification of existing utilities prior to laying conduit; earth and/or rock excavation; sheeting; shoring; disposal of undesirable and excess material; connection to existing storm sewer inlet in roadway; all pumping required for adequate handling of flow bypassing, underground water and/or surface water; bedding; compacted backfill material; Owner's costs related to re-inspection or re-testing of failed or re-compacted backfill material; specials; bends; tees; fittings; jointing material; protection of existing trees or vegetation to be saved; protection and/or replacement of all existing utilities; connection to existing conduit or structures; leakage testing; internal videotaping; Owner's costs related to re-inspection or re-testing of pipe failing leakage testing or internal videotaping; removal and replacement of poles, posts, signs, mailboxes, paper boxes, fences, landscape timbers, guardrails, sign wiring, fixtures, or other appurtenances; surface grading; temporary pavement; and the furnishing of all labor, materials, tools and appurtenances necessary to complete the work as specified or as shown.

2.11 ROCK CHANNEL PROTECTION, TYPE C, WITH GEOTEXTILE FABRIC, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 601.

Basis of Payment

The basis of payment shall be as per ODOT 601. This is intended for placement and the upstream and downstream ends of the storm sewer driveway apron culvert. Approximate placement area at each of the two pipe ends is 5' in length, 3' in width, and a minimum of 18" thick of stone.

2.12 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 638.

Basis of Payment

The basis of payment shall be as per ODOT 638 with the following additions: The unit price shall also include the hydrant branch tee restrained fittings and nipples, restrained pipe between the tee and valve and/or valve and hydrant, nuts and bolts, zinc anode caps if specified, gate valve, and valve box.

2.13 CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN

Method of Measurement

The quantity to be paid shall be the number of locations the new pipe is connected to the existing pipe with the specified fittings as shown on the plans or as directed.

Basis of Payment

The unit price shall be full compensation for each connection made including, but not limited to: earth and/or rock excavation, backfill, disposal of surplus material, furnishing and installing restrained joint materials, angle fittings (11 ¼, 22 ½, 45), reducers, long solid sleeve, saw cutting pipe, removal of existing caps or plugs and making connections as required, cutting in tee, hypochlorite swabbing, joint restrains, thrust blocking, polyethylene encasement, removal, and furnishing all labor, tools, materials and appliances necessary to complete the work as specified or as shown.

2.14 12 INCH WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS, AND CAST IRON MECHANICAL JOINT FITTINGS

Method of Measurement

The method of measurement shall be as per ODOT 638.

Basis of Payment

The basis of payment shall be as per ODOT 638 with the following additions: The unit price shall be irrespective of the depth of pipe and shall include excavation, bedding, backfill, compaction, all waterline and soils testing, chlorination/disinfection, supports, thrust blocking, joint restraints, polyethylene encasement, tees, bends, reducers, plugs, caps, and all other necessary fittings.

2.15 LAWN RESTORATION, AS PER PLAN

Basis of Payment

The unit price shall include furnishing and placement of topsoil, finish grading and regrading of lawn for positive drainage resetting, and restoring any landscaping disturbed by the work, placing of seed, fertilizers, lime, water, maintenance, mowing, landscaping and all else necessary to establish a grass turf over all disturbed areas to be grassed and restoration of all features disturbed by the installation to equal of better condition than before the beginning of the work.

2.16 INSTRUMENTATION AND CONTROL (SCADA) SYSTEM INTEGRATION ALLOWANCE

Basis of Payment

An allowance has been included in the bid proposal to be utilized as directed by the Engineer for direct costs charged by SCADA integration company(s) associated with system integration between the new tank and existing system, or other work which can be performed only/exclusively by the integrationcompany. Payment shall be made for only work which has the prior approval of the engineer.

The Contractor shall be allowed a 5% mark-up on the invoice amount for overhead and profit.

Invoices for all for all work completed by the utility company(s) or others shall be submitted as evidence of the work completed on the project.

No payment for this item will be made to the Contractor for utility work required when resulting from the Contractor’s construction methods or rework due to his negligence or construction methods.

Any portion of the allowance not utilized shall be credited to the Owner.

2.17 TEMPORARY SEDIMENT & EROSION CONTROL, AS PER PLAN

Basis of Payment

The lump sum price shall include all labor, equipment, and materials including but not limited to straw bales, silt fence, check dams, and temporary seeding to provide sediment and erosion control commensurate with the Contractor's means, methods, work schedule, and in accordance with plan details and specifications, if any. The lump sum price shall also include contractor

development of a Stormwater Pollution Prevent Plan (SWPPP) that complies with all County and State rules and regulations, along with all necessary permitting, fees, review, and approvals as necessary.

2.18 ELECTRIC COMPANY CHARGES ALLOWANCE

Basis of Payment

An allowance has been included in the bid proposal to be utilized as directed by the Engineer for direct costs charged by utility company(s) associated with the permanent removal, relocation or support of utility poles, providing new overhead service poles and service line to the tank panel, or other work which can be performed only/exclusively by the utility company. Payment shall be made for only work which has the prior approval of the engineer.

The Contractor shall be allowed a 5% mark-up on the invoice amount for overhead and profit.

Invoices for all for all work completed by the utility company(s) or others shall be submitted as evidence of the work completed on the project.

No payment for this item will be made to the Contractor for utility work required when resulting from the Contractor's construction methods or rework due to his negligence or construction methods.

Any portion of the allowance not utilized shall be credited to the Owner.

PRICES TO INCLUDE

CONTRACT B - SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2

PART 1 - GENERAL

Any work shown on the plans or required in the specifications but not paid for separately as a bid item shall be included in the cost of other bid items. The amount bid for each Bid Item shall include the following:

1.1 All labor, materials, tools, equipment, and transportation necessary for the proper execution of the work in accordance with the Contract Documents.
1.2 All assistance required by the Engineer to verify compliance with the Contract Documents, including measuring for final pay quantities.
1.3 Project coordination and scheduling.
1.4 Detailed breakdown of lump sum bid items as requested by the Engineer.
1.5 All provisions necessary to protect workers, the general public, and property along the work in accordance with the Contract Documents.
1.6 Protection and/or replacement of existing property corner monuments.
1.7 Record drawings of the installed location of all underground electrical conduit, sewers, tees, wyes, laterals, etc.
1.8 Materials testing.
1.9 Reimbursement to Owner for costs of re-inspection or re-testing of any work not installed in compliance with the Contract Documents.
1.10 All erosion control measures in accordance with the Contract Documents.
1.11 Mobilization.
1.12 Bonds and insurances and/or endorsements required to fully comply with and adhere to the Contract specifications.
1.13 Preconstruction video documentation.

PART 2 - ITEMS

All work proposed by this contract shall be quantified and paid for in accordance with the pertinent O.D.O.T. specification except as specifically altered by other provisions of this contract. ODOT 104.02 D., 611.04, 611.12, and 611.13 shall not apply to this project.

2.1 LAWN RESTORATION (GRADING, SEEDING AND MULCHING)

Basis of Payment

The lump sum price shall include furnishing and placement of topsoil, testing of topsoil, finish grading, seed, fertilizers, lime, water, maintenance, mowing, all else necessary to establish a grass turf over all disturbed areas, and restoration of ditches to same grade.

2.2 PAVEMENT REPLACEMENT TYPE C, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 253 as applicable with the exception that lengths used for calculation of each individual repair area shall not exceed the width and length indicated on the drawings.

Basis of Payment

The basis of payment shall be as per ODOT 253 as applicable with the following additions:

The unit price shall also include saw cutting; integral or non-integral curb removal; integral curb replacement; furnishing, installation, maintenance, removal, and disposal of temporary road materials or temporary pavement courses; preparation for permanent pavement courses; any additional expenses for cold weather protection; and replacement of any driveway culverts underneath apron replacement with in-kind size of HDPE.

2.3 PAVEMENT REPLACEMENT TYPE F, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 253 as applicable with the exception that lengths used for calculation of each individual repair area shall not exceed the width and length indicated on the drawings.

Basis of Payment

The basis of payment shall be as per ODOT 253 as applicable with the following additions:

The unit price shall also include saw cutting; integral or non-integral curb removal; integral curb replacement; furnishing, installation, maintenance, removal, and disposal of temporary road materials or temporary pavement courses; preparation for permanent pavement courses; any additional expenses for cold weather protection; and replacement of any driveway culverts underneath apron replacement with in-kind size of HDPE.

2.4 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, PVCO, AS PER PLAN

2.5 6 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, PVCO, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 638.

Basis of Payment

The basis of payment shall be as per ODOT 638 with the following additions: The unit price shall be irrespective of the depth of pipe or pipe material type and shall include rock excavation, all

necessary pipe fittings, bends, tees, reducers, adapters or mechanical couplers, caps, specials, branches, plugs, bulkheads, backfilling as specified, blow off and sampling assemblies as needed or directed; chlorination, chlorination sampling and testing, bacteria sampling and testing, zinc anode caps for all bolts; joint restraint; blow off assemblies as needed or directed; furnishing, installing and operation necessary pumps, pipes and appurtenances necessary for trench dewatering; support protection, relocation and/or replacement of all existing utilities (sanitary force mains, storm and sanitary sewers, culverts, gas lines, curb drains, catch basins, underground conduit, wires, cables, utility poles, signs, etc.); exploratory digs to confirm subsurface conditions; installing and maintaining temporary traffic surface in paved areas; maintenance, removal and replacement of all signs, mailboxes, paper boxes, fences, guardrails, or other structures; regrading of ditches and/or swales; and the furnishing of all labor, materials, tools and appurtenances necessary to complete the work as specified or as shown.

2.6 4 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, PVCO, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 638.

Basis of Payment

The basis of payment shall be as per ODOT 638 with the following additions: The unit price shall be irrespective of the depth of pipe or pipe material type and shall include rock excavation, all necessary pipe fittings, bends, tees, reducers, adapters or mechanical couplers, caps, specials, branches, plugs, bulkheads, backfilling as specified, blow off and sampling assemblies as needed or directed; chlorination, chlorination sampling and testing, bacteria sampling and testing, zinc anode caps for all bolts; joint restraint; blow off assemblies as needed or directed; furnishing, installing and operation necessary pumps, pipes and appurtenances necessary for trench dewatering; support protection, relocation and/or replacement of all existing utilities (sanitary force mains, storm and sanitary sewers, culverts, gas lines, curb drains, catch basins, underground conduit, wires, cables, utility poles, signs, etc.); exploratory digs to confirm subsurface conditions; installing and maintaining temporary traffic surface in paved areas; maintenance, removal and replacement of all signs, mailboxes, paper boxes, fences, guardrails, or other structures; regrading of ditches and/or swales; and the furnishing of all labor, materials, tools and appurtenances necessary to complete the work as specified or as shown. For this project the unit price of water main shall include five (5) eclipse hydrant assemblies.

2.7 CONNECT TO EXISTING WATER MAIN – IN-LINE CONNECTION, AS PER PLAN

Measurement

The quantity to be paid shall be the number of locations the new pipe is connected to the existing pipe with the specified fitting as shown on the plans or as directed.

Basis of Payment

The unit price shall be full compensation for each connection made including, but not limited to: earth and/or rock excavation, backfill, disposal of surplus material, furnishing and installing joint material, long solid sleeve, fittings, saw cutting pipe, removal of existing caps or plugs and making connections as required, hypochlorite swabbing, joint restrains, thrust blocking, polyethylene encasement, removal, and furnishing all labor, tools, materials and appliances necessary to complete the work as specified or as shown.

2.8 TYPE B FIRE HYDRANT ASSEMBLY, AS PER PLAN

Method of Measurement

The method of measurement shall be as per ODOT 638.

Basis of Payment

The basis of payment shall be as per ODOT 638 with the following additions: The unit price shall also include the hydrant branch tee, restrained fittings and nipples, restrained pipe between the tee and valve and/or valve and hydrant, nuts and bolts, zinc anode caps if specified, gate valve, and valve box.

2.9 4 INCH GATE VALVE AND VALVE BOX
2.10 6 INCH GATE VALVE AND VALVE BOX
2.11 8 INCH GATE VALVE AND VALVE BOX

Method of Measurement

The quantity to be paid shall be the number each of valve and box installed per the plans and specifications.

Basis of Payment

The unit price shall include each valve and valve box set to finish grade, where shown on the plans and as specified, installed complete including excavation regardless of soil or rock type, backfill per typical trench details, testing, and furnishing all labor, materials, tools, and appurtenances necessary to complete the work as specified or shown.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

April 18, 2022

M-22-11

MEMORANDUM FOR HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Shalanda D. Young
Director

SUBJECT: Initial Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure

On November 15, 2021, President Biden signed into law the Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. No. 117-58, which includes the Build America, Buy America Act ("the Act"). Pub. L. No. 117-58, §§ 70901-52. The Act strengthens Made in America Laws[1] and will bolster America's industrial base, protect national security, and support high-paying jobs. The Act requires that no later than May 14, 2022—180 days after the enactment of the IIJA—the head of each covered Federal agency[2] shall ensure that "none of the funds made available for a Federal financial assistance program for infrastructure, including each deficient program, may be obligated for a project unless all of the iron, steel, manufactured products, and construction materials used in the project are produced in the United States."[3]

The Act affirms, consistent with Executive Order 14005, *Ensuring the Future Is Made in All of America by All of America's Workers* ("the Executive Order"), this Administration's priority to "use terms and conditions of Federal financial assistance awards to maximize the use of goods, products, and materials produced in, and services offered in, the United States."[4]

The Act provides statutory authorities for the Made in America Office ("MIAO") in the Office of Management and Budget ("OMB") to maximize and enforce compliance with Made in

[1] "Made in America Laws" means all statutes, regulations, rules, and Executive Orders relating to Federal financial assistance awards or Federal procurement, including those that refer to "Buy America" or "Buy American," that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States, including iron, steel, and manufactured products offered in the United States. Made in America Laws include laws requiring domestic preference for maritime transport, including the Merchant Marine Act of 1920 (Pub. L. No. 66-261), also known as the Jones Act. Exec. Order No. 14,005, 86 Fed. Reg. 7475, § 2(b) (Jan. 28, 2021), *available at* https://www.federalregister.gov/documents/2021/01/28/2021-02038/ensuring-the-future-is-made-in-all-of-america-by-all-of-americas-workers. Made in America Laws also include laws that give preference to Indian-owned and -controlled businesses, such as the Buy Indian Act (25 U.S.C. 47), that produce items in the United States.

[2] For the purposes of this guidance, the terms "Federal agency" and "agency" mean any authority of the United States that is an "agency" (as defined in section 3502 of title 44, United States Code), other than an independent regulatory agency (as defined in that section). IIJA, § 70912(3).

[3] IIJA, § 70914(a).

[4] Exec. Order No. 14,005 (see footnote 1).

America Laws.[5] MIAO aims to increase reliance on domestic supply chains and reduce the need for waivers through a strategic process aimed at: achieving consistency across agencies; gathering data to support decision-making to make U.S. supply chains more resilient; bringing increased transparency to waivers in order to send clear demand signals to domestic producers; and concentrating efforts on changes that will have the greatest impact.[6]

This memorandum provides implementation guidance to Federal agencies on the application of: (1) a "Buy America" preference[7] to Federal financial assistance programs for infrastructure; and (2) a transparent process to waive such a preference, when necessary. A Federal financial assistance program for infrastructure is any program under which an award may be issued for an infrastructure project, regardless of whether infrastructure is the primary purpose of the award. The term "project" means any activity related to the construction, alteration, maintenance, or repair of infrastructure in the United States.[8]

Agencies should determine how this guidance is best applied to their infrastructure programs and processes, and consult with OMB, as needed, on establishing criteria, processes, and procedures for applying a Buy America preference and issuing waivers. OMB may update or provide additional guidance, as appropriate, to further assist agencies in the implementation of a Buy America preference.

I. Application of a Buy America Preference

By May 14, 2022, agencies must ensure that all applicable programs comply with section 70914 of the Act, including by the incorporation of a Buy America preference in the terms and conditions of each award with an infrastructure project.[9] The Act requires the following Buy America preference:

(1) All iron and steel used in the project are produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) All manufactured products used in the project are produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation.

[5] IIJA, § 70923(a) & (b)(1).
[6] OMB Memorandum M-21-26, Increasing Opportunities for Domestic Sourcing and Reducing the Need for Waivers from Made in America Laws available at: https://www.whitehouse.gov/wp-content/uploads/2020/11/M-21-06.pdf
[7] For the purposes of this guidance, a "Buy America" preference is a domestic content procurement preference as defined in IIJA, § 70912(2).
[8] IIJA, § 70912 (5) & (7).
[9] See Appendix I: Example of Award Term - Required Use of American Iron, Steel, Manufactured Products, and Construction Materials.

(3) All construction materials are manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States.[10, 11]

II. Applicability to Federal Financial Assistance Programs

This guidance applies to all Federal financial assistance as defined in section 200.1 of title 2, Code of Federal Regulations[12]—whether or not funded through IIJA—where funds are appropriated or otherwise made available and used for a project for infrastructure. Federal financial assistance means assistance that non-Federal entities receive or administer in the form of grants, cooperative agreements, non-cash contributions or donations of property, direct assistance, loans, loan guarantees, and other types of financial assistance. The term "non-Federal entity" includes States, local governments, territories, Indian tribes, Institutions of Higher Education (IHE), and nonprofit organizations.[13]

For purposes of this guidance, for-profit organizations are not considered non-Federal entities. However, this guidance does not alter independent statutory authorities that agencies may have to include domestic content requirements in awards of Federal financial assistance issued to for-profit organizations.

Federal agencies are encouraged to consult with OMB if they are uncertain about the applicability of this guidance to any particular infrastructure program.

Before applying a Buy America preference to a covered program that will affect Tribal communities, Federal agencies should follow the consultation policies established through Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, and consistent with policies set forth in the Presidential Memorandum of January 26, 2021, on Tribal Consultation and Strengthening Nation-Nation Relationships. Federal agencies should commence consultation promptly.

This guidance does not apply to "expenditures for assistance authorized under section 402, 403, 404, 406, 408, or 502 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5170a, 5170b, 16 5170c, 5172, 5174, or 5192) relating to a major disaster or emergency declared by the President under section 401 or 501, respectively, of such Act (42 U.S.C. 5170, 5191) or pre and post disaster or emergency response expenditures."[14] "[P]re and post disaster or emergency response expenditures" consist of expenditures for financial assistance that are (1) authorized by statutes other than the Stafford Act, 42 U.S.C. §§ 5121 et seq., and (2) made in anticipation of or response to an event or events that qualify as an "emergency" or "major disaster" within the meaning of the Stafford Act, *id.* § 5122(1), (2). Awards made to support the construction or improvement of infrastructure to mitigate the damage that may be caused by a non-imminent future emergency or disaster, such as awards

[10] IIJA, § 70912 (2) & (6)(B)(ii).
[11] See Section VIII. of this guidance for more information on construction materials.
[12] IIJA § 70912(4)(A)
[13] *See* 2 C.F.R. § 200.1.
[14] IIJA § 70912(4)(B)

made under FEMA's Flood Mitigation Assistance program,[15] do not qualify as "pre and post disaster or emergency response expenditures."

Subawards should conform to the terms and conditions of the Federal award from which they flow.[16]

The IIJA's definition of "infrastructure" encompasses public infrastructure projects. Thus, the term "infrastructure" includes, at a minimum, the structures, facilities, and equipment for, in the United States, roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; and buildings and real property.[17] Agencies should treat structures, facilities, and equipment that generate, transport, and distribute energy - including electric vehicle (EV) charging - as infrastructure.

When determining if a program has infrastructure expenditures, Federal agencies should interpret the term "infrastructure" broadly and consider the definition provided above as illustrative and not exhaustive. When determining if a particular construction project of a type not listed in the definition above constitutes "infrastructure," agencies should consider whether the project will serve a public function, including whether the project is publicly owned and operated, privately operated on behalf of the public, or is a place of public accommodation, as opposed to a project that is privately owned and not open to the public. Projects with the former qualities have greater indicia of infrastructure, while projects with the latter quality have fewer. Projects consisting solely of the purchase, construction, or improvement of a private home for personal use, for example, would not constitute an infrastructure project. Federal agencies are strongly encouraged to consult with OMB when making such determinations.

Agencies should consult with MIAO regarding their readiness to apply the requirements of the Act to covered programs. Agencies with questions regarding the application of a Buy America preference to agency-specific programs, including questions about the possible use of waivers during adjustment periods as agencies work to implement the Act, are advised to reach out to MIAO for technical assistance and advice.

III. Consistency with International Agreements

Pursuant to section 70914(e) of the Act, this guidance must be applied in a manner consistent with the obligations of the United States under international agreements.

IV. Avoid Unnecessary Disruption

The Act makes clear that its preferences apply to a Federal financial assistance program for infrastructure only to the extent that a domestic content procurement preference as described

[15] *See* 42 U.S.C. § 4104c.
[16] 2 CFR 200.101 (b) (2)
[17] IIJA, § 70912(5).

in section 70914 of the Act does not already apply to iron, steel, manufactured products, and construction materials.[18] Agencies should consider whether existing domestic content requirements meet the standards in the Act, as described in this memorandum. Agencies must make necessary changes to come into compliance with the Act's requirements, while preserving policies and provisions that already meet or exceed the standards required by the Act. For example, a program in which the standards for iron and steel already meet the standards in the Act may nevertheless be required to adopt new standards for manufactured products and construction materials. Maintaining current policies where appropriate avoids unnecessary disruption to programs, or elements of programs, that already meet or exceed Build America, Buy America requirements.

V. Effective Date for Awards

Agencies must ensure that, starting on May 14, 2022, all Federal financial assistance programs for infrastructure comply with the requirements of section 70914 of the Act. Therefore, new awards made on or after May 14, 2022, must take appropriate steps to ensure financial assistance awards comply with these requirements, which may include appropriate terms and conditions[19] incorporating a Buy America preference. Renewal awards and amendments obligating additional funds to existing awards that are executed on or after May 14, 2022, must also include a Buy America preference. This means that agencies must include a Buy America preference in awards issued on or after May 14, 2022, even if Notices of Funding Opportunities for those awards did not include a Buy America preference. In these cases, agencies may consider whether public interest waivers may be needed to avoid undue increases in the time and cost of a project. Similarly, public interest waivers may be needed for awards and amendments made on or after May 14, 2022, where budgets for purchase of covered materials have already been agreed upon (including if materials have been ordered and construction has begun). Consistent with the guidance provided below, agencies should issue waivers judiciously and clearly communicate to recipients the limitations and conditions of any such waivers.

VI. Articles, Materials, and Supplies for Infrastructure

A Buy America preference, as defined in section I of this guidance, only applies to the iron and steel, manufactured products, and construction materials used for the infrastructure project under an award. If an agency has determined that no funds from a particular award under a covered program will be used for infrastructure, a Buy America preference does not apply to that award. Similarly, for a covered program, a Buy America preference does not apply to non-infrastructure spending under an award that also includes a covered project. A Buy America preference applies to *an entire infrastructure project*, even if it is funded by both Federal and non-Federal funds under one or more awards.

A Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply

[18] IIJA, § 70917(a) &(b).
[19] See Appendix I: Example of Award Term - Required Use of American Iron, Steel, Manufactured Products, and Construction Materials for exemplary language.

to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project, but are not an integral part of or permanently affixed to the structure.

For the purposes of this guidance, an article, material, or supply should only be classified into *one* of the following categories: (1) iron or steel; (2) a manufactured product; or (3) a construction material. For ease of administration, an article, material, or supply should not be considered to fall into multiple categories. Agencies should apply the iron and steel test to items that are predominantly iron or steel, unless another standard applies under law or regulation.

Any waivers from these requirements must be in writing and meet the requirements of section 70914(b).

VII. Issuing Buy America Waivers

Pursuant to Section 70914(c) of the Act, the head of a Federal agency may waive the application of a Buy America preference under an infrastructure program in any case in which the head of the Federal agency finds that—

(1) applying the domestic content procurement preference would be inconsistent with the public interest (a "public interest waiver");
(2) types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality (a "nonavailability waiver"); or
(3) the inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent (an "unreasonable cost waiver").

Federal agencies are responsible for processing and approving all waivers, including waivers requested by recipients and on behalf of subrecipients. To the greatest extent practicable, waivers should be targeted to specific products and projects.[20]

Before issuing a waiver, the head of the Federal agency must make publicly available on the agency's website a detailed written explanation for the proposed determination to issue the waiver and provide at least 15 days for public comment on the proposed waiver.[21] General applicability waivers are subject to a minimum 30-day public comment period.[22] By April 29, 2022, agencies should provide the website address where they will be posting proposed waivers for public comment to MBX.OMB.MadeInAmerica@omb.eop.gov. Pursuant to sections 70914(c) and 70937 of the Act, the waiver must be cross-posted to a centralized waiver transparency website managed by GSA, BuyAmerican.gov,[23] no later than November 15, 2022.

[20] See Section VII of this guidance for information on waiver principles and criteria.
[21] Executive Order, § 4(b)(i)(2); IIJA, § 70914(c); IIJA, § 70937 (note that "Buy American" as used in this section also refers to Buy America preferences, per IIJA, § 70932(1)).
[22] IIJA § 70914(d)(2)(A)(ii). See Section VII of this guidance for information on general applicability waivers.
[23] BuyAmerican.gov redirects to MadeInAmerica.gov.

To minimize duplication and promote efficiency, MIAO and GSA will coordinate with agencies on the expansion of the existing website's functionality to display waivers for Federal financial assistance and provide further instructions to agencies as necessary.

Federal agencies are responsible for performing due diligence and approving or rejecting waivers consistent with the Act, this guidance, and any other applicable Buy America laws. Federal agencies should notify MIAO in advance of posting an award- or project-level proposed waiver for public comment. However, Federal agencies must consult with MIAO for proposed waivers with broader applicability (such as a general applicability waiver) before posting them for public comment. The purpose of the consultation is to identify any opportunities to structure the waiver in order to maximize the use of goods, products, and materials produced in the United States to the greatest extent possible consistent with law. Federal agencies should send proposed waivers for review to MBX.OMB.MIAwaivers@omb.eop.gov.

Federal agencies must submit to MIAO a proposed waiver for review after the public comment period has concluded. MIAO will review the proposed waiver to determine if it is consistent with applicable law and policy,[24] and will notify the Federal agency of its determination.

All waiver requests must include a detailed justification for the use of goods, products, or materials mined, produced, or manufactured outside the United States[25] and a certification that there was a good faith effort to solicit bids for domestic products supported by terms included in requests for proposals, contracts, and nonproprietary communications with potential suppliers.[26] In addition, at a minimum and to the greatest extent practicable, each proposed waiver submitted to MIAO should include the following information, as applicable:

- Waiver type (nonavailability, unreasonable cost, or public interest)
- Recipient name and Unique Entity Identifier (UEI)
- Federal awarding agency organizational information (e.g., Common Government-wide Accounting Classification (CGAC) Agency Code)
- Financial assistance listing name and number
- Federal financial assistance program name
- Federal Award Identification Number (FAIN) (if available)
- Federal financial assistance funding amount
- Total cost of infrastructure expenditures, including all Federal and non-Federal funds (to the extent known)
- Infrastructure project description and location (to the extent known)
- List of iron or steel item(s), manufactured products, and construction material(s) proposed to be excepted from Buy America requirements, including name, cost, country(ies) of origin (if known), and relevant PSC and NAICS code for each.
- A certification that the Federal official or assistance recipient made a good faith effort to solicit bids for domestic products supported by terms included in requests for proposals, contracts, and nonproprietary communications with the prime contractor.

[24] Executive Order, § 4(c).
[25] IIJA, § 70937(c)(2)(A).
[26] IIJA, § 70937(c)(2)(D).

- A statement of waiver justification, including a description of efforts made (e.g., market research, industry outreach), by the Federal awarding agency and, and in the case of a project or award specific waiver, by the recipient, in an attempt to avoid the need for a waiver. Such a justification may cite, if applicable, the absence of any Buy America-compliant bids received in response to a solicitation.
- Anticipated impact if no waiver is issued.
- Any relevant comments received through the public comment period.

The purpose of the information is to ensure that the agency has adequate information to perform due diligence, that MIAO has sufficient information to determine whether the proposed waiver is consistent with law and policy, and that sufficient information is available for public review. Information provided for public review should help interested manufacturers gauge the demand for products for which agencies are considering waiving a Buy America preference.

To avoid a need for duplicative waiver requests from entities that receive funding for one infrastructure project through multiple Federal agencies, the Federal agency contributing the greatest amount of Federal funds for the project should be considered the "Cognizant Agency for Made in America" and should take responsibility for coordinating with the other Federal awarding agencies. Such coordination will provide uniform waiver criteria and adjudication processes, minimize duplicative efforts among Federal agencies, and reduce burdens on recipients. The Cognizant Agency for Made in America shall be responsible for consulting with the other Federal awarding agencies, publicizing the proposed joint waiver, and submitting the proposed joint waiver for review to MIAO.

a. Exceptions for Unforeseen and Exigent Circumstances

In limited situations where there is an urgent need in an unforeseen and exigent circumstance, agencies have the authority to waive the application of Buy America preferences without submitting the waiver for public comment and MIAO determination.[27] As an exception to the public transparency requirements of the Act, agencies should exercise that authority only when necessary. Further, to ensure MIAO can fulfill its role as a central and transparent source of Made in America waivers, an agency that issues a waiver without first seeking public comment and MIAO approval must, within 30 days of the waiver's issuance, submit a report to MIAO explaining its reliance upon the "unforeseen and exigent circumstance" exception.[28] MIAO will provide further instructions to agencies on how to submit those reports. Although public posting and MIAO review may be waived in exigent circumstances, agencies remain responsible for performing due diligence appropriate to the circumstances, consistent with the principles and criteria in paragraphs VII(b) and (c) below.

[27] IIJA, § 70937(b)(2).
[28] This reporting process was established pursuant to Executive Order 14,005, § 4(d) and OMB Guidance on Improving the Transparency of Made in America Waivers available at: https://www.whitehouse.gov/wp-content/uploads/2021/10/Guidance-Memo-Improving-the-Transparency-of-Made-in-America-Waivers.pdf.

b. Waiver Principles and Criteria

To ensure they are scrupulously monitoring, enforcing, and complying with applicable Buy America Laws and minimizing the use of waivers,[29] agencies must apply standard criteria to determine whether to grant a waiver in a given circumstance. Agencies with existing criteria must review it for consistency with this guidance and update it as appropriate. All other agencies must establish criteria.

Agencies may reject or grant waivers in whole or in part. To the greatest extent practicable, waivers should be issued at the project level and be product-specific. Overly broad waivers undermine market signals designed to boost domestic supply chains, particularly for key articles, materials and supplies in critical supply chains (i.e., critical supply chains identified in Executive Order 14017, *America's Supply Chains*). When necessary, agencies may consider issuing a waiver that has applicability beyond a single project; however, agencies should always issue, construe, and apply waivers to ensure the maximum utilization of goods, products, and materials produced in the United States, consistent with applicable law. Federal agencies may consult with MIAO when establishing or modifying criteria for granting waivers. They may also work within the Made in America Council, a practice that will help to foster consistency across agencies to the greatest extent practical and appropriate, given agency and program missions.

Federal agencies should use the following principles before issuing a waiver of any type:

- **Time-limited**: In certain limited circumstances, a Federal agency may determine that a waiver should be constrained principally by a length of time, rather than by the specific projects to which it applies. Waivers of this type may be appropriate, for example, when an item that is "nonavailable" is widely used in projects funded by a particular program's awards. When issuing such a waiver, the agency should identify a short, definite time frame (e.g., no more than one to two years) designed to ensure that, as domestic supply becomes available, domestic producers will have prompt access to the market created by the program.
- **Targeted**: Waivers that are not limited to particular projects should apply only to the item(s), product(s), or material(s) or category(ies) of item(s), product(s), or material(s) necessary. Waivers that are overly broad will tend to undermine domestic preference policies. Broader waivers will receive greater scrutiny from MIAO.
- **Conditional**: Federal agencies are encouraged to issue waivers with specific conditions that support the policies of the Act and the Executive Order.

These principles and criteria should be viewed as minimum requirements for the use of waivers by Federal agencies.[30]

<u>Nonavailability Waivers</u>

Before granting a nonavailability waiver, agencies should consider whether the recipient has performed thorough market research, which may be accomplished with assistance from the agency, and adequately considered, where appropriate, qualifying alternate items, products, or

[29] IIJA § 70933(2).
[30] See Section IV. of this guidance for agencies that have existing regulations or guidance.

materials. Waivers should describe the market research activities and methods to identify domestically manufactured items capable of satisfying the requirement, including the timing of the research and conclusions reached on the availability of sources. Agencies are encouraged to engage with the Made in America Council to develop resource lists for common items, goods, or materials.

Unreasonable Cost Waivers

An unreasonable cost waiver is available if the inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent. Before granting an unreasonable-cost waiver, to the extent permitted by law, agencies should ensure the recipient has provided adequate documentation that no domestic alternatives are available within this cost parameter. Agencies may assist recipients in gathering documentation.

For requests citing unreasonable cost as the statutory basis of the waiver, the waiver justification must include, as applicable, a comparison of the cost of the domestic product to the cost of the foreign product or a comparison of the overall cost of the project with domestic products to the overall cost of the project with foreign-origin products, pursuant to the requirements of the applicable Made in America law.[31] Publicly available cost comparison data may be provided in lieu of proprietary pricing information.[32] Unreasonable-cost waivers should be no broader than necessary.

Public Interest Waivers

A waiver in the public interest may be appropriate where an agency determines that other important policy goals cannot be achieved consistent with the Buy America requirements established by the Act and the proposed waiver would not meet the requirements for a nonavailability or unreasonable cost waiver. Such waivers shall be used judiciously and construed to ensure the maximum utilization of goods, products, and materials produced in the United States.[33] To the extent permitted by law, determination of public interest waivers shall be made by the head of the agency with the authority over the Federal financial assistance award.[34]

Public interest waivers may have a variety of bases. As with other waivers, they should be project-specific whenever possible, as what is in the public interest may vary depending upon the circumstances of the project, recipient, and specific items, products, or materials in question.

Federal agencies may wish to consider issuing a limited number of general applicability public interest waivers in the interest of efficiency and to ease burdens for recipients. The agency remains responsible for determining whether such a waiver is appropriate to apply to any

[31] IIJA, § 70937(c)(2)(B).
[32] IIJA, § 70937(c)(2)(B).
[33] IIJA, § 70935(a).
[34] IIJA, § 70935(b).

given project; the Made in America Office will not review each application of such a waiver. The following are examples of types of public interest waivers an agency may consider issuing.[35]

- **De Minimis**: Ease of administration is important to reduce burden for recipients and agencies. Federal agencies may consider whether a general applicability public interest waiver should apply to infrastructure project purchases below a de minimis threshold. An agency may consider whether a public interest waiver should apply when necessary to ensure that recipients and Federal agencies make efficient use of limited resources, especially if the cost of processing the individualized waiver(s) would risk exceeding the value of the items waived. Agencies may consider adopting an agency-wide public interest waiver that sets a de minimis threshold, for example, of 5 percent of project costs up to a maximum of $1,000,000.
- **Small Grants**: Agencies may wish to consider whether it is in the public interest to waive application of a Buy America preference to awards below the Simplified Acquisition Threshold. This type of waiver may be particularly relevant in the initial years after enactment of IIJA, and may be phased out over time as agencies develop efficient waiver review capabilities.
- **Minor Components**: Agencies may wish to consider whether it is in the public interest to allow minor deviations for miscellaneous minor components within iron and steel products. A minor components waiver in the public interest may allow non-domestically produced miscellaneous minor components comprising no more than 5 percent of the total material cost of an otherwise domestically produced iron and steel product to be used. It would not be in the public interest to use a minor components waiver to exempt a whole product from the iron and steel requirements, or to allow the primary iron or steel components of the product to be produced other than domestically.
- **Adjustment Period**: Agencies should consider whether brief, time limited waivers to allow recipients and agencies to transition to new rules and processes may be in the public interest.
- **International Trade Obligations**: If a recipient is a State that has assumed procurement obligations pursuant to the Government Procurement Agreement or any other trade agreement, a waiver of a Made in America condition to ensure compliance with such obligations may be in the public interest.
- **Other Considerations**: A waiver may be in the public interest in one circumstance, but not in another, and considerations will depend upon the nature and amount of resources available to the recipient, the value of the items, goods, or materials in question, the potential domestic job impacts, and other policy considerations, including sustainability, equity, accessibility, performance standards, and the domestic content (if any) of and conditions under which the non-qualifying good was produced.

All proposed waivers citing the public interest as the statutory basis must include a detailed written statement, which shall address all appropriate factors, such as potential

[35] The list is not exhaustive and no agency is required to issue the types of waivers noted as examples. As with other general applicability waivers, generally applicable public interest waivers must be reviewed at least every five years and more often as appropriate.

obligations under international agreements, justifying why the requested waiver is in the public interest.[36]

Before granting a waiver in the public interest, to the extent permitted by law, agencies shall assess whether a significant portion of any cost advantage of a foreign-sourced product is the result of the use of dumped steel, iron, or manufactured products or the use of injuriously subsidized steel, iron, or manufactured products.[37] Agencies may consult with the International Trade Administration (ITA) in making this assessment if the granting agency deems such consultation to be helpful. The agency shall integrate any findings from the assessment into its waiver determination as appropriate.[38] MIAO will work with ITA and agencies to develop standard processes to expedite this required assessment, such as by ensuring agencies know how to easily access lists of dumped or injuriously subsidized products.

c. General Applicability Waivers

The term "general applicability waiver" refers to a waiver that applies generally across multiple awards. A general applicability waiver can be "product-specific" (e.g., applies only to a product or category of products) or "non-product specific" (e.g., applies to all "manufactured products").

General applicability waivers should be issued only when necessary to advance an agency's missions and goals, consistent with IIJA, the Executive Order, and this guidance. For example, an agency might issue a general waiver for a product for which there are well-established domestic sourcing challenges. General applicability waivers will require appropriate justification from the Federal agency.

Federal agencies with one or more existing general applicability waivers, including public interest waivers, must review such waivers within five years of the date on which the waiver was issued. Agencies issuing new general applicability waivers must review such waivers at least every five years from the date of issuance. Agencies are encouraged to review general applicability waivers more frequently, when appropriate. In conducting a review of any general applicability waiver, the head of a Federal agency shall—

(A) publish in the *Federal Register* a notice that—
    (i) describes the justification for a general applicability waiver; and
    (ii) requests public comments for a period of not less than 30 days on the continued need for a general applicability waiver; and

(B) publish in the *Federal Register* a determination on whether to continue or discontinue the general applicability waiver, considering the comments received in response to the notice published under paragraph (A).[39]

[36] IIJA, § 70937(c)(2)(C).
[37] Executive Order, § 5.
[38] Executive Order, § 5.
[39] IIJA, § 70914(d)(1) & (2).

For a period of five years beginning on the date of enactment of the Act, paragraphs (A) and (B) above shall not apply to any product-specific general applicability waiver that was issued more than 180 days before November 15, 2021.[40]

By no later than November 15, 2022, agencies with existing, non-product specific general applicability waivers that were issued more than five years before November 15, 2021 should promptly commence review of each such waiver by publishing a *Federal Register* notice as required in section 70914(d)(2)(A) of the IIJA. Should the review justify retaining the waiver, agencies should consider narrowing the waiver in a manner that would support supply chain resilience and boost incentives to manufacture key products domestically, as appropriate.

To ensure prompt commencement of projects funded by IIJA, MIAO plans to work with agencies to expedite consideration of general applicability waivers for products or categories of products for which domestic sourcing challenges have been well documented. Agencies should align such waivers with complementary policies, such as work to boost supply chain resiliency and domestic employment. General applicability waivers should include appropriate expiration dates designed to ensure that, once available, Buy America qualifying products receive appropriate consideration.

VIII. Preliminary Guidance for Construction Materials

For construction materials, the Act requires that, not later than 180 days after November 15, 2021, OMB must issue standards that define the term "all manufacturing processes" in the case of construction materials. These standards must require that each manufacturing process required for the manufacture of the construction material and the inputs of the construction material occurs in the United States. They must also reflect efforts to maximize the direct and indirect jobs benefited or created in the production of the construction material.[41]

Although the deadline to issue such guidance has not yet passed, OMB is providing preliminary and non-binding guidance to assist agencies in determining which materials are construction materials so that agencies can begin applying Buy America requirements to those materials. This preliminary guidance addresses the requirements as set forth in section 70915(b) of the IIJA while providing sufficient time for OMB to receive additional stakeholder input.

The IIJA finds that "construction materials" includes an article, material, or supply—other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives[42]—that is or consists primarily of:

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);

[40] IIJA, § 70914(d)(3).
[41] IIJA, § 70915(b).
[42] IIJA, § 70917(c)(1).

- lumber; or
- drywall.[43]

To provide clarity to item, product, and material manufacturers and processers, we note that items that consist of two or more of the listed materials that have been combined together through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed through a manufacturing process, should be treated as manufactured products, rather than as construction materials. For example, a plastic framed sliding window should be treated as a manufactured product while plate glass should be treated as a construction material.

Pending OMB's issuance of final standards on construction materials, and absent any existing applicable standard in law or regulation that meets or exceeds these preliminary standards, agencies should consider "all manufacturing processes" for construction materials to include at least the final manufacturing process and the immediately preceding manufacturing stage for the construction material. OMB is seeking additional stakeholder input before issuing further guidance identifying initial manufacturing processes for construction materials that should be considered as part of "all manufacturing processes."

Agencies should consult with MIAO, as needed, to ensure that any waiver issued for construction materials is explicitly targeted and time-limited, in order to send a clear market signal that additional standards for "all manufacturing processes" in the case of construction materials will be forthcoming.

[43] See IIJA, § 70911(5).

Appendix I: Example of Award Term - Required Use of American Iron, Steel, Manufactured Products, and Construction Materials

Where applicable, the Federal agency must include appropriate terms and conditions in all awards, in accordance with applicable legal requirements and its established procedures, in order to effectuate the requirements of the Act and this guidance. The following is sample language.

To achieve the greatest possible consistency across agencies and programs, agencies should send their proposed terms and conditions to MIAO for review prior to incorporating them into applicable awards. Agencies should begin including appropriate language in NOFOs published *before* May 14, 2022 to provide applicants fair notice of the Buy America conditions that will apply to funds obligated on or after that date.

** ** **

Recipients of an award of Federal financial assistance from a program for infrastructure are hereby notified that none of the funds provided under this award may be used for a project for infrastructure unless:

(1) all iron and steel used in the project are produced in the United States--this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States;

(2) all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation; and

(3) all construction materials[44] are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States.

The Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project, but are not an integral part of the structure or permanently affixed to the infrastructure project.

[44] Excludes cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives.

Waivers

When necessary, recipients may apply for, and the agency may grant, a waiver from these requirements. The agency should notify the recipient for information on the process for requesting a waiver from these requirements.

(a) When the Federal agency has made a determination that one of the following exceptions applies, the awarding official may waive the application of the domestic content procurement preference in any case in which the agency determines that:

(1) applying the domestic content procurement preference would be inconsistent with the public interest;

(2) the types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or

(3) the inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent.

A request to waive the application of the domestic content procurement preference must be in writing. The agency will provide instructions on the format, contents, and supporting materials required for any waiver request. Waiver requests are subject to public comment periods of no less than 15 days and must be reviewed by the Made in America Office.

There may be instances where an award qualifies, in whole or in part, for an existing waiver described at [link to awarding agency web site with information on currently applicable general applicability waivers].

Definitions[45]

"Construction materials" includes an article, material, or supply—other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives[46]—that is or consists primarily of:

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);
- lumber; or
- drywall.

[45] Federal agencies may choose to provide definitions on a public-facing website and reference that website in the terms and conditions, rather than including all definitions in the terms and conditions itself. If an agency chooses to do provide definitions on a public-facing website, it is not considered a deviation from the terms and conditions provided and does not need to be reviewed by OMB.
[46] IIJA, § 70917(c)(1).

“Domestic content procurement preference’’ means all iron and steel used in the project are produced in the United States; the manufactured products used in the project are produced in the United States; or the construction materials used in the project are produced in the United States.

“Infrastructure” includes, at a minimum, the structures, facilities, and equipment for, in the United States, roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; and buildings and real property. Infrastructure includes facilities that generate, transport, and distribute energy.

‘‘Project’’ means the construction, alteration, maintenance, or repair of infrastructure in the United States.

Bid Forms
Contract A
Great lakes Crushing

FORM OF NONCOLLUSION AFFIDAVIT

STATE OF Ohio)

) SS

COUNTY OF Lake)

Alec M. Belich (Individual Name), being first duly sworn, deposes and says that

he/she is Member (Sole Owner, Partner, President, Secretary, etc.) of Great Lakes Crushing, Ltd. (Corporation Name)

the party making the proposal or bid; that such bid is genuine and not collusive or sham; that said Bidder has not colluded, conspired, connived, or agreed, directly or indirectly with any Bidder or other person, to put in a sham bid, or that such Bidder or other person shall refrain from bidding, and has not in any manner, directly or indirectly sought by agreement or collusion or communication or conference, with any person, to fix the bid price of affiant or any other Bidder, or to fix any overhead, profit, or cost element of said Bid price, or of that of any other Bidder, or to secure any advantage against the Owner, or any person interested in the proposed Contract; that such bidder is the only party (or parties) who has an interest with the bidder in the profits of any contract which may result from the herein contained proposal; that no individual affiliated with the Owner, including but not limited to the head of any department, any employee, or any other official or officer of the Owner, is or will be directly or indirectly interested in this bid, and/or the profits from this bid if successful; that no individual affiliated with the Owner, including but not limited to the head of any department, any employee, or any other official or officer of the Owner, has or will receive anything of value as a result of the submission of this bid or its award; that no individual affiliated with the Owner, including but not limited to the head of any department, any employee, or any other official or officer of the Owner, has been solicited to provide assistance and/or provided assistance to the bidder which might give the bidder a competitive advantage or circumvent the competitive bidding process; and that all statements contained in said proposal or bid are true; and further, that such Bidder has not, directly or indirectly submitted this Bid, or the contents thereof, or divulged information or data relative thereto to any association or to any member or agent thereof.

Affiant

Subscribed and sworn to before me this 03 day of OCTOBER, 2025.

Notary Public

KAITLYN SZEKER
Notary Public, State of Ohio
My Commission Expires
July 21, 2026

My Commission Expires: July 21, 2026

CORPORATE RESOLUTION

I, Alec M. Belich,
(Individual Name)

Secretary of Great Lakes Crushing, Ltd. an Ohio Corporation
(Corporation Name) (State)

hereby certify that the Board of Directors of said Corporation on the 3rd day of October, 2025, adopted a resolution authorizing the Member of this
(Corporation Title, i.e., President, Vice President, etc.)

Company, namely, Alec M. Belich, to sign bid proposals, sign and
(Individual Name)

enter into any and all contracts and other instruments, sign and/or authorize bid guaranty and performance bonds for the purpose of furnishing labor and materials at such price and upon such terms and conditions, including any amendments or modifications thereto, as said Member in their sole discretion shall deem best, and that said actions
(Corporation Title, i.e., President, Vice President, etc.)

shall be binding upon the Corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Willowick, Ohio this 3rd day
(City) (State)

of October, 20[illegible], and I further certify that said resolution is still in full force and effect.

AMB

Corporate Secretary

PROPOSED SUBCONTRACTORS

The Bidder is required to state in the spaces provided below, the Subcontractors they propose to use to accomplish the work under this Contract. The items and specific amounts of work assigned to each listed Subcontractor shall also be outlined. Duplicate this sheet as needed.

1. Name: Pittsburg Tank & Tower Group

   Address: 1 Watertank Place

   City/State/Zip: Henderson Kentucky 42420

   Description: Elevated Water Tank fab & Erect

   Phone: (2[illegible]) 826-9000 Amount: $ TBD % of Contract: _____

   EIN# _____ Unique Entity ID# _____ CAGE CODE _____

2. Name: _____

   Address: _____

   City/State/Zip: _____

   Description: _____

   Phone: ( ) _____ Amount: $ _____ % of Contract: _____

   EIN# _____ Unique Entity ID# _____ CAGE CODE _____

3. Name: _____

   Address: _____

   City/State/Zip: _____

   Description: _____

   Phone: ( ) _____ Amount: $ _____ % of Contract: _____

   EIN# _____ Unique Entity ID# _____ CAGE CODE _____

4. Name: _____

   Address: _____

   City/State/Zip: _____

   Description: _____

   Phone: ( ) _____ Amount: $ _____ % of Contract: _____

   EIN# _____ Unique Entity ID# _____ CAGE CODE _____

EXPERIENCE RECORD

The Bidder is required to state the character of previous work, give references, and such other detailed information as will enable the Owner to determine capability, responsibility, experience, skill, and financial standing. ***Provide data for the last five (5) years.*** Duplicate this sheet as needed. **Information submitted in an alternate format MUST contain all the information requested on this page.**

SEE ATTACHED

Project Name: _____

Description/Scope of Bidder's _____

On this project you were a ___ Prime Contractor **OR** ___ Sub Contractor to _____

Year: _____ Your Contract or

Total Project Cost: $ _____ Subcontract Amount: $ _____

% Complete (if in progress) _____ % or Date Completed (if _____

Project Owner: _____

Owner Contact: _____ Phone: ( ) _____

Engineer/Arch. Firm: _____

Engineer/Arch. Contact: _____ Phone: ( ) _____

Your Bonding Company on this project (if any): _____

Project Name: _____

Description/Scope of Bidder's _____

On this project you were a ___ Prime Contractor **OR** ___ Sub Contractor to _____

Year: _____ Your Contract or

Total Project Cost: $ _____ Subcontract Amount: $ _____

% Complete (if in progress) _____ % or Date Completed (if _____

Project Owner: _____

Owner Contact: _____ Phone: ( ) _____

Engineer/Arch. Firm: _____

Engineer/Arch. Contact: _____ Phone: ( ) _____

Your Bonding Company on this project (if any): _____

Project Name: _____

Description/Scope of Bidder's _____

On this project you were a ___ Prime Contractor **OR** ___ Sub Contractor to _____

Year: _____ Your Contract or

Total Project Cost: $ _____ Subcontract Amount: $ _____

% Complete (if in progress) _____ % or Date Completed (if complete): _____

Project Owner: _____

Owner Contact: _____ Phone: ( ) _____

Engineer/Arch. Firm: _____

Engineer/Arch. Contact: _____ Phone: ( ) _____

Your Bonding Company on this project (if any): _____

	A	B	C	D	E	F
1	**Project**	**Contact**	**Est Cost**	**Description**	**Start Date**	**% Comp**
2						
3	East Street Water Tower	John Gregov CT Consultants - 440-530-2325	$2,765,000.00	Water Tower Construction	9/1/2024	95%
4	Shoreway Logistics 1	John Bruno -	$295,000.00	Parking Lot Expansion; drains, storm sewers, catch basins	12/1/2024	80%
5	Newton Family Housing	Woda Construction - Tim Humphrey/Andrew Durant - 614-398-3200	$691,000.00	Site Development; earthwork; utilites; paving	12/1/2024	80%
6	Russel Avenue Park Improvement	City of Euclid	$167,765.00	Improvements to existing park including parking, pavement, lighting	12/1/2024	95%
7	Euclid Lakeshore Pedestrian Refuge	City of Euclid	$362,375.00	pedestrian refuge consisting of curbs,	10/15/2024	40%
8	Mayfield Village Walking Path	Tom Cappello Village Engineer 216-731-6255	$70,000.00	Concrete curb and ramp	10/7/2024	100%
9	Sims Park	City of Euclid	$725,680.00	Construction of new park including parking, pavement, lighting	10/1/2024	75%
10	Hospice of the Western Reserve	Eric Greenburg 216-650-4170	$2,219,000.00	Site Improvements, demolition, earthwork, utlities	10/1/2024	60%
11	Ald's #103 Parma	Veteran Development	$93,300.00	Demolotion	6/1/2024	100%
12	Calvary Cemetery	Catholic Cemetaries	$90,250.00	Sanitary and Storm Sewer	6/1/2024	100%
13	Chipolte North Olmsted	Veteran Development	$176,000.00	Site, Storm, Sanitary	6/1/2024	100%
14	Hardy Road Regulaor	Lake County Comm.	$87,000.00	Installatin of 8" pressure regulating valve	1/15/2024	100%
15	CSX Stabilizing	Catts Construction	$272,025.00	Stabilization	10/1/2023	100%
16	Lake County Airport Contract 1	Lake Development Authority	$697,144.00	Shift and Reconfigure Taxiway A and A1	10/1/2023	50%
17	Lake County Airport Contract 2	Lake Development Authority	$221,305.00	Pavement Removal	10/1/2023	100%
18	Lake County Airport Contract 3	Lake Development Authority	$720,548.00	T area hanger site Improvements	10/1/2023	99%
19	East 296th Street Improvements	City of Wickliffe	$1,645,135.00	Replacement of water, sanitary and storm sewers	11/1/2023	100%

	A	B	C	D	E	F
1	**Project**	**Contact**	**Est Cost**	**Description**	**Start Date**	**% Comp**
20	Kenny Yuko Park	City of Euclid	$1,676,826.00	Construction of new park including parking, pavement, lighting	10/1/2023	100%
21	E. 105th & Frank	Fairmount Properties 216-514-8700	$425,525.00	Excavation, underdrains, curbs, sidewalks	9/1/2023	100%
22	La Centro Villa	NE Ohio Hispanic Center	$464,231.00	Demolition parking area; haul off spoils; recyling	10/1/2023	100%
23	Richmond Heights School Bridge Project	Chris Courtney C.W. Courtney - 440-666-3046	$158,150.00	Culvert Repair with Junction Chamber	8/15/2023	100%
24	Fairport Secondary Water Connection	John Gregov CT Consultants - 440-530-2325	$475,000.00	Water Line Install	8/15/2023	100%
25	Park Synagogue	Harlan Cohen - 216-409-7555	$650,000.00	Special Site Concrete	4/1/2023	100%
26	Holbrook Hollows Franklin Street	Dan McConnaughy - Geauga Park District - 216-990-6461	$717,000.00	Utilities, Grading, Shelter and Bathroom Construction	6/1/2023	100%
27	Village of Mayfield - The Grove Music Park	Tom Cappello Village Engineer 216-731-6255	$100,000.00	Site concrete, storm sewer installation, Site Remediation	7/1/2023	100%
28	Chardon Park School Tunnel	Jeff Henderson - ThenDesign - 440-269-2266	$450,000.00	Utility Tunnel Rebuild	5/1/2023	100%
29	Fairport Water Vault	John Gregov CT Consultants - 440-530-2325	$153,000.00	Water Vault Improvements	7/1/2023	95%
30	Taylor Road Hebrew Academy	Harlan Cohen - 216-409-7555	$8,500,000.00	Interior School Rennovation/Site Improvements	2/1/2023	95%
31	Carnation Mall	Fairmount Properties 216-514-8700	$3,275,000.00	Driven Pile retaining wall installation Site & Building Demolition and	8/9/2022	100%
32	Cleveland Police Mounted Unit Stables Ph II	Mark Dulak 216-513-8713	$293,000.00	Site Remeadiation	10/1/2022	100%
33	Mentor Avenue Culvert Repair	Andrew Lubonovic CT Consultants 440-951-9000	$237,450.00	Retaining wall repairs and culvet lining	Sep-22	100%
34	Mayfield Village Worton Park Neighborhood Culvert Replacement	Tom Cappello Village Engineer 216-731-6255	$873,280.00	Replacement of Concrete strtuctures and road repair	6/6/2022	100%
35	USA Management	Urban Cornacchione 440-479-8800	$800,000.00	Site Work, Utilities and Concrete	6/6/2022	100%

	A	B	C	D	E	F
1	**Project**	**Contact**	**Est Cost**	**Description**	**Start Date**	**% Comp**
36	Aldi's #87 Willoughby	Bob Hartman, Veterans Construction 440-974-1011	$765,000.00	Site Work, Utilities and Concrete	5/9/2022	100%
37	Aurora Police Police Cruiser Canopy	Chief of Police Brian Byard 330-995-5192	$427,858.20	Site, Concrete & Structural Construction	5/1/2022	100%
38	Cleveland Police Mounted Unit Stables	Mark Dulak 216-513-8713	$1,187,500.00	Site Remeadiation	11/1/2021	100%
39	Chagrin River Road Retaining Walls and Box Culvert Improvements	Joe Ciuni 216-927-8655	$596,429.00	Install Driven pile shoring system, Remove and replace box culvert	9/7/2021	100%
40	Waverly & Oak	Harlan Cohen - 216-409-7555	$1,386,000.00	Driven Pile Retaining Walls and Rail shoring utility installation	8/15/2021	100%
41	Omni Sr. Living Highland Heights, Ohio	Harlan Cohen - 216-409-7555	$2,250,000.00	Excavation and Embankment / Storm, Sanitary, and Waterline Installation / Site Concrete Work / Trucking Hauling	March, 2021	100%
42	ODOT / Stevens Boulevard	Tim Stergis - 216-584-2165	$3,066,000.00	Excavation and Embankment / Site Demolition / Storm Sewer Installation / Site Concrete / Asphalt Paving / Trucking Hauling / Maintenance of Traffic /	May, 2020	100%
43	Westwood Campus	Sean Murphy - 440-865-0032	$2,426,313.00	Excavation and Embankment / Storm, Sanitary, and Waterline Installation / Site Electrical Installation / Trucking Hauling / Finish Grading	May, 2020	100%
44	Hebrew Academy	Harlan Cohen - 216-409-7555	$2,800,000.00	Excavation and Embankment / Storm, Sanitary, and Waterline Installation / Site Concrete Work / Trucking Hauling	January, 2020	100%
45	Progressive Omega North	Dave Dischinger - 440-539-8103	$1,100,000.00	Excavation and Embankment / Storm Sewer Installation / Site Concrete Work / Electrical Site Work / Trucking Hauling / Asphalt Paving /	August, 2019	100%

	A	B	C	D	E	F
1	**Project**	**Contact**	**Est Cost**	**Description**	**Start Date**	**% Comp**
46	St. Clair Street Parking Lot	Doug Lewis - 440-653-7764	$680,000.00	Cantilever Concrete Retaining Wall Installtion / Storm Sewer Installation / Asphalt Paving / Landscaping	August, 2019	100%
47	Speedway Canton	Kent Phillips - 216-780-3311	$700,000.00	Excavation and Embankment / Hauled Off 30,000 CY of Soil in 10 Days / Finish Grade.	April, 2019	100%

BIDDER ' S IN'SURANCE AGENT ' S AFFIDAVIT

PROJECT: Harpersfield Water Tank and South River Road Waterline

OWNER: Ashtabula County Board of Commissioners

I, Elizabeth Rafferty , Account Executive first being duly sworn do state the following:

(a) that I have reviewed the insurance requirements in the bid documents and have noted therein the requirements on insurance including any policy modifications, cancellation and non-renewal provisions, and any additional policies or endorsements needed;

(b) that I am familiar with the insurance that _Great Lakes Crushing Ltd

(Bidder' s Company Name)

has in force, and that its insurance meets the contract insurance requirements or that it can be amended or endorsed to meet the contract insurance requirements (with standard industry exclusions) until the current policy expiration or until cancelled with notice per the specifications or additional policies and/or endorsements can be provided to the Contractor;

(c) that all additional policies and/or endorsements required in the specifications are available;

(d) that if an award of contract is made to the Bidder an insurance certificate(s) [most current version ACORD 25] and/or binder(s) which fully complies with all insurance requirements in the contract will be issued within three (3) business days of notification from the contractor and the contractor approving any additional policies or endorsements needed to fully comply with the insurance requirements in the contract;

(e) that I have advised my client of the cost of all additional policies, amendments, and/or endorsements so that he can include same in their bid;

(f) that the cancellation clause in the policy meets the specifications or that it can be amended by an endorsement;

(g) that this document neither affirmatively or negatively amends, extends or alters the terms of or coverage afforded by the policy referenced herein.

Further, Affiant sayeth naught.

Elizabeth Rafferty
(Agent' s Signature)

Elizabeth Rafferty
(Agent' s Name)

October 3, 2025
Date

CBIZ Insurance Services
Agency Name

5959 Rockside Woods Blvd N
Agency Address

Cleveland, OH 44131
Agency City, State and Zip Code

610-862-2443
(Phone)

(Fax)

ERafferty@cbiz.com
(E-mail)

SUPPLEMENTAL BOND ACKNOWLEDGEMENT

(This is not a Bond form)

PROJECT. Harpersfield Water Tank and South River Road Waterline

OWNER. Ashtabula County Board of Commissioners

If the bidder submits a Bid Guaranty and Contract Bond (AKA Rollover or Bid/ Performance/ Payment/ Warranty Bond) per O. R. C. Sections 153.54 and 153.571 the following shall be completed, signed, and submitted with the bid.

By submission of the attached bid and these presents, the undersigned bidder and their surety hereby acknowledge that the attached Bond shall cover and warrant all work for the correction period per the General Conditions and as supplemented or amended elsewhere in these Contract Documents, which period is Two (2) years commencing on the final acceptance of the work by Owner. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the project or part of the project is located.

	BIDDER		SURETY
BIDDER.	Great Lakes Crushing, Ltd.	SURETY.	Harco National Insruance Co
SIGNATURE.		SIGNATURE.	Elizabeth Rafferty
NAME.	Alec M. Belich	NAME.	Elizabeth Rafferty
TITLE.	Member	TITLE.	Account Executive
DATE.	October 3, 2025	DATE.	10/3/2025
PHONE NO..	440-944-5500	PHONE NO..	610-862-2443
E-MAIL	qlcoffice1996@qmain.com		* Attach Power of Attorney

If the Bidder submits a Certified or CashierSs check, Irrevocable Letter of Credit and is awarded a contract by the Owner, the following shall be completed, signed, and submitted with the Contract Bond (AKA Performance/Payment/Warranty Bond) per ORC Sections 153.54 and 153.57.

By signature of the attached Contract and these presents the undersigned contractor and their surety acknowledge that the attached Bond shall cover and warrant all work for the correction period per the General Conditions and as supplemented or amended elsewhere in these Contract Documents, which period is Two (2) years commencing on the final acceptance of the work by Owner. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the project or part of the project is located.

	BIDDER		SURETY
BIDDER.		SURETY.	
SIGNATURE.		SIGNATURE.	
NAME.		NAME.	
TITLE.		TITLE.	
DATE.		DATE.	
PHONE NO..		PHONE NO..	
			* Attach Power of Attorney

POWER OF ATTORNEY

Bond # _____

HARCO NATIONAL INSURANCE COMPANY
INTERNATIONAL FIDELITY INSURANCE COMPANY

Member companies of IAT Insurance Group, Headquartered: 4200 Six Forks Rd, Suite 1400, Raleigh, NC 27609

KNOW ALL MEN BY THESE PRESENTS: That **HARCO NATIONAL INSURANCE COMPANY**, a corporation organized and existing under the laws of the State of Illinois, and **INTERNATIONAL FIDELITY INSURANCE COMPANY**, a corporation organized and existing under the laws of the State of New Jersey, and having their principal offices located respectively in the cities of Rolling Meadows, Illinois and Newark, New Jersey, do hereby constitute and appoint

ELIZABETH A. RAFFERTY, RALPH BRUCE WALSH, MICHAEL J. PERRY

Cleveland. OH

their true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY**, as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by their regularly elected officers at their principal offices.

This Power of Attorney is executed, and may be revoked, pursuant to and by authority of the By-Laws of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** and is granted under and by authority of the following resolution adopted by the Board of Directors of **INTERNATIONAL FIDELITY INSURANCE COMPANY** at a meeting duly held on the 1[illegible] day of December 201[illegible] and by the Board of Directors of **HARCO NATIONAL INSURANCE COMPANY** at a meeting held on the 13 day of December 2018

"**RESOLVED**, that (1) the Chief Executive Officer, President, Executive Vice President, Senior Vice President, Vice President, or Secretary of the Corporation shall have the power to appoint, and to revoke the appointments of, Attorneys-in-Fact or agents with power and authority as defined or limited in their respective powers of attorney, and to execute on behalf of the Corporation and affix the Corporation's seal thereto, bonds, undertakings, recognizances, contracts of indemnity and other written obligations in the nature thereof or related thereto; and (2) any such Officers of the Corporation may appoint and revoke the appointments of joint-control custodians, agents for acceptance of process, and Attorneys-in-fact with authority to execute waivers and consents on behalf of the Corporation; and (3) the signature of any such Officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seals when so used whether heretofore or hereafter, being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** have each executed and attested these presents on this 31st day of December, 2024

INTERNATIONAL FIDELITY INSURANCE COMPANY CORPORATE SEAL 1904 NEW JERSEY

STATE OF NEW JERSEY
County of Essex

Michael F. Zurcher
Executive Vice President, Harco National Insurance Company
and International Fidelity Insurance Company

STATE OF ILLINOIS
County of Cook

HARCO NATIONAL INSURANCE COMPANY CORPORATE SEAL 1984 ILLINOIS

On this 31st day of December 2024, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY**; that the seals affixed to said instrument are the Corporate Seals of said Companies; that the said Corporate Seals and his signature were duly affixed by order of the Boards of Directors of said Companies.

CATHY CRUZ NOTARY PUBLIC STATE OF NEW JERSEY

IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the City of Newark, New Jersey the day and year first above written.

Cathy Cruz a Notary Public of New Jersey
My Commission Expires April 16, 2029

CERTIFICATION

I, the undersigned officer of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Sections of the By-Laws of said Companies as set forth in said Power of Attorney, with the originals on file in the home office of said companies, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

IN TESTIMONY WHEREOF, I have hereunto set my hand on this day, September 26, 2025

Irene Martins, Assistant Secretary

BID SECURITY

CONTRACTOR SHALL INSERT ONE OF THE FOLLOWING FORMS OF BID SECURITY BEHIND THIS PAGE AND SUBMIT WITH THE BID.
(Made payable to the Owner)

CERTIFIED OR CASHIER'S CHECK FOR 10% OF THE AMOUNT BID

OR

IRREVOCABLE LETTER OF CREDIT FOR 10% OF THE AMOUNT BID

OR

BID GUARANTEE AND CONTRACT BOND

(BID/PERFORMANCE/PAYMENT" BOND, a.k.a., "ROLLOVER BOND")

FOR 100% OF THE AMOUNT BID INCLUDING ALL ALTERNATES

PER O.R.C. SECTIONS 153.54 AND 153.571

Notes:

1) A bond form is intentionally not included in the bid form package. The Surety Agent shall supply a bond with language that meets O.R.C. 153.571. If the Surety does not have one, a blank master is available at https://bids.ctconsultants.com .

2) Standalone Bid Bonds do not comply with this Bid Security requirement.

3) **The bid documents contain bid forms for two (2) separate contracts.**
The bidder must submit a separate bid security (cashier's check, irrevocable letter of credit, or ORC 153.571 bond) for each contract bid.

BID GUARANTY AND CONTRACT BOND

(O.R.C. § 153.571)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned
Great Lakes Crushing Ltd

as principal and Harco National Insurance Company as sureties, are hereby held and firmly bound unto Ashtabula County Board of Commissioners, as obligee in the penal sum of the dollar amount of the bid submitted by the principal to the obligee on . to undertake the project known as Harpersfield Water Tank & Water line improvements shall be the dollar amount of the principal's bid to the obligee, incorporating any additive or deductive alternate bids made by the principal on the date referred to above to the obligee, which are accepted by the obligee. In no case shall the penal sum exceed the amount of _____ dollars. (If the foregoing blank is not filled in, the penal sum will be the full amount of the principal's bid, including alternates. Alternatively, if the blank is filled in, the amount stated must not be less than the full amount of the bid including alternates, in dollars and cents. A percentage is not acceptable.) For the payment of the penal sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

Signed this 3rd day of October, 2025.
THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above named principal has submitted a bid for the above referenced project.

Now, therefore, if the obligee accepts the bid of the principal and the principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the principal pays to the obligee the difference not to exceed ten per cent of the penalty hereof between the amount specified in the bid and such larger amount for which the obligee may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the obligee does not award the contract to the next lowest bidder and resubmits the project for bidding, the principal pays to the obligee the difference not to exceed ten per cent of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising, and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect; if the obligee accepts the bid of the principal and the principal within ten days after the awarding of the contract enters into a proper contract in accordance with the bid, plans, details, specifications, and bills of material, which said contract is made a part of this bond the same as though set forth herein;

Now also, if the said principal shall well and faithfully do and perform the things agreed by the obligee to be done and performed according to the terms of said contract; and shall pay all lawful claims of subcontractors, materials suppliers, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any materials suppliers or laborer having a just claim, as well as for the obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of the said contract or in or to the plans or specifications therefor shall in any wise affect the obligations of said surety on its bond.

Signed this 3rd day of October, 2025

Great Lakes Crushing, Ltd

(Principal)(Seal)

By: _____

Printed Name and Title: Alec M. Belich

(Surety)(Seal)

By: Elizabeth Rafferty

Printed Name and Title: Elizabeth Rafferty, Account Executive

HARCO NATIONAL INSURANCE COMPANY CORPORATE SEAL 1984 ILLINOIS

Harco National Insurance Company

Surety Company Name

Surety Company Address 4200 Six Forks Rd., Ste 1400
Raleigh, NC 27609

Surety Company's Telephone Number 713-684-1600

Surety Company's Fax Number _____

CBIZ Insurance Services

Surety Agency Name

Surety Agent's Address 5959 Rockside Woods Blvd N, Ste 600
Cleveland, OH 44131

Surety Agent's Telephone Number 610-862-2443

Surety Agent's Fax Number _____

Proposal to Ashtabula Co. Bd. of Commissioners
For Harpersfield Water Tank & Waterline Improvements
Base Bid - Spheroid Tank & Waterline
Project No. 200426

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) PRECONSTRUCTION VIDEO DOCUMENTATION	1.00	LS	$ 500.00	$ 500.00	$ 1,000.00	$ 1,000.00
2	(SPC) BONDS AND INSURANCES, AS PER PLAN	1.00	LS	$ 10,000.00	$ 35,000.00	$ 45,000.00	$ 45,000.00
3	(201) CLEARING AND GRUBBING, AS PER PLAN	1.00	LS	$ 2,000.00	$ 3,000.00	$ 5,000.00	$ 5,000.00
4	(203) EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN	1.00	LS	$ 40,000.00	$ 20,000.00	$ 60,000.00	$ 60,000.00
5	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	30.00	SY	$ 125.00	$ 200.00	$ 325.00	$ 9,750.00
6	(451) 6 INCH REINFORCED CONCRETE DRIVES AND APRONS, AS PER PLAN	410.00	SY	$ 50.00	$ 75.00	$ 125.00	$ 51,250.00
7	(SPC) GENERAL CONSTRUCTION, AS PER PLAN	1.00	LS	$ 1,500,000.00	$ 1,750,000.00	$ 3,250,000.00	$ 3,250,000.00
8	(601) ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN	5.00	CY	$ 200.00	$ 500.00	$ 700.00	$ 3,500.00
9	(606) BOLLARD, AS PER PLAN	4.00	EACH	$ 1,000.00	$ 800.00	$ 1,800.00	$ 7,200.00
10	(607) DOUBLE GATE, AS PER PLAN	1.00	EACH	$ 5,000.00	$ 8,000.00	$ 13,000.00	$ 13,000.00
11	(611) 12" CONDUIT, TYPE A, AS PER PLAN	34.00	FT	$ 50.00	$ 75.00	$ 125.00	$ 4,250.00
12	(624) MOBILIZATION	1.00	LS	$ 1.00	$ 1.00	$ 2.00	$ 2.00
13	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	1.00	EACH	$ 10,000.00	$ 20,000.00	$ 30,000.00	$ 30,000.00
14	(638) 6 INCH FIRE HYDRAS T ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN	1.00	EACH	$ 6,000.00	$ 7,000.00	$ 13,000.00	$ 13,000.00
15	(638) 12 INCH WATER MAIN DUCTILE IRO I PIPE ANSI CLASS 52, PUSH-ON JOINTS AND CAST IRON MECHANICAL JOINT FITTINGS, AS PER PLAN	240.00	fT	$ 100.00	$ 140.00	$ 240.00	$ 57,600.00
16	(SPC) LAWN RESTORATION, AS PER PLAN	1.00	LS	$ 4,500.00	$ 3,000.00	$ 7,500.00	$ 7,500.00
17	(SPC) INSTRUMENTATION AND CONTROL (SCADA) SYSTEM INTEGRATION ALLOWANCE	1.00	LS	$ -	$ -	$ 15,000.00	$ 15,000.00
18	(SPC) TRMPORARY SEDIMENT AND EROSION CONTROL, AS *PER* PLAN	1.00	LS	$ 7,000.00	$ 3,000.00	$ 10,000.00	$ 10,000.00
19	(SPC) ELECTRIC COMPANY CHARGES ALLOWANCE	1.00	LS	$ -	$ -	$ 15,000.00	$ 15,000.00
					INFORMAL TOTAL BID	**$**	**3,598,052.00**

BF.8A

Proposal to Ashtabula Co. Bd. of Commissioners
For Harpersfield Water Tank & Waterline Improvements
Alternate-Glass Fused to Steel Bolted Elevated Tank & Waterline
Project No. 200426

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) PRECONSTRUCTION VIDEO DOCUMENTATION	1.00	LS	$ 500.00	$ 500.00	$ 1,000.00	$ 1,000.00
2	(SPC) BONDS AND INSURANCES, AS PER PLAN	1.00	LS	$ 10,000.00	$ 35,000.00	$ 45,000.00	$ 45,000.00
3	(201) CLEARING AND GRUBBING, AS PER PLAN	1.00	LS	$ 2,000.00	$ 3,000.00	$ 5,000.00	$ 5,000.00
4	(203) EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN	1.00	LS	$ 40,000.00	$ 20,000.00	$ 60,000.00	$ 60,000.00
5	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	30.00	SY	$ 125.00	$ 200.00	$ 325.00	$ 9,750.00
6	(451) 6 INCH REINFORCED CONCRETE DRIVES AND APRONS, AS PER PLAN	410.00	SY	$ 50.00	$ 75.00	$ 125.00	$ 51,250.00
7	(SPC) GENERAL CONSTRUCTION, AS PER PLAN	1.00	LS	$ 1,500,000.00	$ 2,200,000.00	$ 3,700,000.00	$ 3,700,000.00
8	(601) ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN	5.00	CY	$ 200.00	$ 500.00	$ 700.00	$ 3,500.00
9	(606) BOLLARD, AS PER PLAN	4.00	EACH	$ 1,000.00	$ 800.00	$ 1,800.00	$ 7,200.00
10	(607) DOUBLE GATE, AS PER PLAN	1.00	EACH	$ 5,000.00	$ 8,000.00	$ 13,000.00	$ 13,000.00
11	(611) 12" CONDUIT, TYPE A, AS PER PLAN	34.00	FT	$ 50.00	$ 75.00	$ 125.00	$ 4,250.00
12	(624) MOBILIZATION	1.00	LS	$ 1.00	$ 1.00	$ 2.00	$ 2.00
13	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	1.00	EACH	$ 10,000.00	$ 20,000.00	$ 30,000.00	$ 30,000.00
14	(638) 6 INCH FIRE HYDRAS T ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN	1.00	EACH	$ 6,000.00	$ 7,000.00	$ 13,000.00	$ 13,000.00
15	(638) 12 INCH WATER MAIN DUCTILE IRO I PIPE ANSI CLASS 52, PUSH-ON JOINTS AND CAST IRON MECHANICAL JOINT FITTINGS, AS PER PLAN	240.00	fT	$ 100.00	$ 140.00	$ 240.00	$ 57,600.00
16	(SPC) LAWN RESTORATION, AS PER PLAN	1.00	LS	$ 4,500.00	$ 3,000.00	$ 7,500.00	$ 7,500.00
17	(SPC) INSTRUMENTATION AND CONTROL (SCADA) SYSTEM INTEGRATION ALLOWANCE	1.00	LS	$ -	$ -	$ 15,000.00	$ 15,000.00
18	(SPC) TRMPORARY SEDIMENT AND EROSION CONTROL, AS *PER* PLAN	1.00	LS	$ 7,000.00	$ 3,000.00	$ 10,000.00	$ 10,000.00
19	(SPC) ELECTRIC COMPANY CHARGES ALLOWANCE	1.00	LS	$ -	$ -	$ 15,000.00	$ 15,000.00
					INFORMAL TOTAL BID	**$**	**4,048,052.00**

BF.9A

The Bidder hereby acknowledges that they have reviewed the following addenda:

Addendum No.	1	2				
Date:	9/22/2025	9/30/2025				

The undersigned, having full knowledge of the plans and specifications for the improvements and the conditions of the Proposal hereby agree to furnish all the services, labor, materials, and equipment necessary to complete the work according to the plans and specifications and to accept as full compensation the lump sum or the unit prices specified serving as deduct or extra compensation rates.

And We (or I) do hereby agree that in the event of failure on OUR part to contract as aforesaid (provided this Proposal is accepted) the Bid Bond, Check or Letter of Credit accompanying this Proposal shall be forfeited to the Owner as liquidated damages for the difference between this bid and the awarded Contract price, not to exceed the amount of bond. We further agree that the Owner may reject any or all bids.

By signature below, I hereby certify that **I AND MY Insurance Agent have examined the insurance requirements** in the specifications and that the types and amounts of same are currently in effect or will be obtained and kept in effect for the project duration and that my Insurance Agent has assured that notification of non-renewal, policy modification, and/or cancellation to all certificate holders will occur per the contract requirements. Verification will be provided to the Owner subsequent to the issuance of a Notice of Award.

BF.10

Submitted by,

Great Lakes Crushing, Ltd	Alec M. Belich/Member	440-944-5500
Firm, Corporation, or Individual	Officer's Name and Title (typed)	Telephone Number
30831 Euclid Avenue		440-944-9999
Street Address	Officer's Signature	Fax Number
Willocick, Ohio 44092	October 3, 2025	glcoffice1996@gmail.com
City, State, Zip Code	Date	E-Mail Address
	52-398448	34-1839641
Unique Identify ID Number	Ohio Secretary of State ID Number	Federal Tax ID Number

Note: Evidence of authority to sign must be affixed and attested by the Secretary.

COMPLETION DATE: DECEMBER 31, 2027

LIQUIDATED DAMAGES: PER O.D.O.T. TABLE 108.07-1 SCHEDULE OF LIQUIDATED DAMAGES

Proposal to Ashtabula Co. Bd. of Commissioners
For South River Road Waterline Extension Phase 2
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	33.00	SY	$ 175.00	$ 175.00	$ 350.00	$ 11,550.00
2	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN	144.00	SY	$ 145.00	$ 135.00	$ 280.00	$ 40,320.00
3	(SPC) TYPE "F" PAVEMENT REPLACEMENT (STONE), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN	1,283.00	SY	$ 72.00	$ 12.00	$ 84.00	$ 107,772.00
4	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	2.00	EACH	$ 8,300.00	$ 2,900.00	$ 11,200.00	$ 22,400.00
5	(638) 6 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN	7,162.00	FT	$ 40.00	$ 30.00	$ 70.00	$ 501,340.00
6	(638) 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN	8,000.00	FT	$ 40.00	$ 40.00	$ 80.00	$ 640,000.00
7	(638) 6 INCH GATE VALVE AND VALVE BOX, AS PER PLAN	6.00	EACH	$ 1,725.00	$ 1,900.00	$ 3,625.00	$ 21,750.00
8	(638) 8 INCH GATE VALVE AND VALVE BOX	5.00	EACH	$ 1,725.00	$ 2,710.00	$ 4,435.00	$ 22,175.00
9	(638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, TYPE B, AS PER PLAN	19.00	EACH	$ 3,460.00	$ 9,093.00	$ 12,553.00	$ 238,507.00
10	(SPC) LAWN RESTORATION (GRADING, SEEDING, & MULCHING)	1.00	LS	$ 60,000.00	$ 75,000.00	$ 135,000.00	$ 135,000.00
			INFORMAL TOTAL BID		**$**		**1,740,814.00**

BF.11A

Proposal to Ashtabula Co. Bd. of Commissioners
For South River Road Waterline Extension Phase 2
Part B2 - South Broadway
Project No. 241222

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	30.00	SY	$ 175.00	$ 175.00	$ 350.00	$ 10,500.00
2	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN	36.00	SY	$ 145.00	$ 135.00	$ 280.00	$ 10,080.00
3	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	2.00	EACH	$ 8,300.00	$ 2,900.00	$ 11,200.00	$ 22,400.00
4	(638) 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN	1477.00	FT	$ 40.00	$ 40.00	$ 80.00	$ 118,160.00
5	(638) 8 INCH GATE VALVE AND VALVE BOX	1.00	EACH	$ 1,725.00	$ 2,710.00	$ 4,435.00	$ 4,435.00
6	(638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, TYPE B, AS PER PLAN	1.00	EACH	$ 3,460.00	$ 9,093.00	$ 12,553.00	$ 12,553.00
7	(SPC) LAWN RESTORATION (GRADING, SEEDING, & MULCHING)	1.00	LS	$ 7,000.00	$ 8,000.00	$ 15,000.00	$ 15,000.00
			INFORMAL TOTAL BID		**$**		**193,128.00**

BF.12

The Bidder hereby acknowledges that they have reviewed the following addenda:

Addendum No.	1	2				
Date:	9/22/2025	9/30/2025				

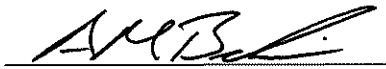
The undersigned, having full knowledge of the plans and specifications for the improvements and the conditions of the Proposal hereby agree to furnish all the services, labor, materials, and equipment necessary to complete the work according to the plans and specifications and to accept as full compensation the lump sum or the unit prices specified serving as deduct or extra compensation rates.

And We (or I) do hereby agree that in the event of failure on OUR part to contract as aforesaid (provided this Proposal is accepted) the Bid Bond, Check or Letter of Credit accompanying this Proposal shall be forfeited to the Owner as liquidated damages for the difference between this bid and the awarded Contract price, not to exceed the amount of bond. We further agree that the Owner may reject any or all bids.

By signature below, I hereby certify that **I AND MY Insurance Agent have examined the insurance requirements** in the specifications and that the types and amounts of same are currently in effect or will be obtained and kept in effect for the project duration and that my Insurance Agent has assured that notification of non-renewal, policy modification, and/or cancellation to all certificate holders will occur per the contract requirements. Verification will be provided to the Owner subsequent to the issuance of a Notice of Award.

BF.13

Submitted by,

Great Lakes Crushing, Ltd	Alec M. Belich/Member	440-944-5500
Firm, Corporation, or Individual	Officer's Name and Title (typed)	Telephone Number
30831 Euclid Avenue		440-944-9999
Street Address	Officer's Signature	Fax Number
Willocick, Ohio 44092	October 3, 2025	glcoffice1996@gmail.com
City, State, Zip Code	Date	E-Mail Address
	52-398448	34-1839641
Unique Identify ID Number	Ohio Secretary of State ID Number	Federal Tax ID Number

Note: Evidence of authority to sign must be affixed and attested by the Secretary.

COMPLETION DATE: SEPTEMBER 25, 2026

LIQUIDATED DAMAGES: PER O.D.O.T. TABLE 108.07-1 SCHEDULE OF LIQUIDATED DAMAGES

ACKNOWLEDGEMENT OF
AMERICAN RESCUE PLAN ACT FUNDING AND
COMPLIANCE BY CONTRACTORS

The bidder hereby acknowledges that this project is a federally funded project with funds from the American Rescue Plan Act of 2021 ("ARPA" or the "Act"), that funding is contingent upon compliance with all terms and conditions of the ARPA funding award, and that the bidder agrees to comply with all of the terms and conditions of the ARPA funding award and the terms and conditions in the Procurement Standards codified in 2 C.F.R. 200.317 through 200.326 and as outlined in the Federally Required Contract Provisions contained in Bid Document - Federal Grant Compliance - American Rescue Plan Act of 2021.

Signature

10/3/2025
Date

Member
Title

Great Lakes Crushing, Ltd.
Company

BYRD ANTI-LOBBYING AMENDMENT CERTIFICATION

(To be submitted with each bid or offer exceeding $100,000)

The undersigned, Alec M. Belich of Great Lakes Crushing, Ltd.
(the "Company") hereby certifies, to the best of his or her knowledge, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Company certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 et seq., apply to this certification and disclosure, if any.



Signature of Company Authorized Official

Alec M. Belich/ Member — 10/3/2025

Name and Title of Company Authorized Official — Date

Contractor Equal Employment Opportunity Certification

During the performance of this contract, the undersigned agrees as follows:

1. The undersigned will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The undersigned will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The undersigned agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this equal opportunity (federally assisted construction) clause.

2. The undersigned will, in all solicitations or advertisements for employees placed by or on behalf of the undersigned, state the all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

3. The undersigned will send to each labor union or representative of workers, with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the undersigned's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4. The undersigned will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

5. The undersigned will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and relevant orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency of the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

6. In the event of the undersigned's non-compliance with the equal opportunity (federally assisted construction) clause of this contract of with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part, and the undersigned may be declared ineligible for further Government contracts of federally assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No 11246 of September 24, 1965, or by rules, regulations, or order of the Secretary of Labor, or as provided by law.

7. The undersigned will include this equal opportunity (federally assisted construction) clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No 11246 of September 24, 1965, so that such provision will be binding upon each subcontract or vender. The undersigned will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non compliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor, as a result of such direction by the administering agency the undersigned may request the United States to enter into such litigation to protect the interest of the United States.



10/3/2025

(Signature) (Date)

Alec M. Belich

(Name and Title of Signer, Please type)

Great Lakes Crushing, Ltd.

(Firm Name)

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal of State antitrust statues or commission if embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) of this certification;

(d) Have not within a three year period preceding this application / proposal had one or more public transactions (Federal, State, or local) terminated for cause or default; and

(e) Will not utilize a subcontractor or supplier who is unable to certify (a) through (d) above.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.

Alec M. Belich

Type Name & Title of Authorized Representative



Signature of Authorized Representative

October 3, 2025

Date

☐ I am unable to certify to the above statements. My explanation is attached.

OEPA DBE PROGRAM

MBE/WBE DATA SHEET I

MINORITY AND WOMEN'S BUSINESS ENTERPRISE FAIR SHARE UTILIZATION

1. Does Bidder intend to meet the "fair share" goal by subcontracting to MBE and WBE for at least the following minimum amounts?

   The current negotiated goal for construction related activities is 5.4% (the total goal is based on 3.1% of MBEs and 2.3% of WBEs participation).

   MBE - 3.1% **WBE - 2.3%**

   ☑ Yes

   ☐ No

2. If the Bidder cannot meet or can only partially meet the fair share goals, provide a narrative summary of the Bidder's good faith efforts prior to and after the bid opening to achieve the stated goal.

3. Name, address, and telephone number of person to contact on all MBE/WBE matters.

   Name: Alec Belich

   Address: 30831 Euclid Avenue, Willowick, Ohio 44092

   Telephone Number: 440-944-5500

   Email Address: glcoffice1996@gmail.com

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form

This form is intended to capture the DBE[1] subcontractor's[2] description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name Jab Supply		Project Name Harperfield Water Tank & Water Line Improvem
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact Pat Kral
Address 30155 Euclid Avenue		
Telephone No. 440-585-1010		Email Address csm.jabsupply@gmail.com
Prime Contractor Name Great Lakes Crushing		Issuing/Funding Entity: NEORSD

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services , Equipment or Supplies	Price of Work Submitted to the Prime Contractor
Various	Trucking & Aggregate Supply	$200,000.00

DBE Certified By: ◯ ODOT ◯ DAS/EDGE ◯ Other: NEORSD	Meets/ exceeds EPA certification standards? ◯ YES ◯ NO ◯ Unknown

Check Which One Applies: ☑ MBE ☐ WBE (Include MBE/WBE Certificates, No DBE Certs)

[1] A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2] Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

FORM 6100-3 (DBE Subcontractor Performance Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 I.

Prime Contractor Signature	Print Name
[signature]	Alec M. Belich
Title	**Date**
Member	10/3/2025

Subcontractor Signature	Print Name
[signature]	Pat Kral
Title	**Date**
	9/30/2025

Certified Profile

CLOSE WINDOW

Print

Business & Contact Information

BUSINESS NAME	**JAB Supply, Corp.**
OWNER	**Ms. Julie Belich**
ADDRESS	**30155 Euclid Avenue** **Wickliffe, OH 44092 [map]**
PHONE	**440-487-8726 Ext. 0**
EMAIL	**jabsupply@gmail.com**

Certification Information

CERTIFYING AGENCY	**Northeast Ohio Regional Sewer District**
CERTIFICATION TYPE	**WBE - Women Business Enterprise**
CERTIFIED BUSINESS DESCRIPTION	**Trucking for hire, transportation of construction material and disposal of construction debris, and truck broker; Other building materials and Welding/Fabrication/Steel sales**

Commodity Codes

Code	Description
NAICS 484110	General freight trucking, local
CVC 083	Material Suppliers - Aggregates
CVC 085	Material Suppliers – Carpentry/Millwork
CVC 086	Material Suppliers – Concrete/Cement/Grout
CVC 121	Trucking/Hauling
NAICS 327320	Ready-Mix Concrete Manufacturing
NAICS 484220	Dump trucking (e.g., gravel, sand, top-soil)
NAICS 484220	Specialized Freight (except Used Goods) Trucking, Local

This profile was generated on 10/8/2025

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form

This form is intended to capture the DBE[1] subcontractor's[2] description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name		Project Name
ALL CONTRACTORS SUPPLY LLC		HARPERFIELD WATER TANK & WATERLINE IMP.
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact: DAN GILMORE
Address: 7750 DIVISION DRIVE MENTOR OHIO 44060		
Telephone No.: 440.290.0703		Email Address: DG@ALLCONTRACTORSSUPPLY.COM
Prime Contractor Name: GREAT LAKES CRUSHING LLC		Issuing/Funding Entity:

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor
VARIOUS	MATERIAL SUPPLIER.	$150,000.00

DBE Certified By:	Meets/ exceeds EPA certification standards?
◉ ODOT ◉ DAS/EDGE	○ YES ○ NO ◉ Unknown
○ Other: _____	

Check Which One Applies: _____ MBE ✓ WBE (Include MBE/WBE Certificates, No DBE Certs)

[1] A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2] Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

FORM 6100-3 (DBE Subcontractor Performance Form

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 I.

Prime Contractor Signature	Print Name
[signature]	ALEC M. BELICH
Title	**Date**
MEMBER	

Subcontractor Signature	Print Name
Dan Gilmore	DAN GILMORE
Title	**Date**
OPERATIONS MANAGER	10/8/2025

Women Business Enterprise
Certification Letter

October 22, 2024

Kimberly Gilmore, President
ALL CONTRACTORS SUPPLY LLC
7750 Division Drive
Mentor, OH 44060

CERTIFICATION NUMBER: WBE - 202409-16945
Effective Dates: October 22, 2024-October 22, 2026

Dear Kimberly Gilmore, President:

The Ohio Department of Development (Development) has reviewed your application to obtain certification as a Women Business Enterprise (WBE) in Ohio. Having satisfied the requirements set forth in Section 123:2-14 of the Ohio Administrative Code (OAC) as required, we are pleased to inform you that ALL CONTRACTORS SUPPLY LLC is hereby certified by as a WBE.

This certification letter shall serve as the State's official certification to this effect.

As a certified WBE, ALL CONTRACTORS SUPPLY LLC must inform Development in writing (letter or email) within 30 days of any occurrence of material change(s). A material change is defined as any change in circumstances affecting the business or the at least 51 percent eligible owner(s), including but not limited to current contact information, changes in ownership, business structure, independence, managerial and/or operational control, or any change in the information provided in its application including changes in management responsibility among owner(s) of the certified business. Similar notification must be provided to Development of any changes to the company's name, business address, email address, telephone numbers, principal products/service, or other basic contact and commercial activity information. For additional information, please refer to OAC 123:2-14-01, 123:2-14-02, and 123:2-07. Failure to notify Development of any material change is cause for revocation of ALL CONTRACTORS SUPPLY LLC's WBE certification.

Re-certification may be done up to one month prior to the expiration date of this certification. At that time, ALL CONTRACTORS SUPPLY LLC must submit a completed Re-certification Application for Development's review relative to ALL CONTRACTORS SUPPLY LLC's eligibility for continued participation in the WBE program.

If you need any assistance or have questions about the WBE program, please contact Development's Minority Business Certification and Compliance Unit at 614-466-5700.

Congratulations on your certification as a WBE and thank you for choosing to do business in Ohio.

Sincerely,

Monica L. Womack
Chief, Minority Business Development Division

Ohio Unified Certification Program

OHIO DEPARTMENT OF TRANSPORTATION

WWW.OHIOUCP.ORG

Certified Disadvantaged Business Enterprise

All Contractors Supply LLC

AWP Vendor ID: 0314055144

This certificate acknowledges that, on the date this certificate was printed, the above named firm was eligible to participate as a Disadvantaged Business Enterprise (DBE) in Ohio and was certified to perform the following types of work as a DBE:

NAICS Code	NAICS Title/Descriptor	Effective Date
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	(*)
	Grout Wholesaling - (MSV)	05/21/2021
423330	Roofing, Siding, and Insulation Material Merchant Wholesalers	(*)
	Insulation Wholesaling - (MSV)	05/21/2021
423390	Other Construction Material Merchant Wholesalers	(*)
	Detectable Warning (ADA) Panels/Mats Wholesaling - (MSV)	05/21/2021
	Silt Fence, Netting, and Other Fabrics for Erosion Control Wholesaling - (MSV)	05/21/2021
423510	Metal Service Centers and Other Metal Merchant Wholesalers	05/31/2022
423990	Other Miscellaneous Durable Goods Merchant Wholesalers	(*)
	Channelizing Devices for Temporary Traffic Control (e.g., Cones, Tubular Markers, Vertical Panels, Drums, Barricades) Wholesaling - (MSV)	05/21/2021
	Safety Devices (e.g., Eye Shields, Face Shields) Wholesaling - (MSV)	05/21/2021
424610	Plastics Materials and Basic Forms and Shapes Merchant Wholesalers	11/01/2022
424690	Other Chemical and Allied Products Merchant Wholesalers	05/31/2022
425120	Wholesale Trade Agents and Brokers	(*)
	Wholesale Trade Agents and Brokers (other than Petroleum and Petroleum Products Agents and Brokers)	07/16/2019
484220	Specialized Freight (except Used Goods) Trucking, Local	(*)
	Specialized Freight (except Used Goods) Trucking, Local (excluding Dump Trucking and Tanker Trucking)	05/21/2021

(*) - This denotes that the firm is certified in one or more descriptors under this NAICS code, but not in the code as a whole.

Ohio Unified Certification Program

OHIO DEPARTMENT OF TRANSPORTATION

WWW.OHIOUCP.ORG

To verify the above named firm's eligibility to participate as a DBE/ACDBE in Ohio and the work types in with the above named firm is currently certified, check the Ohio Unified DBE Directory at www.ohioucp.org.

Date Printed: October 08, 2025

Original Certification Date: July 18, 2016

(*) - This denotes that the firm is certified in one or more descriptors under this NAICS code, but not in the code as a whole.

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form

This form is intended to capture the DBE[1] subcontractor's[2] description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name: All Contractors Supply LLC		Project Name:
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact: Dan Gilmore
Address: 7750 Division Dr, Mentor, OH 44060		
Telephone No.: (440) 290-8703		Email Address: dgw@allcontractorssupply.com
Prime Contractor Name		Issuing/Funding Entity:

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor
DBE Certified By: ✓ ODOT ✓ DAS/EDGE O Other: _____		Meets/ exceeds EPA certification standards? O YES O NO ✓ Unknown

[1] A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2] Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

FORM 6100-3 (DBE Subcontractor Performance Form .

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 I.

Prime Contractor Signature	Print Name
[signature]	ALEC M. BELICH
Title	**Date**
MEMBER	10/3/2025

Subcontractor Signature	Print Name
[signature]	DAN Gilmore
Title	**Date**
Operations Manager	9/29/2025

FORM 6100-3 (DBE Subcontractor Performance Form)

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE[1] subcontractors[2] and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name
Great Lakes Crushing, Ltd		Harperfield Water Tank & Water Line Improvem
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact Alec Belich
Address 30831 Euclid Avenue Willowick, Ohio 44092		
Telephone No. 440-944-5500		Email Address glcoffice1996@gmail.com
Issuing/Funding Entity:		

I have identified potential DBE certified subcontractors	☑ YES	☐ NO
If yes, please complete the table below. If no, please explain:		

Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt.	Currently DBE Certified?
JAb Supply	30155 Euclid Avenue Wickliffe, Ohio 44092	$200,000.00	Yes
All Contractors Supply	7700 Division St. Mentor, Ohio 44060	$150,000.00	Yes

Continue on back if needed

[1] A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2] Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 I.

Prime Contractor Signature	Print Name
[signature]	ALEC M. BELICH
Title	**Date**
MEMBER	10.3.2025

AMERICAN IRON AND STEEL ACKNOWLEDGEMENT

The Contractor acknowledges to and for the benefit of the Ashtabula Co. Board of Commisioners ("Purchaser") and the State of Ohio (the "State") that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.



Signature

October 3, 2025
Date

Alec M. Belich
Name and Title of Authorized Signatory, Please Print or Type

Great Lakes Crushing, Ltd.
Bidder's Firm

☐ Check here if the WPCLF or WSRLA applicant will be requesting an individual waiver for non-American made iron and steel products. Please note that the waiver box does not need to be marked for nationwide waivers.

BYRD ANTI-LOBBYING AMENDMENT CERTIFICATION

(To be submitted with each bid or offer exceeding $100,000)

The undersigned, Member of Great Lakes Crushing, Ltd.
(the "Company") hereby certifies, to the best of his or her knowledge, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Company certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 et seq., apply to this certification and disclosure, if any.



Signature of Company Authorized Official

Alec M. Belich / Member — 10/3/2025

Name and Title of Company Authorized Official — Date

verdantas

To: All Plan Holders of Record

From: Verdantas LLC
For the Owner

Re: ***Addendum No. 1***
Contract A - Harpersfield Water Tank & Waterline Improvements
Contract B - South River Road Waterline Extension Phase 2
Ashtabula County Board of Commissioners

Date: September 22, 2025

This Addendum forms a part of the contract documents and modifies the original bidding documents dated September 2025 and all previous addenda, if any. Acknowledge receipt of this addendum in the space provided in the bid forms. Failure to do so may subject the bidder to disqualification.

BID OPENING DATE

The date of receiving and opening bids shall be changed from September 26, 2025 to October 3, 2025. The time and place shall remain the same.

OPINION OF PROBABLE CONSTRUCTION COST

The Opinion of Probable Construction Cost for Contract A – Alternate - Glass Fused to Steel Bolted Elevated Tank & Waterline shall be $4,321,000.00.

QUESTIONS AND ANSWERS

Q1. What is the requirement for backfill along the new waterline extension for Contract B?

A1. Final backfill in the Trenching, Embedment, and Backfill details on Sheet 9 of 43 is to read:

> 4. FINAL BACKFILL: IN ALL AREAS PARALLEL TO THE ROAD AT A MINIMUM OF 3-FEET FROM EDGE OF PAVEMENT, FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER. ALL AREAS UNDER PAVEMENT OR STRUCTURES SHALL BE SPECIAL BACKFILL MATERIAL.

Q2. Specification 323113 calls for 6' fence height + 3 stands of barb wire while Sheet 16 calls for 8' fence height + 3 stands barb wire, which is correct?

A2. 8' high fence and 3 strands of barbed wire.

verdantas

To: All Plan Holders of Record

From: Verdantas LLC
For the Owner

Re: ***Addendum No. 2***
Contract A - Harpersfield Water Tank & Waterline Improvements
Contract B - South River Road Waterline Extension Phase 2
Ashtabula County Board of Commissioners

Date: September 30, 2025

This Addendum forms a part of the contract documents and modifies the original bidding documents dated September 2025 and all previous addenda, if any. Acknowledge receipt of this addendum in the space provided in the bid forms. Failure to do so may subject the bidder to disqualification.

QUESTIONS AND ANSWERS

Q1. Are the inlet and overflow pipes supposed to be stainless steel?
A1. Yes, Inlet and overflow pipes shall be stainless Steel.

Q2. I cannot find the liquidated damages.
A2. Liquidated damages for this project shall follow the schedule set by ODOT, found in Table 108.07-1: SCHEDULE OF LIQUIDATED DAMAGES. This is a reference from the Construction and Material Specifications Book.

Q3. Is the roof manhole, access tube manhole, and exhaust fan manhole 24" or 30"?
A3. The exhaust fan manhole is 24" diameter. The roof manhole and access tube manholes shall be 30" diameter.

Q4. Can you please highlight what other room is available around the tank for use with laydown?
A4. Please see attached photo from the County GIS website, detailing the entirety of the parcel. The County owns the entirety of the subject parcel and the open areas around the proposed site area can be utilized for laydown. Please provide an exhibit of the intended laydown scheme with the Owner at the pre-construction meeting.

Bid Forms
Contract B
Rudzik Excavating

FORM OF NONCOLLUSION AFFIDAVIT

STATE OF Ohio)

) SS

COUNTY OF Mahoning)

Jeffrey Rudzik, being first duly sworn, deposes and says that
(Individual Name)

he/she is President of Rudzik Excavating, Inc.
(Sole Owner, Partner, President, Secretary, etc.) (Corporation Name)

the party making the proposal or bid; that such bid is genuine and not collusive or sham; that said Bidder has not colluded, conspired, connived, or agreed, directly or indirectly with any Bidder or other person, to put in a sham bid, or that such Bidder or other person shall refrain from bidding, and has not in any manner, directly or indirectly sought by agreement or collusion or communication or conference, with any person, to fix the bid price of affiant or any other Bidder, or to fix any overhead, profit, or cost element of said Bid price, or of that of any other Bidder, or to secure any advantage against the Owner, or any person interested in the proposed Contract; that such bidder is the only party (or parties) who has an interest with the bidder in the profits of any contract which may result from the herein contained proposal; that no individual affiliated with the Owner, including but not limited to the head of any department, any employee, or any other official or officer of the Owner, is or will be directly or indirectly interested in this bid, and/or the profits from this bid if successful; that no individual affiliated with the Owner, including but not limited to the head of any department, any employee, or any other official or officer of the Owner, has or will receive anything of value as a result of the submission of this bid or its award; that no individual affiliated with the Owner, including but not limited to the head of any department, any employee, or any other official or officer of the Owner, has been solicited to provide assistance and/or provided assistance to the bidder which might give the bidder a competitive advantage or circumvent the competitive bidding process; and that all statements contained in said proposal or bid are true; and further, that such Bidder has not, directly or indirectly submitted this Bid, or the contents thereof, or divulged information or data relative thereto to any association or to any member or agent thereof.

Affiant Jeffrey Rudzik, President

Subscribed and sworn to before me this 3rd day of October, 2025.

Heidi Smith
Notary Public

My Commission Expires: May 24, 2027

NOTARIAL SEAL STATE OF OHIO

Heidi Smith
Notary Public, State of Ohio
My Commission Expires:
May 24, 2027

CORPORATE RESOLUTION

I, BONNIE L. RUDZIK,
(Individual Name)

Secretary of RUDZIK EXCAVATING, INC. an OHIO Corporation
(Corporation Name) (State)

hereby certify that the Board of Directors of said Corporation on the 22ND day of OCTOBER, 2024, adopted a resolution authorizing the PRESIDENT of this
(Corporation Title, i.e., President, Vice President, etc.)

Company, namely, JEFFREY RUDZIK, to sign bid proposals, sign and
(Individual Name)

enter into any and all contracts and other instruments, sign and/or authorize bid guaranty and performance bonds for the purpose of furnishing labor and materials at such price and upon such terms and conditions, including any amendments or modifications thereto, as said PRESIDENT in their sole discretion shall deem best, and that said actions
(Corporation Title, i.e., President, Vice President, etc.)

shall be binding upon the Corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at STRUTHERS, OHIO this 3RD day
(City) (State)

of OCTOBER, 2025, and I further certify that said resolution is still in full force and effect.

Corporate Secretary
BONNIE L. RUDZIK

PROPOSED SUBCONTRACTORS

The Bidder is required to state in the spaces provided below, the Subcontractors they propose to use to accomplish the work under this Contract. The items and specific amounts of work assigned to each listed Subcontractor shall also be outlined. Duplicate this sheet as needed.

1. Name: None

   Address: _____

   City/State/Zip: _____

   Description: _____

   _____

   Phone: ( ) _____ Amount: $ _____ % of Contract: _____

   EIN# _____ Unique Entity ID# _____ CAGE CODE _____

2. Name: _____

   Address: _____

   City/State/Zip: _____

   Description: _____

   _____

   Phone: ( ) _____ Amount: $ _____ % of Contract: _____

   EIN# _____ Unique Entity ID# _____ CAGE CODE _____

3. Name: _____

   Address: _____

   City/State/Zip: _____

   Description: _____

   _____

   Phone: ( ) _____ Amount: $ _____ % of Contract: _____

   EIN# _____ Unique Entity ID# _____ CAGE CODE _____

4. Name: _____

   Address: _____

   City/State/Zip: _____

   Description: _____

   _____

   Phone: ( ) _____ Amount: $ _____ % of Contract: _____

   EIN# _____ Unique Entity ID# _____ CAGE CODE _____

EXPERIENCE RECORD

The Bidder is required to state the character of previous work, give references, and such other detailed information as will enable the Owner to determine capability, responsibility, experience, skill, and financial standing. ***Provide data for the last five (5) years.*** Duplicate this sheet as needed. **Information submitted in an alternate format MUST contain all the information requested on this page.**

Project Name: WATER MAIN REPLACEMENT PHASE II

Description/Scope of Bidder's REPLACE WATER MAIN

On this project you were a X Prime Contractor **OR** ___ Sub Contractor to ___

Year: 2022 Your Contract or

Total Project Cost: $ 5,885,707 Subcontract Amount: $ 6,944,671

% Complete (if in progress) ___ % or Date Completed (if 10/2022

Project Owner: BELMONT COUNTY COMMISSIONERS

Owner Contact: KELLY PORTER Phone: (740) 695-3144

Engineer/Arch. Firm: POGGEMEYER DESIGN

Engineer/Arch. Contact: THOMAS J. BORCK, P.E. Phone: (419) 352-7537

Your Bonding Company on this project (if any): WESTERN SURETY COMPANY

Project Name: 16" RAW WATER TRANSMISSION MAIN

Description/Scope of Bidder's REPLACE OVER 22,000' OF 16" WATER LINE + INSTALL PUMP STATION

On this project you were a X Prime Contractor **OR** ___ Sub Contractor to ___

Year: 2023 Your Contract or

Total Project Cost: $ 4,665,531 Subcontract Amount: $ 5,969,329

% Complete (if in progress) ___ % or Date Completed (if 1/2024

Project Owner: VILLAGE OF BARNESVILLE

Owner Contact: ROGER DEAL Phone: (740) 425-1880

Engineer/Arch. Firm: SANDS DECKER CPS, LLC

Engineer/Arch. Contact: SCOTT SANDS Phone: (740) 450-1640

Your Bonding Company on this project (if any): WESTERN SURETY COMPANY

Project Name: 2022-2023 WATERLINE IMPROVEMENT PROJECT

Description/Scope of Bidder's INSTALL @ 20,000' OF 8" WATER MAIN

On this project you were a X Prime Contractor **OR** ___ Sub Contractor to ___

Year: 2024 Your Contract or

Total Project Cost: $ 6,001,427 Subcontract Amount: $ 1,575,769

% Complete (if in progress) ___ % or Date Completed (if complete): 10/2024

Project Owner: BOROUGH OF SHARPSVILLE

Owner Contact: KENNETH ROBERTSON Phone: (724) 962-7896

Engineer/Arch. Firm: THE EADS GROUP, INC.

Engineer/Arch. Contact: MATTHEW HARPER, P.E. Phone: (814) 944-5035

Your Bonding Company on this project (if any): WESTERN SURETY COMPANY

BIDDER'S INSURANCE AGENT'S AFFIDAVIT

PROJECT: Harpersfield Water Tank and South River Road Waterline

OWNER: Ashtabula County Board of Commissioners

I, THOMAS J LITMAN (Insurance Agent's Name), OWNER (Title), first being duly sworn do state the following:

(a) that I have reviewed the insurance requirements in the bid documents and have noted therein the requirements on insurance including any policy modifications, cancellation and non-renewal provisions, and any additional policies or endorsements needed;

(b) that I am familiar with the insurance that RUDZIK EXCAVATING INC. (Bidder's Company Name) has in force, and that its insurance meets the contract insurance requirements or that it can be amended or endorsed to meet the contract insurance requirements (with standard industry exclusions) until the current policy expiration or until cancelled with notice per the specifications or additional policies and/or endorsements can be provided to the Contractor;

(c) that all additional policies and/or endorsements required in the specifications are available;

(d) that if an award of contract is made to the Bidder an insurance certificate(s) [most current version ACORD 25] and/or binder(s) which fully complies with all insurance requirements in the contract will be issued within three (3) business days of notification from the contractor and the contractor approving any additional policies or endorsements needed to fully comply with the insurance requirements in the contract;

(e) that I have advised my client of the cost of all additional policies, amendments, and/or endorsements so that he can include same in their bid;

(f) that the cancellation clause in the policy meets the specifications or that it can be amended by an endorsement;

(g) that this document neither affirmatively or negatively amends, extends or alters the terms of or coverage afforded by the policy referenced herein.

Further, Affiant sayeth naught.

(Agent's Signature)

THOMAS J LITMAN
(Agent's Name)

SEPTEMBER 29, 2025
Date

LITMAN INSURANCE AGENCY
Agency Name

1113 ST RT 7 SE
Agency Address

HUBBARD OH 44425
Agency City, State and Zip Code

330-448-2300 (Phone) 330-448-2336 (Fax)

litmaninsurance@yahoo.com
(E-mail)

SUPPLEMENTAL BOND ACKNOWLEDGEMENT

(This is not a Bond form)

PROJECT: Harpersfield Water Tank and South River Road Waterline

OWNER: Ashtabula County Board of Commissioners

If the bidder submits a Bid Guaranty and Contract Bond (AKA Rollover or Bid/ Performance/ Payment/ Warranty Bond) per O.R.C. Sections 153.54 and 153.571 the following shall be completed, signed, and submitted with the bid:

By submission of the attached bid and these presents, the undersigned bidder and their surety hereby acknowledge that the attached Bond shall cover and warrant all work for the correction period per the General Conditions and as supplemented or amended elsewhere in these Contract Documents, which period is Two (2) years commencing on the final acceptance of the work by Owner. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the project or part of the project is located.

	BIDDER		**SURETY**
BIDDER:	RUDZIK EXCAVATING, INC.	SURETY:	Western Surety Company
SIGNATURE:		SIGNATURE:	Laura M. Batchelder
NAME:	JEFFREY RUDZIK	NAME:	Laura M. Batchelder
TITLE:	PRESIDENT	TITLE:	Attorney-in-Fact
DATE:	OCTOBER 3, 2025	DATE:	10/3/25
PHONE NO.:	330-755-1540	PHONE NO.:	614-764-0121

*Attach Power of Attorney

If the Bidder submits a Certified or Cashier's check, Irrevocable Letter of Credit and is awarded a contract by the Owner, the following shall be completed, signed, and submitted with the Contract Bond (AKA Performance/Payment/Warranty Bond) per ORC Sections 153.54 and 153.57.

By signature of the attached Contract and these presents the undersigned contractor and their surety acknowledge that the attached Bond shall cover and warrant all work for the correction period per the General Conditions and as supplemented or amended elsewhere in these Contract Documents, which period is Two (2) years commencing on the final acceptance of the work by Owner. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the project or part of the project is located.

	BIDDER		**SURETY**
BIDDER:		SURETY:	
SIGNATURE:		SIGNATURE:	
NAME:		NAME:	
TITLE:		TITLE:	
DATE:		DATE:	
PHONE NO.:		PHONE NO.:	

*Attach Power of Attorney

BID SECURITY

CONTRACTOR SHALL INSERT ONE OF THE FOLLOWING FORMS OF BID SECURITY BEHIND THIS PAGE AND SUBMIT WITH THE BID.
(Made payable to the Owner)

CERTIFIED OR CASHIER'S CHECK FOR 10% OF THE AMOUNT BID

OR

IRREVOCABLE LETTER OF CREDIT FOR 10% OF THE AMOUNT BID

OR

BID GUARANTEE AND CONTRACT BOND

(BID/PERFORMANCE/PAYMENT" BOND, a.k.a., "ROLLOVER BOND")

FOR 100% OF THE AMOUNT BID INCLUDING ALL ALTERNATES

PER O.R.C. SECTIONS 153.54 AND 153.571

Notes:

1) A bond form is intentionally not included in the bid form package. The Surety Agent shall supply a bond with language that meets O.R.C. 153.571. If the Surety does not have one, a blank master is available at https://bids.ctconsultants.com .

2) Standalone Bid Bonds do not comply with this Bid Security requirement.

3) **The bid documents contain bid forms for two (2) separate contracts.**
The bidder must submit a separate bid security (cashier's check, irrevocable letter of credit, or ORC 153.571 bond) for each contract bid.

BID GUARANTY AND CONTRACT BOND

(SECTION 153.571 OHIO REVISED CODE)

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned **RUDZIK EXCAVATING, INC., 401 LOWELLVILLE ROAD P.O. BOX 206, STRUTHERS, OHIO 44471**
(Name and Address)
as Principal and **WESTERN SURETY COMPANY** as Surety, are hereby held and firmly bound unto **BROOKFIELD TOWNSHIP 6844 STRIMBU DRIVE BROOKFIELD, OHIO 44403** as Obligee in the penal sum of the dollar amount of the bid submitted by the Principal to the Obligee on **OCTOBER 3rd**, 2025 to undertake the Project known as:

ASHTABULA COUNTY BOARD OF COMMISSIONERS
CONTRACT B – SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2

The penal sum referred to herein shall be the dollar amount of the Principal's bid to the Obligee, incorporating any additive or deductive alternate proposals made by the Principal on the date referred to above to the Obligee, which are accepted by the obligee, in no case shall the penal sum exceed the amount of _____ dollars ($_____)
(If the above line is left blank, the penal sum will be full amount of the Principal's bid, including alternates. Alternatively, if completed, the amount stated must not be less than the full amount of the bid, including alternates, in dollars and cents. A percentage is not acceptable.) For the payment of the penal sum well and truly to be made, we hereby jointly and severally bind ourselves our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above named Principal has submitted a bid on the above referred project;

NOW, THEREFORE, if the Obligee accepts the bid of the Principal and the Principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications and bills of material; and in the Principal pays to the Obligee the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid and such larger amount for which the Obligee may in good faith contract with next lowest bidder to perform the work covered by the bid; or in the event the Obligee does not award the contract to the next lowest bidder and resubmits the project for bidding the Principal will pay the Obligee the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising and printing and mailing notices to prospective bidder's whichever is less, then this obligation shall be void, otherwise to remain in full force and effect. If the Obligee accepts the bid of the Principal and the Principal with ten days after the awarding of the contract, enters into a proper contract in accordance with the bid, plans, details, specifications and bills of material, which said contract is made a part of this bond the same as though set forth herein; and

IF THE SAID Principals shall well and faithfully perform each and every condition of such contract; and indemnify the Obligee against all damage suffered by failure to perform such contract according to the provisions thereof and in accordance with the plans, details, specification, and bills of material therefor; and shall pay all lawful claims of subcontractors, materialmen and laborers, for labor performed and materials furnished in the carrying forward, performing or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any materialmen or laborer having a just claim, as well as for the Obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID Surety hereby stipulates and agrees that no modification, omissions, or additions, in or to the terms of said contract or in or to the plans and specifications therefore shall in any wise affect the obligations of said Surety on this bond, and it does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

SIGNED AND SEALED this **3rd** day of **OCTOBER** 2025.

PRINCIPAL:
RUDZIK EXCAVATING, INC.

BY: _____
TITLE: JEFFREY RUDZIK, PRESIDENT

SURETY:
WESTERN SURETY COMPANY

BY: Laura M. Batchelder
LAURA M. BATCHELDER / Attorney-in-Fact

SEC. 9.32 REQUIRES AWARDING AUTHORITIES, SIMULTANEOUSLY WITH NOTICE OF AWARD TO CONTRACTOR, TO GIVE WRITTEN NOTICE TO SURETY AND AGENT.

SURETY COMPANY ADDRESS:
151 N. FRANKLIN STREET
CHICAGO, IL 60606

SURETY AGENTS ADDRESS:
9932 BREWSTER LANE
POWELL, OHIO 43065

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Gerald A Kernan, Cheryl K Cramer, Thomas J Litman, Laura M Batchelder, Gerald B Kernan, Joe LeMasters, Individually

of Powell, OH, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 4th day of November, 2022.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 4th day of November, 2022, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

March 2, 2026

M. BENT
NOTARY PUBLIC
SOUTH DAKOTA

M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 3rd day of October, 2025 .

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.

Authorizing By-Law

ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

Proposal to Ashtabula Co. Bd. of Commissioners
For Harpersfield Water Tank & Waterline Improvements
Base Bid - Spheroid Tank & Waterline
Project No. 200426

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) PRECONSTRUCTION VIDEO DOCUMENTATION	1.00	LS	$	$	$	$
2	(SPC) BONDS AND INSURANCES, AS PER PLAN	1.00	LS	$	$	$	$
3	(201) CLEARING AND GRUBBING, AS PER PLAN	1.00	LS	$	$	$	$
4	(203) EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN	1.00	LS	$	$	$	$
5	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	30.00	SY	$	$	$	$
6	(451) 6 INCH REINFORCED CONCRETE DRIVES AND APRONS, AS PER PLAN	410.00	SY	$	$	$	$
7	(SPC) GENERAL CONSTRUCTION, AS PER PLAN	1.00	LS	$	$	$	$
8	(601) ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN	5.00	CY	$	$	$	$
9	(606) BOLLARD, AS PER PLAN	4.00	EACH	$	$	$	$
10	(607) DOUBLE GATE, AS PER PLAN	1.00	EACH	$	$	$	$
11	(611) 12" CONDUIT, TYPE A, AS PER PLAN	34.00	FT	$	$	$	$
12	(624) MOBILIZATION	1.00	LS	$	$	$	$
13	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	1.00	EACH	$	$	$	$
14	(638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN	1.00	EACH	$	$	$	$
15	(638) 12 INCH WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND CAST IRON MECHANICAL JOINT FITTINGS, AS PER PLAN	240.00	FT	$	$	$	$
16	(SPC) LAWN RESTORATION, AS PER PLAN	1.00	LS	$	$	$	$
17	(SPC) INSTRUMENTATION AND CONTROL (SCADA) SYSTEM INTEGRATION ALLOWANCE	1.00	LS	$	$	$	$
18	(SPC) TEMPORARY SEDIMENT AND EROSION CONTROL, AS PER PLAN	1.00	LS	$	$	$	$
19	(SPC) ELECTRIC COMPANY CHARGES ALLOWANCE	1.00	LS	$ ----------	$ ----------	$ 15,000.00	$ 15,000.00

INFORMAL TOTAL BID $

No Bid

BF.8

Proposal to Ashtabula Co. Bd. of Commissioners
For Harpersfield Water Tank & Waterline Improvements
Alternate - Glass Fused to Steel Bolted Elevated Tank & Waterline
Project No. 200426

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) PRECONSTRUCTION VIDEO DOCUMENTATION	1.00	LS	$	$	$	$
2	(SPC) BONDS AND INSURANCES, AS PER PLAN	1.00	LS	$	$	$	$
3	(201) CLEARING AND GRUBBING, AS PER PLAN	1.00	LS	$	$	$	$
4	(203) EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN	1.00	LS	$	$	$	$
5	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	30.00	SY	$	$	$	$
6	(451) 6 INCH REINFORCED CONCRETE DRIVES AND APRONS, AS PER PLAN	410.00	SY	$	$	$	$
7	(SPC) GENERAL CONSTRUCTION, AS PER PLAN	1.00	LS	$	$	$	$
8	(601) ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN	5.00	CY	$	$	$	$
9	(606) BOLLARD, AS PER PLAN	4.00	EACH	$	$	$	$
10	(607) DOUBLE GATE, AS PER PLAN	1.00	EACH	$	$	$	$
11	(611) 12" CONDUIT, TYPE A, AS PER PLAN	34.00	FT	$	$	$	$
12	(624) MOBILIZATION	1.00	LS	$	$	$	$
13	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	1.00	EACH	$	$	$	$
14	(638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN	1.00	EACH	$	$	$	$
15	(638) 12 INCH WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND CAST IRON MECHANICAL JOINT FITTINGS, AS PER PLAN	240.00	FT	$	$	$	$
16	(SPC) LAWN RESTORATION, AS PER PLAN	1.00	LS	$	$	$	$
17	(SPC) INSTRUMENTATION AND CONTROL (SCADA) SYSTEM INTEGRATION ALLOWANCE	1.00	LS	$	$	$	$
18	(SPC) TEMPORARY SEDIMENT AND EROSION CONTROL, AS PER PLAN	1.00	LS	$	$	$	$
19	(SPC) ELECTRIC COMPANY CHARGES ALLOWANCE	1.00	LS	$ ----------	$ ----------	$ 15,000.00	$ 15,000.00

INFORMAL TOTAL BID $ No Bid

BF.9

The Bidder hereby acknowledges that they have reviewed the following addenda:

Addendum No.						
Date:						

The undersigned, having full knowledge of the plans and specifications for the improvements and the conditions of the Proposal hereby agree to furnish all the services, labor, materials, and equipment necessary to complete the work according to the plans and specifications and to accept as full compensation the lump sum or the unit prices specified serving as deduct or extra compensation rates.

And We (or I) do hereby agree that in the event of failure on OUR part to contract as aforesaid (provided this Proposal is accepted) the Bid Bond, Check or Letter of Credit accompanying this Proposal shall be forfeited to the Owner as liquidated damages for the difference between this bid and the awarded Contract price, not to exceed the amount of bond. We further agree that the Owner may reject any or all bids.

By signature below, I hereby certify that **I AND MY Insurance Agent have examined the insurance requirements** in the specifications and that the types and amounts of same are currently in effect or will be obtained and kept in effect for the project duration and that my Insurance Agent has assured that notification of non-renewal, policy modification, and/or cancellation to all certificate holders will occur per the contract requirements. Verification will be provided to the Owner subsequent to the issuance of a Notice of Award.

BF.10

Submitted by,

Firm, Corporation, or Individual	Officer's Name and Title (typed)	Telephone Number
Street Address	Officer's Signature	Fax Number
City, State, Zip Code	Date	E-Mail Address
Unique Identify ID Number	Ohio Secretary of State ID Number	Federal Tax ID Number

Note: Evidence of authority to sign must be affixed and attested by the Secretary.

COMPLETION DATE: DECEMBER 31, 2027

No Bid

LIQUIDATED DAMAGES: PER O.D.O.T. TABLE 108.07-1 SCHEDULE OF LIQUIDATED DAMAGES

Proposal to Ashtabula Co. Bd. of Commissioners
For South River Road Waterline Extension Phase 2
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	33.00	SY	$ 250.00	$ 139.95	$ 389.95	$ 12,868.35
2	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN	144.00	SY	$ 150.00	$ 66.26	$ 216.26	$ 31,141.44
3	(SPC) TYPE "F" PAVEMENT REPLACEMENT (STONE), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN	1,283.00	SY	$ 6.00	$ 10.75	$ 16.75	$ 21,490.25
4	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	2.00	EACH	$ 2,200.00	$ 637.27	$ 2837.27	$ 5,674.54
5	(638) 6 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN	7,162.00	FT	$ 25.82	$ 29.61	$ 55.43	$ 396,989.66
6	(638) 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN	8,000.00	FT	$ 31.45	$ 43.40	$ 74.85	$ 598,800.00
7	(638) 6 INCH GATE VALVE AND VALVE BOX, AS PER PLAN	6.00	EACH	$ 500.00	$ 1,626.56	$ 2,126.56	$ 12,759.36
8	(638) 8 INCH GATE VALVE AND VALVE BOX	5.00	EACH	$ 500.00	$ 2,337.80	$ 2,837.80	$ 14,189.00
9	(638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, TYPE B, AS PER PLAN	19.00	EACH	$ 750.00	$ 6,989.04	$ 7,739.04	$ 147,041.76
10	(SPC) LAWN RESTORATION (GRADING, SEEDING, & MULCHING)	1.00	LS	$ 22,119.75	$ 17,790.30	$ 39,910.05	$ 39,910.05

INFORMAL TOTAL BID $ 1,280,864.41

BF.11A

Proposal to Ashtabula Co. Bd. of Commissioners
For South River Road Waterline Extension Phase 2
Part B2 - South Broadway
Project No. 241222

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN	30.00	SY	$ 250.00	$ 139.95	$ 389.95	$ 11,698.50
2	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN	36.00	SY	$ 150.00	$ 66.26	$ 216.26	$ 7,785.36
3	(638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN	2.00	EACH	$ 2,200.00	$ 710.57	$ 2,910.57	$ 5,821.14
4	(638) 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN	1,477.00	FT	$ 27.94	$ 36.28	$ 64.22	$ 94,852.94
5	(638) 8 INCH GATE VALVE AND VALVE BOX	1.00	EACH	$ 500.00	$ 2,337.80	$ 2,837.80	$ 2,837.80
6	(638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, TYPE B, AS PER PLAN	1.00	EACH	$ 900.00	$ 7,064.74	$ 7,964.74	$ 7,964.74
7	(SPC) LAWN RESTORATION (GRADING, SEEDING, & MULCHING)	1.00	LS	$ 2,230.00	$ 1,655.80	$ 3,885.80	$ 3,885.80

INFORMAL TOTAL BID $ 134,846.28

DD
10/3/25

BF.12

The Bidder hereby acknowledges that they have reviewed the following addenda:

Addendum No.	1	2				
Date:	9/22/25	9/30/25				

The undersigned, having full knowledge of the plans and specifications for the improvements and the conditions of the Proposal hereby agree to furnish all the services, labor, materials, and equipment necessary to complete the work according to the plans and specifications and to accept as full compensation the lump sum or the unit prices specified serving as deduct or extra compensation rates.

And We (or I) do hereby agree that in the event of failure on OUR part to contract as aforesaid (provided this Proposal is accepted) the Bid Bond, Check or Letter of Credit accompanying this Proposal shall be forfeited to the Owner as liquidated damages for the difference between this bid and the awarded Contract price, not to exceed the amount of bond. We further agree that the Owner may reject any or all bids.

By signature below, I hereby certify that **I AND MY Insurance Agent have examined the insurance requirements** in the specifications and that the types and amounts of same are currently in effect or will be obtained and kept in effect for the project duration and that my Insurance Agent has assured that notification of non-renewal, policy modification, and/or cancellation to all certificate holders will occur per the contract requirements. Verification will be provided to the Owner subsequent to the issuance of a Notice of Award.

BF.13

Submitted by,

RUDZIK EXCAVATING, INC.	JEFFREY RUDZIK, PRESIDENT	330-755-1540
Firm, Corporation, or Individual	Officer's Name and Title (typed)	Telephone Number
401 LOWELLVILLE RD.		330-750-1330
Street Address	Officer's Signature	Fax Number
STRUTHERS, OH 44471	OCTOBER 3, 2025	jim@rudzikexcavating.com
City, State, Zip Code	Date	E-Mail Address
RVHTNNKNEF23	1032931	34-1878933
Unique Identify ID Number	Ohio Secretary of State ID Number	Federal Tax ID Number

Note: Evidence of authority to sign must be affixed and attested by the Secretary.

COMPLETION DATE: SEPTEMBER 25, 2026

LIQUIDATED DAMAGES: PER O.D.O.T. TABLE 108.07-1 SCHEDULE OF LIQUIDATED DAMAGES

ACKNOWLEDGEMENT OF
AMERICAN RESCUE PLAN ACT FUNDING AND
COMPLIANCE BY CONTRACTORS

The bidder hereby acknowledges that this project is a federally funded project with funds from the American Rescue Plan Act of 2021 ("ARPA" or the "Act"), that funding is contingent upon compliance with all terms and conditions of the ARPA funding award, and that the bidder agrees to comply with all of the terms and conditions of the ARPA funding award and the terms and conditions in the Procurement Standards codified in 2 C.F.R. 200.317 through 200.326 and as outlined in the Federally Required Contract Provisions contained in Bid Document - Federal Grant Compliance - American Rescue Plan Act of 2021.

Signature JEFFREY RUDZIK

Date OCTOBER 3, 2025

Title PRESIDENT

Company RUDZIK EXCAVATING, INC.

BYRD ANTI-LOBBYING AMENDMENT CERTIFICATION

(To be submitted with each bid or offer exceeding $100,000)

The undersigned, Jeffrey Rudzik of Rudzik Excavating, Inc.
(the "Company") hereby certifies, to the best of his or her knowledge, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Company certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 et seq., apply to this certification and disclosure, if any.

Signature of Company Authorized Official

Jeffrey Rudzik, President
Name and Title of Company Authorized Official

October 3, 2025
Date

Contractor Equal Employment Opportunity Certification

During the performance of this contract, the undersigned agrees as follows:

1. The undersigned will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The undersigned will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The undersigned agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this equal opportunity (federally assisted construction) clause.

2. The undersigned will, in all solicitations or advertisements for employees placed by or on behalf of the undersigned, state the all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

3. The undersigned will send to each labor union or representative of workers, with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the undersigned's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4. The undersigned will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

5. The undersigned will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and relevant orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency of the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

6. In the event of the undersigned's non-compliance with the equal opportunity (federally assisted construction) clause of this contract of with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part, and the undersigned may be declared ineligible for further Government contracts of federally assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No 11246 of September 24, 1965, or by rules, regulations, or order of the Secretary of Labor, or as provided by law.

7. The undersigned will include this equal opportunity (federally assisted construction) clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No 11246 of September 24, 1965, so that such provision will be binding upon each subcontract or vender. The undersigned will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non compliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor, as a result of such direction by the administering agency the undersigned may request the United States to enter into such litigation to protect the interest of the United States.

(Signature)	OCTOBER 3, 2025 (Date)
JEFFREY RUDZIK, PRESIDENT (Name and Title of Signer, Please type)	
RUDZIK EXCAVATING, INC. (Firm Name)	

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal of State antitrust statues or commission if embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) of this certification;

(d) Have not within a three year period preceding this application / proposal had one or more public transactions (Federal, State, or local) terminated for cause or default; and

(e) Will not utilize a subcontractor or supplier who is unable to certify (a) through (d) above.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.

JEFFREY RUDZIK, PRESIDENT

Type Name & Title of Authorized Representative

Signature of Authorized Representative

OCTOBER 3, 2025

Date

☐ I am unable to certify to the above statements. My explanation is attached.

OEPA DBE PROGRAM

MBE/WBE DATA SHEET I

MINORITY AND WOMEN'S BUSINESS ENTERPRISE FAIR SHARE UTILIZATION

1. Does Bidder intend to meet the "fair share" goal by subcontracting to MBE and WBE for at least the following minimum amounts?

   The current negotiated goal for construction related activities is 5.4% (the total goal is based on 3.1% of MBEs and 2.3% of WBEs participation).

   MBE - 3.1% **WBE - 2.3%** ✓ Yes

   _____ No

2. If the Bidder cannot meet or can only partially meet the fair share goals, provide a narrative summary of the Bidder's good faith efforts prior to and after the bid opening to achieve the stated goal.

3. Name, address, and telephone number of person to contact on all MBE/WBE matters.

   Name: James Tressa

   Address: 401 Lowellville Rd, P.O. Box 206, Struthers, Ohio 44471

   Telephone Number: 330-565-4091

   Email Address: Jim@RudzikExcavating.com

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form

This form is intended to capture the DBE[1] subcontractor's[2] description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name: Rath Builders Supply, Inc.		Project Name: S. River Rd Waterline Extension Phase 2
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact: Tisha Jordan
Address: 07482 State Route 66 North, Defiance, Ohio 43512		
Telephone No.: 419-782-7284		Email Address: TJordan@RathBuildersSupply.com
Prime Contractor Name: Rudzik Excavating		Issuing/Funding Entity:

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor
5, 6	Pipe supplier	$128,000.00

DBE Certified By: ⊗ ODOT ○ DAS/EDGE ○ Other: _____	Meets/ exceeds EPA certification standards? ⊗ YES ○ NO ○ Unknown

Check Which One Applies: X MBE X WBE (Include MBE/WBE Certificates, No DBE Certs)

[1] A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

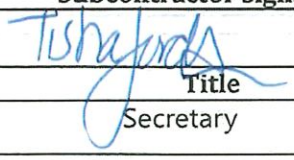
[2] Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

FORM 6100-3 (DBE Subcontractor Performance Form

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 I.

Prime Contractor Signature	Print Name
	Dan Diloreto
Title	**Date**
Project Manager/Estimator	10/3/25

Subcontractor Signature	Print Name
	Tisha Jordan
Title	**Date**
Secretary	10/2/25

Minority Business Enterprise
Certification Letter

October 3, 2023

Sara Varner, President
Rath Builders Supply, Inc.
07482 State Route 66
Defiance, OH 43512

CERTIFICATION NUMBER: MBE - 202308-7574
Effective Dates: October 3, 2023 - October 3, 2025

Dear Sara Varner, President:

The Ohio Department of Development (Development) has reviewed your business's application to obtain certification as a Minority Business Enterprise (MBE) in Ohio. Having satisfied the requirements set forth in Section 123:2-14 of the Ohio Administrative Code (OAC) as required, we are pleased to inform you that Rath Builders Supply, Inc. is hereby certified by as a MBE.

This certification letter shall serve as the state's official certification.

This letter also acknowledges that Rath Builders Supply, Inc. has been categorized under the Goods and Services category for MBE program participation and has demonstrated capability for a period of at least one-year in the following UNSPS code(s):

1. 55121900 - Signage equipment
2. 30121800 - Landscape architecture materials
3. 31201600 - Adhesives
4. 30111800 - Aggregates
5. 30102400 - Rod
6. 30151600 - Roofing accessories
7. 40141600 - Valves
8. 40171700 - Pipe adapters
9. 31201700 - Sealants
10. 31161600 - Bolts
11. 30111700 - Plasters
12. 40183000 - Rubber and plastic tubing

13. 30111600 - Cement and lime
14. 11111700 - Sand
15. 11122000 - Engineered wood products
16. 30131600 - Bricks
17. 31151500 - Ropes
18. 30121700 - Road and railroad construction materials
19. 47101500 - Water treatment and supply equipment
20. 11111600 - Stone
21. 30102800 - Piling
22. 31371100 - Refractory bricks
23. 30121600 - Asphalts
24. 30102200 - Plate
25. 11121700 - Forestry byproducts
26. 40151500 - Pumps
27. 31161700 - Nuts
28. 31211500 - Paints and primers
29. 46191500 - Fire prevention
30. 30131500 - Blocks
31. 30121900 - Soil stabilizers and reinforcing materials
32. 40102100 - Fireplaces and accessories
33. 30181500 - Sanitary ware
34. 40183100 - Tube fittings
35. 12164900 - Waterproofing agents
36. 40171600 - Industrial pipe and piping
37. 30101700 - Beams
38. 30103600 - Structural products
39. 30151500 - Roofing materials
40. 30111500 - Concrete and mortars
41. 40171500 - Commercial pipe and piping
42. 11121600 - Wood
43. 11111500 - Dirt and soil
44. 55121700 - Signage

As a certified MBE, Rath Builders Supply, Inc. must inform Development in writing (letter or email) within 30 days of any occurrence of material change(s). A material change is defined as any change in circumstances affecting the business or the at least 51 percent eligible owner(s), including but not limited to current contact information, changes in ownership, business structure, independence, managerial and/or operational control, or any change in the information provided in its application including changes in management responsibility among owner(s) of the certified business. Similar notification must be provided to Development of any changes to the company's name, business address, email address, telephone numbers, principal products/service, or other basic contact and commercial activity information. For additional information, please refer to OAC 123:2-14-01, 123:2-14-02, and 123:2-07.

Failure to notify Development of any material change is cause for revocation of Rath Builders Supply, Inc.'s MBE certification.

Re-certification may be done up to one month prior to the expiration date of this certification. At that time, Rath Builders Supply, Inc. must submit a completed Re-certification Application for Development's review relative to Rath Builders Supply, Inc.'s eligibility for continued participation in the MBE program.

If you need any assistance or have questions about the MBE program, please contact Development's Minority Business Certification and Compliance Unit at 614-466-5700.

Congratulations on your certification as a MBE and thank you for choosing to do business in Ohio.

Sincerely,



Monica L. Womack
Chief, Minority Business Development Division

Women Business Enterprise
Certification Letter

October 3, 2023

Sara Varner, President
Rath Builders Supply, Inc.
07482 State Route 66
Defiance, OH 43512

CERTIFICATION NUMBER: WBE - 202308-7574
Effective Dates: October 3, 2023-October 3, 2025

Dear Sara Varner, President:

The Ohio Department of Development (Development) has reviewed your application to obtain certification as a Women Business Enterprise (WBE) in Ohio. Having satisfied the requirements set forth in Section 123:2-14 of the Ohio Administrative Code (OAC) as required, we are pleased to inform you that Rath Builders Supply, Inc. is hereby certified by as a WBE.

This certification letter shall serve as the State's official certification to this effect.

As a certified WBE, Rath Builders Supply, Inc. must inform Development in writing (letter or email) within 30 days of any occurrence of material change(s). A material change is defined as any change in circumstances affecting the business or the at least 51 percent eligible owner(s), including but not limited to current contact information, changes in ownership, business structure, independence, managerial and/or operational control, or any change in the information provided in its application including changes in management responsibility among owner(s) of the certified business. Similar notification must be provided to Development of any changes to the company's name, business address, email address, telephone numbers, principal products/service, or other basic contact and commercial activity information. For additional information, please refer to OAC 123:2-14-01, 123:2-14-02, and 123:2-07. Failure to notify Development of any material change is cause for revocation of Rath Builders Supply, Inc.'s WBE certification.

Re-certification may be done up to one month prior to the expiration date of this certification. At that time, Rath Builders Supply, Inc. must submit a completed Re-certification Application for Development's review relative to Rath Builders Supply, Inc.'s eligibility for continued participation in the WBE program.

If you need any assistance or have questions about the WBE program, please contact Development's Minority Business Certification and Compliance Unit at 614-466-5700.

Congratulations on your certification as a WBE and thank you for choosing to do business in Ohio.

Sincerely,

Monica L. Womack
Chief, Minority Business Development Division

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE[1] subcontractors[2] and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name
Rudzik Excavating, Inc.		South River Rd. Waterline Improvements Phase 2
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact
		Jim Tressa
Address: 401 Lowellville Rd. Struthers, OH. 44471		
Telephone No.: 330-755-1540		Email Address: jim@rudzikexcavating.com
Issuing/Funding Entity:		

I have identified potential DBE certified subcontractors	✓ YES	___ NO
If yes, please complete the table below. If no, please explain:		

Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt.	Currently DBE Certified?
Rath Builders Supply, Inc.	07482 S.R. 66 Defiance, OH. 43512 (419) 782-7284 tjordan@rathbuilderssupply.com	$28,000.00	✓

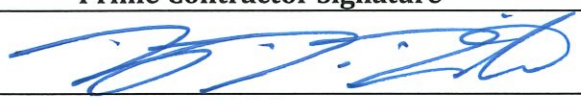
Continue on back if needed

[1] A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2] Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Utilization Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 I.

Prime Contractor Signature	Print Name
	Dan DiLoreto
Title	**Date**
Project Manager/Estimator	10/3/25

AMERICAN IRON AND STEEL ACKNOWLEDGEMENT

The Contractor acknowledges to and for the benefit of the ASHTABULA COUNTY BOARD OF COMMISSIONERS ("Purchaser") and the State of Ohio (the "State") that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

_____ OCTOBER 3, 2025

Signature Date

JEFFREY RUDZIK, PRESIDENT

Name and Title of Authorized Signatory, Please Print or Type

RUDZIK EXCAVATING, INC.

Bidder's Firm

☐ Check here if the WPCLF or WSRLA applicant will be requesting an individual waiver for non-American made iron and steel products. Please note that the waiver box does not need to be marked for nationwide waivers.

BYRD ANTI-LOBBYING AMENDMENT CERTIFICATION

(To be submitted with each bid or offer exceeding $100,000)

The undersigned, Jeffrey Rudzik of Rudzik Excavating, Inc.
(the "Company") hereby certifies, to the best of his or her knowledge, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Company certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 et seq., apply to this certification and disclosure, if any.

Signature of Company Authorized Official

Jeffrey Rudzik, President
Name and Title of Company Authorized Official

October 3, 2025
Date

SECTION 2
CONTRACT FORMS

Contract Forms
Contract A
Great lakes Crushing

REVISED CODE §1311.252
NOTICE OF COMMENCEMENT OF A PUBLIC IMPROVEMENT

State of Ohio)
) SS:
County of Ashtabula)

J.P. Ducro, IV, President (the "Affiant"), being first duly sworn, says that:

1. Affiant is the President of the Ashtabula County Board of Commissioners, at 25 West Jefferson Street, Bldg. E, Jefferson, Ohio for a contract executed on 12/23/25, 2025.

2. The Public Authority will be commencing a public improvement identified as follows:
Contract A: Harpersfield Water Tank & Waterline Improvements

3. The following lists the name, address, and surety of each of the principal contractors working on this public improvement:

TRADE	CONTRACTOR	SURETY
General	Great Lakes Crushing, Ltd. 30831 Euclid Avenue Willowick, Ohio 44092	Harco National Insurance Company 4200 Six Forks Road Suite 1400 Raleigh, NC 27609

4. For the purpose of service an affidavit pursuant to Revised Code §1311.26, service may be made upon the following representative of the Public Authority: J.P. Ducro, IV, President, at the Ashtabula County Board of Commissioners, 25 West Jefferson Street, Bldg. E, Jefferson, Ohio 44047.

J.P. Ducro

J.P. Ducro, IV, President

SWORN TO before me and subscribed in my presence this 23rd day of December, 2025.

[SEAL]
Notary Public
comm. exp 7/14/2030

Prepared by:

VERDANTAS, LLC
8150 Sterling Court
Mentor, Ohio 44060

NOTICE OF AWARD

TO: Great Lakes Crushing, Ltd.
30831 Euclid Avenue
Willowick, Ohio 44092

PROJECT: CONTRACT A
HARPERSFIELD WATER TANK & WATERLINE IMPROVEMENTS

You are notified that your Bid which was opened on October 3, 2025 has been accepted for items in the amount of $3,598,052.00 at the unit bid prices as reflected in the bid tabulation contained herein for the Base Bid only.

You are required by the Instructions to Bidders to execute the Agreement and furnish the required Bonds, Certificates of Insurance, and other documents within 10 calendar days from the date of receipt of this Notice.

Failure to comply with these conditions within the time specified will entitle Owner to consider your Bid in default, to annul this Notice and to declare your Bid Security forfeited.

The Owner will return to you one (1) fully signed set of the contract documents.

ACKNOWLEDGMENT OF AWARD

ASHTABULA COUNTY BOARD OF COMMISSIONERS

Lisa Hawkins, County Clerk of the Commissioners

ACKNOWLEDGMENT

GREAT LAKES CRUSHING, LTD

Alec M. Belich, Member

RESOLUTION APPROVING THE CONSTRUCTION CONTRACT BETWEEN GREAT LAKES CRUSHING, LTD, AND ASHTABULA COUNTY FOR THE HARPERSFIELD WATER TANK AND WATERLINE IMPROVEMENT PROJECT, CONTRACT A, ACDES

WHEREAS, Doug Starkey, Director of the Ashtabula County Department of Environmental Services, has presented a Contract for the approval of the Board, to-wit:

PARTIES: Ashtabula County Department of Environmental Services, 36 W. Walnut St., Jefferson, OH 44047
Ashtabula County Commissioners, 25 West Jefferson St., Jefferson, OH 44047
Great Lakes Crushing, Ltd. 30831 Euclid Avenue, Willowick, Ohio 44092

SCOPE: Greats Lake Crushing, Ltd, to provide Ashtabula County Dept of Environmental Services construction services, labor, materials, equipment, and all things collectively called "work "in Exhibit A, pertinent to the Harpersfield Water Tower project.

COST: Not to Exceed, contracted sum of $3,598,052.00 and a 10% contingency for alternate unit priced items.

TERM: The term of this agreement shall commence on the Effective Date and continue through 365 days from the Notice to Proceed, unless otherwise terminated earlier.

WHEREAS, this Board of Commissioners concurs with the recommendation of the Director and finds this contract to be reasonable and necessary; now

THEREFORE, BE IT RESOLVED, By the Board of Commissioners of Ashtabula County, Ohio that the Contract noted above is approved in accordance with the copy now on file in this office.

BE IT FURTHER RESOLVED that the President of the Board, on behalf of the Board of Commissioners of Ashtabula County, is authorized to execute any and all necessary documents.

ASHTABULA COUNTY COMMISSIONERS

CERTIFICATION PAGE

Resolution No. 2025-566 **December 23, 2025**

RESOLUTION APPROVING THE CONSTRUCTION CONTRACT BETWEEN GREAT LAKES CRUSHING, LTD, AND ASHTABULA COUNTY FOR THE HARPERSFIELD WATER TANK AND WATERLINE IMPROVEMENT PROJECT, CONTRACT A, ACDES

Upon the motion of Kathryn L. Whittington, seconded by Casey R. Kozlowski.

VOTE:

J.P. Ducro IV	**Aye**
Casey R. Kozlowski	**Aye**
Kathryn L. Whittington	**Aye**

CERTIFICATE OF CLERK

IT IS HEREBY CERTIFIED that the foregoing is a true and correct transcript of a resolution acted upon and duly passed by the Board of County Commissioners of Ashtabula County, Ohio, on the date noted above.

Lisa Hawkins

Lisa Hawkins, Clerk of the Board
Board of County Commissioners
Ashtabula County, Ohio

RESOLUTION RECEIVING BIDS AND AWARDING FOR CONTRACT A: HARPERSFIELD WATER TANK PROJECT TO GREAT LAKES CRUSHING LTD, WILLOWICK OHIO, ACDES

WHEREAS, a request and recommendation has been received for the approval of the Board of Commissioners to award the Harpersfield Water Tank Project, contract A; and

WHEREAS, On September 9, 2025, by Resolution No 2025-386, bids were ordered, and bids were received on October 3, 2025 for the Harpersfield Water Tank Project, contract A, as follows:

	Contract A Base Bid -Spheroid Tank & Waterline	Contract A Alternate Bid -Glass Fused to Steel Bolted Elevated Tank & Waterline
Great Lakes Crushing, LTD	$3,598,052.00	$4,048,052.00
Caldwell Tanks, Inc.	$4,632,000.00	No Bid

WHEREAS, Douglas Starkey, Director of the Ashtabula County Department of Environmental Services, along with Verdantas and staff, reviewed the bids and has recommended the bid be awarded to Great Lakes Crushing, LTD. for the total of the base bid of $3,598,052.00 for the Spheroid tank and waterline, as the lowest and best bid received; and

WHEREAS, this Board would concur with that recommendation; now

THEREFORE, BE IT RESOLVED, By the Board of Commissioners of Ashtabula County, Ohio, that the bid for the Harpersfield Water Tank Project, contract A; the project be awarded to Great Lakes Crushing LTD, as outlined above.

ASHTABULA COUNTY COMMISSIONERS

CERTIFICATION PAGE

Resolution No. 2025-445 **October 16, 2025**

RESOLUTION RECEIVING BIDS AND AWARDING FOR CONTRACT A: HARPERSFIELD WATER TANK PROJECT TO GREAT LAKES CRUSHING LTD, WILLOWICK OHIO, ACDES

Upon the motion of Kathryn L. Whittington, seconded by Casey R. Kozlowski.

VOTE:

J.P. Ducro IV	**Aye**
Casey R. Kozlowski	**Aye**
Kathryn L. Whittington	**Aye**

CERTIFICATE OF CLERK

IT IS HEREBY CERTIFIED that the foregoing is a true and correct transcript of a resolution acted upon and duly passed by the Board of County Commissioners of Ashtabula County, Ohio, on the date noted above.

Lisa Hawkins

Lisa Hawkins, Clerk of the Board
Board of County Commissioners
Ashtabula County, Ohio

CONTRACT

FOR CONTRACT A - HARPERSFIELD WATER TANK & WATERLINE IMPROVEMENTS

THIS CONTRACT, made and entered into at Jefferson, Ohio, this 23rd day of December, 2025, by and between the Ashtabula County Board of Commissioners ("OWNER"), Ohio and Great Lakes Crushing, Ltd. ("CONTRACTOR").

WITNESSETH: That the said CONTRACTOR has agreed and by this presents does agree with the OWNER for the consideration hereinafter mentioned and contained, and under penalty expressed in a bond given with these presents, and herein contained or hereunto annexed, to furnish at its own cost and expense, all the necessary tools, equipment, materials, labor, and tests in an expeditious, substantial and workmanlike manner, the equipment and appurtenances herein contemplated, commencing work within 20 days from the date of the Notice to Proceed and executing the work within the time and in the manner specified and in conformity with the requirements set forth in this Contract.

The following form essential parts of the Contract (may vary with project).

1. Advertisement for Bids/Public Notice to Bidders
2. Instruction to Bidders
3. Bid Forms and Proposal
4. Contract Forms and Exhibits
5. Contract Bond – ORC 153.571 or ORC 153.57
6. Contract Provisions
7. General Conditions
8. Supplementary Conditions
9. Specifications
10. Specific Project Requirements
11. Prevailing Wage Rate Schedule
12. Contract Drawings; if any.
13. Addenda; if any.

The CONTRACTOR agrees and understands that the work on this contract shall be subject to the acceptance of the OWNER based upon and in accordance with the contract specifications and contract plans and drawings on file in the office of the OWNER.

The CONTRACTOR agrees that each individual employed by the CONTRACTOR or any Subcontractor and engaged in work on the project under this contract shall be paid by prevailing wage established by the Department of Industrial Relations of the State of Ohio or the U.S. Department of Labor (Davis-Bacon Act) as detailed in the section titled "Wage Rates." This shall occur regardless of any contractual relationship which may be said to exist between the Contractor or any Subcontractor and such individual.

The CONTRACTOR shall proceed with the said work in a prompt and diligent manner and shall do the several parts thereof. Further the CONTRACTOR shall complete the whole of said work in accordance with the specifications and contract drawings to the satisfaction of the OWNER on or before the time stated, and in default of completion within the time as fixed, the CONTRACTOR shall pay to the OWNER as liquidated damages, an amount PER O.D.O.T. TABLE 108.07-1 SCHEDULE OF LIQUIDATED DAMAGES, for each and every day (Sundays and legal holidays excepted) the completion of the work may be delayed beyond the date fixed in the manner and as stipulated.

It is hereby mutually agreed that the OWNER is to pay and the CONTRACTOR is to receive, as full compensation for furnishing all materials and labor in building, constructing and testing and in all respect completing the herein described work and appurtenances in the manner and under the conditions herein specified, the prices stipulated in the proposal herein contained or hereto annexed and the total contract sum is $3,598,052.00.

This Contract shall be in full force and effect from the date of execution by the OWNER and CONTRACTOR.

IN WITNESS WHEREOF: The OWNER and CONTRACTOR hereunto affixed their signature the day and year first mentioned above.

GREAT LAKES CRUSHING, LTD

Alec M. Belich, Member

ASHTABULA COUNTY BOARD OF COMMISSIONERS

12/23/25

J.P. Ducro, IV, President

I hereby certify that funds in the amount of Three Million Five Hundred Ninety-Eight Thousand Fifty-Two 00/100 Dollars ($3,598,052.00) necessary for the foregoing Contract have been appropriated and are in the Treasury, or are in the process of collection, or are available through grants and/or loans from other funding sources.

Scott Yamamto, County Auditor

APPROVED AS TO FORM:

April Grabman, Prosecuting Attorney

Signature Page

AGREEMENT TITLE: CONTRACT FOR CONTRACT A - HARPERSFIELD WATER TANK & WATERLINE IMPROVEMENTS

APPROVED as to Legal Form Only.

Approved by: _____

April R. Grabman
Ashtabula County Prosecutor

Dated: 12/18/2025

Reviewed by Earl F. Stoll, Assistant Prosecutor EFS

THE CONTRACTOR SHALL FURNISH THE FOLLOWING ITEMS WITHIN 10 DAYS OF NOTIFICATION OF AWARD:

A) CERTIFICATE OF INSURANCE FOR CONTRACTOR'S PUBLIC LIABILITY INSURANCE POLICY AND AUTOMOTIVE INSURANCE POLICY

Owner, Verdantas, LLC, CT Consultants, Inc., the Ohio EPA Director and the Ohio Water Development Authority Named as Additional Insured

B) CERTIFICATE OF INSURANCE FOR OWNER'S AND CONTRACTOR'S PROTECTIVE POLICY

Owner Named as Insured (No Additional Insured)

C) CERTIFICATE OF WORKER'S COMPENSATION

D) CONTRACT BOND THAT COMPLIES WITH ORC 153.54 AND 153.57

* D above is not required if a bond complying with ORC 153.54 and 153.571 (rollover bond) was submitted at time of bid.

Client#: 56541 GREALAK1

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 11/12/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Elizabeth Rafferty
CBIZ Insurance Services, Inc. 1001 Conshohocken State Road, Ste 2-600 Conshohocken, PA 19428	PHONE (A/C, No, Ext): 610 862-2443 FAX (A/C, No): E-MAIL ADDRESS: ERafferty@CBIZ.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Selective Ins. Co. of South Carolina	19259
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Great Lakes Crushing Ltd, Parkview Land Development LLC, Aggworx Inc
30831 Euclid Ave
Wickliffe, OH 44092-1042

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X PD Ded: $1,000 GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT X LOC OTHER:			S2276174	05/02/2025	05/02/2026	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$1,000,000 $500,000 $15,000 $1,000,000 $2,000,000 $2,000,000 $
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY SCHEDULED AUTOS X HIRED AUTOS ONLY X NON-OWNED AUTOS ONLY			S2276174	05/02/2025	05/02/2026	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$1,000,000 $ $ $ $
A	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $0			S2276174	05/02/2025	05/02/2026	EACH OCCURRENCE AGGREGATE $	$7,000,000 $7,000,000 $
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		S2276174 OH Stop Gap	05/02/2025	05/02/2026	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000
A	Installation Floater			S2276174	05/02/2025	05/02/2026	$3,600,000 Limit All- Risk	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: Contract A- Harpersfield Water Tank & Water Line Improvement - Contract#241222

Ashtabula County Board of Commissioners, Verdantas, LLC, CT Consultants, Inc. and the Ohio Water Development Authority are additional insureds on the General Liability Policy.

(See Attached Descriptions)

CERTIFICATE HOLDER

Ashtabula County Board of Commissioners
25 W Jefferson Street
Jefferson, OH 44047

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
CBIZ Insurance Services, Inc.

© 1988-2015 ACORD CORPORATION. All rights reserved.

DESCRIPTIONS (Continued from Page 1)

Owners and Contractors Protective Liability Policy
Insured: Ashtabula County Board of Commissioners
Policy: OCPMAR0003218
Carrier: Markel American Insurance Company
Limits: $1,000,000/ $2,000,000

Markel American Insurance Company

OWNERS AND CONTRACTORS PROTECTIVE LIABILITY DECLARATIONS

POLICY NUMBER: OCP-MAR-0003218 RENEWAL OF POLICY:

Named Insured and Mailing Address (No., Street, Town or City, County, State, Zip Code)

Ashtabula County Board of Commissioners
25 West Jefferson Street
Jefferson, OH 44047

Policy Period: From 11/12/2025 to 11/12/2026 at 12:01 A.M. at your mailing address shown above.

IN RETURN FOR THE PAYMENT OF THE PREMIUM, AND SUBJECT TO ALL THE TERMS OF THIS POLICY, WE AGREE WITH YOU TO PROVIDE THE INSURANCE AS STATED IN THIS POLICY.

Description And Form Of Business
Business Description: County
☐ Individual ☐ Partnership ☐ Joint Venture ☐ LLC ☒ Other Organization: County

Location(s) Of Covered Operations
Harpersfield -Ashtabula County, Ohio Harpersfield, OH 44047 Contract #: 241222, Contract A: Harpersfield Water Tank & Waterline Improvements

Designated Contractor Name And Mailing Address
Great Lakes Crushing LTD 30831 Euclid Ave Willowick , OH 44092

Limits Of Insurance	
Each Occurrence Limit:	$1,000,000
Aggregate Limit:	$2,000,000

Producer Number, Name and Mailing Address	
123ocp.com	214317
565 East Swedesford Road	
Suite 100	
Wayne, PA 19087	

Includes copyrighted material of Insurance Services Office, Inc., with its permission.

Classification And Premium				
Classification	**Code No.**	**Premium Basis**	**Rate Per $1,000 Of Cost**	**Advance Premium**
OHIO Construction Operations - Owner - Not Otherwise Classified (Not Railroads) - Excluding Operations On Board Ships	16292	$3,598,052	$0.863	$3,105.00

State Tax Or Other (If Applicable)	$0.00
Terrorism	$0.00 (Included)
Total Premium	$3,105.00

Premium shown is payable at inception.

Forms And Endorsements

Forms and Endorsements applying to this Coverage Part and made part of this policy at time of issue:

MJIL 1000 (06 10), MPIL 1007 (01 20), MPIL 1074 (02 20), MPIL 1083 (04 15), MDGL 1510 (01 23), MDIL 1001 (08 11), CG 0009 (04 13), CG 2170 (01 15), CG 2845 (01 02), CG 2951 (12 07), CG 3370 (03 05), IL 0021 (09 08), MIL 1214 (09 17), MGL 1356 (10 20), MGL 1603 (01 23), MGL 1608 (01 23), MGL 1609 (01 23), MGL 1612 (01 23), MGL TERR-1 (01 15)

These Declarations, together with the Coverage Form and any Endorsement(s), complete the above numbered policy.

Countersigned: 11/12/2025 By: John K Clark

DATE **AUTHORIZED REPRESENTATIVE**

Includes copyrighted material of Insurance Services Office, Inc., with its permission.

Bureau of Workers' Compensation

30 W. Spring St.
Columbus, OH 43215

Certificate of Ohio Workers' Compensation

This certifies that the employer listed below participates in the Ohio State Insurance Fund as required by law. Therefore, the employer is entitled to the rights and benefits of the fund for the period specified. This certificate is only valid if premiums and assessments, including installments, are paid by the applicable due date. To verify coverage, visit www.bwc.ohio.gov, or call 1-800-644-6292.

This certificate must be conspicuously posted.

Policy number and employer
01205098

Period Specified Below
07/01/2025 to 07/01/2026

GREAT LAKES CRUSHING LTD
30831 EUCLID AVE
WICKLIFFE OH 44092-1042



www.bwc.ohio.gov
Issued by: BWC

Stephanie McCloud

Administrator/CEO

You can reproduce this certificate as needed.

Ohio Bureau of Workers' Compensation

Required Posting

Section 4123.54 of the Ohio Revised Code requires notice of rebuttable presumption. Rebuttable presumption means an employee may dispute or prove untrue the presumption (or belief) that alcohol, marihuana or a controlled substance not prescribed by the employee's physician is the proximate cause (main reason) of the work-related injury.

The burden of proof is on the employee to prove the presence of alcohol, marihuana or a controlled substance was not the proximate cause of the work-related injury. An employee who tests positive or refuses to submit to chemical testing may be disqualified for compensation and benefits under the Workers' Compensation Act.

Bureau of Workers' Compensation

You must post this language with the Certificate of Ohio Workers' Compensation.

OhioBWC - Employer - Service: (State construction contractor look-up) - Results

Policy number: 1205098-0
Company name: GREAT LAKES CRUSHING LTD
Construction contractor status: APPROVED
Construction contractor status date: 8/30/2024

search again

Note: BWC has designed this database for those responsible for ensuring that a construction contractor or subcontractor has a drug-free program that complies with HB 80 for any State of Ohio public improvement project. A contractor, subcontractor or lower-tier subcontractor in an APPROVED status has agreed to implement or has implemented a BWC-approved drug-free program (Drug-Free Safety or comparable program) which makes the company compliant with the mandate of the Ohio legislature through HB 80. While state contracting authorities are expected to review this database for the most current information, you may print this as verification of your current status.

DELINQUENT PERSONAL PROPERTY STATEMENT

STATE OF OHIO)
) SS
COUNTY OF LAKE)

Great Lakes Crushing, Ltd., having been awarded a contract by the Ashtabula County Board of Commissioners, Ohio, hereby affirms under oath, pursuant to Ohio Revised Code Section 5719.042, that at the time the bid was submitted, my company **was / was not (CIRCLE ONE)** charged with delinquent personal property taxes on the General Tax List of Personal Property for Ashtabula County, Ohio.

If such charge for delinquent personal property tax exists on the General Tax List of Personal Property for Ashtabula County, Ohio, the amount of such due and unpaid delinquent taxes, including due and unpaid penalties and interest shall be set forth below.

A copy of this statement shall be transmitted by the Taxing District's Fiscal Officer to the County Treasurer within thirty days of the date it is submitted. A copy of this statement shall also be incorporated into the Contract made between Ashtabula County Board of Commissioners, Ohio, and Great Lakes Crushing, Ltd., and no payment shall be made with respect to any Contract unless such statement has been so incorporated as a part thereof.

Delinquent Personal Property Tax	$_____
Penalties	$_____
Interest	$_____

GREAT LAKES CRUSHING, LTD

_____
Alec M. Belich, Member

Subscribed and sworn to before me this 6 day of NOVEMBER, 2025.

_____
Notary Public

My Commission Expires: July 21 2026

NOTARY PUBLIC STATE OF OHIO

KAITLYN SZEKER
Notary Public, State of Ohio
My Commission Expires
July 21, 2026

AFFIDAVIT
OF COMPLIANCE WITH OHIO REVISED CODE SECTION 3517.13

STATE OF Ohio)
) SS
COUNTY OF Lake)

Alec M. Belich being duly sworn deposes and states as follows:

1. I am duly authorized to make the statements contained herein on behalf of Great Lakes Crushing LTD ("the Contracting Party").

2. The Contracting Party is a/an (select one):

☑ Individual, partnership, or other unincorporated business association (including without limitation, a professional association organized under Ohio Revised Code Chapter 1787), estate, or trust

☐ Corporation organized and existing under the laws of the State of _____

☐ Labor organization

3. I hereby affirm that the Contracting Party and each of the individuals specified in R.C. 3517.13(I) (with respect to non-corporate entities and labor organizations) or R.C. 3517.13(J) (with respect to corporations) are in full compliance with the political contribution limitations set forth in R.C. 3517.13(I) and (J), as applicable.

4. I understand that a false representation on this certification will incur penalties pursuant to 3517.992(R).

Affiant further sayeth naught.

By: _____

Title: Member

SWORN TO BEFORE ME and subscribed in my presence this 6th day of November, 2025.

NOTARY PUBLIC STATE OF OHIO

KAITLYN SZEKER
Notary Public, State of Ohio
My Commission Expires
July 21, 2026

_____
Notary Public

My commission expires: July 21 2026

ESCROW AGREEMENT FOR CONTRACTOR'S RETAINAGE

In accordance with a certain Contract between the Ashtabula County Board of Commissioners, Ohio, (hereinafter referred to as "the Owner") and Great Lakes Crushing, Ltd., (hereinafter referred to as "the Contractor"), an Escrow Agent is hereby appointed to hold funds arising out of the Owner's agreement to pay retainage into an escrow fund, said Agent to be:

Andover Bank, 150 North Chestnut Street, P.O. Box 405, Jefferson, Ohio 44047,

All retained funds will be placed with the above Escrow Agent from the date your Contract is certified as being 50% complete pursuant to Sections 153.13, and 153.14 and 153.63 Ohio Revised Code.

During the time the aforementioned retained funds are in the custody of the Escrow Agent, the Escrow Agent has authority to invest the escrow funds in the classes of securities listed below which, in the judgment of the Escrow Agent, allow for the least risk to capital preservation and provide for a reasonable income. The income from investment of the escrowed funds shall be accumulated in the escrow account.

(a) Obligation issued or guaranteed as to interest and principal by the government of the United States, or obligations of the State of Ohio or any political subdivision thereof;

(b) Obligations including certificates of deposit of any national bank located in this State and/or any bank as defined by Section 1101.01, O.R.C.;

(c) Repurchase agreements fully secured by obligations of any kind specified in clauses (a) and (b) above; or

(d) Interest in any money market fund or trust, the investments of which are generally restricted to obligations of any of the kind specified in clauses (a) through (c) above.

The Escrow Agent shall hold the escrowed principal and interest until receipt of notice from the Owner, or until receipt of an Arbitration Order or an Order of the Court of Claims, or other appropriate courts, specifying the amount of the escrowed principal to be released and the person to whom it is to be released. Upon receipt of such a request or order, the Escrow Agent shall, within 30 days, pay such amount of principal and interest earned on the retainage to the Contractor less the Escrow Agent's fee.

It is understood that the Escrow Agent shall have no duties, obligations, or liabilities hereunder other than to hold and invest said funds and to deliver them in accordance with the provisions hereof.

GREAT LAKES CRUSHING, LTD

Alec M. Belich, Member

ASHTABULA COUNTY BOARD OF COMMISSIONERS

J.P. Ducro, IV, President

Witness

Casey R. Kozlowski, Vice President

Kathryn L. Whittington

ESCROW WAIVER

In accordance with a certain Contract between the Ashtabula County Board of Commissioners, Ohio, (hereinafter referred to as "the Owner") and Great Lakes Crushing, Ltd., (hereinafter referred to as "the Contractor") it is mutually agreed by and between the parties hereto that because of the short-term duration of the within contract, no escrow account will be established pursuant to Sections 153.13, 153.14 and 153.63 of the Ohio Revised Code nor shall any interest be paid on any retainage.

GREAT LAKES CRUSHING, LTD

NOT APPLICABLE - Contractor Signed Escrow Agreement

_____

Alec M. Belich, Member

ASHTABULA COUNTY COMMISSIONERS

NOT APPLICABLE - Contractor Signed Escrow Agreement

_____ _____

J.P. Ducro, IV, President Witness

_____

Casey R. Kozlowski, Vice President

_____

Kathryn L. Whittington

NOTICE TO PROCEED

Project: Contract A: Harpersfield Water Tank & Waterline Improvements

Owner: Ashtabula County Board of Commissioners
25 West Jefferson Street, Bldg. E
Jefferson, Ohio 44047

To: Great Lakes Crushing, Ltd.
30831 Euclid Avenue
Willowick, Ohio 44092

Date: December 29, 2025

You are hereby notified to commence work in accordance with the Contract. All work shall be completed by December 31, 2027.

ASHTABULA COUNTY BOARD OF COMMISSIONERS

J.P. Ducro, IV, President

REV. 07/15/25

Form **W-9**
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See *Specific Instructions* on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

Great Lakes Crushing, LTD.

2 Business name/disregarded entity name, if different from above.

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor ☐ C corporation ☐ S corporation ☐ Partnership ☐ Trust/estate

☑ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) . . . . . P

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions)

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any)

(Applies to accounts maintained outside the United States.)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . . ☐

5 Address (number, street, and apt. or suite no.). See instructions.

30831 Euclid Avenue

Requester's name and address (optional)

6 City, state, and ZIP code

Willowick, OH 44092

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

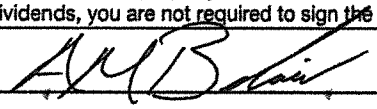
3	4	–	1	8	3	9	6	4	1

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here | **Signature of U.S. person**  **Date** 11/6/2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE SHALL INSERT THE FOLLOWING CONTRACT DOCUMENTATION IN THE EXECUTED CONTRACT:

A) FINDINGS FOR RECOVERY – ORC 9.24
(http://ffr.ohioauditor.gov/)

B1) CHECK FOR DEBARRED CONTRACTORS IN THE STATE OF OHIO
(https://www.sos.state.oh.us/records/debarred-contractors/)

B2) CHECK FEDERAL SAM (System for Award Management) for FEDERAL FUNDING (including sub-contractors), (if applicable)
(https://www.sam.gov/SAM/)

C) NOTIFICATION OF SURETY AND AGENT OF CONSTRUCTION CONTRACT AWARD – ORC 9.32 (if applicable)

D) NOTIFICATION TO UTILITY COMPANIES OF COMMENCEMENT OF CONTRACT EXECUTION – ORC 153.64 (if applicable)

Keith Faber
Ohio Auditor

Certified Search for Unresolved Findings for Recovery

OHIO AUDITOR OF STATE
KEITH FABER

Office of Auditor of State
88 East Broad Street
Post Office Box 1140
Columbus, OH 43216-1140

(614) 466-4514
(800) 282-0370

Auditor of State - Unresolved Findings for Recovery Certified Search

I have searched The Auditor of State's unresolved findings for recovery database using the following criteria:

Contractor's Information:

Name: **Belich**, **Alec**
Organization: **Great Lakes Crushing, Ltd.**
Date: **10/6/2025 2:42:01 PM**

This search produced the following list of **25** possible matches:

Name/Organization	Address
Alaji, Rashid Khaleel-Fajri	4075 Monticello Blvd.
Belville, Patricia	11423 County Road 14, P.O. Box 38
Boone, Alexandria	
Boone, Alexandria	3561 Avalon Road
Boone, Alexandria	540 East 105th Street, #105
Butler, Alex	24 Highland Dr
Campbell, George	100 W. Market St.
Campbell, H. Scott	
Campbell, Jay	200 N. Walnut St.
Campbell, Robert	199 Portsmouth St.
Carter, Dale	351 Kenyon Avenue
Cochran, Dale	14022 State Route 68 South
Cox, Valerie	19640 Turner Rd.
Cox, Valerie	19640 Turner Road
Greater Educational Service Center, Phoenix Village Academy P2	5455 North Marginal Road, Suite 521
Greater Educational Service Center, Phoenix Village Academy S1	5455 North Marginal Road, Suite 521
Greater Heights Institute Inc.	2853 Brighton RD
Greathouse-Owens, Regina	26340 Bluebird Cove
Green, Alaina	1959 E. Beaumont Rd (NO LONGER EMPLOYED AT MHA)
Green, Hydia	956 Crystal Cay Court
Green, George	
Greenberg, Frank	
Gregory, Winnie	8047Hamilton Street NW
Moritz, Caleb	10071 State Route 664N
Rainbow, Alexis	4101 Edgewood Drive

The above list represents possible matches for the search criteria you entered. Please note that pursuant to ORC 9.24, only the person (which includes an organization) actually named in the finding for recovery is prohibited from being awarded a contract.

If the person you are searching for appears on this list, it means that the person has one or more findings for recovery and is prohibited from being awarded a contract described in ORC 9.24, unless one of the exceptions in that section apply.

If the person you are searching for does not appear on this list, an initialed copy of this page can serve as documentation of your compliance with ORC 9.24(E).

Please note that pursuant to ORC 9.24, it is the responsibility of the public office to verify that a person to whom it plans to award a contract does not appear in the Auditor of State's database. The Auditor of State's office is not responsible for inaccurate search results caused by user error or other circumstances beyond the Auditor of State's control.

DEBARRED CONTRACTORS

There are currently no debarred contractors.

For questions, please contact the Department of Commerce, Bureau of Wage & Hour.

Department of Administrative Services

Procurement Services

State of Ohio Debarment List

tate agencies given the authority to debar suppliers by the Ohio Revised Code (R.C.) are the Ohio Facilities onstruction Commission (OFCC), the Ohio Department of Transportation (ODOT), the Department of dministrative Services (DAS), and the Ohio Secretary of State. Respectively, debarment authority is given to ıese agencies by R.C. 153.02, 5513.06, 125.25 (opens in new webpage). The reasons for debarment are also rescribed by these statutes.

, debarred supplier cannot participate (i.e., do any work in any capacity) in any State agency contracts until th ebarment period expires. Neither the Ohio Revised Code nor the Ohio Administrative Code (OAC) establish rescribed debarment periods. Instead, these are determined on a case-by-case basis.

Vhen conducting procurements, State agencies are required to use the Statewide Debarment List. For agencie sing OhioBuys, suppliers' profiles can be referenced to determine their debarment status, plus systematic ontrols are in place preventing debarred vendors from doing business with State agencies. Additionally, gencies must use the Ohio Secretary of State's and the United States General Services Administration's Systen or Award Management (SAM) (opens in new webpage).list of federally debarred suppliers. State agencies are rohibited from awarding contracts, funded in whole or in part with state and/or federal funds, to any person c ompany on any of these lists.

CMG Contracting LLC ×

Show 25 entries per pag

Vendor	Vendor ID	Address	Start Date	End Date	Debarred By
No matching records found					

howing 0 to 0 of 0 entries (filtered from 33 total entries)

Previous Next

GREAT LAKES CRUSHING, LTD.

Unique Entity ID	CAGE / NCAGE	Purpose of Registration
SRM5YZB9WV75	**0A6Q7**	**All Awards**
Registration Status	Expiration Date	
Active Registration	**Nov 8, 2025**	
Physical Address	Mailing Address	
30831 Euclid AVE **Wickliffe, Ohio 44092-1042** **United States**	**30831 Euclid AVE** **Wickliffe, Ohio 44092-1042** **United States**	

Business Information

Doing Business as	Division Name	Division Number
(blank)	**(blank)**	**(blank)**
Congressional District	State / Country of Incorporation	URL
Ohio 14	**Ohio / United States**	**(blank)**

Registration Dates

Activation Date	Submission Date	Initial Registration Date
Nov 13, 2024	**Nov 8, 2024**	**Oct 28, 2024**

Entity Dates

Entity Start Date	Fiscal Year End Close Date
Jul 15, 1996	**Dec 31**

Immediate Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Highest Level Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM.gov) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2. C.F.R. 200 Appendix XII. Their responses are displayed in the responsibility/qualification section of SAM.gov. Maintaining an active registration in SAM.gov demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure	Entity Type	Organization Factors
Corporate Entity (Not Tax Exempt)	**Business or Organization**	**Limited Liability Company**
Profit Structure		
For Profit Organization		

Socio-Economic Types

Self Certified Small Disadvantaged Business

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments	Debt Subject To Offset
No	**No**

EFT Indicator	CAGE Code
0000	**0A6Q7**

Points of Contact

Electronic Business

Alec Belich

30831 Euclid Avenue
Wickliffe, Ohio 44092
United States

Government Business

Alec Belich

30831 Euclid Avenue
Wickliffe, Ohio 44092
United States

Past Performance

Alec Belich

30831 Euclid Avenue
Wickliffe, Ohio 44092
United States

Service Classifications

NAICS Codes

Primary	NAICS Codes	NAICS Title
Yes	**238910**	**Site Preparation Contractors**
	327999	**All Other Miscellaneous Nonmetallic Mineral Product Manufacturing**

Disaster Response

Yes, this entity appears in the disaster response registry.

No, this entity does not require bonding to bid on contracts.

Bonding Levels	Dollars
	(blank)

States	Counties	Metropolitan Statistical Areas
Ohio	**(blank)**	**(blank)**

SAM.GOV®

PITTSBURG TANK & TOWER COMPANY, INCORPORATED

Unique Entity ID	CAGE / NCAGE	Purpose of Registration
ND91ECGHPEA6	**0M025**	**All Awards**
Registration Status	Expiration Date	
Active Registration	**Dec 16, 2025**	
Physical Address	Mailing Address	
1 Watertank PL **Henderson, Kentucky 42420-4481** **United States**	**1 Watertank Place** **PO Box 913** **Henderson, Kentucky 42419-0517** **United States**	

Business Information

Doing Business as	Division Name	Division Number
PITTSBURG TANK & TOWER CO INCORPORATED	**(blank)**	**(blank)**
Congressional District	State / Country of Incorporation	URL
Kentucky 01	**Kansas / United States**	**www.pttg.com**

Registration Dates

Activation Date	Submission Date	Initial Registration Date
Dec 18, 2024	**Dec 16, 2024**	**Jul 6, 2001**

Entity Dates

Entity Start Date	Fiscal Year End Close Date
Aug 17, 1919	**Dec 31**

Immediate Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Highest Level Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM.gov) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2. C.F.R. 200 Appendix XII. Their responses are displayed in the responsibility/qualification section of SAM.gov. Maintaining an active registration in SAM.gov demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure	Entity Type	Organization Factors

Corporate Entity (Not Tax Exempt) **Business or Organization** **Manufacturer of Goods**

Profit Structure
For Profit Organization

Socio-Economic Types

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments	Debt Subject To Offset
Yes	**No**

EFT Indicator	CAGE Code
0000	**0M025**

Points of Contact

Electronic Business

Ben Johnston, President
1 Watertank Place
P.O. Box 913
Henderson, Kentucky 42419
United States

Jordan Pyles, Vice President
1 Watertank Place
P.O. Box 517
Henderson, Kentucky 42419
United States

Government Business

Ben Johnston, President
1 Watertank Place
P.O. Box 913
Henderson, Kentucky 42419
United States

Jordan Pyles, Vice President
1 Watertank Place
P.O. Box 517
Henderson, Kentucky 42419
United States

Service Classifications

NAICS Codes

Primary	NAICS Codes	NAICS Title
Yes	**332420**	**Metal Tank (Heavy Gauge) Manufacturing**
	237110	**Water And Sewer Line And Related Structures Construction**
	541620	**Environmental Consulting Services**

Disaster Response

This entity does not appear in the disaster response registry.

An official website of the United States government Here's how you know

Federal Service Desk Help During Temporary Government Shutdown
Show Details
Oct 9, 2025

Revolutionary FAR Overhaul Impacts to SAM.gov Show Details
Aug 15, 2025

See All Alerts

SAM.GOV®

Requests | Notifications | Workspace | Sign Out

Home | Search | Data Bank | Data Services | Help

Search | All Words | e.g. 1606N020Q02 | Search Results | Saved Searches

Filter By

Keyword Search

For more information on how to use our keyword search, visit our help guide

Simple Search | Search Editor

- ◯ Any Words
- ◯ All Words
- ◯ Exact Phrase

e.g. 123456789, Smith Corp

"JAB Supply Corporation" ×

- Classification
- Excluded Individual
- Excluded Entity
- Federal Organizations
- Exclusion Type
- Exclusion Program
- Location
- Dates

Reset

No matches found

We couldn't find a match for your search criteria.

Please try another search or go back to previous results.

Go Back

Feedback

⚠ WARNING

This is a U.S. General Services Administration Federal Government computer system that is **"FOR OFFICIAL USE ONLY."** This system is subject to monitoring. Individuals found performing unauthorized activities are subject to disciplinary action including criminal prosecution.

This system contains Controlled Unclassified Information (CUI). All individuals viewing, reproducing or disposing of this information are required to protect it in accordance with 32 CFR Part 2002 and GSA Order CIO 2103.2 CUI Policy.

SAM.gov

An official website of the U.S. General Services Administration

ALL CONTRACTORS SUPPLY LLC

Unique Entity ID	CAGE / NCAGE	Purpose of Registration
S7W1JYKKYPV4	**9X6X1**	**All Awards**
Registration Status	Expiration Date	
Inactive Registration	**Jun 6, 2025**	
Physical Address	Mailing Address	
7750 Division DR **Mentor, Ohio 44060-4860** **United States**	**7750 Division DR** **Mentor, Ohio 44060-4860** **United States**	

Business Information

Doing Business as	Division Name	Division Number
(blank)	**All Contractors Supply Llc**	**(blank)**
Congressional District	State / Country of Incorporation	URL
Ohio 14	**Ohio / United States**	**(blank)**

Registration Dates

Activation Date	Submission Date	Initial Registration Date
Jun 10, 2024	**Jun 6, 2024**	**Jun 6, 2024**

Entity Dates

Entity Start Date	Fiscal Year End Close Date
Feb 25, 2011	**Dec 31**

Immediate Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Highest Level Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM.gov) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2. C.F.R. 200 Appendix XII. Their responses are displayed in the responsibility/qualification section of SAM.gov. Maintaining an active registration in SAM.gov demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure	Entity Type	Organization Factors
Corporate Entity (Not Tax Exempt)	**Business or Organization**	**Limited Liability Company**
Profit Structure		
For Profit Organization		

Socio-Economic Types

Minority-Owned Business
Self Certified Small Disadvantaged Business
Women-Owned Business
Individual or concern, other than one of the preceding
DOT Certified DBE

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments	Debt Subject To Offset
Yes	**No**

EFT Indicator	CAGE Code
0000	**9X6X1**

Points of Contact

Electronic Business

Daniel J Gilmore, Operation Manager

7750 Division DR
Mentor, Ohio 44060
United States

Government Business

Kim A Gilmore

7750 Division DR
Mentor, Ohio 44060
United States

Service Classifications

NAICS Codes

Primary	NAICS Codes	NAICS Title
Yes	**423390**	**Other Construction Material Merchant Wholesalers**

Disaster Response

Yes, this entity appears in the disaster response registry.

Bonding Levels	Dollars
(blank)	**(blank)**

States	Counties	Metropolitan Statistical Areas
Any	**(blank)**	**(blank)**

verdantas

8150 Sterling Court
Mentor, Ohio 44060
440-951-9000

November 4, 2025

Harco National Insurance Company
4200 Six Forks Road Suite 1400
Raleigh, NC 27609

Re: Contract A: Harpersfield Water Tank & Waterline Improvements
Ashtabula County Board of Commissioners
Great Lakes Crushing, Ltd.

To Whom It May Concern:

In compliance with Ohio Revised Code Section 9.32, we are hereby notifying you on behalf of the Ashtabula County Board of Commissioners that the Ashtabula County Board of Commissioners awarded a contract for the above referenced project to Great Lakes Crushing, Ltd., currently named as principal on a Bond given as surety to the Ashtabula County Board of Commissioners.

Should you have any questions or require additional information, please feel free to contact our office.

Respectfully,

VERDANTAS, LLC

Ryan Schuster, P.E.
Project Manager

RS:mep

cc: Elizabeth Rafferty, CBIZ Insurance Services

H:\2024\241222\SPEC - Contract B\Contract Forms\Contract A\Contract Letters.docx

Michael Pittenger

From: Michael Pittenger
Sent: Tuesday, November 4, 2025 2:47 PM
To: First Energy; Dominion East Ohio; 'cdoilgas858@gmail.com'; 'barrmbarr1@hotmail.com'; Chris.baker@windstream.com; 'jason.sprague@charter.com'; 'jawatson@aquaamerica.com'; 'claussr@yahoo.com'; 'waterworks@genevaohio.gov'
Subject: Construction Project Commencement - 241222 - Ashtabula Co - Contract A: Harpersfield Water Tank & Waterline Improvements
Attachments: Utility email.pdf; 011100 - SUMMARY OF WORK.pdf; Bidders List Report.pdf

Please see attached Notice of Construction Project Commencement.

Plans & Specs can be reviewed on our website at https://bids.ctconsultants.com - Opened & Awarded tab

Thank You,

Michael E. Pittenger
Contract Document Coordinator
C: 440-487-6148 | **O:** 440-530-2205
8150 Sterling Court, Mentor, OH 44060

verdantas

June 24, 2025

Alec Belich,
Member
Great Lakes Crushing Ltd
30831 Euclid Avenue
Willowick, OH 44092

SUBJECT: Certificate of Compliance Certification
Status: Conditional
Effective Dates: June 24, 2025 - December 24, 2025

Dear Alec Belich:

The Ohio Department of Development, Minority Business Development Division (MBDD) hereby issues Great Lakes Crushing Ltd a Certificate of Compliance. The Certificate shall be in force for 180 days from the date of issuance.

Section 9.47 of the Revised Code requires MBDD to review affirmative action programs and plans of each company desiring to participate on state or state-assisted construction contracts and determine whether that company has violated any affirmative action programs and goals for which that company was obligated to meet during the preceding five years. Based on the above-referenced review, MBDD has found no such violation(s).

Please be advised that for Great Lakes Crushing Ltd to maintain certification status, Great Lakes Crushing Ltd must continue to ensure equal employment opportunities in accordance with applicable state and federal EEO laws, rules, regulations, guidelines, and meet those contractual obligations for which Great Lakes Crushing Ltd has agreed.

Sincerely,

Monica L. Womack
Chief

Frank LaRose
Ohio Secretary of State

Mon Oct 06 2025

Entity#: 953334

Filing Type: DOMESTIC LIMITED LIABILITY COMPANY

Original Filing Date: 09/18/1996

Location: --

Business Name: GREAT LAKES CRUSHING LTD.

Status: Active

Exp. Date: -

Agent/Registrant Information

MARK BELICH
30831 EUCLID AVENUE
WICKLIFFE OH 44092
07/15/2020
Active

Filings

Filing Type	Date of Filing	Document ID
DOMESTIC LLC - ARTICLES OF ORGANIZATION	09/18/1996	5616_0120
SUBSEQUENT AGENT APPOINT/LIMITED/LIABILTY/PARTNERS	09/21/2000	200028500710
SUBSEQUENT AGENT APPOINT/LIMITED/LIABILTY/PARTNERS	07/14/2010	201020201208
SUBSEQUENT AGENT APPOINT/LIMITED/LIABILTY/PARTNERS	07/15/2020	202019701322

UNITED STATES OF AMERICA
STATE OF OHIO
OFFICE OF SECRETARY OF STATE

I, Frank LaRose, Secretary of State of the State of Ohio, do hereby certify that this is a list of all records approved on this business entity and in the custody of the Secretary of State.

Witness my hand and the seal of the Secretary of State at Columbus, Ohio this 6th of October, A.D. 2025

Ohio Secretary of State

DOC ID ----> 202019701322

DATE	DOCUMENT ID	DESCRIPTION	FILING	EXPED	CERT	COPY
07/15/2020	202019701322	SUBSEQUENT AGENT APPOINTMENT (LSA)	25.00	0.00	0.00	0.00

Receipt

This is not a bill. Please do not remit payment.

GREAT LAKES CRUSHING, LTD.
30831 EUCLID AVENUE
WICKLIFFE, OH 44092

STATE OF OHIO
CERTIFICATE

Ohio Secretary of State, Frank LaRose

953334

It is hereby certified that the Secretary of State of Ohio has custody of the business records for

GREAT LAKES CRUSHING LTD.

and, that said business records show the filing and recording of:

Document(s)	Document No(s):
SUBSEQUENT AGENT APPOINTMENT	**202019701322**

Effective Date: 07/15/2020

United States of America
State of Ohio
Office of the Secretary of State

Witness my hand and the seal of the Secretary of State at Columbus, Ohio this 15th day of July, A.D. 2020.

Ohio Secretary of State

By signing and submitting this form to the Ohio Secretary of State, the undersigned hereby certifies that he or she has the requisite authority to execute this document.

Required

Agent update must be signed by an authorized representative (see instructions for specific information).

If authorized representative is an individual, then they must sign in the "signature" box and print their name in the "Print Name" box.

If authorized representative is a business entity, not an individual, then please print the business name in the "signature" box, an authorized representative of the business entity must sign in the "By" box and print their name in the "Print Name" box.

Mark M Belich

Signature

By (if applicable)

Mark Belich

Print Name

Signature

By (if applicable)

Print Name

PROJECT: Harpersfield Water Tank & Waterline Improvements
OWNER: Ashtabula Co. Bd. of Commissioners
PROJECT NO.: 241222
BID OPENING: October 3, 2025

BID SUMMARY

	BIDDER	BASE BID Spheroid Tank & Waterline	ALTERNATE BID Glass Fused to Steel Bolted Elevated Tank & Waterline
1	Great Lakes Crushing, LTD	$3,598,052.00	$4,048,052.00
2	Caldwell Tanks, Inc.	$4,632,000.00	NO BID

Harpersfield Water Tank & Waterline Improvements
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Base Bid - Spheroid Tank & Waterline
Project No. 200426

LIST OF BIDDERS

BIDDER

1 Great Lakes Crushing, LTD
30831 Euclid Avenue
Willowick, OH 44092
Phone number: (440) 944-5500

2 Caldwell Tanks, Inc.
4000 Tower Rd.
Louisville, KY 40219
Phone number: (502) 964-3361

Harpersfield Water Tank & Waterline Improvements
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Base Bid - Spheroid Tank & Waterline
Project No. 200426

LIST OF TOTALS

NOTE: Bidders Informal Totals appear if different than bid tab calculated total.

	Name	Calculated Total	Bidder's Informal Totals
1.	Great Lakes Crushing, LTD	$3,598,052.00	
2.	Caldwell Tanks, Inc.	$4,632,000.00	

Harpersfield Water Tank & Waterline Improvements
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Base Bid - Spheroid Tank & Waterline
Project No. 200426

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
1. 1.00 LS OF (SPC) PRECONSTRUCTION VIDEO DOCUMENTATION						
Great Lakes Crushing, LTD	$500.00	$500.00	$1,000.00		$1,000.00	
Caldwell Tanks, Inc.	$1,200.00	$1,000.00	$2,200.00		$2,200.00	
2. 1.00 LS OF (SPC) BONDS AND INSURANCES, AS PER PLAN						
Great Lakes Crushing, LTD	$10,000.00	$35,000.00	$45,000.00		$45,000.00	
Caldwell Tanks, Inc.	$69,500.00	$0.00	$69,500.00		$69,500.00	
3. 1.00 LS OF (201) CLEARING AND GRUBBING, AS PER PLAN						
Great Lakes Crushing, LTD	$2,000.00	$3,000.00	$5,000.00		$5,000.00	
Caldwell Tanks, Inc.	$6,100.00	$9,000.00	$15,100.00		$15,100.00	
4. 1.00 LS OF (203) EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN						
Great Lakes Crushing, LTD	$40,000.00	$20,000.00	$60,000.00		$60,000.00	
Caldwell Tanks, Inc.	$61,500.00	$0.00	$61,500.00		$61,500.00	
5. 30.00 SY OF (SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN						
Great Lakes Crushing, LTD	$125.00	$200.00	$325.00		$9,750.00	
Caldwell Tanks, Inc.	$220.00	$100.00	$320.00		$9,600.00	
6. 410.00 SY OF (451) 6 INCH REINFORCED CONCRETE DRIVES AND APRONS, AS PER PLAN						
Great Lakes Crushing, LTD	$50.00	$75.00	$125.00		$51,250.00	
Caldwell Tanks, Inc.	$168.00	$130.00	$298.00		$122,180.00	
7. 1.00 LS OF (SPC) GENERAL CONSTRUCTION, AS PER PLAN						
Great Lakes Crushing, LTD	$1,500,000.00	$1,750,000.00	$3,250,000.00		$3,250,000.00	
Caldwell Tanks, Inc.	$2,620,670.00	$1,411,130.00	$4,031,800.00		$4,031,800.00	
8. 5.00 CY OF (601) ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN						
Great Lakes Crushing, LTD	$200.00	$500.00	$700.00		$3,500.00	
Caldwell Tanks, Inc.	$394.00	$300.00	$694.00		$3,470.00	

Harpersfield Water Tank & Waterline Improvements
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Base Bid - Spheroid Tank & Waterline
Project No. 200426

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
9. 4.00 EACH OF (606) BOLLARD, AS PER PLAN						
Great Lakes Crushing, LTD	$1,000.00	$800.00	$1,800.00		$7,200.00	
Caldwell Tanks, Inc.	$1,000.00	$1,210.00	$2,210.00		$8,840.00	
10. 1.00 EACH OF (607) DOUBLE GATE, AS PER PLAN						
Great Lakes Crushing, LTD	$5,000.00	$8,000.00	$13,000.00		$13,000.00	
Caldwell Tanks, Inc.	$2,100.00	$4,000.00	$6,100.00		$6,100.00	
11. 34.00 FT OF (611) 12" CONDUIT, TYPE A, AS PER PLAN						
Great Lakes Crushing, LTD	$50.00	$75.00	$125.00		$4,250.00	
Caldwell Tanks, Inc.	$90.00	$50.00	$140.00		$4,760.00	
12. 1.00 LS OF (624) MOBILIZATION						
Great Lakes Crushing, LTD	$1.00	$1.00	$2.00		$2.00	
Caldwell Tanks, Inc.	$50,000.00	$0.00	$50,000.00		$50,000.00	
13. 1.00 EACH OF (638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN						
Great Lakes Crushing, LTD	$10,000.00	$20,000.00	$30,000.00		$30,000.00	
Caldwell Tanks, Inc.	$35,000.00	$26,180.00	$61,180.00		$61,180.00	
14. 1.00 EACH OF (638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN						
Great Lakes Crushing, LTD	$6,000.00	$7,000.00	$13,000.00		$13,000.00	
Caldwell Tanks, Inc.	$3,920.00	$9,500.00	$13,420.00		$13,420.00	
15. 240.00 FT OF (638) 12 INCH WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND CAST IRON MECHANICAL						
Great Lakes Crushing, LTD	$100.00	$140.00	$240.00		$57,600.00	
Caldwell Tanks, Inc.	$151.00	$242.00	$393.00		$94,320.00	
16. 1.00 LS OF (SPC) LAWN RESTORATION, AS PER PLAN						
Great Lakes Crushing, LTD	$4,500.00	$3,000.00	$7,500.00		$7,500.00	
Caldwell Tanks, Inc.	$13,450.00	$4,100.00	$17,550.00		$17,550.00	

Harpersfield Water Tank & Waterline Improvements
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Base Bid - Spheroid Tank & Waterline
Project No. 200426

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
17. 1.00 LS OF (SPC) INSTRUMENTATION AND CONTROL (SCADA) SYSTEM INTEGRATION ALLOWANCE						
Great Lakes Crushing, LTD	$15,000.00	$0.00	$15,000.00		$15,000.00	
Caldwell Tanks, Inc.	$15,000.00	$0.00	$15,000.00		$15,000.00	
18. 1.00 LS OF (SPC) TEMPORARY SEDIMENT AND EROSION CONTROL, AS PER PLAN						
Great Lakes Crushing, LTD	$7,000.00	$3,000.00	$10,000.00		$10,000.00	
Caldwell Tanks, Inc.	$21,480.00	$9,000.00	$30,480.00		$30,480.00	
19. 1.00 LS OF (SPC) ELECTRIC COMPANY CHARGES ALLOWANCE						
Great Lakes Crushing, LTD	$15,000.00	$0.00	$15,000.00		$15,000.00	
Caldwell Tanks, Inc.	$15,000.00	$0.00	$15,000.00		$15,000.00	

Harpersfield Water Tank & Waterline Improvements
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Alternate - Glass Fused to Steel Bolted Elevated Tank & Waterline
Project No. 200426

LIST OF BIDDERS

	BIDDER
1	Great Lakes Crushing, LTD 30831 Euclid Avenue Willowick, OH 44092 Phone number: (440) 944-5500

Harpersfield Water Tank & Waterline Improvements
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Alternate - Glass Fused to Steel Bolted Elevated Tank & Waterline
Project No. 200426

LIST OF TOTALS

NOTE: Bidders Informal Totals appear if different than bid tab calculated total.

	Name	Calculated Total	Bidder's Informal Totals
1.	Great Lakes Crushing, LTD	$4,048,052.00	

Harpersfield Water Tank & Waterline Improvements
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Alternate - Glass Fused to Steel Bolted Elevated Tank & Waterline
Project No. 200426

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
1. 1.00 LS OF (SPC) PRECONSTRUCTION VIDEO DOCUMENTATION						
Great Lakes Crushing, LTD	$500.00	$500.00	$1,000.00		$1,000.00	
2. 1.00 LS OF (SPC) BONDS AND INSURANCES, AS PER PLAN						
Great Lakes Crushing, LTD	$10,000.00	$35,000.00	$45,000.00		$45,000.00	
3. 1.00 LS OF (201) CLEARING AND GRUBBING, AS PER PLAN						
Great Lakes Crushing, LTD	$2,000.00	$3,000.00	$5,000.00		$5,000.00	
4. 1.00 LS OF (203) EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN						
Great Lakes Crushing, LTD	$40,000.00	$20,000.00	$60,000.00		$60,000.00	
5. 30.00 SY OF (SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN						
Great Lakes Crushing, LTD	$125.00	$200.00	$325.00		$9,750.00	
6. 410.00 SY OF (451) 6 INCH REINFORCED CONCRETE DRIVES AND APRONS, AS PER PLAN						
Great Lakes Crushing, LTD	$50.00	$75.00	$125.00		$51,250.00	
7. 1.00 LS OF (SPC) GENERAL CONSTRUCTION, AS PER PLAN						
Great Lakes Crushing, LTD	$1,500,000.00	$2,200,000.00	$3,700,000.00		$3,700,000.00	
8. 5.00 CY OF (601) ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN						
Great Lakes Crushing, LTD	$200.00	$500.00	$700.00		$3,500.00	
9. 4.00 EACH OF (606) BOLLARD, AS PER PLAN						
Great Lakes Crushing, LTD	$1,000.00	$800.00	$1,800.00		$7,200.00	
10. 1.00 EACH OF (607) DOUBLE GATE, AS PER PLAN						
Great Lakes Crushing, LTD	$5,000.00	$8,000.00	$13,000.00		$13,000.00	
11. 34.00 FT OF (611) 12" CONDUIT, TYPE A, AS PER PLAN						
Great Lakes Crushing, LTD	$50.00	$75.00	$125.00		$4,250.00	

Harpersfield Water Tank & Waterline Improvements
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Alternate - Glass Fused to Steel Bolted Elevated Tank & Waterline
Project No. 200426

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
12. 1.00 LS OF (624) MOBILIZATION						
Great Lakes Crushing, LTD	$1.00	$1.00	$2.00		$2.00	
13. 1.00 EACH OF (638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN						
Great Lakes Crushing, LTD	$10,000.00	$20,000.00	$30,000.00		$30,000.00	
14. 1.00 EACH OF (638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, AS PER PLAN						
Great Lakes Crushing, LTD	$6,000.00	$7,000.00	$13,000.00		$13,000.00	
15. 240.00 FT OF (638) 12 INCH WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND CAST IRON MECHANICAL						
Great Lakes Crushing, LTD	$100.00	$140.00	$240.00		$57,600.00	
16. 1.00 LS OF (SPC) LAWN RESTORATION, AS PER PLAN						
Great Lakes Crushing, LTD	$4,500.00	$3,000.00	$7,500.00		$7,500.00	
17. 1.00 LS OF (SPC) INSTRUMENTATION AND CONTROL (SCADA) SYSTEM INTEGRATION ALLOWANCE						
Great Lakes Crushing, LTD	$15,000.00	$0.00	$15,000.00		$15,000.00	
18. 1.00 LS OF (SPC) TEMPORARY SEDIMENT AND EROSION CONTROL, AS PER PLAN						
Great Lakes Crushing, LTD	$7,000.00	$3,000.00	$10,000.00		$10,000.00	
19. 1.00 LS OF (SPC) ELECTRIC COMPANY CHARGES ALLOWANCE						
Great Lakes Crushing, LTD	$15,000.00	$0.00	$15,000.00		$15,000.00	

Contract Forms
Contract B
Rudzik Excavating

REVISED CODE §1311.252
NOTICE OF COMMENCEMENT OF A PUBLIC IMPROVEMENT

State of Ohio)
) SS:
County of Ashtabula)

J.P. Ducro, IV, President (the "Affiant"), being first duly sworn, says that:

1. Affiant is the President of the Ashtabula County Board of Commissioners, at 25 West Jefferson Street, Bldg. E, Jefferson, Ohio for a contract executed on 12/23/25, 2025.

2. The Public Authority will be commencing a public improvement identified as follows:
Contract B: South River Road Waterline Extension Phase 2

3. The following lists the name, address, and surety of each of the principal contractors working on this public improvement:

TRADE	CONTRACTOR	SURETY
Excavating	Rudzik Excavating, Inc. 401 Lowellville Road Struthers, Ohio 44471	Western Surety Company 151 N. Franklin Street Chicago, IL 60606

4. For the purpose of service an affidavit pursuant to Revised Code §1311.26, service may be made upon the following representative of the Public Authority: J.P. Ducro, IV, President, at the Ashtabula County Board of Commissioners, 25 West Jefferson Street, Bldg. E, Jefferson, Ohio 44047.

J.P. Ducro, IV, President

SWORN TO before me and subscribed in my presence this 23rd day of December, 2025.

[SEAL]
Notary Public
comm. exp 7/14/2030

Prepared by:

VERDANTAS, LLC
8150 Sterling Court
Mentor, Ohio 44060

NOTICE OF AWARD

TO: Rudzik Excavating, Inc.
401 Lowellville Road
Struthers, Ohio 44471

PROJECT: CONTRACT B
SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2

You are notified that your Bid which was opened on October 3, 2025 has been accepted for items in the amount of $1,415,710.69 at the unit bid prices as reflected in the bid tabulation contained herein for Parts B1 and B2.

You are required by the Instructions to Bidders to execute the Agreement and furnish the required Bonds, Certificates of Insurance, and other documents within 10 calendar days from the date of receipt of this Notice.

Failure to comply with these conditions within the time specified will entitle Owner to consider your Bid in default, to annul this Notice and to declare your Bid Security forfeited.

The Owner will return to you one (1) fully signed set of the contract documents.

ACKNOWLEDGMENT OF AWARD

ASHTABULA COUNTY BOARD OF COMMISSIONERS

Lisa Hawkins

Lisa Hawkins, County Clerk of the Commissioners

ACKNOWLEDGMENT

RUDZIK EXCAVATING, INC.

Jeffrey Rudzik, President

Resolution No. 2025-567 December 23, 2025

RESOLUTION APPROVING THE CONSTRUCTION CONTRACT BETWEEN RUDZIK EXCAVATING, INC., AND ASHTABULA COUNTY FOR THE SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2 PROJECT, CONTRACT B, ACDES

WHEREAS, Doug Starkey, Director of the Ashtabula County Department of Environmental Services, has presented a Contract for the approval of the Board, to-wit:

PARTIES: Ashtabula County Department of Environmental Services, 36 W. Walnut St., Jefferson, OH 44047
Ashtabula County Commissioners, 25 West Jefferson St., Jefferson, OH 44047
Rudzik Excavating, Inc. 401 Lowellville Road, Struthers, Ohio 44471

SCOPE: Rudzik Excavating, Inc., to provide Ashtabula County Dept of Environmental Services construction services, labor, materials, equipment, and all things collectively called "work "in Exhibit B, pertinent to the South River Road Waterline Phase 2 project.

COST: Not to Exceed, contracted sum of $1,415,710.69 and a 10% contingency for alternate unit priced items.

TERM: The term of this agreement shall commence on the Effective Date and continue through 365 days from the Notice to Proceed, unless otherwise terminated earlier.

WHEREAS, this Board of Commissioners concurs with the recommendation of the Director and finds this contract to be reasonable and necessary; now

THEREFORE, BE IT RESOLVED, By the Board of Commissioners of Ashtabula County, Ohio that the Contract noted above is approved in accordance with the copy now on file in this office.

BE IT FURTHER RESOLVED that the President of the Board, on behalf of the Board of Commissioners of Ashtabula County, is authorized to execute any and all necessary documents.

ASHTABULA COUNTY COMMISSIONERS

CERTIFICATION PAGE

Resolution No. 2025-567

December 23, 2025

RESOLUTION APPROVING THE CONSTRUCTION CONTRACT BETWEEN RUDZIK EXCAVATING, INC., AND ASHTABULA COUNTY FOR THE SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2 PROJECT, CONTRACT B, ACDES

Upon the motion of Casey R. Kozlowski, seconded by J.P. Ducro IV.

VOTE:

J.P. Ducro IV	**Aye**
Casey R. Kozlowski	**Aye**
Kathryn L. Whittington	**Absent**

CERTIFICATE OF CLERK

IT IS HEREBY CERTIFIED that the foregoing is a true and correct transcript of a resolution acted upon and duly passed by the Board of County Commissioners of Ashtabula County, Ohio, on the date noted above.

Lisa Hawkins

Lisa Hawkins, Clerk of the Board
Board of County Commissioners
Ashtabula County, Ohio

RESOLUTION RECEIVING BIDS AND AWARDING FOR CONTRACT B: SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2, TO RUDZIK EXCAVATING, INC., STRUTHERS OHIO, ACDES

WHEREAS, a request and recommendation has been received for the approval of the Board of Commissioners to award the South River Rd Waterline Extension Phase 2 Project, contract B; and

WHEREAS, On September 9, 2025, by Resolution No 2025-386, bids were ordered, and bids were received on October 3, 2025 for the South River Rd Waterline Extension Phase 2 Project, contract B part B1 and B2, as follows:

	Contract B Part B1 South River Rd, Brandt Rd and Atkins Rd.	Contract B Part B2 South Broadway	Total Bid Parts B1 & B2
Rudzik Excavating, Inc.	$1,280,864.41	$134,846.28	$1,415,710.69
Union Industrial Contractors	$1,349,164.00	$175,234.00	$1,524,398.00
Pollard Land Services, Inc.	$1,500,727.00	$147,431.00	$1,648,158.00
Chivers Construction Co. Inc.	$1,574,455.00	$128,455.00	$1,702,910.00
Fabrizi Trucking & Paving Co., Inc.	$1,659,482.70	$184,536.00	$1,844,018.70
Cronin Enterprises, LLC	$1,718,953.78	$195,328.35	$1,914,282.13
Great Lakes Crushing, LTD	$1,740,814.00	$193,128.00	$1,933,942.00
S.E.T Inc.	$2,192,945.00	$241,274.00	$2,434,219.00
J.S. Bova Excavating	$2,318,864.00	$325,295.00	$2,644,159.00

WHEREAS, Douglas Starkey, Director of the Ashtabula County Department of Environmental Services, along with Verdantas and staff, reviewed the bids and has recommended the bid be awarded to Rudzik Excavating, Inc. for the total of the total bid of $1,415,710.69 for part B1 and B2 for the South River Waterline Extension phase 2, as the lowest and best bid received; and

WHEREAS, this Board would concur with that recommendation; now

THEREFORE, BE IT RESOLVED, By the Board of Commissioners of Ashtabula County, Ohio, that the bid for the South River Rd Waterline Extension Phase 2 Project be awarded to Rudzik Excavating, Inc, as outlined above.

ASHTABULA COUNTY COMMISSIONERS

CERTIFICATION PAGE

Resolution No. 2025-444 **October 16, 2025**

RESOLUTION RECEIVING BIDS AND AWARDING FOR CONTRACT B: SOUTH RIVER RD WATERLINE EXTENSION PHASE 2, TO RUDZIK EXCAVATING, INC., STRUTHERS OHIO, ACDES

Upon the motion of Kathryn L. Whittington, seconded by Casey R. Kozlowski.

VOTE:

J.P. Ducro IV	**Aye**
Casey R. Kozlowski	**Aye**
Kathryn L. Whittington	**Aye**

CERTIFICATE OF CLERK

IT IS HEREBY CERTIFIED that the foregoing is a true and correct transcript of a resolution acted upon and duly passed by the Board of County Commissioners of Ashtabula County, Ohio, on the date noted above.

Lisa Hawkins

Lisa Hawkins, Clerk of the Board
Board of County Commissioners
Ashtabula County, Ohio

CONTRACT

FOR CONTRACT B - SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2

THIS CONTRACT, made and entered into at Jefferson, Ohio, this 23rd day of December, 2025, by and between the Ashtabula County Board of Commissioners ("OWNER"), Ohio and Rudzik Excavating, Inc. ("CONTRACTOR").

WITNESSETH: That the said CONTRACTOR has agreed and by this presents does agree with the OWNER for the consideration hereinafter mentioned and contained, and under penalty expressed in a bond given with these presents, and herein contained or hereunto annexed, to furnish at its own cost and expense, all the necessary tools, equipment, materials, labor, and tests in an expeditious, substantial and workmanlike manner, the equipment and appurtenances herein contemplated, commencing work within 20 days from the date of the Notice to Proceed and executing the work within the time and in the manner specified and in conformity with the requirements set forth in this Contract.

The following form essential parts of the Contract (may vary with project).

1. Advertisement for Bids/Public Notice to Bidders
2. Instruction to Bidders
3. Bid Forms and Proposal
4. Contract Forms and Exhibits
5. Contract Bond – ORC 153.571 or ORC 153.57
6. Contract Provisions
7. General Conditions
8. Supplementary Conditions
9. Specifications
10. Specific Project Requirements
11. Prevailing Wage Rate Schedule
12. Contract Drawings; if any.
13. Addenda; if any.

The CONTRACTOR agrees and understands that the work on this contract shall be subject to the acceptance of the OWNER based upon and in accordance with the contract specifications and contract plans and drawings on file in the office of the OWNER.

The CONTRACTOR agrees that each individual employed by the CONTRACTOR or any Subcontractor and engaged in work on the project under this contract shall be paid by prevailing wage established by the Department of Industrial Relations of the State of Ohio or the U.S. Department of Labor (Davis-Bacon Act) as detailed in the section titled "Wage Rates." This shall occur regardless of any contractual relationship which may be said to exist between the Contractor or any Subcontractor and such individual.

The CONTRACTOR shall proceed with the said work in a prompt and diligent manner and shall do the several parts thereof. Further the CONTRACTOR shall complete the whole of said work in accordance with the specifications and contract drawings to the satisfaction of the OWNER on or before the time stated, and in default of completion within the time as fixed, the CONTRACTOR shall pay to the OWNER as liquidated damages, an amount equal to PER O.D.O.T. TABLE 108.07-1 SCHEDULE OF LIQUIDATED DAMAGES, for each and every day (Sundays and legal holidays excepted) the completion of the work may be delayed beyond the date fixed in the

manner and as stipulated.

It is hereby mutually agreed that the OWNER is to pay and the CONTRACTOR is to receive, as full compensation for furnishing all materials and labor in building, constructing and testing and in all respect completing the herein described work and appurtenances in the manner and under the conditions herein specified, the prices stipulated in the proposal herein contained or hereto annexed and the total contract sum is $1,415,710.69.

This Contract shall be in full force and effect from the date of execution by the OWNER and CONTRACTOR.

IN WITNESS WHEREOF: The OWNER and CONTRACTOR hereunto affixed their signature the day and year first mentioned above.

RUDZIK EXCAVATING, INC.

Jeffrey Rudzik, President

ASHTABULA COUNTY BOARD OF COMMISSIONERS

12/23/25

J.P. Ducro, IV, President

I hereby certify that funds in the amount of One Million Four Hundred Fifteen Thousand Seven Hundred Ten 69/100 Dollars ($1,415,710.69) necessary for the foregoing Contract have been appropriated and are in the Treasury, or are in the process of collection, or are available through grants and/or loans from other funding sources.

Scott Yamamto, County Auditor

APPROVED AS TO FORM:

April Grabman, Prosecuting Attorney

Signature Page

AGREEMENT TITLE: CONTRACT FOR CONTRACT B - SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2

APPROVED as to Legal Form Only.

Approved by: _____

April R. Grabman
Ashtabula County Prosecutor

Dated: 12/18/2025

Reviewed by Earl F. Stoll, Assistant Prosecutor ES

THE CONTRACTOR SHALL FURNISH THE FOLLOWING ITEMS WITHIN 10 DAYS OF NOTIFICATION OF AWARD:

A) CERTIFICATE OF INSURANCE FOR CONTRACTOR'S PUBLIC LIABILITY INSURANCE POLICY AND AUTOMOTIVE INSURANCE POLICY

Owner, Verdantas, LLC, CT Consultants, Inc., the Ohio EPA Director and the Ohio Water Development Authority Named as Additional Insured

B) CERTIFICATE OF INSURANCE FOR OWNER'S AND CONTRACTOR'S PROTECTIVE POLICY

Owner Named as Insured (No Additional Insured)

C) CERTIFICATE OF WORKER'S COMPENSATION

D) CONTRACT BOND THAT COMPLIES WITH ORC 153.54 AND 153.57

* D above is not required if a bond complying with ORC 153.54 and 153.571 (rollover bond) was submitted at time of bid.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 11/6/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
LITMAN INSURANCE AGENCY INC PO Box 50 Brookfield, OH 44403 License #:	PHONE (A/C, No, Ext): (330)448-2300	FAX (A/C, No): (330)448-2336
	E-MAIL ADDRESS: litmaninsurance@yahoo.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Erie Insurance Exchange	
	INSURER B : Erie Insurance Company	26263
	INSURER C : WESTCHESTER	
	INSURER D :	
	INSURER E :	
	INSURER F :	

INSURED
RUDZIK EXCAVATING, INC.
JEFF RUDZIK
PO Box 206
Struthers, OH 44471 OH 44471

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR X INCLUDES XCU X EMPLOYERS LIABILITY GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PRO-JECT ☐ LOC OTHER:	Y		Q610293850	7/17/2025	7/17/2026	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 1,000,000.00 $ 1,000,000.00 $ 5,000.00 $ 1,000,000.00 $ 2,000,000.00 $ 2,000,000.00 $
B	AUTOMOBILE LIABILITY X ANY AUTO X OWNED AUTOS ONLY ☐ SCHEDULED AUTOS X HIRED AUTOS ONLY ☒ NON-OWNED AUTOS ONLY			Q076730109	7/17/2025	7/17/2026	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 1,000,000.00 $ $ $ $
A	X UMBRELLA LIAB ☒ OCCUR X EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ☐ RETENTION $			Q311770113	7/17/2025	7/17/2026	EACH OCCURRENCE AGGREGATE $	$ 9,000,000.00 $ 9,000,000.00 $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N ☐ (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					X PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $
C	POLLUTION G74463423001 3/23/2025-3/23/2026 BUILDERS RISK			Q610293850	7/17/2025	7/17/2026	$10,000 DED $1415710	$5,000,000 $10000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER,VERDANTAS, LLC AND CT CONSULTANTS INC. 8150 STERLING CT. MENTOR OH 44060 AND OHIO WATER DEVELOPMENT AUTHORITY ARE LISTED AS ADDITIONAL INSURED WITH RESPECTS TO GENERAL LIABILITY FOR JOB:
CONTRACT B- SOUTH RIVER ROAD
WATERLINE EXTENSTION PHASE 2 CONTRACT AMOUNT $1,415,710.69

CERTIFICATE HOLDER

ASHTABULA COUNTY BOARD OF COMMISSIONERS
25 WEST JEFFERSON ST
JEFFERSON OH 44047

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

© 1988-2015 ACORD CORPORATION. All rights reserved.

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 11/6/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER LITMAN INSURANCE AGENCY INC PO Box 50 Brookfield, OH 44403 License #:	CONTACT NAME: PHONE (A/C, No, Ext): (330)448-2300 FAX (A/C, No): (330)448-2336 E-MAIL ADDRESS: litmaninsurance@yahoo.com
INSURED ASHTABULA COUNTY BOARD OF COMMISSIONERS 25 WEST JEFFERSON ST JEFFERSON OH 44047	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : ERIE INSURANCE COMPANY — 26263 INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$ 1,000,000
	[ ] CLAIMS-MADE [X] OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
	[X] OWNERS/CONTRACTORS						MED EXP (Any one person)	$
	[ ] PROTECTIVE LIABILITY			NEW ISSUE	11/4/2025	11/4/2026	PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	[ ] POLICY [ ] PRO-JECT [ ] LOC						PRODUCTS - COMP/OP AGG	$
	[ ] OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	[ ] ANY AUTO						BODILY INJURY (Per person)	$
	[ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	[ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	[ ] UMBRELLA LIAB [ ] OCCUR						EACH OCCURRENCE	$
	[ ] EXCESS LIAB [ ] CLAIMS-MADE						AGGREGATE	$
	[ ] DED [ ] RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						[ ] PER STATUTE [ ] OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] N/A						E.L. EACH ACCIDENT	$
	(Mandatory in NH)						E.L. DISEASE - EA EMPLOYEE	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CONTRACTOR: RUDZIK EXCAVATING INC.

PROJECT: CONTRACT B SOUTH RIVER ROAD WATERLINE EXTENSION PHASE 2
CONTRACT AMOUNT $1,415,710.69

CERTIFICATE HOLDER

CT CONSULTANTS INC.
8150 STERLING COURT
MENTOR, OH 44060

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

© 1988-2015 ACORD CORPORATION. All rights reserved.

The ACORD name and logo are registered marks of ACORD

Bureau of Workers' Compensation

30 W. Spring St.
Columbus, OH 43215

Certificate of Ohio Workers' Compensation

This certifies that the employer listed below participates in the Ohio State Insurance Fund as required by law. Therefore, the employer is entitled to the rights and benefits of the fund for the period specified. This certificate is only valid if premiums and assessments, including installments, are paid by the applicable due date. To verify coverage, visit www.bwc.ohio.gov, or call 1-800-644-6292.

This certificate must be conspicuously posted.

Policy number and employer
01229670

RUDZIK EXCAVATING INC
PO BOX 206
STRUTHERS OH 44471-0206

Period Specified Below
07/01/2025 to 07/01/2026



www.bwc.ohio.gov
Issued by: BWC

Stephanie McCloud

Administrator/CEO

You can reproduce this certificate as needed.

Ohio Bureau of Workers' Compensation

Required Posting

Section 4123.54 of the Ohio Revised Code requires notice of rebuttable presumption. Rebuttable presumption means an employee may dispute or prove untrue the presumption (or belief) that alcohol, marihuana or a controlled substance not prescribed by the employee's physician is the proximate cause (main reason) of the work-related injury.

The burden of proof is on the employee to prove the presence of alcohol, marihuana or a controlled substance was not the proximate cause of the work-related injury. An employee who tests positive or refuses to submit to chemical testing may be disqualified for compensation and benefits under the Workers' Compensation Act.

Bureau of Workers' Compensation

You must post this language with the Certificate of Ohio Workers' Compensation.

OhioBWC - Employer - Service: (State construction contractor look-up) - Results

Policy number: 1229670-0
Company name: RUDZIK EXCAVATING INC
Construction contractor status: APPROVED
Construction contractor status date: 2/28/2012

search again

Note: BWC has designed this database for those responsible for ensuring that a construction contractor or subcontractor has a drug-free program that complies with HB 80 for any State of Ohio public improvement project. A contractor, subcontractor or lower-tier subcontractor in an APPROVED status has agreed to implement or has implemented a BWC-approved drug-free program (Drug-Free Safety or comparable program) which makes the company compliant with the mandate of the Ohio legislature through HB 80. While state contracting authorities are expected to review this database for the most current information, you may print this as verification of your current status.

DELINQUENT PERSONAL PROPERTY STATEMENT

STATE OF OHIO)

) SS

COUNTY OF MAHONING)

Rudzik Excavating, Inc., having been awarded a contract by the Ashtabula County Board of Commissioners, Ohio, hereby affirms under oath, pursuant to Ohio Revised Code Section 5719.042, that at the time the bid was submitted, my company **was / was not (CIRCLE ONE)** charged with delinquent personal property taxes on the General Tax List of Personal Property for Ashtabula County, Ohio.

If such charge for delinquent personal property tax exists on the General Tax List of Personal Property for Ashtabula County, Ohio, the amount of such due and unpaid delinquent taxes, including due and unpaid penalties and interest shall be set forth below.

A copy of this statement shall be transmitted by the Taxing District's Fiscal Officer to the County Treasurer within thirty days of the date it is submitted. A copy of this statement shall also be incorporated into the Contract made between Ashtabula County Board of Commissioners, Ohio, and Rudzik Excavating, Inc., and no payment shall be made with respect to any Contract unless such statement has been so incorporated as a part thereof.

Delinquent Personal Property Tax	$ —
Penalties	$ —
Interest	$ —

RUDZIK EXCAVATING, INC.

Jeffrey Rudzik, President

Subscribed and sworn to before me this 7TH day of NOVEMBER, 2025.

Heidi Smith

Notary Public

My Commission Expires: May 24, 2027

NOTARIAL SEAL STATE OF OHIO

Heidi Smith
Notary Public, State of Ohio
My Commission Expires:
May 24, 2027

CF.5

AFFIDAVIT

OF COMPLIANCE WITH OHIO REVISED CODE SECTION 3517.13

STATE OF Ohio)

) SS

COUNTY OF Mahoning)

Jeffrey Rudzik being duly sworn deposes and states as follows:

1. I am duly authorized to make the statements contained herein on behalf of Rudzik Excavating, Inc. ("the Contracting Party").

2. The Contracting Party is a/an (select one):

   ☐ Individual, partnership, or other unincorporated business association (including without limitation, a professional association organized under Ohio Revised Code Chapter 1787), estate, or trust

   ☑ Corporation organized and existing under the laws of the State of Ohio

   ☐ Labor organization

3. I hereby affirm that the Contracting Party and each of the individuals specified in R.C. 3517.13(I) (with respect to non-corporate entities and labor organizations) or R.C. 3517.13(J) (with respect to corporations) are in full compliance with the political contribution limitations set forth in R.C. 3517.13(I) and (J), as applicable.

4. I understand that a false representation on this certification will incur penalties pursuant to 3517.992(R).

Affiant further sayeth naught.

By: _____
Jeffrey Rudzik

Title: President

SWORN TO BEFORE ME and subscribed in my presence this 7th day of November, 2025.

_____
Notary Public

NOTARIAL SEAL STATE OF OHIO

Heidi Smith
Notary Public, State of Ohio
My Commission Expires:
May 24, 2027

My commission expires: May 24, 2027

ESCROW AGREEMENT FOR CONTRACTOR'S RETAINAGE

In accordance with a certain Contract between the Ashtabula County Board of Commissioners, Ohio, (hereinafter referred to as "the Owner") and Rudzik Excavating, Inc., (hereinafter referred to as "the Contractor"), an Escrow Agent is hereby appointed to hold funds arising out of the Owner's agreement to pay retainage into an escrow fund, said Agent to be:

Andover Bank, 150 North Chestnut Street, P.O. Box 405, Jefferson, Ohio 44047,

All retained funds will be placed with the above Escrow Agent from the date your Contract is certified as being 50% complete pursuant to Sections 153.13, and 153.14 and 153.63 Ohio Revised Code.

During the time the aforementioned retained funds are in the custody of the Escrow Agent, the Escrow Agent has authority to invest the escrow funds in the classes of securities listed below which, in the judgment of the Escrow Agent, allow for the least risk to capital preservation and provide for a reasonable income. The income from investment of the escrowed funds shall be accumulated in the escrow account.

(a) Obligation issued or guaranteed as to interest and principal by the government of the United States, or obligations of the State of Ohio or any political subdivision thereof;

(b) Obligations including certificates of deposit of any national bank located in this State and/or any bank as defined by Section 1101.01, O.R.C.;

(c) Repurchase agreements fully secured by obligations of any kind specified in clauses (a) and (b) above; or

(d) Interest in any money market fund or trust, the investments of which are generally restricted to obligations of any of the kind specified in clauses (a) through (c) above.

The Escrow Agent shall hold the escrowed principal and interest until receipt of notice from the Owner, or until receipt of an Arbitration Order or an Order of the Court of Claims, or other appropriate courts, specifying the amount of the escrowed principal to be released and the person to whom it is to be released. Upon receipt of such a request or order, the Escrow Agent shall, within 30 days, pay such amount of principal and interest earned on the retainage to the Contractor less the Escrow Agent's fee.

It is understood that the Escrow Agent shall have no duties, obligations, or liabilities hereunder other than to hold and invest said funds and to deliver them in accordance with the provisions hereof.

RUDZIK EXCAVATING, INC.

Jeffrey Rudzik, President

ASHTABULA COUNTY BOARD OF COMMISSIONERS

J.P. Ducro, IV, President

Witness

Casey R. Kozlowski, Vice President

Kathryn L. Whittington

ESCROW WAIVER

In accordance with a certain Contract between the Ashtabula County Board of Commissioners, Ohio, (hereinafter referred to as "the Owner") and Rudzik Excavating, Inc., (hereinafter referred to as "the Contractor") it is mutually agreed by and between the parties hereto that because of the short-term duration of the within contract, no escrow account will be established pursuant to Sections 153.13, 153.14 and 153.63 of the Ohio Revised Code nor shall any interest be paid on any retainage.

RUDZIK EXCAVATING, INC.

NOT APPLICABLE – Contractor Signed Escrow Agreement

_____

Jeffrey Rudzik, President

ASHTABULA COUNTY BOARD OF COMMISSIONERS

NOT APPLICABLE – Contractor Signed Escrow Agreement

_____ _____

J.P. Ducro, IV, President Witness

_____

Casey R. Kozlowski, Vice President

_____

Kathryn L. Whittington

NOTICE TO PROCEED

Project: Contract B - South River Road Waterline Extension Phase 2

Owner: Ashtabula County Board of Commissioners
25 West Jefferson Street, Bldg. E
Jefferson, Ohio 44047

To: Rudzik Excavating, Inc.
401 Lowellville Road
Struthers, Ohio 44471

Date: December 29, 2025

You are hereby notified to commence work in accordance with the Contract. All work shall be completed by September 25, 2026.

ASHTABULA COUNTY BOARD OF COMMISSIONERS

J.P. Ducro, IV, President

REV. 07/15/25

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ **Go to *www.irs.gov/FormW9* for instructions and the latest information.**

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
RUDZIK EXCAVATING, INC.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☑ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) 5

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
401 LOWELLVILLE RD.

Requester's name and address (optional)

6 City, state, and ZIP code
STRUTHERS, OH 44471

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN,* later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number
[ ][ ][ ] - [ ][ ] - [ ][ ][ ][ ]

or

Employer identification number
34 - 1878933

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here **Signature of U.S. person ▶** Linda Smith **Date ▶** 11/7/2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9.*

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

CONTACT PHONE # 330-755-1540

THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE SHALL INSERT THE FOLLOWING CONTRACT DOCUMENTATION IN THE EXECUTED CONTRACT:

A) FINDINGS FOR RECOVERY – ORC 9.24
(http://ffr.ohioauditor.gov/)

B1) CHECK FOR DEBARRED CONTRACTORS IN THE STATE OF OHIO
(https://www.sos.state.oh.us/records/debarred-contractors/)

B2) CHECK FEDERAL SAM (System for Award Management) for FEDERAL FUNDING (including sub-contractors), (if applicable)
(https://www.sam.gov/SAM/)

C) NOTIFICATION OF SURETY AND AGENT OF CONSTRUCTION CONTRACT AWARD – ORC 9.32 (if applicable)

D) NOTIFICATION TO UTILITY COMPANIES OF COMMENCEMENT OF CONTRACT EXECUTION – ORC 153.64 (if applicable)

Keith Faber
Ohio Auditor

Certified Search for Unresolved Findings for Recovery

OHIO AUDITOR OF STATE
KEITH FABER

Office of Auditor of State
88 East Broad Street
Post Office Box 1140
Columbus, OH 43216-1140

(614) 466-4514
(800) 282-0370

Auditor of State - Unresolved Findings for Recovery Certified Search

I have searched The Auditor of State's unresolved findings for recovery database using the following criteria:

Contractor's Information:

Name: **Rudzik**, **Jeffrey**
Organization: **Rudzik Excavating, Inc.**
Date: **10/6/2025 2:58:31 PM**

This search produced the following list of **8** possible matches:

Name/Organization	Address
Berry, Jeffrey	
Coyan, Jeffrey	17 Columbia St.
Shuran, Jeffrey	3083 Pondsford Drive
Smith, Jeffrey	125 Waterford Boulevard
Coyan, Jeff	17 Columbia St.
GRUBER, JEFFERY	6030 QUARRY LAKE DRIVE SE
Rudder, Donna	88 Croft Lane
Rudder, Donna	88 Croft Lane

The above list represents possible matches for the search criteria you entered. Please note that pursuant to ORC 9.24, only the person (which includes an organization) actually named in the finding for recovery is prohibited from being awarded a contract.

If the person you are searching for appears on this list, it means that the person has one or more findings for recovery and is prohibited from being awarded a contract described in ORC 9.24, unless one of the exceptions in that section apply.

If the person you are searching for does not appear on this list, an initialed copy of this page can serve as documentation of your compliance with ORC 9.24(E).

Please note that pursuant to ORC 9.24, it is the responsibility of the public office to verify that a person to whom it plans to award a contract does not appear in the Auditor of State's database. The Auditor of State's office is not responsible for inaccurate search results caused by user error or other circumstances beyond the Auditor of State's control.

DEBARRED CONTRACTORS

There are currently no debarred contractors.

For questions, please contact the Department of Commerce, Bureau of Wage & Hour.

Department of Administrative Services

Procurement Services

State of Ohio Debarment List

tate agencies given the authority to debar suppliers by the Ohio Revised Code (R.C.) are the Ohio Facilities onstruction Commission (OFCC), the Ohio Department of Transportation (ODOT), the Department of dministrative Services (DAS), and the Ohio Secretary of State. Respectively, debarment authority is given to ıese agencies by R.C. 153.02, 5513.06, 125.25 (opens in new webpage). The reasons for debarment are also rescribed by these statutes.

, debarred supplier cannot participate (i.e., do any work in any capacity) in any State agency contracts until th ebarment period expires. Neither the Ohio Revised Code nor the Ohio Administrative Code (OAC) establish rescribed debarment periods. Instead, these are determined on a case-by-case basis.

Vhen conducting procurements, State agencies are required to use the Statewide Debarment List. For agencie sing OhioBuys, suppliers' profiles can be referenced to determine their debarment status, plus systematic ɔntrols are in place preventing debarred vendors from doing business with State agencies. Additionally, gencies must use the Ohio Secretary of State's and the United States General Services Administration's Systen ɔr Award Management (SAM) (opens in new webpage).list of federally debarred suppliers. State agencies are rohibited from awarding contracts, funded in whole or in part with state and/or federal funds, to any person c ɔmpany on any of these lists.

Rudzik Excavating, Inc. ×

Show 25 entries per pag

Vendor	Vendor ID	Address	Start Date	End Date	Debarred By
No matching records found					

howing 0 to 0 of 0 entries (filtered from 33 total entries)

Previous Next

RUDZIK EXCAVATING INC

Unique Entity ID	CAGE / NCAGE	Purpose of Registration
RVHTNNKNEF23	**4WT91**	**All Awards**
Registration Status	Expiration Date	
Active Registration	**Sep 25, 2026**	
Physical Address	Mailing Address	
401 Lowellville RD **Struthers, Ohio 44471-2076** **United States**	**PO Box 206** **Struthers, Ohio 44471-0206** **United States**	

Business Information

Doing Business as	Division Name	Division Number
RUDZIK EXCAVATING INC	**(blank)**	**(blank)**
Congressional District	State / Country of Incorporation	URL
Ohio 06	**Ohio / United States**	**www.rudzikexcavating.com**

Registration Dates

Activation Date	Submission Date	Initial Registration Date
Sep 29, 2025	**Sep 25, 2025**	**Oct 26, 2007**

Entity Dates

Entity Start Date	Fiscal Year End Close Date
Sep 2, 1998	**Sep 30**

Immediate Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Highest Level Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM.gov) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2. C.F.R. 200 Appendix XII. Their responses are displayed in the responsibility/qualification section of SAM.gov. Maintaining an active registration in SAM.gov demonstrates the registrant responded to the proceedings questions.

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure	Entity Type	Organization Factors
Corporate Entity (Not Tax Exempt)	**Business or Organization**	**Subchapter S Corporation**
Profit Structure		
For Profit Organization		

Socio-Economic Types

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments	Debt Subject To Offset
No	**No**

EFT Indicator	CAGE Code
0000	**4WT91**

Points of Contact

Electronic Business

Heidi Smith, Controller
PO Box 206
Struthers, Ohio 44471
United States

Jeff Rudzik, President
PO Box 206
Struthers, Ohio 44471
United States

Government Business

Jeff Rudzik, President
PO Box 206
Struthers, Ohio 44471
United States

Heidi Smith
PO Box 206
Struthers, Ohio 44471
United States

Past Performance

BONNIE Rudzik
P.O. Box 206
Struthers, Ohio 44471
United States

Service Classifications

NAICS Codes

Primary	NAICS Codes	NAICS Title
Yes	**237110**	**Water And Sewer Line And Related Structures Construction**
	237210	**Land Subdivision**
	237990	**Other Heavy And Civil Engineering Construction**
	238910	**Site Preparation Contractors**

Disaster Response

Yes, this entity appears in the disaster response registry.

Yes, this entity require bonding to bid on contracts.

Bonding Levels	Dollars
Construction Aggregate	**$85,000,000.00**
Construction Per Contract	**$50,000,000.00**

States	Counties	Metropolitan Statistical Areas
Ohio	**(blank)**	**(blank)**
Pennsylvania		
West Virginia		

An official website of the United States government Here's how you know

Federal Service Desk Help During Temporary Government Shutdown
Show Details
Oct 9, 2025

See All Alerts

Revolutionary FAR Overhaul Impacts to SAM.gov Show Details
Aug 15, 2025

SAM.GOV®

Home Search Data Bank Data Services Help

Search

All Words | e.g. 1606N020Q02

Filter By

Keyword Search

For more information on how to use our keyword search, visit our help guide

Simple Search | **Search Editor**

- ( ) Any Words
- (•) All Words
- ( ) Exact Phrase

e.g. 123456789, Smith Corp

Rath Builders Supply ×

Entity

Location

Status

- [x] Active
- [ ] Inactive

Reset

Entity Information | **All Entity Information** | **Entities** | **Disaster Response Registry** | **Responsibility / Qu**

No matches found

Your search did not return any results for active records.
Would you like to include inactive records in your search results?

Search Inactive | Go Back

Feedback

⚠ **WARNING**

This is a U.S. General Services Administration Federal Government computer system that is **"FOR OFFICIAL USE ONLY."** This system is subject to monitoring. Individuals found performing unauthorized activities are subject to disciplinary action including criminal prosecution.

This system contains Controlled Unclassified Information (CUI). All individuals viewing, reproducing or disposing of this information are required to protect it in accordance with 32 CFR Part 2002 and GSA Order CIO 2103.2 CUI Policy.

verdantas

8150 Sterling Court
Mentor, Ohio 44060
440-951-9000

November 4, 2025

Western Surety Company
151 N. Franklin Street
Chicago, IL 60606

Re: Contract B: South River Road Waterline Extension Phase 2
Ashtabula County Board of Commissioners
Rudzik Excavating, Inc.

To Whom It May Concern:

In compliance with Ohio Revised Code Section 9.32, we are hereby notifying you on behalf of the Ashtabula County Board of Commissioners that the Ashtabula County Board of Commissioners awarded a contract for the above referenced project to Rudzik Excavating, Inc., currently named as principal on a Bond given as surety to the Ashtabula County Board of Commissioners.

Should you have any questions or require additional information, please feel free to contact our office.

Respectfully,

VERDANTAS, LLC

Ryan Schuster, P.E.
Project Manager

GBC:mep

cc: Laura M. Batchelder, Western Surety Company

H:\2024\241222\SPEC - Contract B\Contract Forms\Contract B\Contract Letters.docx

Michael Pittenger

From: Michael Pittenger
Sent: Tuesday, November 4, 2025 3:12 PM
To: 'First Energy'; 'Dominion East Ohio'; 'cdoilgas858@gmail.com'; 'barrmbarr1 @hotmail.com'; 'Chris.baker@windstream.com'; 'jason.sprague@charter.com'; 'jawatson@aquaamerica.com'; 'claussr@yahoo.com'; 'waterworks@genevaohio.gov'
Subject: Construction Project Commencement - 241222 - Ashtabula Co - Contract B: South River Road Waterline Extension Phase 2
Attachments: Utility email.pdf; 011100 - SUMMARY OF WORK .pdf; Bidders List Report.pdf

Please see attached Notice of Construction Project Commencement.

Plans & Specs can be reviewed on our website at https://bids.verdantas.com - Opened & Awarded tab

Thank You,

Michael E. Pittenger
Contract Document Coordinator
C: 440-487-6148 | **O:** 440-530-2205
8150 Sterling Court, Mentor, OH 44060

verdantas

June 13, 2025

Heidi Smith,
Controller
Rudzik Excavating, Inc.
401 Lowellville Road
Struthers, OH 44471

SUBJECT: Certificate of Compliance Certification
Status: In Compliance
Effective Dates: June 13, 2025 - December 13, 2025

Dear Heidi Smith:

The Ohio Department of Development, Minority Business Development Division (MBDD) hereby issues Rudzik Excavating, Inc. a Certificate of Compliance. The Certificate shall be in force for 180 days from the date of issuance.

Section 9.47 of the Revised Code requires MBDD to review affirmative action programs and plans of each company desiring to participate on state or state-assisted construction contracts and determine whether that company has violated any affirmative action programs and goals for which that company was obligated to meet during the preceding five years. Based on the above-referenced review, MBDD has found no such violation(s).

Please be advised that for Rudzik Excavating, Inc. to maintain certification status, Rudzik Excavating, Inc. must continue to ensure equal employment opportunities in accordance with applicable state and federal EEO laws, rules, regulations, guidelines, and meet those contractual obligations for which Rudzik Excavating, Inc. has agreed.

Sincerely,

Monica L. Womack
Chief

Frank LaRose
Ohio Secretary of State

Mon Oct 06 2025

Entity#: 1032931

Filing Type: CORPORATION FOR PROFIT

Original Filing Date: 09/02/1998

Location: STRUTHERS-

Business Name: RUDZIK EXCAVATING, INC.

Status: Active

Exp. Date: -

Agent/Registrant Information

JEFFREY A. RUDZIK
3800 EAST MIDLOTHIAN BLVD.
STRUTHERS OH 44471
07/22/2003
Active

Filings

Filing Type	Date of Filing	Document ID
DOMESTIC ARTICLES/FOR PROFIT	09/02/1998	199825200672
DOMESTIC AGENT SUBSEQUENT APPOINTMENT	07/22/2003	200320302244
DOMESTIC/AMENDMENT TO ARTICLES	11/15/2024	202432301710

UNITED STATES OF AMERICA
STATE OF OHIO
OFFICE OF SECRETARY OF STATE

I, Frank LaRose, Secretary of State of the State of Ohio, do hereby certify that this is a list of all records approved on this business entity and in the custody of the Secretary of State.

Witness my hand and the seal of the Secretary of State at Columbus, Ohio this 6th of October, A.D. 2025

Ohio Secretary of State

DOC ID ----> 202432301710

DATE	DOCUMENT ID	DESCRIPTION	FILING	EXPED	CERT	COPY
11/18/2024	202432301710	AMENDMENT TO ARTICLES (AMD)	315.00	0.00	0.00	0.00

Receipt

This is not a bill. Please do not remit payment.

ROTH, BLAIR, ROBERTS, STRASFELD & LODGE
ATTN: STUART A. STRASFELD, ESQ.
100 E. FEDERAL STREET, SUITE 600
YOUNGSTOWN, OH 44503

STATE OF OHIO
CERTIFICATE

Ohio Secretary of State, Frank LaRose

1032931

It is hereby certified that the Secretary of State of Ohio has custody of the business records for

RUDZIK EXCAVATING, INC.

and, that said business records show the filing and recording of:

Document(s)

AMENDMENT TO ARTICLES

Document No(s):

202432301710

Effective Date: 11/15/2024

United States of America
State of Ohio
Office of the Secretary of State

Witness my hand and the seal of the Secretary of State at Columbus, Ohio this 18th day of November, A.D. 2024.

Ohio Secretary of State

PROJECT: Contract B - South River Road Waterline Extension Phase 2

OWNER: Ashtabula Co. Bd. of Commissioners

PROJECT NO.: 241222

BID OPENING: October 3, 2025

BID SUMMARY

	BIDDER	PART B1 South River Rd, Brandt Rd. & Atkins Rd.	PART B2 South Broadway	TOTAL BID PARTS B1 & B2
1	Rudzik Excavating, Inc.	$1,280,864.41	$134,846.28	$1,415,710.69
2	Union Industrial Contractors, Inc.	$1,349,164.00	$175,234.00	$1,524,398.00
3	Pollard Land Services, Inc.	$1,500,727.00	$147,431.00	$1,648,158.00
4	Chivers Construction Co., Inc.	$1,574,455.00	$128,455.00	$1,702,910.00
5	Fabrizi Trucking & Paving Co., Inc.	$1,659,482.70	$184,536.00	$1,844,018.70
6	Cronin Enterprises, LLC	$1,718,953.78	$195,328.35	$1,914,282.13
7	Great Lakes Crushing, LTD	$1,740,814.00	$193,128.00	$1,933,942.00
8	S.E.T. Inc.	$2,192,945.00	$241,274.00	$2,434,219.00
9	J. S. Bova Excavating	$2,318,864.00	$325,295.00	$2,644,159.00

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF BIDDERS

BIDDER

1 Rudzik Excavating, Inc.
401 Lowellville Road
PO 206
Struthers, OH 44471
Phone number: (330) 755-1540

2 Union Industrial Contractors, Inc.
1800 East 21st Street
PO Box 1718
Ashtabula, OH 440051718
Phone number: (440) 998-7871

3 Pollard Land Services, Inc.
8150 Franklin Road
Girard, PA 16417
Phone number: (814) 474-1107

4 Chivers Construction Co., Inc.
6700 Tow Road
Fairview, PA 16415
Phone number: (814) 474-2637

5 Fabrizi Trucking & Paving Co., Inc.
20389 First Avenue
Middleburg Hts., OH 44130
Phone number: (440) 973-4929

6 Cronin Enterprises, LLC
667 Route 30
Imperial, PA 15126
Phone number: (412) 302-1341

7 Great Lakes Crushing, LTD
30831 Euclid Avenue
Willowick, OH 44092
Phone number: (440) 944-5500

8 S.E.T. Inc.
235 East Water Street, Suite C
Lowellville, OH 444361273
Phone number: (330) 536-6724

9 J. S. Bova Excavating
235 State Street
Struthers, OH 44471
Phone number: (234) 254-4040

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF TOTALS

NOTE: Bidders Informal Totals appear if different than bid tab calculated total.

	Name	Calculated Total	Bidder's Informal Totals
1.	Rudzik Excavating, Inc.	$1,280,864.41	
2.	Union Industrial Contractors, Inc.	$1,349,164.00	$1,349,344.00
3.	Pollard Land Services, Inc.	$1,500,727.00	
4.	Chivers Construction Co., Inc.	$1,574,455.00	
5.	Fabrizi Trucking & Paving Co., Inc.	$1,659,482.70	
6.	Cronin Enterprises, LLC	$1,718,953.78	$1,722,376.87
7.	Great Lakes Crushing, LTD	$1,740,814.00	
8.	S.E.T. Inc.	$2,192,945.00	
9.	J. S. Bova Excavating	$2,318,864.00	$2,235,564.00

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
1. 33.00 SY OF (SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN						
Rudzik Excavating, Inc.	$250.00	$139.95	$389.95		$12,868.35	
Union Industrial Contractors, Inc.	$100.00	$95.00	$195.00		$6,435.00	
Pollard Land Services, Inc.	$40.00	$45.00	$85.00		$2,805.00	
Chivers Construction Co., Inc.	$65.00	$34.00	$99.00		$3,267.00	
Fabrizi Trucking & Paving Co., Inc.	$265.00	$160.00	$425.00		$14,025.00	
Cronin Enterprises, LLC	$65.03	$44.47	$109.50		$3,613.50	
Great Lakes Crushing, LTD	$175.00	$175.00	$350.00		$11,550.00	
S.E.T. Inc.	$170.00	$30.00	$200.00		$6,600.00	
J. S. Bova Excavating	$65.00	$34.00	$99.00		$3,267.00	
2. 144.00 SY OF (SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN						
Rudzik Excavating, Inc.	$150.00	$66.26	$216.26		$31,141.44	
Union Industrial Contractors, Inc.	$100.00	$20.00	$120.00		$17,280.00	
Pollard Land Services, Inc.	$40.00	$45.00	$85.00		$12,240.00	
Chivers Construction Co., Inc.	$43.00	$23.00	$66.00		$9,504.00	
Fabrizi Trucking & Paving Co., Inc.	$250.00	$104.00	$354.00		$50,976.00	
Cronin Enterprises, LLC	$42.15	$52.16	$94.31		$13,580.64	
Great Lakes Crushing, LTD	$145.00	$135.00	$280.00		$40,320.00	
S.E.T. Inc.	$160.00	$25.00	$185.00		$26,640.00	
J. S. Bova Excavating	$65.00	$34.00	$99.00		$14,256.00	
3. 1,283.00 SY OF (SPC) TYPE "F" PAVEMENT REPLACEMENT (STONE), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN						
Rudzik Excavating, Inc.	$6.00	$10.75	$16.75		$21,490.25	
Union Industrial Contractors, Inc.	$30.00	$15.00	$45.00		$57,735.00	
Pollard Land Services, Inc.	$10.00	$20.00	$30.00		$38,490.00	
Chivers Construction Co., Inc.	$5.00	$11.00	$16.00		$20,528.00	
Fabrizi Trucking & Paving Co., Inc.	$15.00	$15.00	$30.00		$38,490.00	
Cronin Enterprises, LLC	$7.75	$7.92	$15.67		$20,104.61	
Great Lakes Crushing, LTD	$72.00	$12.00	$84.00		$107,772.00	
S.E.T. Inc.	$10.00	$15.00	$25.00		$32,075.00	
J. S. Bova Excavating	$11.00	$13.00	$24.00		$30,792.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
4. 2.00 EACH OF (638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN						
Rudzik Excavating, Inc.	$2,200.00	$637.27	$2,837.27		$5,674.54	
Union Industrial Contractors, Inc.	$7,200.00	$1,300.00	$8,500.00		$17,000.00	
Pollard Land Services, Inc.	$2,000.00	$1,000.00	$3,000.00		$6,000.00	
Chivers Construction Co., Inc.	$3,601.00	$1,279.00	$4,880.00		$9,760.00	
Fabrizi Trucking & Paving Co., Inc.	$2,418.00	$1,560.00	$3,978.00		$7,956.00	
Cronin Enterprises, LLC	$6,852.00	$6,852.00	$13,704.00	$13,704.22	$27,408.00	$27,409.94
Great Lakes Crushing, LTD	$8,300.00	$2,900.00	$11,200.00		$22,400.00	
S.E.T. Inc.	$3,000.00	$3,000.00	$6,000.00		$12,000.00	
J. S. Bova Excavating	$10,000.00	$4,400.00	$14,400.00		$28,800.00	
5. 7,162.00 FT OF (638) 6 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN						
Rudzik Excavating, Inc.	$25.82	$29.61	$55.43		$396,989.66	
Union Industrial Contractors, Inc.	$31.00	$26.00	$57.00		$408,234.00	
Pollard Land Services, Inc.	$36.00	$30.00	$66.00		$472,692.00	
Chivers Construction Co., Inc.	$36.00	$48.00	$84.00		$601,608.00	
Fabrizi Trucking & Paving Co., Inc.	$34.35	$38.00	$72.35		$518,170.70	
Cronin Enterprises, LLC	$48.17	$36.12	$84.29		$603,684.98	
Great Lakes Crushing, LTD	$40.00	$30.00	$70.00		$501,340.00	
S.E.T. Inc.	$60.00	$55.00	$115.00		$823,630.00	
J. S. Bova Excavating	$60.00	$27.00	$87.00		$623,094.00	
6. 8,000.00 FT OF (638) 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN						
Rudzik Excavating, Inc.	$31.45	$43.40	$74.85		$598,800.00	
Union Industrial Contractors, Inc.	$34.00	$30.50	$64.50		$516,000.00	
Pollard Land Services, Inc.	$36.00	$37.00	$73.00		$584,000.00	
Chivers Construction Co., Inc.	$32.00	$41.00	$73.00		$584,000.00	
Fabrizi Trucking & Paving Co., Inc.	$34.00	$47.30	$81.30		$650,400.00	
Cronin Enterprises, LLC	$55.37	$39.58	$94.95		$759,600.00	
Great Lakes Crushing, LTD	$40.00	$40.00	$80.00		$640,000.00	
S.E.T. Inc.	$60.00	$60.00	$120.00		$960,000.00	
J. S. Bova Excavating	$110.00	$48.00	$158.00		$1,264,000.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
7. 6.00 EACH OF (638) 6 INCH GATE VALVE AND VALVE BOX, AS PER PLAN						
Rudzik Excavating, Inc.	$500.00	$1,626.56	$2,126.56		$12,759.36	
Union Industrial Contractors, Inc.	$1,855.00	$1,700.00	$3,555.00	$3,585.00	$21,330.00	$21,510.00
Pollard Land Services, Inc.	$1,000.00	$2,000.00	$3,000.00		$18,000.00	
Chivers Construction Co., Inc.	$992.00	$1,994.00	$2,986.00		$17,916.00	
Fabrizi Trucking & Paving Co., Inc.	$613.00	$1,870.00	$2,483.00		$14,898.00	
Cronin Enterprises, LLC	$2,112.00	$1,331.60	$3,443.60		$20,661.60	$20,662.74
Great Lakes Crushing, LTD	$1,725.00	$1,900.00	$3,625.00		$21,750.00	
S.E.T. Inc.	$800.00	$1,700.00	$2,500.00		$15,000.00	
J. S. Bova Excavating	$750.00	$1,655.00	$2,405.00		$14,430.00	
8. 5.00 EACH OF (638) 8 INCH GATE VALVE AND VALVE BOX						
Rudzik Excavating, Inc.	$500.00	$2,337.80	$2,837.80		$14,189.00	
Union Industrial Contractors, Inc.	$2,080.00	$2,450.00	$4,530.00		$22,650.00	
Pollard Land Services, Inc.	$1,000.00	$3,000.00	$4,000.00		$20,000.00	
Chivers Construction Co., Inc.	$992.00	$2,576.00	$3,568.00		$17,840.00	
Fabrizi Trucking & Paving Co., Inc.	$730.00	$2,621.00	$3,351.00		$16,755.00	
Cronin Enterprises, LLC	$2,650.15	$2,098.46	$4,748.61		$23,743.05	$23,744.35
Great Lakes Crushing, LTD	$1,725.00	$2,710.00	$4,435.00		$22,175.00	
S.E.T. Inc.	$800.00	$2,700.00	$3,500.00		$17,500.00	
J. S. Bova Excavating	$850.00	$2,375.00	$3,225.00		$16,125.00	
9. 19.00 EACH OF (638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, TYPE B, AS PER PLAN						
Rudzik Excavating, Inc.	$750.00	$6,989.04	$7,739.04		$147,041.76	
Union Industrial Contractors, Inc.	$5,500.00	$7,000.00	$12,500.00		$237,500.00	
Pollard Land Services, Inc.	$3,500.00	$10,000.00	$13,500.00		$256,500.00	
Chivers Construction Co., Inc.	$2,611.00	$9,844.00	$12,455.00		$236,645.00	
Fabrizi Trucking & Paving Co., Inc.	$3,311.00	$7,120.00	$10,431.00		$198,189.00	
Cronin Enterprises, LLC	$4,222.00	$7,805.87	$12,027.87		$228,529.53	$231,947.25
Great Lakes Crushing, LTD	$3,460.00	$9,093.00	$12,553.00		$238,507.00	
S.E.T. Inc.	$3,500.00	$7,000.00	$10,500.00		$199,500.00	
J. S. Bova Excavating	$3,000.00	$8,900.00	$11,900.00		$226,100.00	$142,800.00

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B1 - South River Rd, Brandt Rd. & Atkins Rd.
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
10. 1.00 LS OF (SPC) LAWN RESTORATION (GRADING, SEEDING, & MULCHING)						
Rudzik Excavating, Inc.	$22,119.75	$17,790.30	$39,910.05		$39,910.05	
Union Industrial Contractors, Inc.	$25,000.00	$20,000.00	$45,000.00		$45,000.00	
Pollard Land Services, Inc.	$47,000.00	$43,000.00	$90,000.00		$90,000.00	
Chivers Construction Co., Inc.	$43,495.00	$29,892.00	$73,387.00		$73,387.00	
Fabrizi Trucking & Paving Co., Inc.	$88,278.00	$61,345.00	$149,623.00		$149,623.00	
Cronin Enterprises, LLC	$10,500.00	$7,527.87	$18,027.87		$18,027.87	$18,028.86
Great Lakes Crushing, LTD	$60,000.00	$75,000.00	$135,000.00		$135,000.00	
S.E.T. Inc.	$50,000.00	$50,000.00	$100,000.00		$100,000.00	
J. S. Bova Excavating	$70,000.00	$28,000.00	$98,000.00		$98,000.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B2 - South Broadway
Project No. 241222

LIST OF BIDDERS

BIDDER

1 Chivers Construction Co., Inc.
6700 Tow Road
Fairview, PA 16415
Phone number: (814) 474-2637

2 Rudzik Excavating, Inc.
401 Lowellville Road
PO 206
Struthers, OH 44471
Phone number: (330) 755-1540

3 Pollard Land Services, Inc.
8150 Franklin Road
Girard, PA 16417
Phone number: (814) 474-1107

4 Union Industrial Contractors, Inc.
1800 East 21st Street
PO Box 1718
Ashtabula, OH 440051718
Phone number: (440) 998-7871

5 Fabrizi Trucking & Paving Co., Inc.
20389 First Avenue
Middleburg Hts., OH 44130
Phone number: (440) 973-4929

6 Great Lakes Crushing, LTD
30831 Euclid Avenue
Willowick, OH 44092
Phone number: (440) 944-5500

7 Cronin Enterprises, LLC
667 Route 30
Imperial, PA 15126
Phone number: (412) 302-1341

8 S.E.T. Inc.
235 East Water Street, Suite C
Lowellville, OH 444361273
Phone number: (330) 536-6724

9 J. S. Bova Excavating
235 State Street
Struthers, OH 44471
Phone number: (234) 254-4040

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B2 - South Broadway
Project No. 241222

LIST OF TOTALS

NOTE: Bidders Informal Totals appear if different than bid tab calculated total.

	Name	Calculated Total	Bidder's Informal Totals
1.	Chivers Construction Co., Inc.	$128,455.00	
2.	Rudzik Excavating, Inc.	$134,846.28	
3.	Pollard Land Services, Inc.	$147,431.00	
4.	Union Industrial Contractors, Inc.	$175,234.00	
5.	Fabrizi Trucking & Paving Co., Inc.	$184,536.00	
6.	Great Lakes Crushing, LTD	$193,128.00	
7.	Cronin Enterprises, LLC	$195,328.35	$195,329.85
8.	S.E.T. Inc.	$241,274.00	
9.	J. S. Bova Excavating	$325,295.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B2 - South Broadway
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
1. 30.00 SY OF (SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), ROADWAY, AS PER PLAN						
Chivers Construction Co., Inc.	$65.00	$34.00	$99.00		$2,970.00	
Rudzik Excavating, Inc.	$250.00	$139.95	$389.95		$11,698.50	
Pollard Land Services, Inc.	$40.00	$45.00	$85.00		$2,550.00	
Union Industrial Contractors, Inc.	$100.00	$95.00	$195.00		$5,850.00	
Fabrizi Trucking & Paving Co., Inc.	$265.00	$160.00	$425.00		$12,750.00	
Great Lakes Crushing, LTD	$175.00	$175.00	$350.00		$10,500.00	
Cronin Enterprises, LLC	$65.03	$44.47	$109.50		$3,285.00	
S.E.T. Inc.	$380.00	$30.00	$410.00		$12,300.00	
J. S. Bova Excavating	$65.00	$34.00	$99.00		$2,970.00	
2. 36.00 SY OF (SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), DRIVEWAY, APRON, OR PARKING LOT, AS PER PLAN						
Chivers Construction Co., Inc.	$47.00	$25.00	$72.00		$2,592.00	
Rudzik Excavating, Inc.	$150.00	$66.26	$216.26		$7,785.36	
Pollard Land Services, Inc.	$40.00	$45.00	$85.00		$3,060.00	
Union Industrial Contractors, Inc.	$100.00	$20.00	$120.00		$4,320.00	
Fabrizi Trucking & Paving Co., Inc.	$250.00	$104.00	$354.00		$12,744.00	
Great Lakes Crushing, LTD	$145.00	$135.00	$280.00		$10,080.00	
Cronin Enterprises, LLC	$42.15	$52.16	$94.31		$3,395.16	
S.E.T. Inc.	$330.00	$25.00	$355.00		$12,780.00	
J. S. Bova Excavating	$70.00	$37.00	$107.00		$3,852.00	
3. 2.00 EACH OF (638) CONNECT NEW WATER MAIN TO EXISTING WATER MAIN, AS PER PLAN						
Chivers Construction Co., Inc.	$3,018.00	$868.00	$3,886.00		$7,772.00	
Rudzik Excavating, Inc.	$2,200.00	$710.57	$2,910.57		$5,821.14	
Pollard Land Services, Inc.	$2,000.00	$1,000.00	$3,000.00		$6,000.00	
Union Industrial Contractors, Inc.	$7,500.00	$1,500.00	$9,000.00		$18,000.00	
Fabrizi Trucking & Paving Co., Inc.	$1,400.00	$1,101.00	$2,501.00		$5,002.00	
Great Lakes Crushing, LTD	$8,300.00	$2,900.00	$11,200.00		$22,400.00	
Cronin Enterprises, LLC	$6,852.11	$6,852.11	$13,704.22		$27,408.44	$27,409.94
S.E.T. Inc.	$3,000.00	$3,000.00	$6,000.00		$12,000.00	
J. S. Bova Excavating	$10,000.00	$4,400.00	$14,400.00		$28,800.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B2 - South Broadway
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
4. 1,477.00 FT OF (638) 8 INCH WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909 PVCO, AS PER PLAN						
Chivers Construction Co., Inc.	$32.00	$28.00	$60.00		$88,620.00	
Rudzik Excavating, Inc.	$27.94	$36.28	$64.22		$94,852.94	
Pollard Land Services, Inc.	$36.00	$37.00	$73.00		$107,821.00	
Union Industrial Contractors, Inc.	$52.00	$30.00	$82.00		$121,114.00	
Fabrizi Trucking & Paving Co., Inc.	$34.50	$47.50	$82.00		$121,114.00	
Great Lakes Crushing, LTD	$40.00	$40.00	$80.00		$118,160.00	
Cronin Enterprises, LLC	$55.37	$39.58	$94.95		$140,241.15	
S.E.T. Inc.	$62.00	$60.00	$122.00		$180,194.00	
J. S. Bova Excavating	$123.00	$51.00	$174.00		$256,998.00	
5. 1.00 EACH OF (638) 8 INCH GATE VALVE AND VALVE BOX						
Chivers Construction Co., Inc.	$992.00	$2,576.00	$3,568.00		$3,568.00	
Rudzik Excavating, Inc.	$500.00	$2,337.80	$2,837.80		$2,837.80	
Pollard Land Services, Inc.	$1,000.00	$3,000.00	$4,000.00		$4,000.00	
Union Industrial Contractors, Inc.	$3,000.00	$2,500.00	$5,500.00		$5,500.00	
Fabrizi Trucking & Paving Co., Inc.	$730.00	$2,622.00	$3,352.00		$3,352.00	
Great Lakes Crushing, LTD	$1,725.00	$2,710.00	$4,435.00		$4,435.00	
Cronin Enterprises, LLC	$2,650.15	$2,098.46	$4,748.61		$4,748.61	
S.E.T. Inc.	$800.00	$2,700.00	$3,500.00		$3,500.00	
J. S. Bova Excavating	$850.00	$2,375.00	$3,225.00		$3,225.00	
6. 1.00 EACH OF (638) 6 INCH FIRE HYDRANT ASSEMBLY, INCLUDING 6 INCH VALVE AND VALVE BOX, TYPE B, AS PER PLAN						
Chivers Construction Co., Inc.	$2,611.00	$9,844.00	$12,455.00		$12,455.00	
Rudzik Excavating, Inc.	$900.00	$7,064.74	$7,964.74		$7,964.74	
Pollard Land Services, Inc.	$3,500.00	$10,000.00	$13,500.00		$13,500.00	
Union Industrial Contractors, Inc.	$7,500.00	$8,000.00	$15,500.00		$15,500.00	
Fabrizi Trucking & Paving Co., Inc.	$3,841.00	$7,120.00	$10,961.00		$10,961.00	
Great Lakes Crushing, LTD	$3,460.00	$9,093.00	$12,553.00		$12,553.00	
Cronin Enterprises, LLC	$4,222.00	$7,805.87	$12,027.87		$12,027.87	
S.E.T. Inc.	$3,500.00	$7,000.00	$10,500.00		$10,500.00	
J. S. Bova Excavating	$3,050.00	$8,600.00	$11,650.00		$11,650.00	

South River Road Waterline Extension Phase 2
Ashtabula Co. Bd. of Commissioners
Bid Opening Date: October 03, 2025
Bid Tabulation Summary
Part B2 - South Broadway
Project No. 241222

LIST OF ALL ITEMS

NOTE: Bidders Informal unit price or item total appear if different than bid tab calculated price.

Bidders	Labor	Material	Calculated Unit Price	Bidder's Informal Unit Price	Calculated Line Item Total	Bidder's Informal Line Item Total
7. 1.00 LS OF (SPC) LAWN RESTORATION (GRADING, SEEDING, & MULCHING)						
Chivers Construction Co., Inc.	$5,807.00	$4,671.00	$10,478.00		$10,478.00	
Rudzik Excavating, Inc.	$2,230.00	$1,655.80	$3,885.80		$3,885.80	
Pollard Land Services, Inc.	$5,500.00	$5,000.00	$10,500.00		$10,500.00	
Union Industrial Contractors, Inc.	$2,500.00	$2,450.00	$4,950.00		$4,950.00	
Fabrizi Trucking & Paving Co., Inc.	$10,803.00	$7,810.00	$18,613.00		$18,613.00	
Great Lakes Crushing, LTD	$7,000.00	$8,000.00	$15,000.00		$15,000.00	
Cronin Enterprises, LLC	$3,000.00	$1,222.12	$4,222.12		$4,222.12	
S.E.T. Inc.	$5,000.00	$5,000.00	$10,000.00		$10,000.00	
J. S. Bova Excavating	$15,000.00	$2,800.00	$17,800.00		$17,800.00	

SECTION 3
GENERAL CONDITIONS

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by

AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
A Practice Division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by

CONSTRUCTION SPECIFICATIONS INSTITUTE

EJCDC C-700 Standard General Conditions of the Construction Contract
Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

Copyright © 2007 National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474
www.acec.org

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723
www.asce.org

Associated General Contractors of America
2300 Wilson Boulevard, Suite 400, Arlington, VA 22201-3308
(703) 548-3118
www.agc.org

The copyright for this EJCDC document is owned jointly by the four
EJCDC sponsoring organizations and held in trust for their benefit by NSPE.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

Page

Article 1 – Definitions and Terminology 1
1.01 Defined Terms 1
1.02 Terminology 5

Article 2 – Preliminary Matters 6
2.01 Delivery of Bonds and Evidence of Insurance 6
2.02 Copies of Documents 6
2.03 Commencement of Contract Times; Notice to Proceed 6
2.04 Starting the Work 7
2.05 Before Starting Construction 7
2.06 Preconstruction Conference; Designation of Authorized Representatives 7
2.07 Initial Acceptance of Schedules 7

Article 3 – Contract Documents: Intent, Amending, Reuse 8
3.01 Intent 8
3.02 Reference Standards 8
3.03 Reporting and Resolving Discrepancies 8
3.04 Amending and Supplementing Contract Documents 9
3.05 Reuse of Documents 10
3.06 Electronic Data 10

Article 4 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions; Reference Points 10
4.01 Availability of Lands 10
4.02 Subsurface and Physical Conditions 11
4.03 Differing Subsurface or Physical Conditions 11
4.04 Underground Facilities 13
4.05 Reference Points 14
4.06 Hazardous Environmental Condition at Site 14

Article 5 – Bonds and Insurance 16
5.01 Performance, Payment, and Other Bonds 16
5.02 Licensed Sureties and Insurers 16
5.03 Certificates of Insurance 16
5.04 Contractor's Insurance 17
5.05 Owner's Liability Insurance 18
5.06 Property Insurance 18
5.07 Waiver of Rights 20
5.08 Receipt and Application of Insurance Proceeds 21

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

5.09 Acceptance of Bonds and Insurance; Option to Replace 21
5.10 Partial Utilization, Acknowledgment of Property Insurer 21

Article 6 – Contractor's Responsibilities 22
6.01 Supervision and Superintendence 22
6.02 Labor; Working Hours 22
6.03 Services, Materials, and Equipment 22
6.04 Progress Schedule 23
6.05 Substitutes and "Or-Equals" 23
6.06 Concerning Subcontractors, Suppliers, and Others 25
6.07 Patent Fees and Royalties 27
6.08 Permits 27
6.09 Laws and Regulations 27
6.10 Taxes 28
6.11 Use of Site and Other Areas 28
6.12 Record Documents 29
6.13 Safety and Protection 29
6.14 Safety Representative 30
6.15 Hazard Communication Programs 30
6.16 Emergencies 30
6.17 Shop Drawings and Samples 30
6.18 Continuing the Work 32
6.19 Contractor's General Warranty and Guarantee 32
6.20 Indemnification 33
6.21 Delegation of Professional Design Services 34

Article 7 – Other Work at the Site 35
7.01 Related Work at Site 35
7.02 Coordination 35
7.03 Legal Relationships 36

Article 8 – Owner's Responsibilities 36
8.01 Communications to Contractor 36
8.02 Replacement of Engineer 36
8.03 Furnish Data 36
8.04 Pay When Due 36
8.05 Lands and Easements; Reports and Tests 36
8.06 Insurance 36
8.07 Change Orders 36
8.08 Inspections, Tests, and Approvals 37
8.09 Limitations on Owner's Responsibilities 37
8.10 Undisclosed Hazardous Environmental Condition 37
8.11 Evidence of Financial Arrangements 37
8.12 Compliance with Safety Program 37

Article 9 – Engineer's Status During Construction 37
9.01 Owner's Representative 37
9.02 Visits to Site 37

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

9.03 Project Representative 38
9.04 Authorized Variations in Work 38
9.05 Rejecting Defective Work 38
9.06 Shop Drawings, Change Orders and Payments 38
9.07 Determinations for Unit Price Work 39
9.08 Decisions on Requirements of Contract Documents and Acceptability of Work 39
9.09 Limitations on Engineer's Authority and Responsibilities 39
9.10 Compliance with Safety Program 40

Article 10 – Changes in the Work; Claims 40
10.01 Authorized Changes in the Work 40
10.02 Unauthorized Changes in the Work 40
10.03 Execution of Change Orders 41
10.04 Notification to Surety 41
10.05 Claims 41

Article 11 – Cost of the Work; Allowances; Unit Price Work 42
11.01 Cost of the Work 42
11.02 Allowances 45
11.03 Unit Price Work 45

Article 12 – Change of Contract Price; Change of Contract Times 46
12.01 Change of Contract Price 46
12.02 Change of Contract Times 47
12.03 Delays 47

Article 13 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work 48
13.01 Notice of Defects 48
13.02 Access to Work 48
13.03 Tests and Inspections 48
13.04 Uncovering Work 49
13.05 Owner May Stop the Work 50
13.06 Correction or Removal of Defective Work 50
13.07 Correction Period 50
13.08 Acceptance of Defective Work 51
13.09 Owner May Correct Defective Work 51

Article 14 – Payments to Contractor and Completion 52
14.01 Schedule of Values 52
14.02 Progress Payments 52
14.03 Contractor's Warranty of Title 55
14.04 Substantial Completion 55
14.05 Partial Utilization 56
14.06 Final Inspection 56
14.07 Final Payment 57
14.08 Final Completion Delayed 58
14.09 Waiver of Claims 58

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Article 15 – Suspension of Work and Termination 58
15.01 Owner May Suspend Work 58
15.02 Owner May Terminate for Cause 58
15.03 Owner May Terminate For Convenience 60
15.04 Contractor May Stop Work or Terminate 60

Article 16 – Dispute Resolution 61
16.01 Methods and Procedures 61

Article 17 – Miscellaneous 61
17.01 Giving Notice 61
17.02 Computation of Times 61
17.03 Cumulative Remedies 62
17.04 Survival of Obligations 62
17.05 Controlling Law 62
17.06 Headings 62

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*—The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*—See Paragraph 11.01 for definition.

17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*—The individual or entity named as such in the Agreement.

20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*—Sections of Division 1 of the Specifications.

22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.

23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*—Polychlorinated biphenyls.

31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.

37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.

46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.

47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.

48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

49. *Unit Price Work*—Work to be paid for on the basis of unit prices.

50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation , (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or

2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

   a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

   b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

   b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

   c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data;

b. locating all Underground Facilities shown or indicated in the Contract Documents;

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

   a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

   b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

6. include completed operations coverage:

    a. Such insurance shall remain in effect for two years after final payment.

    b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and

3) it has a proven record of performance and availability of responsive service.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

2. *Substitute Items:*

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,

b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services; and

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

   1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor

   2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

1. *Shop Drawings:*

    a. Submit number of copies specified in the General Requirements.

    b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

    a. Submit number of Samples specified in the Specifications.

    b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

    a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

    b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

    c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

    d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor,

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part;

2. approve the Claim; or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

    c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

    d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

    e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances:*

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

   a. the Work has progressed to the point indicated;

   b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and

   c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

   a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

   b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

   a. to supervise, direct, or control the Work, or

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

c. there are other items entitling Owner to a set-off against the amount recommended; or

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

   a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;

   b. consent of the surety, if any, to final payment;

   c. a list of all Claims against Owner that Contractor believes are unsettled; and

   d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's repeated disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or

3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

H:\PRIVATE\SPEC\Ctsparts\GeneralConditions2007.doc

Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.

SECTION 4
SUPPLEMENTARY CONDITIONS

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC C-700, 2007 ed.) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented herein or in the Specific Project Requirements remain in full force and effect.

SC-1.01 The terms used in these Supplementary Conditions which are defined in the General Conditions have the meaning assigned to them in the General Conditions.

SC-2.02 Delete paragraph 2.02(A) in its entirety and insert the following in its place:

Owner shall furnish one (1) printed/hard copy of the drawings and Project Manual which shall be an executed contract set and one set in electronic format (.pdf), if requested.

SC-2.03(A) In the last sentence of 2.03A, change "sixtieth day" to "ninetieth day."

SC-4.02(A) Change "Supplementary Conditions" to read "Specific Project Requirements."

SC-4.06(G) Delete paragraph 4.06(G) in its entirety.

SC-5.03(A)(1) The required Certificate of Insurance shall be in a form satisfactory to the Owner (most current version of ACORD 25 or approved equal). If the Contractor fails to procure and maintain any specified and/or required insurance, the Owner shall have the right to procure and maintain the said insurance for and in the name of the Contractor and the Contractor shall pay the cost thereof and shall furnish all necessary information to make effective and maintain such insurance.

SC-5.04(B)(1) Change "Supplementary Conditions" to read "Specific Project Requirements."

SC-5.04(B)(2) The limits of liability for the insurance required by paragraph 5.04(A) of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

All of the limits below may be satisfied with an Umbrella/Excess Liability as needed to increase the Primary Policy to required limits.

5.04(A)(1) and (2) Workers' Compensation, etc., under paragraphs 5.04(A)(1) and 5.04(A)(2) of the General Conditions:

(a)	State	Statutory
(b)	Applicable Federal (e.g., Longshoreman's):	Statutory
(c)	Employer's Liability:	$1,000,000

5.04(A)(3), (4) and (5). Contractor's Liability Insurance under paragraphs 5.04(A)(3) through 5.04(A)(5) of the General Conditions which shall also include completed operations and product liability coverage.

(a) Bodily Injury and Property Damage, Combined Single Limit (CSL) (Except Products and Completed Operations) Property Damage liability insurance will provide Explosion, Collapse, and Underground coverage where applicable.

Each Occurrence	$2,000,000
General Aggregate	$4,000,000

(b) Products and Completed Operations Aggregate $1,000,000

Products and Completed Operations to be maintained for two (2) years after final payment and Contractor shall continue to provide evidence of such coverage to the Owner on an annual basis during the aforementioned period.

(c) Personal and Advertising Injury (Per Person/Organization and per occurrence). $1,000,000

(d) Fire Damage $100,000

(e) If the General Liability Policy includes a General Aggregate, such policy shall be endorsed to have the General Aggregate Per Project Aggregate Limit.

5.04(A)(6) Automobile Liability - (Owned, Non-Owned, Hired)
Contractor may provide split limits or combined single limit.

(a) Split Limits:

Bodily Injury,	Each Person:	$2,000,000
	Each Occurrence	$2,000,000
Property Damage,	Each Occurrence	$1,000,000

or

(b) Combined Single Limit

Bodily Injury and Property Damage,	Each Occurrence	$2,000,000

SC-5.04(B)(3) Add the following to the end of the paragraph: “to the extent available in the insurance industry with industry standard exclusions and as allowed under the laws and regulations in the State of Ohio;”

SC-5.04(B)(4) Add the following:

Written notice of cancellation for non-payment of premium shall be at least 10 days.

Add the following section:

SC-5.04(C) Unless otherwise stated in Specific Project Requirements, the Contractor shall purchase and provide an "Owner's and Contractor's Protective Policy" with an immediate Effective Date and the Owner listed as the insured (No additional insureds) for the following limits:

Each Occurrence	$1,000,000
General Aggregate	$2,000,000

Add the following section:

SC-5.04(D) Unless otherwise stated in Specific Project Requirements the Contractor shall purchase and maintain during the Contract Time "All Risk Builders' Risk Insurance," and/or "Installation Floater Insurance," and/or "Boiler and Machinery Insurance," and any and all insurance requirements of section GC-5.06 of the General Conditions as applicable for the type of work to be performed upon the Project to the full insurable value thereof for the benefit of the Owner, the Contractor, Subcontractors and Suppliers as their interest may appear. This insurance shall cover the work until final acceptance and final payment by the Owner. This provision shall in no way release the Contractor or Contractor's Surety from obligations under the Contract Documents to fully complete the Project. The original policy(s) shall be filed with the Owner or his designated representative.

SC-5.05 *Owner’s Liability Insurance*

See SC-5.04(C) above.

SC-5.06 *Property Insurance*

Unless otherwise stated in Specific Project Requirements, the Contractor, not the Owner, shall purchase and maintain during the Contract Time all property insurance required in section GC-5.06 of the General Conditions and as outlined in SC-5.04(D) above.

Add the following section:

SC-6.02(C) The Contractor shall be responsible for the Owner and/or Engineer's additional inspection and administrative costs for work performed beyond regular working hours as defined in this Section.

SC-6.07(B) Delete paragraph 6.07(B) in its entirety.

SC-6.09 (D) Add the following:
D. The contractor agrees to the requirements of RC 153.59, RC 153.591, and RC 153.60.

Add the following section:

SC-6.10(B) Add the following:

Should the Owner be exempt from Ohio State Sales and Use Taxes on materials and equipment to be incorporated in the Project, the Contractor may obtain a waiver and said taxes shall not be included in the Contract Price.

1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the work
2. Owner's exemption to Contractor does not apply to construction tools, machinery, equipment, or other property by or leased by Contractor, or to supplies or materials not incorporated into the work.

The Contractor shall withhold and/or pay all consumer, use, property, employment, income and other taxes in accordance with the laws and regulations of the United States, State of Ohio, Owner and other applicable agencies which are applicable during the performance of the work.

SC-6.17 *Shop Drawings and Samples*

Add the following new paragraphs immediately after paragraph 6.17(E):

F. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than three (3) submittals. Engineer will record Engineer's time for reviewing subsequent materials of shop drawings, samples, or other items requiring approval and Contractor shall reimburse Owner for Engineer's charges for such time.

G. In the event that Contractor requests a substitution for a previously approved item, Contractor shall reimburse Owner for Engineer's charges for such time unless the need for such substitution is beyond the control of the Contractor.

SC-7.02 Delete Section 7.02 of the General Conditions in its entirety and insert the following:

SC-7.02(A) The General Construction Contractor shall be referred to and defined as the Construction Coordinator.

SC-7.02(B) Duties of the Construction Coordinator include the following:

1. Scheduling and coordinating the work of the Prime Contractors including submission and periodic updating of project schedule.

2. Establishing and administrating the site safety program and procedures for the project.

3. See that permits are applied for and obtained on a timely basis. Advise the Engineer of any problems related to permit approval.

4. Monitoring compliance with Laws and Regulations.

5. Maintain project site for dust, sedimentation, debris, waste, and general site cleanliness.

6. Coordinate location and use of temporary construction facilities including but not limited to sanitary, water, power, telephone, and parking.

7. Coordinate Owner interface for utility tie-ins/shut downs.

8. Monitor shop drawing submittal and coordination of submittal information between Prime Contractors.

SC-10.01 (A) Add the following:
The Owner may request from the Contractor and the Contractor shall provide within ten days of the request, a quote for all ordered changes in the work or work the Owner may be considering to be ordered. The quote shall be a line item, detailed, itemized breakdown of the work.

SC-11.01(A) For purposes of "Cost of the Work" delete Section 11.01(A), (B), and (C) of the General Conditions in their entirety and insert ODOT 109.05, in its place.

SC-13.07(A) In the First sentence of Section 13.07(A) remove "Substantial Completion" and insert "Final Acceptance of the entire project and final payment by the Owner."

SC-13.07(C) Remove 13.07(C) and replace with the following:

All materials and equipment shall be warranted by the respective material supplier or equipment manufacturer until the end of the Contractor's "correction period" (or longer if specified elsewhere in the contract) regardless of date of initial installation or operation of the material or equipment. The cost of such extended warranties as needed from material suppliers or equipment manufacturers to provide warranty coverage until the end of the "correction period" or other period as specified in the contract shall be the responsibility of the prime contractor and shall be assumed to have been included in his bid.

SC-14.02(A) (3) Delete Section 14.02(A) (3) of the General Conditions in its entirety and insert the following:

Until the job is 50% complete, the Contractor will be paid 92% of the estimated value of labor and material completed in acceptable form. After the work is 50% complete, no further funds shall be retained and the Contractor shall be paid 100% of the estimated value of the remaining labor and material completed in acceptable form, provided that the Contractor is making satisfactory progress and there is no specific cause for greater withholding. Upon the Owner's agreement that the project is substantially complete, the Retainage may be reduced to twice the value of the remaining punch list work subject to the recommendation of the Engineer and the approval by the Owner.

Add the following section:

SC-14.02(A) (4)

Payment for stored materials at invoice prices or at the unit price bid for materials, or the lesser value of the two, will be made for accepted nonperishable equipment and materials which are to be incorporated into the work, when accepted, delivered, properly stored, and protected upon the site and verified to the Engineer by a copy of the invoice. For materials and equipment meeting the foregoing conditions, the Owner will pay, when properly included in an approved estimate, 92% of the invoice value of the same. Subsequent to the inclusion of a payment for delivered materials in a progress payment, Contractor shall submit no later than the next payment submission, a partial waiver of lien from each and every supplier for whom delivered materials were paid. If no such waiver is submitted prior to or along with the next payment, the amount of delivered materials paid commensurate with that particular item will be deducted from future payments. No payment for delivered materials shall be made for any items that are scheduled to be incorporated in the work within 30 days of submission of the pay estimate. Delivered materials will not be paid in any given month for a total amount less than $5,000.00. Payment for delivered materials for such items as pipe backfill and roadway subbase will not be routinely considered.

SC-16.01 Delete Article 16 in its entirety and replace with the following:

ARTICLE 16 - DISPUTE RESOLUTION AGREEMENT - MEDIATION/ARBITRATION

OWNER and CONTRACTOR hereby agree that Article 16 of the General Conditions to the Agreement between OWNER and CONTRACTOR is amended to include the following agreement of the parties:

16.01 All claims, disputes, and other matters in question between OWNER and CONTRACTOR arising out of or relating to the Contract Documents or the breach thereof (except for claims which have been waived by the making or acceptance of final payment as provided by paragraph 14.09) will be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then obtaining, subject to the limitations of this Article 16. This agreement so to arbitrate and any other agreement or consent to arbitrate entered into in accordance herewith as provided in this Article 16 will be specifically enforceable under the prevailing law of any court having jurisdiction.

16.02 No demand for arbitration of any claim, dispute, or other matter that is required to be referred to Engineer initially for decision in accordance with paragraph 9.09 will be made until the earlier of (a) the date on which ENGINEER has rendered a written decision or (b) the thirty-first day after the parties have presented their evidence to ENGINEER if a written decision has not been rendered by ENGINEER before that date. No demand for arbitration of any such claim, dispute or other matter will be made later than thirty days after the date on which ENGINEER has rendered a written decision in respect thereof in accordance with paragraph 9.08 and the failure to demand arbitration within said thirty days' period will result in Engineer's decision being final and binding upon OWNER and CONTRACTOR. If ENGINEER renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence but will not supersede the arbitration proceedings, except where the decision is acceptable to the parties concerned. No demand for arbitration of any written decision of ENGINEER rendered in accordance with paragraph 9.08 will be made later than ten days after the part making such demand has delivered written notice of intention to appeal as provided in paragraph 10.05.

16.03 Notice of the demand for arbitration will be filed in writing with the other party to the Agreement and with the American Arbitration Association, and a copy will be sent to ENGINEER for information. The demand for arbitration will be made within the thirty-day or ten-day period specified in paragraph 16.02 as applicable, and in all other cases within a reasonable time after the claim, dispute or other matter in question has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations.

16.04 Except as provided in paragraph 16.05 below, no arbitration arising out of or relating to the Contract Documents shall include by consolidation, joiner or in any other manner any other person or entity (including ENGINEER, ENGINEER's Consultant, and the officers, directors, agents, employees, or consultants of any of them) who is not a party to this contract unless:

(A) the inclusion of such other person or entity is necessary if complete relief is to be afforded among those who are already parties to the arbitration, and

(B) such other person or entity is substantially involved in a question or law or fact which is common to those who are already parties to the arbitration and which will arise in such proceedings, and

(C) the written consent of the other person or entity sought to be included and of OWNER and CONTRACTOR has been obtained for such inclusion, which consent shall make specific references to this paragraph; but no such consent shall constitute consent to arbitration of any dispute not specifically described in such consent or to arbitration with any party not specifically identified in such consent.

16.05 Notwithstanding paragraph 16.04 if a claim, dispute or other matter in question between OWNER and CONTRACTOR involves the Work of a Subcontractor, either OWNER or CONTRACTOR may join such Subcontractor as a party to the arbitration between OWNER and CONTRACTOR herein under. CONTRACTOR shall include in all subcontracts required by paragraph 6.06(G) a specific provision whereby the Subcontractor consents to being joined in an arbitration between OWNER and CONTRACTOR involving the Work and such Subcontractor. Nothing in this paragraph 16.05 nor in the provision of such subcontract consenting to joinder shall create any claim, right or cause of action in favor of Subcontractor and against OWNER, ENGINEER, or ENGINEER's Consultants that does not otherwise exist.

16.06 The award rendered by the arbitration will be final, judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal.

16.07 OWNER and CONTRACTOR agree that they shall first submit any and all unsettled claim, counterclaims, disputes and other matters in questions between them arising out of or relating to the Contract Documents or the breach thereof ("disputes"), to mediation by the American Arbitration Association under the Construction Industry Mediation Rules of the American Arbitration Association prior to either of them initiating against the other a demand for arbitration pursuant to paragraphs 16.01 through 16.06, unless delay in initiating arbitration would irrevocably prejudice one of the parties. The respective thirty and ten-day time limits within which to file a demand for arbitration as provided in paragraphs 16.02 and 16.03 above shall be suspended with respect to a dispute submitted to mediation within those same applicable time limits and shall remain suspended until ten days after the termination of the mediation. The mediator of any dispute submitted to mediation under this Agreement shall not serve as arbitrator of such dispute unless otherwise agreed.

SECTION 5
SPECIFICATIONS – CONTRACT A

SECTION 011100 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 LOCATION OF THE PROJECT

A. The project is located at 1904 South Broadway Road (SR-534) on the northern portion of the property.

1.2 PROJECT DESCRIPTION

A. The bid documents contain bid forms for a base bid and one (1) alternate. The bidder may bid on the base only, or both base and alternate. Only one option will ultimately be selected by the Owner for award.

B. The project scope consists of the construction of an elevated water storage tank with mixing system built to a capacity of 300,000 gallons, including all foundation work, valving, piping, and appurtenances within the tank bowl and base of the tank to be installed. Work shall also include; site work around the base of the tank, new concrete pavement, access driveway, fencing & gates, electrical work, SCADA integration, earthwork, approximately 240 LF of 12-inch water main connecting the base of the tower to the existing water main in SR 534, swale grading on the northern end of the site for drainage, site re-grading for access driveway and tank enclosure area, and new access driveway storm culvert, as detailed and noted in plans.
   1. The Base Bid includes a 300,000-gallon Spheroid Elevated Tank (SET).
   2. Alternate #1 includes a 300,000-gallon Glass Fused to Steel - Bolted Elevated Tank (BET).

1.3 SPECIFICATIONS

A. In general, these Specifications describe the work to be performed by the various trades, other than work specifically excluded. It shall be the responsibility of the Contractor and Subcontractors to perform all work incidental to their trade, whether or not specific mention is made of each item, unless such incidentals are included under another Item.

B. It is advised that the Contractor and all Subcontractors familiarize themselves with the contents of the complete Specifications, particularly for the trades preceding, following, related or adjacent to their work.

1.4 DRAWING SCHEDULE

A. The work to be done under this Contract is shown on the following Drawings:

Sheet #	Sheet Description
1	COVER SHEET 00G-01
2	LEGENDS SYMBOLOGY & SHEET INDEX 00G-02
3	GENERAL NOTES (1 OF 3) 00G-03
4	GENERAL NOTES (2 OF 3) 00G-04
5	GENERAL NOTES (3 OF 3) 00G-05
6	PROPOSED WATER TANK SITE PLAN 01C-01
7	WATER LINE PLAN & PROFILE 02C-01
8	WATER TANK & CONTROL BUILDING PLAN VIEWS 10D-01
9	WATER TANK & CONTROL BUILDING SECTION VIEWS 10D-02
10	WATER TANK & CONTROL BUILDING ELEVATION VIEWS 10D-03
11	WATER TANK & CONTROL BUILDING DETAILS 10D-04
12	CONSTRUCTION DETAILS 1 20G-01
13	CONSTRUCTION DETAILS 2 20G-02
14	CONSTRUCTION DETAILS 3 20G-03
15	CONSTRUCTION DETAILS 4 20G-04
16	CONSTRUCTION DETAILS 5 20G-05
17	LEGEND & GENERAL NOTES E-01
18	WATER TANK PLANS E-02
19	PANEL SCHEDULE & DETAILS E-03
20	SWPPP NOTES SWP3-1
21	SWPPP DETAILS 1 SWP3-2
22	SWPPP DETAILS 2 SWP3-3

A. Any reference to ‘Engineer’ shall mean: Verdantas Project Manager or their designated representative.

END OF SECTION 011100

SECTION 011419 – USE OF SITE

PART 1 - GENERAL

1.1 GENERAL

A. The Contractor will be allowed the use of as much of the site designated for the improvements as is necessary for his operation.

1.2 USE OF STREETS

A. During the progress of the work, the Contractor shall make ample provisions for both vehicle and pedestrian traffic on any public street and shall indemnify and save harmless the Owner from any expense whatsoever due to their operations over said streets. The Contractor shall also provide free access to all the fire hydrants, water, and gas valves located along the line of his work. Gutters and waterways must be kept open or other provisions made for the removal of storm water. Street intersections may be blocked only one-half at a time, and the Contractor shall lay and maintain temporary driveways, bridges and crossings, such as in the opinion of the Engineer are necessary to reasonably accommodate the public.

B. In the event of the Contractor's failure to comply with these provisions, the Owner may cause the same to be done, and may deduct the cost of such work from any monies due the Contractor under this Agreement, but the performance of such work by the Owner at its instance shall serve in no way to release the Contractor from his general or particular liability for the safety of the public or the work.

C. The Contractor shall repair at no cost to the Owner, all existing roads, parking areas, grassed areas that are damaged due to the execution of his work. The Contractor shall remove daily all mud, soil and debris that may be tracked onto existing streets, drives, or walks by his equipment or that of subcontractors or suppliers.

1.3 CLOSING STREETS TO TRAFFIC

The Contractor may with the approval of the Engineer, close streets, or parts of streets, to vehicular traffic. The streets are to remain closed as long as the construction work or the condition of the finished work requires or as determined by the Engineer. The Engineer shall be the judge of how many streets or parts of streets it is necessary for the Contractor to close at any time, and may refuse to permit the closing of additional streets to traffic until the majority of the work on the closed streets is completed and they are opened to traffic.

1.4 RIGHTS-OF-WAY

A. Whenever it is required to perform work within the limits of public or private property or in rights-of-way, such work shall be done in conformity with all agreements between the Owner and the owners of such. Care shall be taken to avoid injury to the premises entered, which premises shall be left in a neat and orderly condition by the removal of rubbish and the grading of surplus materials, and the restoration of said public or private property to the same general conditions as pertained at the time of entry for work to be performed under this contract.

B. The Contractor shall not (except after consent from the proper parties) enter or occupy with men, tools or equipment, any land outside the rights-of-way or property of the Owner.

C. When the Contractor performs construction within 10 ft. of a right-of-way or easement line, he shall place tall stakes properly identified at points of change in width or direction of the right-of-way or easement line and at points along the line so that at least two stakes can be seen distinctly from any point on the line.

1.5 EASEMENTS

A. Where the work is to be constructed upon easements, such easements will be secured by the Owner without cost to the Contractor. The Contractor shall not enter upon or occupy any private property outside of the limits of the easements furnished.

B. Care shall be taken to avoid injury to the premises entered, which premises shall be left in a neat and orderly condition by the removal of rubbish and the grading of surplus materials, and the restoration of said public or private property to the same general conditions as pertained at the time of entry for work to be performed under this contract.

1.6 PROTECTING EXISTING BUILDINGS, STRUCTURES AND ROADWAYS

A. The Contractor shall, at his own expense, shore up and protect any buildings, roadways, utilities or other public or private structures which may be encountered or endangered in the prosecution of the work, and that may not be otherwise provided for, and he shall repair and make good any damages caused to any such property by reason of his operations. All existing fences removed due to the prosecution of the work shall be replaced by the Contractor. No extra payment will be made for said work or material, but the cost of this work must be included in the price stipulated for the work to be done under this contract.

1.7 SITE FACILITIES

A. The Contractor shall furnish and place sufficient quantities of portable toilet facilities at locations convenient for use by the Contractor's personnel, Subcontractors, the Engineer, and the Owner.

1.8 RESTORATION

A. The contractor shall restore all areas per the plans and specifications and if not specified, at least to the condition existing prior to the start of work.

END OF SECTION 011419

SECTION 011423 - ADDITIONAL WORK, OVERTIME

PART 1 - GENERAL

1.1 NIGHT, SUNDAY AND HOLIDAY WORK

A. No work will be permitted at night, Sunday or legal holidays except as noted on the plans or in the case of emergency and then only upon written authorization of the Engineer. Where no emergency exists, but the Contractor feels it advantageous to work at night, Sunday or legal holidays, the Contractor shall notify the Engineer at least two (2) days in advance, requesting written permission. Any work performed during the absence of the Engineer will be done at the Contractor's risk and responsibility and may be subject to rejection upon later inspection.

END OF SECTION 011423

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements governing allowances.

1. Selected materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:

1. Lump-sum allowances.
2. Unit-cost allowances.
3. Contingency allowances.

C. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 1 Section "Modification Procedures" specifies procedures for submitting and handling Change Orders.
2. Division 1 Section "Quality Control Services" specifies procedures governing the use of allowances for inspection and testing.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise the Engineer of the date when the final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At the Engineer's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by the Engineer from the designated supplier.

1.4 SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

B. Submit invoices or delivery slips to show the actual quantities of materials delivered to the site for use in fulfillment of each allowance.

1.5 CONTINGENCY ALLOWANCES

A. Use the contingency allowance only as directed for the Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. The Contractor's related costs for products and equipment ordered by the Owner under the contingency allowance are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.

D. At Project closeout, credit unused amounts remaining in the contingency allowance to the Owner by Change Order.

1.6 INSPECTION AND TESTING ALLOWANCES

A. Inspection and testing shall be included in the general construction cost of the tower

1.7 UNUSED MATERIALS

A. Return unused materials to the manufacturer or supplier for credit to the Owner, after installation has been completed and accepted.

1. When requested by the Engineer, prepare unused material for storage by Owner where it is not economically practical to return the material for credit. When directed by the Engineer, deliver unused material to the Owner's storage space. Otherwise, disposal of unused material is the Contractor's responsibility.

PART 2 – PRODUCTS – NOT APPLICABLE

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly upon delivery for damage or defects.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: SCADA Allowance in the sum of $15,000 – refer to Section 269001.

B. Allowance No. 2: Electrical Company Charges Allowance in the sum of $15,000 – refer to Section 331619.

END OF SECTION 012100

SECTION 012513 – PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 MATERIALS AND EQUIPMENT

A. In the specifications and on the Engineer's drawings, are specified and shown certain pieces of equipment and materials deemed most suitable for the service anticipated. This is not done to eliminate other equipment and materials equally as good and efficient. The Contractor shall prepare his bid on the particular materials and equipment specified. Following the award of the contract, should the Contractor desire to use other equipment and materials, he shall submit to the Owner a written request for such change and state the advantage to the Owner and the savings or additional cost involved by the proposed substitution. The determination as to whether or not such change will be permitted rests with the Owner and the Engineer.

B. A manufacturer’s representative shall inspect each major item of equipment during installation and upon completion of the work. The Contractor shall supply the Engineer with a certificate of such inspection.

C. For the purpose of standardization, equipment of any one type shall be the products of on manufacturer.

D. Provide interchangeable components of the same manufacture for components being replaced.

1.2 MATERIALS AND EQUIPMENT OPTIONS

A. Materials and Equipment Specified by Reference Standards or by Description Only: Any material or equipment meeting those standards or description.

B. Materials and Equipment Specified by Naming One or More Manufacturers: Materials and equipment of manufacturers named and meeting specifications, no options or substitutions allowed.

C. Materials and Equipment Specified by Naming One or More Manufacturers with provision for Or As Approved: Submit a request for consideration of any manufacturer not named in accordance with the attached Application for Use of Substitute Item.

END OF SECTION 012513

APPLICATION FOR USE OF SUBSTITUTE ITEM

TO: _____

PROJECT: _____

SPECIFIED ITEM:

_____ _____ _____

Page Paragraph Description

A. The undersigned requests consideration of the following as a substitute item in accordance with Article 6.05 of the General Conditions.

_____

B. Change in Contract Price (indicate + or -) $ _____

C. Attached data includes product description, specifications, drawings, photographs, references, past problems and remedies, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified. For consideration of the attached data as SHOP DRAWINGS, submittal shall be in accordance with requirements of Section 013323.

D. Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The undersigned certifies that the following paragraphs, unless modified by attachments are correct:

1. The proposed substitute does not affect dimensions shown on Drawings.

2. The undersigned will pay for changes to the building design, including engineering design, detailing, and construction costs caused by the requested substitution.

3. The proposed substitution will have no adverse affect on other contractors, the construction schedule, or specified warranty requirements. (If proposed substitution affects construction schedule, indicate below using + or -)

_____ CONSECUTIVE CALENDAR DAYS

4. Maintenance and service parts will be locally available for the proposed substitution.

The undersigned further states that the function, appearance, and quality of the proposed substitution are equivalent or superior to the specified item, and agrees to reimburse the OWNER for the charges of the ENGINEER for evaluating this proposed substitute item.

E. Signature: _____

Firm: _____

Address: _____

_____

Telephone: _____ Date: _____

Attachments: _____

_____

_____

_____

For use by ENGINEER:

_____Accepted as evidenced by affixed SHOP DRAWING REVIEW stamp.
_____Accepted as evidenced by included CHANGE ORDER.
_____Not accepted as submitted. See Remarks.
_____Acceptance requires completion of submittal as required for SHOP DRAWINGS.
_____Not accepted. Do not resubmit.

By: _____ Date: _____

Remarks: _____

_____

_____

_____

_____

_____

_____

_____

_____

SECTION 013119 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 PRECONSTRUCTION MEETING

A. Prior to the Contractor beginning any work on the project, the Owner will schedule and hold a preconstruction meeting to discuss all aspects of the contract work.

B. Attendance Required: Owner, Engineer, Utilities, Contractor, Contractors' superintendents, and major Subcontractors

C. Agenda:
1. Submission of insurance certificates
2. Distribution of Contract Documents
3. Submission of schedule of values, schedule of Shop Drawings and Sample submittals, and progress schedule
4. Designation of personnel representing the parties in Contract, Engineer, and others as appropriate
5. Procedures and processing of field decisions, submittals, substitute and "or-equals", Applications for Payments, Change Orders, and Contract Closeout procedures
6. Scheduling
7. Scheduling activities of a Geotechnical Engineer
8. Use of premises by Owner and Contractor
9. Owner's requirements
10. Stormwater Management, erosion and sediment control
11. Construction facilities and controls provided by Owner
12. Temporary utilities provided by Owner
13. Staking
14. Security and housekeeping procedures
15. Procedures for testing
16. Procedures for maintaining Record Documents
17. Requirements for start-up of equipment
18. Inspection and acceptance of equipment put into service during construction period
19. Contractor's safety representative

D. Engineer will record minutes and distribute copies within 3 days after meeting to participants and those affected by decisions made.

1.2 PROGRESS MEETINGS

A. Contractor shall be responsible for all coordination, administration, agenda, meeting minutes, and distribution of minutes to all required parties.

B. Monthly progress meetings will be held at a location to be determined by the Owner on a regularly scheduled day mutually convenient to the Owner, Contractor, and Engineer.

C. The Contractor shall provide an updated construction progress schedule and be prepared to comment in detail on all aspects of his work.

D. Agenda:
   1. Review minutes of previous meetings
   2. Review of work progress
   3. Field observations, problems and decisions
   4. Identification of problems which impede planned progress
   5. Review of submittals schedule and status of submittals
   6. Review of offsite fabrication and delivery schedules
   7. Maintenance of progress schedule
   8. Corrective measures to regain projected schedules
   9. Planned progress during Work period
   10. Coordination of projected progress
   11. Maintenance of quality and Work standards
   12. Effect of proposed changes on progress schedule and coordination

1.3 PRE-INSTALLATION MEETINGS

A. When required in individual Specification Sections, convene pre-installation meetings at Project Site prior to commencing Work of specific Section

B. Require attendance of parties directly affecting, or affected by, Work of a specific Section.

END OF SECTION 013119

SECTION 013216 – CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 PROGRESS SCHEDULE

A. Immediately after signing the Contract, the General Construction Contractor shall prepare a graphic progress schedule, indicating the work to be executed during each month and the rate of expected progress to secure completion on the agreed-upon completion date. The progress schedule shall be approved by the Engineer and Owner prior to starting work on the site. Copies of such graphic progress charts, upon which has been indicated the actual progress, shall be furnished to the Engineer with each requisition for payment.

B. Should the rate of progress fall materially behind the scheduled rate of progress, and unless the delay is authorized by the Engineer, each offending Contractor shall furnish additional labor, work overtime, or take other necessary means required for completion of the work on the scheduled date. No additional compensation beyond the set Contract price shall be paid for action taken or overtime expense incurred in maintaining scheduled progress.

END OF SECTION 013216

SECTION 013223 – SURVEY AND LAYOUT DATA

PART 1 - GENERAL

1.1 STAKING

A. The Contractor shall hire a surveyor licensed in the state the work is to be installed to provide all reference points not already established and staking. The Contractor shall protect and preserve the established staking and reference points as long as required for installation of the work and field verifications by any party. The Contractor's surveyor shall replace and accurately relocate all staking and reference points so lost, destroyed or moved.
   1. At the new tank site, contractor to locate and stake property corners

B. During Construction, furnish stakes and competent ENGINEER's helpers for checking elevations, lines and levels deemed necessary by ENGINEER.

1.2 LAYOUT OF WORK

A. The Contractor shall lay out his work and be responsible for correct locations, elevations and dimensions of all work executed by him under this Contract. The Contractor must exercise proper precautions to verify the figures shown on the Drawings before laying out the work and will be held responsible for any error resulting from his failure to exercise such precaution. The Contractor shall insure the new construction aligns with any existing work.

END OF SECTION 013223

SECTION 013236 – VIDEO MONITORING AND DOCUMENTATION

PART 1 - GENERAL

1.1 SCOPE

A. Provide all labor, materials, equipment, and services, and perform all operations necessary to furnish to the Owner a complete color audio-video record on a USB Flash Drive of the surface features within the proposed construction zone of influence. This record shall include, but not be limited to, all audio-video USB Flash Drives, storage cases, video logs, and indexes. The purpose of this coverage shall be to accurately document the pre-construction condition of these surface features.

1.2 QUALIFICATIONS

A. The color audio-video documentation shall be done by a responsible commercial firm known to be skilled and regularly engaged in the business of pre-construction color audio-video documentation. The firm shall furnish such information as the Owner deems necessary to determine the ability of that firm to perform the work in accordance with the Contract specifications.

1.3 PRODUCTS

A. The color audio-video recording delivered to the Owner shall be on a high-quality USB Flash Drive.

END OF SECTION 013236

SECTION 013319 - FIELD TEST REPORTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes, but is not limited to, services performed by an independent testing laboratory. Laboratory services covered under this section are for testing materials used for field constructed elements of the work. Performance testing of manufactured items and shop fabricated materials shall be covered under their respective specification section.

B. All testing performed under this item shall be for the protection and benefit of the Owner and shall not be construed by the Contractor as a comprehensive quality control program intended to protect the Contractor, his subcontractors, or his suppliers. The testing frequency and types of testing shall be at the discretion of the Owner.

C. Inspections, tests, and related actions specified in this section and elsewhere in the contract documents are not intended to limit the Contractor's own quality control procedures and testing, which facilitate overall compliance with requirements of the contract documents. Requirements for the Contractor to provide quality control services as required by the Engineer, the Owner, governing authorities, or other authorized entities are not limited by the provisions of this Section.

D. The Contractor is required to cooperate with the independent testing laboratories performing required inspections, test, and similar services and the Engineer or his representative.

E. Materials and installed work may require testing or retesting at any time during progress of work. Retesting of rejected materials or installed work shall be done at Contractor's expense.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Supplementary Conditions and Division 1 Specifications sections, apply to work of this section.

B. The Contract Documents may include testing requirements furnished under other Sections. Work elements which may include other testing requirements are:
   1. Water utility distribution systems.
   2. Asphalt and concrete paving

1.3 SELECTION AND PAYMENT

A. The Contractor will employ an independent testing laboratory to perform specified testing. Payment shall be incidental to the related work bid item. The laboratory shall be mutually agreed upon by the Owner, Engineer, and Contractor.

B. Employment of testing laboratory in no way relieves the Contractor of the obligation to perform work in accordance with requirements of the contract documents.

C. The testing laboratory and their personnel shall be under the direction of the Engineer's on-site representative, regardless of who employs their services.

1.4 REFERENCES

A. AASHTO T-19, Standard Method of Test for Unit Weight and Voids in Aggregate.

B. AASHTO T-37, Standard Method of Test for Sieve Analysis of mineral Filler for Road and Paving Materials.

C. AASHTO T-230, Standard Method of Test for Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures.

D. ASTM C-29, Standard Method of Test for Unit Weight and Voids in Aggregate.

E. ASTM C-31, Standard Practice for Making and Curing Concrete Test Specimens in the Field.

F. ASTM C-33, Standard Specification for Concrete Aggregates.

G. ASTM C-39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.

H. ASTM C-40, Test Method for Organic Impurities in Fine Aggregates for Concrete.

I. ASTM C-42, Standard Test Methods for Obtaining and Testing Drilled Cored and Sawed Beams of Concrete.

J. ASTM C-88, Standard Test Method for Soundness of Aggregate by use of Sodium Sulfate or Magnesium Sulfate.

K. ASTM C-94, Standard Specification for Ready-Mixed Concrete.

L. ASTM C-117, Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing.

M. ASTM C-136, Standard Method for Sieve Analysis of Fine and Course Aggregate.

N. ASTM C-142, Test Method for Clay Lumps and Friable Particles in Aggregate.

O. ASTM C-143, Standard Test Method for Slump of Hydraulic Cement Concrete.

P. ASTM C-172, Standard Practice for Sampling Freshly Mixed Concrete.

Q. ASTM C-173, Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.

R. ASTM C-231, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.

S. ASTM C-535, Standard Test Method for Resistance to Degradation of Large-Size Course Aggregate by Abrasion and Impact in the Los Angeles Machine.

T. ASTM C-1064, Standard Test Method for Temperature of Freshly Mixed Portland Cement Concrete.

U. ASTM D-698, Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb. (2.49-kg) Rammer and 12-inc. (305-mm) Drop.

V. ASTM D-2487, Standard Test Method for Classification of Soils for engineer purposes.

W. ASTM D-2940, Standard Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports.

X. ASTM D-4253, Standard Test Method for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.

Y. ASTM D-4254, Standard Test Method for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.

Z. ASTM D-4832, Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.

AA. ODOT Supplement 1021, Method of Test for Determination of the Percent of Fractured Pieces in Gravel.

AB. ODOT Supplement 1029, Method of Test for Determining the Percentage of Deleterious Materials in Course Aggregate.

AC. ODOT Supplement 1036, Method of Test for Determination of Percent Air Voids in Compacted Dense Bituminous Paving Mixtures.

AD. ODOT Supplement 1044, Mix Design Method for Bituminous Aggregate Base.

1.5 SUBMITTALS

A. Prior to the start of work, submit testing laboratory name, address, and telephone number, and names of full-time specialist and responsible officer.

B. Submit copy of the testing laboratory's evaluation report issued by one of the evaluation authorities identified in Article 1.6 of this Section with memorandum of remedies of any deficiencies reported by the inspection.

C. Submit the chain of custody and other QA/QC procedures for each test to be utilized by the laboratory.

D. Submit a sample test report for review by the Engineer to demonstrate conformance with Article 3.2 herein.

1.6 QUALITY CONTROL & ASSURANCE

A. Except as otherwise indicated, the testing laboratory engaged shall be prequalified by the Ohio Department of Transportation for the types of services specified herein.

B. The Contractor shall be responsible for the quality of all materials incorporated into the project work and shall be responsible for all costs of testing and certification of same. The Contractor shall provide the City Engineer a list of three (3) local qualified firms for the City to select from to be the Contractor's testing firm.

C. The Contractor shall provide the Engineer with a Quality Control Plan in which his testing methods/procedures are defined. Said Plan shall meet with the approval of the Engineer and include identification of laboratories, types of testing, and the tentative amount and scheduling of each.

D. All certifications of tests and/or gradations for materials to be utilized in the work and all quality control testing shall be performed by an independent laboratory (not affiliated with, owned by, or managed by the Contractor). The laboratory shall be accredited by the AASHTO Materials Reference Laboratory for the type of testing performed.

E. The Owner may perform field Quality Assurance testing; however, such testing shall not relieve the Contractor from the responsibility of Quality Control testing or

from supplying certificates from manufacturers or suppliers to demonstrate compliance with the specifications. It is intended that the testing by the Contractor and the Owner be complimentary toward a quality project; however, the Contractor may not assume the Owner will test or that any tests will be done in lieu of the Contractor's own Quality Control testing. In the same sense, the Contractor may not rely on Owner Quality Assurance testing as a basis of acceptance or approval of his work nor may any Owner performed testing be reflected in his submitted plan.

F. The field personnel utilized to perform all field-testing and preparation shall be certified for those tests being performed.

1.7 RESPONSIBILITIES

A. Testing Laboratory Responsibilities:

1. Provide qualified personnel at the site. Cooperate with the Engineer and Contractor in performance of services.

2. Perform specified sampling and testing of products in accordance with the specified standards.

3. Ascertain compliance of materials and mixes with requirements of the contract documents.

4. Immediately notify the Engineer and Contractor of observed irregularities or nonconformance of work or products.

5. Perform additional tests required by the Engineer.

6. Testing personnel are to report to the Engineer or his representative upon arrival on site for instructions and requirements. Prior to leaving the site, furnish the Engineer or his representative all test results whether in a formal or informal format.

7. Attend preconstruction meetings and progress meetings.

B. Contractor Responsibilities:

1. Provide access to materials proposed to be used which require testing.

2. Cooperate with laboratory personnel and provide access to the work.

3. Provide incidental labor and facilities:

a. To provide access to work to be tested.

b. To obtain and handle samples at the site or at the source of products to be tested.

c. To facilitate tests.

d. To provide storage and curing of test samples as required by the testing laboratory.

4. Notify the Engineer and laboratory 24 hours prior to expected time for operations requiring testing services for scheduling purposes. Materials will not be permitted to be placed without the proper testing being performed in conformance with this Section.

1.8 LIMITS OF LABORATORY AUTHORITY

A. The laboratory may not release, revoke, alter, or enlarge the requirements of the contract documents.

B. The laboratory may not approve or accept any portion of the work.

C. The laboratory may not assume any duties of the Contractor.

D. The laboratory has no authority to stop the work.

1.9 SCHEDULE OF TESTS

Testing anticipated on this project shall include, but is not limited to:

A. Earthwork

1. Special backfill material sieve analysis per ASTM C-136, one test per source.
2. On-site trench backfill analysis per ASTM D-2487, as directed by Engineer.
3. Pipe bedding and cover sieve analysis per ASTM C-136, one test per source.
4. Drainage fill sieve analysis per ASTM C-136, one test per source.
5. Soil compaction per ASTM D-698.
    a. Embankment testing shall be at least one (1) test/5,000 S.F. of each lift;
    b. Trench backfill testing shall be at least one (1) test/50 L.F. of each lift;
    c. Subgrade and/or subbase testing shall be at least one (1) test/200 L.F. of pavement or 5,000 S.F. of slabs subject to greater frequency due to soil conditions or Engineer's direction.
6. Backfill compaction per ASTM D-4253 and D-4254, one test per 50 L.F. of each lift.
7. Low Strength Mortar testing per ASTM D-4832.

B. Concrete

1. Concrete aggregate deleterious substances per ASTM C-40, ASTM C-117, and ASTM C-142, one test per source.
2. Concrete aggregate abrasion per ASTM C-535, one test per source.
3. Sodium sulfate soundness of coarse aggregate per ASTM C-88, one test per source.
4. Sampling Fresh Concrete: ASTM C-172, except modified for slump to comply with ASTM C 94.

a. When cylinders and/or beam samples are made, the slumps and air test shall be made using concrete from the same batch.

b. Slump: ASTM C-143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.

c. Air Content: ASTM C-173, volumetric method of lightweight concrete; ASTM C-231 pressure method for normal weight concrete; at least one for each pour of each type of air-entrained concrete, and each time a set of compression test specimens is made.

d. Concrete Temperature: ASTM C-1064, test hourly when air temperature is 40º F. (4º C.) and below, and when 80º F. (27º C.) and above; and each time a set of compression test specimens is made.

e. Compression Test Specimen: ASTM C-31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.

f. Compressive Strength Tests: ASTM C-39; one set for each day's pour exceeding 5 cubic yards plus additional sets for each 50 cubic yards over and above the first 25 cubic yards of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required. A strength test shall be the average of the strengths of two cylinders made from the same sample of concrete and tested at 28 days.

    i. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.

    ii. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.

g. Two (2) tests beams shall be made for each 250 square yards of concrete pavement and/or slabs on grade placed.

i. For traffic to be allowed on pavement or slab, the modulus of rupture shall be a minimum of 600 psi for Class QC1 concrete or 400 psi for ODOT Class QCMS or QCFS.

h. When cylinders and/or beam samples are made, the slumps and air test shall be made using concrete from the same batch.

5. Nondestructive Testing: Penetration resistance, sonoscope, or other nondestructive devices may be permitted but shall not be used as the sole basis for acceptance or rejection.

6. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Engineer. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.

a. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

C. Pavement

1. Aggregate base sieve analysis per ASTM D-2940, one test per source.

2. Sodium sulfate soundness of aggregate base per ASTM C-88, one test per source.

3. Percent of fractured pieces for aggregate base per ODOT Supplement 1021, one test per source.

D. Asphalt

1. Provide testing for mixture acceptance in accordance with Ohio Department of Transportation Procedures. The person performing the testing must have a current Level 1 Bituminous Concrete approval from ODOT.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.1 SEQUENCING AND SCHEDULING

A. The Contractor shall coordinate the sequence of work activities so as to accommodate required testing and shall allow sufficient time for testing of materials by the laboratory so as to cause no delay in the work or the work of any other Contractor. In addition, the Contractor shall coordinate his work so as to avoid the necessity of removing and replacing work to accommodate inspections and tests.

3.2 LABORATORY TEST RESULTS

A. The testing laboratory shall submit a certified written report of each inspection, test, or similar service concurrently to the Owner, Engineer, and Contractor.

B. Written reports of each inspection, test, or similar service shall include, but not be limited to, the following:

1. Name of testing laboratory.
2. Project name and construction contract reference number.
3. Dates and locations of samples and tests or inspections.
4. Date of report.
5. Names of individuals making the inspection or test.
6. Designation of the work and test method.
7. Test results.
8. Notation of significant ambient conditions at the time of sample taking and testing.

END OF SECTION 013319

SECTION 013323 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 - GENERAL

1.1 GENERAL

A. The Contractor shall submit detailed drawings, acceptable catalog data, specifications and material certifications for all equipment and materials specified or required for the proper completion of the work.

B. The intent of these items is to demonstrate compliance with the design concept of the work and to provide the detailed information necessary for the fabrication, assembly and installation of the work specified. It is not intended that every detail of all parts of manufactured equipment be submitted, however sufficient detail will be required to ascertain compliance with the specifications and establish the quality of the equipment proposed.

Shop Drawings shall be sufficiently clear and complete to enable the Engineer and Owner to determine that items proposed to be furnished conform to the specifications and that items delivered to the site are actually those that have been reviewed.

C. It is emphasized that the Engineer's review of Contractor's submitted data is for general conformance to the contract drawings and specifications but subject to the detailed requirements of drawings and specifications. Although the Engineer may review submitted data in detail, such review is an effort to discover errors and omissions in Contractor's drawings. The Engineer's review shall in no way relieve the Contractor of his obligation to properly coordinate the work and to Engineer the details of the work in such manner that the purposes and intent of the contract will be achieved. Such review by the Engineer shall not be construed as placing on him or on the Owner any responsibility for the accuracy and for proper fit, functioning or performance of any phase of the work included in the contract.

D. Shop Drawings shall be submitted in proper sequence and with due regard to the time required for checking, transmittal and review to cause no delay in the work. The Contractor's failure to submit appropriate submissions to the Engineer sufficiently in advance of the work shall not be grounds for time extension.

E. The Contractor shall submit Shop Drawings for all fabricated work and for all manufactured items required to be furnished in the Contract in accordance with the General Provisions and as specified herein. Shop Drawings shall be submitted in sufficient time to allow at least twenty-one (21) calendar days after receipt of the Shop Drawings from the Contractor for checking and processing by the Engineer.

F. It is the responsibility of each Contractor to furnish to all other Contractors the reviewed Shop Drawings for guidance in interfacing the various trades, i.e., sleeves, inserts, anchor bolts, terminations, and space requirements.

G. No work shall be performed requiring Shop Drawings until they have been reviewed by Engineer.

H. Accepted and reviewed Shop Drawings shall not be construed as approval of changes from Contract plan and specification requirements.

I. The Engineer will review the first and second Shop Drawing item submittals at no cost to the Contractor. Review of the third submittal and any subsequent submittal will be at the Contractor's expense. Payment will be deducted from the Contract amount at a rate of 2.8 times direct labor cost plus expenses.

1.2 SUBMITTAL PROCEDURE

A. The Contractor(s) shall make all required submissions to the Engineer. Any data prepared by subcontractors and suppliers and all correspondence originating with subcontractors, suppliers, etc., shall be submitted through the Contractor.

B. The contractor shall review and approve all Shop Drawings prior to submission. Contractor's approval shall constitute a representation to Owner and Engineer that Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data or assumes full responsibility for doing so, and that Contractor has reviewed or coordinated each Shop Drawing or sample with the requirements of the work and the Contract Documents.

C. Submittal Preparation: Mark each submittal with a permanent label or page for identification. Provide the following information on the label for proper processing and recording of action taken:
   1. Location
   2. Project Name
   3. Contract
   4. Name and Address of Engineer
   5. Name and Address of Contractor
   6. Name and Address of Subcontractor
   7. Name and Address of Supplier
   8. Name of Manufacturer
   9. Number and Title of appropriate Specification Section
   10. Drawing Number and Detail References, as appropriate.
   11. Submittal Sequence or Log Reference Number.
      a. Provide a space on the label for the Contractor's review and approval markings and a space for the Engineer’s "Action Stamp".

D. Each Shop Drawing, sample and product data submitted by the Contractor shall have affixed to it the following Certification Statement including the Contractor's Company name and signed by the Contractor:

Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements.

_____ _____

Signature Date

_____

Company

E. Shop Drawings shall be submitted in not less than six (6) copies to the Engineer at the address specified at the Preconstruction Conference. Single mylar or sepia reproducible copies of simple Shop Drawings may be submitted with prior approval of the Engineer.

F. At the time of each submission, Contractor shall in writing identify any deviations that the Shop Drawings or samples may have from the requirements of the Contract Documents.

G. Drawings shall be clean, legible and shall show necessary working dimensions, arrangement, material finish, erection data, and like information needed to define what is to be furnished and to establish its suitability for the intended use. Specifications may be required for equipment or materials to establish any characteristics of performance where such are pertinent. Suitable catalog data sheets showing all options and marked with complete model numbers may, in certain instances, be sufficient to define the articles which it is proposed to furnish.

H. For product which require submittal of samples, furnishing samples so as not to delay fabrication, allowing the Engineer reasonable time for the consideration of the samples submitted. Properly label samples, indicating the material or product represented, its place of origin, the names of the vendor and Contractor and the name of the project for which it is intended. Ship samples prepaid. Accompany samples with pertinent data required to judge the quality and acceptability of the sample, such as certified test records and, where required for proper evaluation, certified chemical analyses.

1.3 REVIEW PROCEDURE

A. Engineer will review with reasonable promptness all properly submitted Shop Drawings. Such review shall be only for conformance with the design concept of the Project and for compliance with the information given in the plans and specifications and shall not extend to means, methods, sequences, techniques or procedures of construction or to safety precautions or programs incident thereto.

B. The review of a separate item as such will not constitute the review of the assembly in which the item functions. The Contractor shall submit entire systems as a package.

C. All Shop Drawings submitted for review shall be stamped with the Engineer's action and associated comments.

D. For each submittal for review, allow a minimum of 15 working days excluding delivery time to and from Contractor

E. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Engineer will review each submittal, mark to indicate action taken, and return accordingly. Compliance with specified characteristics is the Contractor's responsibility.

Action Stamp: The Engineer will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:

1. If Shop Drawings are found to be in general compliance, such a review will be indicated by marking the first statement.
2. If only minor notes in reasonable numbers are needed, the Engineer will make same on all copies and mark the second statement. Shop Drawings so marked need not be resubmitted.
3. If the submitted Shop Drawings are incomplete or inadequate, the Engineer will mark the third statement, request such additional information as required, and explain the reasons for revision. The Contractor shall be responsible for revisions, and/or providing needed information, without undue delay, until such Shop Drawings are acceptable. Shop Drawings marked with No. 3 shall be completed resubmitted.
4. If the submitted Shop Drawings are not in compliance with the Contract Documents, the Engineer will mark the fourth statement. The Contractor will be responsible to submit a new offering conforming to specific products specified herein and/or as directed per review citations.

F. No submittal requiring a Change Order for either value or substitution or both, will be returned until the Change Order is approved or otherwise directed by the Owner.

1.4 CERTIFICATES

A. When specified in individual Specifications Sections, submit certification by the manufacturer, installation/application subcontractor, or Contractor to Engineer, in quantities specified for Shop Drawings

B. Indicate material or equipment conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or pervious test results on material or equipment but must be acceptable to Engineer.

1.5 MANUFACTURER'S INSTRUCTIONS

A. Keep one copy of manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing on site.

B. Indicate special procedures, perimeter conditions requiring special attention, and special environment criteria required for application or installation.

APPLICATION FOR USE OF "OR-EQUAL" ITEM

TO: _____

PROJECT: _____

SPECIFIED ITEM:

_____	_____	_____
Page	Paragraph	Description

A. The undersigned requests consideration of the following as an "or-equal" item in accordance with Article 6.05 of the General Conditions.

_____

B. Change in Contract Price (indicate + or -) $ _____

C. Attached data includes product description, specifications, drawings, photographs, references, past problems and remedies, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified. For consideration of the attached data as SHOP DRAWINGS, submittal shall be in accordance with requirements of Section 013323.

D. Signature:

_____

Firm:

_____

Address:

_____

_____

Telephone: _____ Date: _____

Attachments: _____

_____

_____

_____

For use by ENGINEER:

_____Accepted as evidenced by affixed SHOP DRAWING REVIEW stamp.
_____Accepted as evidenced by included CHANGE ORDER.
_____Not accepted as submitted. See Remarks.
_____Acceptance requires completion of submittal as required for SHOP DRAWINGS.
_____Not accepted. Do not resubmit.

By: _____ Date: _____

Remarks: _____

END OF SECTION 013323

SECTION 013326 – PRODUCT TESTING AND CERTIFYING

PART 1 - GENERAL

1.1 QUALITY OF MATERIALS

A. Where the specifications call for mill or shop tests, the Contractor shall furnish duplicate copies of attested manufacturer's certificates showing details of quality or performance sufficient to demonstrate conformity to contract requirements. Mill, shop or witness tests shall be subject to view by the Engineer's representative, but the Engineer's representation shall not relieve the Contractor from the necessity of furnishing certificates specified. The Engineer shall be notified by the Contractor in writing, sufficiently in advance of the time of making tests, so that proper arrangements may be made. Waiving of witness of tests by the Engineer may be in writing only by the Engineer. All costs for travel, lodging, food and transportation that are necessary for the Engineer's representative and the Owner's representative to attend witness tests shall be included in the Contractor's bid for those item(s) specifically designated as being subject to witness testing.

B. Unless otherwise specified, all materials, equipment and articles shall be erected, installed, applied, or connected, used, cleaned and conditioned in accordance with the printed instructions and directions of the manufacturer.

C. The installation shall be so made that its several component parts will function together as a workable system. It shall be complete with all accessories necessary for its operation and shall be left with all equipment properly adjusted and in working order.

D. The work shall be executed in conformity with the best practice and to contribute to efficiency of operation, minimum maintenance, accessibility and sightliness. It shall also be executed so that the installation will conform and accommodate itself to the building structure, its equipment and usage.

E. Whenever in the contract documents a particular brand, make of material, device or equipment is shown or specified, such brand, make of material, device or equipment is to be regarded merely as a standard and such trade name shall be followed by "or equal".

1.2 QUALITY ASSURANCE

A. The equipment and materials to be furnished under this Contract shall be the products of well-established and reliable firms which have had ample experience for at least five (5) years in the manufacture of equipment or materials similar in design and of equal quality to that specified. If required, the manufacturer shall submit a list of installations of similar equipment, which have been in successful operation for at least five (5) years.

B. Perform Work by persons qualified to produce required and specified quality.

C. Secure materials and equipment in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 EXPERIENCE CLAUSE REQUIREMENT AND PERFORMANCE BONDS FOR MANUFACTURER

A. For every piece of equipment furnished under this Contract, the manufacturer will be required to have a minimum of five (5) years of experience in providing this specific type of equipment. In lieu of this experience requirement, the manufacturer will be required to provide performance bond(s) for the faithful performance of the equipment and guarantee payment in a sum of not less than one hundred and fifty percent (150%) of the total equipment price for the completed work for that item. In the absence of verifiable experience, the manufacturer will be required to provide the performance bond(s) for the same number of years that the manufacturer was found lacking in experience from the specified five (5) year period. The performance bond(s) shall be from an approved surety company, to the satisfaction of the Owner's Law Director.

B. Agents of bonding companies which write bonds for the performance and payment of the contract shall furnish power of attorney bearing the seal of the company, evidencing such agent's authority to execute the particular type of bond to be furnished, and evidencing also the right of the surety company to do business in the State of Ohio. Copy of this proof shall be attached to each copy of the contract.

C. The bond shall be purchased through a surety company with a local agent upon whom service of process can be made.

D. In event of failure of surety or co-surety, the manufacturer shall immediately furnish a new bond, as required herein. The manufacturer's bond will not be released until all provisions of the contract have been fulfilled.

E. The surety used for the bid bond and performance bond shall be listed in the latest U.S. Treasury Circular 570 and the Penal Sums shall be within the maximum specified for such company in said Circular 570.

END OF SECTION 013326

SECTION 013543 - ENVIRONMENTAL PROTECTION

PART 1 - GENERAL

1.1 UNNECESSARY NOISE, DUST AND ODORS

A. The Contractor's performance of this contract shall be conducted so as to eliminate all unnecessary noise, dust and odors.

1.2 SEWAGE, SURFACE AND FLOOD FLOWS

A. The Contractor shall take whatever action is necessary to provide all necessary tools, equipment and machinery to adequately handle all sewage, surface flows and flood flows, which may be encountered during the performance of the work. The entire cost of and liability for handling such flows is the responsibility of the Contractor and shall be included in the price for the appropriate item.

1.3 WORK IN FREEZING WEATHER

A. Written permission from the Engineer shall be obtained before any work is performed which, in the judgment of the Engineer, may be affected by frost, cold, or snow. When work is performed under such conditions, the Contractor shall provide facilities for heating the materials and for protecting the finished work.

1.4 POLLUTION CONTROL

A. It shall be the responsibility of the Contractor to prevent or limit pollution of air and water resulting from his operations.

B. The Contractor shall perform work required to prevent soil from eroding or otherwise entering onto all paved areas and into natural watercourses, ditches, and public sewer systems. This work shall conform to all local ordinances and/or regulations, if any, and if not otherwise regulated by local ordinances or regulations shall at a minimum conform to the Ohio EPA General Storm Water NPDES Permit for Construction Activities and the Ohio Department of Natural Resources Rainwater and Land Development manual. This work may consist of but not be limited to construction and continual maintenance of silt fence, bio bag filters, sedimentation traps, stilling basins, check dams, temporary seeding, temporary mulching, erosion mats and other means to clarify waters containing suspended materials from excavations, embankments, cleared and grubbed or stripped areas, stockpiles, well points, and disposal sites and shall be commensurate with the contractor’s schedule, sequence of work, means and methods. If a SWPPP plan is not required for the project, the contractor shall at a minimum submit a plan of his proposed erosion control prevention methods for approval by the Owner and/or other regulatory authorities having jurisdiction prior to starting any construction activities, which may cause erosion.

C. The Contractor shall perform work required to prevent dust attributable to his operations from entering the atmosphere. Dust on unsurfaced streets or parking areas and any remaining dust on surfaced streets shall be controlled with water and/or calcium chloride dust palliative as needed.

D. Any material removed from sanitary or storm sewers shall be disposed in accordance with all applicable regulations.

END OF SECTION 013543

SECTION 014126 - GENERAL REGULATIONS AND PERMITS

PART 1 - GENERAL

1.1 REGISTRATION

All Contractors and subcontractors shall be registered with the Building Department having jurisdiction. Contact the Building Department for additional registration information.

1.2 PERMITS

The Contractor shall apply for all permits from the Owner and/or other authorities having jurisdiction.

1.3 ARCHAEOLOGICAL DISCOVERIES

Contractors and subcontractors are required under O.R.C. Section 149.53, to notify the Ohio Historical Society and the Ohio Historic Site Preservation Board of Archaeological Discoveries located in the project area, and to cooperate with those entities in archaeological and historic surveys and salvage efforts if such discoveries are uncovered within the project area.

Contact:

Resource Protection and Review
Ohio Historic Preservation Office
800 E. 17th Avenue
Columbus, Ohio 43211-2497
614-298-2000

Should archaeological discoveries or other activities delay progress of the work, an adjustment in contract time will be made.

END OF SECTION 014126

SECTION 014223 - INDUSTRY STANDARDS

PART 1 - GENERAL

1.1 ABBREVIATIONS

A. Abbreviations, as used, designate the following:

AASHTO	-	American Association of State Highway and Transportation Officials
ACI	-	American Concrete Institute
AIEE	-	American Institute of Electrical Engineers
AISC	-	American Institute of Steel Construction
ANSI	-	American National Standards Institute
ASTM	-	American Society of Testing and Materials
AWWA	-	American Water Works Association
CMS	-	Construction and Material Specifications
NEMA	-	National Electrical Manufacturers Association
ODOT	-	Ohio Department of Transportation
ORC	-	Ohio Revised Code
UL	-	Underwriters Laboratories, Inc.

1.2 REFERENCE TO OTHER SPECIFICATIONS

A. Where reference is made to specifications such as ASTM, AWWA or AASHTO, the latest edition shall be used, unless otherwise noted on the plans or in the specifications.

1.3 CODES AND STANDARDS

A. All work provided for by these specifications must be installed according to the provisions of the State and local building codes, subject to inspection and acceptance by the State and local inspectors.

END OF SECTION 014223

SECTION 014323 – QUALIFICATIONS OF TRADESMEN

PART 1 - GENERAL

1.1 CHARACTER OF WORKMEN AND EQUIPMENT

A. The Contractor shall employ competent and efficient workmen for every kind of work. Any person employed on the work who shall refuse or neglect to obey directions of the Engineer or his representative, or who shall be deemed incompetent or disorderly, or who shall commit trespass upon public or private property in the vicinity of the work, shall be dismissed when the Engineer so orders, and shall not be re-employed unless express permission be given by the Engineer. The methods, equipment and appliances used on the work and the labor employed shall be such as will produce a satisfactory quality of work, and shall be adequate to complete the contract within the specified time limit.

B. In hiring of employees for the performance of work under this Contract, or any Subcontract hereunder, no Contractor or Subcontractor, nor any person acting on behalf of such Contractor or Subcontractor, shall, by reason of race, sex, creed or color, discriminate against any citizen of the State of Ohio in the work to which the employment relates. No Contractor, Subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, creed, sex or color.

END OF SECTION 014323

SECTION 015100 - TEMPORARY POWER SERVICE

PART 1 - GENERAL

1.1 ELECTRICAL POWER

A. The Contractor shall furnish at his own expense all electrical power which may be required for the project. All temporary lines shall be furnished and installed by the Contractor at his own expense in a manner which meets the approval of the Engineer, and shall be removed by the Contractor at the completion of the construction.

END OF SECTION 015100

SECTION 015136 - TEMPORARY WATER AND DISTRIBUTION

PART 1 - GENERAL

1.1 WATER

A. The Contractor shall be responsible for an adequate supply of water suitable for their use for construction and drinking. At his own expense, he shall provide and maintain adequate supplies and supply lines in such locations and installed in such a manner as may be satisfactory to the Engineer.

END OF SECTION 015136

SECTION 015213 - FIELD OFFICES

PART 1 - GENERAL

1.1 CONTRACTOR'S OFFICE

A. Each Contractor shall provide and maintain an office on the site of the work during the construction period of the contract, at which they or their authorized agent shall be present at all times while the work is in progress.

B. Offices shall be weather tight with lighting, electrical outlets, heating, cooling, and venting equipment, equipped with sturdy furniture, drawing rack, drawing display table, and other equipment and facilities deemed necessary by Contractor.

C. Provide space for progress meeting with table and chairs to accommodate six people.

D. Locate office and shed a minimum distance of 30’ from existing and new structures.

END OF SECTION 015213

SECTION 015213.01 – FIRST AID

PART 1 - GENERAL

1.1 AID TO THE INJURED

A. The Contractor shall keep on the work site, all articles necessary for giving "First Aid to the Injured." He shall also have standing arrangements for the immediate removal and hospital treatment of any employee or other person who may be injured on the work site.

END OF SECTION 015213.01

SECTION 015526 - TEMPORARY TRAFFIC CONTROL DEVICES

PART 1 - GENERAL

1.1 BARRICADES, SIGNS AND LIGHTS

A. The Contractor shall employ watchmen on the work when and as necessary. The Contractor shall erect and maintain such strong and suitable barriers and such lights as will effectively prevent the occurrence of any accident to health, limb or property. Lights shall be maintained between the hours of one-half (1/2) hour after sunset and one-half (1/2) hour before sunrise.

B. No manhole, trench, excavation will be left open awaiting connection or removal at a later date by the Contractor's forces or others but shall be temporarily backfilled and resurfaced if applicable with a temporary pavement passable to traffic at no additional cost to the Owner.

C. In addition to other safety requirements, a minimum of four (4) foot high fence will be incorporated around any shaft or manhole or other excavation left open at the end of a day's work.

1.2 MAINTENANCE OF TRAFFIC

A. The Contractor is required to provide maintenance of traffic in conformance with the Ohio Manual of Uniform Traffic Control Devices and Item 614 of the current Construction and Material Specifications of the Ohio Department of Transportation.

B. This work shall include providing suitable and satisfactorily trained and properly attired flagmen for use at any location where existing roadway is narrowed to a width of less than 2 full lanes (18 feet).

C. The Contractor is also responsible for maintaining local access to all residences and businesses along the route of the construction and to provide whatever temporary materials are necessary to provide a safe, adequate drive surface.

D. At all boring locations, Contractor shall provide suitable flashers, barricades, and traffic control devices as may be deemed necessary by the Engineer or the responsible authority in the case of the Department of Transportation, Turnpike Commission, or affected railroad. This may extend to maintain facilities on a 24-hour basis until such time as the areas are completely backfilled.

END OF SECTION 015526

SECTION 015713 - TEMPORARY EROSION CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Furnishing all labor, materials, tools, equipment and services for the temporary soil erosion and sediment control work as indicated.

B. Coordinating the temporary pollution and erosion control with work of all other trades.

C. Reducing to the greatest extent practicable the area and duration of exposure of readily erodible soils.

D. Protecting the soils by use of temporary vegetation or mulch or by accelerating the establishment of permanent vegetation.

E. Mechanically retarding the rate of runoff from the construction site and control disposal of runoff.

F. Traping all sediment resulting from construction in temporary or permanent debris basins.

G. Using temporary measures to keep erosion under control if construction is suspended for any appreciable length of time.

H. Providing protection against chemical, fuel, or lubricant spills, and sewage pollutants.

I. Protecting project and existing structures from surface water damage due to utility line excavations.

J. Controlling soil erosion and sedimentation by use of silt fences, dikes, ditches, slope protection, sediment pits, basins, dams, slope drains, coarse aggregate, mulches, sod, grasses, filter fabrics, and other erosion control devices or methods.

1.2 UNIT PRICES

A. Work under this section is incidental to work covered under other sections of these Specifications and shall be paid as work incidental to those items.

1.3 SUBMITTALS

A. Product Data
   1. Filter fabric

B. Shop Drawings

C. Samples

D. Quality Control Submittals
   1. Design Data
   2. Test Reports
   3. Certificates
      a. Seed
      b. Fertilizer
      c. Limestone
   4. Manufacturers Instructions

E. Contract Closeout Submittals
   1. Project Record Documents

1.4 QUALITY ASSURANCE

A. Qualifications

B Regulatory Requirements

C. Certifications

D. Field Samples

E. Mock-ups

F. Pre-Installation Conference

1.5 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping
   1. Deliver grass seed, fertilizer and limestone in original containers labeled with content analysis.

B. Acceptance at Site

C. Storage and Protection

1.6 PROJECT CONDITIONS

A. Environmental Requirements

B. Existing Conditions

C. Field Measurements

1.7 SEQUENCING AND SCHEDULING

A. All temporary control measures as shown on the Drawings, called for in these Specifications or ordered by the Engineer shall remain in effect during the life of the contract to control soil erosion, sedimentation and water pollution.

1.8 MAINTENANCE

A. Maintenance Service

B. Extra Materials

PART 2 - PRODUCTS

2.1 SEED

A. Provide fresh, clean, new crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America.

B. All areas of temporary seeding shall be seeded with grass as shown in the following table:

March 1 - August 15	Per 1000 Square Feet	Per Acre
Oats	3 lbs.	4 bu.
Perenial Ryegrass	1 lb.	40 lbs.
Tall Fescue	1 lb.	40 lbs.

August 16 - November 1*	Per 1000 Square Feet	Per Acre
Rye	3 lbs.	2 bu.
Wheat	3 lbs.	2 bu.
Perenial Ryegrass	1 lb.	40 lbs.
Tall Fescue	1 lb.	40 lbs.

* After November 1, use mulch only

2.2 ORGANIC MULCH

A. Select mulch material based on site requirements, availability of materials and availability of labor and equipment. The following are the minimum rates:

Rates

Mulch	Per Acre	Per 1000 ft^2	Notes
Straw (temporary only)	2 tons	90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand.
Wood Chips (permanent or temporary)	400 $yds.^3$	9 - 10 $yds.^3$	Apply approx. 3" deep. Treat with 12 lbs. of nitrogen per ton. Do not use on firm turf areas. Apply with mulch blower, chip handler, or by hand.
Bark Chips or Shredded Bark (temporary mulch only)	70 $yds.^3$	1½ - 2 $yds.^3$	Do not use in fine turf areas. Apply about ½" thick. Apply with a mulch blower or by hand.

2.3 FERTILIZER

A. All fertilizer shall be manufactured from cured stock and organic sources. Chemical elements shall be accurately proportioned, uniformly mixed, and delivered to the site in factory-sealed containers fully labeled, bearing the name or trademark and warranty of the manufacturer. Commercial fertilizer for lawn sodding shall be dry or liquid compounds of 12-12- 12 analysis, meeting applicable requirements of State and Federal laws.

2.4 LIMESTONE

A. All limestone shall be ground agricultural grade dolomitic limestone containing at least 10 percent magnesium oxide with a minimum total neutralizing power of 90, with at least 40 percent passing a No. 100 sieve and at least 95 percent passing a No. 8 sieve.

2.5 WATER

A. All irrigation water shall be clean and free from injurious amounts of oil, acid, alkali, or other deleterious substances.

2.6 DITCH CHECKS

A. Temporary ditch checks shall consist of coarse aggregate dikes.

2.7 INLET FILTERS

A. Temporary inlet filters and silt fences shall be adequately supported as detailed on the drawings.

2.8 SLOPE DRAINS

A. Temporary slope drains shall consist of pipe, coarse aggregate, riprap, rock channel protection, mats, plastic sheets or other materials approved by the Engineer. Sediment pits may be included as part of slope drain protection.

2.9 FILTER FABRIC

A. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Requirements
Filtering Efficiency	75% (min.)
Tensile Strength at 20% (max.) Elongation *	Extra Strength - 50 lbs./lin. in. (min.)
	Standard Strength - 30 lbs./lin. in. (min.)
Flow Rate	0.3 gal./sq.ft./min. (min.)

*Requirements reduced by 50 percent after 6 months of installation.

B. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0° F to 120° F.

2.10 BURLAP

A. Burlap shall be 10 ounce per square yard fabric.

2.11 FILTER SUPPORTS AND REINFORCING

A. Posts for silt fences shall be either 4" diameter wood or 1.33 pounds per linear foot steel with a minimum length of 5 feet. Steel posts shall have projections for fastening wire to them.

B. Stakes for filter barriers shall be 1" x 2" wood (preferred) or equivalent metal with a minimum length of 3 feet.

C. Wire fence reinforcement for silt fences using standard strength filter cloth shall be a minimum of 42 inches in height, a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches.

PART 3 - EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

A. The Contractor shall limit the surface area of erodible earth material exposed by clearing and grubbing; the surface area of erodible earth material exposed by excavation; borrow; and fill operations; and provide immediate permanent or temporary control measures to prevent contamination of adjacent streams or other areas of water impoundment. Such work will involve the construction of temporary ditch checks, filters, benches, dikes, slope drains, and use of temporary mulches, mats, seeding or other control devices or methods necessary to control erosion and sedimentation.

B. The Contractor shall incorporate all permanent erosion control features into the Work at the earliest practicable time. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. This will require the establishing of final grades as shown on the Drawings and application of agricultural limestone, commercial fertilizer, seeding and mulching or sodding . When directed by the Engineer, temporary fertilizer, seeding and mulching materials shall be used. In general, the Contractor shall temporarily seed all disturbed areas within seven (7) days if they are to remain dormant for more than forty- five (45) days. Permanent soil stabilization shall be applied to disturbed areas within seven (7) days after final grade is reached on any portion of the site.. Temporary control measures will be used when and as directed by the Engineer to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

C. Where erosion is likely to be a problem, clearing and grubbing operations should be so scheduled and performed that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise temporary erosion control measures will be required between successive construction stages.

D. The Engineer will limit the area of excavation, borrow and embankment operations in progress commensurate with the Contractor's capability and progress in keeping the finished grading, mulching, seeding, and other such permanent control measures current in accordance with the accepted schedule. Mulching, seeding, and other such permanent control measures shall be applied after completion of a vertical eight (8) feet of embankment or cut, unless otherwise directed by the Engineer. Should seasonal limitations or embankment make such coordination unrealistic, temporary erosion control measures shall be taken immediately.

E. The Engineer may increase or decrease the allowable amount of surface area or erodible earth material to be exposed at one time by clearing and grubbing, excavation, borrow and fill operations as determined by his analysis of project conditions. Factors such as soil erodibility, slope, cut or fill height, exposed area contributing to a watercourse and weather will be considered in this determination.

F. In the event of conflict between these requirements and pollution control laws, rules, or regulations or other Federal, State or local agencies, the more restrictive laws, rules or regulations shall apply.

G. Temporary seeding areas shall be fertilized at a rate of 12-15 pounds per 1000 square feet of 10-10-10 or 12-12-12 analysis or equal.

H. When directed by the Engineer, the seed bed shall be thoroughly watered to maintain adequate moisture in the upper four (4) inches of soil, necessary to promote proper root growth.

I. When directed by the Engineer, temporary seeded areas shall be mowed when grass exceeds four (4) inches in height.

J. Temporary erosion control features shall be acceptably maintained and shall subsequently be removed or replaced when directed by the Engineer.

K. Removed materials shall become the property of the Contractor and shall be disposed of off the site at the Contractor's expense.

3.2 PERFORMANCE

A. If, in the opinion of the Engineer and Owner, proper control of soil erosion and sedimentation is not being provided by the Contractor, the Owner may take all necessary steps to provide corrective measures and the cost of such services will be deducted from any money which may be due or become due the Contractor.

B. Control work performed for protection of construction areas outside the construction site, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites shall be considered as a subsidiary obligation of the Contractor, with all necessary control costs included in the contract price.

C. In the event that temporary erosion and sediment control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled, and are ordered by the Engineer, such temporary work shall be performed by the Contractor at his expense.

3.3 SILT FENCE

A. The height of a silt fence shall not exceed 36 inches (higher fences may impound volumes of water sufficient to cause failure of the structure).

B. The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum six (6) inches overlap and securely sealed.

C. Posts shall be spaced a maximum of ten (10) feet apart at the barrier location and driven securely into the ground (minimum of 12 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed six (6) feet.

D. A trench shall be excavated approximately four (4) inches wide and four (4) inches deep along the line of posts and upslope from the barrier.

E. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of two (2) inches and shall not extend more than 36 inches above the original ground surface.

F. The standard strength filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

G. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of Subparagraph F above applying.

H. The trench shall be backfilled and soil compacted over the filter fabric.

I. Silt fences shall be removed when they have served their purpose, but not before the upslope area has been permanently stabilized.

J. Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

K. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly.

L. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.

M. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

3.4 TEMPORARY MULCHING

A. Application
   1. Mulch materials shall be spread uniformly, by hand or machine.
      a. When spreading straw mulch by hand, divide the areas to be mulched into approx. 1000 sq. ft. sections and place approx. 90 lbs. of straw in each section to facilitate uniform distribution.

B. Mulch Anchoring
   1. Straw mulch shall be anchored immediately after spreading to prevent windblow. One of the following methods of anchoring straw shall be used:
      a. Mulch anchoring tool
         1. This is a tractor-drawn implement (mulch crimper, serrated straight disk or dull farm disk) designed to punch mulch approximately two(2) inches into the soil surface. This method provides maximum erosion control with straw. It is limited to use on slopes no steeper than 3:1, where equipment can operate safely. Machinery shall be operated on the contour.
      b. Liquid mulch binders
         1. Application of liquid mulch binders and tackifiers should be heaviest at edges of areas and at crests of ridges and banks, to prevent windblow. The remainder of the area should have binder applied uniformly. Binders may be applied after mulch is spread; however, it is recommended to be sprayed into the mulch as it is being blown onto the soil. Applying straw and binder together is the most effective method.
         2. The following type of binder may be used:
            a.) Asphalt - any type of asphalt thin enough to be blown from spray equipment is satisfactory. Recommended for use are rapid curing (RC-80, RC-250, RC-800), medium curing (MC-250, MC-800) and emulsified asphalt (SS-1, MS-2, RS-1 and RS-2). Apply asphalt at 4 gal./1000 $ft.^2$, 600 gal./acre. Do not use heavier

applications as it may cause the straw to "perch" over rills.

b.) Wood Fiber - wood fiber hydroseeder slurries may be used to tack straw mulch.

c. Mulch nettings

1. Lightweight plastic, cotton or paper nets may be stapled over the mulch according to manufacturer's recommendations.

C. Chemical Mulches

1. Chemical mulches may be used alone only in the following situations:
   a. Where no other mulching material is available.
   b. In conjunction with temporary seeding during the times when mulch is not required for that practice.
2. Chemical mulches may be used to bind other mulches or with wood fiber in a hydroseeded slurry at any time. Manufacturer's recommendations for application of chemical mulches shall be followed.

D. Nets and Mats

1. Nets may be used alone on level areas, on slopes no steeper than 3:1, and in waterways.
2. When mulching is done in late fall or during June, July and August, or where soil is highly erodible, net should only be used in conjunction with an organic mulch such as straw.
3. When net and organic mulch are used together, the net should be installed over the mulch except when the mulch is wood fiber. Wood fiber may be sprayed on top of the installed net.
4. Excelsior blankets are considered protective mulches and may be used alone on erodible soils and during all times of the year.
5. Other products designed to control erosion shall conform to manufacturer's specification and should be applied in accordance with manufacturer's instructions provided those instruction are at least as stringent as this specification.
6. Staples will be made of plain iron wire, No. 8 gauge or heavier, and will be six (6) inches or more in length.
7. Prior to installation:
   a. Shape and grade as required the waterway, channel, slope or other area to be protected.
   b. Remove all rocks, clods or debris larger than two (2) inches in diameter that will prevent contact between the net and the soil surface.
   c. When open-weave nets are used, lime, fertilizer and seed may be applied either before or after laying the net. When excelsior matting is used, they must be applied before the mat is laid.
8. Laying the Net:
   a. Start laying the net from top of channel or top of slope and unroll down-grade.
   b. Allow to lay loosely on soil - do not stretch.

c. To secure net: Upslope ends of net should be buried in a slot or trench no less than six (6) inches deep. Tamp earth firmly over net. Staple the net every twelve (12) inches across the top end.

d. Edges of net shall be stapled every three (3) feet. Where two strips of net are laid side by side, the adjacent edges shall be overlapped three (3) inches and stapled together.

e. Staples shall be placed down the center of net strips at 3-foot intervals. Do not stretch net when applying staples.

9. Joining strips
   a. Insert new roll of net in trench, as with upslope ends of net. Overlap the end of the previous roll eighteen (18) inches, turn under six (6) inches and staple across end of roll just below anchor slot and at the end of the turned-under net every twelve (12) inches.
10. At bottom of slopes
   a. Lead net out onto a level area before anchoring. Turn ends under six (6) inches and staple across end every twelve (12) inches.
11. Check slots
   a. On highly erodible soils and on slopes steeper than 4:1, erosion check slots should be made every fifteen (15) feet. Insert a fold of net into a six (6) inch trench and tamp firmly. Staple at twelve (12) inch intervals across the downstream portion of the net.
12. Rolling
   a. After installation, stapling and seeding, net should be rolled to ensure firm contact between net and soil.
13. All mulches should be inspected periodically, in particular after rainstorms, to check for rill erosion. Where erosion is observed, additional mulch should be applied. Net should be inspected after rainstorms for dislocation or failure. If washouts or breakage occur, re- install net as necessary after repairing damage to the slope. Inspections should take place up until grasses are firmly established. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface; repair as needed.

3.5 TEMPORARY SEEDING

A. Site Preparation
   1. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring.
   2. Install the needed erosion control practices prior to seeding such as diversions, temporary waterways for diversion outlets and sediment basins.

B. Seedbed Preparation
   1. Lime (in lieu of a soil test recommendation) shall be applied on acid soil (pH 5.5 or lower) and subsoil at a rate of 100 pounds per 1000 square feet or two tons per acre of agricultural ground limestone. For best results, make a soil test.
   2. Fertilizer (in lieu of a soil test recommendation) shall be applied at a rate of 12-15 pounds per 1000 square feet or 500-600 pounds per acre of 10-10-10 or 12-12-12 analysis or equivalent.

3. Work the lime and fertilizer into the soil with a disk harrow, springtooth harrow or similar tools to as depth of two inches. On sloping areas, the final operation shall be on the contour.

C. Seeding
1. Apply the seed uniformly with a cyclone seeder, drill, cultipacker seeder or hydroseeder (slurry may include seed and fertilizer) preferably on a firm, moist seedbed. Seed wheat or rye no deeper than one (1) inch. Seed ryegrass no deeper than one-fourth (¼) inch.
2. When feasible, except where a cultipacker type seeder is used, the seedbed should be firmed following seeding operations with a cultipacker, roller or light drag. On sloping land, seeding operations should be on the contour wherever possible.

D. Mulching
1. Mulch shall be applied to protect the soil and provide a better environment for plant growth.
2. Mulch shall consist of small grain straw (preferably wheat or rye) and shall be applied at the rate of two tons per acre or 100 pounds (two to three bales) per 1000 square feet.
3. Spread the mulch uniformly by hand or mechanically so the soil surface is covered.
4. Mulch Anchoring Methods
   a. Mechanical - use a disk, crimper or similar type tool set straight to punch or anchor the mulch material into the soil.
   b. Asphalt Emulsion - apply at the rate of 160 gallons per acre into the mulch as it is being applied.
   c. Mulch Nettings - use according to the manufacturer's recommendations. Use in areas of water concentration to hold mulch in place.

E. Irrigation
1. If soil moisture is deficient, supply new seedings with adequate water for plant growth until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

END OF SECTION 015713

SECTION 016600 - PRODUCT HANDLING AND PROTECTION

PART 1 - GENERAL

1.1 DELIVERY AND STORAGE OF MATERIALS

A. The Contractor shall be responsible for delivery and storage of all materials.

B. The Contractor shall coordinate with the Engineer on the arrangement for storing construction materials and equipment. Deliveries of all construction materials and equipment should be made at suitable times.

C. The Contractor shall store all materials required for the performance of this contract at sites designated by the Engineer.

D. All stockpiles shall be neat, compact, completely safe, and barricaded with warning lights if necessary.

E. Precautions shall be taken so that no shade trees, shrubs, flowers, sidewalks, driveways or other facilities will be damaged by the storage of materials. The Contractor shall be responsible for the restoration of all stockpile sites to their original condition.

F. Materials, tools and machinery shall not be piled or placed against shade trees, unless they shall be amply protected against injury therefrom. All materials, tools, machinery, etc. stored upon public thoroughfares must be provided with amber lights at night time so as to warn the traffic of such obstruction.

G. Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, shall again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. Approved portions of the construction site may be used for storage purposes and for the placing of the Contractor's equipment, but any additional space required therefore must be provided by the Contractor at his expense. Private property shall not be used for storage purposes without written permission of the property owner or lessee, and copies of such written permission shall be furnished the Engineer. All storage sites shall be restored to their original condition by the Contractor at his expense.

END OF SECTION 016600

SECTION 017517 - STARTING OF SYSTEMS / COMMISSIONING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. This Section includes general requirements for the commissioning of the Work and start-up and operation of systems and equipment.

1.2 SUMMARY

A. Starting, testing, and operating the completed Work including systems and equipment until Substantial Completion is achieved and operation of the completed Work including systems or equipment are accepted by the Owner. Contractor shall cooperate and coordinate with the Owner in the operation, maintenance, and adjustment of the Work.

B. References to the “Owner” in this specification shall mean the Owner and the Owner’s on-site construction representative.

1.3 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General Conditions, Supplementary Conditions (if included), and other Division 01 Specifications Sections, apply to this section.

1.4 DEFINITIONS

A. Commissioning: Commissioning is the series of activities, or process, necessary to ensure that systems and equipment are designed, installed, functionally tested, started up and capable of being operated and maintained to perform in conformity with the design intent for the facility improvements. Commissioning includes, but is not limited to factory testing, field testing, dry testing, wet testing, performance testing, manufacturer's checkout, start-up, and Operational Demonstration.

B. Factory Testing: Factory Testing is performance testing, operation testing, or documentation verification conducted in the production facilities, or specialized test facilities, or the equipment supplier. Such testing shall conform to the requirements of the individual sections of the Contract Documents.

"Witnessed" Factory Testing shall mean that the testing is witnessed by the Owner or his designated representative.

C. Field Testing: Field Testing is performance testing, operation testing, or documentation verification conducted in the field after installation, to provide comparison with the results obtained in the factory testing.

D. Dry Testing: Dry Testing is performed by the Contractor without introducing either process material or other test material into the component, system, or unit process.

E. Wet Testing: Wet Testing is testing performed by the Contractor utilizing test material in the component, system, or unit process. Tankage shall be filled with test material to operating level.

F. Performance Testing: Performance Testing is performed by the Contractor to demonstrate system performance in accordance with the Project Manual requirements.

G. Manufacturer's Check-Out: Field inspection, testing, adjustments, and sign off by the approved representative of the Manufacturer, indicating that the component, system, or unit process meets the manufacturer's requirements.

H. Start-Up: Narrowly defined as placing a component, system, or unit process on-line. Start-up can be a commissioning activity or a normal operating activity.

I. Operational Demonstration: A commissioning activity performed by the Contractor wherein the Contractor operates and maintains a fully functional component, system, or unit process for a period of time after stable operation has been achieved.

1.5 SUBMITTALS

A. Quality Control Submittals:

1. Field Installation Reports- Submit reports by Manufacturer's Representative in accordance with Paragraph 3.4 of this Section.

B. Commissioning Documentation: Contractor shall prepare and submit all documentation for review and approval. The documentation shall include, but not be limited to, the following:

1. Certification by the preparer that he/she is the person responsible for the data, and that the data is authentic and accurate.
2. Certification by the Contractor or equipment or unit process systems supplier that the equipment or the unit process systems were operated continuously for the specified period and that the equipment or unit process systems operated in compliance with the specified operating conditions, parameters and performance: and that the equipment or unit process systems are suitable for Performance Testing.
3. Pertinent background information shall include, but not be limited to, the following:

    a. Equipment or unit process systems Started-Up and Commissioned
    b. Start-Up and Commissioning dates
    c. Items or performance criteria tested clearly showing requirements and field data that verify requirements were met.

d. Names of witnesses for Start-Up and Commissioning.
e. Any repairs, corrections, or modifications required for the equipment or unit process systems to successfully complete Start-Up and Commissioning.
f. Loop diagrams accurately depicting the installed condition of instrumentation and controls.
g. Any other important background information.

4. Appendix

a. A summary of all data used in the calculation, including source, formulas with all terms defined.
b. Calculations for all data submitted, fully defined.
c. Copies of all raw field data sheets, including those indicating sampling point locations, and notes.
d. Production and/or operational data.
e. Calibration procedures and worksheets for sampling equipment.
f. Copies of calibration records for instrumentation.
g. PLC Ladder logic documented with comments.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 EXAMINATION AND VERIFICATION OF CONDITION

A. The Contractor shall inspect systems and equipment prior to each start-up and verify their readiness for start-up. Conditions hazardous to equipment or personnel shall be corrected by the Contractor prior to start-up of equipment.

1. Start-up operations shall not proceed using temporary power or temporary instrumentation and control wiring. All electrical and control connections shall be permanent and complete, and all such electrical components and equipment fully functional.
2. Use of repair parts during start-up operations shall not be permitted, except in such situations where the actual on-site verification of such repair parts' operability is specified.
3. The Contractor shall verify that all initial copies of the Maintenance and Operating Instructions have received an acceptable disposition as defined in Section 017800 – Final Compliance and Submittals, and the only outstanding item is the field verification of the Instructions.

B. On successful completion of Start-up, process flows and solids shall be used for commissioning the equipment and unit process systems to show the equipment and unit process systems function properly. Commissioning shall confirm the proper operation of the equipment and unit process systems with process fluids and process solids, adjustment shall be made, and the equipment or unit process systems shall be optimized and brought into compliance with design criteria in preparation for Operational Demonstration.

C. Planning and Coordination of Activities with Owner: The Contractor shall coordinate all Start-up and Commissioning activities for equipment and unit process. The Contractor shall develop a detailed start-up and commissioning plan that includes the following as a minimum:

1. Description of the overall general start-up and commissioning process.
2. List of equipment and unit process systems included for start-up and commissioning activities.
3. Detailed start-up and commissioning sequence of activities.
4. Listing of staff and responsibilities for activities.
5. Contractor shall use a form that will be provided by the Owner.

3.2 PREPARATION

A. Prior to start-up of equipment or systems, all necessary test equipment shall be in place and operable.

B. Approved representative(s) of the Manufacturer and Contractor shall be present for the initial start-up of systems or equipment.

C. The Contractor shall request permission to start-up equipment, including electrical gear, and notify the Owner Start-Up Request.

1. The Start-Up Request shall be submitted to the Owner a minimum of 72 hours before the scheduled start-up. Requests shall be made during normal working hours.
2. The Contractor shall provide all information in the first Section of the Start-Up Request form.
3. The Owner will indicate approval or disapproval of the request.
4. Approval of the request is based solely on impact on plant operations. Approval does not relieve the Contractor of any responsibility for plant and personnel safety.
5. The Contractor shall obtain the approved Start-Up Request prior to the system or equipment start-up.
6. If training is to be conducted in conjunction with the start-up this should be indicated on the Start-Up Request form. All requirements for training, as outlined in individual sections must be met for training sessions.
7. Start-ups performed at the direction of the Owner, per paragraph 3.3(G) of this Section, do not require advance notification to the Owner.

D. Normal installation checks, such as for rotation, are not considered start-ups and do not normally require start-up notification. For all equipment and systems so designated in the Contract Documents, or so designated by the Owner, such checks shall be under the supervision of the approved representative of the manufacturer and shall be reviewed by the Owner.

1. All electrical apparatus which is energized shall be clearly marked.

3.3 CONDUCT OF START-UP AND COMMISSIONING

A. Start-up:

1. All initial start-ups of equipment or systems shall be performed under the technical direction of the approved representative of the manufacturer.
2. Any lack of readiness of associated systems or failure of a system or equipment previously started prior to the date of Final Completion of the Project shall require additional initial start-up service to be performed, under the direction of the approved representative of the manufacturer.
3. The Contractor shall repair, replace or modify any equipment or system which fails to perform as specified in the Contract Documents. Such repair, replacement or modification of deficient work shall be performed under the terms of the General Conditions.
4. During the Operational Demonstration period, Operational Demonstration and at other times when the system is on-line and an integral part of the Water Tower operations and process, start-ups shall be performed as required by the Owner.

B. The Contractor shall be responsible for commissioning all work. Final acceptance shall be by the Owner.

C. The Contractor is responsible for the performance and operation of the systems and equipment during commissioning.

D. When Owner personnel are operating systems or equipment, the Contractor shall make available, at all times, persons knowledgeable about the systems or equipment to direct the Owner personnel in its operation.

E. The Contractor shall make all adjustments and corrections necessary to achieve normal, stable operation of systems. Adjustment and corrections shall be in accordance with the individual Specifications Sections.

F. Any failures of equipment or systems operated under the direction of the Contractor shall be considered deficiencies and shall be corrected in accordance with the General Conditions.

G. The Contractor shall attend commissioning meetings as called by the Owner in accordance with the Specifications.

H. During the Operational Demonstration period, Operational Demonstration and at other times, the work will be on-line and an integral part of the Water Tower operations and process. The Owner maintains control of Water Tower operations and processes at all times. Therefore:

1. The Contractor shall not commence, resume, terminate, or suspend the operations without the permission of the Owner and only in a sequence and manner suitable to the Owner.
2. The Contractor shall immediately, on a 24-hour per day, 7 days per week basis, adjust or repair any malfunction in the work which in the opinion of the Owner jeopardizes or may jeopardize the proper operation of the Water Tower.
3. The Contractor shall not start-up, shut down, adjust, or otherwise alter the operation of any component, system, or unit process without the permission of the Owner except in the case of an emergency and in accordance with the General Conditions.

3.4 QUALITY CONTROL

A. Reports of the Approved Representative of the Manufacturer:

1. The approved representative of the manufacturer shall prepare a daily report on each site visit for each system or item of equipment inspected, adjusted, started-up, or worked on.
2. The report shall state the purpose of the visit, the representative's observations and conclusions, and recommendations for further visits or action.
3. The reports shall be submitted in accordance with Section 017800, Final Compliance and Submittals within 3 days of the visit.
4. Use Attached Manufacturer’s Service Representative’s Report.

END OF SECTION 017517

SECTION 017800 - FINAL COMPLIANCE AND SUBMITTALS

PART 1 - GENERAL

1.1 The following forms and related sign-offs shall be documented in accordance with provisions of the contract. These forms shall be completed by the Contractor and approved by the Owner before final retainer is approved for release. Forms for Items A to E will be attached to the Contractor's executed copy of the contract.

A. Certificate of Substantial Completion (To be submitted at time of Substantial Completion).

B. Contractor's Certification of Completion.

C. Contractor's Affidavit of Prevailing Wage.

D. Consent of Surety Company for Final Payment.

E. Affidavit of Final Acceptance Date and Correction Period.

F. Before the OWNER will approve and accept the work and release the retainer, the CONTRACTOR will furnish the OWNER a written report indicating the resolution of any and all property damage claims filed with the CONTRACTOR by any party during the construction period. The information to be supplied shall include, but not be limited to, name of claimant, date filed with CONTRATOR, name of insurance company and/or adjuster handling claim, how claim was resolved and if claim was not resolved for the full amount, a statement indicating the reason for such action.

END OF SECTION 017800

SECTION 017821 - CLEANING AND PROTECTION

PART 1 - GENERAL

1.1 GENERAL

A. On or before the completion date for the work, the Contractor shall tear down and remove all temporary structures built by him, all construction plant used by him, and shall repair and replace all parts of existing embankments, fences or other structures, which were removed or injured by his operations or by the employees of the Contractor. The Contractor shall thoroughly clean out and provide protective cover from dirt, wear, damage or movement of heavy objects if necessary, on all buildings, sewers, drains, pipes, manholes, inlets and miscellaneous and appurtenant structures, and shall remove all rubbish leaving the grounds in a neat and satisfactory condition.

B. As circumstances require and when ordered by the Engineer, the Contractor shall clean the road, driveway, and/or sidewalk on which construction activity under this contract has resulted in dirt or any other foreign material being deposited with an automatic self-contained mechanical sweeper with integral water spray, vacuum and on-board or supplementary containment.

C. Failure to comply with this requirement when ordered by the Engineer or his representative, may serve as cause for the Engineer to stop the work and to withhold any monies due the Contractor until such order has been complied with to the satisfaction of the Engineer.

D. As the work progresses, and as may be directed, the Contractor shall remove from the site and dispose of debris and waste material resulting from his work. Particular attention shall be given to minimizing any fire and safety hazard from form materials or from other combustibles as may be used in connection with the work, which should be removed daily.

E. The Contractor shall wash all windows and other glass surfaces, leaving all areas free from putty marks, paint, etc.

F. During and after installation, the Contractor shall furnish and maintain satisfactory protection to all equipment against injury by weather, flooding or breakage thereby permitting all work to be left in a new condition at the completion of the contract.

G. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

H. Protect installed work and provide special protection where specified in individual Specifications Sections.

I. Provide temporary and removable protection for installed materials and equipment. Control activity in immediate work area to prevent damage.

END OF SECTION 017821

SECTION 017823 –MAINTENANCE MANUALS

PART 1 - GENERAL

1.1 OPERATION AND MAINTENANCE MANUALS

A. Operation and maintenance information shall be submitted for all manufactured items, i.e. equipment, hardware, pumps, valves, motors, etc.

B. This manual will either contain or refer to all information that has been issued during the construction and start-up periods, as well as information necessary for the proper operation and maintenance of equipment.

C. It shall be the responsibility of the Contractor who supplies such equipment to obtain from his vendors the required information and submit to the Engineer. This information will be accepted only if properly identified and only after it has been revised, where necessary, to conform to previous transmittals of the same material that have been "approved as noted" by the Engineer. All submittals shall be on 8-1/2" X 11" size paper or folded to that size.

D. In general, and where applicable, the information shall consist of, but not be limited to, six (6) sets of the following:

1. Descriptive literature, bulletins or other data covering equipment or system.
2. Complete list of equipment and appurtenances included with system, complete with manufacturer and model number.
3. Utility requirements.
4. General arrangement drawing.
5. Sectional assembly.
6. Dimension print.
7. Materials of construction.
8. Certified performance curve.
9. Performance guarantee.
10. Parts list.
11. Recommended spare parts list with part and catalog number.
12. Lubrication recommendations and instructions.
13. Schematic wiring diagrams.
14. Schematic piping diagrams.
15. Instrumentation data.
16. Drive dimensions and data.
17. Control data.
18. Operating instructions.
19. Maintenance instructions including troubleshooting guidelines and preventative maintenance instructions with task schedule.
20. Required tools and equipment for operation and maintenance.
21. Safety considerations for O & M procedures.

END OF SECTION 017823

SECTION 017839 - PROJECT RECORDS, DRAWINGS

PART 1 - GENERAL

1.1 RECORD DRAWINGS

A. The Contractor shall furnish an authentic set of marked-up drawings showing the installation insofar as the installation shall have differed from the Engineer's drawings. The drawings shall be delivered to the Engineer for making revisions to the original drawings immediately after final acceptance by the Owner.

B. The Contractor shall furnish dimensioned drawings indicating locations of all underground mechanical and electrical facilities.

C. Maintain on Site one set of the following Record Documents
   1. Drawings (annotated to show all changes made during construction)
   2. Specifications
   3. Addenda
   4. Change Orders and other modifications to the Contract
   5. Reviewed Shop Drawing and Samples
   6. Manufacturers' instructions for assembly, installation, and adjusting
   7. Testing and Inspection Reports
   8. Manufacturers' Service Representative's Reports.

D. Store Record Documents separate from documents used for construction.

1.2 SERVICE CONNECTION RECORDS

A. The Contractor shall record the location of all service and property connections, new or existing, made to utilities constructed under this contract. Such records shall be turned over to the Owner upon completion of the work. The cost of making such records shall be included in the various unit or lump sum prices stipulated for the various items of the work.

B. The location of each water connection as measured along the water line from the nearest fire hydrant.

END OF SECTION 017839

SECTION 018000 - SYSTEM PERFORMANCES

PART 1 - GENERAL

1.1 GENERAL

A. It is the intent of this Contract that the final installation shall be complete in all respects.

B. The Contractor shall be responsible for all minor details, whether or not shown on the Drawings or specifically included in these Specifications.

1.2 BUILDINGS, STRUCTURES & TANKS

A. The building and components shall function properly and in accordance with the plans, specifications and industry standards.

B. The following components are included, but not necessarily limited to, the following:

1. Roofing
2. Doors & Hatches
3. Railings & Guardrails
4. Windows
5. Painting Systems
6. Floor Coverings
7. Equipment
    a. Architectural
    b. Mechanical
    c. Electrical

1.3 FACILITIES

A. The facilities and equipment shall function properly and in accordance with plans, specifications and industry standards.

B. The following equipment includes, but is not necessarily limited to, the following:

1. Valves
2. Pumping Equipment
3. Mixing Equipment
4. Flotation Equipment
5. Telemetry
6. Electrical

1.4 CERTIFICATION

A. The Contractor shall provide written certification from the manufacturers and/or installers that the various major components are in working order or have been installed in accordance with the manufacturer's instructions.

END OF SECTION 018000

SECTION 024119 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. This section includes removal of pavement, piping, and equipment necessary to clear space for new construction and/or to rehabilitate existing construction.

1.3 REQUIREMENTS OF REGULATORY AGENCIES

A. State and local code requirements shall control the disposal of debris resulting from the removal operation.

1.4 PROTECTION

A. Structures shall be removed in such a manner as not to damage portions of the existing structure which are to remain in place.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 PAVEMENTS, SIDEWALKS, CURBING, SIMILAR STRUCTURES

A. Removal of existing pavements, sidewalks, curbing, and similar structures shall end at an existing joint or a sawed joint. Sawed joints shall be straight, neat and free from chipped or damaged edges.

B. For removal of reinforced or non-reinforced concrete, the minimum depth of saw cut shall be 3 in.

C. For removal of reinforced concrete, the depth of saw cut shall be sufficient to cut the steel.

D. If the concrete is coated with a bituminous surface or other material, the depth shall be sufficient to cut into the concrete, not including the coating depth, as specified above.

3.2 EXCAVATION OF RIGID PAVEMENT

A. The Contractor shall excavate rigid pavement, consisting of concrete or concrete base with a wearing surface of brick or bituminous concrete, wherever such excavation is required for the purpose of this Contract.

B. Pavement shall be excavated to neat lines and, only to widths required for trenches, for pipe laying and for construction of structures. Adequate provision shall be made to prevent settlement and breakage of pavement beyond the approved limits of excavation.

C. All pavement broken or damaged beyond the limits above stated, or the approved extension thereof, shall be replaced by the Contractor at his expense.

3.3 CATCH BASINS, INLETS AND SIMILAR STRUCTURES

A. Existing drainage structure designated by the Engineer to be removed shall be completely removed.

B. Abandoned sewers shall be sealed and made watertight with approved masonry bulkheads.

3.4 EQUIPMENT REMOVAL

A. All equipment, valves, piping, fittings, and miscellaneous steel structures that are removed shall remain the property of the Owner and shall be stored at site selected by the Owner. The Owner reserves the right to require the Contractor to dispose of certain unwanted portions of removed equipment and materials. The Owner shall have the right to reject any or all materials removed during construction, and the Contractor shall haul away and dispose of these materials in a suitable manner at no additional cost to the Owner.

3.5 DISPOSAL OF DEBRIS

A. All debris resulting from demolition operations, i.e., broken concrete, masonry, pipe, miscellaneous metal, trees and brush, equipment, etc., shall be disposed of offsite.

B. The Contractor shall police the hauling of debris to ensure that all spillage from haul trucks is promptly and completely removed.

3.6 BACKFILLING

A. All trenches, holes, and pits resulting from the removal and abandonment of any structure or obstruction shall be backfilled and compacted in accordance with the requirements of Section 310000.

END OF SECTION 024119

SECTION 030000 - CONCRETE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1. Section 013319 – Field Testing Requirements

1.2 SUMMARY

A. This Section specifies cast-in place concrete, including form work, reinforcing, mix design, placement procedures and finishes.

1. Extent of concrete work is shown on drawings.
2. Concrete paving and walks are specified in Division 02.
3. Precast concrete is specified in other Division-03 sections.
4. Mechanical finishes and concrete floor toppings are specified in other Division-03 sections.

1.3 SUBMITTALS

A. Product Data: Submit data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, waterstops, joint systems, curing compounds, dry-shake finish materials, and others as requested by Engineer.

B. Shop Drawings; Reinforcement: Submit original shop drawings prepared for fabrication, bending, and placement of concrete reinforcement. Comply with ACI Detailing Manual showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement. Include special reinforcement required for openings through concrete structures.

C. Shop Drawings; Form work: Submit shop drawings prepared by a registered Professional Engineer for fabrication and erection of forms for specific finished concrete surfaces. Show form construction including jointing, special form joint or reveals, location and pattern of form tie placement, and other items which affect exposed concrete visually.

1. Engineer's review is for general architectural applications and features only. Design of form work for structural stability and efficiency is Contractor's responsibility.

D. Samples: Submit samples of materials as requested by Engineer, including names, sources, and descriptions.

E. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design tests.

1. The proposed mix design submittal(s) shall follow the procedures of Chapter 5, Sections 5.2 to 5.3 of ACI-318.
2. Reference should be made to ACI-211.5R "Guide for Submittal of Concrete Proportions" for the required submittal information. Sample forms for presenting the necessary information can be found in the addendum at the end of this section. Example Form B should follow a completed Example A in the submittal when laboratory trial batches are used to document a water-cementious materials ratio curve.
3. Additional data summarizing the past performance records should be an integral part of the submittal if the submittal is based on past performance with the proposed materials and proportions.

F. Materials Certificates: Provide materials certificates in lieu of materials laboratory test reports when permitted by Engineer. Materials certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with, or exceeds, specified requirements. Provide certification from admixture manufacturers that chloride content complies with specification requirements.

1.4 QUALITY ASSURANCE

A. Codes and Standards: Comply with provisions of following codes, specifications, and standards, latest revisions, except where more stringent requirements are shown or specified:

1. ACI 301 "Specifications for Structural Concrete for Buildings."
2. ACI 318 "Building Code Requirements for Reinforced Concrete."
3. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice."
4. ACI 347 "Guide to Form work for Concrete."
5. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

B. Materials and installed work may require testing and retesting at anytime during progress of work. Tests, including retesting of rejected materials for installed work, shall be done at Contractor's expense.

C. Engage a testing agency acceptable to Engineer to perform initial material evaluation and certification tests for mix designs and to design concrete mixes.

D. Mockup: Cast mockup of size indicated or as required to demonstrate typical joints, form tie spacing, and proposed surface finish, texture, and color. Maintain sample panel exposed to view for duration of project, after Engineer's acceptance of visual qualities.
1. Demolish mockup and remove from site when directed by Engineer.

E. Pre-installation Conference: Conduct conference at project site to comply with requirements of Division 1 Section "Project Meetings" and the following:

1. At least 35 days prior to submitting design mixes, conduct a meeting to review detailed requirements for preparing concrete design mixes and to determine procedures for satisfactory concrete operations. Review requirements for submittals, status of coordinating work, and availability of materials. Establish preliminary work progress schedule and procedures for materials, inspection, testing and certifications. Require representatives of each entity directly concerned with cast-in-place concrete to attend conference, including, but not limited to, the following:

a. Contractor's Superintendent
b. Agency responsible for concrete design mixes.
c. Agency responsible for field quality control.
d. Ready-mix concrete producer.
e. Concrete Subcontractor
f. Primary admixture manufactures.

1.5 PROJECT CONDITIONS

A. Protection of Footings Against Freezing: Cover completed work at footing level with sufficient temporary or permanent cover as required to protect footings and adjacent subgrade against possibility of freezing; maintain cover for time period as necessary.

B. Protect adjacent finish materials against spatter during concrete placement.

PART 2 - PRODUCTS

2.1 FORM MATERIALS

A. Forms for Exposed Finish Concrete: Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings.

1. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood," Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.

B. Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least two (2) edges and one side for tight fit.

C. Forms for Textured Finish Concrete: Units of face design, size, arrangement, and configuration to match Engineer's control sample. Provide solid backing and form supports to ensure stability of textured form liners.

D. Forms for Cylindrical Columns and Supports: Metal, fiberglass reinforced plastic, or paper or fiber tubes. Construct paper or fiber tubes of laminated plies using water-resistant adhesive with wax-impregnated exterior for weather and moisture protection. Provide units with sufficient wall thickness to resist loads imposed by wet concrete without deformation.

E. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain, nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

F. Form Ties: Factory-fabricated, adjustable-length, snapoff metal or glass fiber-reinforced plastic form ties, designed to prevent form deflection and to prevent spalling concrete upon removal. Provide units which will leave no metal closer than 1-1/2" to the exposed surface.

1. Provide ties which, when removed, will leave holes not larger than 1" diameter in concrete surface.
2. All form ties shall have a factor of safety of two (2) to determine the recommended safe working load.

2.2 REINFORCING MATERIALS

A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.

B. Galvanized Reinforcing Bars: ASTM A 767, Class II (2.0 oz. zinc psf) hot-dip galvanized, after fabrication and bending.

C. Epoxy-Coated Reinforcing Bars: ASTM A 775.

1. Repair of damaged epoxy-coating - When required, damaged epoxy-coating shall be repaired with patching material conforming to ASTM A 775. Repair shall be done in accordance with the patching material manufacturer's recommendations.

D. Steel Wire: ASTM A 82, plain, cold-drawn steel.

E. Welded Wire Fabric: ASTM A 185, welded steel wire fabric. (Flat sheets only)

F. Welded Deformed Steel Wire Fabric: ASTM A 497.

G. Epoxy - Coated Welded Wire Fabric: ASTM A884, Class A.

H. Supports for Reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI specifications.

1. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
2. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).

2.3 CONCRETE MATERIALS

A. Portland Cement: ASTM C 150, Type I, II or I/II and ASTM C595M, Type IP, unless otherwise specified. (See Table I, Concrete Requirements).

1. Use one brand of cement throughout project, unless otherwise acceptable to Engineer.

B. Fly Ash: ASTM C 618, Class F.
1. Limit use of fly ash to not exceed 25% of cement content by weight.

C. Ground Granulated Blast-Furnace Slag: ASTM C989, Grade 100 or 120.

1. Limit use of granulated blast-furnace slag to not exceed 30% of cement content by weight.

D. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete, with nominal maximum aggregate size of 1 inch.

1. For exterior exposed surfaces, do not use fine or coarse aggregates containing spalling-causing deleterious substances.
2. Local aggregates not complying with ASTM C 33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to Engineer.
3. Combined Aggregate Gradation: Well graded from coarsest to finest with not more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50 (0.3-mm) sieve, and less than 8 percent may be retained on sieves finer than No. 50 (0.3 mm).

E. Lightweight Aggregates: ASTM C 330.

Maximum nominal aggregate size of 1 inch.

F. Water: Drinkable and complying with ASTM C94.

G. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Air-Mix"; Euclid Chemical Co.
b. "Sika Aer"; Sika Corp.
c. "MB-VR or MB-AE"; Master Builders.

H. Water-Reducing Admixture: ASTM C 494, Type A, and containing not more than 0.1 percent chloride ions.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "WRDA"; W.R. Grace.
b. "Eucon WR-75"; Euclid Chemical Co.
c. "Pozzolith Normal"; Master Builders.

I. High-Range Water-Reducing Admixture (Super Plasticizer): ASTM C 494, Type F and containing not more than 0.1 percent chloride ions.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Sikament 300"; Sika Chemical Corp.
b. "Eucon 37"; Euclid Chemical Co.
c. "Rheobuild or Polyheed"; Master Builders.

J. Water-Reducing, Non-Chloride Accelerator Admixture: ASTM C 494, Type E, and containing not more than 0.1 percent chloride ions.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Accelguard 80"; Euclid Chemical Co.
b. "Pozzutec 20"; Master Builders.
c. "Daraset"; W.R. Grace & Co.

K. Water-Reducing, Retarding Admixture: ASTM C 494, Type D, and containing not more than 0.1 percent chloride ions.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Pozzolith"; Master Builders.
b. "Eucon Retarder 75"; Euclid Chemical Co.
c. "Plastiment"; Sika Chemical Co.

L. Corrosion-Inhibiting Admixture: Commercially formulated, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
2. Products: Subject to compliance with requirements, provide one of the following:

a. Catexol 1000CL; Axim Concrete Technologies.
b. MCI 2000 or MCI 2005; Cortec Corporation.
c. DCI or DCI-S; W.R. Grace & Co., Construction Products Div.
d. Rheocrete 222+; Master Builders, Inc.
e. FerroGard-901; Sika Corporation.

M. Prohibited Admixtures: Calcium chloride thyocyanates or admixtures containing more than 0.1 percent chloride ions are not permitted.

N. Fiber Reinforcement:

1. Synthetic fiber reinforcing shall be added to the concrete for the areas so indicated in the drawings. Only fibers designed and manufactured specifically for use in concrete shall be acceptable as secondary reinforcement, complying with ASTM C1116, not less than 3/4 inch long.
2. The fibers may be added at the batch plant. The incorporation of said fibers shall be documented on the delivery ticket from the ready mix producer. Fibers shall be added to the concrete in strict accordance with manufacturer's printed instructions. The minimum dosage rate shall be 1.5 lbs/cubic yard.
3. Nylon fibers containing 100% virgin nylon monofilaments shall be utilized to impart a "non-hairy" surface to the finished concrete.
4. Products: Subject to compliance with requirements, provide the following fibrous reinforcement or approved equal:

    a. Nycon Fiber; Nycon, Inc.
    b. Nylo-Mono; Forta Corp.
    c. Fibrasol N; Axim Concrete Technologies

2.4 RELATED MATERIALS

A. Reglets: Where resilient or elastomeric sheet flashing or bituminous membranes are terminated in reglets, provide reglets of not less than 26 gage galvanized sheet steel. Fill reglet or cover face opening to prevent intrusion of concrete or debris.

B. Waterstops: Provide waterstops at construction joints and other joints as indicated and specified in Section 030000.02.

C. Granular Base: Evenly graded mixture of fine and coarse aggregates to provide, when compacted, a smooth and even surface below slabs on grade.

D. Vapor Retarder: Provide vapor retarder cover, ASTM E1745 Class C, over prepared base material where indicated below slabs on grade. Use only materials which are resistant to deterioration when tested in accordance with ASTM E 154, as follows:

1. Polyethylene sheet not less than 10 mils thick.
2. Water resistant barrier paper consisting of heavy Kraft papers laminated together with glass fiber reinforcement and over-coated with black polyethylene on each side.

    a. Product: Subject to compliance with requirements, provide Moistop Ultra 10 by Fortifiber Corporation, Stego Wrap 10-mil by Stego Industries or equal.

E. Non-Shrink Grout: CRD-C 621 and ASTM C-1107, factory pre-mixed grout.

1. Products: Subject to compliance with requirements, provide one of the following:
    a. Non-metallic

        1) "Set Grout"; Master Builders.
        2) "Euco-NS"; Euclid Chemical Co.

3) "Five Star Grout"; U.S. Grout Corp.

F. Non-slip Aggregate Finish: Provide fused aluminum oxide grits, or crushed emery, as abrasive aggregate for non-slip finish with emery aggregate containing not less than 50 percent aluminum oxide and not less than 25 percent ferric oxide. Use material that is factory-graded, packaged, rust-proof, and non-glazing, and is unaffected by freezing, moisture, and cleaning materials.

G. Colored Wear-Resistant Finish: Packaged, dry, combination of materials, consisting of Portland cement, graded quartz aggregate, coloring pigments, and plasticizing admixture. Use coloring pigments that are finely ground, non-fading mineral oxides, interground with cement. Color as selected by Engineer, unless otherwise indicated.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Colorcron"; Master Builders.
b. "Surflex"; Euclid Chemical Co.
c. "Lithochrome"; L.M. Scofield Co.

H. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 2.

I. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.

1. Waterproof paper.
2. Polyethylene film.
3. Polyethylene-coated burlap.

J. Liquid Membrane-Forming Curing Compound: Liquid type membrane- forming curing compound complying with ASTM C 309, Type I, Class A. Moisture loss not more than 0.55 kg./sq. m. when applied at 200 sq ft./gal.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Masterkure"; Master Builders.
b. "Ecocure"; Euclid Chemical Co.
c. "Horn Clear Seal"; A.C. Horn, Inc.

K. Underlayment Compound: Freeflowing, self-leveling, pumpable cementitious base compound for applications from 1 inch thick to feathered edges.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Flo-Top"; Euclid Chemical Co.
b. "Underlayment 110," Master Builders, Inc.
c. "Thoro Underlayment Self-Leveling"; Thoro System Products.

L. Bonding Compound: Polyvinyl acetate or acrylic base.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Polyvinyl Acetate (Interior Only):

1) "Euco Weld"; Euclid Chemical Co.
2) "Weldcrete"; Larsen Products Corp.
3) "Everweld"; L&M Construction Chemicals, Inc.

b. Acrylic or Styrene Butadiene:

1) "Day-Chem AD Bond"; Dayton Superior Corp.
2) "Everbond"; L & M Construction Chemicals.
3) "SBR Latex"; Euclid Chemical Co.

M. Epoxy Adhesive: ASTM C 881, two component material suitable for use on dry or damp surfaces. Provide material "Type," "Grade," and "Class" to suit project requirements.

1. Products: Subject to compliance with requirements, provide one of the following:

a. "Epoxtite Binder 2390"; A.C. Horn, Inc.
b. "Sikadur 32 Hi-Mod"; Sika Chemical Corp.
c. "Euco Epoxy 452 or 620"; Euclid Chemical Co.

2.5 PROPORTIONING AND DESIGN OF MIXES

A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301 and ACI 211. If the trial batch method is used, use an independent testing facility acceptable to Engineer for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing unless otherwise acceptable to Engineer.

1. Limit use of fly ash to not exceed 25 percent of cement content by weight.

B. Submit written reports to Engineer and Structural Engineer of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Engineer.

C. Design mixes to provide normal weight concrete with the following properties, as indicated in Table I.:

TABLE 1

CONCRETE REQUIREMENTS

Concrete Class	Cement Type	Min. 28-Day Compressive Strength PSI	*Max. Water-Cement Ratio	Min. Cement Content Sacks	Slump Inch Min.	Max.	Entrained Air %
A	I	4000	0.45	6	-	-	6±1
B	I	2000	0.74	4-1/2	2	6	5±1-1/2
C	I	4000	0.50	6.38	1	4	6±2
D	II or IP	4000	0.45	6	-	-	6±1

*Maximum Water - Cementitious Materials Ratio

1. All reinforced concrete shall be Class A, except as otherwise specified or shown on the drawings.
2. Concrete used for mud mats, fill and channeling in manholes and chambers shall be Class B unless otherwise noted on the drawings.
3. Class C concrete conforming to ODOT 499 (Class QC1) shall be used for all concrete pavement, curbing, driveways, and sidewalks, unless noted otherwise on the drawings.
4. Class B concrete may be used for encasing pipelines, fill, and pipe bedding.
5. Class B concrete shall be used as concrete fill in concrete tanks for shaping or sloping bottoms.

    a. The following steps shall be taken for installation of the Class B concrete:

        1) Scrub concrete slabs and/or walls with a stiff wire brush and streams of clean water as a minimum, to remove laitenance.
        2) Apply a bonding agent in accordance with the manufacturer's surface preparation and application recommendations.
        3) The Class B concrete shall then be placed and screeded to bring the surface to final grade.

6. Class D concrete shall be used for sewerage treatment plants and sewerage pump stations, as noted on the drawings.

D. Lightweight Concrete: Lightweight aggregate and concrete shall conform to ASTM C 330. Proportion mix to produce concrete with a minimum compressive strength of 3000 psi at 28 days and a calculated equilibrium unit weight of 110 pcf plus or minus 3 pcf as determined by ASTM C 567. Concrete slump at the point of placement shall be the minimum necessary for efficient mixing, placing, and finishing. Maximum slump shall be 6 inches for pumped concrete and 5 inches elsewhere. Air entrain concrete exposed to weather according to ACI 301 requirements.

E. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Engineer. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Engineer before using in work.

F. Admixtures:

1. Use high range water-reducing admixture (super plasticizer) in Classes A and D concrete unless noted otherwise.
2. Use non-chloride accelerating admixture in concrete slabs placed at ambient temperatures below 50 deg F (10 deg C).
3. Use air-entraining admixture in all concrete, unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content within limits shown in Table I.
4. Use admixtures for water-reducing and set-control in strict compliance with manufacturer's directions.
5. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as shown in Table I:

    a. Concrete containing HRWR admixture (super-plasticizer): Not more than 8" after addition of HRWR to site-verified 2"-3" slump concrete.

2.6 CONCRETE MIXING

A. Job-Site Mixing: Mix materials for concrete in appropriate drum type batch machine mixer. For mixers of one cu. yd., or smaller capacity, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released. For mixers of capacity larger than one cu. yd., increase minimum 1-1/2 minutes of mixing time by 15 seconds for each additional cu. yd., or fraction thereof.

1. Provide batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.

B. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified.

1. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.

    a. When air temperature is between 85 deg F (30 deg C) and 90 deg F (32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 GENERAL

A. Coordinate the installation of joint materials and vapor retarders with placement of forms and reinforcing steel.

3.2 FORMS

A. Design, erect, support, brace, and maintain form work to support vertical and lateral, static, and dynamic loads that might be applied until such loads can be supported by concrete structure. Construct form work so concrete members and structures are of correct size, shape, alignment, elevation, and position. Maintain form work construction tolerances complying with ACI 347.

B. Design form work to be readily removable without impact, shock, or damage to cast-in-place concrete surfaces and adjacent materials.

C. Construct forms to sizes, shapes, lines, and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joints to prevent leakage of cement paste.

D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

E. Provide temporary openings where interior area of form work is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.

F. Chamfer exposed corners and edges as indicated, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.

G. Provisions for Other Trades: Provide openings in concrete form work to accommodate work of other trades. Determine size and location of openings, recesses, and chases from trades providing such items. Accurately place and securely support items built into forms.

H. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before concrete is placed. Retightening forms and bracing after concrete placement if required to eliminate mortar leaks and maintain proper alignment.

3.3 VAPOR RETARDER INSTALLATION

A. Following leveling and tamping of granular base for slabs on grade, place vapor retarder sheeting with longest dimension parallel with direction of pour.

B. Lap joints 6" and seal with manufacturer's recommended mastic or pressure-sensitive tape.

3.4 PLACING REINFORCEMENT

A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports, and as herein specified.

1. Avoiding cutting or puncturing vapor retarder during reinforcement placement and concreting operations. Repair damages before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.

C. Accurately position, support, and secure reinforcement against displacement by form work, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

D. Place reinforcement to obtain at least minimum coverages for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

E. Install welded wire fabric in longest lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

F. Epoxy - Coated Reinforcing Steel:

1. Epoxy-coated reinforcing bars supported from form work shall rest on coated wire bar supports, or on bar supports made of dielectric material or other acceptable materials. Wire bar supports shall be coated with dielectric material for a minimum distance of 2 inches from the point of contact with the epoxy-coated reinforcing bars. Reinforcing bars used as support bars shall be epoxy-coated.

2. Epoxy-coated reinforcing bars - Equipment for handling epoxy-coated bars shall have protected contact areas. Bundles of coated bars shall be lifted at multiple pick-up points to minimize bar-to-bar abrasion from sags in the bundles. Coated bars or bundles of coated bars shall not be dropped or dragged. Coated bars shall be stored on protective cribbing. Fading of the color of the coating shall not be cause for rejection of epoxy-coated reinforcing bars. Coating damage due to handling, shipment and placing need not be repaired in cases where the damaged area is 0.1 square inches or smaller. Damaged areas larger than 0.1 square inches shall be repaired in accordance with the epoxy material manufacturer's recommendations. The maximum amount of damage including repaired and unrepaired areas shall not exceed 2 percent of the surface area in each linear foot of each bar.

3.5 JOINTS

A. Construction Joints: Locate and install construction joints as indicated or, if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Engineer.

1. Provide keyways at least 1-1/2" deep in construction joints in walls, slabs, and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.
2. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints, except as otherwise indicated.

B. Waterstops: Provide waterstops in construction joints as indicated. Install waterstops to form continuous diaphragm in each joint. Make provisions to support and protect exposed waterstops during progress of work. Fabricate field joints in waterstops in accordance with manufacturer's printed instructions.

C. Isolation Joints in Slabs-on-Ground: Construct isolation joints in slabs-on-ground at points of contact between slabs-on-ground and vertical surfaces, such as column pedestals, foundation walls, grade beams, and elsewhere as indicated.

1. Joint filler and sealant materials are specified in Section 030000.02 of these specifications.

D. Contraction (Control) Joints in Slabs-on-Ground: Construct contraction joints in slabs-on-ground to form panels of patterns as shown. Use inserts 1/4 of slab depth, unless otherwise indicated.

1. Form contraction joints by inserting premolded plastic strips into fresh concrete until top surface of strip is flush with slab surface.
2. Follow the directions of Insert Manufacturer for finishing the slab and joints.

E. If joint pattern not shown, provide joints not exceeding 15' in either direction and located to conform to bay spacing wherever possible (at column centerlines, half bays, third-bays).

1. Joint sealant material is specified in Section 030000.02 of these specifications.

3.6 INSTALLATION OF EMBEDDED ITEMS

A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached thereto. Electrical conduit shall not be embedded in concrete.

B. Install reglets to receive top edge of foundation sheet waterproofing, and to receive thru-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, relieving angles, and other conditions.

C. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units to support screed strips using strike-off templates or compacting type screeds.

3.7 PREPARATION OF FORM SURFACES

A. Clean re-used forms of concrete matrix residue, repair and patch as required to return forms to acceptable surface condition.

B. Coat contact surfaces of forms with an approved, nonresidual, low-VOC, from-coating compound before placing reinforcement.

C. Thin form-coating compounds only with thinning agent of type, amount, and under conditions of form-coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.

D. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel form work is not acceptable.

3.8 CONCRETE PLACEMENT

A. Preplacement Inspection: Before placing concrete, inspect and complete form work installation, reinforcing steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.

1. Apply temporary protective covering to lower 2' of finished walls adjacent to poured floor slabs and similar conditions, and guard against spattering during placement.

B. General: Comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete," and as herein specified.

1. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.

C. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

1. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI 309.

2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.

D. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.

1. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Bring slab surfaces to correct level with straightedge and strikeoff. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.
3. Maintain reinforcing in proper position on chairs during concrete placement operations.

E. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.

1. When air temperature has fallen to or is expected to fall below 40 deg F (4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C), and not more than 80 deg F (27 deg C) at point of placement.

    a. The concrete shall be maintained within this temperature range for not less than seven (7) days.

2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials or against cold reinforcing steel.
3. Do not use calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs.

F. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.

1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 deg F (32 deg C). Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing water. Use of liquid nitrogen to cool concrete is Contractor's option.
2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.
3. Fog spray forms, reinforcing steel, and subgrade just before concrete is placed.

4. Use water-reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions, as acceptable to Engineers.

3.9 FINISH OF FORMED SURFACES

A. Rough Form Finish: For formed concrete surfaces not exposed-to- view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4" in height rubbed down or chipped off.

B. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, painting, or other similar system. This is an as-cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed; provide smooth rubbed finish to smooth form finish. Refer to "Concrete Surface Repairs."

C. Smooth Rubbed Finish: Provide smooth rubbed finish to scheduled concrete surfaces, which have received smooth form finish treatment.

1. Scarify or roughen entire surface by grinding or similar effective means.
2. Combined one part Portland cement to 1-1/2 parts fine sand by volume and a 50:50 mixture of acrylic or styrene butadiene-based bonding admixture and water to form the consistency of thick paint. Blend standard Portland cement and white Portland cement, amounts determined by trial patches, so that final color of dry grout will match adjacent surfaces.
3. Thoroughly wet concrete surfaces and apply grout to coat surfaces and fill small holes. Remove excess grout by scraping and rubbing with clean burlap. Keep damp by fog spray for at least 36 hours after rubbing.
4. Repeat the above process if necessary to fill voids or bug holes and obtain a consistent match to adjacent surfaces, subject to acceptance of the Engineer.

D. Grout Cleaned Finish: Provide grout cleaned finish on scheduled concrete surfaces which have received smooth form finish treatment.

1. Scarify or roughen entire surface by grinding or similar effective means.
2. Apply Thoroseal plaster mix coating by Thoro System Products or approved equivalent with an approximate thickness of 1/8-inch to ¼-inch.
3. Follow the manufacturer's recommendations and guidelines regarding surface preparation, application methods and curing.
4. Repeat the above process if necessary to fill voids or bug holes and obtain a consistent match to adjacent surfaces, subject to acceptance of the Engineer.

E. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.10 MONOLITHIC SLAB FINISHES

A. Scratch Finish: Apply scratch finish to monolithic slab surfaces that are to receive concrete floor topping or mortar setting beds for tile, Portland cement terrazzo, and other bonded applied cementitious finish flooring material, and as otherwise indicated.

1. After placing slabs, plane surface to tolerances for floor flatness F(F) 15 and floor levelness F(L) 13, measured according to ASTM E 1155. Slope surfaces uniformly to drains where required. After leveling, roughen surface before final set, with stiff brushes, brooms, or rakes.

B. Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as hereinafter specified, and slab surfaces which are to be covered with membrane or elastic waterproofing, membrane or elastic roofing, or sand-bed terrazzo, and as otherwise indicated.

1. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both, Consolidate surface with power-driven floats, or by hand-floating if area is small or inaccessible to power units. Check and level surface plane to tolerances of F(F) 18 F(L) 15. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.

C. Trowel Finish: Apply trowel finish to monolithic slab surfaces to be exposed-to-view, and slab surfaces to be covered with resilient flooring, carpet, ceramic or quarry tile, paint, or other thin film finish coating system.

1. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and with surface leveled to tolerances of F(F), 20 and F(L) 17, measured according to ASTM E1155. Grind smooth surface defects which would telegraph through applied floor covering system.

D. Trowel and Fine Broom Finish: Where ceramic or quarry tile is to be installed with thin-set mortar, apply trowel finish as specified, then immediately follow with slightly scarifying surface by fine brooming.

E. Non-Slip Broom Finish: Apply non-slip broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.

1. Immediately after float finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route. Coordinate required final finish with Engineer before application.

F. Non-slip Aggregate Finish: Apply non-slip aggregate finish to concrete stair treads, platforms, ramps, sloped walks, and elsewhere as indicated.

1. After completion of float finishing, and before starting trowel finish, uniformly spread 25 lbs. of dampened non-slip aggregate per 100 sq. ft. of surface. Tamp aggregate flush with surface using a steel trowel, but do not force below surface. After broadcasting and tamping, apply trowel finishing as herein specified.
2. After curing, lightly work surface with a steel wire brush, or an abrasive stone, and water to expose non-slip aggregate.

G. Colored Wear-Resistant Finish: Provide colored wear-resistant finish to monolithic slab surface indicated.

1. Apply dry shake materials for colored wear-resistant finish at rate of not less than 100 lbs. per 100 sq. ft., unless greater amount is recommended by material manufacturer.
2. Immediately following first floating operation, uniformly distribute approximately 2/3 of required weight of dry shake material over concrete surface, and embed by means of power floating. Follow floating operation with second shake application, uniformly distributing remainder of dry shake material with overlapping applications, and embed by power floating.
3. After completion of broadcasting and floating, apply trowel finish as herein specified. Cure slab surface with curing compound recommended by dry shake hardener manufacturer. Apply curing compound immediately after final finishing.

3.11 CONCRETE CURING AND PROTECTION

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Protect concrete from rapid moisture loss before and during finishing operations.
1. The evaporation graph, Figure 1, of ACI 308 - Curing Concrete, shall be used to determine the evaporation rate during concrete placement. If the rate of evaporation equals or exceeds 0.2 lbs/sq.ft./hr., steps shall be taken to prevent excessive evaporation from the surface.
2. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing.

    a. Initial curing may be any of the methods listed herein that maintain a satisfactory moisture content and temperature.

3. Begin final curing procedures, if they differ from initial curing, immediately following initial curing and before concrete has dried. Continue curing for at least seven (7) days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

B. Curing Methods: Perform curing of all structural concrete as herein specified.

1. Provide moisture curing by following methods.

    a. Keep concrete surface continuously wet by covering with water.
    b. Continuous water-fog spray.

c. Cover concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4" lap over adjacent absorptive covers.

2. Provide moisture-cover curing as follows:

a. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

C. Provide curing and sealing compound to pavement, walks, and curbs only, as follows:

1. Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours) and after surface water sheen has disappeared. Apply uniformly in continuous operation by power-spray or roller in accordance with manufacturer's directions. Recoat areas subjected to heavy rainfall within three (3) hours after initial application. Maintain continuity of coating and repair damage during curing period.

D. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs, and other similar surfaces by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.

E. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs, floor topping, and other flat surfaces by moist curing methods.

1. Final cure concrete surfaces to receive liquid floor hardener or finish flooring by use of moisture-retaining cover, unless otherwise directed.

3.12 SHORES AND SUPPORTS

A. Comply with ACI 347 for shoring and reshoring in multistory construction, and as herein specified.

B. Extend shoring from ground to roof for structures four (4) stories or less, unless otherwise permitted.

C. Extend shoring at least three (3) floors under floor or roof being placed for structures over four (4) stories. Shore floor directly under floor or roof being placed, so that loads from construction above will transfer directly to these shores. Space shoring in stories below this level in such a manner that no floor or member will be excessively loaded or will induce tensile stress in concrete members where no reinforcing steel is provided. Extend shores beyond minimums to ensure proper distribution of loads throughout structure.

D. Remove shores and reshore in a planned sequence to avoid damage to partially cured concrete. Locate and provide adequate reshoring to safely support work without excessive stress or deflection.

1. Keep reshores in place a minimum of 15 days after placing upper tier, and longer if required, until concrete has attained its required 28-day strength and heavy loads due to construction operations have been removed.

3.13 REMOVAL OF FORMS

A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for five (5) days after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

B. Formwork supporting weight of concrete, such as beam soffits, joists, slabs, and other structural elements, may not be removed in less than 14 days or until concrete has attained at least 75 percent of design minimum compressive strength at 28 days. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members. Lab cured cylinders will not be considered.

C. Form facing material may be removed five (5) days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

3.14 RE-USE OF FORMS

A. Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated, or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new form work.

B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Engineer.

3.15 MISCELLANEOUS CONCRETE ITEMS

A. Filling-In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place, and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment with template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.

1. Grout base plates and foundations as indicated, using specified non-shrink grout. Use non-metallic grout for exposed conditions, unless otherwise indicated.

D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads and landings and associated items. Cast-in safety inserts and accessories as shown on drawings. Screed, tamp, and finish concrete surfaces as scheduled. Cure concrete as herein specified.

E. Reinforced Masonry: Provide concrete grout conforming to ASTM C476 for reinforced masonry lintels and bond beams where indicated on drawings and as scheduled. Maintain accurate location of reinforcing steel during concrete placement.

3.16 CONCRETE SURFACE REPAIRS

A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Engineer.

1. Saw-cut out honeycomb, rock pockets, voids over 1/4" in any dimension, down to solid concrete but, in no case to a depth of less than 1." Make edges of cuts slightly undercut to the concrete surface. Thoroughly clean, dampen with water, and brush-coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.
2. For exposed-to-view surfaces, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.

B. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Engineer. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes, fill with Portland Cement patching mortar, or precast cement cone plugs secured in place with bonding agent. When other materials are used, apply them in accordance with manufacturer's recommendations.

1. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.
2. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness using a template having required slope.

3. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets, and other objectionable conditions.
4. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.
5. Correct low areas in unformed surfaces during or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Engineer.
6. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
7. Repair isolated random cracks and single holes not over 1" in diameter by dry-pack method. Groove top of cracks and cut-out holes to sound concrete and clean of dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.
8. Perform structural repairs with prior approval of Engineer or Structural Engineer for method and procedure, using specified epoxy adhesive and mortar.
9. Repair methods not specified above may be used, subject to acceptance of Engineer.
10. Underlayment Application: Leveling of floors for subsequent finishes may be achieved by use of specified underlayment material.

3.17 THROUGH SECTION CONCRETE CRACK REPAIRS

A. Sealing through wall or slab cracks.

1. Seal cracks for a water-tight or structurally bonded repair with epoxy or chemical grouting procedures.

    a. The Contractor shall make proper repairs with epoxy injection or chemical injection with a moisture reactive hydrophilic polyurethane foam grout, as directed by the Engineer

3.18 MUD MATS

A. Where called for on the plans or as directed by the Engineer, the Contractor shall construct concrete mud mats immediately after cleaning the excavation bottom, to preserve the bearing surface condition. Concrete for mud mats shall be not less than 3 in. thick. Bottom of excavation shall be free of water, mud and loose material prior to mud mat placement. See Section 310000.

1. Mud mat concrete shall be cast against the side walls of all excavations to completely seal the bottom.

ADDENDUM
EXAMPLE FORM A

CONCRETE SUPPLIER:_____

PROJECT:_____ CONTRACTOR:_____

MIXTURE ID:_____ SPECIFIED f'c:_____PSI

MATERIAL MIXTURE PROPORTIONS lbs-mass/cu.yd. (pcy)

1.0 Cement Type_____ Source:_____

Sp. Gr._____ _____pcy _____cu. ft.

1.1 Other Cementitious Materials:_____ Class:_____ Source:_____

Sp. Gr._____ _____pcy _____cu. ft.

2.0 Aggregate (No. 1) Type:_____ Size:_____ Source:_____

SSD Sp. Gr._____ _____pcy _____ cu. ft.

Dry Rodded Unit Wt.:_____pcf

Alternate (No. 1) Lightweight Aggregate Type:_____ Size:_____Source:_____

Sp. Gr. Factor _____ over dry pcy _____ cu. ft.

Loose Unit Wt._____pcf Estimated Wet_____pcf

2.1 Aggregate (No. 2) Type:_____ Size:_____ Source:_____

SSD Sp. Gr._____ _____pcy _____cu. ft.

Dry Rodded Unit Wt.: _____pcf (If Fine Sized - FM _____)

2.2 Aggregate (Nos. 3, 4, n) Type:_____ Size:_____ Source:_____

SSD Sp. Gr._____ _____pcy _____cu. ft.

Dry Rodded Unit Wt.: _____pcf

3.0 Water: _____gal. _____pcy _____cu. ft.

EXAMPLE FORM A (CONTINUED)

4.0 Admixtures expressed as fluid ounces/cubic yard, and estimated range

Source:_____ Name:_____ Type_____ _____oz

Source:_____ Name:_____ Type_____ _____oz

Source:_____ Name:_____ Type_____ _____oz

Total Admixture Liquid Vol. _____ cu. ft.

(*) Note: Show volume in 4.0 if not included in cubic feet of air or water.

5.0 Other Materials - fibers, color pigment or other additions

Sp. Gr._____ _____pcy _____cu. ft.

Total Mixture Mass and Volume: _____pcy _____cu. ft.

Fresh Concrete Properties

Slump _____ +/-_____ in.

Unit Weight _____ pcf

Air Content _____+/-_____%

If Trail Batch Data -

Identify Batch No. _____

Batch Date _____

Concrete Temp._____°F

Comp. Strength-Average _____°F

Coarse & Fine Aggregate Gradation

Percent Passing

Sieve Size	Aggregate No. 1	2	3	4	Combined
2 in.	____	____	____	____	_____
1-1/2 in.	____	____	____	____	_____
1 in.	____	____	____	____	_____
3/4 in.	____	____	____	____	_____
1/2 in.	____	____	____	____	_____
3/8 in.	____	____	____	____	_____
No. 4	____	____	____	____	_____
No. 8	____	____	____	____	_____
No. 16	____	____	____	____	_____
No. 30	____	____	____	____	_____

7 day avg. _____psi	No. 50	____ ____ ____ ____ _____
28 day avg. _____psi	No. 100	____ ____ ____ ____ _____
	No. 200	____ ____ ____ ____ _____

Comments:_____

_____

Signature: _____ Date:_____

Title: _____

Organization: _____

EXAMPLE FORM B

CONCRETE SUPPLIER:_____

MATERIAL	TRAIL BATCH NUMBER - proportions per cubic yard			
	1	2	3	4
1.0 Cement Source: _____				
Type ____	_____lb	_____lb	_____lb	_____lb
1.1 Other Cementitious Material Sources:_____				
Type ____	_____lb	_____lb	_____lb	_____lb
2.0 Aggregate No. 1 Size_____ Source:_____				
SSD ____	_____lb	_____lb	_____lb	_____lb
Alternate No. 1 Lightweight Aggregates Type _____ Source: _____				
Sp. Gr. Factor _____				
Oven Dry	_____lb	_____lb	_____lb	_____lb
Wet	_____lb	_____lb	_____lb	_____lb
2.1 Aggregate No. 2 Size_____ Source:_____				
SSD ____	_____lb	_____lb	_____lb	_____lb
2.2 Aggregate Nos. 3, 4, n) Size_____Source:_____				
SSD ____	_____lb	_____lb	_____lb	_____lb
3.0 Water	_____lb	_____lb	_____lb	_____lb
4.0 Admixtures Source: _____				
_____ Type _____	_____oz	_____oz	_____oz	_____oz
_____ Type _____	_____oz	_____oz	_____oz	_____oz
_____ Type _____	_____oz	_____oz	_____oz	_____oz

EXAMPLE FORM B (CONTINUED)

5.0 Other Materials

_____ Type _____ _____lb _____lb _____lb _____lb

Total Mass: _____lb _____lb _____lb _____lb

Total Mass/cy: _____pcy _____pcy _____pcy _____pcy

Relative Cubic Yard Volume:

_____cy _____cy _____cy _____cy

Water-Cementitious Material Ratio:

Fresh Concrete Properties

TRAIL BATCH NUMBER

	## -1	## -2	## -3	## -4
Slump-inches	_____	_____	_____	_____
Air-Content %	_____	_____	_____	_____
Unit Wt. pcf	_____	_____	_____	_____
Concrete Temp. °F	_____	_____	_____	_____

Compressive Strength Results (ASTM C192, C39) or Other Specified Test Requirements

7 days	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
Average (7 day)	_____	_____	_____	_____

28 days	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
Average (28 day)	_____	_____	_____	_____
Water-Cementitious Material Ratio:				
	_____	_____	_____	_____

Signature: _____ Date:_____

Title:_____

Organization: _____

END OF SECTION 030000

SECTION 098000 - WATER STORAGE TANK PROTECTIVE COATINGS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to the work of this section.

1.2 SUMMARY

A. The Contractor shall provide all labor, material, tools and equipment required to paint all interior and exterior surfaces of the new steel tank. Note that the Scope of Work shall include painting of all tank accessories including miscellaneous metals, handrails, ladders, dry well, hatches, manholes and piping.
   1. All shop surface treatment and shop priming are specified under this section as well as the field surface preparation, field priming and the finish coats of the paint.
   2. The Protective Coating Systems are summarized in Schedule A at the end of this section.

B. The "AWWA Standard for Coating Steel Water-Storage Tanks" D 102-24, "NSF International 60 & 600" , and "Steel Structural Painting Council (SSPC) Specifications" – latest edition shall govern all work described in this section except where otherwise shown or specified. AWWA D 102-24 and the SSPC specifications are hereby made a part of these specifications.

1.3 DEFINITIONS

A. Protective Coatings and Linings: The term "Protective Coatings" as used herein means all coating systems and materials, which include surface preparations and all pretreatments, primers, inorganic zinc, organic zinc, epoxies, polyurethanes, epoxy phenolic, acrylics, phenolics, elastomeric polyurethane and other applied materials whether used as prime, base, seal, mist, intermediate, or finish coats. The term "linings" will be used for interior wet area and immersion duty and the term "coatings" will be used for atmospheric exposure; however the term "coatings" will often be used in a general sense to cover both coatings and linings as in "Coating Manufacturer."

B. ASTM: American Society for Testing and Materials.

C. Anchor Pattern: Profile or texture of surface, as a result of abrasive blasting, also referred to as anchor profile or blast profile.

D. AWWA: American Water Works Association.

E. Barrier Coating: Protective film isolating substrate or previous coat from environment.

F. Binder: Resin; polymer; film forming portion of paint.

G. Boxing: The combining of two or more mixed kits into a larger container.

H. Curing: the process of polymerization or hardening of a coating or lining as it goes from a liquid to a solid. Determination of completion of curing shall be in accordance with manufacturer's guidelines.

I. Delamination: Separation and peeling of one or more coats from an undercoat.

J. Dewpoint: Temperature of a given air/water vapor mixture at which moisture condensation starts.

K. Drips (also called spotting): Paint that falls in drops causing either an uneven surface or visible drop.

L. Dry Film Thickness (DFT): Depth of cured film, usually expressed in mils (0.001 inch).

M. Dry Spray: Overspray or bounce back; sandy or textured finish due to spray particle being partially dried before reaching the surface. Dry spray is considered to be a coating defect.

N. Festoons: A string or garland appearance in the coating, suspended in a loop or curve between two points.

O. Fish Eye: Pigment separation, or pulling apart of paint film to form holes.

P. Floating: Separation of paint pigment to surface of wet paint.

Q. Full Wet Coat: A heavy, glossy coat that is applied in a thickness almost heavy enough to run or sag provides maximum possible thickness.

R. Holiday: Coating or lining defect such as a Pinhole, void, skip, or other discontinuity in the coating film.

S. Induction Time: time interval between mixing of components and chemical crosslinking for satisfactory application of multi-component coatings and linings, also referred to as "sweat in" time.

T. Inorganic Coating: Coating with inorganic binder (e.g., silicate or phosphate) rather than organic (e.g., of petroleum, animal, or plant origin), commonly inorganic zinc (IOZ).

U. Laitance: White or gray weakened material floated to the surface of new concrete. This layer is not dense sound concrete and requires removal prior to application of high performance coatings and especially linings.

V. Lifting: Softening and raising of an undercoat by solvent in applied topcoat.

W. Livered: The progressive, irreversible increase in consistency of a pigment-vehicle combination. Livering in the majority of cases arises from a chemical reaction to the vehicle with the solid dispersed materials, but it may also result from polymerization of the vehicle. The irreversible character of the changes in the livered material distinguishes it from thixotropic “build-up”, which is reversible.

X. MSDS: Material Safety Data Sheet.

Y. Mil: 0.001 inch.

Z. Mill Scale: The heavy oxide layer formed during hot fabrication or heat treatment of metals. Mill scale is cathodic to its steel substrate.

AA. Mist Coat: A partially complete coat applied with a more rapid gun motion than a full wet coat. The mist coat should displace the air in porous coatings such as inorganic zinc primer.

BB. NACE: National Association of Corrosion Engineers.

CC. Near-White Blast: A good grade of abrasive blast cleaning of steel, equal to NACE No. 2 or SSPC-SP10.

DD. NSF: National Sanitation Foundation.

EE. NWS: National Welding Society.

FF. Orange Peel: Hills and valleys in paint resembling the skin of an orange.

GG. Overspray: Dry spray, particularly such paint that failed to strike the intended surface.

HH. Peeling: Paint curling or stripping from substrate.

II. Pinhole: Film defect characterized by small pore-like flaws in a coating which extend entirely through the applied film and have the general appearance of pin pricks when viewed by reflecting light. The term is rather generally applied to holes caused by solvent bubbling, moisture, other volatile products, or the presence of extraneous particles in the applied film.

JJ. Pigment: Solid, opaque, frequently colored component of paint.

KK. Pot Life: Time interval after mixing of components during which the coating can be satisfactorily applied.

LL. Primer or Prime Coat: First coat applied to a substrate usually containing inhibitive pigments when formulated for metals.

MM. Profile: Surface texture, particularly of abrasive blast cleaned steel.

NN. Ropiness: Forming sticky glutinous strings or threads resembling ropes.

OO. Run: Sag; curtain; associated with too heavy of a wet application of a pint film.

PP. Sag: Run; curtain; See AO.

QQ. Seal Coat: Coat applied to a prime coat for the purpose of sealing to prevent adverse affects of gasification.

RR. Shelf Life: Maximum storage time for which a material may be stored without losing its usefulness.

SS. SSPC: Steel Structures Coating and Lining Council.

TT. Tack Coat: A light covering coat applied to the surface and then allowed to flash off until it is just tacky usually taking a matter of minutes. The full wet coat is then applied which provides for thicker film build.

UU. Thorough Drying: Curing of paint film through entire thickness as opposed to drying only on the surface.

VV. Tiecoat: Thin adhesive coat applied to a cured paint to enhance the bonding of a topcoat.

WW. TPC: Technical Practices Committee of NACE.

XX. TCLP: Toxicity Characteristic Leaching Procedure. A standard test used to determine if a solid waste is considered a hazardous waste by virtue of its toxicity. It is intended to simulate the leaching of toxic constituents that would take place in a landfill.

YY. TSR: Technical Service Representative.

ZZ. UL: Underwriter's Laboratory.

AAA. Vehicle: Liquid portion of coating materials; resin and solvent components of the coating.

BBB. Wet-on-Wet Coating: Technique of application whereby further coats are applied before the previous coats have dried, and the composite film then dries as a whole.

CCC. White Metal Abrasive Blast: Highest level of abrasive blast cleaning of steel, NACE No. 1 or SSPC-SP5.

1.4 QUALITY CONTROL

A. Coating Contractor Qualifications:

1. Contractor shall be regularly engaged in work requiring application of coating and lining systems, which must comply with AWWA, Ohio EPA, NSF and UL requirements and guidelines.
2. Contractor shall have a minimum of five years experience in surface preparation, mixing and application of high performance industrial coatings and linings, meeting NACE and SSPC requirements and guidelines.
3. Contactor shall have established quality control program to be reviewed in order for post bid determination award.

B. Coating Manufacturer Qualifications: Obtain coating and lining materials only from manufacturers who can provide the services of a qualified Coating Manufacturer's Technical Service Representative (TSR) at the project site for participation in the preconstruction meeting, at the commencement of Work, and other times as required. TSR shall be qualified as follows:

1. The Coating Manufacturer's Technical Service Representative shall have five (5) years of high performance coating and lining experience.
2. The Coating Manufacturer's Technical Service Representative shall be thoroughly familiar with requirements of the NACE International Coating Inspector Training and Certification Program (NICITCP), EPA, SSPC Good Painting Practices, AWWA, NSF and UL.

C. Shop Prime Paint Inspections – steel panels and appurtenances. All new steel will be blasted and painted, and then inspected in the shop.
1. Contractor shall include an amount as determined appropriate for this inspection work into the Bid. OWNER shall employ and pay for inspections and shall deduct the cost from final payment to Contractor.
2. All shop abrasive blast cleaning and painting shall be inspected by the Inspector. Contractor may preblast several sections and then touch-up blast and paint in the presence of the inspector. Any painting completed without the presence of the inspector will be considered failed work. Forty-eight (48) hours notice of inspection is required.
3. Twenty-four (24) hours shall pass between painting and loading and transport. The inspector is to be present and is to check the coating's cure before stacking and loading. Steel stacked prematurely will be considered failed coating.
4. The inspector's function is to provide quality assurance services to the Owner. The inspector will not be involved or responsible for any quality control services between the contractor and his subcontractors. The amount of touch-up work required in the field because of handling, shipping, missed spots, holidays, etc. is to be resolved between the contractor and his subcontractors.

D. Field Painting Application Inspections
    1. The OWNER shall be responsible for contracting an independent, third-party coating inspector. The CONTRACTOR shall include the cost for service within the total cost for the project. The contracted firm, and their inspectors, shall be SSPC and or NACE certified and be experienced in inspecting ground and elevated water storage tanks. Inspectors shall have previously performed the functions outlined in this specification and be proficient in the use of inspection equipment.
    2. The Inspector shall have the authority to suspend coating work if the work being performed is not accordance with this specification.
    3. The inspector shall be responsible for checking interior and exterior coating for film characteristics or defects that would adversely affect the performance of coating systems
    4. The inspector shall submit written reports describing inspections made and actions taken to correct nonconforming work.

E. The painting contractor shall submit daily inspection reports that include, at a minimum, three readings of conditions, paint mix, time, product numbers and quantity used.

1.5 RELATED SECTIONS

A. Exposed Piping Section 111060.

B. Composite Elevated Tank Section 331620.

1.6 SYSTEM DESCRIPTION

A. See schedules at the end of this section.

1.7 SUBMITTALS

Submittals shall meet the requirements of Section 013323.

A. Qualifications Materials and Applications

    1. Contractor shall submit a list of at least five (5) municipal utilities or industrial installations completed within the past 5 years, responsible officials, engineers, architects or coating consultants involved with the project and the approximate contract price.
    2. The Coating Manufacturer’s Technical Service Representative shall be experienced in the coating system and surface preparation required by these specifications. The Contractor shall submit evidence of experience through the submittal process for the TSR proposed for this project and at least one Alternate should that person not be available at the time of painting.

B. Shop Drawings:

1. Provide detailed and complete list of every surface to be painted under this Contract.
    a. Arrange list in a logical order by area, then specific surface within each area or room.
    b. List shall include the condition of each surface prior to field painting (i.e., new, primed; new, unprimed); the proposed painting system including surface preparation; and intended color the surface is to be painted.
2. Provide detailed and complete list of all proposed application techniques for all product and substrate conditions. Include specific materials and methods for each location.
3. Submit complete and detailed painting work plan(s) at least 10 days prior to beginning surface preparation or painting operations in a new work area.

C. Product Data: Submit for approval the following:

1. Comply with Section 013323.
2. Copies of manufacturer's technical information, including paint label analysis and application instructions for each material proposed for use.
3. Copies of Contractor's proposed protection procedure in each area of the Work.
4. List each material and cross-reference to the specific paint and finish system and application. Identify by the manufacturer's catalog number and general classification.
5. Copies of manufacturer's complete color charts for each coating system.
6. Provide certifications from equipment manufacturers verifying that the factory-applied prime coats are compatible with finish coatings.
7. Provide manufacturer's storage requirements for all paint or coating materials. Include each coating's shelf life, pot life, and storage temperature range. The maximum shelf life on all coatings shall be no more than 12 months.

D. Application Field Testing and Inspection reports
1. Daily paint inspection reports detailing environmental conditions during preparation, blasting & cleaning activities, paint application and final mil thickness reports.
2. All testing and inspection reports for coating systems as required by AWWA D100, D102 and/or D107 and/or called for in this or other Specification Sections.
3. Shop prime paint inspection reports, follow Paragraph 1.4.C.

1.8 REFERENCE STANDARDS

A. Reference Standards: Comply with applicable provisions and recommendations of the following, except where otherwise shown or specified:

1. D102-24, AWWA Standard for Coating Steel Water Storage Tanks.
2. ANSI A13.1, Scheme for the Identification of Piping Systems
3. Great Lakes – Upper Mississippi River Board of State Sanitary Engineers (Ten State Standards), Recommended Standards for Waste Treatment Works, Latest Edition, Recommended Color Scheme for Piping.

4. OSHA 1910.144, Safety Color Code for Marking Physical Hazards.
5. SSPC Volume 1, Good Painting Practice.
6. SSPC Volume 2, Systems and Specifications, Surface Preparation Guide and Paint Application Specifications.
7. OSHA Safety Standards for the Construction Industry.
8. OSHA Worker Safety, Hazard Communications as described by the Occupational Safety and Health Act Regulation 29 CFR No. 1910.1200.
9. NACE Standards, January 1988 edition of the National Association of Corrosion Engineers, TPC.
10. NACE – Coatings and Lining Handbook, 1985 Edition of the National Association of Corrosion Engineers.
11. NSF/ANSI 61 – Drinking Water System Components – Health Effects Standard
12. NSF/ANSI 600 – Health Effects Evaluation and Criteria in Drinking Water.
13. SSPC and NACE Painter Safety Guidelines.
14. Federal Standard 595B – Federal Standard Colors, printed 1989.

B. American Society for Testing and Materials (ASTM).

1. ASTM D 2805, Contrast Ratio
2. ASTM D 1308, Stain Resistance
3. ASTM E 84, Surface Burning Characteristics of Building Materials
4. ASTM D 522, Conical Mandrel Elongation
5. ASTM D 2446, Freeze Thaw
6. ASTM D 2247, Humidity
7. ASTM D 3363, Hardness
8. ASTM E 308, Light Reflectance
9. ASTM B 117, Salt Spray
10. ASTM D 3359B, Adhesion

C. Federal Test Methods:

1. Standard No. 141, Method 6192, Abrasion
2. Standard No. 141, Method 6142, Scrubbability
3. Standard No. TT-C-550C, Paragraphs 4.4.5.2. and 4.4.5.3., Stain Removal
4. Standard No. TT-C-550C, Paragraph 4.4.6, Chemical Resistance
5. Standard No. TT-C-555B, Paragraph 4.4.7, Wind Driven Rain

D. Steel Structures Painting Council – Surface Preparation Standards.

1. SSPC-SP1 Solvent Cleaning:
   The removal of all oil, grease, dirt and other foreign matter from steel surfaces by use of solvents. Solvent cleaning is generally accomplished by wire brushing and scraping the surface to remove all loose dirt, dust and other foreign matter. Rags, wetted with a solvent such as Xylene, are then wiped over the surface to remove grease, oil and other films. A thorough rinse or second solvent wipe shall be performed to assure that the undesirable films have not been merely spread over the surface and that all other contaminants have been removed. An alternate to the use of solvent would be the use of “Add H20” Hyperconcentrate followed by a thorough rinse.

2. SSPC-SP3 Power Tool Cleaning:
   The removal of all loose dirt, mill scale, rust and loose paint and other foreign matter with power tools such as wire brushes, grinders, impact hammers and power sanders. Solvent cleaning (SSPC-SP1) shall be done prior to the use of power tools.
3. SSPC-SP5 White Blast Cleaning:
   The removal of all grease, oil, dirt, rust, mill scale and other foreign matter from the steel surface; also to include the removal of 100% of all old paint and rust per square inch. This may be accomplished by propelling sand, grit, steel or iron pellets against the steel substrate by compressed air or by mechanical means.
4. SSPC-SP6 Commercial Blast Cleaning:
   The removal of all mill scale, dirt, dust, oils, grease, and other foreign matter from the steel surfaces to be coated. Also include the removal of 66 2/3% of all old paint and rust per square inch. Commercial Blast cleaning is generally accomplished by propelling sand grit, steel or iron pellets against the steel substrate by compressed air or by mechanical means.
5. SSPC-SP10 Near White Blast Cleaning:
   The removal of all grease, oil, dirt, rust, mill scale and other foreign matter from the steel surface; also to include the removal of 95% of all old paint and rust per square inch. This may be accomplished by propelling sand, grit, steel or iron pellets against the steel substrate by compressed air or by mechanical means.
6. SSPC-SP11 Power Tool Cleaning to Bare Metal: Accomplishes the same level of cleanliness as SSPC-SP6 by using special power tools.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products of one of the following (or approved equal):

1. The Sherwin Williams Company

2. Tnemec Company, Inc

2.2 MATERIAL QUALITY

A. Provide primers, intermediate and finish paint products produced by the same manufacturer.

B. Provide coatings of durable and washable quality.
   1. Use materials formulated for application in potable water systems, and which will withstand repeated exposure to water, hose down, mild chemicals, etc., without deterioration of either the cured coating or the substrate.
   2. Use coating materials which will withstand normal washing as required to remove iron residue, manganese residue, calcium carbonate, contaminants, oil, chemicals, etc., without showing discoloration, loss of gloss, staining and other damage.

C. Paint and coating materials shall exhibit high quality regarding adhesion and cohesion. Films shall dry and cure to uniform thickness and be free from pinholes, holidays, voids, discontinuities, sags or runs.

D. Where thinning is necessary to ensure an acceptable finish, use only thinners recommended and/or manufactured by the paint manufacturer, and use only to the manufacturer's recommended limits. Thinning of coating materials to be in contact with potable water shall not be permitted that exceeds allowable EPA, NSF or UL limits. Thinning shall not be permitted that exceeds allowable VOC limits or coating manufacturer's product data and detailed instructions.

2.3 SUBSTITUTIONS

A. No substitution shall be considered that decreases or reduces the coating thickness specified, the number of coats required, the surface preparation specified, the generic type of coating specified, or the level of performance specified.

B. Substitute paint manufacturers, if approved, must furnish the same color selection as the named manufacturers, including colors scheduled, accent and decorative colors and stenciling colors in all coating systems.

2.4 COLORS AND FINISHES

A. Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.

1. Lead: Measurable lead content in the pigment, binder or color additives will not be permitted.
2. Where multiple coat interior systems are specified, there shall be a color change between coats. This color change shall be with products that fully comply with NSF and UL Guidelines.
3. If not otherwise scheduled, specified, or directed, the finish color shall be white.

B. Finish Quality:

1. Finishes shall exhibit a high quality, industrial or commercial grade appearance of uniform thickness.
2. Finishes shall be free of runs, sags, drips, waves, orange peel, paint splatter, festoons, dry spray, cloudiness, spotting, ropiness, brush marks, roller marks, fish eyes or other surface imperfections, voids, discontinuities, pinholes, and holidays.
3. Final coat shall be uniform in texture, color and gloss, and shall provide an acceptable match with the approved drawdown color card.

2.5 MAINTENANCE MATERIALS TO BE PROVIDED

A. Repair (touch-up) paints for all paint products applied under this Contract that are used for finish or top coat shall be supplied by the Contractor and turned over to the Owner upon completion of the Painting Work.

B. All containers shall be properly and thoroughly labeled. Labeling shall be neat and permanent.

2.6 COATINGS AND SEALANTS

A. Refer to schedules at the end of this section.

PART 3 – EXECUTION

3.1 EXAMINATION AND VERIFICATION OF CONDITION

A. Contractor and his painting subcontractor shall examine the areas and conditions under this painting work is to be performed and notify the Engineer in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected.

B. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to the formation of a durable paint film.

3.2 DELIVERY OF MATERIALS:

A. Deliver all coating and lining materials, thinners and solvents to the job site in original, new and unopened packages and containers bearing manufacturer’s name and label, and the following information:

1. Name or title of material
2. Manufacturer's stock number, batch number, and date of manufacture
3. Manufacturer's name
4. Contents by volume, for major pigment, binder (or resin) and vehicle constituents
5. Thinning instructions where recommended
6. Application instructions
7. Color name and number
8. Shelf life expiration date
9. Pot life, at various ambient temperatures
10. Material safety data sheet
11. Volume and weight of container

B. Deliver all cleaners in unopened containers which are labeled to indicate manufacturer and product.

C. Deliver all brushes and rollers in unopened packages which are labeled to indicate manufacturer and product.

D. Delivery of abrasive in bulk transfer trucks or abrasive manufacturer's bags or bulk nylon sacks, bearing the manufacturer's name, label and the following information.

1. Name of material

2. Manufacturer's name
3. Contents and net weight of the contents
4. Mesh size of the abrasive
5. Impurities or contaminants

3.3 STORAGE AND HANDLING OF MATERIALS

A. Storage of Materials:

1. Store all materials in a clean, dry lighted and environmentally controlled area, such as a storage trailer, which shall be furnished and maintained by the Contractor.
    a. Storage area shall be kept clean and accessible at all times throughout the duration of the painting.
    b. Storage of materials in the Owner's facilities, i.e., plant dry wells or control room is expressly prohibited.
2. Comply with health and fire regulations including the Occupational Safety and health Act of 1971 (Rev. 1978).
    a. Maintain paint material storage area temperature between 65 and 90 degrees F at all times. Furnish and install two maximum/minimum U-tube thermometers in the storage area at locations directed by the Engineer. The thermometers shall have an indicating range of 30°F to 130°F.
    b. In the event of a storage area temperature drop to or below the minimum temperature stated by the manufacturer’s recommendations, all paint and coating materials shall be declared unacceptable and so marked by the Engineer. All such unacceptable material shall be immediately removed from the job site and replaced by the Contractor at no additional cost to the Owner.

B. Handling of Materials:

1. Handle materials carefully to prevent inclusion of foreign materials.
2. Do not open containers or mix components until necessary preparatory work has been completed and application work will start immediately.

3.4 PROTECTION

A. Cover or otherwise protect all surfaces and equipment not being coated concurrently, or not scheduled to be coated or painted, during all surface preparation and painting works. This includes, but is not limited to the Engineer’s facilities, other private and public facilities within or adjacent to the area, other Contractors' equipment, and all publicly and privately owned vehicles.

B. Display prominent warning signs indicating "WARNING – PAINTING AND ABRASIVE BLASTING WORK UNDERWAY" throughout the job site wherever surface preparation or painting operations are underway. Signs shall be at clearly visible locations near all points of access by person or vehicle to the work area(s).

C. Correct all damages due to surface preparation or painting work by cleaning, repairing or replacing, and repainting, as acceptable to the Engineer.

D. Take precautions necessary to prevent dust and dirt from coming in contact with surfaces cleaned for painting and with surfaces freshly painted. Protect freshly painted surfaces from dust or dirt throughout the initial cure period.

E. Provide fire extinguishers and post caution signs warning against smoking and open flame when working with flammable materials.

F. Remove all temporary protective wrappings provided for protection of this Contract and other contracts after completion of painting operations.

G. Provide "wet paint" signs as required to protect newly painted finishes.

3.5 CONTAINMENT

A. Equipment Coverings

1. Use material that is 8-20 mils thick and 100% impermeable to cover pumps, motors, and other vulnerable equipment.
2. Use material resistant to tear and/or rip by mechanical action from abrasive blasting during operations.
3. Make Coverings airtight by use of duct tape at the openings, or other suitable measures.

B. Containment System for Composite Elevated Tanks (Section 331620)

1. Containment system must be designed by an Ohio licensed structural engineer.
2. Containment system must be submitted to and approved by the OWNER prior to commencement of work.
3. Furnish and install a partial containment system to be used during all dust generating work over all surfaces to be abrasive blast cleaned. The partial containment will be required over the steel bowl area.
4. This specification is intended to be performance based. Alternative procedures to accomplish the same purpose of dust elimination may be submitted for review. The final determination if the alternate performs as well as a total containment will rest solely with the Owner. Printed material and tests results by independent firms will be considered but will not govern. Rejection of an alternate after bid opening will not relieve the Contractor of any responsibility to complete the work as bid.
5. Contain the spent abrasive and paint chips to an area immediately under the structure. No abrasive release outside of the structure will be permitted. All methods of shielding shall contain the abrasive within the confines of the shrouds. The shrouds shall be erected on all sides of the structure for 360 degrees.
6. Immediately replace any damaged shrouds. Discontinue abrasive blast cleaning operations until the damaged shrouds are repaired or replaced.
7. Overlap all vertical tarps two to three inches and both ends of the vertical seams and connect by industrial Velcro or fasten every 18 inches with ties.

C. Equipment

1. Containment Shrouds - All shroud material shall be made of industry standard 80% shade factor tarps. The material shall be of an adequate density, weight with appropriate reinforcing and stitching to provide a complete containment system.
2. The shrouds must be constructed so that they may be dropped for any reason within 10 minutes.

3.6 SURFACE PREPARATION

A. Shop Cleaning and Primer
1. General. Tank shall be cleaned and treated to remove all mill scale, dirt, and other foreign substances from all the steel by sand, grit, or shot blasting, or by an approved acid pickling process. Manufacturer's standard process shall be used.
2. Water-Bearing Surface Preparation. The preparation of all water-bearing surfaces shall be equal to the "Steel Structures Painting Manual," Surface Preparation Specifications No.5 (SSPC-SP5, White Metal Blast Cleaning). The surface profile shall be sharp angular, a minimum of *2.0 mils*. Surface preparation of the interior water bearing surfaces shall be done entirely in the field.
3. Non- Water Bearing Surface Preparation. The preparation of all interior dry and outside surfaces shall be equal to SSPC-SP10 (Near white blast cleaning). The surface profile shall be sharp angular, a minimum of 1.5 mils.
4. Primer. After cleaning of all plates and structural edges and before any detrimental rusting or soiling has occurred, the surface shall be primed. The primer shall be applied to all parts of the tank and supports except contact surfaces and edges to be welded. The primer shall be compatible with the field applied products and all coats shall have at least the minimum dry film thickness specified.
5. Shop Inspection – All new steel will be blasted and painted and then inspected in the shop prior to shipment.

B. General:

1. Dislodge dirt, rust, plaster nibs, mortar spatter and other dry material by scraping or brushing. Remove dust and loose material by brushing, sweeping, vacuuming or blowing with high-pressure air.
2. Remove oil, wax and grease by scraping off heavy deposits and cleaning with mineral spirits or a hot trisodium phosphate solution followed by a water rinse.
3. Verify that surfaces to be coated are dry, clean and free of dust, dirt, oil, wax, grease or other contaminants.
4. Fill pipe shall be covered.
5. Fill pipe not permitted for any use during construction.

C. Field Cleaning and Primer:

1. After complete tank erection, all welds and any other areas on which the shop paint has been damaged, plus the un-primed margins on the inside, shall be blast cleaned as specified in paragraph 3.06A (This does not apply for "Interior Wet" coatings). Before rusting or other surface deterioration takes place, the cleaned surface shall be painted with one coat of the same primer used in the shop and to the same specified dry film thickness. The primer shall dry to the manufacturer's recommendations prior to the application of the intermediate and finish coats.
2. Only low silica, low toxicity blasting media, such as Black Diamond, by Foster Dixiana or Black Beauty by Reed Mineral Division Meeting Mil. Spec 22262 (SH) & Carb certified for dry unconfined blasting shall be used.

   ALL BLAST MEDIA SHALL BE PLACED IN PROPER CONTAINERS, REMOVED FROM THE SITE, AND DISPOSED OF AT APPROPIATE DISPOSAL SITE. NO BLAST MEDIA SHALL BE DISPOSED OF ON SITE.

3.7 APPLICATION

A. Apply all paint in accordance with the manufacturer's written recommendations and directions except as modified in this section, and with the paint application recommendations in SSPC Vol. I and Vol. 2, where applicable.

B. Blast-cleaned or power-tool cleaned surfaces shall be coated with the products specified within 8 hours of surface preparation (or shorter time limits as may be specified by the coating manufacturer). However, initial or prime coating of such surfaces shall always be accomplished prior to the end of the workday or shift.

C. The number of coats and paint film thickness required is the same regardless of the application method.

D. Apply materials at specified film thickness by method recommended by manufacturer.

E. Allow each coat to dry thoroughly before recoating. Follow manufacturers recommended recoat time.

F. Cut edges clean and sharp where work joins other materials or colors.

G. Make finish coats smooth, uniform in color, and free of brush marks, laps, runs, dry spray, overspray and skipped or missed areas.

H. All aluminum parts in contact with dissimilar materials (such as concrete) shall be coated with a bituminous paint.

3.8 WORK PLANS

A. The Contractor and his painting subcontractor shall thoroughly plan, organize, and schedule all surface preparation, coating, lining and painting work.

B. The Contractor shall submit his written work plan and schedule of work areas to the Engineer at least 30 days prior to beginning work in a new area.

1. Included in this plan shall be location-specific protection methods, warning sign positions, lighting, heating, ventilating, humidity control requirements, and anticipated equipment or system outages.
2. In instances where the new work plan is complex or of a substantially different nature from previous painting work, the Engineer reserves the right to order a jobsite meeting to thoroughly discuss the proposed work and techniques.
3. The Work plan must be approved by the Engineer prior to commencing painting work in a new area.

3.9 LIGHTING

A. Adequate illumination and power shall be provided by the Contractor in all areas where surface preparation and painting operations are in progress.

B. Supplementary lighting power shall be provided by the Contractor to illuminate substrates undergoing surface preparation, coating, lining, or painting.

1. Such lighting shall provide at least 150 foot candles of illumination to all areas and all surfaces being worked on.
2. Such lighting shall be required throughout the painting, drying, curing and inspection process, and shall be located so that the entire area or equipment being coated is illuminated uniformly to the required level, without need of shifting, repositioning or re-aiming lights to focus on specific locations.

3.10 VENTILATION, TEMPERATURE, AND HUMIDITY CONTROL

A. The Contractor shall be responsible for maintaining adequate ventilation, and temperature and humidity control in all areas where painting work is being performed throughout the entire work period, including the drying and curing times required by the various paint products.

B. "Adequate" ventilation, temperature and humidity levels are considered to be the more stringent of those required by: regulatory agencies and guidelines; the paint manufacturer's product application data; or the requirements of this Section.

3.11 MATERIALS AND EQUIPMENT FOR FIELD INSPECTION AND QUALITY CONTROL

A. General: Prior to the beginning of any field painting or surface preparations, the Contractor shall supply the Engineer the materials and equipment as listed in the following Paragraph.

1. Each item supplied shall be of rugged construction, durable enough to last, through normal inspection use, for the life of this Contract.
2. All materials and equipment shall remain the property of the Owner.
3. All equipment shall include storage case, carrying case or strap, and complete operating instructions including calibration and adjustment directions.

B. Inspection Materials and Equipment:

1. Testex:
    a. Testex Tape X-Coarse (38-114 microns – 1.5-4.5 mils) roll of 50
    b. Testex Tap Coarse (20-50 microns – 0.8-2.0 mils) roll of 50
    c. Testex Profile Kit
2. Inspection Instruments
    a. Infra-Red Non-Contact Thermometer
       BLASTONE Part Number IN G3005
3. PosiTector Equipment
    a. SPG Probe for PosiTector universal body.
    b. DPMS1 Removable Separate Probe for PosiTector universal body.

3.12 CLEANING

A. During the progress of the Work, remove from the site all discarded paint materials, rubbish, cans and rags at the end of each work day.

B. Upon completion of painting Work, clean window glass and all other paint spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

C. At the completion of Work of other trades, touch-up and restore all damaged or defaced painted surfaces as determined by the Engineer.

3.13 ONE YEAR ANNIVERSARY INSPECTION

A. Owner shall set a date on or before the first anniversary for a one-year inspection.

B. Inspection will be attended by an owner’s representative, engineer, third party inspector, painting contractor and manufacturer’s representative.

C. Any deficiencies, cracking, chipping, flaking, peeling or corrosion in the coatings system will be repaired at the contractor’s expense within 30 consecutive calendar days following the inspection.

3.14 WARRANTY

A. The painting contractor shall provide a one (1) year warranty covering materials and labor required to repair any defects that occur during the first year of service.

B. The coatings manufacturer shall provide an extended material only warranty for a period of fifteen (15) years (Fourteen (14) years after the first year anniversary inspection) for the interior coating system. This warranty shall cover failures due to cracking, chipping, flaking, peeling, or corrosion in a cumulative area in excess of 3% of the total coating system area per ASTM D610, or SSPC-VIS 2, Standard Method of Evaluating Degree of Rusting on Painted Steel Surfaces.

C. The coatings manufacturer shall provide an extended material only warranty for a period of fifteen (15) years (Fourteen (14) years after the first year anniversary inspection) for the exterior coating system. This warranty shall cover failures due to cracking, chipping, flaking, peeling, or corrosion in a cumulative area in excess of 3% of the total coating system area per ASTM D610, or SSPC-VIS 2, Standard Method of Evaluating Degree of Rusting on Painted Steel Surfaces. In addition it shall warrant against the following for a period of fifteen (15) years (fourteen (14) years after the first year anniversary inspection):
   1. Loss of gloss in excess of 20 units as measured in accordance with ASTM D523 with 60-degree geometry. (Red, Yellows and Oranges are excluded for gloss performance)
   2. Color shift not to exceed 12 DE CIE LAB units as measured by ASTM D2244. (Red, Yellows and Oranges are excluded for color shift performance)
   3. Chalking not to exceed a rating 7 as measured in accordance with ASTM D4214. Method A. (Red, Yellows and Oranges are excluded for chalk resistance performance)

D. The forgoing characteristics shall be measured by an average of 5 spot readings per 100 square feet on a washed surface. The owner is responsible for the cost associated with washing the surface, if there are concerns with the color and gloss retention properties of the applied coating system. The owner and manufacturer shall maintain exterior color samples that have been applied to three (3) sample panels, for each party, as the original color standard for the entirety of the warranty period. These panels shall be part of the responsibility of the applicator to create during the coating application phases of work and shall be created for each batch of the topcoat material.

E. After the first anniversary inspection the owner shall agree to inspection of the interior and exterior surfaces of the tank on a biannual basis. Subsequent inspections shall be on or before the following anniversary dates:

   1. Year four (4)
   2. Year seven (7)
   3. Year ten (10)
   4. Year Thirteen (13)
   5. Year Fifteen (15)

F. Inspections shall be performed as outlined in ANSI/AWWA D102 Standard Section A.10.

3.15 PROTECTIVE COATING SYSTEMS SCHEDULE

A. The following schedule contains paint systems for painting interior (wet and dry) and exterior of the water storage facility. These systems are based on a specific paint manufacturer and are listed to establish minimum quality standards. Any substitute paint systems by an alternative manufacturer shall be equal to the specified systems. The substitute systems and paint materials shall be acceptable only by approval of the Engineer. Requests for substitution shall include detail manufacturer's literature for each product. These products specified are manufactured by the Sherwin Williams Company located in Cleveland, Ohio.

B. Interior Coating System (Wet & Dry Surfaces):
   1. Prime Coat/ Shop Prime:
      a. Sherwin Williams corothane 1 Galvapac 2K Zinc primer at 3.0-4.0 Mils DFT.
   2. Stripe Coat on Weld Seams, edges, and touch-ups:
      a. Sherwin Williams Sherplate PW at 4.0-6.0 Mils DFT.
   3. Finish Coat:
      a. Sherwin Williams Sherplate PW at 25.0 to 30.0 Mils DFT

C. Exterior Coating System:
   1. Prime Coat/ Shop Primer:
      a. Sherwin Williams Corothane 1 Galvapac 2k Zinc at 3.0-4.0 Mils DFT
   2. Stripe coat on weld seams, edges, and touch-up:
      a. Sherwin Williams Acrolon 218 HS acrylic polyurethane at 2.0-4.0 Mils DFT.
   3. Intermediate Coat:
      a. Sherwin Williams Acrolon 218 HS acrylic polyurethane at 2.0-4.0 Mils DFT.
   4. Finish Coat:
      a. Sherwin Williams Flourokem at 2.0-3.0 Mils DFT.
   5. Graphics Design:
      a. Sherwin Williams Flourokem at 2.0-3.0 Mils DFT.
      b. Word “Ashtabula County” shall be on each side of the tank; size large enough to be seen but not extend beyond each side of the tank; border shall include top and bottom bands; thickness, color, font style to be chosen by Owner.
      c. Provide a color mock-up graphic of the exterior color scheme including the exterior paint color, wording and font, font size, and color band height. Owner to review and approve prior to painting exterior of tank.
      d. A potential graphic to be displayed on the side of the tower is displayed below:

e. The logo is subject to change to meet local and County zoning and site requirements and shall be approved by the Owner prior to application.

6. The exterior coating system shall be applied when the relative humidity is less than 80% and the temperature above 60 degrees F.
7. The Owner shall be entitled to choose a color of his preference without any extra cost from a selection of standard exterior finish colors available from the manufacturer of the exterior coating system. The initial choice may be a white to and off-white color. Top coating shall provide for a high gloss finish.
8. The Contactor shall apply, at his own expense, and additional finish coat(s) if the total dry film thickness of 7.5 mils is not obtained with the first finish coat.

3.16 COATING AND LINING PRODUCTS:

A. SEALANTS
   1. Interior and Exterior Seam Sealer and Pit Filler:
      a. As recommended by manufacturer.
   2. Exterior Sealant:
      a. As recommended by manufacturer.

END OF SECTION 098000

SECTION 111060 – EXPOSED PIPING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes exposed piping in base of tank, riser column, tank bowl, and associated appurtenances.

B. Related Sections:

1. Division 9 – Section 098000, Water Storage Tank Protective Coatings
2. Division 33 – Section 331619 Elevated Steel Water Tank
3. Division 33 – Section 331620 Composite Elevated Water Storage Tank
4. Division 46 – Section 464148, In Tank Active Mixer

1.3 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

B. Comply with NSF 61, "Drinking Water System Components-Health Effects; Sections 1 through 9," for potable domestic water piping and components.

1.4 QUALITY CONTROL

A. Field inspection

1. All pipe sections, specials, and jointing materials shall be carefully examined for defects and no piece shall be laid that is known to be defective. Any defective piece discovered installed shall be removed and replaced with a sound one in a manner satisfactory to the Resident Project Representative at the Contractor's expense.
2. Defective material shall be marked with lumber crayon and removed from the job site before the end of the following day.

B. Field testing

1. All materials, process of manufacturing and finished pipe shall be subject to inspection and approval.

2. The Resident Project Representative may select one sample of pipe on the job site of each production run of each size and type of pipe to be tested by the laboratory. The Contractor shall furnish the first test piece or pipe core and any additional samples required because of failures. Should the sample fail to meet specifications, retests shall be conducted by the laboratory in conformance with the specifications.

1.5 SUBMITTALS

A. Water Samples: Specified in "Sterilization" Article in Part 3.

B. Field Test Reports: Indicate and interpret test results for compliance with "Testing" requirements in Part 3.

C. Submit shop drawings in accordance with the General Requirements showing layout plan and dimensions, schedule of pipe fittings and specials, materials and class for each size and type of pipe, joint details, and any special provisions required for assembly.

1. Shop drawings shall be drawn to not less than ¼ in. scale and show the laying length and piece mark for each section of pipe and fitting.
2. Drawing shall show the position and elevation of valves, pumps, and/or other equipment served by the various pipe systems.

D. If directed by the Engineer, each certificate shall be accompanied by a report showing test results compared to specification requirements. Test specimens shall be selected in conformance with the designated specification, except that not less than two tests shall be made for each production run of each size, type, and class of pipe furnished, and further, that in case tests are unsatisfactory, additional tests shall be made to the maximum number in the referenced ASTM Specification.

PART 2 – PRODUCTS

2.1 PROCESS PIPE MATERIALS SCHEDULE

A. Inlet and outlet pipes shall be ductile iron pipe and fittings underground and exposed within the tank base to the point noted for transition.

B. Overflow and drain piping, inlet, outlet, and all piping in the tank bowl shall be either stainless steel or carbon steel piping as determined by the tank and/or mixing system manufacturer.

C. Service piping to pressure gauges, water quality analyzers, and associated equipment shall be copper tubing.

2.2 DUCTILE-IRON PIPE AND FITTINGS

A. Ductile cast iron pressure pipe shall conform to ANSI Specifications A-21.51 or AWWA Standard C-151 and shall be Class 56 thickness unless otherwise specified herein and to Specifications for Modular Iron Castings, ASTM Designation A-536, latest revision. Pipe inside building or structures shall be joined with flanges or mechanical joints with retainer glands as shown on the Drawings.

B. Pipe Joints.

1. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, Class 150, Ductile- or gray-iron, standard pattern.
2. Ductile-Iron, Flexible Expansion Joints: Compound, ductile-iron fitting with combination of flanged and mechanical-joint ends complying with AWWA C110 or AWWA C153. Include two gasketed, ball-joint sections and one or more gasketed, sleeve section. Assemble components for offset and expansion indicated. Include AWWA C111 ductile-iron glands, rubber gaskets, and steel bolts.
3. Ductile-Iron, Deflection Fittings: Compound, ductile-iron coupling fitting with sleeve and flexing sections for up to 20-degree deflection, gaskets, and restrained-joint ends complying with AWWA C110 or AWWA C153. Include AWWA C111 ductile-iron glands, rubber gaskets, and steel bolts.
4. Ductile-Iron, Expansion Joints: Three-piece, ductile-iron assembly consisting of telescoping sleeve with gaskets and restrained-type, ductile-iron, bell-and-spigot end sections complying with AWWA C110 or AWWA C153. Select and assemble components for expansion indicated. Include AWWA C111 ductile-iron glands, rubber gaskets, and steel bolts.

C. Flanged ductile iron pipe shall be Class 56 and conform to AWWA C1158/ANSI A21.15.

1. Flanges shall be faced and drilled after being screwed onto the pipe and be 90 degrees with the longitudinal axis of the pipe.
2. Flanged ductile iron fittings shall conform to AWWA C110/ANSI A21.10.
3. Pipe and fitting flanges shall be drilled to ANSI B16.1 Class 125 Standards.

D. Coatings and Linings.

1. Ductile iron pipe, unless otherwise specified, shall be lined on the interior with a standard thickness cement lining meeting ANSI Specifications A-21.4 and AWWA C-104. A seal coat of bituminous material shall be applied in conformance with the above Specifications.
2. All pipe and fittings shall be shop-coated with an NSF 61 Certified primer, 3-5 mils DFT. Follow Section 098000.

2.3 CARBON STEEL PIPE AND FITTINGS

A. Dimensions for carbon steel fittings shall conform to AWWA C110, unless otherwise specified.

B. Wall thickness for carbon steel pipe and fittings shall be specified by Schedule conforming to ANSI B36.10-1985. Pipe and fittings shall be rated for a minimum of 150 psi working pressure.

C. Wall thickness and dimensions of carbon steel tubing shall be given in exact dimensions in fractions of an inch, not by gage number.

D. Pipe Joints.

1. All flanges shall be carbon steel ring flanges conforming to AWWA C207 Class D. Flange drilling pattern shall be in accordance with ANSI B16.1/B16.5 standards.
2. Ring flanges shall be continuously welded on both sides.
3. All butt welds shall be fully penetrated with gas shielding to the interior and exterior of the joint.

E. Welding carbon steel pipe.

1. Welded cross-sections shall have a thickness equal to or greater than the welded material.
2. Field welding of carbon steel pipe and fittings will not be allowed unless approved by the Engineer. Welding could damage interior epoxy lining coatings of pipe.
3. All welded joints shall be free of sharp edges and burrs.
4. Where carbon steel pipe penetrates the water tank bowl structure, the pipe section shall be welded on both sides of the penetration and shall be provided with flanges within six inches of the penetration for mating up with epoxy coated piping. This section of pipe shall not receive epoxy coating, but rather be lined with NSF 61 approved paint at 3-5 mills DFT.

F. Linings of the inside of carbon steel pipe and fittings will be fusion bonded epoxy coated, unless otherwise specified. Fusion Bonded Epoxy Coating shall be as follows:

1. Carbon steel piping shall have applied to it a Fusion Bonded Epoxy Coating on the interior pipe surface that conforms to AWWA C-213-96 for steel water pipelines. The powder coating product shall be National Sanitation Foundation (NSF) Standard 61 certified material. The final product shall be capable of meeting Salt Spray Resistance ASTM B117 (1000 hour) with no blistering, undercutting or rust bleed; Humidity Resistance ASTM D2247 (1000 hour) with no blistering, undercutting or rust bleed; and Impact Resistance of ASTM G14-72 (160 in. lbs.). The Fusion Bonded Epoxy Coating shall provide a total dry mil thickness of 12.0 to 16.0 mils.

2. Prior to shipment, manufacturer shall provide in writing to the Engineer certification that the proper fusion bonded epoxy coating has been applied to all internal surfaces of the steel piping using the proper method. Said certification shall show under the applicator's letterhead, and shall be submitted by Contractor, and contain:
    a. Date of application.
    b. Material manufacturer and product designation including a product data sheet for the coating.
    c. Applier of the fusion bonded coating, name, address and phone number.
    d. Notarized signature of an officer of the applicator company stating the fusion bonded epoxy coating was applied to AWWA Standard C213-91 or the latest revision.

G. Coating on the outside of carbon steel pipe and fittings shall be performed in the field, by the contractor, following installation. Surface preparation and coating procedures shall be in accordance with Section 098000.

2.4 STAINLESS STEEL PIPE AND FITTINGS

A. Pipe and fittings shall be Schedule 10s Type 304L stainless steel fabricated from material meeting the requirements of ASTM A-240. Fabrication, inspection, testing, marking and certification of pipe and fittings shall be in accordance with ASTM A-778 and A-774 respectively. All fittings less than 18 inches shall be smooth flow, fittings larger than 18 inches may be of five section mitre construction. Backing flanges shall be in accordance with ASTM A285-C drilled to ANSI B16.5 Class 150. Pipe, fittings and welds shall be cleaned and passivated.

1. Dimensions for stainless steel fittings shall conform to AWWA C110, unless otherwise specified.

B. Pipe, fittings and flange thickness shall be in accordance with the manufacturers certified pressure rating for the applicable service pressures. The design pressure rating shall be minimum 150 psi.

1. All flanges shall be plate ring flanges. Flange drilling pattern shall be in accordance with ANSI B16.1/B16.5 standards.
2. Ring flanges shall be continuously welded on both sides.

C. All welded joints shall be free of sharp edges and burrs.

D. Field welding of stainless steel pipe and fittings will not be allowed unless approved by the Engineer.

2.5 POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

A. All PVC pipe and PVC fittings shall be a minimum Schedule 80 in accordance with ASTM D1785-83.
B. Field solvent welding will not be allowed unless approved by the Engineer.
C. All fittings shall have the same pressure rating as the pipe unless otherwise noted.

1. Schedule 80 Threaded: ASTM D2464, for all unions and valves.
2. Solvent Cement: ASTM D2564 for fittings and pipe that do not require unions for removal replacement.

2.6 COPPER TUBING

A. Hard Copper Tube: ASTM B 88, Types L, water tube, drawn temper.

1. Copper Pressure Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint or crimped fittings. Furnish wrought-copper fittings if indicated.

2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint or crimped ends. Furnish Class 300 flanges if required to match piping.

3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint, crimped, or threaded ends.

2.7 FLANGE GASKETS

A. Flange gaskets shall be full-faced and shall be in accordance with ASTM D1330.

B. Flange gasket drilling pattern shall conform to ANSI B16.1/B16.5.

C. Flange gaskets shall be AWWA C-111, rubber.

2.8 FASTENERS

A. Nuts and bolts used on buried pressure pipe and fittings in contact with earth or on stainless steel piping shall be of stainless steel Type 316.

B. Nuts and bolts encased in grout on concrete pressure pipe shall conform to recommendations of the pipe manufacturer.

C. All other nuts and bolts shall be low carbon steel in conformance with the chemical and mechanical requirements of ASTM A307, Grade B. Higher strength bolts shall be acceptable.

2.9 PIPE SUPPORTS

A. All components of the bracket assembly shall be stainless steel 304 in accordance with the associated standards.

B. The bracket assemblies shall consist of four components.

1. A base plate (when required). For concrete tanks, the base plate will have four thru holes for expansion anchors.

2. A top-works weldment that consists of structural channel and angle iron. The TMS piping shall rest on the angle iron. The angle iron has predrilled holes for the U-bolt.

3. U-bolt with four hex nuts.

4. A 1/8" thick EPDM strip with a length equivalent to the circumference of the pipe. The strip shall be placed between the pipe and the angle iron and U-bolt.

C. The channel of the top-works weldment shall be field fit and modified to the required length. The channel shall then be field welded to the base plate.

D. For steel tanks, the base plate shall be field welded to the tank floor or shell. The location of the base plate shall avoid welded joints in the floor/shell plates.

E. For concrete tanks, the support shall be anchored to the concrete floor with stud type expansion anchors, the pull-out rating of the combined anchors shall be a minimum of 10 times greater than the static weight of the vertical pipe section.

2.10 VALVES

A. Refer to valve schedule and details on plans.

PART 3 – EXECUTION

3.1 PRODUCT HANDLING

A. Care shall be taken in handling and transporting to avoid damaging pipes and their coatings. Loading and unloading shall be accomplished with the pipe under control at all times and under no circumstances shall pipe be dropped. Pipe shall be securely wedged and restrained during transportation and supported on blocks when stored in the shop or field.

B. Store all pipe on a flat surface so as to support the barrel evenly. It is not recommended that pipe be stacked higher than 4 ft. Plastic pipe, if stored outside shall be covered with an opaque material to protect it from the sun's rays.

3.2 VALVE APPLICATIONS

A. Drawings indicate valve types to be used. Where specific valve types are not indicated, the following requirements apply:

1. Shutoff Duty: Use bronze ball for piping NPS 2 and smaller. Use cast-iron gate valves with flanged ends for piping NPS 2-½ and larger.

3.3 PIPING INSTALLATION

A. General

1. Pipe anchoring

a. Disjointing hydrostatic pressure pipe at bends, valves, plugs, tees, and wyes shall be counteracted by restrained joints or reinforced concrete anchorage as directed on the Drawings or specified.
b. Thrust blocks shall be installed only where directed or specifically called for on the Drawings, unless otherwise specified. Installation shall be in conformance with Drawings.
c. Approved joint restraints shall be installed for the distance from each side of each bend, valve, plug, tee, or wye in locations shown or directed by the Engineer.
d. Reinforced concrete joint anchorage shall be installed in conformance with the Drawings.

2. Regulations, references and standards shall comply with current specifications of the following:

a. Ohio Department of Transportation (ODOT).
b. American Society for Testing and Materials (ASTM)
c. American Standards Association (ASA)

B. Process and pressure pipe

1. Pipe and appurtenances shall be installed true to line, grade, and location; with joints centered, spigots home; pipe properly supported and restrained against movement; and all valve stems plumb.
2. All elbows, tees, plugs, etc., shall be properly anchored, blocked, or otherwise restrained to prevent movement of the pipe in the joints due to internal or external pressure.
3. The open ends of all pipes and special castings shall be plugged or otherwise closed with a watertight plug to the approval of the Resident Project Representative before leaving the work for the night, and at other times of interruption of the work. All pipe ends which are to be permanently closed shall be plugged or capped and restrained against internal pressure.
4. Where new or existing pipe requires cutting in the field it shall be done in a manner to leave a smooth end at right angles to the pipe centerline. The finished cut must be approved by the Resident Project Representative.

5. Just prior to joining the pipes, the surfaces of the joint rings shall be wiped clean and the joint rings and rubber gaskets shall be liberally lubricated with an approved type of vegetable oil soap. The spigot end, with the gasket placed in the groove, shall be entered into the bell of the pipe already laid, making sure that both pipes are properly aligned. Before the joint is fully "home" the position of the gasket in the joint shall be determined by means of a suitable feeler gauge supplied by the pipe manufacturer. If the gasket is found not to be in proper position, the pipes shall be separated and the damaged gasket replaced. The pipe is then forced "home" firmly and fully. In its final position, the joint between the pipes shall not be deflected more than ½ in. at any point.

C. Refer to Division 2 Section "Water Distribution" for site water distribution and service piping.

D. Install cast-iron sleeve with water stop and mechanical sleeve seal at each service pipe penetration through foundation wall. Select number of interlocking rubber links required to make installation watertight.

E. Install aboveground domestic water piping with 0.25 percent slope downward toward drain.

F. Fill water piping. Check components to determine that they are not air bound and that piping is full of water.

G. Perform the following steps before operation:

1. Close drain valves, hydrants, and hose bibs.
2. Open shutoff valves to fully open position.
3. Open throttling valves to proper setting.
4. Remove plugs used during testing of piping and plugs used for temporary sealing of piping during installation.
5. Check plumbing specialties and verify proper settings, adjustments, and operation.

3.4 SUPPORTS

A. The Contractor shall furnish and install all pipe supports, hangers, harnessing, and inserts required to properly support the piping and the connecting valves shown on the Drawings or required. Supports shall be as manufactured by ITT Grinnel, Elcen or equal. Supports shall be designed and spaced to secure pipe in place without sag or undue stress on any pipe, fitting, or valve. Piping that is close to the floor may be supported on concrete piers. Piping near walls may be supported by wall brackets. Piping may be supported by hangers from the ceiling, except where the hanger will interfere with the operation of cranes and other equipment or where other methods of support are detailed on the Drawings. All hanger rods, bolts, and nuts shall be genuine wrought iron ASTM Specification A 189-A for Refined Iron Bars. Where piping is supported from the ceiling, approved inserts shall be poured in the concrete slab flush with the bottom of the slab.

B. Pipe hangers, supports and brackets to be used upon the work, shall at all times be manufactured in accordance with detailed, approved drawings. Preference will be given to the use of standard pipe hangers, such as manufactured by the ITT Grinnel Company, the Welworth Company or the Crane Company. All hangers shall be capable of screw adjustment after erection of the pipe. Hangers and rods shall have shop prime coat. Hangers shall be so made as to fit the outside diameter of the pipe on which it is to be used. An 8-inch hanger for example, must fit 8-inch cast iron pipe.

C. Horizontal runs of pipe shall have supports spaced so that sag of the unsupported length does not create any pocket in the line (weight of fluid included).

1. In general, the following guide for pipe support spacing may be used:

Pipe to 1-1/4”	-not more than 8’-0”
Pipe 1-1/2” through 2-1/2”	-not more than 10’-0”
Pipe 3” through 3-1/2”	-not more than 12’-0”
Pipe 4” through 6”	-not more than 14’-0”
Pipe 8” and larger	-not more than 16’-0”

2. Pipe may be hung by means of rods according to the following schedule:

Pipe through 2”	-3/8” rod
Pipe 2-1/2” through 3-1/2”	-1/2” rod
Pipe 4” through 5”	-5/8” rod
Pipe 6”	-3/4” rod
Pipe 8” through 12”	-7/8” rod
Pipe 12” through 20”	-1” rod

D. Long runs of pipe subject to expansion shall be hung by means of adjustable swivel pipe roll hangers with properly designed hanger rods, rod couplings and nuts.

E. Short runs of pipe subject to expansion in sizes up to and including two and one-half (2-1/2) inches as well as all pipe of those sizes not subject to expansion shall be hung by means of adjustable swivel pipe ring, split ring type. Short lengths of three (3) inch and larger pipe subject to expansion as well as all pipe (3) inch and larger not subject to expansion shall be hung by means of adjustable wrought clevis hangers.

F. Flat strap and perforated steel hangers will not be permitted.

G. All vertical piping shall be properly supported to prevent swinging or sagging by properly designed and approved pipe brackets or supports. Special attention must be paid to furnishing and installing ample and adequate supports to piping at valves, bends and like fittings.

H. Pipe supported from underneath and subject to expansion shall have adjustable pipe roll stand supports. The pipe roll stand shall be supported by concrete piers, structural steel or steel brackets as indicated or as required. Pipe supported from underneath and not subject to expansion shall have adjustable pipe saddle supports on properly sized pipe stanchions and ample, properly grouted floor flanges.

I. The Contractor shall furnish and install all necessary metal pipe hangers and supports including all beam clamps, angles, channels, brackets, plates, rods, etc., which may be required for the proper supporting of the pipe and which is not specifically included under other items of these specifications. All hangers suspended from structural steel shall be supported on a U.F.S. approved I-beam clamp. Hangers from concrete work shall be placed in the concrete at the time of pouring. Wooden plugs or other improvised means shall not be used for any form of hanger fastening.

J. Wherever practical, the Contractor shall furnish in place of individual inserts, slotted concrete type pressed steel inserts that shall be galvanized after fabrication. Inserts shall have substantial anchors spaced on approximately six (6) inch centers. Inner flanges which support the bolt heads shall be of extra thick material in relation to the thickness of the balance of the section. Slotted inserts shall be equal in all respect to Pressed Steel Inserts, concrete type.

K. Where pipe is supported on pipe rolls and the Contract Drawings or Specifications call for insulation, the Contractor shall furnish and connect to the pipe under this Section all necessary pipe covering protection saddles.

L. Where expansion shields are permitted by the Engineer for fastening pipe hangers, they shall be of the closed back type, or the cinch anchor type, furnished with galvanized machine bolts.

M. All fabricated steel pipe supports, as shown on the Drawings, shall be hot dipped galvanized after fabrication. Fastenings shall be Type 304 stainless steel. A dielectric material shall be provided when supports and piping are of dissimilar metals.

N. All ferrous pipe support items shall be shop primed to inhibit rust. Finish paint in field as specified under the Section 09800.

3.5 PRESSURE AND LEAKAGE TESTS FOR PROCESS AND PRESSURE PIPE

A. The Contractor shall furnish the pump, pipe connections, taps, gauges, auxiliary water container, bulkheads, plugs, and other necessary equipment and make pressure and leakage tests of all lines unless otherwise directed by the Engineer.

B. Tests shall be conducted on all pipelines or valved sections thereof as directed by the Resident Project Representative. Testing of pipelines laid in excavation or bedded in concrete shall be done prior to backfilling or placing concrete cover, except restrained sections of pipe which shall be backfilled prior to testing, unless otherwise permitted by the Engineer. Tests on lines anchored or blocked by concrete shall not be conducted until the concrete has taken permanent set.

C. The line or section thereof to be tested shall be filled slowly with water to expel all air. Hydrostatic pressure shall be applied by pumping water from an auxiliary supply. The test pressure shall be maintained as required for thorough inspection (two hour minimum) to find any leaks or defects in the piping and appurtenances. Unless otherwise indicated, the test pressure shall be 150 lbs./sq. in. or 150% above the normal operating pressure, whichever is greater. Should the pipe section fail to pass the tests, the Contractor shall find and correct failures and repeat the tests until satisfactory results are obtained.

D. Leakage tests shall be made simultaneously with or following completion of pressure tests of all lines or valved sections thereof. Leakage is defined as the quantity of water added to the pipe under test to maintain the required test pressure for a specified time. The leakage test pressure shall be not less than the maximum operating pressure of the section under test. The duration of the leakage test shall be not less than two hours. Allowable leakage shall not exceed 50 gal/in. of pipe diameter per mile of pipe in 24 hours.

3.6 CLEANING POTABLE WATER MAINS

A. Precautions shall be taken during construction to protect the pipe interiors, fittings, and valves against contamination. Pipe interiors shall be thoroughly cleaned of dirt and foreign matter before laying, by brushing, swabbing or other method approved by the Engineer, and means shall be provided to prevent entry of dirt during the progress of installation. Ground water shall be kept out of the pipe at all times.

B. After the pressure test and prior to sterilizing, the lines shall be thoroughly flushed through hydrants or by other means as approved by the Project Engineer.

3.7 STERILIZING POTABLE WATER MAINS

A. All water mains shall be sterilized in accordance with AWWA C-651.

B. The Contractor shall furnish required materials and apparatus and perform the work of sterilization.

C. Pipes shall be sterilized by the introduction of (a) a chlorine gas-water mixture by means of a solution feed machine; (b) direct feeding of chlorine gas through approved devices for regulating rate of flow and effection diffusion; (c) calcium hypochlorite as a water mixture. Chlorinating powders shall be mixed with water in proportions of 5% powder to 95% water by weight, to a paste and thinned to a slurry, to be introduced into the pipe by pumping or other means approved by the Engineer.

D. Application shall be made at the beginning of the line through a corporation stop with water supplied from the pressure side of a valve to fill the line, controlled to a very low flow. Extremities of the lines being treated shall be opened to insure removal of air and complete filling.

E. The dosage of chlorinating agent shall be of the amount to produce a chlorine residual of 40 to 50 parts of chlorine per million. Tests with orthotolidine reagent shall be made at selected points to determine the residual.

F. Treated water shall be retained in the lines for sufficient time to accomplish the desired sterilization but not less than 12 hours. Valves in the line shall be operated during the retention period.

G. Following chlorination, all treated water shall be flushed from the lines at their extremities until the replacement water throughout the lines shall, upon test, be chemically and bacteriologically acceptable to the Public Authority having jurisdiction. Should the initial treatment prove ineffective, the chlorination shall be repeated until confirmed tests show acceptable results.

3.8 SPECIAL PROVISIONS

A. Modular Mechanical Type Seal

1. Modular mechanical type seals shall be used as designated on the Drawings.
2. The modular mechanical type seal shall be of interlocking synthetic rubber links.
3. Unless otherwise indicated, the seal shall be suitable for corrosive service in a temperature range of 40 ° F to 250 ° F. The pressure plates shall be of delrin plastic for good resistance to organic compounds. The bolts and nuts shall be of 18-8 stainless steel. The sealing elements shall be of EPDM rubber which has high resistance to most organic and inorganic materials.

B. Rubber Expansion Joints

1. Rubber spool type expansion joints shall be installed as shown on the Drawings.
2. The expansion joint shall be a single piece, leakproof tube made of Butyl-Dacron with copper coated steel wire embedded in the carcass for reinforcing. The flanges shall be supplied at both ends with split galvanized retaining rings. Flanges and retaining rings shall be drilled to match standard ASA-125 flanges. The internal operating conditions shall be as per the application shown on the Drawings and temperature range from 0°F to 180°F. Discharge expansion joints shall be fitted with a control unit to restrict axial elongation. The expansion joint shall be as manufactured by General Rubber Corporation, Mercer, or equal.

END OF SECTION 111060

SECTION 264200 - CATHODIC PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specifications sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. The Contractor shall furnish and install a complete system of cathodic protection. The complete equipment shall be of an established make suitable and adequate for the purpose described and shall be fully guaranteed to prevent corrosion of the underwater interior surface of the tank and riser by use of electrical currents only.

1.3 QUALITY ASSURANCE

A. In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for work.

1.4 DETAILED DRAWINGS

A. The Contractor shall submit detailed drawings, specifications and/or catalog pages for review by the Engineer, as required under these specifications, describing in detail the cathodic protection system and appurtenances he will furnish and install in the tank. This data shall illustrate that the cathodic system is designed specifically for the particular style and size of tank in which it is to be installed. No cathodic protection equipment shall be delivered to the work until such data has been received, reviewed and found to be in general conformance with the plans and specifications.

1.5 SUBMITTALS

A. Product Data: Submit manufacturer's technical data and application instructions.

PART 2 - PRODUCTS

2.1 POWER SUPPLY

A. A 120V power supply for the cathodic protection system will be available at the lighting panel.

2.2 CATHODIC PROTECTION EQUIPMENT

A. The cathodic protection system (C.P.S.) shall be designed to provide the exact amount of current required and to accommodate for all variations in water composition, temperature, level and tank surface coating. The C.P.S. shall consist of a reference electrode, amplifier and controller, potential control unit, rectifier power unit and anodes. The C.P.S. shall operate on a feedback principle. When the tank- to-water potential exceeds the level required for protection, the signal from the reference electrode shall decrease the cathodic protection current. Conversely, if the tank-to-water potential drops, the current shall increase.

B. The C.P.S. shall have totally automatic control and shall be 100% solid state with no moving parts. It shall have a readout of the protective level, instant response and less than 12 Millivolt Potential Deviation. A maximum of two (2) reference cells shall be required. It shall automatically control from 0% to 100% of its rated capacity.

C. A complete description of the electrodes to be furnished shall be submitted for approval. The description shall include full information regarding their respective construction, size, number and composition. A type which does not disintegrate, when used as an anode in an electrolytic circuit shall be provided. The type, size, spacing, quantity and location of anodes shall be predicated, first on the necessity to distribute the protective current to all parts of the structure and second, upon considerations of the size and shape of the structure together with water characteristics and temperature. It is also essential that the circuits shall provide to the extent feasible, as complete protection for the riser as for the tank proper.

D. The completed equipment installation shall be of an established make suitable and adequate for the purpose described and shall be fully guaranteed to prevent corrosion of the underwater interior surface of the tank and riser to the extent feasible, by use of electrical currents only.

E. The automatic C.P.S. shall be "T.A.S.C." with permanode ballasted anodes designed to provide at least ten (10) years continuous protection, as manufactured by HARCO, or an approved equal.

F. All wire, conduit and fittings shall conform to the requirements of the electrical section of these specifications.

PART 3 - EXECUTION

3.1 MANUFACTURER'S SERVICES

A. The services of a factory trained, qualified service representative of the equipment manufacturer shall be provided to inspect the complete equipment installation to insure that it is installed in accordance with the manufacturer's recommendations, make all adjustments necessary to place the system in trouble-free operation and instruct the operating personnel in the proper care and operation of the equipment furnished.

3.2 MANUFACTURER'S GUARANTEE

A. The selected equipment manufacturer shall guarantee that the materials and/or workmanship of the equipment be free from defects for a period of one (1) year from date of equipment start-up, providing the equipment has been operated and maintained in accordance with the manufacturer's recommendations.

END OF SECTION 264200

SECTION 269001 – REMOTE TELEMETRY SYSTEM

PART 1 - GENERAL

1.1 DESCRIPTION

A. Furnish and install a Remote Telemetry System (RTS) with appurtenant equipment and accessories as indicated, specified and as necessary for a complete and proper operating system.

B. The RTS shall be completely wired and configured to monitor and control all of the functions listed herein for a complete and proper operating system.

C. The system supplier shall provide all engineering, installation and/or supervision of such, startup, testing and training as specified herein.

D. The system supplier shall provide operation and maintenance manuals as specified herein.

E. The system shall be furnished by the current Owner System Integrator – Pro Tech Systems Group, of Akron, Ohio

F. The contractor shall include an allowance in the base bid for the project, equal to the attached quotation amount.

1.2 EQUIPMENT COMPATIBILITY

A. The Contractor shall be responsible for coordinating the instrumentation equipment, communication equipment and other related equipment so that all elements are compatible and form a complete working system. Shop drawing submittals shall include sufficient information regarding component compatibility to demonstrate compliance with this requirement.

1.3 SUBMITTALS

A. Shop Drawings: Forward telemetry system information and auxiliary materials for engineer's review in accordance with General Requirements.

B. As-Built Documentation: Review connection requirements with the telemetry system vendor and produce as built connection schedule for each site.

C. O&M Manual: The manufacturer shall provide copies of an operation and maintenance manual, including storage, installation, start-up, operating and maintenance instructions, and a complete parts list. The O&M manual shall be in compliance with General Requirements.

PART 2 - PRODUCTS

2.1 MONITORING AND CONTROL SYSTEM (SYSTEM INTEGRATOR'S SCOPE)

A. Provide a telemetry control panel (RTU) in NEMA 12 enclosure to interface to control and monitoring instrumentation on site.

B. RTU shall feature a cellular modem for secure communication to the central monitoring site. The System Integrator shall transfer the cellular service name in Owner's name from the existing water tower site to this new modem.

C. Provide instrumentation, per the drawings and the attached quotation.

2.2 OTHER MATERIALS (BY CONTRACTOR OUTSIDE OF SYSTEM INTEGRATOR'S SCOPE)

A. Contractor is responsible for all installation of all equipment provided by the System Integrator, including the RTU and instrumentation; provide all materials required to complete the installation.

B. See the Pro-Tech quote for the list of proposed I/O. For each of the discrete I/O points, provide (2) #14 in conduit from the equipment being monitored, similarly, provide #18 twisted shielded pair cable in conduit for each analog signal. Confirm with the approved final I/O schedule to be produced by the System Integrator as part of the shop drawing process.

C. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 COORDINATION

A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

3.3 INSTALLATION

A. Install the work of this Section in strict accordance with the manufacturer's recommendations and shop drawings as approved by the Engineer.

B. Upon completion of the installation, carefully inspect each component and verify that all items have been installed in their proper location, adequately anchored, and adjusted to achieve optimum operation.

C. The System Integrator shall verify connections into the RTU and shall perform Start up services, including modifications to the SCADA programming at the central monitoring site.

3.4 TRAINING

A. Demonstrate to the Owner's operation and maintenance personnel the proper methods for operating and maintaining the equipment, and the contents of the operation and maintenance manual.

3.5 SERVICE

A. The Contractor shall furnish to the Owner, through the Engineer, a written certificate, signed by the System Integrator's field service technician confirming that:

1. the equipment has been properly installed in accordance with manufacturer's recommendations;
2. the equipment check out and initial start-up activities have been completed in accordance with manufacturer's recommendations and under the technician's supervision;
3. The equipment is free from any undue stress imposed by connecting conduit or anchor bolts;
4. The equipment operates satisfactorily and in compliance with the requirements of this Section.

END OF SECTION 269001

SECTION 310000 - EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

A. The Work covered by this Section shall include all excavation, trenching and related work for the construction of the designated structures and pipelines, backfill and other incidental work.

B. The Work covered by this Section consists of:
1. making all necessary excavations for the construction of all Work;
2. preparing subgrade for foundations, slabs, walks, and pavements;
3. doing all pumping, fluming, and dewatering necessary to keep the trenches and other excavation free from water;
4. providing for uninterrupted flow of existing drains and sewers, and the disposal of water from any sources during the progress of the Work;
5. supporting and protecting all trench walls, structures, pipes, conduits, culverts, posts, poles, wires, fences, buildings and other public and private property adjacent to the Work;
6. removing and replacing existing sewers, culverts, pipelines and bulkheads where necessary;
7. removing after completion of the Work all sheeting and shoring or other soil support materials not necessary to support the sides of trenches;
8. removing and disposing all surplus excavated material;
9. doing all backfilling and grading, of compacting backfill to limits specified or ordered by the Engineer;
10. restoring all property damaged as a result of the Work involved in this Contract.

C. The Work includes transporting surplus excavated materials not needed for backfill at the location where the excavation is made, to other parts of the Work where filling is required, and disposal of all types of surplus material off the site.

D. The Work includes:
1. constructing a structure of soil or granular material in layers to a predetermined elevation and cross section;
2. supporting and protecting all structures, pipes, conduits, culverts, posts, poles, wires, fences, buildings and other public and private property adjacent to the Work;
3. placing all fill and performing rough grading;
4. compacting fill to limits specified or ordered by the Engineer;
5. restoring all property damaged as a result of the Work involved in this Contract.

1.2 RELATED DOCUMENTS AND SECTIONS

A. Section 013319 – Field Testing Requirements

B. Section 015713 - Temporary Erosion Control

C. Section 030000 - Concrete Work

D. Specific Project Requirements

1.3 DEFINITIONS

A. Backfill: Soil or granular materials used to fill an excavation.
   1. Initial Backfill: Backfill placed beside and over pipe in a trench, not including haunches to support sides of pipe.
   2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Bedding: Layer placed over the excavated subgrade in a trench before laying pipe.

C. Borrow: Satisfactory soil imported for use as fill or backfill.

D. Excavation: Removal and disposal of material encountered above subgrade or foundation elevations.
   1. Additional Excavation: Excavation below subgrade or foundation elevations as directed by Engineer.
   2. Trench: Narrow linear excavation
   3. Unauthorized Excavation: Excavation below subgrade or foundation elevations or beyond indicated dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
   4. Unclassified Excavation: Excavation to subgrade elevations regardless of the character of surface or subsurface conditions encountered, including rock, soil materials and obstructions.

E. Embankment: A structure consisting of soil, granular material, shale, rock, or other approved material, constructed in layers to a predetermined elevation and cross-section.

F. Granular materials: Natural aggregate, such as broken or crushed rock, gravel, or sand that can be readily incorporated into an 8-inch layer, and in which at least 65% by weight of the grains or particles are retained in a No. 200 sieve.

G. Laboratory Dry Weight: The maximum laboratory dry weight shall be the weight provided by the laboratory when the sample is tested in accordance with ASTM D-698 Method A, C, or D.

H. Optimum Moisture: The water content at which the maximum density is produced in a soil by a given compaction effort (ASTM D-698).

I. Pavement Prism: Also referred to as the zone of influence. The area below a line drawn 45 degrees to the horizontal from the surface at the edge of pavement, sidewalk or curb.

J. Pipe Embedment: The material placed in a trench surrounding a pipe or conduit consisting of the foundation, bedding, haunching, and initial backfill.

K. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material one (1) cu. yd. or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2 inches.

L. Shale: Laminated material, formed by the consolidation in nature of soil, having a finely stratified structure. For the purpose of these specifications, the following bedrock types shall also be considered shale: mudstone, claystone, siltstone and hard clay.

M. Soil: All earth materials, organic or inorganic, which have resulted from natural processes such as weathering, decay, and chemical reaction.

N. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, pavement, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

O. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage course, or topsoil materials.

P. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 SUBMITTALS

A. Comply with all provisions of Section 013323, Shop Drawings and Submittals.

B. Product Data: For the following:
   1. Source-locations of all materials shall be identified to the Engineer.
   2. Source quality laboratory test of all fill materials as required to show compliance with material specifications.

C. Shop Drawings: Submit information for the following items:

   1. Sheeting and bracing.
   2. Dewatering system and standby equipment.
   3. Protection methods anticipated.
   4. Excavation procedures.

1.5 REFERENCES

A. AASHTO M 43 Standard Specification for Size of Aggregate for Road and Bridge Construction

B. ASTM C-150 Standard Specification for Portland Cement

C. ASTM C-618 Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete

D. ASTM D-698 Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb (2.49-kg) Rammer and 12-in. (305-mm) Drop

E. ASTM D-1586 Standard Method for Penetration Test and Split-Barrel Sampling of Soils

F. ASTM D-2487 Standard Test Method for Classification of Soils for Engineering Purposes

G. ASTM D-2940 Standard Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports

H. ASTM D-4253 Standard Test Method for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table

I. ASTM D-4254 Standard Test Method for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density

J. State of Ohio - Department of Transportation - Construction and Material Specifications, Item 304, Aggregate Base.

K. State of Ohio - Department of Transportation - Construction and Material Specifications, Material Detail 703.16, Suitable Materials for Embankment Construction.

L. State of Ohio - Department of Transportation - Construction and Material Specifications, Material Detail 703.02.A.2, Fine Aggregate for Portland Cement Concrete

1.6 QUALITY ASSURANCE

A. Qualifications

B. Regulatory Requirements

C. Certifications

D. Field Samples

E. Mock-ups

F. Pre-Construction Conference

1.7 PROJECT CONDITIONS

A. Environmental Requirements

B. Existing Conditions
1. Existing ground elevations of the site are shown by figures and/or by contours on the Drawings. The contours and elevations of the present ground are believed to be reasonably correct, but do not purport to be absolutely so, and, together with any schedule of quantities, are presented only as an approximation. The Contractor shall satisfy himself, however, by actual examination on the site of the Work, as to the existing elevations and contours, and the amount of work required.

C. Existing Utilities
1. Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Engineer and then only after arranging to provide temporary utility services according to requirements indicated.
2. Notify Engineer not less than two days in advance of proposed utility interruptions.
3. Do not proceed with utility interruptions without Engineer's written permission.
4. Contact utility-locator service for area where Project is located before excavating.

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver products to the site, store and protect under provisions of Section 016600, Product Handling and Protection.

B. Comply with all provisions of Section 013543, Environmental Protection.

1.9 SEQUENCING AND SCHEDULING

A. Refer to 013319 for testing laboratory service scheduling.

1.10 PROHIBITION OF EXPLOSIVES

A. The use of explosives is not permitted.

1.11 FIELD MEASUREMENTS

A. The Contract Drawings may indicate locations where certain utilities, structures or facilities might possibly interfere with the installation of new improvements. The Contractor shall dig such exploratory test pits as may be necessary to determine the

exact location and elevation of the indicated subsurface structure and shall make acceptable provision for their protection, support and maintenance in operation. The Engineer shall be provided advance notification when and where excavation for test pits will take place. The Contractor shall provide the Engineer a record of field locations of all listed utilities, structures or facilities a minimum of five (5) days prior to initiating construction of the project. Locations and elevations are to be provided by a Surveyor registered in the State of Ohio.

PART 2 - PRODUCTS

2.1 GRANULAR PIPE EMBEDMENT

A. Crushed gravel or crushed limestone meeting AASHTO M 43 gradation shall be used for bedding, haunching, and initial backfill as shown on the Drawings.

2.3 ONSITE BACKFILL

A. Excavated soil material, capable of meeting specified compaction, and approved by the Engineer for use as backfill in designated locations.

B. Based upon subsurface investigation, the Owner does not guarantee the onsite soils in its present state consists of the proper moisture content to achieve the specified compaction without drying or adding water.

C. Unsuitable Backfill Material

1. Onsite materials that are unsuitable for backfill, unless otherwise specifically shown in the Drawings, include rock or other materials greater than six (6) inches in their largest dimension, pavement, rubbish, debris, wood, metal, plastic, frozen earth, and the following soils classified per ASTM D-2487:

Symbol	Description
OL	Organic silts and organic silty clays of low plasticity
MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
CH	Inorganic clays of high plasticity, fat clays
OH	Organic clays of medium to high plasticity
PT	Peat, muck, and other highly organic soils

2.4 SPECIAL BACKFILL MATERIAL (ODOT Item 304)

A. Special backfill material shall meet the gradation requirements of ODOT Item 304 and shall consist of crushed gravel or crushed limestone in combination with natural sand or stone. The aggregate shall meet the following gradation requirements:

Sieve	Total Percent Passing
2 inch	100
1 inch	70-100

¾ inch	50-90
No. 4	30-60
No. 30	9-33
No. 200	0-15

2.6 EMBANKMENTS

A. Soils suitable for use in an embankment must conform to ODOT 703.16 and are restricted as follows:

1. Maximum laboratory dry weight shall not be less than 90 pounds per cubic foot, except that soils having maximum dry weights of less than 100 pounds per cubic foot shall not be used in the top 12 inches of embankment.
2. Soil having a liquid limit in excess of 49 are considered as unsuitable for use in an embankment.
3. Silt from excavation or borrow identified as Ohio Classification A-4b shall be considered suitable for use in an embankment only when placed at least 3 feet below the surface of the subgrade.
4. No slag, recycled Portland cement concrete or recycled asphaltic concrete products are suitable for use in an embankment.
5. Do not use any suitable material that cannot be incorporated in an 8-inch lift in the top 2 feet of the embankment.
6. Do not use shale, hard shale, or siltstone in the top 2 feet of embankment.
7. Do not use materials that cannot be satisfactorily placed and compacted to a stable and durable condition.
8. Material excavated in the work that contains excessive moisture is unsuitable for embankment construction unless dried. Dry or aerate such material before incorporating in the work. The Contractor may elect to waste this material, instead of drying it.
9. Granular material Type E as specified in ODOT 703.16.C, is not allowed.
10. No petroleum contaminated soils are suitable for use in an embankment.

2.7 ENGINEERED FILL

A. Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940. The aggregate shall meet the following gradation requirements:

Sieve	Total Percent Passing
2 inch	100
1½ inch	95-100
¾ inch	70-92
3/8 inch	50-70
No. 4	35-55
No. 30	12-25
No. 200	0-8

2.8 ACCESSORIES

A. Warning Tape
   1. Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored as follows:
      a. Red: Electric.
      b. Yellow: Gas, oil, steam, and dangerous materials.
      c. Orange: Telephone and other communications.
      d. Blue: Water systems.
      e. Green: Sewer systems.

B. Detectable Warning Tape
   1. Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
      a. Red: Electric.
      b. Yellow: Gas, oil, steam, and dangerous materials.
      c. Orange: Telephone and other communications.
      d. Blue: Water systems.
      e. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PROTECTION

A. Excavation; Temporary Sheeting, Shoring, and Bracing
   1. All excavation shall be in accordance with the Occupation Safety and Health Administration (OSHA) regulations.
   2. The Contractor shall furnish and install adequate sheeting, shoring, and bracing to maintain safe working conditions, and to protect newly built work and all adjacent neighboring structures from damage by settlement.
   3. Bracing shall be arranged so as not to place a strain on portions of completed work until construction has proceeded enough to provide ample strength. Sheeting and bracing may be withdrawn and removed at the time of backfilling, but the Contractor shall be responsible for all damage to newly built work and adjacent and neighboring structures.
   4. All sheeting shall be removed unless specifically authorized in writing by the Engineer to be left in place.

B. Construction Sheeting Left in Place
   1. The Contractor shall furnish, install, and leave in place construction sheeting and bracing when specified or when indicated or shown on the Drawings.
   2. Any construction sheeting and bracing which the Contractor has placed to facilitate his work may be ordered in writing by the Engineer to be left in

place. The right of the Engineer to order sheeting and bracing left in place shall not be construed as creating an obligation on his part to issue such orders. Failure of the Engineer to order sheeting and bracing left in place shall not relieve the Contractor of his responsibility under this Contract.

3.2 REPLACING, MOVING AND REPAIRING OF EXISTING UTILITIES

A. The Contractor shall:
   1. replace, move, repair and maintain all utilities and all other structures encountered in the work
   2. coordinate and communicate with applicable utility companies
   3. repair all damage done to any of the said structures and appurtenances through his acts or neglect and shall keep them in repair during the life of this contract. The Contractor shall in all cases leave them in as good condition as they were previous to the commencement of the work and to the satisfaction of the Engineer.

3.3 DEWATERING

A. Drainage and Removal of Water
   1. The Contractor shall dispose of water from the Work in a suitable manner without damage to adjacent property or structures.
   2. The Contractor shall, when ordered by the Engineer, construct tight bulkheads across trench and provide pumps suitable for the removal of any water which may be encountered or which may accumulate in the trenches. Unless otherwise provided for in the Contract Documents, drainage water will not be permitted to flow through the conduit.
   3. The trench shall be kept free from sewage and storm, surface, and subsurface water to at least 2 feet below the bottom of the excavation.
   4. Where open water courses, ditches, or drain pipes are encountered during the progress of the Work, the Contractor shall provide protection and securing of the continuous flow in such courses or drains and shall repair any damage that may be done to them.

3.4 EXCAVATION CLASSIFICATION

A. All excavated materials are unclassified as defined in Article 1.3.

3.5 GENERAL EXCAVATION

A. All necessary excavation for buildings, structures, pavements, and site improvements shall be performed to accommodate the completion of all related Contract Work.

B. The Drawings show the horizontal and the lower limits of structures. The methods and equipment used by the Contractor when approaching the bottom limits of excavation shall be selected to provide a smooth surface and to prevent disturbing

the soil below the bottom limits of excavation. All soil loosened during excavation shall be removed from the bottom of the excavation.

C. Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10 feet, and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction, and for inspection.

D. Excavation which is carried below the bottom limits of structures shall be classified as Unauthorized Excavation, unless said excavation below bottom limits of structures has been authorized by the Engineer prior to each occurrence.

E. Unauthorized Excavation shall be filled with Class B concrete to the bottom limits of structures. Under circumstances where structural integrity is not a factor, the Engineer may authorize the filling of Unauthorized Excavation with Low Strength Mortar Backfill or Special Backfill material compacted to 100% density as specified under the compaction requirements in this Section. Such work shall be at the cost of the Contractor.

3.6 TRENCH EXCAVATION

A. Excavation for trenches in which pipelines, sewers, and conduits are to be installed shall provide adequate space for workmen to space and joint pipe properly, but in every case the trench shall be kept to a minimum width. The width of trench shall not exceed the limits shown on the Drawings.

B. Excavation shall be to the depth necessary for placing of granular bedding material under the pipe as shown on the Drawings. If over-excavation occurs, the trench bottom shall be filled to grade with compacted granular bedding material.

C. Trenching operations shall not be performed beyond the distance that will be backfilled and compacted the same day.

D. In general, backfilling shall begin as soon as the conduit is in approved condition to receive it and shall be carried to completion as rapidly as possible. New trenching shall not be started when earlier trenches need backfilling or the surfaces of streets or other areas need to be restored to a safe and proper condition.

3.7 EXCAVATION OF UNSUITABLE MATERIALS

A. Unsuitable materials existing below the Contract bottom limits for excavation shall be removed as directed by the Engineer. Such excavation shall not exceed the vertical and lateral limits as prescribed by the Engineer.

B. In utility trenches, the voids left by removal of unsuitable excavated material shall be filled with AASHTO M 43 No. 1 and No. 2 aggregate conforming to the material requirements of Article 2.1 of this Section.

C. In excavations other than utility trenches, the voids left by removal of unsuitable excavated material shall be filled with material consisting or either: (1) Special Backfill Material; (2) Class B concrete; or (3) Low Strength Mortar Backfill, whichever is ordered by the Engineer.

D. Removal of unsuitable excavated material and its replacement as directed will be paid on basis of Contract Conditions relative to Changes in Work unless specific unit prices have been established for excavation of unsuitable material.

3.8 DISPOSAL OF UNSUITABLE AND SURPLUS MATERIAL

A. It shall be the responsibility of the Contractor to dispose of all surplus material that cannot be used in backfill or embankments at his expense outside the limits of the project. Unsuitable excavated material, including rock or large boulders, shall be disposed of outside the limits of the project.

B. Surplus material may be wasted adjacent to or incorporated in the regular construction only when ordered in writing by the Engineer.

3.9 BACKFILL

A. Pipelines, Sewers and Conduits

1. All pipe shall have bedding extending the width of the trench with depth in conformance with the Drawings. The bedding material shall be thoroughly compacted by tamping until no further densification is possible.
2. Pipe cover material shall be used for filling above the pipe bedding along the sides of the pipe and to a height of twelve (12) inches over the top of the pipe. The pipe cover material shall be brought up evenly on both sides of the pipe to eliminate the possibility of lateral displacement of the pipe and shall be thoroughly compacted by tamping until no further densification is possible. Care shall be taken to spade the aggregate under the pipe haunch below the spring line.
3. All trenches and excavations shall be backfilled immediately after pipe is laid therein, unless otherwise directed by the Engineer.
4. After the pipe cover has been placed and compacted around the pipe as specified above, the remainder of the trench may be backfilled by machine. The backfill material shall be deposited in eight (8) inch horizontal layers, and each layer shall be thoroughly compacted to the specified density by approved methods before a succeeding layer is placed. In no case will backfilling material from a bucket be allowed to fall directly on a pipe and in all cases the bucket must be lowered so that the shock of the falling earth will not cause damage.

B. Structures

1. Backfilling shall not commence before concrete has attained specified strength. Do not use equipment for backfilling and compaction operations against structures that will overload the structure.
2. Backfilling around and over structures shall be carefully placed and tamped with tools of suitable weight to a point one (1) foot above the top of same.

Additional backfill may be required to protect the structure from damage from heavy equipment. Backfill shall be placed in uniform layers not exceeding eight (8) inches in depth. Each layer shall be placed, then carefully and uniformly compacted to the specified density so as to eliminate the possibility of displacement of the structure.

3. After the backfill has been placed and compacted around the structure to the height specified above, the remainder may be backfilled by machine. The backfill material shall be deposited in eight (8) inch horizontal layers, and each layer shall be thoroughly compacted to the specified density by approved methods before a succeeding layer is placed. In no case will backfilling material from a bucket be allowed to fall directly on a structure, and in all cases the bucket must be lowered so that the shock of the falling earth will not cause damage.

C. Where any new, proposed, or future pavement, driveway, parking lot, curb, curb and gutter, or walk is to be placed over a backfilled area, Special Backfill material shall be used for any portion of the trench falling within the pavement prism.

D. Where it is necessary to undercut or replace existing utility conduits and/or service lines, the excavation beneath such lines shall be backfilled the entire length with approved Granular Pipe Embedment Material compacted in place in eight (8) inch layers to the required density. The approved Granular Pipe Embedment Material shall extend outward from the spring line of the conduit a distance of two (2) feet on either side and thence downward at its natural slope.

3.10 EMBANKMENT

A. In making fill for embankment, the surface of the existing ground shall be cleared, grubbed, stripped of organic material, plowed, compacted according to the requirements specified in this Section, and stepped on slopes so as to enable bond or firm bearing for the new fill. The materials for these fills shall be selected of approved materials free from organic matter and placed in horizontal layers not exceeding eight (8) inches in thickness when loose, each layer being thoroughly compacted. Materials shall not be placed when fill or foundation is frozen.

B. Where fill is to be placed on side slopes steeper than one (1) vertical to six (6) horizontal, steps shall be formed into the slope before any embankment is placed. These steps shall be cut at vertical intervals at no more than two (2) feet and shall have a horizontal dimension of not less than three (3) feet.

C. As fill progress, the top shall be kept crowned or sloped for drainage. No pavement shall be placed upon embankment until it meets compaction testing requirements.

D. Fills that abut or contain concrete or masonry structures shall be placed with care to avoid undue or unbalanced loads on these structures.

E. Following the completion of embankment, all slopes shall be neatly and evenly dressed to proper elevation, grade and dimension.

3.11 SUBGRADE

A. All soil subgrade shall be prepared in accordance with this subsection.

B. Drainage
   1. The surface of the subgrade shall be maintained in a smooth condition to prevent ponding of water after rains to insure the thorough drainage of the subgrade surface at all times.

C. Unsuitable Subgrade
   1. Where unsuitable subgrade or subgrade not meeting the required bearing capacity is encountered in cuts, due to no fault or neglect of the Contractor, in which satisfactory stability cannot be obtained by moisture control and compaction, the unstable material shall be excavated to the depth required by the Engineer.
   2. Suitable material required for the embankment to replace the undercut will be paid on basis of Contract Conditions relative to changes in Work.
   3. Where soft subgrade in cuts is due to the failure of the Contractor to maintain adequate surface drainage as required in this article, or is due to any other fault or neglect of the Contractor, the unstable condition shall be corrected as outlined above at no expense to the Owner.

3.12 CONSTRUCTION WITH MOISTURE AND DENSITY CONTROL

A. All backfill and embankments, except rock embankments, shall be constructed using moisture and density control. All subgrade, except rock and shale in cut sections, shall be constructed using moisture and density control.

B. Backfill, embankment and subgrade material which does not contain sufficient moisture to be compacted in accordance with the requirements of Article 3.17 of this Section shall be sprinkled with water as directed by the Engineer to bring the moisture content to within the range of optimum plus or minus three (3) percent. Water shall be thoroughly incorporated into the material by means of discs or other approved equipment.

C. Backfill, embankment and subgrade material containing excess moisture shall be dried, prior to installation, to a moisture content not greater than three (3) percentage points above optimum, except that for material within the moisture content range specified herein that displays pronounced elasticity or deformation under the action of loaded construction equipment, the moisture content shall be reduced to optimum or below if necessary to secure stability. For subgrade material, these requirements for maximum moisture shall apply at the time of compaction of the subgrade and also at the time of placing pavement or subbase. Drying of wet soil shall be expedited by the use of plows, discs, or by other approved methods when so ordered by the Engineer.

3.13 PROOF ROLLING

A. Proof rolling shall be performed on areas described on the Drawings or as directed by the Engineer.

B. Proof rolling equipment shall consist of a single unit, tandem axle dump truck capable of being loaded to 30,000 pound axle load with a gross vehicle weight of 60,000 pounds. Tire pressure shall be maintained at 90 psi. Loading shall be verified by a certified weight slip.

C. Procedure

1. The designated areas of subgrade, prior to the placing of the overlying course, shall be compacted to requirement of this Section. The Contractor shall be responsible for performing a minimum of two (2) proof rollings of the subgrade, as directed by the Engineer, prior to paving. The first proof rolling shall be performed after the installation of underground improvements and rough grading has been completed. After fine grading and just prior to paving, the subgrade shall be proof rolled again. The proof roller shall operate in a systematic manner so that the number of coverages over all areas can be readily determined and recorded. Maximum spacing shall not exceed six (6) feet.
2. Moisture content of the subgrade at the time of proof rolling shall conform to the requirements of this Section.
3. The equipment shall be operated at the speed directed, but in no case shall the speed exceed five (5) miles per hour, and the normal operating speed shall not be less than two (2) miles per hour.
4. Where the operation of the proof roller shows the subgrade to be unstable or to have non-uniform stability, the Contractor shall correct the unstable areas so that the stability of the subgrade will be uniform and satisfactory. The subgrade shall then be checked for conformance to the plan lines and any irregularities of the surface caused by operation of the proof roller shall be corrected and the subgrade shall be shaped to the plan lines within the tolerances specified in this Section.
5. The proof roll is a subjective test and does not relieve the Contractor of his responsibility under the Contract to provide an acceptable subgrade.
6. If the subgrade fails due to the Contractor using it as a haul road or due to his negligence, the subgrade shall be repaired, retested, and proof rolled again at no additional cost to the Owner.

3.14 COMPACTION REQUIREMENTS

A. The bottom of excavations upon which concrete foundations or structures are to be placed shall be compacted so as to obtain 100% of maximum dry density per ASTM D-698 in the top twelve (12) inches.

B. The top twelve (12) inches of stripped original subgrade and final subgrade shall be compacted to not less than 100% of maximum dry density per ASTM D-698.

1. Subgrade under new, proposed, or future pavement shall be compacted 18 inches beyond the edge of pavement, paved shoulders or paved medians.

C. Compaction of subgrade for sidewalks (regardless of paving material) shall be 100% of maximum dry density per ASTM D-698 in the top six (6) inches.

D. Compaction of non-paved areas shall be 90% of maximum dry density per ASTM D-698.

E. Aggregate pipe embedment and aggregate backfill around structures shall be compacted to not less than 100% of maximum dry density per ASTM D-4253 and ASTM D-4254.

F. Final backfill shall be compacted to not less than 100% of maximum dry density per ASTM D-698.

G. Fill placed within the interior of structures shall be compacted to not less than 100% of maximum dry density per ASTM D-698.

H. Embankment shall be placed and compacted in layers until the density is not less than the percentage of maximum dry density indicated in the following table determined by ASTM D-698.

EMBANKMENT SOIL COMPACTION REQUIREMENTS

Maximum Laboratory Dry Weight Pounds/Cubic Foot	Minimum Compaction Requirements Percent Laboratory Maximum
90-104.9	102
105-119.9	100
120 and more	98

I. Test Sections

1. If it is determined by the Engineer that the composition of the material is such that it cannot be tested for density using a nuclear densometer or other methods; or where, in the opinion of the Engineer, in-place compaction testing is not feasible; and if approved by the Engineer, the Contractor may construct a test section to demonstrate acceptable compactive effort in lieu of in-place compaction testing. Test sections shall be constructed at no additional cost to the Owner.
2. The test section shall be completed by repeatedly compacting the material until no further density is achieved. This value shall be the Minimum Test Section Density (MTSD). The compaction equipment used to complete the test section shall be of suitable size to compact the material and shall be the same equipment used to compact the in-place material.
3. The test section shall be constructed with moisture density control as specified in this Section.
4. The material shall be compacted to at least 98% of the MTSD.

5. Each lift of in-place fill or backfill shall be densified using a compactive effort equal to or greater than the effort applied to achieve the MTSD; i.e., if six passes were required to achieve MTSD, then each lift of material shall be compacted using six or more passes.
6. Construct a new test section when, in the opinion of the Engineer, the fill or backfill material has changed character or when the supporting material has changed character.

3.15 GRADING

A. Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
   1. Provide a smooth transition between adjacent existing grades and new grades.
   2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Grading
   1. Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
      a. Lawn or unpaved areas shall be graded to plus or minus 1 inch +/- 0.25 Inch
      b. Walks shall be graded to plus or minus 1 inch +/-0.25 Inch

END OF SECTION 310000

SECTION 311100 – CLEARING AND GRUBBING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Removal of surface debris.

B. Removal of trees, shrubs, and other plant life.

C. Topsoil excavation.

1.2 RELATED SECTIONS

A. Specifications sections related to this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Division 1 and all other applicable sections in this manual.

1.3 REGULATORY REQUIREMENTS

A. Conform to all applicable and local codes for environmental requirements, disposal of debris, burning debris on site, use of herbicides, and other applicable items.

B. Coordinate clearing work with utility companies.

C. Work shall conform to the requirements of ODOT-CMS Item 201 Clearing and Grubbing.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Herbicide, if required shall conform to applicable and local codes per environmental requirements

PART 3 - EXECUTION

3.1 PREPARATION

A. Verify that existing plant life designated to remain is tagged or identified.

B. Identify a waste area and/or salvage area for placing removed materials.

3.2 PROTECTION

A. Locate, identify, and protect utilities that remain, from damage.

B. Protect trees, plant growth, and features designated to remain, as final landscaping.

C. Do not disturb any area that is not necessary for completion of this project. Disturbance shall be in accordance with projects Storm Water Pollution Prevention Plan.

D. Protect benchmarks, survey control points, and existing structures from damage or displacement. Wetlands areas are not to be disturbed.

3.3 CLEARING

A. Clear areas required for access to site and execution of Work.

B. Remove trees and shrubs within marked areas or as indicated. Remove stumps, main root ball, root system for complete removal of surface rock and other as indicated on drawings.

C. Clear undergrowth and deadwood, without disturbing subsoil.

D. Apply herbicide to remaining stumps to inhibit growth.

3.4 REMOVAL

A. Remove debris, rock, and extracted plant life from site.

3.5 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated, re-landscaped, or re-graded, marked areas, entire site, without mixing with foreign materials.

B. Do not excavate wet topsoil.

C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion.

D. Install perimeter silt fence around stockpile area to prevent erosion and sediment transport from occurring.

E. Stockpiled topsoil shall be used for final grading around proposed improvements.

END OF SECTION 311100

SECTION 320190.33 – TREE AND SHRUB PRESERVATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. Furnish all labor, equipment and incidentals required to protect existing vegetation areas not to be disturbed.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Marking Tape

1. Red and yellow nylon or approved equal.

B. Fencing or other protective devices as approved by Engineer.

PART 3 - EXECUTION

3.1 PROTECTION

A. Marking and Identification

1. The extent of the area to be cleared and grubbed will be marked in the field by stakes and red fiberglass or nylon tape. Individual trees or shrubs to be removed from a location where most of the vegetation is to remain will also be marked by red tape. Any vegetation to remain within a larger area identified to be cleared and grubbed will be marked by yellow tape.

3.2 PROTECTION AND CARE OF TREES AND SHRUBS

A. Protect all other trees and shrubs from defacement, injury and destruction. Preserve trees within the right-of-way or construction area that are so delineated on the Drawings or are marked in the field.

B. During work operations, protect the trunk, foliage, and root system of all trees to be saved with boards or other guards placed as required to prevent damage, injury and defacement. Do not pile excavated material adjacent to the base of any trees. Do not allow runoff to

accumulate around bases of trees. Do not fasten or attach ropes, cable or guy wires to trees without permission of the Engineer. Provide climbing ropes during trimming.

C. All such trees, shrubs, and plants shall be carefully trimmed and protected from scarring, barking, or other injury during construction operations. All cuts and scars on trees shall be painted and treated with an approved wound dressing especially prepared for tree surgery, as directed by the Engineer.

3.3 TREE PRUNING

A. Pruning Existing Trees

1. Contractor shall prune all existing trees tagged or designated by the Engineer to remain.
2. Remove all dead, damaged and diseased wood completely. Do not leave stubs as it is unsightly and provides an entry point for disease spores. Also, remove crossed, girdling, or misplaced branches with care not to spoil the natural habit of the tree or shrub. The branch should always be removed flush with the trunk or parent branch while exposing the smallest area of cut surface possible without leaving an unnecessary stub.
3. Use the undercut method for the removal of all branches greater than 1/2". If necessary, cut a long, heavy branch into several convenient, manageable lengths to reduce the weight in easy stages. The undercut prevents any possible tearing of the bark below the branch. All wounds shall be carefully pared over with a sharp knife and covered with wound paint, approved by the Engineer, within 24 hours.
4. Trees and shrubs shall also be pruned in order to restore typical branching habits for that particular species, by trained and experience personnel.
5. Prune existing mature trees in late autumn or early winter, particularly for those trees that produce large quantities of sap.

3.4 DISPOSAL OF MATERIALS

A. All tree trunks, limbs, roots, stumps, brush, foliage and other vegetation shall become the property of the Contractor and shall be removed and disposed of by him off the project site in a manner complying with applicable local, State and Federal regulations. No burning will be allowed.

END OF SECTION 320190.33

SECTION 321000- PAVEMENT REPLACEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. The Contractor shall furnish all of the equipment, labor and materials necessary to install, replace, and/or restore existing pavement structures together with their respective appurtenances as shown on the plans and as specified herein. This work shall include all of the subgrade preparation, subbase, base, intermediate pavement course(s), and finish pavement courses together with curbing, guttering, tack and/or prime coating, sealing and other pertinent work as necessary to meet the conditions of this contract.

1.3 QUALITY ASSURANCE

A. In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for work.

B. If no recommendations of manufacturer’s instructions for recommendation of work, comply with newest edition ODOT Construction and Material Specifications.

1.4 REPAIR OR REPLACEMENT WORK

A. For the repair and/or replacement of all existing pavement structures and their respective appurtenances that are removed and destroyed or otherwise damaged by the Contractor in the course of his performance of the work required under this contract, the Contractor shall furnish all equipment, labor, and materials as necessary to properly restore to a condition equal to that at his entry, and to the satisfaction of the Engineer, the Ohio Department of Transportation, the County Engineer, City Engineer, all cinder, slag, gravel, water-bound macadam, bituminous macadam, asphalt and brick or concrete driveways, curbs, sidewalks and roadways in strict accordance with the drawings and as specified herein.

B. In general, this item will include concrete, steel reinforcement, brick, stone, slag, cinders, gravel, asphalt and other bituminous materials and curbs, gutters, driveway culverts, road and curb drains and the demolition, excavation and removal of existing driveways, sidewalks and roadways.

1.5 REFERENCE TO OTHER PARTS

A. Other sections of these specifications shall apply, as and where applicable to this section and such sections will be the same as though they were included in this section.

B. For all old work where pavement is being repaired and/or replaced as a result of damages occurring thereto during the course of the work of this contract, all clearing and grubbing, removal and storage of topsoil, excavation and/or placing of compacted fill and granular backfill, shall be done as required under other parts of these specifications.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Generally, for all repair and replacement work, all new materials shall match the existing and adjoining work in both composition and quality unless otherwise ordered, specified herein, and/or shown on the drawings. In any stone driveway or roadway, the material used for stone fill shall conform to the existing material.

2.2 PAVEMENT MARKINGS AND MARKERS

A. Match existing in location, type, size. Color and material; comply with appropriate ODOT 640 items and item 621.

PART 3 - EXECUTION

3.1 CONSTRUCTION

A. All pavement work shall be done in strict accordance with the specifications of the governmental body concerned and the latest ODOT specifications as applicable or at the direction of the Engineer.

B. All pavements disturbed by the Contractor's operations shall be re-laid to the thickness of the adjoining pavement and, in all cases, the restoring of pavements, shall apply both to foundation courses and to the wearing surface.

C. Should cracks or settlements appear in adjoining pavements, the paving shall be removed to the extent necessary to secure firm and undisturbed bearing and shall be replaced in a satisfactory manner.

D. No permanent pavement shall be installed, repaired, and/or restored unless, or until, in the opinion of the Engineer, the condition of the backfill is such as to properly support the pavement.

E. Where new or replacement concrete pavement or base is placed adjacent to existing concrete pavement or base, contraction joints shall be provided in the new or replacement pavement so as to form a continuous joint with that in the existing pavement.

3.2 ROADWAY SUBGRADE

A. The entire area to be occupied by the roadways and parking areas shall be cleared, topsoil removed and stored, and the excavation or compacted fill made as required and brought to the proper cross-sections. Pipe trenches and other excavations shall be backfilled as required, and thoroughly compacted within the limits of the roadways or parking areas.

B. After the surface of the subgrade has been properly shaped and before any stone or slag is placed, the entire subgrade shall be thoroughly rolled and compacted to a depth of 12 inches under this section. Rolling shall be done with an approved type of self-propelled roller, weighing not less than ten (10) tons. All hollows and depressions, which develop during the rolling, shall be filled with acceptable materials, and the subgrade rerolled. The process of filling and rolling shall be repeated until no depressions develop, and the entire subgrade has been brought to a uniform condition of stability.

C. All places which, in the opinion of the Engineer cannot be properly rolled, shall be stamped with handheld mechanically or pneumatically powered tampers.

D. In making the compacted fill and in doing the final subgrade rolling, the Contractor shall see that the material to be compacted and/or rolled has the proper moisture content to secure maximum compaction. When, in the opinion of the Engineer, the material is too wet, the compacting shall be delayed until the material has dried sufficiently. When, in the opinion of the Engineer, the material is too dry, the material shall be sprinkled with water in an amount to secure the proper moisture content.

END OF SECTION 321000

SECTION 321623 - CONCRETE WALKS AND STAIRS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. Under this section the Contractor shall furnish and construct sidewalks and stairs as shown or scheduled on the Drawings, specified or directed.

B. This section includes preparation of the base and/or subgrade construction of walks, adjustment of manhole castings and valve boxes to conform to new elevations and other work and materials incidental to the construction of walks and stairs.

1.3 OWNER'S STANDARDS AND SPECIFICATIONS

A. Items preceded by ODOT shall refer to the latest edition of the State of Ohio, Department of Transportation, Construction and Material Specifications.

PART 2 - PRODUCTS

2.1 CONCRETE

A. All concrete used shall be Class C as specified in section 030000.

2.2 WALKS AND STAIRS

A. Other materials for walks and stairs shall meet the applicable requirements of ODOT Item 608.

PART 3 - EXECUTION

3.1 INSTALLATION

A. All soil subgrade under walks and stairs shall be compacted in accordance with Section 310000 - Earthwork.

B. All service boxes, manholes and inlet tops shall be set to the required grades.

C. All construction for walks and stairs shall be in accordance with ODOT Item 608 for the type called for on the Drawings.

D. Minimum thickness of concrete walks shall be 4 inches.

E. Stairs shall be as detailed on the drawings.

END OF SECTION 321623

SECTION 323113 - CHAIN LINK FENCING AND GATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes fence framework, fabric, and accessories.

B. Excavation and concrete foundations for posts.

C. Gates and related hardware.

1.2 SUBMITTALS

A. Comply with all provisions of Section 013323, Shop Drawings and Submittals.

B. Product Data: For the following:
   1. Submit manufacturer's technical data, and installation instructions for fencing, fabric, gates and accessories, for approval by the Owner's Representative.
   2. Samples for verification of PVC color in the form of 6" lengths of actual fabric wire to be used in color selection, for approval by the Owner's Representative.

0.1 QUALITY ASSURANCE

A. Any subcontracted fence work shall be performed by a qualified firm specializing in fence work.

0.4 SYSTEM DESCRIPTION

A. Fence Height: 6 feet nominal fabric height.

B. Barbed Wire: Three strands on extension arms.

C. Line Post Spacing: At intervals not exceeding 10 feet.

PART 2 - PRODUCTS

2.1 GENERAL

A. Dimensions indicated for pipe and roll-formed are outside dimensions, exclusive of coatings.

B. Products: Subject to compliance with requirements, fence is to be provided from one of the following sources:

1. Galvanized Steel Fencing and Fabric:
    a. Allied Tube and Conduit Corp.
    b. Master - Halco
    c. Merchants Metals, Inc.
    d. Richard's Fence of Akron

2.2 STEEL FABRIC

A. Fabric: Comply with Chain Link Manufacturer's Institute (CLFMI) Product Manual. Furnish one-piece fabric widths for fencing up to 16' high. Wire size includes zinc coating with 2.0 oz. per square foot of surface, galvanized after weaving, or .4 oz. aluminized coating.
    1. Tower Site: 2" mesh, 9 gage, 6' high fencing.

B. Selvage: Fabric shall be knuckled at both selvages.

C. Polyvinyl Chloride (PVC) Finish: Comply with ASTM F 668 2a and 2b, with core diameter (gage) measured prior to application of PVC coating and including the zinc coating. PVC coating shall be thermally fused and bonded to the zinc coated steel core wire. PVC coating shall be dark green or similar color and shall be selected by Owner from manufacturer's standard color options at no additional cost.

2.3 FRAMING AND ACCESSORIES

A. Steel Framework, General: Galvanized Steel, ASTM A 120 or A 123 with not less than 1.8 oz. zinc per square foot of surface. All framework shall match fabric.

    1. Fittings and Accessories: Galvanized Steel, ASTM A 153. All fittings and accessories shall match fabric.
    2. Polyvinyl Chloride (PVC) Finish: Provide framework, fittings, and accessories with manufacturer's standard polyvinyl chloride (PVC) finish thermally bonded and adhered to a cured primer applied over zinc-coated steel, not less than 10 mils thick. Color shall match fabric.

B. End, Corner, and Pull Posts:

    1. Up to 12' fabric height: 2.875" OD schedule 40 pipe weighing 5.79 pounds per linear foot, galvanized inside and out.

C. Line Posts:

    1. 5' to 12' fabric height: 2.375" OD schedule 40 pipe weighing 3.65 pounds per linear foot, galvanized inside and out.
    2. Up to 4' fabric height: 1.9" OD schedule 40 pipe weighing 2.75 pounds per linear foot, galvanized inside and out.

D. Top Mid-rail and Bottom Rail: In twenty-one or twenty-four foot lengths with expansion type couplings, approximately 6" long, for each joint. Provide means for attaching top and bottom rail securely to each gate corner, pull and end post.

1. 1.66" OD pipe, 2.27 pounds per linear foot.
2. Mid-Rail: Same as top and bottom rail and used when fence fabric is 10' and higher.
3. Provide manufacturer's standard galvanized steel rail end cup for each end.

E. Tension Wire: 7 gage, coated coil spring wire.

1. Locate at bottom of fabric if bottom rail is not specified.

F. Fabric Ties: 9-gage aluminum wire.

G. Hog Rings: 11 gage galvanized steel.

H. Post Brace Assembly: Manufacturer's standard adjustable brace at end and gate posts and at both sides of corner and pull posts, with horizontal brace located at mid-height of fabric. Use same material as top rail for brace, and truss to line posts with 0.375" diameter road and adjustable tightener.

I. Post and line Caps: Provide weather tight closure cap for each post. Provide line caps with loop to receive tension wire or top rail.

J. Tension or Stretcher Bar: One-piece lengths equal to full height of fabric, with minimum cross-section 3/16" x 3/4". Provide one for each gate and end post, and two for each corner and pull post.

K. Tension or Stretcher Bar Bands: Space not over 15" o.c., to secure bars to end, corner, pull, and gate posts.

L. Concrete for footers: ODOT items 499 and 511 (Class C, F, or S).

2.4 SWING GATES

A. Fabrication: Fabricate perimeter frames of gates from metal and finish to match fence framework. Assemble gate frames by welding for rigid connections, providing security against removal or breakage connections. Provide horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware and accessories. Space frame members maximum of 8" apart unless otherwise indicated.
1. Provide same fabric as for fence, unless otherwise indicated. Install fabric with stretcher bars at vertical edges and at top and bottom edges. Attach stretcher bars to gate frame at not more than 15" on center.
2. Install diagonal cross bracing consisting of 3/8" diameter adjustable length truss rods on gates to ensure frame rigidity without sag or twist.
3. Fabricate perimeter frames of minimum 1.90" OD pipe.
4. All gates with a 6' opening or larger shall be double swing.

B. Gate Posts: Furnish posts for supporting single gate leaf, or one leaf of a double gate installation, for nominal gate widths as follows:

Leaf Width	Gate Post	lbs./lin. ft.
Up to 6’	2.875” OD Pipe	5.79
Over 6’ to 13’	4.000” OD Pipe	9.11
Over 13’ to 18’	6.625” OD Pipe	18.97
Over 18’	8.625” OD Pipe	28.55

C. Gate Hardware: Provide hardware and accessories for each gate, galvanized per ASTM A 153, and in accordance with the following:

1. Hinges: Size and material to suit gate size, non-lift-off type, offset to permit 180-degree gate opening.
2. Latch: Forked type to permit operation from either side of gate, with padlock eye as integral part of latch.
3. Keeper: Provide keeper for vehicle gates, which automatically engages gate leaf and holds it in open position until manually released.
4. Lock: Owner will provide lock for gate.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Do not begin installation and erection before final grading is completed, unless otherwise permitted.

1. Fabric shall be applied to the ‘security’ side of framework. For sports facilities the “security” side is the playing side of the framework. For other applications, the “security” side is the outside of the framework.

B. Excavation: Drill or hand excavate (using posthole digger) holes for posts to diameters and spacings shown.

1. Posts shall be spaced a maximum of 10’ on center.
2. If not indicated on drawings, excavate holes for each post to minimum diameters as recommended by fence manufacturer, but not less than 4 times largest cross-section of post.
3. Unless otherwise indicated, excavate hole depths approximately 3” lower than post bottom, with bottom of posts set not less than 36” below finish grade surface.

C. Setting Posts: Center and align posts in holes 3” above bottom of excavation.

1. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment, and hole in position during placement and finishing operations.

a. Unless otherwise indicated, extend concrete footings 2” above grade and trowel to a crown to shed water.

D. Top Rails: Run rail continuously through post caps, bending to radius for curved runs. Provide one expansion coupling for every five couplings.

E. Mid-Rails: Provide mid-rails as indicated. Install in one piece between posts, using line rail clamps necessary.

F. Bottom Rail: Provide as indicated. Install in one piece between posts using line rail clamps where necessary.

G. Brace Assemblies: Install braces so posts are plumb when diagonal rod is under proper tension.

H. Tension Wire: Install tension wire at bottom of fabric. Fasten fabric to tension wire using hog rings 24” on center.

I. Fabric: Leave approximately 1” between finish grade and bottom selvage, unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Install fabric on security side of fence, and anchor to framework so that fabric remains in tension after pulling force is released.

J. Tension or Stretcher Bars: Thread through and clamp to fabric and secure to posts with metal bands spaced 15” on center.

K. Swing Gates: Install gates plumb, level, and secure for full opening without interference. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

L. Tie Wires: Tie fabric to line posts, with wire ties spaced 12” on center. Tie fabric to rails and braces, with wire ties spaced 24” on center. Tie fabric to tension wires, with hog rings space 24” on center.

M. Fasteners: Use 5/16” x 1-1/4” galvanized carriage bolts with hex nut. Install so head of carriage bolt is on the ‘secure’ side of the fence.

END OF SECTION 323113

SECTION 329200.19 – SEEDING AND MULCHING

PART 1 - GENERAL

1.1 SUMMARY

A. Installation of seeded areas shall be to the extent shown on Contract Drawings and shall include supplying all seed, topsoil, soil conditioning materials, mulching materials and watering, and the incorporation of these materials into the work as specified.

B. The Contractor shall place topsoil at the depths specified in those areas requiring seeding. Topsoil shall be furnished by the Contractor.

1.2 SUBMITTALS

A. Product Data: For the following:

1. Provide copies of soils tests for both new topsoil (provided) and onsite topsoil for review and approval. This applies to all areas that require seeding, including reconditioned areas.

2. Provide location of properties from which topsoil is to be obtained, names and addresses of owners, depth to be stripped, and crops grown in the past 2 years.

3. Provide the name of the seed supplier, name and phone number, list of the seed, including varieties of seed, labels, and an analysis of the seed for review, 4 weeks prior to the start of seeding.

4. Provide soil amendments information based on soils test requirements.

5. Hydroseed mixture, mulch and application rates prior to performing the work.

1.1 QUALITY ASSURANCE

A. Any subcontracted restoration work shall be performed by a qualified firm specializing in landscape work.

B. The Contractor shall have a soils test done at his expense and analyzed by a state approved testing agency. Soil tests shall be done on both the topsoil stockpiled from the site and new topsoil brought to the site. A minimum of two (2) tests shall be done. The tests shall include percent organic matter, pH, Buffer pH, Phosphorus, Exchangeable Potassium, Calcium, Magnesium, Cation Exchange Capacity and Percent Base Saturation with recommendations for nitrogen, phosphate, potash, magnesium and lime based on plant type and use.

C. Seed: All seed specified shall meet O.D.O.T. specifications as to the percentage purity, weed seed, and germination. All seed shall be approved by the State of Ohio, Department

of Agriculture, Division of Plant Industry, and shall meet the requirements of these specifications.

D. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.

1.4 PROJECT CONDITIONS

A. Utilities: Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.

B. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, such conditions shall be rectified by the Contractor before planting, with approval from the Owner's Representative.

C. Soil Stabilization: The Contractor shall provide permanent or temporary soil stabilization to denuded areas within fifteen (15) days after final grade is reached on any portion of the site. Any such area which will not be regraded for longer than fifteen (15) days shall also be stabilized. Soil stabilization includes any measures which protect the soil from the erosive forces of raindrop impact and flowing water. Applications include seeding and/or mulching, or the use of other erosion control measures as directed by the Owner's Representative. If necessary, the Contractor shall coordinate soil stabilization practices with the local Soil and Water Conservation District.

D. Spring-sown work shall be installed between April 1st and May 30th and Fall-sown work shall be installed between September 1st and October 15th. No permanent seeding shall take place between May 30th and September 1st and between October 15th and April 1st. The dates for seeding may be changed at the discretion of the Owner's Representative.

PART 2 - PRODUCTS

2.1 TOPSOIL

A. Topsoil shall be furnished by the Contractor. Stockpiled material, if any, shall be utilized prior to obtaining additional topsoil.

B. All topsoil shall conform to the U.S. Department of Agriculture soil texturing triangle and shall contain between 3% to 8% organic matter. Topsoil shall be loamy and not consist of more than 38% clay. New topsoil shall be screened to remove clay lumps, brush, weeds, litter, roots, stumps, stones larger than ½" in any dimension and any other extraneous or toxic matter harmful to plant growth.

New topsoil shall be obtained only from naturally well drained sites where topsoil occurs in a depth of not less than 4". Do not obtain from bogs or marshes.

C. Soil amendments shall be added according to the soils test requirements. Amendments can include, but are not limited to fertilizer, lime, compost, sand, and organic matter. Organic matter shall consist of composted leaves or other approved material.

2.2 SEED

A. Seed shall be vendor mixed, delivered in original bags and shall be proportioned as follows:

Common Name	Proportion by Weight
Kentucky Blue Grass	50%
Perennial Rye	50%

2.3 MULCH

A. Mulch shall be clean straw free of seed and weed seed.

1. Anchoring for mulch shall be an ODOT specified SS-1 at 60 gal./ton non-toxic tackifier such as Hydro-stik, or equal, or by securing with a photo degradable netting.

B. If hydroseeding is used, wood fiber mulching material shall be used and shall consist of virgin wood fibers manufactured expressly from whole wood chips and shall conform to the following specifications.

- Moisture content	10.0% $\pm$ 3.0%
- Organic content	99.2% $\pm$ 0.8% O.D. Basis
- pH	4.8 $\pm$ 0.5
- Water holding capacity, minimum (grams of water per 100 grams of fiber)	1,000

Wood fiber mulching material shall be processed in such a manner as to contain no growth or germination inhibiting factors, and must contain a biodegradable green dye to aid in visual metering during application.

PART 3 - EXECUTION

3.1 PREPARATION - GENERAL

A. Rough grading to a depth necessary to accept the specified thickness of topsoil must be approved prior to placing topsoil.

B. Loosen subgrade, remove any stones greater than ½” in any dimension. Remove sticks, roots, rubbish, and other extraneous matter.

C. Spread topsoil to a minimum depth of 4 inches, to meet lines, grades, and elevations shown on plan, after light rolling and natural settlement. Remove sticks, roots, rubbish, stones greater than 1/2" in any dimension, and other extraneous matter. Topsoil shall be tilled

thoroughly by plowing, disking, harrowing, or other approved methods. Add specified soil amendments and mix thoroughly into the topsoil.

D. Preparation of Unchanged Grades: Where seed is to be planted in areas that have not been altered or disturbed by excavating, grading, or stripping operations, prepare soil for planting as follows: Till to a depth of not less than 6 inches. Apply soil amendments and initial fertilizers as specified. Remove high areas and fill in depressions. Till soil to a homogenous mixture of fine texture, free of lumps, clods, stones, roots and other extraneous matter. Soils test requirements apply here as well.

1. Prior to preparation of unchanged areas, remove existing grass, vegetation and turf. Dispose of such material outside of project limits. Do not turn existing vegetation over into soil being prepared for seed.

   If necessary, supply and install topsoil in areas where there is no topsoil left after vegetation has been removed.

2. Apply specified soil amendments at rates specified in the soils test and thoroughly mix into upper 2 inches of topsoil. Add topsoil if existing grade has less than 4" of topsoil. Delay application of amendments if planting will not follow within two (2) days.

E. Fine grade areas to smooth, even surface with loose, uniformly fine texture. Roll, rake, and drag lawn areas, remove ridges and fill depressions, as required to meet finish grades. Remove sticks, roots, rubbish, stones greater than 1/2" in any dimension, and other extraneous matter. Limit fine grading to areas which can be planted immediately after grading.

F. Moisten prepared areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.

G. Restore areas to specified condition, if eroded or otherwise disturbed, after fine grading and prior to planting.

3.2 SEEDING

A. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage. Seed shall not be sown when the ground is frozen, muddy, or when weather conditions prevent proper soil preparation, interference with sowing and/or proper incorporation of seed into the soil.

B. Sow seed using a spreader or hydroseeder. Do not seed when wind velocity exceeds 5 miles per hour. Distribute seed evenly over entire area by sowing 3 lbs. per 1000 S.F. at right angles to each other. Total amount to equal a minimum of 6 lbs. per 1000 S.F.

C. For seed sown with a spreader, mulch shall be spread uniformly to form a continuous blanket at a rate of 100 lbs. per 1,000 S.F. Mulch shall be 1 1/2" loose measurement over seeded areas and shall be anchored.

D. Contractor has the option to hydroseed large lawn areas, using equipment specifically designed for such application. The rate of application of wood fiber mulching materials is 40 lbs./1,000 S.F. Contractor shall not hydroseed within close proximity to buildings and structures, or when unfavorable wind conditions may blow the hydroseed material onto the structure. Contractor shall clean all areas not to be seeded of overspray.

E. The seeded area shall be watered, as soon as the seed is applied, at the rate of 120 gallons per 1000 square feet. The water shall be applied by means of a hydroseeder or a water tank under pressure with a nozzle that will produce a spray that will not dislodge the mulching material. Cost of this watering shall be included in the cost of seeding and mulching.

3.3 DORMANT SEEDING METHOD

A. Seeding shall not take place from October 15 through November 20. During this period prepare the seed bed, add the required amounts of lime and fertilizer, and other amendments, then mulch and anchor.

B. From November 20 through April 1, when soil conditions permit, prepare the seed bed, lime and fertilize, apply the selected seed mixture, mulch, and anchor. Increase the seeding rate by 50 percent.

3.4 RECONDITIONING EXISTING LAWNS

A. A soils test shall be required for existing lawns prior to any reconditioning.

B. Recondition all existing lawn areas damaged by Contractor’s operations including storage of materials and equipment and movement of vehicles. Also recondition existing lawn areas where minor regrading is required.

C. Provide soil amendments as called for in the soils test.

D. Provide new topsoil, as required, to fill low spots and meet new finish grades.

E. Cultivate bare and compacted areas according to the topsoil specifications.

F. Remove diseased and unsatisfactory lawn areas; do not bury into soil. Remove topsoil containing foreign materials resulting from the Contractor's operations, including oil drippings, stone, gravel, and other loose building materials.

G. All work shall be the same as for new seeding.

H. Water newly planted seed areas. Maintenance of reconditioned lawns shall be the same as maintenance of new lawns.

3.5 ESTABLISHMENT

A. Maintain work areas as long as necessary to establish a uniformly close stand of grass over the entire lawn area. A uniformly close stand of grass is defined as the seeded areas having

90%+ coverage of grass at 60 days after seeding. 90%+ coverage is defined as very little or no dirt showing when seeded area is viewed from directly overhead.

B. Maintain lawns by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading and replanting as required to establish a smooth acceptable lawn.

1. Mowing
   a. Mow lawn areas during the period of maintenance to a height of 2 inches whenever the height of the grass becomes 3 inches. A minimum of 3 mowings is required during the period of maintenance.
2. Refertilizing
   a. Distribute fertilizer on the seeded area between August 15 and October 15, during the period when grass is dry, and in accordance with the manufacturer's recommendations. The fertilizer shall be as specified in the soils test.
3. Reseeding
   a. Reseed with the seed specified for the original seeding, at the rate of 4 lbs. per 1,000 S.F. in a manner which will cause minimum disturbance to the existing stand of grass and at an angle of not less than 15 degrees from the direction of rows of prior seeding.
4. Watering
   a. The Contractor shall keep all work areas watered daily to achieve satisfactory growth. Water shall be applied at a rate of 120 gallons per 1,000 square feet. If water is listed as a pay item, it shall be separately paid for based on the actual amount of water used, measured in thousands of gallons.
5. Any mulching which has been displaced shall be repaired immediately. Any seed work which has been disturbed or damaged from the displacement of mulch shall be repaired prior to remulching.

3.6 INSPECTION AND ACCEPTANCE

A. When seeding work is complete and an acceptable stand of growth is attained, the Contractor shall request the Owner's Representative to make an inspection to determine final acceptance.

B. Acceptance shall be based upon achieving a vigorous uniformly stand of the specified grasses. If some areas are satisfactory and some are not, acceptance may be made in blocks, provided they are definable or bounded by readily identified permanent surfaces, structures, or other reference means. Partial acceptance decisions may be made by the Owner's Representative. Excessive fragmentation into accepted and unaccepted areas shall not be allowed. Unaccepted areas shall be maintained by the Contractor until acceptable.

C. No payment shall be made until areas are accepted.

D. All seeded areas shall be guaranteed for one full growing season to commence upon final acceptance of the areas.

END OF SECTION 329200.19

SECTION 331113.01 – WATER UTILITY DISTRIBUTION SYSTEM

PART 1 – GENERAL

1.1 SUMMARY

A. Furnishing all labor, materials, tools, equipment, and services for all waterlines as shown on the Drawings.

B. Although such is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a functional and complete installation.

1.2 RELATED DOCUMENTS AND SECTIONS

A. Drawings and general provisions of the Contract, including General Conditions, Supplementary Conditions (if included), and Division 1 Specifications Sections, apply to this section.

B. Section 013543 – Environmental Protection

C. Section 013319 – Field Testing Requirements

D. Section 016600 – Product Handling and Protection

E. Section 310000 – Earthwork

1.3 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

A. Granular pipe bedding and cover material specified in Section 310000 – Earthwork.

B. Special backfill material specified in Section 310000 – Earthwork.

1.4 DEFINITIONS

A. Bedding: Material placed under, beside and directly over pipe for the full width of the trench up to a distance of 12 inches over the top of the pipe barrel prior to subsequent backfill operations.

1.5 SUBMITTALS

A. Manufacturer's Affidavit: The manufacturer shall furnish an affidavit indicating that all pipe, fittings, valves, fire hydrants, and appurtenances have been manufactured and tested in accordance with the requirements of the applicable referenced Standards. A copy of the affidavit indicating the Project on which the material is to be used, shall be forwarded to ENGINEER prior to construction.

B. Method of construction with detailed drawings and written descriptions of the entire construction procedure to insert the pipe, and connections to water services, fire hydrants, and intersecting water mains. Drawings shall show, but are not limited to, excavation locations, access pits, dimensions, shoring, method of dewatering, adjacent utilities, and traffic control.

C. Shop Drawings: Submit per 013323.

1.6 REFERENCES

A. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings

B. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems

C. AWWA C110 - Ductile-Iron and Gray-Iron Fittings

D. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

E. AWWA C116 - Protective Fusion-Bonded Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings

F. AWWA C150 - Thickness Design of Ductile-Iron Pipe

G. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast

H. AWWA C153 - Ductile-Iron Compact Fittings

I. AWWA C213 - Fusion-Bonded Epoxy Coatings and Linings for Steel Water Pipe and Fittings

J. AWWA C301 - Prestressed Concrete Pressure Pipe, Steel-Cylinder Type

K. AWWA C400 - C400-03: AWWA Standard for Asbestos-Cement Pressure Pipe, 4 In. through 16 In. (100 mm through 400 mm), for Water Distribution Systems

L. AWWA C502 - Dry-Barrel Fire Hydrants

M. AWWA C504 - Rubber-Seated Butterfly Valves

N. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service

O. AWWA C515 - Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service

P. AWWA C550 - Protective Interior Coatings for Valves and Hydrants

Q. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances

R. AWWA C651 - Disinfecting Water Mains

S. AWWA C800 - Underground Service Line Valves & Fittings

T. AWWA C810 – Replacement and Flushing of Lead Service Lines

U. ASTM A36 - Standard Specification for Carbon Structural Steel

V. ASTM A47 - Standard Specification for Ferritic Malleable Iron Castings

W. ASTM A48 - Standard Specification for Gray Iron Castings

X. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings

Y. ASTM A181 - Standard Specification for Carbon Steel Forgings, for General-Purpose Piping

Z. ASTM A183 - Standard Specification for Carbon Steel Track Bolts and Nuts

AA. ASTM A307 -Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength

BB. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings

CC. ASTM B88 - Standard Specification for Seamless Copper Water Tube

DD. ASTM B124 - Standard Specification for Copper and Copper Alloy Forging Rod, Bar, and Shapes

EE. ANSI B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings

FF. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft3 (600 kN-m/m3))

1.7 QUALITY ASSURANCE

A. Comply with all provisions of Section 014323 – Qualifications of Tradesmen.

B. Comply with all provisions of Section 014126 – General Regulations and Permits.

C. Field samples shall comply with Section 013319 – Field Test Reporting and Section 013326 – Product Testing and Certifying.

D. Before and during installation, the Contractor shall comply with provisions under Section 013119 – Project Meetings.

E. All pipes, fittings, valves, fire hydrants and appurtenances shall be appropriately marked for identification purposes. The materials and methods of manufacture, and completed pipes, fittings, valves, and appurtenances shall be subject to inspection and rejection at all times. OWNER and ENGINEER have the right to make inspections.

1.8 PROJECT CONDITIONS

A. Existing Conditions
   1. Verify locations of underground utilities.
   2. Protect existing structures and utilities from damage. Repair if damaged by this work.
   3. Do not change pipe sizes without securing written approval of Engineer.

B. Field Measurements
   1. If it becomes necessary to change location of waterlines due to underground utility interference, secure approval of Engineer.
   2. If Contractor initiated, make changes approved by the Engineer without added cost to Owner.

1.9 DELIVERY STORAGE AND HANDLING

A. Deliver products to the site, store and protect under provisions of Section 016600 – Product Handling and Protection.

B. Comply with all provisions of Section 013543 – Environmental Protection

C. At no time shall other pipes or material be placed in the pipes.

D. Repair damage to pipe exterior and interior surfaces; pipe so damaged subject to rejection

1.10 SEQUENCING AND SCHEDULING

A. Perform no pipe work in fill areas until embankment or fill has been completed to at least two (2) feet above proposed top of pipe and fill has been properly compacted.

PART 2 – PRODUCTS

2.1 WATER MAIN PIPE AND FITTINGS

A. Ductile Iron Pipe and Ductile Iron Fittings
   1. Water Mains and piping within the Water Tank shall be ductile iron pipe, cement lined and manufactured in accordance with ANSI/AWWA c151/A21.51 with a thickness class of 52. All pipes, unless otherwise specified, shall be furnished with push-on type joints, such as tyton or fastite with restrained type joints provided within the lengths noted on the drawing, and be in accordance with ANSI/AWWA C111/A21.11.
   2. Fittings: Shall be ductile iron and manufactured in accordance with ANSI/AWWA C110/A21.19 or ANSI/AWWA C153/A21.53 (For Compact Fittings). All fittings and accessories shall be furnished with mechanical type joints in accordance with ANSI/AWWA C111/A21.11.
   3. Exterior Coating: Asphaltic material. Fittings may be coated with a fusion-bonded epoxy coating in accordance with AWWA C116.

4. Interior Lining: AWWA C104 cement mortar with seal coat, or AWWA C116 fusion-bonded epoxy coating
5. Joints: Push-on, with joints within the lengths noted on Drawings to be restrained type joints.
    a. Restrained Push-on Joints shall be completely boltless; McWane Super-Lock, American Flex-Ring, U.S. Pipe TR Flex, or as approved.
    b. Restrained mechanical joints shall be Megalug as manufactured by EBAA Iron, Inc., or as approved, of ductile iron and with a working pressure of at least 250 psi and a minimum safety factor of 2:1. Minimum length of cut pieces of water main that may be reused is five LF.
6. All fittings, bends, tees, plugs, etc. shall be tied to the water main with M.J. type connections, either tie rods or Mega-lugs. Tie rods shall be ¾" diameter stainless steel. For 8" diameter pipe use four rods.
7. Water mains shall typically have 4 ft. of cover, measured from the top of pipe vertically to the final finish ground grade or as shown specifically on the plans or as directed by the Authority Having Jurisdiction (AHJ), or that of the Engineer.

2.2 VALVES

A. Materials
1. Gate valves shall be resilient seat, non-rising stem with mechanical joint type ends, which meet the requirements of AWWA C509. Mechanical joint ends shall comply with AWWA C111; except for tapping valves. The operating nut shall be 2" square, which opens to the left. Valves shall come equipped with a double O-ring seal stuffing box and have an epoxy coating on all exterior surfaces, which complies with AWWA C550.
2. Butterfly valves shall be of the size shown on the plans and meet or exceed all applicable requirements of ANSI/AWWA C-504 with a maximum working pressure of 250 PSIG. The valve shall have a ductile iron body conforming to ASTM A-536 with mechanical joint ends. All exterior surfaces shall have an epoxy coating, which complies with AWWA C-550. The actuator shall be manually operated with a 2" square nut, which opens COUNTER CLOCKWISE (LEFT).

B. Tapping sleeves
1. Tapping sleeves shall have a stainless steel body with a ductile iron flanged outlet, which complies with ANSI B16.1, Class 125 and with MSS SP-60. The gasket shall completely surround the inside of the stainless steel body.
2. The sleeve shall come equipped with a .75" NPT Brass test plug.
3. Maximum working pressure for4" – 12" sizes (250 psig) and for 14" – 24" sizes (200 psig).

C. Gate or Tapping Valves
1. Tapping valves shall meet or exceed all applicable requirements of ANSI/AWWA C509. The inlet flange shall comply with ANSI B16.1, class 125 drilling.
2. The mechanical joint outlet shall comply with ANSI/AWWA C111.
3. The valve shall have a non-rising stem (NRS). The operating nut shall be 2" square, which opens to the left.
4. Valves shall come equipped with a double O-ring seal stuffing box and have an epoxy coating on all exterior surfaces, which complies with AWWA C550.

D. Insertion Valves and Sleeves
   1. Manufacturers: Insert A-Valve by Advanced Plow Technologies, Quik-Valve, by Romak Industries, Team Insert Valve, or approved equal.
   2. Rated for 250 psi service.

E. Protective Coatings
   1. All iron parts of valve assemblies shall be painted before leaving the shop.
   2. All exterior and internal waterway ferrous surfaces of each valve, except finished or bearing surfaces shall be shop painted with a liquid or powder epoxy coating of approximately 10 mils dry film thickness conforming to AWWA C550.

F. Extension Stems and Stem Guides
   1. When required by drawings, schedule or project details, provide an extension stem made of cold-rolled steel material and the same size as the stem of the valve it operates. If the extension is more than 8 ft. long, intermediate stem guides shall be installed and supported from the wall by suitable brackets at a maximum spacing of 8 ft. Operating nut shall be located approximately 4 feet below grade.
   2. Brackets and stem guides shall be made of cast iron and fully adjustable. The guide block shall be bronze bushed where it contacts the extension stem. Stem guides shall be as manufactured by the Eddy Valve Co., Rodney Hunt, or equal. Secure stem guides to walls with stainless steel bolts. In the event of off-set of misalignment, provide off-set extension road with universal end fittings at valve actuator and stem drop connection.
   3. Extension stem shall have connecting socket for 2-inch square nut and pin socket to lock on valve operating nut.

G. Valve Boxes
   1. Valve boxes shall be cast iron, 5-1/4" shaft, three-piece screw type, adjustable boxes. The top section to have a drop lid of which to be marked for service, which it is, used cast thereon. Cover and boxes shall be round pattern.
   2. Provide proper base size and shape to straddle the valve bonnet without touching or being supported by the valve mechanism. Use No. 6 base size for 6-inch and 8-inch gate valves or typical butterfly valve operators, No. 160 oval base size for 12-inch and larger gate valves or other size necessary to suit a particular valve manufacturer's requirements.
   3. Extension sections shall be provided where the depth of trench is such that they are needed to bring the top of the box to finished grade. The valve box shall be installed so that it is perfectly vertical and centered on the valve operating nut.

2.3 FIRE HYDRANT ASSEMBLIES

A. Includes fire hydrant, watch valve and valve box, piping, and appurtenances.

B. Fire Hydrant:
   1. Fire Hydrant Assemblies shall consist of:
      a. Mechanical Joint Anchor Tee
      b. 6” M.J. x M.J. Gate Valve and Box
      c. 6” Ductile Iron Pipe (Length Varies)
      d. Fire Hydrant (see below)
      e. All Necessary Appurtenances
      f. 5.25” Extension Kit (If Required)
   2. Manufacturers: American Flow Control, Kennedy, Mueller, or as approved, to match rest of water system
   3. AWWA C502, compression type, 5-1/4-inch valve opening, open by turning left (counterclockwise); traffic model with frangible barrel section and stem coupling; positive operating drain valve installed in open position; 6-inch mechanical joint base, designed so water hammer will be prevented when properly operated. If drain valve, install with drain valve plugged.
   4. Two 2-1/2 inch hose nozzles, and one 4-1/2-inch pumper nozzle.
   5. Suitable for setting in trenches of depths and in locations shown; CONTRACTOR responsible for determining hydrant depth of bury based on locations shown.
   6. Verify that the direction of opening, hydrant pumper nozzle, operating nut, outlet nozzle cap nuts and hose threads conform to those in the system before the new hydrants are shipped.

C. Watch Valves and Valve Boxes: Watch valves and valve boxes shall be gate valves and valve boxes as specified in Article 2.2, with valves to have ends suitable for receiving the spigot end of 6-inch anchoring pipe.

D. Piping:
   1. Ductile Iron Pipe: AWWA C150, AWWA C151; asphaltic material, or AWWA C116 fusion-bonded epoxy exterior coating, AWWA C104 cement mortar with seal coat, or AWWA C116 fusion-bonded epoxy interior lining.
   2. AWWA C110 or C153 mainline tees with standard mechanical joint branch for connecting to anchoring pipe and fittings, and mechanical joint anchoring type branch when connecting to a watch valve; coated and lined as specified for pipe. C153 fittings to be polyethylene encased when buried.
   3. Anchoring pipe, plain end mechanical joint type incorporating an integral cast shoulder and follower gland.
   4. Anchoring Pipe Manufacturers: American Cast Iron Pipe Company, Clow corporation, United States DI Pipe and foundry company, or as approved.

2.4 JOINT BOLTS AND NUTS

A. Unless otherwise specified or noted, bolts and nuts on buried piping shall be low alloy steel cathodic to pipe with a minimum yield strength of 45,000 psi, and all other bolts and nuts shall be low carbon steel, ASTM A307, Grade B, zinc-plated.

2.5 THRUST BLOCKS

A. Thrust blocks shall meet all applicable requirements of ODOT Item 638
   1. Concrete: Class QC1 conforming to ODOT 499.
   2. Straps and Anchors for Thrust Blocks: Galvanized steel.
   3. Cold Galvanizing Compound: ZRC Products Company, or as approved.

2.6 SPARE PARTS

A. Hydrant Wrenches: Provide 2 spare hydrant wrenches with pentagon hydrant nut operator on handle, constructed of stainless steel, and a minimum length of 36-inches.

B. Valve Keys: Provide 2 spare valve keys with standard AWWA valve nut operator. Valve keys shall be 8 feet long and have a 4 ft long turn handle centered at top.

2.7 POLYETHYLENE ENCASEMENT

A. AWWA C105, 8 mil linear low-density polyethylene tube or 4 mil high density, cross-linked polyethylene tube; 2-inch-wide plastic-backed, adhesive tape, bond to both metal surfaces and polyethylene film.

PART 3 – EXECUTION

3.1 ALIGNMENT AND GRADE

A. Horizontal and Vertical Control
   1. All horizontal and vertical control required for the complete layout and performance of the Work under this contract shall be done by a registered surveyor at the Contractor's expense, and any observations by the Engineer of the Contractor's methods will not relieve the Contractor of his responsibility.
   2. The Contractor shall be solely responsible for the accuracy of all horizontal and vertical control.

B. Alignment and grade shall be established by means of a laser beam.

3.2 PREPARATION

A. String pipe sections along the route of the mains so as to interfere least with pedestrian and vehicular traffic and to protect the pipe.

B. Excavate trench for Work of this Section; follow Section 310000.

C. Location of service connections and insertion valves indicated are approximate. Final locations will be established during construction by OWNER.

D. Do not install service connections until new mains have been successfully tested, disinfected, and placed in service.

E. Prior to ordering tapping sleeve assembly, expose existing main and verify circumference of existing pipe.

F. Prior to ordering insertion valve and sleeve assembly, expose existing main at point of installation and verify circumference, actual caliper diameter and roundness of existing pipe. In addition, identify the exterior condition of the pipe with respect to pitting, scaling, electrolysis, or other defects which would affect manufacturing dimensions or exact location of the insertion.

3.3 BEDDING

A. Place bedding material at trench bottom and shape for accurate placement and proper support of pipe.

B. Place in 6 inch layers, loose measurement, and compact by hand or mechanical tamping to not less than 95 percent of maximum density as determined in accordance with ASTM D698 (Standard Proctor).

C. Carefully place and tamp so as not to damage or displace joints or pipe. Do not drop material directly on pipe.

D. Maintain optimum moisture content of bedding material to attain required compaction density.

E. Construct thrust blocks at fittings, dead ends, and valves as shown. Place against firm, undisturbed soil. Provide straps and anchors as indicated; repair cuts and other damage to galvanized surfaces by applying two coats of cold galvanizing compound. Securely strap or block plugs and caps.

3.4 PIPE INSTALLATION AND FITTINGS

A. The Contractor shall furnish all of the proper tools and equipment required for the safe, proper handling and laying of all pipe, fittings, and specials that are to be installed in this work. All storage, handling, laying, and backfill methods shall be performed so as to avoid damaging either the interior or the exterior surfaces of all pipe fittings, specials, joint materials, or other appurtenances, and any such damage shall be remedied at the Contractor's expense.

B. Before any pipe is lowered into the trench, it shall be inspected for damage, and any unsatisfactory lengths shall be rejected. Cast metal pipe and fittings shall be inspected for cracks by ringing with a light hammer while suspended. The interior and exterior of each pipe length used shall be cleaned as necessary to remove all dirt or other foreign material before it is inspected. The interior of the pipe shall be kept clean until the work is accepted.

C. Install water mains at a minimum 10 foot horizontal distance from sewers and manholes and at a minimum 18 inches vertical distance from sewers at their crossing, both as measured between the outside of pipe walls. At crossings, install one full length of water line pipe so both joints will be as far from the sewer as possible.

D. No pipe shall be laid in water, mud or when trench conditions or weather is unsuitable for such work.

E. If mud, surface water, leaves and/or other debris have been permitted to enter the strung-out pipe, the inside shall be cleaned with a strong hypochlorite solution after all such foreign materials are completely cleaned from the pipe and before the pipe is lowered into the trench.

F. Pipe shall not be pushed off the bank nor shall it be permitted to fall into the trench. Each type of pipe, fitting, special or other appurtenances shall be handled in strict accordance with recommendations of its respective manufacturer.

G. Install pipe in locations and at grades shown or specified, except as otherwise permitted ordered by Engineer to avoid existing or proposed utility lines or other obstructions encountered; to secure a more readily accessible position for trenching; or to facilitate the location of various pipe appurtenances; avoid high and low points in the main.

H. No rocks, stones, metal, concrete, bricks, pavement pieces, wood, soil lumps or other hard materials too big to pass through a six (6") inch screen shall be permitted within six (6") inches of the pipe after it is laid in the trench. Any pipe endangered by such debris shall be subject to removal and disposal at the Contractor's expense.

I. When pipe laying is not in progress, the open ends of installed pipe shall be closed by appropriate means to prevent the entrance of dirt and water. In the event ground water, sewage water or other potential contaminants enter any portion of the pipeline, after it is laid, cleaning and preliminary disinfection with a strong hypochlorite solution shall be done.

J. Locate pipe to maintain clearance of 18 inches in all directions, with respect to other utilities, to allow for taps to be inserted.

K. Provide non-conducting dielectric connections wherever jointing dissimilar metals.

L. Use suitable fittings, usually 1/8 bends, when abrupt grade changes of the pipe are necessary to avoid existing utilities or other obstructions, so as to secure and easy flow of liquid and to provide sufficient cover below same unless noted otherwise.

M. Install pipe to allow for expansion and contraction without stressing pipe or joints.

N. Deflect pipe joints in strict accordance with the pipe manufacturer’s instructions. For river crossing pipe, in no case shall joint deflection exceed 15 degrees during installation and 12 degrees after installation unless otherwise approved by manufacturer.

O. With push-on joints, wipe surfaces that contact rubber gasket clean and dry just prior to making joint. Use lubricant in accordance with the manufacturer’s instructions when making joint.

P. With mechanical joints, brush surfaces that contact rubber gasket with soapy water to remove all sand and grit just prior to making joint. Provide access fittings to permit testing and disinfection

Q. When necessary to cut pipe at fittings, valves or elsewhere, the remaining portions may be used to minimize the number or scrap pieces when the Work is complete; however, scrap pieces less than 5 feet in length shall not be used.

R. Backfill Trench for work of this section. Follow Section 310000.

3.5 VALVES

A. Installation
   1. Valves shall be carefully handled and placed so as not to permit any damage to the interior coatings, disc or seat. Internal type lifting devices shall not be permitted. Do not use handwheels or stems as lifting of rigging points.
   2. All valves shall be carefully installed in their respective positions free from distortion and stress. Connecting joints shall conform to applicable requirements of the specification.
   3. Stem guides shall be accurately aligned.
   4. If the valve box is tipped or otherwise not centered on the valve, operating nut or not installed at the proper elevation, the Contractor shall, at his own expense, make whatever correction is required to remedy the defect promptly, upon notice to do so by the Engineer.
   5. Follow manufacturers recommended installation practices.

B. Testing
   1. All valves shall be tested in place by the Contractor as far as practicable under conditions for the pipelines, in which they are placed, and defects revealed in valves or connections under test shall be corrected at the expense of the Contractor to the satisfaction of the Engineer.

C. Operation and Maintenance Manuals
   1. Prior to or with the delivery of equipment, the manufacturer shall provide copies of an operation and maintenance manual including storage, installation, start-up, operating and maintaining instructions, and a complete parts and recommended spare parts list. The O & M Manuals shall be in compliance with the General Requirements of these specifications.

3.6 HYDRANTS

A. Set hydrants plumb and to grade of curb, street, alley, highway, or right-of-way with pumper nozzle toward middle line of street, highway, or right-of-way.

B. Set hydrant and watch valve on native hardwood blocking; provide stone fill up to drainage port.

C. If necessary, as determined by Engineer, to set a fire hydrant at a greater depth of bury as a result of changing hydrant location from that shown, adjust elevation by furnishing and installing the fire hydrant manufacturer’s standard barrel and stem extensions.

D. Paint fire hydrant exterior above ground level with two coats; Owner’s standards.

3.7 SERVICE CONNECTION ASSEMBLIES; BACTERIA SAMPLING AND FLUSHING ASSEMBLIES; BLOW-OFF ASSEMBLIES

A. Install assemblies as shown or noted; comply with component manufacturer's instructions.

B. For 1" curb stops or smaller and curb box installations simply place the Vadle curb box lock on a properly prepared sub base under the curb stop. Follow manufacturer's installation instructions.

C. Place stone fill under blow-off assemblies.

D. Provide drain hole where indicated for blow-off assembly.

E. Remove bacteria sampling and flushing assemblies after notice from OWNER that mains have passed all tests and have been placed in service.

F. For existing service connections to be abandoned on existing water mains to remain in service, dig up (expose) and turn off the existing corporation stop at the connection to the existing main.

G. Immediately after a lead service line replacement, property owners shall be notified to flush the service line by running water from an available outside tap or from the inside cold water tap closest to where the service line enters the home. Flush the line at full flow for 30 minutes. If the cold water tap has an aerator (or screen), then remove it prior to flushing, and rinse it free of debris prior to replacing it.

H. After flushing, install a new aerator filter or previous aerator with a new screen and have such aerator remain on tap for at least 90 days after lead service replacement.

I. Blow-Off Hydrants
   1. Eclipse model No. 85, as manufactured by the Kupferle Foundry Company (1-800-231-3990) or approved equal.
   2. Assemblies shall be self-draining, non-freezing, compression type with 2-3/16" main valve opening.
   3. The inlet connection shall be 2" DIP. The outlet size shall be 2-1/2" NST.
   4. Hydrant shall have a cast iron box, locking lid, and 2" ductile iron riser pipe.
   5. The interior operating parts shall be brass and be removable from the hydrant for servicing without excavating the hydrant.
   6. The assembly shall be set in a minimum four (4) cubic feet of #57 washed stone.
   7. The depth of bury shall be 5"-6". The top of the assembly shall be flush with the final grade of the adjacent ground.

3.8 PRIVATE SIDE LEAD SERVICE LINE REPLACEMENT

A. The work, method of construction and materials for lead service replacements as applicable, comply with AWWA Standards C651 and C810. All service connections pipe shall be as noted in paragraph 2.3.
   1. Complete all lead service line replacements in accordance with AWWA Standard C810 Replacement and Flushing of Lead Service Lines.

2. No lead service line shall be reconnected to the new water main unless there is written approval provided by the Water Utility.

B. If a private side lead service line is found proceed with the following steps.
   1. The Contractor shall leave a customer notification hanger on all points of entry to the home or business and notify the Water Utility.
   2. The Contractor shall offer each customer to replace lead service lines from the curb box or meter pit to the inlet stop, meter or water valve inside the customer's home or business. No portion of lead service lines shall remain. If the replacement is not covered under the bid items, the Contractor shall provide the Water Utility with a change order and cost estimate for the private side lead service line replacement. Upon approval from the Water Utility, the Contractor shall perform the replacement of the private side lead service line.
   3. In the event that a customer refuses a private side lead service line replacement, the Water Utility shall supply the Contractor with lead filters and pitchers that the Contractor shall distribute to this customer, including to all units of multi-unit housing buildings. The filters shall be pour-through pitcher type lead filters that are NSF/ANSI-53 certified to remove lead. The pitcher, a 3-month supply of filters and Water Utility supplied use instructions and other applicable materials shall be distributed. Records of residents whom refuse the private side lead service line replacement or filters shall be provided by the Contractor to the Water Utility.
   4. At the beginning of the day that a customer is scheduled to be connected to the new water main, the Contractor shall distribute the appropriate Water Utility provided customer notification hanger and other applicable materials on all accessible points to the home or business and in a prominent location at all multi-unit housing buildings. The appropriate door notification will be determined by (1) whether a private side lead service line remains in the project area and (2) the type of material of the individual private side service line.

3.9 JOINTING

A. The particular method of making up pipe joints shall be governed by the type of pipe material and type of joint in accordance with the drawings and/or specifications.

3.10 CONNECTION TO AND INSERTIONS INTO EXISTING MAINS

A. Existing mains into which valves are to be inserted cannot be shut down or taken out of service. The entire operation of installing the valves shall be accomplished below 100 psig at the point of installation.

B. Connect new mains to existing mains using proper fittings and in a manner acceptable to OWNER and ENGINEER.

C. Expose existing mains at connection points 10 days prior to making connections to determine elevation, verify type of pipe, confirm outside diameter of pipe, and identify type of restraints existing.

D. No cut-ins or connections to existing mains shall be made unless at least 48 hours' notice is given to OWNER and ENGINEER.

E. Plan all connecting work to reduce number of shutoffs.

F. Two days prior to shutting valves on existing lines, notify all affected property owners, local official in charge of the water works system, and ENGINEER of such shutoff.

G. Keep shutoff time to a minimum and do at off-peak hours.

H. A representative of OWNER shall operate existing valves. CONTRACTOR shall not operate existing valves.

I. OWNER and ENGINEER assume no responsibility for any delay occasioned by special requirements or conditions which must be met in making connections.

J. Take extreme care in making connections to prevent contamination of existing mains.

K. Before making cut-ins or connections to existing mains, wash all fittings, valves, and pipe with clean water, and then disinfect by washing with a chlorine solution having a residual chlorine strength of not less than 50 ppm.

L. Plugs removed from existing mains that are not damaged may be reused within the Project, and those remaining after completion of construction shall remain the property of OWNER.

3.11 LEAKAGE TESTS

A. All pipeline construction shall be subjected to hydrostatic leakage testing of each valve section, as it is completed, unless otherwise directed by the Engineer. All pipes, valves, fittings, etc. shall be laid in such a manner as to leave all joints watertight.

B. Each section of pipe being tested shall be filled slowly with water, and, before applying the specified test pressure, all air shall be expelled from the pipe. The method of obtaining and placing test water(s) into the pipeline shall be approved by the Engineer.

C. The test shall be observed by the Engineer or his designate. The Owner will furnish a pressure gauge for measuring the pressure on the water main. The Contractor shall furnish a suitable pump, pipes, bulkheads and all appliances, labor, fuel, and other appurtenances necessary to make these tests.

D. The test pressure shall be maintained for sufficient length of time to allow for a thorough examination of joints and elimination of leakage where necessary. The pipeline shall be made absolutely tight under the test pressure.

E. The Contractor shall drain each section of the waterline piping after it has been tested. If the drains are connected to valve or drain vaults, then, within a reasonable period of time after the test has been completed, the Contractor shall pump all water out of the vaults.

F. In cold weather, immediately after testing a section of the waterline piping, the Contractor shall open all valves, air cocks, by-passes, and drains; shall drain that section of the pipeline, including the bonnets of all valves contained therein, and shall take all other precautions necessary to prevent injury due to freezing to the water main, piping and appurtenances.

G. Every precaution must be taken to remove, valve-off, or otherwise protect delicate control equipment in or attached to pipelines to prevent damage or injury thereto.

H. Leakage is defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, as required to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled as herein required.

I. In calculating leakage, the Engineer will not make allowance for any leakage at the valves, the removable bulkheads, etc.

J. The evaluation of actual leakage to standard pressure leakage is calculated by the application of the ratio determined from the square root of respective pressures, other factors being equal.

K. The test pressure shall be 150 psi unless otherwise specified elsewhere in these specifications. Testing procedure shall be as specified herein for the particular pipe material contained in the section tested and shall be subject to modification as required by a particular pipeline material specification or part thereof, as contained elsewhere in these specifications.

L. For cast iron pipe (CIP) or ductile iron pipe (DIP), AWWA C600 shall govern the test, except that the allowable leakage rate shall be 12 gpd per mile of pipe per inch of diameter.

M. All defective materials and construction found in the pipeline as a result of leakage tests shall be corrected by removal of the defective materials and reconstruction with sound materials and construction. The entire section shall then be retested in accordance with the foregoing.

N. Any testing performed without the knowledge of the Engineer shall not be considered a test for the purpose of this specification.

O. The lack of hydrants, branch shutoff valves, or any other attachments to the line being tested shall not preclude the testing of each valved section as it is completed. In the event that hydrants, branch shutoff valves or any other attached appurtenances are not available for installation prior to testing of each valved section, then plugs or other approved means of containing line pressure must be utilized so as to test each valved section of main line as it is completed. A retest of each valved section will then be necessary after all appurtenances are installed. There will be no additional payment for any such retests.

P. The Contractor shall provide all pressure test equipment. The Owner shall provide all test water required and shall provide test gauges.

3.13 DISINFECTION

A. Comply with AWWA C651, except as modified by this section.

B. Prior to disinfection, all pipeline construction shall be flushed to remove any foreign material. Flushing shall be performed after completion and approval of the leakage tests. The minimum requirements for flushing are as follows:

Pipe Size	Minimum GPM Required
6"	220
8"	390
10"	610
12"	880

C. Flushing at these rates shall be continued for at least five (5) minutes. In the event the foregoing requirements cannot be met due to the Owner's facilities being inadequate, alternate rate(s) and duration(s) of flushing shall be used.

D. Disinfecting water mains shall be in accordance with AWWA C651 and as specified herein.

E. The following disinfectants may be used: Chlorine or chlorine water; calcium hypochlorite; sodium hypochlorite solution, or chlorinated lime-water mixture. Chlorine shall be applied at one extremity of a pipe section via a corporation stop (installed in the top of the pipe by the Contractor) and bled at the opposite extremity of a properly segregated section. Precautions shall be taken to prevent dosed water from flowing into the potable water supply. All high points on the section treated shall be properly vented for air escape.

F. The rate of applying the disinfectant shall provide at least 25 ppm (mg per liter) chlorine dose at the outlet end of the line section being treated. The disinfecting period shall be twenty-four (24) hours, and, at the end of this period, a chlorine residual of at least 10 mg per liter shall exist at the outlet end of the line.

In the event of unfavorable or unsanitary conditions of installation, poor packing, or high pH, the period of disinfection may be extended. For shorter periods of disinfection, higher dosages shall be required.

G. Sterilizing water shall be disposed of in a satisfactory manner by the Contractor. If the foregoing disinfection procedure fails to provide thorough disinfection of the line, it shall be repeated as necessary in the pipeline for a period of 20 - 30 days after it is placed into operation.

H. Tests for efficacy of sterilization shall be made by the Owner, and repeated sterilization shall be carried out by the Contractor when required.

I. Contractor shall provide all disinfectants and disinfection equipment. Owner shall provide all test waters needed.

END OF SECTION 331113.01

SECTION 331619 - ELEVATED STEEL TANKS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specifications sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. The Contractor shall furnish all the labor, equipment, and materials necessary to properly erect, test, and prepare for continuous operation at the location shown on the drawings, the elevated steel tank with all the appurtenances necessary for the proper completion of the work included under this contract.

B. In general, this work shall include the elevated tank complete with supporting structure, anchor bolts, hatches, overflow, blowoff valve and piping to the limits shown on the drawings. Included with the elevated tank work shall be all cleaning and painting, testing, sterilization, cathodic protection system, and accessories as specified.

C. Electrical work is included in NOTES on the Drawings and other technical specifications herein. Contractor shall establish electrical service at the Tank site. Contractor shall include an Allowance of $50,000 in accordance with SECTION 012100 for service to this site.

D. The concrete foundation design shall be furnished by the tank manufacturer and shall be in accordance with the supplementary information contained herein and as shown on the drawings.

E. Operating Parameters

Tank Capacity	300,000 gallons
Grade Elevation	EL. 791.50
Inlet/Outlet Pipe Diameter	12-inches
Fill Rate	800 gpm
HWL	EL. 999.50
LWL	EL. 967.50

1.3 QUALITY ASSURANCE

A. In addition to the requirements of these specifications, the Contractor shall comply with all manufacturer's instructions and recommendations for work.

1.4 INFORMATION TO BE SUBMITTED WITH BID

A. Each bidder shall submit with his proposal such information and will clearly define and describe his proposed design. The tank diameter, height to lower and upper capacity levels, details of foundations, etc., shall be provided. No proposal submitted by a bidder with less than 10 years' experience in the fabrication and erection of similar structures will be considered for purposes of awarding the Contract.

B. Thickness of all important plates, sections of interior structural members, ladders, connections, risers, piping and valves shall be submitted if required by the Owner.

C. The attention of the bidder is called to the submission of detailed drawings for approval prior to the manufacture or fabrication of any materials or equipment. Such drawings shall show details and dimensions of tank, tower and foundations in accord with the requirements herein and shall be accompanied by such specifications as are necessary to supplement those herein. Furthermore, the Contractor shall submit stress and strain sheets to the extent required, together with his plans for the erection of the structures and the placing of all piping, valves and equipment.

D. Tank:
   1. Submit complete plan, elevation, and sectional drawings showing critical dimensions.
   2. Indicate structural plate and support member sizes and thicknesses.
   3. Indicate weld types and sizes.
   4. Indicate water supply and overflow piping details, including fittings, expansion joints, pipe support methods
   5. Indicate ladder and ladder safety device details.
   6. Indicate handrail details.
   7. Indicate access hatch details.

E. Tank Foundation:
   1. Submit specifications for foundation concrete, describing ingredients, reinforcement, air content, slump, placement and consolidation, curing, and finishing.
   2. Indicate concrete design mix, including ingredient proportions, minimum cement content, and water-cementitious materials ratio.
   3. Submit drawings of reinforcing bars, including bar lists.

F. Submit per Section 013323.

PART 2 - PRODUCTS

2.1 TANK FOUNDATION

A. The foundation shall be designed and constructed to safely and permanently support the tank. The basis of the foundation design shall be commensurate with the soils investigation data indicated on the supplemental sheet(s) included herein at the end of these specifications in Paragraph 3.14.

2.2 GENERAL DESIGN

A. Except as otherwise specified herein, the elevated tank and appurtenant structures shall be designed and constructed in accordance with the American Water Works Association Standard Specifications for Elevated Steel Water Tanks, Designation AWWA D 100 and latest revisions thereto. The following supplementary information as referred to in the appendix of the above specifications and as listed below shall be required:

1. Tank

   a. The tank and supporting structure shall be of all-welded construction. The tank shall be cylindrical shape supported on a single pedestal. The net capacities of the tank proper shall be measured from the point of overflow to the low water level as follows:
      - 300,000 Gallon
      - 33 feet for "Pedesphere" style
      - Overflow rate = 800 gpm

   b. The tank proper shall be of watertight construction including that portion above the high-water level. All portions of the structure in contact with the water shall have a minimum thickness of 1/4" (10.2 lb./sq.ft.) and the minimum thickness of parts not in contact with water shall be 3/16" (7.65 lb./sq.ft.).

2. Tank Support
   a. For the spheroidal style tank, the tank shall be supported on a pedestal. The pedestal shall be a truncated cone gracefully flared at the top to blend into the sphere and at the bottom to provide an adequate and stable base.
   b. The tank support shall elevate the bottom of the tank to a height above the foundations equal to the difference between the specified overflow elevation and the selected head range as shown on the drawings. The support shall be dry. A 12" diameter steel insulated riser inside the 300,000-gallon tank support shall carry water from the bottom of the tank to a base elbow located below grade inside the support.

3. Strength and Stability
   a. The completed structure shall be designed to withstand safely the following loads and forces acting separately or together:
      1) Weight of structure
      2) Weight of water
      3) Wind loads incurred by wind blowing at the rate of 100 miles per hour in any direction

4) Roof snow load of 25 lb./sq.ft.
5) Earthquake Zone 1

4. Accessories - "Pedesphere" style
   a. There shall be a vent of adequate size to safely vent tank when pumping or withdrawing water at maximum rate without using overflow as a vent.
   b. A vertical ladder shall be furnished extending from grade up inside the tank support and internal access tube to a roof manhole. A second manhole shall be provided to permit entrance into the tank proper. The manholes are to be 24" in diameter and of rainproof construction.
   c. The stub overflow shall be 8 inches in diameter steel and fitted with an adequate entrance detail. It shall extend down inside the access tube and discharge at a point as illustrated on the plans.
   d. All openings in the tank or its supporting structure shall be properly reinforced as necessary to conform to applicable codes and standards.
   e. There shall be suitable and adequate painters' rings on the roof of the tank and at the top of the tank support.
   f. There shall be a manhole giving access to the outside painters' rings at the top of the tank support and a platform inside the pedestal at this point.
   g. Light sockets with conduit wiring and switch shall be provided inside the pedestal and access tube as illustrated on the drawings.
   h. All joints shall be welded.
   i. The tank support shall be vented adequately to avoid excessive humidity and condensation inside the support above and below the condensate ceiling. Power ventilation including exhaust fan and interlocked inlet louver shall be needed below the condensate ceiling.
   j. The center dry riser shall have two access manholes:
   k. Access tube shall be a minimum of 60-inch diameter
   l. A toe plate and pipe handrail shall be provided on the top of the tank for access to all manholes, lights, etc.

B. Ladders and platforms shall be designed and constructed complete with all safety accessories needed to meet the current applicable Code of General Standards of the Industrial Commission of Ohio and requirements of the Federal Occupational Safety and Health Act. All ladders, platforms, and other accessories must be of an approved design.

C. Safe Climbing Device
   1. High strength aluminum, rigid rail safe climbing devices shall be provided on all ladders. Rails shall be center mounted and extend from 3 ft. above the ladder bottom to the top of the ladder section. Mounting brackets, fasteners and splice bars shall be provided as required for a rigid installation.
   2. Three trolleys with snap hooks shall be provided that are designed to be operated with the aluminum rail. A safety body harness with front and side rings shall be supplied for each trolley. OWNER to determine size of harnesses to be provided.
   3. A caution sign shall be provided at the lowest point of access to the ladder requiring safe climbing devices. The sign shall read “CAUTION – Safety Equipment Required When Climbing Ladder”. The sign shall be secured to the wall.

D. Interior Floor
   1. A concrete slab-on-grade shall be provided inside the base cone. The floor shall be a minimum of 6 inches thick and reinforced with 6x6/W2.9 x W2.9 WWF. Isolation joints shall be provided at junctions with walls, columns, and equipment or piping foundations.

E. Personnel Door
   1. A 36" by 80" access door with a flush threshold shall be located in the base of the pedestal cone. A step over threshold is not acceptable. The door shall be fabricated from steel plate with adequate stiffening and specifically designed for use with the tank. The access door will be equipped with a handle, drip cover and dead bolt lock. Commercial hollow metal doors and frames are not acceptable. Door locking hardware shall be Schlage, commercial grade, color & model to be selected by Owner.

F. Identification Plate
   1. A tank identification plate shall be mounted near the personnel door. The identification plate shall be corrosion resistant and contain the following information.
      a. Tank Contractor
      b. Contactor's project or file number
      c. Tank Capacity
      d. Height to High Water Level
      e. Date erected

G. Level Monitoring
   1. General – Provide taps as shown on the Drawings. Each tap shall be provided with a stainless-steel nipple and an isolation valve.
   2. Pressure Gauge – Provide a pressure gauge in accordance with ASME B40.1 Grade 2A. The dial shall be 4 ½ in. diameter with black markings on white background. Pressure range is 0-100 psi.
   3. Pressure Transducer – Follow as shown on the Drawings.

H. Lightning Protection
   1. Provide a lightning protection system for the elevated tank structure and any roof-mounted equipment that may be damaged by lightning. Manufacturers' standard system shall be utilized except as modified by the Drawings.

I. Lettering & Logo: Refer to Section 098000 – Water Storage Tank Protective Coatings for Graphic Design.

J. In Tank Mixing Equipment – Follow Specification 464148.

2.3 PIPING

A. General
   1. Exterior of pipes exposed to stored water shall be coated with tank interior wet system. Exterior of pipes in the pedestal base cone shall be coated with tank interior dry system.

B. Inlet/Outlet Piping

1. Provide a 12-inch diameter standard weight steel inlet/outlet pipe that extends vertically from the base of the pedestal to the bottom of the tank. An expansion joint shall be provided in the vertical section of pipe. The expansion joint should be constructed to accommodate any differential movement caused by settlement or thermal expansion and contraction. Inlet/Outlet pipe shall not extend above the LWL. Steel pipe shall connect to the ductile iron pipe supplying the water towers, follow specification 331113.01.

C Piping in Base of the Tank, Riser Column, Tank Bowl, and Associated Appurtenances

1. Piping within the base of the tank, riser, bowl, that is exposed shall follow specification 111060 – Exposed Piping Section.

D. Overflow

1. The overflow pipe shall be designed to carry the maximum design flow rate of 1000 GPM. The steel overflow pipe will be 8-inch in diameter and shall have a minimum wall thickness of ¼". A suitable weir shall be provided with the crest at High Water Level. The overflow pipe shall extend down from the weir access tube, pedestal and base cone. The overflow pipe shall penetrate the base cone wall approximately 1 to 2 feet above grade and discharge onto a concrete splash pad. The point of discharge shall have a 45-degree elbow and be equipped with a stainless-steel screened end.

E. Pipe Insulation

1. Provide 2-inch molded rigid foam polyurethane insulation complete with vapor barrier on inlet and outlet pipes. Securely fasten the insulation to the pipe using aluminum jacketing and banding.

PART 3 - EXECUTION

3.1 TESTING

A. Upon completion of the tank and prior to painting, the tank shall be filled to the maximum working water level with potable water furnished to the tank by the Owner. Any leaks disclosed by this test in the shell, bottom and/or riser shall be repaired by chipping or melting out any defective welds and then rewelding. No repair work shall be done on any joints unless the water in the tank or riser is at least two (2) feet below the joint being repaired. This test and repair procedure shall be repeated as necessary to obtain watertight tank shell, bottom, and riser before painting.

3.2 COATING SYSTEMS

A. Preparation, application, cleaning, and materials specifications are referenced in section 098000 - WATER STORAGE TANK PROTECTIVE COATINGS.

3.3 PROTECTION

A. During the construction period, all electrical, mechanical and other equipment, apparatus and surfaces shall be protected from paint drippings and/or overspray by means of tarpaulins, burlap, wooden housing or other approved means of protection.

B. Provide an exterior containment system to prevent overspray to nearby properties, vehicles, or equipment. Containment system to be designed by an Ohio licensed structural engineer.

3.4 DISINFECTION PROCEDURE

A. After cleaning, repair and painting have been completed, the elevated steel tank shall be disinfected before being placed in service in accordance with AWWA C652-19. Method of disinfection shall be one of the following:
   1. First 5 percent of tank volume shall be filled with water containing a chlorine concentration of 50 ppm and the remaining volume with water from the existing water system
   2. Spray wet interior surfaces of tank with water containing a chlorine concentration of 50 ppm and fill remaining with water from the existing water system

B. The tank shall be filled slowly to impending overflow with potable water to which sufficient chlorine shall be added to provide a concentration of 50 ppm in the full tank. The chlorine, either as high-test calcium hypochlorite or liquid chlorine, shall be introduced into the water as early during the filling operation as possible. This may be applied through the access tube before filling the tank or a special tap may be provided in the riser and the gas-water mixture pumped into the tank as the filling is started. After the tank is filled, the concentrated chlorine solution shall stand for a period of 24 hours after which the tank shall be drained completely to waste. The tank may then be refilled and the contents tested to assure the good sanitary condition of the tank before it is placed in service. In the event that the water does not test up to accepted standards, the tank shall be rechlorinated as provided above.

C. If leakage should occur during filling, the tank shall be emptied to a point where repair can be made. All coatings shall be removed from defective areas, leaks shall be repaired and the affected areas re- coated as hereinbefore specified. The necessary repairs and recoating shall be done at the expense of the Contractor with no additional cost to the Owner.

3.5 INSPECTION

A. Inspection procedures for the steel tank shall be as required by AWWA D100, Section 11 - Inspection. Radiographic inspection of full penetration butt-welded joints shall be made by an independent inspection company retained by the Contractor.

B. All cleaning and painting shall be subject to inspection by the Owner or the Engineer. The Owner reserves the right to inspect all cleaned surfaces prior to subsequent paint applications.

C. The dry film thickness and uniformity of the coatings shall be measured using a properly calibrated Elcometer, Microtest gauge or other gauge as approved by the Engineer, which

shall be supplied by the Contractor and available for use on the site. Where film thickness measurements are in conflict, the Engineer's measurement shall prevail.

D. The finish coating on all surfaces shall be completely without defects that would permit moisture penetration when tested according to the low-voltage, wet-sponge method.

E. Any deficiencies in thickness or integrity shall be corrected by applying additional finish coats, at the expense of the Contractor.

F. Coating cure (Dry) of the Interior Coating System (Wet Surfaces) shall be monitored and documented in accordance with the coating manufacturers' product data sheet (PDS).

3.6 SAFETY PRECAUTIONS

A. The Contractor shall provide adequate and proper lighting and ventilation of the tank interior and all necessary equipment such as blowers, exhaust fans, air masks, non-sparking tools, and any other appurtenances and procedures required for the provision of a safe working environment. Manufacturers' precautions in the use and handling of materials shall be strictly adhered to.

3.7 SUBMISSIONS

A. The contractor shall submit to the Engineer the following information before any work is undertaken:
   1. The manufacturer of, and the coating system to be used;
   2. Catalog pages, product data and manufacturer's recommended methods of application.
   3. Color card indicating colors of paints to be used.

B. The coating system and colors are subject to the approval of the Owner and the Engineer. No materials shall be delivered to the site without prior approval of the Engineer.

3.8 REINSPECTION

A. After a period of ten (10) months, but not more than fourteen (14) months, the tank will be drained and inspected for durability of the work and shall include the paint (adherence, pin holes, etc.), pit repairs, seam repairs, etc. All impairments shall be corrected at the expense of the Contractor and at the Owner's convenience.

3.9 MEASUREMENT

A. For payment purposes, the elevated steel tank will be measured as a "unit of work" performed under these specifications, after it has been furnished, installed, tested, disinfected, painted and accepted for normal, continuous service by the Owner.

B. This "unit of work" shall also include all appurtenances as described herein or as shown on the drawings together with the furnishing of all labor, materials, tools and appliances needed to complete the work as specified or as shown.

3.10 PAYMENT

A. Lump Sum, refer to "Prices to Include" in the Bidding Documents.

3.14 GEOTECHNICAL INVESTIGATION

A. All Bidders are responsible for confirming on-site subsurface conditions and performing their own independent inspections to supplement the data attached to this specification.

B. See attached Technical Data from previous geotechnical investigations. This is data is for reference only and may be used at each Bidder’s discretion.

END OF SECTION 331619

SECTION 464148 - IN TANK ACTIVE MIXERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 EQUIPMENT OVERVIEW

A. These specifications provide the requirements to furnish and place into operation a submersible, active, potable water, tank mixer capable of mixing up to 300,000 gallons volume with complete mixing within 24 hours.

B. This section covers submersible tank mixing systems up to 0.5 HP in size intended for continuous use while submersed in potable water storage tanks. Each mixer shall have the ability to function continuously on a year-round basis, regardless of drain and fill cycles. Each mixer shall consist of a water-filled submersible motor, an impeller and a non-submersible control center that houses all control electronics.

C. Mixer operation shall be independent of tank drain and fill cycles to ensure constant mixing. Devices with an externally mounted pump shall not be acceptable.

1.3 REFERENCES

A. Occupational Safety and Health Administration, OSHA

B. NSF / ANSI Standard 61

C. Underwriters Laboratories Inc., UL 508

1.4 QUALITY ASSURANCE

A. The mixer shall operate continuously, 24 hours per day, using single phase, 120/240 VAC as the power source.

B. The mixer shall have no visual defects, and shall have high quality welds, assembly, and corrosion resistant finish.

C. The manufacturer of the mixer shall have a minimum of 10 years' experience in the manufacturing, installation, trouble-shooting, and repairing such equipment. Equipment manufactured in the United States is preferred.

D. Factory Witness Test: Perform witness test per testing facilities standard practices.

E. Factory Startup Services. Delivery and placement by either factory employees or Contractor; but, startup services shall be provided by full time factory employees only.

F. Warranty. The mixer shall be warranted to be free of defects in materials and workmanship for a minimum period of 3 years after substantial completion. This equipment warranty would run directly from the manufacturer of the equipment to the owner. The equipment warranty would not be part of the contract or any required bond.

1.5 SUBMITTALS

A. The CONTRACTOR shall provide the following documents as part of the Shop Drawing requirements. Equipment must meet performance requirements for intended application as verified through submittals, tests, samples or field verification services. Any equipment found not meeting the performance requirements shall be replaced by the CONTRACTOR at his expense.

1. Manufacture qualification document
2. CFD modeling or equivalent verification documents
3. List of supplied equipment
4. Manufacturer product sheets, start-up, and Warranty documents
5. Electric power source requirements
6. NSF/ANSI Standard 61 documentation
7. Factory Witness Test
8. Operation and Maintenance Manuals

PART 2 - PRODUCT SPECIFICATIONS

2.1 MANUFACTURER

A. Listing of manufacturer name or model herein does not necessarily satisfy requirements of these specifications. Equipment must meet performance requirements for intended application as verified through submittals, samples and/or field testing services. Equipment selection, number of mixers, and models have been selected based on manufacturer’s documents for sizing for this intended application. However, any equipment found not meeting the performance requirements shall be replaced by the CONTRACTOR at his expense. This may include the option to add additional mixers to achieve performance requirements.

B. The mixer(s) shall be Gridbee GS-9 as manufactured by Medora Corporation, Inc. of Dickinson, ND; PWM100 with a PCC105 PAX Control Center by PAX Water Technologies of Richmond, CA; or approved equal.

2.2 PERFORMANCE AND FEATURES

A. Complete Water Circulation Required. The tank or reservoir circulation shall be achieved by a single or multiple submerged units within the reservoir capable of providing long distance circulation of water. The mixer must be placement flexible in design to allow best hydraulic positioning for tank or reservoir conditions to prevent hydraulic short circuiting within tank or reservoir.

B. Number of units required. To meet the project objectives, the following number of mixers are required.

Qty	Model	Tank or Reservoir
1	GridBee GS9 or PAX PWM100	Harpersfield 300,000 gal tower

C. Complete Mix: Manufacturer shall provide CFD modeling or equivalent verification of capability for complete mix within the tank or reservoir as intended for this application. The mixer manufacturer guarantees that the subject tank will be completely mixed by the mixer within 48 hours of initial startup and subsequently in continuous operation of the mixer:
   1. Temperature Uniformity – shall be maintained to within 0.5 degrees C.
   2. Disinfectant Residual Uniformity – shall converge to within 0.2 mg/l at least once every 24 hours.

D. Fit Through Existing Hatch Opening. The mixer shall be capable of fitting through existing hatches without requiring disassembly or assembly. No tank cutting or patching will be permitted for the sole purpose of installation or replacement of this equipment.

E. Stainless Steel Construction. The mixer shall be constructed primarily of Type 316 stainless steel metal for strength and superior corrosion resistance.

F. Motor. The mixer shall be mechanically operated by a submersible motor that meets the following criteria:

   1. Direct Drive, with no gearbox and no lubrication maintenance required.
   2. Designed for submersible operation. Mixer design shall include flow sleeve or housing around motor to provide water flow past motor per submersible motor design criteria to lower the total motor temperature and increase winding life.
   3. Designed for Continuous Operation without overheating or compromising motor life expectancy. Constant, full speed operation, variable frequency drive or other method of speed reduction not required and not allowed.
   4. 120/240 VAC, 20 Amp, non-GFCI power source.

G. Exposed Rotating Protection. The mixer shall not have any rotating equipment openly exposed. Rotating shafts, impellers, and motors shall not be openly exposed, and in the event of any part of the mixer exterior contacting the floor or cord, it shall not cause damage to either.

H. Restraint System. The mixer shall not require any brackets, penetrations, rope, ties, or fixed connections to the tank or reservoir columns, walls, or floor below the overflow elevation. The mixer shall allow for placement and servicing without requiring tank or reservoir to be drained. The mixer shall not require the use of a diver or diving team to enter the tank or reservoir to complete placement or service of the specified equipment.

I. Functional for All Water Levels. The mixer shall function properly and not be negatively impacted by fluctuating water levels down to 5 feet of water depth. Devices requiring more than 5 feet of water depth to properly function without damage not allowed.

J. SCADA and Controls. The mixer shall have an Electric Control Box including a motor current indicator in a 4-20mA analog output and remote on/off control via 24VDC relay. The mixer equipment shall be supplied with a Control Box capable of disconnecting 120 VAC outgoing power to the mixer equipment and meeting the following criteria:

1. NEMA 4 enclosure shall be provided with protection against condensation and moisture in a marine environment.
2. Control Box shall be UL 508 Listed for sound electrical design and safety.
3. Control Box shall include exterior mounted HOA switch, definite purpose contactor for mixer control, exterior display showing green run, red fault indication, and motor operating amperage, grounding lug, 120 VAC standard three-prong male molded plug, and locking latch for security.
4. Control Box shall include configurable open collector outputs for run and fault indication, or 4-20 mA analog output scaled to motor current. Control Box shall include a 24 VDC relay to allow for remote on and off control of the mixer. Integration of 4-20 mA output and remote on/off relay into site PLC/RTU shall be provided by SCADA integrator.
5. Control Box requires a 120 VAC power source, Minimum 20 Amp rated service located near the final placement of the Control Box. SCADA and control functions of the Control Box require 24 VDC incoming power for automatic operation, run and fault indication, and 4-20 mA current output. The 120 VAC and 24 VDC power source shall be supplied by others and not the mixer equipment manufacturer.

K. Chlorine Boost Connection: The mixer shall be supplied with a connection point for injection of sodium hypochlorite. The connection point shall be compatible with a ½" (1.3 cm) diameter hose and be rated for contact with 12.5% Sodium Hypochlorite solution.

L. The complete mixer shall be NSF/ANSI Standard 61 and NSF/ANSI Standard 372 listed for safe contact with potable water.

M. Maintenance Requirements. The mixer shall operate normally with the following maintenance features.

1. No scheduled lubrication is required of any system components including motor.
2. No spare parts shall be required to be kept on hand.

N. Equipment Support. The mixer manufacturer shall offer full factory support with the following staff and support services.

1. Customer Service, Application Engineering, and Equipment Engineering staff available by email or toll free phone.
2. Field personnel for placing and servicing the specified mixer.
3. Public website with detailed information available describing the mixer for this project and related applications of this equipment into potable water tanks and reservoirs.
4. Service plans for preventative maintenance and continued technology improvements for the specified mixer.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Equipment placement shall be performed by CONTRACTOR or factory employees, and shall be verified by Manufacturer's Check Out, comply with Specification Section 017517.

B. Placement and service personnel shall have received job-specific safety training on (a) Working over Water, (b) Boating Safety, (c) Disinfecting Procedures, (d) Confined Space Entry, (e) Fall Protection, (f) Self Rescue, and/or (g) DOT Compliance, as needed for their specific work functions.

C. Equipment entering tank shall not adhere to, scratch or otherwise cause damage to internal tank coating or put undue stress on the materials of the tank construction.

D. Strain relief for power cable shall be part of the contractor-supplied fitting for tanks more than 30 feet in depth.

E. Placement and service personnel shall be equipped with job-specific safety equipment to complete the placement and startup of specified mixer following all OSHA safety regulations. Safety equipment shall include confined space, fall protection, rescue, decontamination, and communication tools such as (air monitor, ventilation fan, tri-pod, winches, FBH's, retractables, ropes, lanyards, descenders, radios, hard hats, step pools, disinfectant sprayer, etc.)

3.2 START-UP SERVICES

A. Startup, Field Testing and Performance Testing services shall be performed by full time factory employees trained in the operation of the mixer, comply with Specification Section 017517.

B. Performance in accordance with Paragraph 2.2.C shall be demonstrated and documented.

C. Provide Manufacturer's Service Representative's Report shall be provided for each site visit.

3.3 TRAINING

A. Factory employees trained in the operations and maintenance of the equipment (or their representatives) will instruct designated UTILITY personnel in the safe and proper operation of the submersible water mixer(s). This training will reference the operations manual provided with equipment, and show how to check for proper functioning of the equipment. A minimum of 4 hours of training on-site will be included.

END OF SECTION 464148

SECTION 5
SPECIFICATIONS – CONTRACT B

SECTION 011100 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 LOCATION OF THE PROJECT

A. The project is located along South River Road, Brandt Road, Atkins Road, and South Broadway.

1.2 PROJECT DESCRIPTION

A. Part B1 involves the installation of the following new waterlines in Ashtabula County:
   1. Approximately 8,000 linear feet of 8-inch waterline extending down South River Rd.
   2. Approximately 2,700 linear feet of 6-inch and 2,900 linear feet of 4-inch waterline down Brandt Rd.
   3. Approximately 1,600 linear feet of 4-inch waterline extending down Atkins Rd.

B. Part B2 involves the installation of new waterline along South Broadway in Ashtabula County. The 8-inch waterline will extend approximately 1,480 linear feet down South Broadway between Harpersfield Rd and State Rd.

1.3 SPECIFICATIONS

A. In general, these Specifications describe the work to be performed by the various trades, other than work specifically excluded. It shall be the responsibility of the Contractor and Subcontractors to perform all work incidental to their trade, whether or not specific mention is made of each item, unless such incidentals are included under another Item.

B. It is advised that the Contractor and all Subcontractors familiarize themselves with the contents of the complete Specifications, particularly for the trades preceding, following, related or adjacent to their work.

1.4 PROJECT FUNDING

A. This project is funded by WSRLA.

1.5 DRAWING SCHEDULE

A. The work to be done under this Contract is shown on the following Drawings:

Title	Sheet No.
Cover Sheet	1
Sheet Index	2-4
Legend & Symbology	5
General Notes	6-7
Construction Details	8-10
Plan and Profiles	11-43

END OF SECTION 011100

SECTION 011419 – USE OF SITE

PART 1 - GENERAL

1.1 GENERAL

A. The Contractor will be allowed the use of as much of the site designated for the improvements as is necessary for his operation.

1.2 USE OF STREETS

A. During the progress of the work, the Contractor shall make ample provisions for both vehicle and pedestrian traffic on any public street and shall indemnify and save harmless the Owner from any expense whatsoever due to their operations over said streets. The Contractor shall also provide free access to all the fire hydrants, water, and gas valves located along the line of his work. Gutters and waterways must be kept open or other provisions made for the removal of storm water. Street intersections may be blocked only one-half at a time, and the Contractor shall lay and maintain temporary driveways, bridges and crossings, such as in the opinion of the Engineer are necessary to reasonably accommodate the public.

B. In the event of the Contractor's failure to comply with these provisions, the Owner may cause the same to be done, and may deduct the cost of such work from any monies due the Contractor under this Agreement, but the performance of such work by the Owner at its instance shall serve in no way to release the Contractor from his general or particular liability for the safety of the public or the work.

C. The Contractor shall repair at no cost to the Owner, all existing roads, parking areas, grassed areas that are damaged due to the execution of his work. The Contractor shall remove daily all mud, soil and debris that may be tracked onto existing streets, drives, or walks by his equipment or that of subcontractors or suppliers.

1.3 CLOSING STREETS TO TRAFFIC

The Contractor may with the approval of the Engineer, close streets, or parts of streets, to vehicular traffic. The streets are to remain closed as long as the construction work or the condition of the finished work requires or as determined by the Engineer. The Engineer shall be the judge of how many streets or parts of streets it is necessary for the Contractor to close at any time, and may refuse to permit the closing of additional streets to traffic until the majority of the work on the closed streets is completed and they are opened to traffic.

1.4 RIGHTS-OF-WAY

A. Whenever it is required to perform work within the limits of public or private property or in rights-of-way, such work shall be done in conformity with all agreements between the Owner and the owners of such. Care shall be taken to avoid injury to the premises entered, which premises shall be left in a neat and orderly condition by the removal of

rubbish and the grading of surplus materials, and the restoration of said public or private property to the same general conditions as pertained at the time of entry for work to be performed under this contract.

B. The Contractor shall not (except after consent from the proper parties) enter or occupy with men, tools or equipment, any land outside the rights-of-way or property of the Owner.

C. When the Contractor performs construction within 10 ft. of a right-of-way or easement line, he shall place tall stakes properly identified at points of change in width or direction of the right-of-way or easement line and at points along the line so that at least two stakes can be seen distinctly from any point on the line.

1.5 EASEMENTS

A. Where the work is to be constructed upon easements, such easements will be secured by the Owner without cost to the Contractor. The Contractor shall not enter upon or occupy any private property outside of the limits of the easements furnished.

B. Care shall be taken to avoid injury to the premises entered, which premises shall be left in a neat and orderly condition by the removal of rubbish and the grading of surplus materials, and the restoration of said public or private property to the same general conditions as pertained at the time of entry for work to be performed under this contract.

1.6 PROTECTING EXISTING BUILDINGS, STRUCTURES AND ROADWAYS

A. The Contractor shall, at his own expense, shore up and protect any buildings, roadways, utilities or other public or private structures which may be encountered or endangered in the prosecution of the work, and that may not be otherwise provided for, and he shall repair and make good any damages caused to any such property by reason of his operations. All existing fences removed due to the prosecution of the work shall be replaced by the Contractor. No extra payment will be made for said work or material, but the cost of this work must be included in the price stipulated for the work to be done under this contract.

1.7 SITE FACILITIES

A. The Contractor shall furnish and place sufficient quantities of portable toilet facilities at locations convenient for use by the Contractor's personnel, Subcontractors, the Engineer, and the Owner.

1.8 RESTORATION

A. The contractor shall restore all areas per the plans and specifications and if not specified, at least to the condition existing prior to the start of work.

END OF SECTION 011419

SECTION 012513 – PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 MATERIALS AND EQUIPMENT

A. In the specifications and on the Engineer's drawings, are specified and shown certain pieces of equipment and materials deemed most suitable for the service anticipated. This is not done to eliminate other equipment and materials equally as good and efficient. The Contractor shall prepare his bid on the particular materials and equipment specified. Following the award of the contract, should the Contractor desire to use other equipment and materials, he shall submit to the Owner a written request for such change and state the advantage to the Owner and the savings or additional cost involved by the proposed substitution. The determination as to whether or not such change will be permitted rests with the Owner and the Engineer.

B. Each major item of equipment shall be inspected by a manufacturer's representative during installation and upon completion of the work. The Contractor shall supply the Engineer with a certificate of such inspection.

END OF SECTION 012513

SECTION 013119 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 PRECONSTRUCTION MEETING

A. Prior to the Contractor beginning any work on the project, the Owner will schedule and hold a preconstruction meeting to discuss all aspects of the contract work.

B. The Contractor shall be present and be prepared to comment in detail on all aspects of his work.

C. The Contractor shall bring to the preconstruction meeting a proposed construction progress schedule, erosion control plan, quality control program, concrete mix designs, asphalt mix designs (JMF), etc. Approval of each by the Engineer is required prior to the start of any work.

D. Included in the construction progress schedule shall be an implementation sequence of the proposed erosion control efforts required by the contract.

1.2 PROGRESS MEETINGS

A. Monthly progress meetings will be held at a location to be determined by the Owner on a regularly scheduled day mutually convenient to the Owner, Contractor, and Engineer.

B. The Contractor shall provide an updated construction progress schedule and be prepared to comment in detail on all aspects of his work.

END OF SECTION 013119

SECTION 013216 – CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 PROGRESS SCHEDULE

A. Immediately after signing the Contract, the General Construction Contractor shall prepare a graphic progress schedule, indicating the work to be executed during each month and the rate of expected progress to secure completion on the agreed-upon completion date. The progress schedule shall be approved by the Engineer and Owner prior to starting work on the site. Copies of such graphic progress charts, upon which has been indicated the actual progress, shall be furnished to the Engineer with each requisition for payment.

This progress schedule must follow these general time frames (may vary with project):

1. Chip seal, paving fabric and/or the leveling course must start within 7 calendar days from the date of milling.

2. Casting adjustments and/or curb replacements must start within 7 calendar days from the completion of the chip seal, intermediate course and/or fabric.

3. Surface course asphalt concrete must begin installation within 7 calendar days from the completion of the casting adjustments and/or curb replacement.

4. Traffic paint, temporary or permanent must be installed within a time period as deemed adequate and desirable for each location.

B. Should the rate of progress fall materially behind the scheduled rate of progress, and unless the delay is authorized by the Engineer, each offending Contractor shall furnish additional labor, work overtime, or take other necessary means required for completion of the work on the scheduled date. No additional compensation beyond the set Contract price shall be paid for action taken or overtime expense incurred in maintaining scheduled progress.

END OF SECTION 013216

SECTION 013223 – SURVEY AND LAYOUT DATA

PART 1 - GENERAL

1.1 STAKING

A. The Contractor shall hire a surveyor licensed in the state the work is to be installed to provide all reference points not already established and staking. The Contractor shall protect and preserve the established staking and reference points as long as required for installation of the work and field verifications by any party. The Contractor's surveyor shall replace and accurately relocate all staking and reference points so lost, destroyed or moved.

1.2 LAYOUT OF WORK

A. The Contractor shall lay out his work and be responsible for correct locations, elevations and dimensions of all work executed by him under this Contract. The Contractor must exercise proper precautions to verify the figures shown on the Drawings before laying out the work and will be held responsible for any error resulting from his failure to exercise such precaution. The Contractor shall insure the new construction aligns with any existing work.

END OF SECTION 013223

SECTION 013236 – VIDEO MONITORING AND DOCUMENTATION

PART 1 - GENERAL

1.1 SCOPE

A. Provide all labor, materials, equipment, and services, and perform all operations necessary to furnish to the Owner a complete color audio-video DVD record of the surface features within the proposed construction zone of influence. This record shall include, but not be limited to, all audio-video DVDs, storage cases, video logs, and indexes. The purpose of this coverage shall be to accurately document the pre-construction condition of these surface features.

1.2 QUALIFICATIONS

A. The video DVD documentation shall be done by a responsible commercial firm known to be skilled and regularly engaged in the business of pre-construction color audio-video DVD documentation. The firm shall furnish such information as the Owner deems necessary to determine the ability of that firm to perform the work in accordance with the Contract specifications.

1.3 PRODUCTS

A. The color audio-video recording delivered to the Owner shall be on a high quality DVD format.

END OF SECTION 013236

SECTION 013319.01 - FIELD TEST REPORTING

- AGGREGATE, SOILS, CONCRETE AND ASPHALT

PART 1 - GENERAL

1.1 SUMMARY

A. The Contractor shall be responsible for the quality of all materials incorporated into the project work and shall be responsible for all costs of testing and certification of same. The Contractor shall provide the City Engineer a list of three (3) local qualified firms for the City to select from to be the Contractor's testing firm.

B. The Contractor shall provide the engineer with a Quality Control Plan in which his testing methods/procedures are defined. Said Plan shall meet with the approval of the Engineer and include identification of laboratories, types of testing, and the tentative amount and scheduling of each.

All certification of tests and/or gradations for material to be utilized in the work and all quality control testing shall be performed by an independent laboratory (not affiliated with, owned by, or managed by the Contractor). The laboratory shall be accredited by the AASHTO Materials Reference Laboratory for the type of testing performed.

C. The Owner may perform field Quality Assurance testing; however, such testing shall not relieve the Contractor from the responsibility of Quality Control testing or from supplying certificates from manufacturers or suppliers to demonstrate compliance with the specifications. It is intended that the testing by the Contractor and the Owner be complimentary toward a quality project; however, the Contractor may not assume the Owner will test or that any tests will be done in lieu of the Contractor's own Quality Control testing. In the same sense, the Contractor may not rely on Owner Quality Assurance testing as a basis of acceptance or approval of his work nor may any Owner-performed testing be reflected in his submitted plan.

1.2 TEST CRITERIA

A. The following tests at a minimum shall be included with the Contractor's Quality Control Plan in accordance with the specifications:

1. Aggregates

a. For each material and/or different source, the laboratory shall perform soundness, gradation, and other tests for all parameters specified. Aggregates incorporated into concrete or asphalt mixes shall also be tested for moisture content daily.

2. Compaction Tests

a. Compaction tests or field density tests shall be taken on all embankment, trench backfill, subgrade, and subbase materials.

b. Minimum testing shall be as follows:

Embankment testing shall be at least one (1) test/5,000 SF of each lift; Trench backfill testing shall be at least one (1) test/50 LF of each lift; Subgrade and/or subbase testing shall be at least one (1) test/200 LF of pavement or 5,000 SF of slabs; subject to greater frequency due to soil conditions or Engineer's direction.

c. Proctors or relative density tests shall be performed as often as necessary for the differing soils or granular materials utilized. Proctors shall be run with a minimum of 5 points. Test reports shall show the wet (bulk) weight, dry weight, wet (bulk) density, dry density, moisture content weight and moisture content percentage. Both the dry curve and the wet curve shall be plotted.

3. Concrete Mix Design

a. For each type of concrete, the laboratory shall perform the necessary mix design providing all test data as required by the specifications.

4. Concrete Field and Laboratory Tests

a. The laboratory shall cast concrete cylinders and test beams:

1. One set of four cylinders per 50 CY with a minimum of two sets per day. The cylinders shall be broken: one at 7 days, two at 28 days, one at 56 days, unless otherwise directed by the Engineer.

2. One beam per 50 CY with a minimum of two beams per day.

b. Temperature and unit weight shall be run on fresh concrete at intervals sufficient for the type of structure being placed and a minimum of once per day. Bulk weight, bucket weight, (tare), net weight, bucket factor (bucket volume) and unit weight shall be recorded on the fresh concrete report. Show all batch weights for

yield calculations. Slump and air content tests shall be taken a minimum of one test per 20 CY and at least once per day.

c. All field and laboratory testing shall be performed by technicians certified by the American Concrete Institute (ACI) for the type of testing performed.

d. Initial cure of all cylinders shall be in a temperature controlled cure box or temperature controlled water tank with a hi-low thermometer. Hi-low temperature readings shall be recorded on the fresh concrete report.

5. Asphalt Mix Design

a. For each type of asphalt mix, submit job mix formula (JMF) prepared by an ODOT pre-qualified laboratory from tests performed on the aggregates proposed for use.

b. Sample and test for gradation and bitumen content per ODOT 441.

1.3 LABORATORY REPORTS

A. Reports of laboratory and field tests will be distributed to the Engineer, Owner, and Suppliers within 24 hours of completion.

END OF SECTION 013319.01

SECTION 013323 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 - GENERAL

1.1 GENERAL

A. The Contractor shall submit detailed drawings, acceptable catalog data, specifications and material certifications for all equipment and materials specified or required for the proper completion of the work.

B. The intent of these items is to demonstrate compliance with the design concept of the work and to provide the detailed information necessary for the fabrication, assembly and installation of the work specified. It is not intended that every detail of all parts of manufactured equipment be submitted, however sufficient detail will be required to ascertain compliance with the specifications and establish the quality of the equipment proposed.

Shop Drawings shall be sufficiently clear and complete to enable the Engineer/Architect and Owner to determine that items proposed to be furnished conform to the specifications and that items delivered to the site are actually those that have been reviewed.

C. It is emphasized that the Engineer/Architect's review of Contractor's submitted data is for general conformance to the contract drawings and specifications but subject to the detailed requirements of drawings and specifications. Although the Engineer/Architect may review submitted data in detail, such review is an effort to discover errors and omissions in Contractor's drawings. The Engineer/Architect's review shall in no way relieve the Contractor of his obligation to properly coordinate the work and to Engineer/Architect the details of the work in such manner that the purposes and intent of the contract will be achieved. Such review by the Engineer/Architect shall not be construed as placing on him or on the Owner any responsibility for the accuracy and for proper fit, functioning or performance of any phase of the work included in the contract.

D. Shop Drawings shall be submitted in proper sequence and with due regard to the time required for checking, transmittal and review so as to cause no delay in the work. The Contractor's failure to transmit appropriate submittals to the Engineer/Architect sufficiently in advance of the work shall not be grounds for time extension.

E. The Contractor shall submit Shop Drawings for all fabricated work and for all manufactured items required to be furnished in the Contract in accordance with the General Provisions and as specified herein. Shop Drawings shall be submitted in sufficient time to allow at least twenty-one (21) calendar days after receipt of the Shop Drawings from the Contractor for checking and processing by the Engineer/Architect.

F. It is the responsibility of each Prime Contractor to furnish to all other Prime Contractors and especially the General Construction Contractor reviewed Shop Drawings for guidance in interfacing the various trades; i.e., sleeves, inserts, anchor bolts, terminations, and space requirements.

G. No work shall be performed requiring Shop Drawings until same have been reviewed by Engineer/Architect.

H. Accepted and reviewed Shop Drawings shall not be construed as approval of changes from Contract plan and specification requirements.

I. The Engineer/Architect will review the first and second Shop Drawing item submittals at no cost to the Contractor. Review of the third submittal and any subsequent submittal will be at the Contractor's expense. Payment will be deducted from the Contract amount at a rate of 2.8 times direct labor cost plus expenses.

1.2 SUBMITTAL PROCEDURE

A. All required submissions shall be made to the Engineer/Architect by the Prime Contractor(s) only. Any data prepared by subcontractors and suppliers and all correspondence originating with subcontractors, suppliers, etc., shall be submitted through the Contractor.

B. Contractor shall review and approve all Shop Drawings prior to submission. Contractor's approval shall constitute a representation to Owner and Engineer/Architect that Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data or assumes full responsibility for doing so, and that Contractor has reviewed or coordinated each Shop Drawing or sample with the requirements of the work and the Contract Documents.

C. Submittal Preparation: Mark each submittal with a permanent label or page for identification. Provide the following information on the label for proper processing and recording of action taken:

1. Location
2. Project Name
3. Contract
4. Name and Address of Engineer/Architect
5. Name and Address of Contractor
6. Name and Address of Subcontractor
7. Name and Address of Supplier
8. Name of Manufacturer
9. Number and Title of appropriate Specification Section
10. Drawing Number and Detail References, as appropriate.
11. Submittal Sequence or Log Reference Number.

    a. Provide a space on the label for the Contractor's review and approval markings and a space for the Engineer/Architect's "Action Stamp".

D. Each Shop Drawing, sample and product data submitted by the Contractor shall have affixed to it the following Certification Statement including the Contractor's Company name and signed by the Contractor:

Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements.

_____ _____

Signature Date

_____

Company

E. Shop Drawings shall be submitted in not less than six (6) copies to the Engineer/Architect at the address specified at the Preconstruction Conference. Single mylar or sepia reproducible copies of simple Shop Drawings may be submitted with prior approval of the Engineer/Architect.

F. At the time of each submission, Contractor shall in writing identify any deviations that the Shop Drawings or samples may have from the requirements of the Contract Documents.

G. Drawings shall be clean, legible and shall show necessary working dimensions, arrangement, material finish, erection data, and like information needed to define what is to be furnished and to establish its suitability for the intended use. Specifications may be required for equipment or materials to establish any characteristics of performance where such are pertinent. Suitable catalog data sheets showing all options and marked with complete model numbers may, in certain instances, be sufficient to define the articles which it is proposed to furnish.

H. For product which require submittal of samples, furnish samples so as not to delay fabrication, allowing the Engineer reasonable time for the consideration of the samples submitted. Properly label samples, indicating the material or product represented, its place of origin, the names of the vendor and Contractor and the name of the project for which it is intended. Ship samples prepaid. Accompany samples with pertinent data required to judge the quality and acceptability of the sample, such as certified test records and, where required for proper evaluation, certified chemical analyses.

1.3 REVIEW PROCEDURE

A. Engineer/Architect will review with reasonable promptness all properly submitted Shop Drawings. Such review shall be only for conformance with the design concept of the Project and for compliance with the information given in the plans and specifications and shall not extend to means, methods, sequences, techniques or procedures of construction or to safety precautions or programs incident thereto.

B. The review of a separate item as such will not constitute the review of the assembly in which the item functions. The Contractor shall submit entire systems as a package.

C. All Shop Drawings submitted for review shall be stamped with the Engineer/Architect's action and associated comments.

D. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Engineer/Architect will review each submittal, mark to indicate action taken, and return accordingly. Compliance with specified characteristics is the Contractor's responsibility.

Action Stamp: The Engineer/Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:

1. If Shop Drawings are found to be in general compliance, such review will be indicated by marking the first statement.
2. If only minor notes in reasonable number are needed, the Engineer/Architect will make same on all copies and mark the second statement. Shop Drawings so marked need not be resubmitted.
3. If the submitted Shop Drawings are incomplete or inadequate, the Engineer/Architect will mark the third statement, request such additional information as required, and explain the reasons for revision. The Contractor shall be responsible for revisions, and/or providing needed information, without undue delay, until such Shop Drawings are acceptable. Shop Drawings marked with No. 3 shall be completed resubmitted.
4. If the submitted Shop Drawings are not in compliance with the Contract Documents, the Engineer/Architect will mark the fourth statement. The Contractor will be responsible to submit a new offering conforming to specific products specified herein and/or as directed per review citations.

E. No submittal requiring a Change Order for either value or substitution or both, will be returned until the Change Order is approved or otherwise directed by the Owner.

APPLICATION FOR USE OF SUBSTITUTE ITEM

TO: _____

PROJECT: _____

SPECIFIED ITEM:

_____	_____	_____
Page	Paragraph	Description

A. The undersigned requests consideration of the following as a substitute item in accordance with Article 6.05 of the General Conditions.

_____

B. Change in Contract Price (indicate + or -) $ _____

C. Attached data includes product description, specifications, drawings, photographs, references, past problems and remedies, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified. For consideration of the attached data as SHOP DRAWINGS, submittal shall be in accordance with requirements of Section 013323.

D. Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The undersigned certifies that the following paragraphs, unless modified by attachments are correct:

1. The proposed substitute does not affect dimensions shown on Drawings.

2. The undersigned will pay for changes to the building design, including engineering design, detailing, and construction costs caused by the requested substitution.

3. The proposed substitution will have no adverse affect on other contractors, the construction schedule, or specified warranty requirements. (If proposed substitution affects construction schedule, indicate below using + or -)

_____ CONSECUTIVE CALENDAR DAYS

4. Maintenance and service parts will be locally available for the proposed substitution.

The undersigned further states that the function, appearance, and quality of the proposed substitution are equivalent or superior to the specified item, and agrees to reimburse the OWNER for the charges of the ENGINEER for evaluating this proposed substitute item.

E. Signature: _____

Firm: _____

Address: _____

_____

Telephone: _____ Date: _____

Attachments: _____

_____

_____

_____

For use by ENGINEER:

_____Accepted as evidenced by affixed SHOP DRAWING REVIEW stamp.
_____Accepted as evidenced by included CHANGE ORDER.
_____Not accepted as submitted. See Remarks.
_____Acceptance requires completion of submittal as required for SHOP DRAWINGS.
_____Not accepted. Do not resubmit.

By: _____ Date: _____

Remarks: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

APPLICATION FOR USE OF "OR-EQUAL" ITEM

TO: _____

PROJECT: _____

SPECIFIED ITEM:

_____	_____	_____
Page	Paragraph	Description

A. The undersigned requests consideration of the following as an "or-equal" item in accordance with Article 6.05 of the General Conditions.

_____

B. Change in Contract Price (indicate + or -) $ _____

C. Attached data includes product description, specifications, drawings, photographs, references, past problems and remedies, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified. For consideration of the attached data as SHOP DRAWINGS, submittal shall be in accordance with requirements of Section 013323.

D. Signature:

_____

Firm:

_____

Address:

_____

_____

Telephone: _____ Date: _____

Attachments: _____

_____

_____

_____

For use by ENGINEER:

_____Accepted as evidenced by affixed SHOP DRAWING REVIEW stamp.
_____Accepted as evidenced by included CHANGE ORDER.
_____Not accepted as submitted. See Remarks.
_____Acceptance requires completion of submittal as required for SHOP DRAWINGS.
_____Not accepted. Do not resubmit.

By: _____ Date: _____

Remarks: _____

END OF SECTION 013323

SECTION 013326 – PRODUCT TESTING AND CERTIFYING

PART 1 - GENERAL

1.1 QUALITY OF MATERIALS

A. Where the specifications call for mill or shop tests, the Contractor shall furnish duplicate copies of attested manufacturer's certificates showing details of quality or performance sufficient to demonstrate conformity to contract requirements. Mill, shop or witness tests shall be subject to view by the Engineer's representative, but the Engineer's representation shall not relieve the Contractor from the necessity of furnishing certificates specified. The Engineer shall be notified by the Contractor in writing, sufficiently in advance of the time of making tests, so that proper arrangements may be made. Waiving of witness of tests by the Engineer may be in writing only by the Engineer. All costs for travel, lodging, food and transportation that are necessary for the Engineer's representative and the Owner's representative to attend witness tests shall be included in the Contractor's bid for those item(s) specifically designated as being subject to witness testing.

B. Unless otherwise specified, all materials, equipment and articles shall be erected, installed, applied, or connected, used, cleaned and conditioned in accordance with the printed instructions and directions of the manufacturer.

C. The installation shall be so made that its several component parts will function together as a workable system. It shall be complete with all accessories necessary for its operation and shall be left with all equipment properly adjusted and in working order.

D. The work shall be executed in conformity with the best practice and so as to contribute to efficiency of operation, minimum maintenance, accessibility and sightliness. It shall also be executed so that the installation will conform and accommodate itself to the building structure, its equipment and usage.

E. Whenever in the contract documents a particular brand, make of material, device or equipment is shown or specified, such brand, make of material, device or equipment is to be regarded merely as a standard and such trade name shall be followed by "or equal".

1.2 QUALITY ASSURANCE

A. The equipment and materials to be furnished under this Contract shall be the products of well established and reliable firms which have had ample experience for at least five (5) years in the manufacture of equipment or materials similar in design and of equal quality to that specified. If required, the manufacturer shall submit a list of installations of similar equipment which have been in successful operation for at least five (5) years.

1.3 EXPERIENCE CLAUSE REQUIREMENT AND PERFORMANCE BONDS FOR MANUFACTURER

A. For every piece of equipment furnished under this Contract, the manufacturer will be required to have a minimum of five (5) years of experience in providing this specific type

of equipment. In lieu of this experience requirement, the manufacturer will be required to provide performance bond(s) for the faithful performance of the equipment and guarantee payment in a sum of not less than one hundred and fifty percent (150%) of the total equipment price for the completed work for that item. In the absence of verifiable experience, the manufacturer will be required to provide the performance bond(s) for the same number of years that the manufacturer was found lacking in experience from the specified five (5) year period. The performance bond(s) shall be from an approved surety company, to the satisfaction of the Owner's Law Director.

B. Agents of bonding companies which write bonds for the performance and payment of the contract shall furnish power of attorney bearing the seal of the company, evidencing such agent's authority to execute the particular type of bond to be furnished, and evidencing also the right of the surety company to do business in the State of Ohio. Copy of this proof shall be attached to each copy of the contract.

C. The bond shall be purchased through a surety company with a local agent upon whom service of process can be made.

D. In event of failure of surety or co-surety, the manufacturer shall immediately furnish a new bond, as required herein. The manufacturer's bond will not be released until all provisions of the contract have been fulfilled.

E. The surety used for the bid bond and performance bond shall be listed in the latest U.S. Treasury Circular 570 and the Penal Sums shall be within the maximum specified for such company in said Circular 570.

END OF SECTION 013326

SECTION 013543 - ENVIRONMENTAL PROTECTION

PART 1 - GENERAL

1.1 UNNECESSARY NOISE, DUST AND ODORS

A. The Contractor's performance of this contract shall be conducted so as to eliminate all unnecessary noise, dust and odors.

1.2 SEWAGE, SURFACE AND FLOOD FLOWS

A. The Contractor shall take whatever action is necessary to provide all necessary tools, equipment and machinery to adequately handle all sewage, surface flows and flood flows which may be encountered during the performance of the work. The entire cost of and liability for handling such flows is the responsibility of the Contractor and shall be included in the price for the appropriate item.

1.3 WORK IN FREEZING WEATHER

A. Written permission from the Engineer shall be obtained before any work is performed which, in the judgment of the Engineer, may be affected by frost, cold, or snow. When work is performed under such conditions, the Contractor shall provide facilities for heating the materials and for protecting the finished work.

1.4 POLLUTION CONTROL

A. It shall be the responsibility of the Contractor to prevent or limit pollution of air and water resulting from his operations.

B. The Contractor shall perform work required to prevent soil from eroding or otherwise entering onto all paved areas and into natural watercourses, ditches, and public sewer systems. This work shall conform to all local ordinances and/or regulations, if any, and if not otherwise regulated by local ordinances or regulations shall at a minimum conform to the Ohio EPA General Storm Water NPDES Permit for Construction Activities and the Ohio Department of Natural Resources Rainwater and Land Development manual. This work may consist of but not be limited to construction and continual maintenance of silt fence, bio bag filters, sedimentation traps, stilling basins, check dams, temporary seeding, temporary mulching, erosion mats and other means to clarify waters containing suspended materials from excavations, embankments, cleared and grubbed or stripped areas, stockpiles, well points, and disposal sites and shall be commensurate with the contractor’s schedule, sequence of work, means and methods. If a SWPPP plan is not required for the project, the contractor shall at a minimum submit a plan of his proposed erosion control prevention methods for approval by the Owner and/or other regulatory authorities having jurisdiction prior to starting any construction activities which may cause erosion.

C. The Contractor shall perform work required to prevent dust attributable to his operations from entering the atmosphere. Dust on unsurfaced streets or parking areas and any remaining dust on surfaced streets shall be controlled with water and/or calcium chloride dust palliative as needed.

D. Any material removed from sanitary or storm sewers shall be disposed in accordance with all applicable regulations.

END OF SECTION 013543

SECTION 014223 - INDUSTRY STANDARDS

PART 1 - GENERAL

1.1 ABBREVIATIONS

A. Abbreviations, as used, designate the following:

AASHTO	-	American Association of State Highway and Transportation Officials
ACI	-	American Concrete Institute
AIEE	-	American Institute of Electrical Engineers
AISC	-	American Institute of Steel Construction
ANSI	-	American National Standards Institute
ASTM	-	American Society of Testing and Materials
AWWA	-	American Water Works Association
CMS	-	Construction and Material Specifications
NEMA	-	National Electrical Manufacturers Association
ODOT	-	Ohio Department of Transportation
ORC	-	Ohio Revised Code
UL	-	Underwriters Laboratories, Inc.

1.2 REFERENCE TO OTHER SPECIFICATIONS

A. Where reference is made to specifications such as ASTM, AWWA or AASHTO, the latest edition shall be used, unless otherwise noted on the plans or in the specifications.

1.3 CODES AND STANDARDS

A. All work provided for by these specifications must be installed according to the provisions of the State and local building codes, subject to inspection and acceptance by the State and local inspectors.

END OF SECTION 014223

SECTION 014323 – QUALIFICATIONS OF TRADESMEN

PART 1 - GENERAL

1.1 CHARACTER OF WORKMEN AND EQUIPMENT

A. The Contractor shall employ competent and efficient workmen for every kind of work. Any person employed on the work who shall refuse or neglect to obey directions of the Engineer or his representative, or who shall be deemed incompetent or disorderly, or who shall commit trespass upon public or private property in the vicinity of the work, shall be dismissed when the Engineer so orders, and shall not be re-employed unless express permission be given by the Engineer. The methods, equipment and appliances used on the work and the labor employed shall be such as will produce a satisfactory quality of work, and shall be adequate to complete the contract within the specified time limit.

B. In hiring of employees for the performance of work under this Contract, or any Subcontract hereunder, no Contractor or Subcontractor, nor any person acting on behalf of such Contractor or Subcontractor, shall, by reason of race, sex, creed or color, discriminate against any citizen of the State of Ohio in the work to which the employment relates. No Contractor, Subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, creed, sex or color.

END OF SECTION 014323

SECTION 015526 - TEMPORARY TRAFFIC CONTROL DEVICES

PART 1 - GENERAL

1.1 BARRICADES, SIGNS AND LIGHTS

A. The Contractor shall employ watchmen on the work when and as necessary. The Contractor shall erect and maintain such strong and suitable barriers and such lights as will effectively prevent the occurrence of any accident to health, limb or property. Lights shall be maintained between the hours of one-half (1/2) hour after sunset and one-half (1/2) hour before sunrise.

B. No manhole, trench, excavation will be left open awaiting connection or removal at a later date by the Contractor's forces or others but shall be temporarily backfilled and resurfaced if applicable with a temporary pavement passable to traffic at no additional cost to the Owner.

C. In addition to other safety requirements, a minimum of four (4) foot high fence will be incorporated around any shaft or manhole or other excavation left open at the end of a day's work.

1.2 MAINTENANCE OF TRAFFIC

A. The Contractor is required to provide maintenance of traffic in conformance with the Ohio Manual of Uniform Traffic Control Devices and Item 614 of the current Construction and Material Specifications of the Ohio Department of Transportation.

B. This work shall include providing suitable and satisfactorily trained and properly attired flagmen for use at any location where existing roadway is narrowed to a width of less than 2 full lanes (18 feet).

C. The Contractor is also responsible for maintaining local access to all residences and businesses along the route of the construction and to provide whatever temporary materials are necessary to provide a safe, adequate drive surface.

D. At all boring locations, Contractor shall provide suitable flashers, barricades, and traffic control devices as may be deemed necessary by the Engineer or the responsible authority in the case of the Department of Transportation, Turnpike Commission, or affected railroad. This may extend to maintain facilities on a 24-hour basis until such time as the areas are completely backfilled.

END OF SECTION 015526

SECTION 015713 - TEMPORARY EROSION CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Furnishing all labor, materials, tools, equipment and services for the temporary soil erosion and sediment control work as indicated.

B. Coordinating the temporary pollution and erosion control with work of all other trades.

C. Reducing to the greatest extent practicable the area and duration of exposure of readily erodible soils.

D. Protecting the soils by use of temporary vegetation or mulch or by accelerating the establishment of permanent vegetation.

E. Mechanically retarding the rate of runoff from the construction site and control disposal of runoff.

F. Traping all sediment resulting from construction in temporary or permanent debris basins.

G. Using temporary measures to keep erosion under control if construction is suspended for any appreciable length of time.

H. Providing protection against chemical, fuel, or lubricant spills, and sewage pollutants.

I. Protecting project and existing structures from surface water damage due to utility line excavations.

J. Controlling soil erosion and sedimentation by use of silt fences, dikes, ditches, slope protection, sediment pits, basins, dams, slope drains, coarse aggregate, mulches, sod, grasses, filter fabrics, and other erosion control devices or methods.

1.2 UNIT PRICES

A. Work under this section is incidental to work covered under other sections of these Specifications and shall be paid as work incidental to those items.

1.3 SUBMITTALS

A. Product Data
   1. Filter fabric

B. Shop Drawings

C. Samples

D. Quality Control Submittals
   1. Design Data
   2. Test Reports
   3. Certificates
      a. Seed
      b. Fertilizer
      c. Limestone
   4. Manufacturers Instructions

E. Contract Closeout Submittals
   1. Project Record Documents

1.4 QUALITY ASSURANCE

A. Qualifications

B Regulatory Requirements

C. Certifications

D. Field Samples

E. Mock-ups

F. Pre-Installation Conference

1.5 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping
   1. Deliver grass seed, fertilizer and limestone in original containers labeled with content analysis.

B. Acceptance at Site

C. Storage and Protection

1.6 PROJECT CONDITIONS

A. Environmental Requirements

B. Existing Conditions

C. Field Measurements

1.7 SEQUENCING AND SCHEDULING

A. All temporary control measures as shown on the Drawings, called for in these Specifications or ordered by the Engineer shall remain in effect during the life of the contract to control soil erosion, sedimentation and water pollution.

1.8 MAINTENANCE

A. Maintenance Service

B. Extra Materials

PART 2 - PRODUCTS

2.1 SEED

A. Provide fresh, clean, new crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America.

B. All areas of temporary seeding shall be seeded with grass as shown in the following table:

March 1 - August 15	Per 1000 Square Feet	Per Acre
Oats	3 lbs.	4 bu.
Perenial Ryegrass	1 lb.	40 lbs.
Tall Fescue	1 lb.	40 lbs.

August 16 - November 1*	Per 1000 Square Feet	Per Acre
Rye	3 lbs.	2 bu.
Wheat	3 lbs.	2 bu.
Perenial Ryegrass	1 lb.	40 lbs.
Tall Fescue	1 lb.	40 lbs.

* After November 1, use mulch only

2.2 ORGANIC MULCH

A. Select mulch material based on site requirements, availability of materials and availability of labor and equipment. The following are the minimum rates:

	Rates		
Mulch	Per Acre	Per 1000 ft^2	Notes
Straw (temporary only)	2 tons	90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand.
Wood Chips (permanent or temporary)	400 $yds.^3$	9 - 10 $yds.^3$	Apply approx. 3" deep. Treat with 12 lbs. of nitrogen per ton. Do not use on firm turf areas. Apply with mulch blower, chip handler, or by hand.
Bark Chips or Shredded Bark (temporary mulch only)	70 $yds.^3$	1½ - 2 $yds.^3$	Do not use in fine turf areas. Apply about ½" thick. Apply with a mulch blower or by hand.

2.3 FERTILIZER

A. All fertilizer shall be manufactured from cured stock and organic sources. Chemical elements shall be accurately proportioned, uniformly mixed, and delivered to the site in factory-sealed containers fully labeled, bearing the name or trademark and warranty of the manufacturer. Commercial fertilizer for lawn sodding shall be dry or liquid compounds of 12-12- 12 analysis, meeting applicable requirements of State and Federal laws.

2.4 LIMESTONE

A. All limestone shall be ground agricultural grade dolomitic limestone containing at least 10 percent magnesium oxide with a minimum total neutralizing power of 90, with at least 40 percent passing a No. 100 sieve and at least 95 percent passing a No. 8 sieve.

2.5 WATER

A. All irrigation water shall be clean and free from injurious amounts of oil, acid, alkali, or other deleterious substances.

2.6 DITCH CHECKS

A. Temporary ditch checks shall consist of coarse aggregate dikes.

2.7 INLET FILTERS

A. Temporary inlet filters and silt fences shall be adequately supported as detailed on the drawings.

2.8 SLOPE DRAINS

A. Temporary slope drains shall consist of pipe, coarse aggregate, riprap, rock channel protection, mats, plastic sheets or other materials approved by the Engineer. Sediment pits may be included as part of slope drain protection.

2.9 FILTER FABRIC

A. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Requirements
Filtering Efficiency	75% (min.)
Tensile Strength at 20% (max.) Elongation *	Extra Strength - 50 lbs./lin. in. (min.)
	Standard Strength - 30 lbs./lin. in. (min.)
Flow Rate	0.3 gal./sq.ft./min. (min.)

*Requirements reduced by 50 percent after 6 months of installation.

B. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0° F to 120° F.

2.10 BURLAP

A. Burlap shall be 10 ounce per square yard fabric.

2.11 FILTER SUPPORTS AND REINFORCING

A. Posts for silt fences shall be either 4" diameter wood or 1.33 pounds per linear foot steel with a minimum length of 5 feet. Steel posts shall have projections for fastening wire to them.

B. Stakes for filter barriers shall be 1" x 2" wood (preferred) or equivalent metal with a minimum length of 3 feet.

C. Wire fence reinforcement for silt fences using standard strength filter cloth shall be a minimum of 42 inches in height, a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches.

PART 3 - EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

A. The Contractor shall limit the surface area of erodible earth material exposed by clearing and grubbing; the surface area of erodible earth material exposed by excavation; borrow; and fill operations; and provide immediate permanent or temporary control measures to prevent contamination of adjacent streams or other areas of water impoundment. Such work will involve the construction of temporary ditch checks, filters, benches, dikes, slope drains, and use of temporary mulches, mats, seeding or other control devices or methods necessary to control erosion and sedimentation.

B. The Contractor shall incorporate all permanent erosion control features into the Work at the earliest practicable time. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. This will require the establishing of final grades as shown on the Drawings and application of agricultural limestone, commercial fertilizer, seeding and mulching or sodding . When directed by the Engineer, temporary fertilizer, seeding and mulching materials shall be used. In general, the Contractor shall temporarily seed all disturbed areas within seven (7) days if they are to remain dormant for more than forty- five (45) days. Permanent soil stabilization shall be applied to disturbed areas within seven (7) days after final grade is reached on any portion of the site.. Temporary control measures will be used when and as directed by the Engineer to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

C. Where erosion is likely to be a problem, clearing and grubbing operations should be so scheduled and performed that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise temporary erosion control measures will be required between successive construction stages.

D. The Engineer will limit the area of excavation, borrow and embankment operations in progress commensurate with the Contractor's capability and progress in keeping the finished grading, mulching, seeding, and other such permanent control measures current in accordance with the accepted schedule. Mulching, seeding, and other such

permanent control measures shall be applied after completion of a vertical eight (8) feet of embankment or cut, unless otherwise directed by the Engineer. Should seasonal limitations or embankment make such coordination unrealistic, temporary erosion control measures shall be taken immediately.

E. The Engineer may increase or decrease the allowable amount of surface area or erodible earth material to be exposed at one time by clearing and grubbing, excavation, borrow and fill operations as determined by his analysis of project conditions. Factors such as soil erodibility, slope, cut or fill height, exposed area contributing to a watercourse and weather will be considered in this determination.

F. In the event of conflict between these requirements and pollution control laws, rules, or regulations or other Federal, State or local agencies, the more restrictive laws, rules or regulations shall apply.

G. Temporary seeding areas shall be fertilized at a rate of 12-15 pounds per 1000 square feet of 10-10-10 or 12-12-12 analysis or equal.

H. When directed by the Engineer, the seed bed shall be thoroughly watered to maintain adequate moisture in the upper four (4) inches of soil, necessary to promote proper root growth.

I. When directed by the Engineer, temporary seeded areas shall be mowed when grass exceeds four (4) inches in height.

J. Temporary erosion control features shall be acceptably maintained and shall subsequently be removed or replaced when directed by the Engineer.

K. Removed materials shall become the property of the Contractor and shall be disposed of off the site at the Contractor's expense.

3.2 PERFORMANCE

A. If, in the opinion of the Engineer and Owner, proper control of soil erosion and sedimentation is not being provided by the Contractor, the Owner may take all necessary steps to provide corrective measures and the cost of such services will be deducted from any money which may be due or become due the Contractor.

B. Control work performed for protection of construction areas outside the construction site, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites shall be considered as a subsidiary obligation of the Contractor, with all necessary control costs included in the contract price.

C. In the event that temporary erosion and sediment control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled, and are ordered by the Engineer, such temporary work shall be performed by the Contractor at his expense.

3.3 SILT FENCE

A. The height of a silt fence shall not exceed 36 inches (higher fences may impound volumes of water sufficient to cause failure of the structure).

B. The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum six (6) inches overlap and securely sealed.

C. Posts shall be spaced a maximum of ten (10) feet apart at the barrier location and driven securely into the ground (minimum of 12 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed six (6) feet.

D. A trench shall be excavated approximately four (4) inches wide and four (4) inches deep along the line of posts and upslope from the barrier.

E. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of two (2) inches and shall not extend more than 36 inches above the original ground surface.

F. The standard strength filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

G. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of Subparagraph F above applying.

H. The trench shall be backfilled and soil compacted over the filter fabric.

I. Silt fences shall be removed when they have served their purpose, but not before the upslope area has been permanently stabilized.

J. Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

K. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly.

L. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.

M. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

3.4 TEMPORARY MULCHING

A. Application
   1. Mulch materials shall be spread uniformly, by hand or machine.
      a. When spreading straw mulch by hand, divide the areas to be mulched into approx. 1000 sq. ft. sections and place approx. 90 lbs. of straw in each section to facilitate uniform distribution.

B. Mulch Anchoring
   1. Straw mulch shall be anchored immediately after spreading to prevent windblow. One of the following methods of anchoring straw shall be used:
      a. Mulch anchoring tool
         1. This is a tractor-drawn implement (mulch crimper, serrated straight disk or dull farm disk) designed to punch mulch approximately two(2) inches into the soil surface. This method provides maximum erosion control with straw. It is limited to use on slopes no steeper than 3:1, where equipment can operate safely. Machinery shall be operated on the contour.
      b. Liquid mulch binders
         1. Application of liquid mulch binders and tackifiers should be heaviest at edges of areas and at crests of ridges and banks, to prevent windblow. The remainder of the area should have binder applied uniformly. Binders may be applied after mulch is spread; however, it is recommended to be sprayed into the mulch as it is being blown onto the soil. Applying straw and binder together is the most effective method.
         2. The following type of binder may be used:
            a.) Asphalt - any type of asphalt thin enough to be blown from spray equipment is satisfactory. Recommended for use are rapid curing (RC-80, RC-250, RC-800), medium curing (MC-250, MC-800) and emulsified asphalt (SS-1, MS-2, RS-1 and RS-2). Apply asphalt at 4 gal./1000 $ft.^2$, 600 gal./acre. Do not use heavier applications as it may cause the straw to "perch" over rills.
            b.) Wood Fiber - wood fiber hydroseeder slurries may be used to tack straw mulch.
      c. Mulch nettings
         1. Lightweight plastic, cotton or paper nets may be stapled over the mulch according to manufacturer's recommendations.

C. Chemical Mulches

1. Chemical mulches may be used alone only in the following situations:
   a. Where no other mulching material is available.
   b. In conjunction with temporary seeding during the times when mulch is not required for that practice.
2. Chemical mulches may be used to bind other mulches or with wood fiber in a hydroseeded slurry at any time. Manufacturer's recommendations for application of chemical mulches shall be followed.

D. Nets and Mats

1. Nets may be used alone on level areas, on slopes no steeper than 3:1, and in waterways.
2. When mulching is done in late fall or during June, July and August, or where soil is highly erodible, net should only be used in conjunction with an organic mulch such as straw.
3. When net and organic mulch are used together, the net should be installed over the mulch except when the mulch is wood fiber. Wood fiber may be sprayed on top of the installed net.
4. Excelsior blankets are considered protective mulches and may be used alone on erodible soils and during all times of the year.
5. Other products designed to control erosion shall conform to manufacturer's specification and should be applied in accordance with manufacturer's instructions provided those instruction are at least as stringent as this specification.
6. Staples will be made of plain iron wire, No. 8 gauge or heavier, and will be six (6) inches or more in length.
7. Prior to installation:
   a. Shape and grade as required the waterway, channel, slope or other area to be protected.
   b. Remove all rocks, clods or debris larger than two (2) inches in diameter that will prevent contact between the net and the soil surface.
   c. When open-weave nets are used, lime, fertilizer and seed may be applied either before or after laying the net. When excelsior matting is used, they must be applied before the mat is laid.
8. Laying the Net:
   a. Start laying the net from top of channel or top of slope and unroll down-grade.
   b. Allow to lay loosely on soil - do not stretch.
   c. To secure net: Upslope ends of net should be buried in a slot or trench no less than six (6) inches deep. Tamp earth firmly over net. Staple the net every twelve (12) inches across the top end.
   d. Edges of net shall be stapled every three (3) feet. Where two strips of net are laid side by side, the adjacent edges shall be overlapped three (3) inches and stapled together.
   e. Staples shall be placed down the center of net strips at 3-foot intervals. Do not stretch net when applying staples.

9. Joining strips
    a. Insert new roll of net in trench, as with upslope ends of net. Overlap the end of the previous roll eighteen (18) inches, turn under six (6) inches and staple across end of roll just below anchor slot and at the end of the turned-under net every twelve (12) inches.
10. At bottom of slopes
    a. Lead net out onto a level area before anchoring. Turn ends under six (6) inches and staple across end every twelve (12) inches.
11. Check slots
    a. On highly erodible soils and on slopes steeper than 4:1, erosion check slots should be made every fifteen (15) feet. Insert a fold of net into a six (6) inch trench and tamp firmly. Staple at twelve (12) inch intervals across the downstream portion of the net.
12. Rolling
    a. After installation, stapling and seeding, net should be rolled to ensure firm contact between net and soil.
13. All mulches should be inspected periodically, in particular after rainstorms, to check for rill erosion. Where erosion is observed, additional mulch should be applied. Net should be inspected after rainstorms for dislocation or failure. If washouts or breakage occur, re- install net as necessary after repairing damage to the slope. Inspections should take place up until grasses are firmly established. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface; repair as needed.

3.5 TEMPORARY SEEDING

A. Site Preparation
    1. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring.
    2. Install the needed erosion control practices prior to seeding such as diversions, temporary waterways for diversion outlets and sediment basins.

B. Seedbed Preparation
    1. Lime (in lieu of a soil test recommendation) shall be applied on acid soil (pH 5.5 or lower) and subsoil at a rate of 100 pounds per 1000 square feet or two tons per acre of agricultural ground limestone. For best results, make a soil test.
    2. Fertilizer (in lieu of a soil test recommendation) shall be applied at a rate of 12-15 pounds per 1000 square feet or 500-600 pounds per acre of 10-10-10 or 12-12-12 analysis or equivalent.
    3. Work the lime and fertilizer into the soil with a disk harrow, springtooth harrow or similar tools to as depth of two inches. On sloping areas, the final operation shall be on the contour.

C. Seeding
    1. Apply the seed uniformly with a cyclone seeder, drill, cultipacker seeder or hydroseeder (slurry may include seed and fertilizer) preferably on a firm,

moist seedbed. Seed wheat or rye no deeper than one (1) inch. Seed ryegrass no deeper than one-fourth (¼) inch.

2. When feasible, except where a cultipacker type seeder is used, the seedbed should be firmed following seeding operations with a cultipacker, roller or light drag. On sloping land, seeding operations should be on the contour wherever possible.

D. Mulching

1. Mulch shall be applied to protect the soil and provide a better environment for plant growth.
2. Mulch shall consist of small grain straw (preferably wheat or rye) and shall be applied at the rate of two tons per acre or 100 pounds (two to three bales) per 1000 square feet.
3. Spread the mulch uniformly by hand or mechanically so the soil surface is covered.
4. Mulch Anchoring Methods
   a. Mechanical - use a disk, crimper or similar type tool set straight to punch or anchor the mulch material into the soil.
   b. Asphalt Emulsion - apply at the rate of 160 gallons per acre into the mulch as it is being applied.
   c. Mulch Nettings - use according to the manufacturer's recommendations. Use in areas of water concentration to hold mulch in place.

E. Irrigation

1. If soil moisture is deficient, supply new seedings with adequate water for plant growth until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

END OF SECTION 015713

SECTION 015800 - PROJECT IDENTIFICATION

PART 1 - GENERAL

1.1 PROJECT SIGN

A. The Contractor shall be responsible for constructing, installing, maintaining and removing all project signs.

B. The Contractor shall be responsible for obtaining all permits for project signs from any local authority having jurisdiction including the payment of fees, if any.

C. The contractor shall install one project sign at a location to be determined by the Owner.

D. See Bid Book Section 8, Special Requirements – EPA, Signage pages SR.EPA.46 to 49.

END OF SECTION 015800

SECTION 016600 - PRODUCT HANDLING AND PROTECTION

PART 1 - GENERAL

1.1 DELIVERY AND STORAGE OF MATERIALS

A. The Contractor shall be responsible for delivery and storage of all materials.

B. The Contractor shall coordinate with the Engineer on the arrangement for storing construction materials and equipment. Deliveries of all construction materials and equipment should be made at suitable times.

C. The Contractor shall store all materials required for the performance of this contract at sites designated by the Engineer.

D. All stockpiles shall be neat, compact, completely safe, and barricaded with warning lights if necessary.

E. Precautions shall be taken so that no shade trees, shrubs, flowers, sidewalks, driveways or other facilities will be damaged by the storage of materials. The Contractor shall be responsible for the restoration of all stockpile sites to their original condition.

F. Materials, tools and machinery shall not be piled or placed against shade trees, unless they shall be amply protected against injury therefrom. All materials, tools, machinery, etc. stored upon public thoroughfares must be provided with red lights at night time so as to warn the traffic of such obstruction.

G. Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, shall again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. Approved portions of the construction site may be used for storage purposes and for the placing of the Contractor's plant and equipment, but any additional space required therefore must be provided by the Contractor at his expense. Private property shall not be used for storage purposes without written permission of the property owner or lessee, and copies of such written permission shall be furnished the Engineer. All storage sites shall be restored to their original condition by the Contractor at his expense.

END OF SECTION 016600

SECTION 017800 - FINAL COMPLIANCE AND SUBMITTALS

PART 1 - GENERAL

1.1 The following forms and related sign-offs shall be documented in accordance with provisions of the contract. These forms shall be completed by the Contractor and approved by the Owner before final retainer is approved for release. Forms for Items A to E will be attached to the Contractor's executed copy of the contract.

A. Certificate of Substantial Completion (To be submitted at time of Substantial Completion).

B. Contractor's Certification of Completion.

C. Contractor's Affidavit of Prevailing Wage.

D. Consent of Surety Company for Final Payment.

E. Affidavit of Final Acceptance Date and Correction Period.

F. Before the OWNER will approve and accept the work and release the retainer, the CONTRACTOR will furnish the OWNER a written report indicating the resolution of any and all property damage claims filed with the CONTRACTOR by any party during the construction period. The information to be supplied shall include, but not be limited to, name of claimant, date filed with CONTRACTOR, name of insurance company and/or adjuster handling claim, how claim was resolved and if claim was not resolved for the full amount, a statement indicating the reason for such action.

G. DBE Subcontractor Participation Forms SR-EPA.7-8 (Applicable for WPCLF & WSRLA funded projects only).

H. CDBG Subcontractor List 017800 (Applicable for CDBG funded projects only).

END OF SECTION 017800

SECTION 017821 - CLEANING AND PROTECTION

PART 1 - GENERAL

1.1 GENERAL

A. On or before the completion date for the work, the Contractor shall tear down and remove all temporary structures built by him, all construction plant used by him, and shall repair and replace all parts of existing embankments, fences or other structures which were removed or injured by his operations or by the employees of the Contractor. The Contractor shall thoroughly clean out all buildings, sewers, drains, pipes, manholes, inlets and miscellaneous and appurtenant structures, and shall remove all rubbish leaving the grounds in a neat and satisfactory condition.

B. As circumstances require and when ordered by the Engineer, the Contractor shall clean the road, driveway, and/or sidewalk on which construction activity under this contract has resulted in dirt or any other foreign material being deposited with an automatic self-contained mechanical sweeper with integral water spray, vacuum and on-board or supplementary containment.

C. Failure to comply with this requirement when ordered by the Engineer or his representative, may serve as cause for the Engineer to stop the work and to withhold any monies due the Contractor until such order has been complied with to the satisfaction of the Engineer.

D. As the work progresses, and as may be directed, the Contractor shall remove from the site and dispose of debris and waste material resulting from his work. Particular attention shall be given to minimizing any fire and safety hazard from form materials or from other combustibles as may be used in connection with the work, which should be removed daily.

E. The Contractor shall wash all windows and other glass surfaces, leaving all areas free from putty marks, paint, etc.

F. During and after installation, the Contractor shall furnish and maintain satisfactory protection to all equipment against injury by weather, flooding or breakage thereby permitting all work to be left in a new condition at the completion of the contract.

END OF SECTION 017821

SECTION 017839 - PROJECT RECORDS, DRAWINGS

PART 1 - GENERAL

1.1 RECORD DRAWINGS

A. The Contractor shall furnish an authentic set of marked-up drawings showing the installation insofar as the installation shall have differed from the Engineer's drawings. The drawings shall be delivered to the Engineer for making revisions to the original drawings immediately after final acceptance by the Owner.

B. The Contractor shall furnish dimensioned drawings indicating locations of all underground mechanical and electrical facilities.

1.2 SERVICE CONNECTION RECORDS

A. The Contractor shall record the location of all service and property connections, new or existing, made to utilities constructed under this contract. Such records shall be turned over to the Owner upon completion of the work. The cost of making such records shall be included in the various unit or lump sum prices stipulated for the various items of the work.

B. The location of each sewer connection as measured along the sewer from the nearest downstream manhole and its description with respect to the sewer shall be recorded. The record shall include the depth of new stubs for future connections and the depth of existing connections as measured from the surface grade. Also, the use of any vertical riser pipe shall be noted.

C. The location of each water connection as measured along the water line from the nearest fire hydrant.

END OF SECTION 017839

SECTION 310000 - EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

A. The Work covered by this Section shall include all excavation, trenching and related work for the construction of the designated structures and pipelines, backfill and other incidental work.

B. The Work covered by this Section consists of:
1. making all necessary excavations for the construction of all Work;
2. preparing subgrade for foundations, slabs, walks, and pavements;
3. doing all pumping, fluming, and dewatering necessary to keep the trenches and other excavation free from water;
4. providing for uninterrupted flow of existing drains and sewers, and the disposal of water from any sources during the progress of the Work;
5. supporting and protecting all trench walls, structures, pipes, conduits, culverts, posts, poles, wires, fences, buildings and other public and private property adjacent to the Work;
6. removing and replacing existing sewers, culverts, pipelines and bulkheads where necessary;
7. removing after completion of the Work all sheeting and shoring or other soil support materials not necessary to support the sides of trenches;
8. removing and disposing all surplus excavated material;
9. doing all backfilling and grading, of compacting backfill to limits specified or ordered by the Engineer;
10. restoring all property damaged as a result of the Work involved in this Contract.

C. The Work includes transporting surplus excavated materials not needed for backfill at the location where the excavation is made, to other parts of the Work where filling is required, and disposal of all types of surplus material off the site.

1.2 RELATED DOCUMENTS AND SECTIONS

A. Section 013319 – Field Testing Requirements

B. Section 321000 – Pavement Replacement

C. Section 331113.01 – Water Utility Distribution System

1.3 DEFINITIONS

A. Backfill: Soil or granular materials used to fill an excavation.
1. Initial Backfill: Backfill placed beside and over pipe in a trench, not including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Bedding: Layer placed over the excavated subgrade in a trench before laying pipe.

C. Borrow: Satisfactory soil imported for use as fill or backfill.

D. Excavation: Removal and disposal of material encountered above subgrade or foundation elevations.
   1. Additional Excavation: Excavation below subgrade or foundation elevations as directed by Engineer.
   2. Trench: Narrow linear excavation
   3. Unauthorized Excavation: Excavation below subgrade or foundation elevations or beyond indicated dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
   4. Unclassified Excavation: Excavation to subgrade elevations regardless of the character of surface or subsurface conditions encountered, including rock, soil materials and obstructions.

E. Embankment: A structure consisting of soil, granular material, shale, rock, or other approved material, constructed in layers to a predetermined elevation and cross-section.

F. Granular materials: Natural aggregate, such as broken or crushed rock, gravel, or sand that can be readily incorporated into an 8-inch layer, and in which at least 65% by weight of the grains or particles are retained in a No. 200 sieve.

G. Laboratory Dry Weight: The maximum laboratory dry weight shall be the weight provided by the laboratory when the sample is tested in accordance with ASTM D-698 Method A, C, or D.

H. Optimum Moisture: The water content at which the maximum density is produced in a soil by a given compaction effort (ASTM D-698).

I. Pavement Prism: Also referred to as the zone of influence. The area below a line drawn 45 degrees to the horizontal from the surface at the edge of pavement, sidewalk or curb.

J. Pipe Embedment: The material placed in a trench surrounding a pipe or conduit consisting of the foundation, bedding, haunching, and initial backfill.

K. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material one (1) cu. yd. or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2 inches.

L. Shale: Laminated material, formed by the consolidation in nature of soil, having a finely stratified structure. For the purpose of these specifications, the following bedrock types shall also be considered shale: mudstone, claystone, siltstone and hard clay.

M. Soil: All earth materials, organic or inorganic, which have resulted from natural processes such as weathering, decay, and chemical reaction.

N. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, pavement, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

O. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage course, or topsoil materials.

P. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 SUBMITTALS

A. Comply with all provisions of Section 013323, Shop Drawings and Submittals.

B. Product Data: For the following:
1. Source-locations of all materials shall be identified to the Engineer.
2. Source quality laboratory test of all fill materials as required to show compliance with material specifications.

1.5 REFERENCES

A. AASHTO M 43 Standard Specification for Size of Aggregate for Road and Bridge Construction

B. ASTM C-150 Standard Specification for Portland Cement

C. ASTM C-618 Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete

D. ASTM D-698 Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb (2.49-kg) Rammer and 12-in. (305-mm) Drop

E. ASTM D-1586 Standard Method for Penetration Test and Split-Barrel Sampling of Soils

F. ASTM D-2487 Standard Test Method for Classification of Soils for Engineering Purposes

G. ASTM D-2940 Standard Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports

H. ASTM D-4253 Standard Test Method for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table

I. ASTM D-4254 Standard Test Method for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density

J. State of Ohio - Department of Transportation - Construction and Material Specifications, Item 304, Aggregate Base.

K. State of Ohio - Department of Transportation - Construction and Material Specifications, Material Detail 703.16, Suitable Materials for Embankment Construction.

L. State of Ohio - Department of Transportation - Construction and Material Specifications, Material Detail 703.02.A.2, Fine Aggregate for Portland Cement Concrete

1.6 QUALITY ASSURANCE

A. Comply with all provisions of Section 014323 – Qualifications of Tradesmen.

B. Comply with all provisions of Section 014126 – General Regulations and Permits.

C. Field samples shall comply with Section 013319 – Field Test Reporting and Section 013326 – Product Testing and Certifying.

D. Before and during installation, the Contractor shall comply with provisions under Section 013119 – Project Meetings.

1.7 PROJECT CONDITIONS

A. Environmental Requirements

B. Existing Conditions
1. Existing ground elevations of the site are shown by figures and/or by contours on the Drawings. The contours and elevations of the present ground are believed to be reasonably correct, but do not purport to be absolutely so, and, together with any schedule of quantities, are presented only as an approximation. The Contractor shall satisfy himself, however, by actual examination on the site of the Work, as to the existing elevations and contours, and the amount of work required.

C. Existing Utilities
1. Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Engineer and then only after arranging to provide temporary utility services according to requirements indicated.
2. Notify Engineer not less than two days in advance of proposed utility interruptions.
3. Do not proceed with utility interruptions without Engineer's written permission.

4. Contact utility-locator service for area where Project is located before excavating.

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver products to the site, store and protect under provisions of Section 016600, Product Handling and Protection.

B. Comply with all provisions of Section 013543, Environmental Protection.

1.9 SEQUENCING AND SCHEDULING

A. Refer to 013319 for testing laboratory service scheduling.

1.10 PROHIBITION OF EXPLOSIVES

A. The use of explosives is not permitted.

1.11 FIELD MEASUREMENTS

A. The Contract Drawings may indicate locations where certain utilities, structures or facilities might possibly interfere with the installation of new improvements. The Contractor shall dig such exploratory test pits as may be necessary to determine the exact location and elevation of the indicated subsurface structure and shall make acceptable provision for their protection, support and maintenance in operation. The Engineer shall be provided advance notification when and where excavation for test pits will take place. The Contractor shall provide the Engineer a record of field locations of all listed utilities, structures or facilities a minimum of five (5) days prior to initiating construction of the project. Locations and elevations are to be provided by a Surveyor registered in the State of Ohio.

PART 2 - PRODUCT

2.1 GRANULAR PIPE EMBEDMENT

A. Crushed gravel or crushed limestone meeting AASHTO M 43 gradation shall be used for bedding, haunching, and initial backfill as shown on the Drawings.

2.2 ONSITE BACKFILL

A. Excavated soil material, capable of meeting specified compaction, and approved by the Engineer for use as backfill in designated locations.

B. Based upon subsurface investigation, the Owner does not guarantee the onsite soils in its present state consists of the proper moisture content to achieve the specified compaction without drying or adding water.

C. Unsuitable Backfill Material

1. Onsite materials that are unsuitable for backfill, unless otherwise specifically shown in the Drawings, include rock or other materials greater than six (6) inches in their largest dimension, pavement, rubbish, debris, wood, metal, plastic, frozen earth, and the following soils classified per ASTM D-2487:

Symbol	Description
OL	Organic silts and organic silty clays of low plasticity
MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
CH	Inorganic clays of high plasticity, fat clays
OH	Organic clays of medium to high plasticity
PT	Peat, muck, and other highly organic soils

2.3 SPECIAL BACKFILL MATERIAL (ODOT Item 304)

A. Special backfill material shall meet the gradation requirements of ODOT Item 304 and shall consist of crushed gravel or crushed limestone in combination with natural sand or stone. The aggregate shall meet the following gradation requirements:

Sieve	Total Percent Passing
2 inch	100
1 inch	70-100
¾ inch	50-90
No. 4	30-60
No. 30	9-33
No. 200	0-15

2.4 LOW STRENGTH MORTAR BACKFILL

A. Low Strength Mortar shall comply with ODOT Item 613.

B. Submit test data that demonstrates that the proposed mix has a strength of 50 to 100 PSI at 28 days.

C. Each load shall be tested with 3 cylinders for strength test broken at 3, 7, and 28 days until the Engineer is assured that the mix will be between 50 to 100 PSI at 28 days. Thereafter, one set of strength tests shall be taken every 50 CY.

It is intended that the sand be fine enough to stay in suspension in the mixture to the extent required for proper flow. The Engineer reserves the right to reject the sand if a flowable mixture cannot be produced.

D. Mortar Mix Proportioning

1. The initial trial mixture shall be as follows:

Quantity of Dry Materials per Cubic Yard

Cement	100 lbs.
Fly Ash	250 lbs.
Sand (SSD)*	2700 lbs.
Water	500 lbs.

* saturated-surface dry

2. These quantities of materials are expected to yield approximately l cubic yard of mortar of the proper consistency. Adjustments of the proportions may be made providing the total absolute volume of the materials is maintained.

2.5 EMBANKMENTS

A. Soils suitable for use in an embankment must conform to ODOT 703.16 and are restricted as follows:

1. Maximum laboratory dry weight shall not be less than 90 pounds per cubic foot, except that soils having maximum dry weights of less than 100 pounds per cubic foot shall not be used in the top 12 inches of embankment.
2. Soil having a liquid limit in excess of 49 are considered as unsuitable for use in an embankment.
3. Silt from excavation or borrow identified as Ohio Classification A-4b shall be considered suitable for use in an embankment only when placed at least 3 feet below the surface of the subgrade.
4. No slag, recycled Portland cement concrete or recycled asphaltic concrete products are suitable for use in an embankment.
5. Do not use any suitable material that cannot be incorporated in an 8-inch lift in the top 2 feet of the embankment.
6. Do not use shale, hard shale, or siltstone in the top 2 feet of embankment.
7. Do not use materials that cannot be satisfactorily placed and compacted to a stable and durable condition.
8. Material excavated in the work that contains excessive moisture is unsuitable for embankment construction unless dried. Dry or aerate such material before incorporating in the work. The Contractor may elect to waste this material, instead of drying it.
9. Granular material Type E as specified in ODOT 703.16.C, is not allowed.
10. No petroleum contaminated soils are suitable for use in an embankment.

2.6 ENGINEERED FILL

A. Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940. The aggregate shall meet the following gradation requirements:

Sieve	Total Percent Passing
2 inch	100
1½ inch	95-100
¾ inch	70-92
3/8 inch	50-70
No. 4	35-55
No. 30	12-25

2.7 ACCESSORIES

A. Warning Tape
   1. Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored as follows:
      a. Red: Electric.
      b. Yellow: Gas, oil, steam, and dangerous materials.
      c. Orange: Telephone and other communications.
      d. Blue: Water systems.
      e. Green: Sewer systems.

B. Detectable Warning Tape
   1. Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
      a. Red: Electric.
      b. Yellow: Gas, oil, steam, and dangerous materials.
      c. Orange: Telephone and other communications.
      d. Blue: Water systems.
      e. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PROTECTION

A. Excavation; Temporary Sheeting, Shoring, and Bracing
   1. All excavation shall be in accordance with the Occupation Safety and Health Administration (OSHA) regulations.
   2. The Contractor shall furnish and install adequate sheeting, shoring, and bracing to maintain safe working conditions, and to protect newly built work and all adjacent neighboring structures from damage by settlement.
   3. Bracing shall be arranged so as not to place a strain on portions of completed work until construction has proceeded enough to provide ample strength. Sheeting and bracing may be withdrawn and removed at the time of backfilling, but the Contractor shall be responsible for all damage to newly built work and adjacent and neighboring structures.
   4. All sheeting shall be removed unless specifically authorized in writing by the Engineer to be left in place.

B. Construction Sheeting Left in Place

1. The Contractor shall furnish, install, and leave in place construction sheeting and bracing when specified or when indicated or shown on the Drawings.
2. Any construction sheeting and bracing which the Contractor has placed to facilitate his work may be ordered in writing by the Engineer to be left in place. The right of the Engineer to order sheeting and bracing left in place shall not be construed as creating an obligation on his part to issue such orders. Failure of the Engineer to order sheeting and bracing left in place shall not relieve the Contractor of his responsibility under this Contract.

3.2 REPLACING, MOVING AND REPAIRING OF EXISTING UTILITIES

A. The Contractor shall:
1. replace, move, repair and maintain all utilities and all other structures encountered in the work
2. coordinate and communicate with applicable utility companies
3. repair all damage done to any of the said structures and appurtenances through his acts or neglect and shall keep them in repair during the life of this contract. The Contractor shall in all cases leave them in as good condition as they were previous to the commencement of the work and to the satisfaction of the Engineer.

3.3 DEWATERING

A. Drainage and Removal of Water
1. The Contractor shall dispose of water from the Work in a suitable manner without damage to adjacent property or structures.
2. The Contractor shall, when ordered by the Engineer, construct tight bulkheads across trench and provide pumps suitable for the removal of any water which may be encountered or which may accumulate in the trenches. Unless otherwise provided for in the Contract Documents, drainage water will not be permitted to flow through the conduit.
3. The trench shall be kept free from sewage and storm, surface, and subsurface water to at least 2 feet below the bottom of the excavation.
4. Where open water courses, ditches, or drain pipes are encountered during the progress of the Work, the Contractor shall provide protection and securing of the continuous flow in such courses or drains and shall repair any damage that may be done to them.

3.4 EXCAVATION CLASSIFICATION

A. All excavated materials are unclassified as defined in Article 1.3.

3.5 GENERAL EXCAVATION

A. All necessary excavation for buildings, structures, pavements, and site improvements shall be performed to accommodate the completion of all related Contract Work.

B. The Drawings show the horizontal and the lower limits of structures. The methods and equipment used by the Contractor when approaching the bottom limits of excavation shall be selected to provide a smooth surface and to prevent disturbing the soil below the bottom limits of excavation. All soil loosened during excavation shall be removed from the bottom of the excavation.

C. Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10 feet, and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction, and for inspection.

D. Excavation which is carried below the bottom limits of structures shall be classified as Unauthorized Excavation, unless said excavation below bottom limits of structures has been authorized by the Engineer prior to each occurrence.

3.6 TRENCH EXCAVATION

A. Excavation for trenches in which pipelines, sewers, and conduits are to be installed shall provide adequate space for workmen to space and joint pipe properly, but in every case the trench shall be kept to a minimum width. The width of trench shall not exceed the limits shown on the Drawings.

B. Excavation shall be to the depth necessary for placing of granular bedding material under the pipe as shown on the Drawings. If over-excavation occurs, the trench bottom shall be filled to grade with compacted granular bedding material.

C. Trenching operations shall not be performed beyond the distance that will be backfilled and compacted the same day.

D. In general, backfilling shall begin as soon as the conduit is in approved condition to receive it and shall be carried to completion as rapidly as possible. New trenching shall not be started when earlier trenches need backfilling or the surfaces of streets or other areas need to be restored to a safe and proper condition.

3.7 EXCAVATION OF UNSUITABLE MATERIALS

A. Unsuitable materials existing below the Contract bottom limits for excavation shall be removed as directed by the Engineer. Such excavation shall not exceed the vertical and lateral limits as prescribed by the Engineer.

B. In utility trenches, the voids left by removal of unsuitable excavated material shall be filled with AASHTO M 43 No. 1 and No. 2 aggregate conforming to the material requirements of Article 2.1 of this Section.

C. In excavations other than utility trenches, the voids left by removal of unsuitable excavated material shall be filled with material consisting or either: (1) Special Backfill Material; (2) Class B concrete; or (3) Low Strength Mortar Backfill, whichever is ordered by the Engineer.

D. Removal of unsuitable excavated material and its replacement as directed will be paid on basis of Contract Conditions relative to Changes in Work unless specific unit prices have been established for excavation of unsuitable material.

3.8 DISPOSAL OF UNSUITABLE AND SURPLUS MATERIAL

A. It shall be the responsibility of the Contractor to dispose of all surplus material that cannot be used in backfill or embankments at his expense outside the limits of the project. Unsuitable excavated material, including rock or large boulders, shall be disposed of outside the limits of the project.

B. Surplus material may be wasted adjacent to or incorporated in the regular construction only when ordered in writing by the Engineer.

3.9 BACKFILL

A. Pipelines, Sewers and Conduits

1. All pipe shall have bedding extending the width of the trench with depth in conformance with the Drawings. The bedding material shall be thoroughly compacted by tamping until no further densification is possible.
2. Pipe cover material shall be used for filling above the pipe bedding along the sides of the pipe and to a height of twelve (12) inches over the top of the pipe. The pipe cover material shall be brought up evenly on both sides of the pipe to eliminate the possibility of lateral displacement of the pipe and shall be thoroughly compacted by tamping until no further densification is possible. Care shall be taken to spade the aggregate under the pipe haunch below the spring line.
3. All trenches and excavations shall be backfilled immediately after pipe is laid therein, unless otherwise directed by the Engineer.
4. After the pipe cover has been placed and compacted around the pipe as specified above, the remainder of the trench may be backfilled by machine. The backfill material shall be deposited in eight (8) inch horizontal layers, and each layer shall be thoroughly compacted to the specified density by approved methods before a succeeding layer is placed. In no case will backfilling material from a bucket be allowed to fall directly on a pipe and in all cases the bucket must be lowered so that the shock of the falling earth will not cause damage.

B. Structures

1. Backfilling shall not commence before concrete has attained specified strength. Do not use equipment for backfilling and compaction operations against structures that will overload the structure.
2. Backfilling around and over structures shall be carefully placed and tamped with tools of suitable weight to a point one (1) foot above the top of same. Additional backfill may be required to protect the structure from damage from heavy equipment. Backfill shall be placed in uniform layers not exceeding eight (8) inches in depth. Each layer shall be placed, then carefully and uniformly compacted to the specified density so as to eliminate the possibility of displacement of the structure.

3. After the backfill has been placed and compacted around the structure to the height specified above, the remainder may be backfilled by machine. The backfill material shall be deposited in eight (8) inch horizontal layers, and each layer shall be thoroughly compacted to the specified density by approved methods before a succeeding layer is placed. In no case will backfilling material from a bucket be allowed to fall directly on a structure, and in all cases the bucket must be lowered so that the shock of the falling earth will not cause damage.

C. Where any new, proposed, or future pavement, driveway, parking lot, curb, curb and gutter, or walk is to be placed over a backfilled area, Special Backfill material shall be used for any portion of the trench falling within the pavement prism.

D. Where it is necessary to undercut or replace existing utility conduits and/or service lines, the excavation beneath such lines shall be backfilled the entire length with approved Granular Pipe Embedment Material compacted in place in eight (8) inch layers to the required density. The approved Granular Pipe Embedment Material shall extend outward from the spring line of the conduit a distance of two (2) feet on either side and thence downward at its natural slope.

3.10 LOW STRENGTH MORTAR BACKFILL

A. Low strength mortar backfill shall be discharged from the mixer as recommended by the supplier and approved by the Engineer.

B. Low strength mortar backfill may be placed in the trench in as few lifts as may be practical.

C. Secure conduit or pipelines before placing low strength mortar backfill to prevent conduits and pipelines from floating during backfilling.

D. For low strength mortar backfill placed against existing structures of unknown strength, backfill material shall be brought up uniformly in maximum 12 inch lifts and allowed to cure for a minimum of 24 hours or until it can carry a person's weight without leaving imprints before the next lift is placed.

E. Low strength mortar backfill shall be brought up to subgrade elevation or the pavement prism, whichever may be applicable.

3.11 EMBANKMENT

A. In making fill for embankment, the surface of the existing ground shall be cleared, grubbed, stripped of organic material, plowed, compacted according to the requirements specified in this Section, and stepped on slopes so as to enable bond or firm bearing for the new fill. The materials for these fills shall be selected of approved materials free from organic matter and placed in horizontal layers not exceeding eight (8) inches in thickness when loose, each layer being thoroughly compacted. Materials shall not be placed when fill or foundation is frozen.

B. Where fill is to be placed on side slopes steeper than one (1) vertical to six (6) horizontal, steps shall be formed into the slope before any embankment is placed. These steps shall be cut at vertical intervals at no more than two (2) feet and shall have a horizontal dimension of not less than three (3) feet.

C. As fill progress, the top shall be kept crowned or sloped for drainage. No pavement shall be placed upon embankment until it meets compaction testing requirements.

D. Fills that abut or contain concrete or masonry structures shall be placed with care to avoid undue or unbalanced loads on these structures.

E. Following the completion of embankment, all slopes shall be neatly and evenly dressed to proper elevation, grade and dimension.

3.12 SUBGRADE

A. All soil subgrade shall be prepared in accordance with this subsection.

B. Drainage
   1. The surface of the subgrade shall be maintained in a smooth condition to prevent ponding of water after rains to insure the thorough drainage of the subgrade surface at all times.

C. Unsuitable Subgrade
   1. Where unsuitable subgrade or subgrade not meeting the required bearing capacity is encountered in cuts, due to no fault or neglect of the Contractor, in which satisfactory stability cannot be obtained by moisture control and compaction, the unstable material shall be excavated to the depth required by the Engineer.
   2. Suitable material required for the embankment to replace the undercut will be paid on basis of Contract Conditions relative to changes in Work.
   3. Where soft subgrade in cuts is due to the failure of the Contractor to maintain adequate surface drainage as required in this article, or is due to any other fault or neglect of the Contractor, the unstable condition shall be corrected as outlined above at no expense to the Owner.

D. Full Width New Pavement Construction
   1. After the surface of the subgrade has been shaped to approximate cross section grade, and before any pavement, base or subbase material is placed thereon, the subgrade shall be compacted. When the rolling is completed, all surface irregularities shall be corrected and the surface of the subgrade shall be shaped as necessary to conform to the grade and cross section shown on the Drawings within the tolerance set forth in this Section and shall be so maintained until the overlying course is in place.

3.13 TOLERANCES

A. The Contractor shall check the work under this item with templates, slope boards or other devices satisfactory to the Engineer. The completed work shall conform to the Drawings within the following tolerances:

1. For subgrade, the surface shall at no place vary more than ½ inch from a ten-foot straight edge applied to the surface parallel to the centerline of the pavement, nor more than ½ inch from subgrade elevation established by construction layout stakes.

3.14 CONSTRUCTION WITH MOISTURE AND DENSITY CONTROL

A. All backfill and embankments, except rock embankments, shall be constructed using moisture and density control. All subgrade, except rock and shale in cut sections, shall be constructed using moisture and density control.

B. Backfill, embankment and subgrade material which does not contain sufficient moisture to be compacted in accordance with the requirements of Article 3.17 of this Section shall be sprinkled with water as directed by the Engineer to bring the moisture content to within the range of optimum plus or minus three (3) percent. Water shall be thoroughly incorporated into the material by means of discs or other approved equipment.

C. Backfill, embankment and subgrade material containing excess moisture shall be dried, prior to installation, to a moisture content not greater than three (3) percentage points above optimum, except that for material within the moisture content range specified herein that displays pronounced elasticity or deformation under the action of loaded construction equipment, the moisture content shall be reduced to optimum or below if necessary to secure stability. For subgrade material, these requirements for maximum moisture shall apply at the time of compaction of the subgrade and also at the time of placing pavement or subbase. Drying of wet soil shall be expedited by the use of plows, discs, or by other approved methods when so ordered by the Engineer.

3.15 COMPACTION REQUIREMENTS

A. The bottom of excavations upon which concrete foundations or structures are to be placed shall be compacted so as to obtain 100% of maximum dry density per ASTM D-698 in the top twelve (12) inches.

B. The top twelve (12) inches of stripped original subgrade and final subgrade shall be compacted to not less than 100% of maximum dry density per ASTM D-698.

1. Subgrade under new, proposed, or future pavement shall be compacted 18 inches beyond the edge of pavement, paved shoulders or paved medians.

C. Compaction of subgrade for sidewalks (regardless of paving material) shall be 100% of maximum dry density per ASTM D-698 in the top six (6) inches.

D. Compaction of non-paved areas shall be 90% of maximum dry density per ASTM D-698.

E. Aggregate pipe embedment and aggregate backfill around structures shall be compacted to not less than 100% of maximum dry density per ASTM D-4253 and ASTM D-4254.

F. Final backfill shall be compacted to not less than 100% of maximum dry density per ASTM D-698.

G. Fill placed within the interior of structures shall be compacted to not less than 100% of maximum dry density per ASTM D-698.

H. Embankment shall be placed and compacted in layers until the density is not less than the percentage of maximum dry density indicated in the following table determined by ASTM D-698.

EMBANKMENT SOIL COMPACTION REQUIREMENTS

Maximum Laboratory Dry Weight Pounds/Cubic Foot	Minimum Compaction Requirements Percent Laboratory Maximum
90-104.9	102
105-119.9	100
120 and more	98

I. Test Sections

1. If it is determined by the Engineer that the composition of the material is such that it cannot be tested for density using a nuclear densometer or other methods; or where, in the opinion of the Engineer, in-place compaction testing is not feasible; and if approved by the Engineer, the Contractor may construct a test section to demonstrate acceptable compactive effort in lieu of in-place compaction testing. Test sections shall be constructed at no additional cost to the Owner.
2. The test section shall be completed by repeatedly compacting the material until no further density is achieved. This value shall be the Minimum Test Section Density (MTSD). The compaction equipment used to complete the test section shall be of suitable size to compact the material and shall be the same equipment used to compact the in-place material.
3. The test section shall be constructed with moisture density control as specified in this Section.
4. The material shall be compacted to at least 98% of the MTSD.
5. Each lift of in-place fill or backfill shall be densified using a compactive effort equal to or greater than the effort applied to achieve the MTSD; i.e., if six passes were required to achieve MTSD, then each lift of material shall be compacted using six or more passes.

6. Construct a new test section when, in the opinion of the Engineer, the fill or backfill material has changed character or when the supporting material has changed character.

3.16 GRADING

A. Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
   1. Provide a smooth transition between adjacent existing grades and new grades.
   2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Grading
   1. Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
      a. Lawn or unpaved areas shall be graded to plus or minus *(1 inch) (insert tolerance)*.
      b. Walks shall be graded to plus or minus *(1 inch) (insert tolerance)*.

C. Grading inside Building Lines
   1. Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

END OF SECTION 310000

SECTION 311100 – CLEARING AND GRUBBING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Removal of surface debris.

B. Removal of trees, shrubs, and other plant life.

C. Topsoil excavation.

1.2 RELATED SECTIONS

A. Specifications sections related to this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Division 1 and all other applicable sections in this manual.

1.3 REGULATORY REQUIREMENTS

A. Conform to all applicable and local codes for environmental requirements, disposal of debris, burning debris on site, use of herbicides, and other applicable items.

B. Coordinate clearing work with utility companies.

C. Work shall conform to the requirements of ODOT-CMS Item 201 Clearing and Grubbing.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Herbicide, if required shall conform to applicable and local codes per environmental requirements

PART 3 - EXECUTION

3.1 PREPARATION

A. Verify that existing plant life designated to remain is tagged or identified.

B. Identify a waste area and/or salvage area for placing removed materials.

3.2 PROTECTION

A. Locate, identify, and protect utilities that remain, from damage.

B. Protect trees, plant growth, and features designated to remain, as final landscaping.

C. Do not disturb any area that is not necessary for completion of this project. Disturbance shall be in accordance with projects Storm Water Pollution Prevention Plan.

D. Protect benchmarks, survey control points, and existing structures from damage or displacement. Wetlands areas are not to be disturbed.

3.3 CLEARING

A. Clear areas required for access to site and execution of Work.

B. Remove trees and shrubs within marked areas or as indicated. Remove stumps, main root ball, root system for complete removal of surface rock and other as indicated on drawings.

C. Clear undergrowth and deadwood, without disturbing subsoil.

D. Apply herbicide to remaining stumps to inhibit growth.

3.4 REMOVAL

A. Remove debris, rock, and extracted plant life from site.

3.5 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated, re-landscaped, or re-graded, marked areas, entire site, without mixing with foreign materials.

B. Do not excavate wet topsoil.

C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion.

D. Install perimeter silt fence around stockpile area to prevent erosion and sediment transport from occurring.

E. Stockpiled topsoil shall be used for final grading around proposed improvements.

END OF SECTION 311100

SECTION 312323.13 – COMPACTED BACKFILL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. The Contractor shall furnish, place and compact all the materials needed from select excavated materials or furnish additional suitable material if the excavated material is deemed unsuitable or the moisture content is not or can not be made to be within acceptable tolerances of optimum moisture to achieve the specified compaction.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Suitable excavated material as specified in ODOT Item 203.

PART 3 - EXECUTION

3.1 PLACING

A. Compacted backfill shall be properly placed in layers sufficient to meet the compaction requirement of 95% of maximum laboratory dry density per ASTM D 698 throughout the entire layer and thoroughly compacted with mechanical compaction equipment with moisture adjustment as needed. Should after settlement occur, the Contractor must add and compact additional material, and he must maintain the backfill at the required finished grade or sub-grade until the project is satisfactorily completed and during the correction period.

B. Approved mechanical compaction equipment shall be used for tamping backfill. Flooding, jetting or puddling of backfill will not be permitted.

END OF SECTION 312323.13

SECTION 321000- PAVEMENT REPLACEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. The Contractor shall furnish all of the equipment, labor and materials necessary to install, replace, and/or restore existing pavement structures together with their respective appurtenances as shown on the plans and as specified herein. This work shall include all of the subgrade preparation, subbase, base, intermediate pavement course(s), and finish pavement courses together with curbing, guttering, tack and/or prime coating, sealing and other pertinent work as necessary to meet the conditions of this contract.

1.3 QUALITY ASSURANCE

A. In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for work.

1.4 REPAIR OR REPLACEMENT WORK

A. For the repair and/or replacement of all existing pavement structures and their respective appurtenances that are removed and destroyed or otherwise damaged by the Contractor in the course of his performance of the work required under this contract, the Contractor shall furnish all equipment, labor, and materials as necessary to properly restore to a condition equal to that at his entry, and to the satisfaction of the Engineer, the Ohio Department of Transportation, the County Engineer, City Engineer, all cinder, slag, gravel, water-bound macadam, bituminous macadam, asphalt and brick or concrete driveways, curbs, sidewalks and roadways in strict accordance with the drawings and as specified herein.

B. In general, this item will include concrete, steel reinforcement, brick, stone, slag, cinders, gravel, asphalt and other bituminous materials and curbs, gutters, driveway culverts, road and curb drains and the demolition, excavation and removal of existing driveways, sidewalks and roadways.

1.5 REFERENCE TO OTHER PARTS

A. Other sections of these specifications shall apply, as and where applicable to this section and such sections will be the same as though they were included in this section.

B. For all old work where pavement is being repaired and/or replaced as a result of damages occurring thereto during the course of the work of this contract, all clearing and grubbing, removal and storage of topsoil, excavation and/or placing of compacted fill and granular backfill, shall be done as required under other parts of these specifications.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Generally, for all repair and replacement work, all new materials shall match the existing and adjoining work in both composition and quality unless otherwise ordered, specified herein, and/or shown on the drawings. In any stone driveway or roadway, the material used for stone fill shall conform to the existing material.

PART 3 - EXECUTION

3.1 CONSTRUCTION

A. All pavement work shall be done in strict accordance with the specifications of the governmental body concerned and the latest ODOT specifications as applicable or at the direction of the Engineer.

B. All pavements disturbed by the Contractor's operations shall be related to the thickness of the adjoining pavement and, in all cases, the restoring of pavements, shall apply both to foundation courses and to the wearing surface.

C. Should cracks or settlements appear in adjoining pavements, the paving shall be removed to the extent necessary to secure firm and undisturbed bearing and shall be replaced in a satisfactory manner.

D. No permanent pavement shall be installed, repaired, and/or restored unless, or until, in the opinion of the Engineer, the condition of the backfill is such as to properly support the pavement.

E. Where new or replacement concrete pavement or base is placed adjacent to existing concrete pavement or base, contraction joints shall be provided in the new or replacement pavement so as to form a continuous joint with that in the existing pavement.

3.2 ROADWAY SUBGRADE

A. The entire area to be occupied by the roadways and parking areas shall be cleared, topsoil removed and stored, and the excavation or compacted fill made as required and brought to the proper cross-sections. Pipe trenches and other excavations shall be backfilled as required, and thoroughly compacted within the limits of the roadways or parking areas.

B. After the surface of the subgrade has been properly shaped and before any stone or slag is placed, the entire subgrade shall be thoroughly rolled and compacted to a depth of 12 inches under this section. Rolling shall be done with an approved type of self-propelled roller, weighing not less than ten (10) tons. All hollows and depressions which develop during the rolling shall be filled with acceptable materials, and the subgrade rerolled. The process of filling and rolling shall be repeated until no depressions develop, and the entire subgrade has been brought to a uniform condition of stability.

C. All places which, in the opinion of the Engineer cannot be properly rolled, shall be tamped with handheld mechanically or pneumatically powered tampers.

D. In making the compacted fill and in doing the final subgrade rolling, the Contractor shall see that the material to be compacted and/or rolled has the proper moisture content to secure maximum compaction. When, in the opinion of the Engineer, the material is too wet, the compacting shall be delayed until the material has dried sufficiently. When, in the opinion of the Engineer, the material is too dry, the material shall be sprinkled with water in an amount to secure the proper moisture content.

END OF SECTION 321000

SECTION 321216 - ASPHALT CONCRETE PAVING AND MATERIALS

SECTION 1 - MATERIALS

1.1 The asphalt concrete mixture and installation thereof shall meet Ohio Department of Transportation (ODOT) Specifications except as modified in these specifications.

1.2 In the ODOT Specifications substitute "Engineer" for "Department" (except as stated below in reference to ODOT 403 for Department VA testing and acceptance).

1.3 No steel slag shall be used as coarse or fine aggregate for any asphalt concrete.

1.4 All asphalt cement utilized on this project shall meet AASHTO Provisional Standard MP1 or any superseding AASHTO specification for performance graded asphalt cement binder in conformance with PG 64-22.

1.5 The following exceptions shall be made for the Asphalt Concrete for the Asphalt Concrete Surface Course:

A. The coarse aggregate material shall be only limestone
B. No Recycled Asphalt Product (R.A.P.) will be permitted

1.6 Except where designated otherwise in the plans or specifications all asphalt concrete mixes shall be designed for medium traffic volumes. Where light or heavy traffic pavements are designated in the plan, the contractor shall use an asphalt concrete mix designed for such traffic conditions.

1.7 Acceptance of the mixture will be based upon the certification that the mixture was produced according to the approved JMF within the production control and composition tolerances of the specifications. The Contractor shall hire and pay for an independent testing lab approved by the Engineer to perform all sampling, testing, monitoring, analysis and certification required by the Laboratory, Monitoring Team or Department in ODOT 403 and 441. All work by the independent laboratory shall be performed by personnel with ODOT Level II Bituminous Concrete certification.

1.8 ODOT 401.20 - "Asphalt Binder Price Adjustment" shall not apply to this contract.

1.9 Monument box and valve box risers shall be East Jordan Iron Works No. 8626, No. 8631, or approved equal. The Contractor shall follow the manufacturer's recommended installation procedure. New manhole frames and grate or frame and cover shall be EJIW 1710.

1.10 Brick used for manhole, catch basin, or inlet basin castings adjusted to grade under ODOT 611.10 Method D.1. shall be red shale or clay sewer brick meeting the requirements of ASTM C32 sewer brick, grade SM.

1.11 Risers used for manhole castings adjusted to grade under ODOT 611.10 Method D.2. shall be manufactured by Manhole Systems, Model MS-101TB, or approved equal.

1.12 All inlets and manholes shall be adjusted to grade after installation of the intermediate course(s), if any and prior to installation of the surface course.

1.13 All materials delivered to this project must have been weighed on a platform scale with electronic imprinter to show gross, tare, and net weights. No payment will be made for materials which are not correctly weighed as necessary. Material weight shall not exceed the current legal allowable limit.

1.14 Unless specified elsewhere in the specifications, material for berms shall be limestone only. Recycled concrete and asphalt concrete will not be permitted.

SECTION 2 - PAVING EQUIPMENT

2.1 All spreading equipment shall be self propelled. The Contractor shall identify the make and model of the paving machine that will be used for the intermediate and surface courses for approval prior to the pre-construction meeting.

2.2 All equipment, tools, and machines used in the performance of this work shall be maintained in satisfactory working order at all times. The Contractor shall be prepared to furnish proof of certification that all equipment to be used on the project has been calibrated within the past six (6) months.

SECTION 3 - GENERAL - PAVING

3.1 All paving shall be done on a single-lane basis.

3.2 If traffic loop detectors are encountered and broken, the Contractor is to repair as per local specifications. The cost for this work will be paid under the loop detector replacement bid item, if any; at negotiated unit prices; or by time and materials as directed by the Engineer.

3.3 Tack Coat, Item 407, shall be applied at the rate of from 0.05 to 0.15 gallons per square yard as appropriate for the surface conditions with sand cover if required.

3.4 Asphalt driveway aprons shall be matched to new pavement with 24" transition sections or as shown on the drawings or required by the Engineer. The Contractor shall install apron wedge as required in the detailed drawings.

3.5 Unless otherwise shown on the drawings, jointing of new to existing pavement shall be by milled butt joints six (6) feet in width (or as shown on the plans) from edge of pavement to edge of pavement. Depth of this milled area shall equal the total of subsequent intermediate course and surface course as specified.

3.6 One (1) copy of each hauled/weighed material truck load ticket (plant ticket) for materials incorporated in this project shall be provided to the project representative daily. All bulk materials delivered to this project must have been weighed on a platform scale with

electronic imprinter to show gross, tar and net weights. No payment will be made for materials which are not correctly weighed as necessary. Material weight shall not exceed the current legal allowable limit. If a partial load is used, the Contractor's foreman and the project representative shall confer and come to an agreement as to what portion of the product was used. The percent of material of this load, as reported by the project representative, is what shall be recorded as utilized.

3.7 For variable depth courses where tonnage tickets are used for determining quantities for payment, the conversion to cubic yards shall be number of tons verified and approved by the Engineer divided by 2.00 regardless of the actual density of the mix.

3.8 Positive drainage is to exist subsequent to the completion of the surface course. The Contractor shall take any necessary measures to assure positive drainage of the surface course. It shall be the responsibility of the Contractor to repair any low/puddled areas at his own cost by milling out the affected areas to a minimum depth equal to the nominal depth of the course being repaired and replacing with the specified asphalt concrete to grades that will correct the drainage problem.

3.9 Surface tolerances for all completed surface courses shall be as noted in ODOT 401.19. This tolerance shall apply regardless of whether or not an intermediate course is installed.

3.10 At the direction of the Engineer, periodic weight checks of asphalt concrete in loaded trucks shall be made by the Contractor and verified by the Engineer.

3.11 All quality control testing data performed on material incorporated into this project shall be forwarded to the Engineer for review as soon as it is available.

3.12 Quantity verification (but not necessarily payment quantity) for all asphalt concrete incorporated into the work shall be by weight tickets as produced by the plant or supplier or other means approved by the Engineer. Tack coat shall be verified by a ticket filled out and signed by the Contractor's tack truck driver based on weights taken or observations of level indicators. All verification tickets are required to be submitted to the Engineer on the day the material is incorporated into the work; however, the Engineer may, at his sole discretion, accept verification tickets for any items up to seven (7) calendar days subsequent to the work being performed. **After that date additional verification tickets for material will not be accepted for consideration of payment.**

3.13 No work is to be performed without the presence of the Engineer or his designated Project Representative. Forty-eight (48) hour advance notice of work shall be given to the Engineer and Owner by the Contractor.

3.14 All edges of surface courses abutting curbs or other appurtenances shall be sealed with hot AC-20.

3.15 The asphalt concrete, intermediate or surface course work will conform to ODOT Items 448-1 – Intermediate and Surfaces Courses and 448-2 – Intermediate Course. The paving foreman, at the Engineer’s request, will be required to correctly calculate the asphalt concrete “yield.” “Yield” is defined as the rate of material used, in cubic yards, in proportion to the

area paved. The Contractor must be aware if he is under or over plan quantities for the area in question.

END OF SECTION 321216

SECTION 329200.19 – SEEDING AND MULCHING

PART 1 - GENERAL

1.1 SUMMARY

. Installation of seeded areas shall be to the extent shown on Contract Drawings and shall include supplying all seed, topsoil, soil conditioning materials, mulching materials and watering, and the incorporation of these materials into the work as specified.

A. The Contractor shall place topsoil at the depths specified in those areas requiring seeding. Topsoil shall be furnished by the Contractor.

1.2 SUBMITTALS

A. Product Data: For the following:

1. Provide copies of soils tests for both new topsoil (provided) and onsite topsoil for review and approval. This applies to all areas that require seeding, including reconditioned areas.

2. Provide location of properties from which topsoil is to be obtained, names and addresses of owners, depth to be stripped, and crops grown in the past 2 years.

3. Provide the name of the seed supplier, name and phone number, list of the seed, including varieties of seed, labels, and an analysis of the seed for review, 4 weeks prior to the start of seeding.

4. Provide soil amendments information based on soils test requirements.

5. Hydroseed mixture, mulch and application rates prior to performing the work.

1.1 QUALITY ASSURANCE

A. Any subcontracted restoration work shall be performed by a qualified firm specializing in landscape work.

B. The Contractor shall have a soils test done at his expense and analyzed by a state approved testing agency. Soil tests shall be done on both the topsoil stockpiled from the site and new topsoil brought to the site. A minimum of two (2) tests shall be done. The tests shall include percent organic matter, pH, Buffer pH, Phosphorus, Exchangeable Potassium, Calcium, Magnesium, Cation Exchange Capacity and Percent Base Saturation with recommendations for nitrogen, phosphate, potash, magnesium and lime based on plant type and use.

B. Seed: All seed specified shall meet O.D.O.T. specifications as to the percentage purity,

weed seed, and germination. All seed shall be approved by the State of Ohio, Department of Agriculture, Division of Plant Industry, and shall meet the requirements of these specifications.

D. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.

1.4 PROJECT CONDITIONS

B. Utilities: Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.

C. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, such conditions shall be rectified by the Contractor before planting, with approval from the Owner's Representative.

D. Soil Stabilization: The Contractor shall provide permanent or temporary soil stabilization to denuded areas within fifteen (15) days after final grade is reached on any portion of the site. Any such area which will not be regraded for longer than fifteen (15) days shall also be stabilized. Soil stabilization includes any measures which protect the soil from the erosive forces of raindrop impact and flowing water. Applications include seeding and/or mulching, or the use of other erosion control measures as directed by the Owner's Representative. If necessary, the Contractor shall coordinate soil stabilization practices with the local Soil and Water Conservation District.

D. Spring-sown work shall be installed between April 1st and May 30th and Fall-sown work shall be installed between September 1st and October 15th. No permanent seeding shall take place between May 30th and September 1st and between October 15th and April 1st. The dates for seeding may be changed at the discretion of the Owner's Representative.

PART 2 - PRODUCTS

2.1 TOPSOIL

A. Topsoil shall be furnished by the Contractor. Stockpiled material, if any, shall be utilized prior to obtaining additional topsoil.

B. All topsoil shall conform to the U.S. Department of Agriculture soil texturing triangle and shall contain between 3% to 8% organic matter. Topsoil shall be loamy and not consist of more than 38% clay. New topsoil shall be screened to remove clay lumps, brush, weeds, litter, roots, stumps, stones larger than ½" in any dimension and any other extraneous or toxic matter harmful to plant growth.

New topsoil shall be obtained only from naturally well drained sites where topsoil occurs in a depth of not less than 4". Do not obtain from bogs or marshes.

C. Soil amendments shall be added according to the soils test requirements. Amendments can include, but are not limited to fertilizer, lime, compost, sand, and organic matter. Organic matter shall consist of composted leaves or other approved material.

2.2 SEED

A. Seed shall be vendor mixed, delivered in original bags and shall be proportioned as follows:

Common Name	Proportion by Weight
Kentucky Blue Grass	50%
Perennial Rye	50%

2.3 MULCH

A. Mulch shall be clean straw free of seed and weed seed.

1. Anchoring for mulch shall be an ODOT specified SS-1 at 60 gal./ton non-toxic tackifier such as Hydro-stik, or equal, or by securing with a photo degradable netting.

B. If hydroseeding is used, wood fiber mulching material shall be used and shall consist of virgin wood fibers manufactured expressly from whole wood chips and shall conform to the following specifications.

- Moisture content	10.0% $\pm$ 3.0%
- Organic content	99.2% $\pm$ 0.8% O.D. Basis
- pH	4.8 $\pm$ 0.5
- Water holding capacity, minimum (grams of water per 100 grams of fiber)	1,000

Wood fiber mulching material shall be processed in such a manner as to contain no growth or germination inhibiting factors, and must contain a biodegradable green dye to aid in visual metering during application.

PART 3 - EXECUTION

3.1 PREPARATION - GENERAL

A. Rough grading to a depth necessary to accept the specified thickness of topsoil must be approved prior to placing topsoil.

B. Loosen subgrade, remove any stones greater than ½" in any dimension. Remove sticks, roots, rubbish, and other extraneous matter.

C. Spread topsoil to a minimum depth of 4 inches, to meet lines, grades, and elevations shown on plan, after light rolling and natural settlement. Remove sticks, roots, rubbish, stones greater than 1/2" in any dimension, and other extraneous matter. Topsoil shall be tilled

thoroughly by plowing, disking, harrowing, or other approved methods. Add specified soil amendments and mix thoroughly into the topsoil.

D. Preparation of Unchanged Grades: Where seed is to be planted in areas that have not been altered or disturbed by excavating, grading, or stripping operations, prepare soil for planting as follows: Till to a depth of not less than 6 inches. Apply soil amendments and initial fertilizers as specified. Remove high areas and fill in depressions. Till soil to a homogenous mixture of fine texture, free of lumps, clods, stones, roots and other extraneous matter. Soils test requirements apply here as well.

1. Prior to preparation of unchanged areas, remove existing grass, vegetation and turf. Dispose of such material outside of project limits. Do not turn existing vegetation over into soil being prepared for seed.

   If necessary, supply and install topsoil in areas where there is no topsoil left after vegetation has been removed.

2. Apply specified soil amendments at rates specified in the soils test and thoroughly mix into upper 2 inches of topsoil. Add topsoil if existing grade has less than 4" of topsoil. Delay application of amendments if planting will not follow within two (2) days.

E. Fine grade areas to smooth, even surface with loose, uniformly fine texture. Roll, rake, and drag lawn areas, remove ridges and fill depressions, as required to meet finish grades. Remove sticks, roots, rubbish, stones greater than 1/2" in any dimension, and other extraneous matter. Limit fine grading to areas which can be planted immediately after grading.

F. Moisten prepared areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.

G. Restore areas to specified condition, if eroded or otherwise disturbed, after fine grading and prior to planting.

3.2 SEEDING

A. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage. Seed shall not be sown when the ground is frozen, muddy, or when weather conditions prevent proper soil preparation, interference with sowing and/or proper incorporation of seed into the soil.

B. Sow seed using a spreader or hydroseeder. Do not seed when wind velocity exceeds 5 miles per hour. Distribute seed evenly over entire area by sowing 3 lbs. per 1000 S.F. at right angles to each other. Total amount to equal a minimum of 6 lbs. per 1000 S.F.

C. For seed sown with a spreader, mulch shall be spread uniformly to form a continuous blanket at a rate of 100 lbs. per 1,000 S.F. Mulch shall be 1 1/2" loose measurement over seeded areas and shall be anchored.

D. Contractor has the option to hydroseed large lawn areas, using equipment specifically designed for such application. The rate of application of wood fiber mulching materials is 40 lbs./1,000 S.F. Contractor shall not hydroseed within close proximity to buildings and structures, or when unfavorable wind conditions may blow the hydroseed material onto the structure. Contractor shall clean all areas not to be seeded of overspray.

E. The seeded area shall be watered, as soon as the seed is applied, at the rate of 120 gallons per 1000 square feet. The water shall be applied by means of a hydroseeder or a water tank under pressure with a nozzle that will produce a spray that will not dislodge the mulching material. Cost of this watering shall be included in the cost of seeding and mulching.

3.3 DORMANT SEEDING METHOD

A. Seeding shall not take place from October 15 through November 20. During this period prepare the seed bed, add the required amounts of lime and fertilizer, and other amendments, then mulch and anchor.

B. From November 20 through April 1, when soil conditions permit, prepare the seed bed, lime and fertilize, apply the selected seed mixture, mulch, and anchor. Increase the seeding rate by 50 percent.

3.4 RECONDITIONING EXISTING LAWNS

A. A soils test shall be required for existing lawns prior to any reconditioning.

B. Recondition all existing lawn areas damaged by Contractor’s operations including storage of materials and equipment and movement of vehicles. Also recondition existing lawn areas where minor regrading is required.

C. Provide soil amendments as called for in the soils test.

D. Provide new topsoil, as required, to fill low spots and meet new finish grades.

E. Cultivate bare and compacted areas according to the topsoil specifications.

F. Remove diseased and unsatisfactory lawn areas; do not bury into soil. Remove topsoil containing foreign materials resulting from the Contractor's operations, including oil drippings, stone, gravel, and other loose building materials.

G. All work shall be the same as for new seeding.

H. Water newly planted seed areas. Maintenance of reconditioned lawns shall be the same as maintenance of new lawns.

3.5 ESTABLISHMENT

A. Maintain work areas as long as necessary to establish a uniformly close stand of grass over the entire lawn area. A uniformly close stand of grass is defined as the seeded areas having 90%+ coverage of grass at 60 days after seeding. 90%+ coverage is defined as very little or no dirt showing when seeded area is viewed from directly overhead.

B. Maintain lawns by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading and replanting as required to establish a smooth acceptable lawn.

1. Mowing
   a. Mow lawn areas during the period of maintenance to a height of 2 inches whenever the height of the grass becomes 3 inches. A minimum of 3 mowings is required during the period of maintenance.
2. Refertilizing
   a. Distribute fertilizer on the seeded area between August 15 and October 15, during the period when grass is dry, and in accordance with the manufacturer's recommendations. The fertilizer shall be as specified in the soils test.
3. Reseeding
   a. Reseed with the seed specified for the original seeding, at the rate of 4 lbs. per 1,000 S.F. in a manner which will cause minimum disturbance to the existing stand of grass and at an angle of not less than 15 degrees from the direction of rows of prior seeding.
4. Watering

   a. The Contractor shall keep all work areas watered daily to achieve satisfactory growth. Water shall be applied at a rate of 120 gallons per 1,000 square feet. If water is listed as a pay item, it shall be separately paid for based on the actual amount of water used, measured in thousands of gallons.
5. Any mulching which has been displaced shall be repaired immediately. Any seed work which has been disturbed or damaged from the displacement of mulch shall be repaired prior to remulching.

3.6 INSPECTION AND ACCEPTANCE

A. When seeding work is complete and an acceptable stand of growth is attained, the Contractor shall request the Owner's Representative to make an inspection to determine final acceptance.

B. Acceptance shall be based upon achieving a vigorous uniformly stand of the specified grasses. If some areas are satisfactory and some are not, acceptance may be made in blocks, provided they are definable or bounded by readily identified permanent surfaces, structures, or other reference means. Partial acceptance decisions may be made by the Owner's Representative. Excessive fragmentation into accepted and unaccepted areas shall not be allowed. Unaccepted areas shall be maintained by the Contractor until acceptable.

C. No payment shall be made until areas are accepted.

D. All seeded areas shall be guaranteed for one full growing season to commence upon final acceptance of the areas.

END OF SECTION 329200.19

SECTION 331113.01 – WATER UTILITY DISTRIBUTION SYSTEM

PART 1 – GENERAL

1.1 SUMMARY

A. Furnishing all labor, materials, tools, equipment, and services for all waterlines as shown on the Drawings.

B. Although such is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a functional and complete installation.

1.2 RELATED DOCUMENTS AND SECTIONS

A. Drawings and general provisions of the Contract, including General Conditions, Supplementary Conditions (if included), and Division 1 Specifications Sections, apply to this Section.

1.3 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

A. Granular pipe bedding and cover material specified in Section 310000 – Earthwork.

B. Special backfill material specified in Section 310000 – Earthwork.

1.4 DEFINITIONS

A. Bedding: Material placed under, beside and directly over pipe for the full width of the trench up to a distance of 6 inches over the top of the pipe barrel prior to subsequent backfill operations.

1.5 SUBMITTALS

A. Manufacturer's Affidavit: The manufacturer shall furnish an affidavit indicating that all pipe, fittings, valves, fire hydrants, and appurtenances have been manufactured and tested in accordance with the requirements of the applicable referenced Standards. A copy of the affidavit shall be forwarded to ENGINEER prior to construction.

B. For butt fusion joints, submit a printout giving all the parameters of each joint as required under paragraph 3.8.F.

C. For polyethylene encasement, submit sample.

D. Shop Drawings: Submit per 013323.

E. Method of construction with detailed drawings and written descriptions of the entire construction procedure to insert the pipe, and connections to water services, fire hydrants, and intersecting water mains. Drawings shall show, but are not limited to, excavation locations, access pits, dimensions, shoring, method of dewatering, adjacent utilities, and traffic control.

1.6 REFERENCES

A. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings

B. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems

C. AWWA C110 - Ductile-Iron and Gray-Iron Fittings

D. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

E. AWWA C116 - Protective Fusion-Bonded Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings

F. AWWA C150 - Thickness Design of Ductile-Iron Pipe

G. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast

H. AWWA C153 - Ductile-Iron Compact Fittings

I. AWWA C213 - Fusion-Bonded Epoxy Coatings and Linings for Steel Water Pipe and Fittings

J. AWWA C301 - Prestressed Concrete Pressure Pipe, Steel-Cylinder Type

K. AWWA C400 - C400-03: AWWA Standard for Asbestos-Cement Pressure Pipe, 4 In. through 16 In. (100 mm through 400 mm), for Water Distribution Systems

L. AWWA C502 - Dry-Barrel Fire Hydrants

M. AWWA C504 - Rubber-Seated Butterfly Valves

N. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service

O. AWWA C515 - Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service

P. AWWA C550 - Protective Interior Coatings for Valves and Hydrants

Q. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances

R. AWWA C651 - Disinfecting Water Mains

S. AWWA C800 - Underground Service Line Valves & Fittings

T. ASTM A36 - Standard Specification for Carbon Structural Steel

U. ASTM A47 - Standard Specification for Ferritic Malleable Iron Castings

V. ASTM A48 - Standard Specification for Gray Iron Castings

W. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings

X. ASTM A181 - Standard Specification for Carbon Steel Forgings, for General-Purpose Piping

Y. ASTM A183 - Standard Specification for Carbon Steel Track Bolts and Nuts

Z. ASTM A307 -Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength

AA. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings

BB. ASTM B88 - Standard Specification for Seamless Copper Water Tube

CC. ASTM B124 - Standard Specification for Copper and Copper Alloy Forging Rod, Bar, and Shapes

DD. ANSI B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings

EE. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft3 (600 kN-m/m3))

1.7 QUALITY ASSURANCE

A. Comply with all provisions of Section 014323 – Qualifications of Tradesmen.

B. Comply with all provisions of Section 014126 – General Regulations and Permits.

C. Field samples shall comply with Section 013319 – Field Test Reporting and Section 013326 – Product Testing and Certifying.

D. Before and during installation, the Contractor shall comply with provisions under Section 013119 – Project Meetings.

E. All pipes, fittings, valves, fire hydrants and appurtenances shall be appropriately marked for identification purposes. The materials and methods of manufacture, and completed pipes, fittings, valves, and appurtenances shall be subject to inspection and rejection at all times. Owner and Engineer have the right to make inspections.

1.8 PROJECT CONDITIONS

A. Existing Conditions
   1. Verify locations of underground utilities.
   2. Protect existing structures and utilities from damage. Repair if damaged by this work.
   3. Do not change pipe sizes without securing written approval of Engineer.

B. Field Measurements
   1. If it becomes necessary to change location of waterlines due to underground utility interference, secure approval of Engineer.
   2. If Contractor initiated, make changes approved by the Engineer without added cost to Owner.

1.9 DELIVERY STORAGE AND HANDLING

A. Deliver products to the site, store and protect under provisions of Section 016600 – Product Handling and Protection.

B. Comply with all provisions of Section 013543 – Environmental Protection

1.10 SEQUENCING AND SCHEDULING

A. Perform no pipe work in fill areas until embankment or fill has been completed to at least two (2) feet above proposed top of pipe and fill has been properly compacted.

PART 2 – PRODUCTS

2.1 WATERMAIN PIPE AND FITTINGS

A. Ductile Iron Pipe and Fittings
   1. Pipe shall be designed in accordance with AWWA C150, minimum Thickness Class 52, minimum Pressure Class 350, with polyethylene encasement when buried except Thickness Class 56 for river crossing pipe; manufactured in accordance with AWWA C151; furnish in minimum nominal 18 foot laying lengths, except river crossing pipe to be in full length joints with shorter lengths required to facilitate installation supplied by pipe manufacturer (no field cutting permitted).
   2. Fittings: AWWA C110 or C153, with C153 fittings to be polyethylene encased when buried.
   3. Exterior Coating: Asphaltic material. Fittings may be coated with a fusion-bonded epoxy coating in accordance with AWWA C116.
   4. Interior Lining: AWWA C104 cement mortar with seal coat, or AWWA C116 fusion-bonded epoxy coating.
   5. Joints: AWWA C111, rubber gasket, push-on or mechanical type, with restrained type joints and river crossing pipe joints to be provided within the lengths noted on Drawings.
      a. For all bolted joints, bolt length shall be such that all threads of the nut will be engaged.
      b. Restrained push-on joints shall be completely boltless; McWane Super-Lock, American Flex-Ring, U.S. Pipe TR Flex, or as approved. Restrained mechanical joints shall be MEGALUG with Mega-Bond Coating System as manufactured by EBAA Iron, Inc., or as approved, of ductile iron and with a working pressure of at least 250 psi and a minimum safety factor of 2:1.
      c. River crossing pipe joints shall be boltless, self-restraining, push-on type, gasketed ball and socket joints; Clow Ball and Socket Pipe, American Flex-Lok Boltless Ball Joint Pipe, U.S. Pipe USIFLEX, or as approved.

B. PVC/PVCO Pipe and Ductile Iron Fittings
   1. Pipe shall be designed in accordance with AWWA C909, Pressure Class 235 for 4 inch through 24 inch diameter; cast iron equivalent O.D.; integral wall-thickened bell end type incorporating elastomeric gasket; furnished in nominal 20 foot laying lengths.
   2. Fittings: ANSI/AWWA C153/A.21.53, AWWA C111 rubber gasket joints, with C153 fittings to be polyethylene encased when buried.

3. Joints: Push-on, with joints within the lengths noted on Drawings to be restrained type joints.
    a. Restrained joints shall be MEGALUG or retainers with Mega-Bond Coating System, as manufactured by EBAA Iron, Inc., or as approved, of ductile iron and with a working pressure at least equal to that of the PVC pipe on which to be installed, and a minimum safety factor of 2:1.

2.2 VALVES

A. Materials

1. Valves bodies shall be of either gray or ductile cast iron and shall have the name, monogram, or initials of the manufacturer cast thereon.
2. Valves shall have nonrising stems, open by turning left or counter-clockwise and be provided with either a 2-inch square nut for buried valves or handwheel for exposed valves unless otherwise noted. The direction of opening shall be indicated by an arrow cast on the body and/or the actuator.
3. All body bolts and nuts shall be bronze or stainless steel for buried, submerged or nonprotected applications and cadmium plated for exposed or interior applications that will receive protective finish coatings.

B. Tapping Sleeves
1. Type: Mechanical joint made in two halves for assembly around main.
2. Branch Flange: Accommodate tapping valve.
3. Materials: Cast iron with gaskets extending entire length of sleeve to form water-tight joints.

C. Gate or Tapping Valves
1. AWWA C500, or AWWA C509 cast iron, bronze-mounted. or AWWA C515 ductile iron, bronze-mounted, polyethylene encased when buried installation; designed for 200 psi working water pressure; mechanical joint ends, AWWA C111, except for tapping valves; non-rising stem type with standard AWWA nut; stem seal consisting of at least two Buna-N rubber O-rings; open by turning left (counterclockwise) right (clockwise); bolts, nuts, and washers used by manufacturer to assemble valves to be Type 304 stainless steel.

2. The valve shall have a smooth, unobstructed waterway free from any sedimentation pockets. Valve shall provide a 100% port of nominal pipe size when fully open. Tapping valve port shall be sized to permit a full pipe port tap.
3. Verify direction of valve with OWNER.
4. Body style shall be mechanical joint type for buried service, flange joint type for exposed service and when required, to include special end connections for tapping requirements or otherwise if indicated on the contract drawings.
5. Stuffing boxes shall be O-ring seal type with two (2) rings located in steam above thrust collar.
6. Thrust bearings shall be of the low friction torque reduction type, located both above and below the steam collar.
7. Valves shall be as manufactured by; American-Darling, Clow, M & H, Stockham, U.S. Pipe or an approved equivalent.

D. Protective Coatings
   1. All iron parts of valve assemblies shall be painted before leaving the shop.
   2. All exterior and internal waterway ferrous surfaces of each valve, except finished or bearing surfaces shall be shop painted with a liquid or powder epoxy coating of approximately 10 mils dry film thickness conforming to AWWA C550.

E. Extension Stems and Stem Guides
   1. When required by drawings, schedule or project details, provide an extension stem made of cold-rolled steel material and the same size as the stem of the valve it operates. If the extension is more than 8 ft. long, intermediate stem guides shall be installed and supported from the wall by suitable brackets at a maximum spacing of 8 ft.
   2. Brackets and stem guides shall be made of cast iron and fully adjustable. The guide block shall be bronze bushed where it contacts the extension stem. Stem guides shall be as manufactured by the Eddy Valve Co., Rodney Hunt, or equal. Secure stem guides to walls with stainless steel bolts. In the event of off-set of misalignment, provide off-set extension road with universal end fittings at valve actuator and stem drop connection.
   3. Extension stem shall have connecting socket for 2-inch square nut and pin socket to lock on valve operating nut.

F. Valve Boxes
   1. Valve boxes shall be cast iron, 5-1/4" shaft, three-piece screw type, adjustable boxes. The top section to have a drop lid of which to be marked for service which it is used cast thereon. Cover and boxes shall be round pattern.
   2. Provide proper base size and shape to straddle the valve bonnet without touching or being supported by the valve mechanism. Use No. 6 base size for 6-inch and 8-inch gate valves or typical butterfly valve operators, No. 160 oval base size for 12-inch and larger gate valves or other size necessary to suit a particular valve manufacturer's requirements.
   3. Extension sections shall be provided where the depth of trench is such that they are needed to bring the top of the box to finished grade. The valve box shall be installed so that it is perfectly vertical and centered on the valve operating nut.

2.3 FIRE HYDRANT ASSEMBLIES

A. Includes fire hydrant, watch valve and valve box, piping, and appurtenances.

B. Fire Hydrant:
   1. Manufacturers: Mueller, or as approved.
   2. AWWA C502, compression type, 5-1/4-inch valve opening, open by turning left (counterclockwise) right (clockwise); traffic model with frangible barrel section and stem coupling; positive operating drain valve installed in open position; 6 inch mechanical joint base, designed so water hammer will be prevented when properly operated. If drain valve, install with drain valve plugged.

   3. Two 2-1/2-inch hose nozzles, and one 4 inch Storz.
   4. Suitable for setting in trenches of depths and in locations shown; CONTRACTOR responsible for determining hydrant depth of bury based on locations shown.

5. Verify that the direction of opening, hydrant pumper nozzle, operating nut, outlet nozzle cap nuts and hose threads conform to those in the system before the new hydrants are shipped.

C. Watch Valves and Valve Boxes: Watch valves and valve boxes shall be gate valves and valve boxes as specified in Articles 2.3 and 2.6, with valves to have ends suitable for receiving the spigot end of 6 inch anchoring pipe.

D. Piping:
1. Ductile Iron Pipe: AWWA C150, AWWA C151; asphaltic material, or AWWA C116 fusion-bonded epoxy exterior coating, AWWA C104 cement mortar with seal coat, or AWWA C116 fusion-bonded epoxy interior lining.
2. AWWA C110 or C153 mainline tees with standard mechanical joint branch for connecting to anchoring pipe and fittings, and mechanical joint anchoring type branch when connecting to a watch valve; coated and lined as specified for pipe. C153 fittings to be polyethylene encased when buried.
3. Anchoring pipe, plain end mechanical joint type incorporating an integral cast shoulder and follower gland.
4. Anchoring Pipe Manufacturers: American Cast Iron Pipe Company, Clow Corporation, United States Pipe and Foundry Company, or as approved.

2.4 POLYETHYLENE ENCASEMENT

A. AWWA C105, 8 mil linear low-density polyethylene tube or 4 mil high density, cross-linked polyethylene tube; 2 inch wide plastic-backed, adhesive tape, bond to both metal surfaces and polyethylene film.

2.5 TRACE WIRE

A. Inert bonded layer plastic with metallized foil core, 6 inches wide, resistant to alkalis, acids and other destructive chemical components encountered in soils; APWA Uniform Color Code, brightly colored; imprinted indicating pipe type; Griffolyn Company Terra Tape "D", Seton Name Plate Corporation, or an approved equivalent.

B. Use with non-metallic water main pipe materials.

2.6 PIPE INSULATION

A. Cellular glass insulation with an aluminum jacket; thickness as required to prevent freezing at 0 degrees F, but in no case less than 1 inch; suitable for burial; Pittsburgh Corning Corporation FOAMGLAS, or as approved.

2.7 JOINT BOLTS AND NUTS

A. Unless otherwise specified or noted, bolts and nuts on buried piping shall be low alloy steel cathodic to pipe with a minimum yield strength of 45,000 psi, and all other bolts and nuts shall be low carbon steel, ASTM A307, Grade B, zinc-plated.

2.8 SPARE PARTS

A. Hydrant Wrenches: Provide 2 spare hydrant wrenches with pentagon hydrant nut operator on handle, constructed of stainless steel, and a minimum length of 36-indhes

B. Valve Keys: Provide 2 spare valve keys with standard AWWA valve nut operator. Valve keys shall be 8 feet long and have a 4 ft long turn handle centered at top.

PART 3 – EXECUTION

3.1 ALIGNMENT AND GRADE

A. Horizontal and Vertical Control
   1. All horizontal and vertical control required for the complete layout and performance of the Work under this contract shall be done by a registered surveyor at the Contractor's expense, and any observations by the Engineer of the Contractor's methods will not relieve the Contractor of his responsibility.
   2. The Contractor shall be solely responsible for the accuracy of all horizontal and vertical control.

B. Alignment and grade shall be established by means of a laser beam.

3.2 PREPARATION

A. String pipe sections along the route of the mains so as to interfere least with pedestrian and vehicular traffic and to protect the pipe.

B. Excavate trench for Work of this Section; follow Section 02225.

C. Location of service connections and insertion valves indicated are approximate. Final locations will be established during construction by OWNER.

D. Do not install service connections until new mains have been successfully tested, disinfected, and placed in service.

E. Prior to ordering tapping sleeve assembly, expose existing main and verify circumference of existing pipe.

F. Prior to ordering insertion valve and sleeve assembly, expose existing main at point of installation and verify circumference, actual caliper diameter and roundness of existing pipe. In addition, identify the exterior condition of the pipe with respect to pitting, scaling, electrolysis, or other defects which would affect manufacturing dimensions or exact location of the insertion.

G. Verify that polyethylene encasement is in place, where required, before placing bedding.

H. For river crossing pipe, inspect trench just prior to laying pipe to ensure that it is in suitable condition.

3.3 BEDDING

A. Place bedding material at trench bottom and shape for accurate placement and proper support of pipe.

B. Place in 6 inch layers, loose measurement, and compact by hand or mechanical tamping to not less than 95 percent of maximum density as determined in accordance with ASTM D698 (Standard Proctor).

C. Carefully place and tamp so as not to damage or displace joints or pipe. Do not drop material directly on pipe.

D. Maintain optimum moisture content of bedding material to attain required compaction density.

E. Construct thrust blocks at fittings, dead ends, and valves as shown. Place against firm, undisturbed soil. Provide straps and anchors as indicated; repair cuts and other damage to galvanized surfaces by applying two coats of cold galvanizing compound. Securely strap or block plugs and caps.

F. Construct concrete encasement as shown.

3.4 PIPE INSTALLATION

A. The Contractor shall furnish all of the proper tools and equipment required for the safe, proper handling and laying of all pipe, fittings, and specials that are to be installed in this work. All storage, handling, laying, and backfill methods shall be performed so as to avoid damaging either the interior or the exterior surfaces of all pipe fittings, specials, joint materials, or other appurtenances, and any such damage shall be remedied at the Contractor's expense.

B. Before any pipe is lowered into the trench, it shall be inspected for damage, and any unsatisfactory lengths shall be rejected. Cast metal pipe and fittings shall be inspected for cracks by ringing with a light hammer while suspended. The interior and exterior of each pipe length used shall be cleaned as necessary to remove all dirt or other foreign material before it is inspected. The interior of the pipe shall be kept clean until the work is accepted.

C. No pipe shall be laid in water, mud or when trench conditions or weather is unsuitable for such work.

D. If mud, surface water, leaves and/or other debris have been permitted to enter the strung-out pipe, the inside shall be cleaned with a strong hypochlorite solution after all such foreign materials are completely cleaned from the pipe and before the pipe is lowered into the trench.

E. Pipe shall not be pushed off the bank nor shall it be permitted to fall into the trench. Each type of pipe, fitting, special or other appurtenances shall be handled in strict accordance with recommendations of its respective manufacturer.

F. No rocks, stones, metal, concrete, bricks, pavement pieces, wood, soil lumps or other hard materials too big to pass through a six (6") inch screen shall be permitted within six (6")

inches of the pipe after it is laid in the trench. Any pipe endangered by such debris shall be subject to removal and disposal at the Contractor's expense.

G. When pipe laying is not in progress, the open ends of installed pipe shall be closed by appropriate means to prevent the entrance of dirt and water. In the event ground water, sewage water or other potential contaminants enter any portion of the pipeline, after it is laid, cleaning and preliminary disinfection with a strong hypochlorite solution shall be done.

H. Pipe lengths shall not be deflected at the joint to any greater degree than recommended by the manufacturer of the particular joint being used. Where deflections in excess of such recommendations are necessary, the appropriate specifications for the particular type of pipe being installed shall govern the mode of accomplishing such excessive deflections.

I. Provide non-conducting dielectric connections wherever jointing dissimilar metals.

J. Use suitable fittings, usually 1/8 bends, when abrupt grade changes of the pipe are necessary to avoid existing utilities or other obstructions, so as to secure and easy flow of liquid and to provide sufficient cover below same unless noted otherwise.

K. Install pipe to allow for expansion and contraction without stressing pipe or joints.

L. Deflect pipe joints in strict accordance with the pipe manufacturer’s instructions. For river crossing pipe, in no case shall joint deflection exceed 15 degrees during installation and 12 degrees after installation unless otherwise approved by manufacturer.

M. With push-on joints, wipe surfaces that contact rubber gasket clean and dry just prior to making joint. Use lubricant in accordance with the manufacturer’s instructions when making joint.

N. With mechanical joints, brush surfaces that contact rubber gasket with soapy water to remove all sand and grit just prior to making joint.

O. Make butt fusion joints in accordance with pipe manufacturer’s and fusion machine manufacturer’s instructions. The wall thickness of the adjoining pipes shall have the same DR at the point of fusion.

P. For butt fusion joints, the fusion unit shall include a battery-operated data logger designed for field use and for providing complete fusion data documentation from the beginning to the end of the fusion process, ensuring joint integrity and reliability. Data logger shall:
   1. Record actual joint data, retrieve stored data recorded, print out joint data, and download data stored to a PC.
   2. Display total elapsed time, a resetable stopwatch, actual machine pressure, recommended machine pressure, and actual number of data points being recorded.
   3. Provide a summary plot indicating pressure used to seat the heater, if correct shift sequence was used, duration of the melt cycle, magnitude of the fusion pressure, and duration of the cool cycle.
   4. Provide a computer download printout giving all the parameters of each joint on one page.

Q. Install trace wire continuous over top of PVC or polyethylene pipe; locate 18 inches below finished grade.

3.5 VALVES

A. Installation
   1. Valves shall be carefully handled and placed so as not to permit any damage to the interior coatings, disc or seat. Internal type lifting devices shall not be permitted. Do not use handwheels or stems as lifting of rigging points.
   2. All valves shall be carefully installed in their respective positions free from distortion and stress. Connecting joints shall conform to applicable requirements of the specifications.
   3. Stem guides shall be accurately aligned.
   4. If the valve box is tipped or otherwise not centered on the valve operating nut or not installed at the proper elevation, the Contractor shall, at his own expense, make whatever correction is required to remedy the defect promptly, upon notice to do so by the Engineer.

B. Testing
   1. All valves shall be tested in place by the Contractor as far as practicable under conditions for the pipelines, in which they are placed, and defects revealed in valves or connections under test shall be corrected at the expense of the Contractor to the satisfaction of the Engineer.

C. Operation and Maintenance Manuals
   1. Prior to or with the delivery of equipment, the manufacturer shall provide copies of an operation and maintenance manual including storage, installation, start-up, operating and maintaining instructions, and a complete parts and recommended spare parts list. The O & M Manuals shall be in compliance with the General Requirements of these specifications.

3.6 SERVICE CONNECTION ASSEMBLIES; BACTERIA SAMPLING AND FLUSHING ASSEMBLIES; BLOW-OFF ASSEMBLIES

A. Install assemblies as shown or noted; comply with component manufacturer's instructions.

B. Set valves plumb and on solid bearing; center and plumb valve box over valve; set box cover flush with finished grade; provide expansion joint material around portion of box in concrete pavement or sidewalks.

C. Place stone fill under blow-off assemblies.

D. Provide drain hole where indicated for blow-off assembly.

E. Remove bacteria sampling and flushing assemblies after notice from OWNER that mains have passed all tests and have been placed in service.

F. For existing service connections to be abandoned on existing water mains to remain in service, dig up (expose) and turn off the existing corporation stop at the connection to the existing main.

3.7 SERVICE CONNECTION PIPE

A. Installation pipe under street and highway pavements by pushing or boring, with no excavation closer than 5 feet to edge of pavement. No joints permitted within these limits.

B. When boring, if opening exceeds by 2 inches the outside diameter of the pipe installed, the opening around the pipe shall be filled with grout.

C. For existing service connections, intercept or extend as shown or noted to connect to new water mains.

3.8 JOINTING

A. The particular method of making up pipe joints shall be governed by the type of pipe material and type of joint in accordance with the drawings and/or specifications.

3.9 CONNECTION TO AND INSERTIONS INTO EXISTING MAINS

A. Existing mains into which valves are to be inserted cannot be shut down or taken out of service. The entire operation of installing the valves shall be accomplished below 100 psig at the point of installation.

B. Connect new mains to existing mains using proper fittings and in a manner acceptable to OWNER and ENGINEER.

C. Expose existing mains at connection points 10 days prior to making connections to determine elevation, verify type of pipe, confirm outside diameter of pipe, and identify type of restraints existing.

D. No cut-ins or connections to existing mains shall be made unless at least 48 hours notice is given to OWNER and ENGINEER.

E. Plan all connecting work to reduce number of shutoffs.

F. Two days prior to shutting valves on existing lines, notify all affected property owners, local official in charge of the water works system, and ENGINEER of such shutoff.

G. Keep shutoff time to a minimum and do at off-peak hours.

H. A representative of OWNER shall operate existing valves. CONTRACTOR shall not operate existing valves.

I. OWNER and ENGINEER assume no responsibility for any delay occasioned by special requirements or conditions which must be met in making connections.

J. Take extreme care in making connections to prevent contamination of existing mains.

K. Before making cut-ins or connections to existing mains, wash all fittings, valves, and pipe with clean water, and then disinfect by washing with a chlorine solution having a residual chlorine strength of not less than 50 ppm.

L. Plugs removed from existing mains that are not damaged may be reused within the Project, and those remaining after completion of construction shall remain the property of OWNER.

M. Connections to AC pipe shall be made with appropriate fittings specifically designed for AC pipe connections, and shall be acceptable to OWNER. All connections to AC pipe shall be via pad adapters. AC pipe must not be cut with a saw. All cuts shall be accomplished by snap cut.

3.10 ANCHORAGE

A. All hydrants, plugs, caps, tees and bends shall be provided with a reaction backing or shall be restrained by attaching suitable metal rods, clamps, anchored fittings or harnessed joints, as shown on the plans or as specified so as to prevent movement.

B. Reaction backing shall be of concrete, with steel reinforcement as required, unless otherwise shown on the drawings. Backing shall be placed between solid ground and the fitting or other part of the pipeline to be anchored; the area of bearing on the pipe and on the ground in each instance shall be that as indicated on the plans. The backing shall be so placed unless otherwise directed, that the pipe and fitting joints will be accessible for repair.

C. Steel tie rods or clamps of adequate strength to prevent movement may be used instead of concrete backing. Steel tie rods or clamps shall be used to connect the hydrant watch valves to the main and to connect the hydrant to the water valves when shown on the drawings. Steel rods or clamps shall be painted with three coats of an approved bituminous paint or coat tar enamel.

3.11 BACKFILLING

A. Backfilling shall be accomplished in a two-step procedure as follows: 1) partial backfill before leakage tests, and 2) completion of backfill after tests. Departure from this procedure due to traffic or other conditions shall be approved by the Engineer.

3.12 MAINTENANCE OF EXISTING DITCHES

A. The Contractor shall use the utmost care in maintaining ditches and other waterways, and, if either bottoms or banks of such ditches are disturbed, they shall be promptly restored and maintained for the life of the guaranty period. Similar care shall be used in preventing damage to existing pavement by caving of trench walls and undermining such pavement. If pavement is damaged, the Contractor shall repair same at his own expense.

3.13 CLEARING SITE AND RESTORING DAMAGED SURFACES

A. Upon completion of the backfill work, the Contractor shall immediately remove and dispose of all surplus materials including dirt and rubbish.

B. Unless otherwise called for on the plans, the Contractor shall replace all pavement, sidewalks, sod, or other surfaces disturbed to a condition equal to that existing before the work was started, furnishing all materials, labor, equipment, etc., at no additional cost to the Owner.

3.14 LEAKAGE TESTS

A. All pipeline construction shall be subjected to hydrostatic leakage testing of each valve section, as it is completed, unless otherwise directed by the Engineer. All pipes, valves, fittings, etc. shall be laid in such a manner as to leave all joints watertight.

B. Each section of pipe being tested shall be filled slowly with water, and, before applying the specified test pressure, all air shall be expelled from the pipe. The method of obtaining and placing test water(s) into the pipeline shall be approved by the Engineer.

C. The test shall be observed by the Engineer or his designate. The Owner will furnish a pressure gauge for measuring the pressure on the water main. The Contractor shall furnish a suitable pump, pipes, bulkheads and all appliances, labor, fuel, and other appurtenances necessary to make these tests.

D. The test pressure shall be maintained for sufficient length of time to allow for a thorough examination of joints and elimination of leakage where necessary. The pipeline shall be made absolutely tight under the test pressure.

E. The Contractor shall drain each section of the waterline piping after it has been tested. If the drains are connected to valve or drain vaults, then, within a reasonable period of time after the test has been completed, the Contractor shall pump all water out of the vaults.

F. In cold weather, immediately after testing a section of the waterline piping, the Contractor shall open all valves, air cocks, by-passes, and drains; shall drain that section of the pipeline, including the bonnets of all valves contained therein, and shall take all other precautions necessary to prevent injury due to freezing to the water main, piping and appurtenances.

G. Every precaution must be taken to remove, valve-off, or otherwise protect delicate control equipment in or attached to pipelines to prevent damage or injury thereto.

H. Leakage is defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, as required to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled as herein required.

I. In calculating leakage, the Engineer will not make allowance for any leakage at the valves, the removable bulkheads, etc.

J. The evaluation of actual leakage to standard pressure leakage is calculated by the application of the ratio determined from the square root of respective pressures, other factors being equal.

K. The test pressure shall be 250 psi unless otherwise specified elsewhere in these specifications. Testing procedure shall be as specified herein for the particular pipe material contained in the section tested and shall be subject to modification as required

by a particular pipeline material specification or part thereof, as contained elsewhere in these specifications.

L. For cast iron pipe (CIP) or ductile iron pipe (DIP), AWWA C600 shall govern the test, except that the allowable leakage rate shall be 12 gpd per mile of pipe per inch of diameter.

M. All defective materials and construction found in the pipeline as a result of leakage tests shall be corrected by removal of the defective materials and reconstruction with sound materials and construction. The entire section shall then be retested in accordance with the foregoing.

N. Any testing performed without the knowledge of the Engineer shall not be considered a test for the purpose of this specification.

O. The lack of hydrants, branch shutoff valves, or any other attachments to the line being tested shall not preclude the testing of each valved section as it is completed. In the event that hydrants, branch shutoff valves or any other attached appurtenances are not available for installation prior to testing of each valved section, then plugs or other approved means of containing line pressure must be utilized so as to test each valved section of main line as it is completed. A retest of each valved section will then be necessary after all appurtenances are installed. There will be no additional payment for any such retests.

P. The Contractor shall provide all pressure test equipment. The Owner shall provide all test water required and shall provide test gauges.

3.15 DISINFECTION

A. Prior to disinfection, all pipeline construction shall be flushed to remove any foreign material. Flushing shall be performed after completion and approval of the leakage tests. The minimum requirements for flushing are as follows:

Pipe Size	Minimum GPM Required
6"	220
8"	390
10"	610
12"	880
14"	1,200
16"	1,565
18"	1,980
20"	2,450
24"	3,500

B. Flushing at these rates shall be continued for at least five (5) minutes. In the event the foregoing requirements cannot be met due to the Owner's facilities being inadequate, alternate rate(s) and duration(s) of flushing shall be used.

C. Disinfecting water mains shall be in accordance with AWWA C651 and as specified herein.

D. The following disinfectants may be used: Chlorine or chlorine water; calcium hypochlorite; sodium hypochlorite solution, or chlorinated lime-water mixture. Chlorine shall be applied at one extremity of a pipe section via a corporation stop (installed in the top of the pipe by the Contractor) and bled at the opposite extremity of a properly segregated section. Precautions shall be taken to prevent dosed water from flowing into the potable water supply. All high points on the section treated shall be properly vented for air escape.

E. The rate of applying the disinfectant shall provide at least 25 ppm (mg per liter) chlorine dose at the outlet end of the line section being treated. The disinfecting period shall be twenty-four (24) hours, and, at the end of this period, a chlorine residual of at least 10 mg per liter shall exist at the outlet end of the line.

In the event of unfavorable or unsanitary conditions of installation, poor packing, or high pH, the period of disinfection may be extended. For shorter periods of disinfection, higher dosages shall be required.

F. Sterilizing water shall be disposed of in a satisfactory manner by the Contractor. If the foregoing disinfection procedure fails to provide thorough disinfection of the line, it shall be repeated as necessary in the pipeline for a period of 20 - 30 days after it is placed into operation.

G. Tests for efficacy of sterilization shall be made by the Owner, and repeated sterilization shall be carried out by the Contractor when required.

H. Contractor shall provide all disinfectants and disinfection equipment. Owner shall provide all test waters needed

END OF SECTION 311113

SECTION 6
STANDARD SPECIFICATIONS

STANDARD SPECIFICATIONS

1. The "Construction and Material Specifications" of the State of Ohio Department of Transportation (ODOT), 2023 edition, current ODOT supplemental specifications, and current ODOT standard drawings shall govern work and materials which are not specified or modified herein or on the project Contract Drawings. All references to "the Department" shall be changed to "the Owner or his Representative." The project Contract Drawings and Specifications, in the event of a discrepancy, shall supersede the ODOT Specifications.

   The absence of an "As Per Plan" designation on some item descriptions in the proposal for which there are clear and controlling plan notes, specifications, or other requirements does not relieve the Contractor of the responsibility to read, bid and construct those particular items in accordance with the governing plan notes, specifications, or other requirements and the Contractor shall have no basis of claim based upon an "order of precedence".

   ODOT 104.02 D., 611.04, 611.12, and 611.13 shall not apply to this project.

SECTION 7
SPECIFIC PROJECT REQUIREMENTS

SPECIFIC PROJECT REQUIREMENTS

1 - CONTACT DURING BIDDING

1.1 All questions during bidding should be addressed to Magdalena Boru, who can be reached at Verdantas LLC, 8150 Sterling Court, Mentor, Ohio 44060 at (440) 530-2352.

2 - GEOTECHNICAL EXPLORATION REPORT

2.1 Contract A - Harpersfield Water Tank & Waterline Improvements: A geotechnical report dated May 6, 2022 by Wertz Geotechnical Engineering was relied upon by the Engineer in the preparation of drawings and specifications. Copies of the report are provided along with each bid set but are not considered to be part of the contract documents.

3 - MILESTONE COMPLETION DATE

3.1 Contract B - South River Road Waterline Extension Phase 2 - The waterline portion on Brandt Rd is to be constructed first. The remaining waterline portions are to follow thereafter.

4 - CORRECTION PERIOD

4.1 The Correction Period in Section 13.07 of the General Conditions shall be changed from a one (1) year to a two (2) year period.

5 - INSURANCE

5.1 See the following Bid Set Sections for Insurance Requirements:

A. Section 1, Instructions to Bidders, Part 10 Insurance

B. Section 3, General Conditions, Article 5 Bonds, and Insurance (EJCDC) or Article 11 Insurance and Bonds (AIA), whichever is used in the Bid Set

C. Section 4, Supplemental Conditions

6 - WORKING HOURS

6.1 No work shall be performed between the hours of 7:30 p.m. and 7:30 a.m. nor on Saturday, Sunday, or legal Holidays, without written permission of the Owner.

7 - PROJECT COMPLETION

7.1 All work including restoration and clean-up shall be completed no later than the contract completion date. Failure to complete all work within the allotted time will result in assessment of liquidated damages. Upon completion of all work and written notification of same by the Contractor, the Engineer and Owner will compile a punch list. The punch list will be sent to the Contractor. All punch list work shall be completed to the satisfaction of the Engineer and the Owner within 14 days after receipt of the punch list. Failure to

complete the punch list work within the allotted time will result in assessment of liquidated damages.

8 - MSDS SHEETS

8.1 Contractors or suppliers shall furnish MSDS sheets for any hazardous substance brought onto county property or a county job site.

9 - DRUG-FREE WORKPLACE PROGRAM

9.1 In accordance with Ohio Revised Code §153.03 and during the life of this project, the Contractor and all its Subcontractors that provide labor on the Project site must be enrolled in and remain in good standing in the Ohio Bureau of Worker's Compensation ("OBWC") Drug-Free Workplace Program ("DFWP") or a comparable program approved by the OBWC.

10 - OHIO ETHICS LAW

10.1 Contractor agrees that it is currently in compliance and will continue to adhere to the requirements of Ohio Ethics law as provided by Section 102.03 and 102.04 of the Ohio Revised Code.

11 - PERIODIC PAYMENTS

11.1 This project is expected to be funded in whole or in part by the Ohio EPA WSRLA Program. The Contractor shall comply with all requirements of this program. The periodic payments to the Contractor may be made in whole or in part through the OWNER and/or OWDA. In paragraph 14.02 C.1. of the General Conditions, change "ten days" to "sixty days."

11.2 Ohio EPA must approve all change orders prior to a change order item being paid on a pay estimate.

END OF SECTION

SECTION 8
SPECIAL REQUIREMENTS - EPA

Contract Document Provisions

- The following contract requirements and forms are to be included in the construction contract documents. Completed copies of the forms are to be submitted to Ohio EPA within one week after bids are received, or sooner, dependent on your individual project schedule. Bid packages for WPCLF projects should be submitted to DEFA in the central office while bid packages for WSRLA projects should be submitted to the appropriate DDAGW district office.

Equal Employment Opportunity (EEO) Requirements

The Contractor's EEO Certification Form must be (1) included in the contract documents and (2) referenced in the Instructions to Bidders, informing bidders that the form must be completed and submitted with their bid.
NOTE: If the loan applicant has its own EEO requirements, local procedures and forms may be substituted for the EPA form.

Debarment

The Certification Regarding Debarment, Suspension, and Other Responsibility Matters must be (1) included in the contract documents and (2) referenced in the Instructions to Bidders, informing bidders that the form must be completed and submitted with their bid.

Disadvantaged Business Enterprises (DBE) Utilization

The DBE Specification language and instructions to the bidders and Forms 6100-3, 6100-4 and 6100-2 must be (1) included in the contract documents and (2) referenced in the Instructions to Bidders, informing bidders that the forms must be completed and submitted with their bid.
NOTE: If the loan applicant has its own DBE requirements or if other funding programs with potentially competing DBE requirements are participating in the project funding, please contact Ohio EPA – DEFA for specific instructions regarding the DBE requirements.

Davis-Bacon wage rate requirements

The contract documents must include language that requires contractors and subcontractors to pay wages at rates not less than those prevailing on similar projects within the area as determined by the US Secretary of Labor. In addition, the loan recipient will be required to conduct wage interviews and monitor payroll for compliance.

American Iron and Steel

All treatment works projects funded by a WPCLF assistance agreement and all public water system projects funded by a WSRLA assistance agreement are required to comply with American Iron and Steel (AIS) requirements. The acknowledgement form must be included in the contract documents. The acknowledgement form should be signed by the contractor and submitted with the final bid package. It is recommended that the AIS guidance document and questions and answers document be included in the contract documents.

- The following contract requirements are to be included in the construction contract documents but are not required to be submitted to Ohio EPA for contract endorsement.

Violating Facilities Clause

Language prohibiting this use of equipment or services from anyone on the EPA List of Violating Facilities must be included in the contract documents.

Small Businesses in Rural Areas (SBRA)

Language encouraging the participation of small businesses in rural areas should be included in the contract documents.

Prohibition on Telecommunications and Video Surveillance

Restrictions to loan recipients and subrecipients on certain telecommunications and video surveillance services or equipment due to Public Law 115-232.

Insurance Provisions

Section 3.5 of the WPCLF/WSRLA Loan Agreement contains specific requirements regarding insurance for all contractors and all subcontractors for the life of the contract. These insurance requirements must be reflected in the contract documents. Adjust the language as needed to meet the specifics of the construction project while still meeting the provisions of the Loan Agreement.

Materials Testing

In addition to the details included with specific equipment testing in the specifications, there should be an overall statement regarding testing for the project. Adjust the language as needed to meet the specifics of the construction project.

Continuous Treatment Provisions

It is important that construction activities not result in any temporary violations of Drinking Water or NPDES permit requirements (for permitted facilities). Construction activities should interrupt wastewater service to the individual resident as little as possible. For drinking water projects, it is important that construction activities not result in any disruption of service. The example language is intended for construction work occurring at an existing drinking water plant or a WWTP and must be adjusted to meet the specifics of the construction project.

WPCLF/WSRLA Change Order Form

All change orders for the construction project must be executed on the WPCLF/WSRLA change order form. The form must be (1) included in the contract documents and (2) the instructions referenced in the Contract Documents.

- The following contract requirements are provided in Ohio Revised Code (ORC). Some loan applicants have local requirements that supersede ORC provisions for competitive bidding, and these local requirements can be applied instead of ORC, except for those requirements specified in the WPCLF/WSRLA loan agreements.

Bid Guarantee

The requirements for a bid guarantee (which can be a bond or a certified check, cashier's check, or letter of credit) are covered in ORC 153.54.

Payment and Performance Bonds

The requirements for a Payment and Performance Bond are covered in ORC 153.54 and Section 3.4 of the WPCLF/WSRLA Loan Agreements.

Payment Retention

The requirement for payment retainage is provided in ORC153.12. Details on how the escrow account that holds the retainage are provided in ORC 153.13. Further details on how and when to pay for materials delivered and installed are provided in ORC 153.14.

Completion Time

The contract documents must state the length of the contract time per ORC 153.19. The dates for Initiation of Operation and Project Completion are specified in the WPCLF/WSRLA Loan Agreements and need to coincide with the specified contract time.

- The following are contract provisions to consider but are not required. The language provided for each are samples only and must be adjusted to reflect the specifics of the project and local needs.

Local Protest Procedure

Some statement as to when a valid protest must be filed, in what form it must be filed and who it must be filed with should be included. ORC 153.12 has some default procedures for handling disputes. If the owner wants more control than provided in ORC, a procedure needs to be spelled out in the Contract Documents.

Basis and Method for Award

The contract documents should include some language that clearly states what the Owner will consider when determining the successful bidder and to provide a clear basis for the Owner when they have a need to reject the low bidder and go with a different bidder.

Payment Methods

To minimize uncertainty and arguments that can slow down the progress of construction it is useful to provide language stating how and when the Contractor will get paid. In addition to ORC and other local requirements, the involvement of public funding Agencies such as the WPCLF, WSRLA, Ohio Public Works Commission and Community Development Block Grant impact the process and timing for payments.

Contract Documents Review (pre-advertising)

Whenever possible, all the provisions listed above must be included in the contract documents for the project prior to advertisement for bids. Ohio EPA's review for these contract provisions will occur as part of our normal detail plans and specifications review. The bidding documents are to be submitted to Ohio EPA for review regardless of whether a Permit to Install or a Plan Approval is required for the project.

After bidding has started:

In those cases when WPCLF or WSRLA funding is being requested after advertisement for bids has started, add all missing contract provisions, forms, and requirements via addendum.

After bids have been opened but before contracts have been signed:

If the bid advertisement period is over and bids have been opened, but the construction contract have not been signed yet, provide a draft contract change order which would be used to incorporate all missing contract provisions, forms, and requirements into the contract. This should be done in consultation with local legal counsel to address any potential bid protest concerns.

Construction contracts have already been signed:

If the construction contract has already been signed, a contract change order must be executed incorporating all missing contract provisions, forms, and requirements into the contract.

A Contract Documents Review checklist is provided here to help ensure that all requirements are included and to help expedite Ohio EPA's review of your documents.

Bid Package Submittals (post-advertising)

Certain documents must be submitted to Ohio EPA within one week after bids are received, or sooner dependent on your individual project schedule. Please look here for a complete list of the required submittals.

NOTE: THE CONTRACT LANGUAGE SAMPLES PROVIDED HEREIN ARE EXAMPLES OF WHAT COULD BE INCLUDED IN ALL CONTRACTS THAT USE WPCLF OR WSRLA FUNDS. OHIO EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THESE CLAUSES WITH RESPECT TO STATE OR LOCAL LAW. IT IS IMPERATIVE THAT ANY PARTY INSERTING THESE CLAUSES INTO A CONTRACT VERIFY THAT THEY ARE LEGAL AND ENFORCEABLE ACCORDING TO STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES.

Disadvantaged Business Enterprises (DBE) Utilization

(Required Contract Provision)

USEPA has a program to encourage the participation of disadvantaged businesses in the construction activities funded by the Clean Water and Drinking Water SRF's. "DBE" is an all-inclusive term that includes Minority Business Enterprises (MBE), Women Business Enterprises (WBE), Small Business Enterprises (SBE), Small Business in Rural Areas (SBRA), HUBZone Small Business, Labor Surplus Area Firms (LSAF), and other entities defined as socially and/or economically disadvantaged. While the WPCLF and WSRLA strongly encourage participation by all disadvantaged groups, specific participation goals are negotiated with USEPA only for Minority Business Enterprises and Women's Business Enterprises.

Goals

As a condition of receiving capitalization grants from U.S. EPA for the Water Pollution Control Loan Fund (WPCLF) and the Water Supply Revolving Loan Account (WSRLA), the Ohio EPA negotiates "fair share" Disadvantaged Business Enterprises (DBE) objectives with U.S. EPA. **The current negotiated goal for construction related activities is 5.4% (the total goal is based on 3.1% of MBEs and 2.3% of WBEs participation).**

DBE Certification

Under the DBE program, qualified DBE's are those that have been certified as an MBE or WBE. Certifications can be obtained from a federal agency such as the Small Business Administration or the Department of Transportation or by an approved State agency. The Unified Certification Program (UCP) administered by the Ohio Department of Transportation (ODOT) can provide the necessary DBE certifications. Information on the UCP can be found at www.ohioucp.org as well as the ODOT website https://www.transportation.ohio.gov/programs/business-economic-opportunity/dbe. The Department of Development operates the Encouraging Diversity Growth and Equity Program (EDGE), the other state approved DBE certification program. Information on EDGE can be found at https://development.ohio.gov/business/minority-business/business-certifications/encouraging-diversity-growth-and-equity-program.

DBE Qualifications

To qualify for MBE certification, businesses must be 51 percent owned and controlled by a U.S. citizen and Ohio resident belonging to an African American, Native American, Hispanic, or Asian American ethnic group. In addition, the business must be in operation for at least one year prior to submitting an application. For DBE status, a business must be at least 51 percent owned by a socially and economically disadvantaged person who participates in the daily operations of the business. This person must be a woman or of African-American, Hispanic, Native American, Asian American ethnicity.

Program Requirements

To comply with DBE program requirements the WPCLF/WSRLA loan recipient must do the following:

1. Create and maintain a bidder's list (see description below)

2. Include contract conditions applicable to the DBE program in all procurement contracts entered into by the Borrower for all WPCLF and WSRLA projects. These conditions are listed below.
3. Follow, document, and maintain documentation of good faith efforts on the part of prime contractors to ensure that Disadvantaged Business Enterprises (DBEs) have the opportunity to participate in the project.
4. Review the Form 6100-3 and 6100-4 submittals provided by bidders on the project for completeness and obtain any additional information necessary to verify the certification status of all proposed subcontractors.
5. Obtain documentation of the good faith efforts of the prime contractor if the prime contractor does not meet the MBE or WBE goal.
6. Obtain a written confirmation from any prime contractor states that they will not meet the MBE and WBE goals because they will not be entering into any agreements for goods or services with any company, firm, joint venture, or individual.
7. Submit the following to the Ohio EPA/DEFA as part of the bid package upon which the WPCLF/WSRLA loan amount is determined:
   - Form 6100-3 from each subcontractor
   - Form 6100-4 from each prime contractor
   - a copy of the Good Faith Efforts documentation from any prime contractors that will not meet the MBE and WBE goals,
   - if any of the prime contractors will not meet the MBE and WBE goals because they will not be entering into any agreements for goods or services with any company, firm, joint venture, or individual, a copy of the written confirmation from that prime contractor
8. Report MBE/WBE accomplishments on Form 5700-52A annually (within 15 days after October 1st).

NOTE: It is up to the WPCLF/WSRLA loan recipient whether or not to require completion and submission of Forms 6100-3 and 6100-4 from all bidders with the bid proposal or to accept completion and submission from the successful bidder(s) only at some time after bids are received. Regardless of whether the forms are completed and submitted with the bids or at some later time once the successful bidders are identified, completed forms are to be submitted to Ohio EPA with the bid package.

To comply with DBE program requirements all prime contractors must do the following:

1. Follow, document, and maintain documentation of their good faith efforts.
2. Complete and submit **Form 6100-4 DBE Subcontractor Utilization Summary** as part of the bid proposal package to the loan recipient.
3. Have its Disadvantaged Business Enterprise subcontractors complete **Form 6100-3 DBE Subcontractor Proposed Performance Form** and submit those as part of the bid proposal package to the loan recipient.
4. Provide **Form 6100-2 DBE Subcontractor Actual Participation Form** to all of its Disadvantaged Business Enterprise subcontractors for completion at the end of the work.
5. During construction, provide the data necessary so that the loan recipient can report MBE/WBE accomplishments on Form 5700-52A annually (within 15 days after October 1st).

Bidders List

The Borrower must create, maintain, and use a bidders list for purposes of soliciting both MBE/WBEs and non-MBE/WBEs during procurement of construction, equipment, supplies, and services. This list shall include:

1. Entity's name with point of contact;
2. Entity's mailing address, telephone number, and e-mail address;
3. The procurement on which the entity bid or quoted, and when; and
4. Entity's status as an MBE/WBE or non-MBE/WBE.

Borrowers that receive less than $250,000 or less in any one fiscal year can be exempt from maintaining a Bidders List.

The Bidders List shall be maintained until the project period has expired and the Borrower is no longer receiving EPA funding. The Bidders List must include all firms that bid on the prime contracts, or bid or gave a quote on subcontracts, including both MBE/WBEs and non-MBE/WBEs.

Required Contract Conditions

The DBE Specification language and instructions to the bidders and Forms 6100-2, 6100-3 and 6100-4 must be included in the contract documents and referenced in the Instructions to Bidders, informing bidders that the forms must be completed and submitted with their bid for all WPCLF and WSRLA projects:

1. The prime contractor must pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the owner.
2. The prime contractor must notify the owner in writing prior to the termination of any Disadvantage Business Enterprise subcontractor for convenience by the prime contractor.
3. If a Disadvantage Business Enterprise contractor fails to complete work under the subcontract for any reason, the prime contractor must employ the six Good Faith Efforts (listed below) if soliciting a replacement contractor.
4. The prime contractor must employ the six Good Faith Efforts even if the prime contractor has achieved its fair share objectives.
5. An owner must ensure that each procurement contract it awards contains the following terms and conditions:

   The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

Good Faith Efforts

Borrowers and their prime contractors must follow, document, and maintain documentation of their good faith efforts as listed below to ensure that Disadvantaged Business Enterprises (DBEs) have the opportunity to participate in the project by increasing DBE awareness of procurement efforts and outreach.

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities; including DBEs on solicitation lists and soliciting them whenever they are potential sources.
2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
3. Consider in the contracting process whether firms competing for large contracts could be subcontracted with DBEs. This will include dividing total requirements when economically feasible into smaller tasks or quantities to permit participation by DBEs in the competitive process.
4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
5. Use the services and assistance of the Small Business Administration and the Minority Business Development Agency of the U.S. Department of Commerce.
6. If the prime contractor awards subcontracts, require the prime contractor to take the steps in numbers 1 through 5 above.

DBE Forms

Form 6100-3 – Each prime contractor must have its DBE subcontractors complete **Form 6100-3 DBE Subcontractor Proposed Performance Form**. This form gives the DBE subcontractor the opportunity to report the scope and cost of the subcontract and it should be forwarded to the Prime Contractor along with the DBE's quote. Each subcontractor completes one Form 6100-3. The Borrower must submit all Form 6100-3 forms to the Ohio EPA/DEFA as part of the bid package upon which the WPCLF/WSRLA loan amount is determined.

Form 6100-4 – Each prime contractor must complete and submit **Form 6100-4 DBE Subcontractor Utilization Summary** as part of the prime contractor's bid proposal package to the Borrower. This form summarizes the Prime Contractor's intended use of identified DBE(s) and the estimated dollar amount of each subcontract. Only one Form 6100-4 form is required from each Prime Contractor. The Borrower must submit this form to the Ohio EPA/DEFA as part of the bid package upon which the WPCLF/WSRLA loan amount is determined.

Form 6100-2 - The prime contractor must provide **Form 6100-2 DBE Subcontractor Actual Participation Form** to all of its Disadvantaged Business Enterprise subcontractors.

This form gives the DBE subcontractor the opportunity to describe the work the DBE received from the Prime Contractor, how much the DBE was paid and any other concerns the DBE might have. Disadvantaged Business Enterprise subcontractors must send completed Form 6100-2 directly to the Region 5 DBE Coordinator after the work by the subcontractor is done and is NOT submitted with the bid package to Ohio EPA.

Region 5 MBE/WBE Coordinator
USEPA, Acquisition and Assistance Branch
77 West Jackson Boulevard (MC-10J)
Chicago, IL 60604

Reporting During Construction – Form 5700-52A

The purpose of MBE/WBE reporting is to monitor the grant recipient's accomplishments in utilizing MBEs and WBEs; and adherence to the good faith efforts (i.e., outreach to MBEs, WBEs, and other DBEs); and progress in achieving MBE and WBE Goals. During the progress of the construction project, the loan recipient must complete & submit Form 5700-52A annually (**within 15 days after October 1st**). If there were no MBEs or WBEs utilized, or no procurement expenditures of any kind were made during the reporting period, a "negative report" is still required.

Reports are to be sent to:

Florel Fraser, Ohio EPA – DEFA
P.O. Box 1049
Columbus, OH 43216-1049
E-mail address: Florel.Fraser@epa.ohio.gov
Phone: (614) 644-3636

Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Participation Form

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE[1] subcontractor[2] the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g., in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name	Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact
Address		
Telephone No.	Email Address	
Prime Contractor Name	Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services , Equipment or Supplies	Amount Received by Prime Contractor

[1] A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2] Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

Please use the space below to report any concerns regarding the above EPA-funded project:

Subcontractor Signature	Print Name
Title	**Date**

ALERT

"Total Procurement" fields and "MBE/WBE Combined Procurement" fields located in section 4B of this form should include Federal funds provided under the assistance agreement, recipient matching funds, and funds from other sources that are included in the assistance agreement.

Due to process time of Paperwork Reduction Act procedures, EPA is not able to update the EPA Form 5700-52A immediately to reflect this clarification.

If EPA grant recipients have questions about EPA Form 5700-52A, please work with your respective Grants Specialist or DBE Coordinator.

OMB CONTROL NO. 2030-0020
APPROVAL EXPIRES 06/30/2024

U.S. ENVIRONMENTAL PROTECTION AGENCY MBE/WBE UTILIZATION UNDER FEDERAL GRANTS AND COOPERATIVE AGREEMENTS

This collection of information is approved by OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. (OMB Control No. 2030-0020). Responses to this collection of information are required to obtain an assistance agreement (40 CFR Part 30, 40 CFR Part 31, and 40 CFR Part 33 for awards made prior to December 26, 2014, and 2 CFR 200, 2 CFR 1500, and 40 CFR Part 33 for awards made after December 26, 2014). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The public reporting and recordkeeping burden for this collection of information is estimated to be 1 hour per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the Regulatory Support Division Director, U.S. Environmental Protection Agency (2821T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

1A. REPORTING PERIOD	1B. REPORT TYPE
October 1, – September 30,	☐ Annual ☐ Final Report (Project completed)

1C: Revision of a Prior Year Report? ◯ No ◯ Yes
If yes, what reporting period is being revised and briefly describe the changes made. **Note:** The revised report will replace the associated original report in its entirety.

2A. RECIPIENT UNIQUE ENTITY IDENTIFIER

2B. RECIPENT REPORTING CONTACT

Name:

Email:

Phone:

3. FEDERAL AWARD IDENTIFICATION NUMBER (FAIN)
(For SRF state recipients, please include all numbers for all open assistance agreements being reported on this form.

4A. If NO procurements were made this reporting period (by the recipient, sub-recipient(s), loan recipient(s), and prime contractor(s)), **CHECK and SKIP to Block No. 6**. (Procurements are all expenditures through contract, order, purchase, lease or barter of supplies, equipment, construction, or services needed to complete Federal assistance programs.)

☐

4B. Total Procurements & MBE/WBE Accomplishments This Reporting Period (in dollars)

	Construction	Non-Construction	Total
Total Procurement:	$ _____	$ _____	$ _____
MBE/WBE Combined Procurement:	$ _____	$ _____	$ _____

5A. Good Faith Efforts: If procurements were made, indicate whether your organization has followed the six Good Faith efforts found in 40 CFR Part 33, Subpart C, 40 CFR 33.501 and 2 CFR 200.321.

☐ Yes, my organization has implemented and documented each of the six Good Faith Efforts on the procurements made during this reporting period.

☐ No, my organization has not implemented and documented each of the six Good Faith Efforts on the procurements made during this reporting period.

5B. If procurements were made, but no MBE/WBE procurements are being reported, then check the applicable box(es) for the reason(s) why no MBE/WBE procurements were made.

☐ No MBE/WBE(s) applied ☐ No MBE/WBE(s) were qualified

☐ Other:

6. NAME OF RECIPIENT'S AUTHORIZED REPRESENTATIVE	TITLE
7. SIGNATURE OF RECIPIENT'S AUTHORIZED REPRESENTATIVE	DATE

Instructions:

A. General Instructions:

MBE/WBE utilization is based on 40 CFR Part 33 and 2 CFR Parts 200 and 1500. The reporting requirement reflects the change in the reporting threshold described in Recipient/ Applicant Information Notice-2018-G04 issued by EPA's Office of Grants and Debarment on September 7, 2018 (https://www.epa.gov/grants/rain-2018-g04). EPA Form 5700-52A must be completed annually by recipients of financial assistance agreements where the combined total of funds budgeted for procuring supplies, equipment, construction and services exceeds the current Simplified Acquisition Threshold as set by the Federal Acquisition Regulation at 48 CFR Subpart 2.1. This reporting requirement applies to all new and existing awards and voids all previous reporting requirements.

In determining whether the threshold is exceeded for a particular assistance agreement, the analysis must focus on funds budgeted for procurement under the supplies, equipment, construction, services or "other" categories, and include funds budgeted for procurement under sub- awards or loans.

Reporting will also be required in cases where the details of the budgets of sub-awards/loans are not clear at the time of the grant awards and the combined total of the procurement and sub-awards and/or loans exceeds the Simplified Acquisition Threshold.

For example, if the Simplified Acquisition Threshold is $250,000, then if a recipient has $300,000 budgeted under procurement, then completion of this report is required.

When reporting is required, all procurement actions are reportable, not just the portion which exceeds the Simplified Acquisition Threshold.

If at the time of award the budgeted funds exceed the Simplified Acquisition Threshold but actual expenditures fall below, a report is still required.

If at the time of award, the combined total of funds budgeted for procurements in any category is less than or equal to the Simplified Acquisition Threshold and is maintained below the threshold, no DBE report is required to be submitted.

Recipients are required to report 30 days after the end of each federal fiscal year (i.e. October 30th), per the terms and conditions of the financial assistance agreement.

Final reports are due October 30th or 120 days after the end of the project period, whichever comes first.

MBE/WBE program requirements, including reporting, are material terms and conditions of the financial assistance agreement. Failure to comply may lead to termination of the financial assistance agreement which is then reported to the OMB-designated integrity and performance system accessible through SAM (currently FAPIIS) pursuant to 2 CFR 200.339(b).

B. Submission:

Recipients must submit completed forms to the point of contact associated with the awarding office for the applicable assistance agreement.
Information on specific points of contact for EPA's Headquarters and ten Regional Offices is located at:

https://www.epa.gov/grants/frequently-asked-questions-disadvantaged-business-enterprises

Questions regarding the completion of this form should be directed to the DBE Coordinator associated with the awarding office for the applicable assistance agreement. A list of the DBE Coordinators for each awarding office can be located here:

https://www.epa.gov/grants/epa-dbe-program-coordinators

C. Instructions:

1A. Specify Federal fiscal year this report covers. The Federal fiscal year runs from October 1st through September 30th (**e.g. November 29, 2020 falls within Federal fiscal year 2021**)

1B. Specify report type. Check the annual reporting box if this is an annual report. If it is a final report, check the final report box to indicate if the project is completed.

1C. Indicate if this is a revision to a previous year and provide a brief description of the revision you are making including what reporting period is being revised. The revised report will replace the associated original report in its entirety.

2A. Provide your organization's Unique Entity Identifier. More information about Unique Entity Identifier, including its meaning, can be found in 2 CFR Part 25.

2B. Identify the name and contact information for the person located within the recipient organization that can be contacted if questions arise from this report.

3. Provide the Federal Award Identification Number (FAIN) assigned by EPA. A separate report must be submitted for each Assistance Agreement.

*For SRF recipients: In box 3 list numbers for ALL OPEN Assistance Agreements being reported on this form.

4A. Self-explanatory. **Note:** Procurement means expenditures under the supplies, equipment, construction, services or "other" categories, and include funds expended for procurement under sub-awards or loans.

4B. Provide the total dollar amount (in dollars) of **ALL** procurements awarded this reporting period by construction, non-construction, and grand total by the recipient, sub-recipients, and SRF loan recipients, **including** MBE/WBE expenditures, not just the portion which exceeds the threshold. For example: Actual dollars for procurement from the procuring office; actual contracts let from the contracts office; actual goods, services, supplies, etc., from other sources including the central purchasing/ procurement centers).

Provide the total dollar amount (in dollars) of MBE/ WBE procurements **ONLY** awarded this reporting period by construction, non-construction, and grand total by the recipient, sub-recipients, SRF loan recipients, and prime contractors not just the portion which exceeds the threshold.

***For SRF recipients only**: In 4B, please enter the total annual procurement amount under all of your SRF Assistance Agreements. The figure reported in this section is **not** directly tied to an individual Assistance Agreement identification number. **(SRF state recipients report state procurements in this section)**

5A. Self-explanatory.

5B. If procurements were made during this reporting period, but no procurements with MBE(s) or WBE(s) are being reported, then select the reason why. If "Other" is chosen, please fill in with the reason.

6. Self-explanatory.

7. Self-explanatory.

**This data is requested to comply with provisions mandated by: statute or regulations (40 CFR Part 33 and/or 2 CFR Parts 200 and 1500); OMB Circulars; or added by EPA to ensure sound and effective assistance management. Accurate, complete data are required to obtain funding, while no pledge of confidentiality is provided.

Material Suppliers

In October 2009, OEPA/DEFA made a clarification to their DBE Policy. If a Contractor subcontracts work and cannot meet the Goals with MBE/WBE Subcontractors, the Goals may be met by supplying equipment from MBE/WBE Suppliers.

Also, Contractors that do not subcontract work do not have to comply with the MBE/WBE requirements although all Contractors are strongly encouraged to break the work into subcontracts whenever feasible.

Violating Facilities Clause

ViolatingFacilities:

The Contractor agrees to comply with all applicable standards, orders or requirements under Section 306 of the Clean Air Act, 42 USC 1857 (h), Section 508 of the Clean Water Act, 33 USC 1368, Executive Order 11738, and EPA regulations, 40 CFR Part 32, which prohibits the use under non-exempt Federal contracts, grants, or loans of facilities included on the EPA List of Violating Facilities.

Requirement For Utilization Of Small Businesses In Rural Areas (SBRA)

This procurement is subject to the EPA policy of encouraging the participation of small businesses in rural areas. It is EPA policy that recipients of EPA financial assistance awards utilize the services of small businesses in rural areas (SBRAs), to the maximum extent practicable. The objective is to assure that such small business entities are afforded the maximum practicable opportunity to participate as subcontractors, suppliers and otherwise in EPA-awarded financial assistance programs. This policy applies to all contracts and subcontracts for supplies, construction, and services under EPA grants or cooperative agreements. Small purchases are also subject to this policy.

This procurement is subject to the EPA policy of encouraging the participation of small business in rural areas (SBRAs).

Local Protest Procedure

Protests

A protest based upon an alleged violation of the procurement requirement may be filed against the OWNER's procurement action by a party with an adversely affected direct financial interest. The protest shall be filed with the Mayor. The OWNER shall determine the protest. The OWNER may request additional information or a hearing in order to resolve the protest.

A protest shall be filed as early as possible during the procurement process, but must be received by the OWNER no later than one week after the basis of the protest is known or should have been known, whichever is earlier. If the protest is mailed, the protester bears the risk of nondelivery with in the required time period.

A protest must clearly present the procurement requirement being protested, the facts which support the protest, and any other information necessary to support the protest.

Continuous Treatment Provisions

It is important that construction activities not result in any temporary violations of NPDES permit requirements (for permitted facilities) and construction activities should interrupt wastewater service to the individual resident as little as possible. For drinking water projects, it is important that construction activities not result in any disruption of service. Any disruption of service must be immediately reported to the Ohio EPA, Drinking Water Section of the appropriate district office.

Continuous Treatment (wastewater projects)

Federal regulations prohibit by-passing of any sewage during construction operations. The Contractor will be responsible for providing any required temporary pumping facilities piping, etc., necessary to complete the project without any plant by-passing and continuous treatment must be provided at the same level during construction as existed prior to construction.

Unless otherwise previously or subsequently specified, the Contractor shall procure and pay for all permits, licenses, and approvals necessary for the execution of his Contract.

The Contractor shall comply with all laws, ordinances, rules, orders, and regulations relating to the performance of the work required to complete their Contract.

Continuous Treatment (drinking water projects)

The Contractor will be responsible for obtaining approval from Ohio EPA for use of temporary pumping facilities, piping and other items in order to complete the project without any plant by-passing. Continuous treatment must be provided at the same level during construction as existed prior to construction.

Unless otherwise previously or subsequently specified, the Contractor shall procure and pay for all permits, licenses, and approvals necessary for the execution of his Contract.

The Contractor shall comply with all laws, ordinances, rules, orders, and regulations relating to the performance of the work required to complete their Contract.

WPCLF/WSRLA Payments

This project is funded in whole or in part by funds from the Water Pollution Control Loan Fund (WPCLF) or the Water Supply Revolving Loan Account (WSRLA) as administered by the Ohio EPA-DEFA and the Ohio Water Development Authority (OWDA). The Contractor shall comply with all requirements of these programs. The Owner shall be responsible for the progress payments to the Contractor if the Owner becomes ineligible for further payments due to circumstances which are of no fault of the Contractor. The monthly payments to vendors may be made through the Owner, the OWDA, or both as deemed by the Owner.

The time frame for payment of pay estimates by the Owner and/or Special Funding Agency(s) may be up to 60 calendar days from date of receipt of pay estimate from Engineer to Owner. Ohio EPA/DEFA must approve all change orders before the change order may be submitted for payment on a pay estimate.

State of Ohio

WATER POLLUTION CONTROL LOAN FUND (WPCLF) /
WATER SUPPLY REVOLVING LOAN ACCOUNT (WSRLA)

CONTRACT CHANGE ORDER

RECIPIENT_____ CHANGE ORDER NBR _____

LOAN NUMBER_____ CONTRACT _____

OWDA PROJECT No. _____ DATE _____

Description of Change:

The time provided for completion in the contract for the above items is (increased/decreased) by ____ calendar days.

RECOMMENDED BY: _____ DATE: _____
(Engineer)

APPROVED BY: _____ DATE: _____
(Recipient)

ACCEPTED BY: _____ DATE: _____
(Contractor)

_____
(Company)

Original Contract Amt		
Previous Changes (+ / --)		
This Change (+ / --)		
Adjusted Contract Amt		

OWDA APPROVAL

The above proposal is hereby accepted and I recommend that it be approved and made a part of the contract noted above. The approval does not constitute an increase in the total loan amount, but represents approval for the work.

Ohio EPA Acceptance

Date

Chief Engineer

Date

CHANGE ORDER INSTRUCTIONS:

All Change Orders for this work, regardless of costs and whether Water Pollution Control Loan Fund (WPCLF) or Water Supply Revolving Loan Account (WSRLA) funding will be used to finance the changes, must be submitted to Ohio EPA for review.

Changes Requiring Prior Approval

Any change which substantially modifies the Project Facilities as specified in the Ohio EPA approved Facilities Plan and Final Permit to Install or Final Plan Approval (when applicable) or alters the direct or indirect impact of the Project Facilities upon the environment must be incorporated into a Change Order. One copy of the Change Order prior to execution is to be submitted to Ohio EPA for review and prior approval of the acceptability of the change. "Prior to execution" means before the Change Order is signed by the Owner.

Ohio EPA will review the Change Order and inform the Owner of the technical, environmental and operational acceptability of the change, and give the Owner permission to proceed with the proposed work.

All Other Changes

Change Orders not requiring prior approval as described above must be submitted to Ohio EPA within one (1) month of the time at which they are approved by the Owner. All change orders must be submitted electronically to dedicated change order email addresses for WPCLF and WSRLA projects.

Change Order Approval Process

After the Change Order is executed, one (1) copy of the Change Order, including the supporting documentation, is to be sent electronically to Ohio EPA for final review.

> The dedicated e-mail address for the electronic submittal of WPCLF Change Orders is EPAWPCLFCO@epa.ohio.gov.
>
> The dedicated e-mail address for the electronic submittal of WSRLA Change Orders is EPAWSRLACO@epa.ohio.gov.

After the Change Order is accepted and eligible costs determined, Ohio EPA will issue a letter informing the Owner and authorizing OWDA to disburse funds from Project Contingency for the work. The OEPA letter will be sent electronically along with a PDF of the WPCLF/WSRLA Change Order form which will be signed by all parties including Ohio EPA and OWDA.

Payments for Change Order Work

The Owner is precluded from submitting to the OWDA payment requests for Eligible Project Costs associated with the Change Orders until such time as the Ohio EPA's approval of the Change Orders has been obtained.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

November 3, 2022

BABA Does Not Apply for this Project

MEMORANDUM

SUBJECT: Build America, Buy America Act Implementation Procedures for EPA Office of Water Federal Financial Assistance Programs

FROM: Radhika Fox
Assistant Administrator



TO: EPA Regional Water Division Directors, Regions I – X
EPA Office of Water Office Directors

OVERVIEW

The Biden-Harris Administration recognized the Nation's critical need for infrastructure investment, championing the Bipartisan Infrastructure Law (BIL), which Congress passed on November 15, 2021 (also known as the Infrastructure Investment and Jobs Act (IIJA)). The BIL will provide an unprecedented level of federal investment in water and wastewater infrastructure in communities across America.

In Title IX of the IIJA, Congress passed the Build America, Buy America (BABA) Act, which establishes strong and permanent domestic sourcing requirements across all Federal financial assistance programs for infrastructure. The U.S. Environmental Protection Agency (EPA) Office of Water is honored to help lead the implementation of these provisions and is proud of its near decade of successful implementation of the American Iron and Steel (AIS) provisions for its flagship water infrastructure programs.

This is a transformational opportunity to build a resilient supply chain and manufacturing base for critical products here in the United States that will spur investment in good-paying American manufacturing jobs and businesses. EPA's efforts to implement BABA will help cultivate the domestic manufacturing base for a wide range of products commonly used across the water sector but not currently made domestically. This will take time, and flexibility will be important to ensure that EPA can leverage critical water investments on time and on budget to protect public health and improve water quality.

IMPLEMENTATION

Recognizing the opportunity and need for BABA implementation guidance, the Made in America Office (MIAO) of the Office of Management and Budget (OMB) published Initial Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure (OMB Guidance M-22-11) on April 18, 2022. The guidance provides government-wide implementation direction for all Federal financial assistance programs for infrastructure. Despite the extensive guidance developed by MIAO, EPA's Office of Water infrastructure investment programs have received many questions that were not addressed in OMB Guidance M-22-11 or that require further clarification for EPA water infrastructure programs. The following questions and answers serve to supplement OMB Guidance M-22-11 with implementation procedures specific to EPA's relevant water infrastructure programs.

Section 70914(a) of the IIJA states when a Buy America preference under BABA applies: "Not later than… [May 14, 2022], the head of each Federal agency shall ensure that none of the funds made available for a Federal financial assistance program for infrastructure…may be obligated for a project unless all of the iron, steel, manufactured products, and construction materials used in the project are produced in the United States." Therefore, Federal financial infrastructure investments obligated on or after May 14, 2022, must comply with the BABA requirements. Absent a waiver, all iron, steel, manufactured products, and construction materials permanently incorporated into an infrastructure project subject to the BABA requirements must be produced in the United States. For many of EPA's Office of Water infrastructure investment programs, the vast majority of products permanently incorporated into construction, maintenance, or repair projects must comply with the BABA requirements, with the exception of select construction materials (cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives), which are specifically excepted by the BABA statute.

EPA's Office of Water implements many infrastructure investment programs subject to BABA requirements, including the following:

- Alaska Native Villages and Rural Communities Water Grant Program (ANV) (and any associated Interagency Agreements with the Indian Health Service)
- Clean Water and Drinking Water State Revolving Fund Programs (CW and DWSRF)
- Clean Water and Drinking Water Grants to U.S. Territories and the District of Columbia
- Clean Water Indian and Drinking Water Tribal Infrastructure Grant Set-aside (and any associated Interagency Agreements with the Indian Health Service)
- Coastal Wetlands Planning, Protection and Restoration Act, (CWPPRA) Programs
- Congressionally Directed Spending/Community Project Funding (also known as Community Grants)
- Geographic Programs[1]
- Gulf Hypoxia Program
- National Estuaries Program (CWA Section 320)

[1] Geographic Programs include: Great Lakes Restoration Initiative, Chesapeake Bay, San Francisco Bay, Puget Sound, Long Island Sound, Gulf of Mexico, South Florida, Lake Champlain, Lake Pontchartrain, Southern New England Estuaries, Columbia River Basin, Pacific Northwest

- 319 Nonpoint Source Management Program Implementation
- Reducing Lead in Drinking Water Grant Program (SDWA §1459B)
- Assistance for Small and Disadvantaged Communities Grants: Small, Underserved, and Disadvantaged Community Grant Program (SUDC), Emerging Contaminants in Small or Disadvantaged Communities (EC-SDC) and Drinking Water Infrastructure Resilience & Sustainability (SDWA §1459A)
- Sewer Overflow and Stormwater Reuse Municipal Grants (OSG)
- USMCA Implementing Legislation (Section 821 and Title IX, USMCA Supplemental Appropriations, 2020)
- U.S.-Mexico Border Water Infrastructure Program
- Voluntary School and Child Care Program Lead Testing and Remediation Grant Program (SDWA 1464(d))
- Water Infrastructure Finance and Innovation Act (WIFIA)

The questions and answers in this document apply to the implementation of BABA requirements for the Office of Water infrastructure programs listed above unless superseded by regulation, statute, or other applicable guidance. For many of the programs listed above which did not have domestic preference requirements prior to BABA, additional implementation details are pending or may be developed after the issuance of these procedures. In addition, EPA notes that more direction will be helpful to inform the determination and definition of domestic content in manufactured goods. Supplemental guidance on these and other issues, from either OMB or EPA, may be forthcoming. These implementation procedures may also apply to additional, unlisted EPA programs which may be required to apply BABA subsequent to publication of this memorandum (e.g., future funding programs which have been authorized, but not yet appropriated).

For more information on the BABA requirements, visit the EPA Office of Water's dedicated website – https://www.epa.gov/cwsrf/build-america-buy-america-baba – or contact your funding authority (such as your grants officer, portfolio manager, or state contact). For information on approved waivers, visit https://www.epa.gov/cwsrf/build-america-buy-america-baba-approved-waivers. You may also email questions to BABA-OW@epa.gov.

This Implementation Procedures document is organized to provide responses to questions in the following topic areas:

- Section 1: General 4
- Section 2: Product Coverage 5
- Section 3: Co-funding 9
- Section 4: Waivers 10
- Section 5: Documenting Compliance 12
- Section 6: Programs with American Iron and Steel Requirements 16
- Section 7: Program-Specific Issues 17
- Appendix 1: Example Build America, Buy America (BABA) Act Construction Contract Language 22
- Appendix 2: Example Build America, Buy America (BABA) Act Assistance Agreement Language 23

QUESTIONS AND ANSWERS

SECTION 1: GENERAL

- Q1.1: Will EPA provide documentation for BABA for bid solicitations and suggested contract language? Will EPA provide suggested language for Assistance Agreements?

    - A1.1: See Appendix 1, which includes suggested language for construction contracts which addresses the BABA requirements. In addition to the language suggested in Appendix 1, EPA also recommends that assistance recipients prepare contract bid solicitation documents with a statement for the consulting engineers and construction firms as follows: "By signing payment application and recommending payment, Contractor certifies they have reviewed documentation for all products and materials submitted for payment, and the certifications are sufficient to demonstrate compliance with Build America, Buy America Act requirements." In most cases, the assistance recipient's representatives assume the responsibility for their clients to conduct due diligence on compliance with applicable domestic preference requirements.

      All Federal Financial infrastructure assistance agreements subject to BABA must have a clause requiring compliance with the requirements. See Appendix 2 for example assistance agreement language.

- Q1.2: Would federally-financed infrastructure projects outside of the United States need to comply with the BABA requirements?

    - A1.2: No. According to the OMB Guidance (M-22-11), a "project" is defined as "…any activity related to the construction, alteration, maintenance, or repair of infrastructure in the United States." Therefore, the BABA requirements are not implicated for infrastructure projects occurring outside of the United States, such as projects funded through the United States-Mexico-Canada Agreement with infrastructure activities occurring in Mexico or Canada (that is, outside the United States).
    -

- Q1.3: If most of the project is BABA compliant, and a small portion is not, can an assistance recipient self-fund (i.e., paying with non-federal dollars) the non-compliant products?

    - A1.3: Any project that is funded in whole or in part with federal assistance must comply with the BABA requirements, unless the requirements are otherwise waived. All iron, steel, manufactured products, and construction materials used in a project must meet the BABA requirements unless waived. Absent a waiver, there is no "small portion" or product that does not need to satisfy the BABA requirements unless the requirements are waived (or specifically excluded as is the case for cement and cementitious materials; aggregates such as stone, sand, or gravel; aggregate binding agents or additives; or non-permanent products). An assistance recipient may request a waiver or inquire as to whether a broad waiver, such as a *de minimis* waiver, might apply.

- Q1.4: How do international trade agreements affect the implementation of the BABA requirements?

    - A1.4: The BABA requirements apply in a manner consistent with United States obligations under international trade agreements. Typically, these obligations only apply to direct procurement by the entities that are signatories to these trade agreements. In general, assistance recipients are not signatories to such agreements, so these trade agreements have no impact on BABA implementation. In the few instances where such an agreement applies to a municipality, that municipality is responsible for determining its applicability and requirements and communicating with the funding authority (such as EPA and/or a state) on the actions taken to comply with BABA.

SECTION 2: PRODUCT COVERAGE

- Q2.1: For products made of iron and steel, what is the difference between predominantly and primarily iron and steel?

    - A2.1: EPA considers the terms "predominantly" and "primarily" to be interchangeable, such that a product is considered predominantly (or primarily) iron and steel if it contains greater than 50 percent iron and steel by material cost.

- Q2.2: What is the definition of construction materials (with examples)?

    - A2.2: From OMB Guidance M-22-11: "construction materials" include an article, material, or supply (other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; aggregate binding agents or additives; or non-permanent products) that is or consists primarily of:
        - non-ferrous metals,
        - plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables), (including optic glass),
        - lumber, and
        - drywall.

      For example, a plate of glass would be a construction material under BABA, but a framed window that incorporates the glass into a frame would be a manufactured product. Another common construction material for water infrastructure projects would be polyvinyl chloride (PVC) pipe and fittings. However, if PVC components are incorporated into a more complex product such as instrumentation and control equipment or a water treatment unit, those items would be manufactured products.

- Q2.3: What are manufactured products (with examples)?

    - A2.3: From OMB Guidance M-22-11: "…all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of

the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation…"

The manufactured products category would cover the majority of potential water infrastructure products, including complex products made up of a variety of material types and components. For water infrastructure projects, common manufactured products would include, but not be limited to, pumps, motors, blowers, aerators, generators, instrumentation and control systems, gauges, meters, measurement equipment, treatment equipment, dewatering equipment, actuators, and many other mechanical and electrical items.

- Q2.4: Which category will valves fall under for BABA? Will it differ from the American Iron and Steel (AIS) requirements?

    - A2.4: For programs that are subject to BABA and AIS (SRF, WIFIA, and Community Project Funding), projects using valves should classify them as iron and steel products under BABA as long as their material cost is made up of more than 50 percent iron and/or steel. Valves with 50 percent or less iron and/or steel by material cost would be considered manufactured products under the BABA requirements.

      In accordance with OMB Guidance M-22-11, an article, material, or supply should be classified into only one of the three categories: iron and steel, manufactured products, or construction materials. Under the AIS requirements, all valves made primarily of iron and steel (that is, those with iron and/or steel material cost greater than 50 percent) must comply with the AIS requirements. For BABA, EPA interprets Section IV of OMB Guidance M-22-11 to mean that iron and steel products are those items that are primarily iron and steel, the same as for the AIS requirements.

- Q2.5: Does EPA have a list of products to be classified as "Iron and Steel" under BABA?

    - A2.5: Although this list is not comprehensive, the following products were classified as AIS products if made primarily (more than 50 percent) of iron and/or steel by materials cost (for programs subject to both AIS and BABA, this list would be equivalent for "iron and steel" items or products under either requirement):

Products likely made "primarily" of iron and steel to be classified as Iron and Steel under BABA		
Lined and Unlined Pipe	Lined and Unlined Fittings	Tanks
Flanges	Pipe Clamps and Restraints	Structural Steel
Valves	Hydrants	Pre-Cast, Iron/Steel Reinforced Concrete (of all types, regardless of iron/steel content percentage)
Manhole Covers and other Municipal Castings	Access Hatches	Ballast Screens
Iron or Steel Benches	Bollards	Cast Bases
Cast Iron Hinged Hatches	Cast Iron Riser Rings	Catch Basin Inlets

Cleanout/Monument Boxes	Construction Covers and Frames	Curb and Corner Guards

Products likely made "primarily" of iron and steel to be classified as Iron and Steel under BABA		
Curb Boxes	Curb Openings	Curb Stops
Detectable Warning Plates	Downspout Shoes	Drainage Grates
Drainage Grate Frames and Curb Inlets	Inlets	Junction Boxes
Lampposts	Manhole Rings and Frames	Manhole Risers
Meter Boxes	Service Boxes	Steel Hinged Hatches
Steel Riser Rings	Trash Receptacles	Tree Grates
Tree Guards	Trench Grates	Valve Boxes
Valve Box Covers and Risers	Access Ramps	Aeration Pipes and Fittings (separate from aeration/blowers)
Angles	Backflow Preventers/Double Check Valves	Baffle Curtains
Iron or Steel Bar	Bathroom Stalls	Beam Clamps
Cable Hanging Systems	Clarifier Tanks	Coiled Steel
Column Piping	Concrete Reinforcing Bar, Wire, and Fibers	Condensate Sediment Traps
Corrugated Pipe	Couplings	Decking
Digestor Covers	Dome Structures	Door Hardware
Doors	Ductwork	Expansion Joints
Expansion Tanks (diaphragm, surge, and hydropneumatics)	Fasteners	Fencing and Fence Tubing
Fire Escapes	Flanged Pipe	Flap Gates
Framing	Gate Valves	Generic Hanging Brackets
Grating	Ground Testing Boxes	Ground Test Wells
Guardrails	HVAC Registers, Diffusers, and Grilles	Joists
Knife Gates	Ladders	Lifting Hooks, J-bar, Connectors within, and Anchors for Concrete
Lockers	Man Baskets and Material Platforms	Manhole Steps
Mud Valves	Municipal Casting Junctions	Non-mechanical (aka stationary) Louvers and Dampers
Overhead Rolling Doors/ Uplifting Doors (manual open, no motor)	Pipe Connectors	Pipe Hangers
Pipe Pilings (any type of steel piling)	Pipe Spool (pipe, flanges, connectors, etc.)	Pipe Supports
Pitless Adaptors	Pre-fab Steel Buildings/Sheds (simple structure, unfurnished)	Pre-stressed Concrete Cylinder Pipe (PCCP)
Railings	Reduced Pressure Zone (RPZ) Valves	Roofing
Service Saddles	Sheet Piling	Sinks (not part of eyewash systems)
Solenoid Valves	Stairs	Static Mixers
Stationary Screens	Surface Drains	Tapping Sleeves
Telescoping Valves	Tipping Buckets	Trusses
Tubing	Valve Stem Extensions	Valve Stems (excluding handwheels and actuators)

Wall Panels	Wall Sleeves/Floor Sleeves	Welding Rods
Well Casing	Well Screens	Wire
Wire Cloth	Wire Rod	Wire Rope and Cables

Q2.6: Does EPA have a list of products that could be made "primarily" of iron and steel but would be classified as "manufactured products" under BABA?

A2.6: Although this list is not comprehensive, the following products would be considered "manufactured products" under the BABA requirements, even if the item might be composed primarily of iron and steel by materials cost (Note: These items are not subject to the AIS requirements.):

Products likely made "primarily" of iron and steel to be classified as Manufactured Products under BABA		
Actuator Superstructures/ Support Structures	Aeration Nozzles and Injectors	Aerators
Analytical Instrumentation	Analyzers (e.g., ozone, oxygen)	Automated Water Fill Stations
Blowers/Aeration Equipment	Boilers, Boiler Systems	Chemical Feed Systems (e.g., polymer, coagulant, treatment chemicals)
Chemical Injection Quills	Chemical Injectors	Clarifier Mechanisms/Arms
Compressors	Controls and Switches	Conveyors
Cranes	Desiccant Air Dryer Tanks	Dewatering Equipment
Dewatering Roll-offs	Disinfection Systems	Drives (e.g., variable frequency drives)
Electric/Pneumatic/Manual Accessories Used to Operate Valves (such as electric valve actuators)	Electrical Cabinetry and Housings (such as electrical boxes/enclosures)	Electrical Conduit
Electrical Junction Boxes	Electronic Door Locks	Elevator Systems (hydraulic, etc.,)
Emergency Life Systems (including eyewash stations, emergency safety showers, fire extinguishers, fire suppression systems including sprinklers /piping/valves, first aid, etc.)	Exhaust Fans	Fall Protection Anchor Points
Fiberglass Tank w/Appurtenances	Filters (and appurtenances, including underdrains, backwash systems)	Flocculators
Fluidized Bed Incinerators	Galvanized Anodes/Cathodic Protection	Gear Reducers
Generators	Geothermal Systems	Grinders
Heat Exchangers	HVAC (excluding ductwork)	HVAC Dampers (if appurtenances to aerators/blowers)
HVAC Louvers (mechanical)	Intake and Exhaust Grates (if appurtenances to aerators/blowers)	Instrumentation
Laboratory Equipment	Ladder Fall Prevention Systems	Ladder Safety Posts
Lighting Fixtures	Lightning and Grounding Rods	Mechanical or Actuated Louvers/Dampers
Membrane Bioreactor Systems	Membrane Filtration Systems	Metal Office Furniture (fixed)

Meters (including flow, wholesale, water, and service connection)	Motorized Doors (unit)	Motorized Mixers
Motorized Screens (such as traveling screens)	Motors	Pelton Wheels
Pipeline Flash Reactors (similar to injectors)	Plate Settlers	Precast Concrete without Iron/Steel Reinforcement

Products likely made "primarily" of iron and steel to be classified as Manufactured Products under BABA		
Furnished Pre-fab Buildings (such as furnished with pumps, mechanics inside)	Presses (including belt presses)	Pressure Gauges
Pump Cans/Barrels and Strainers	Pumps	Mechanical Rakes
Safety Climb Cable	Sampling Stations (unless also act as hydrant)	Scrubbers
Sensors	Sequencing Batch Reactors (SBR)	Steel Shelving (fixed)
Slide and Sluice Gates	Spray Header Units	Steel Cabinets (fixed interior/furniture)
Supervisory Control and Data Acquisition (SCADA) Systems	Tracer Wire	Valve Manual Gears, Actuators, Handles
Voltage Transformer	Water Electrostatic Precipitators (WESP)	Water Heaters
Weir Gates		

- Q2.7: Is asphalt paving a covered product under BABA?

    - A2.7: No. EPA interprets Section 70917(c) of the IIJA to exclude asphalt from BABA requirements. Asphalt paving is a type of concrete composed of an aggregate material mixed with a binder (bitumen). EPA considers asphalt concrete to be excluded by section 70917(c) due to its similarities with cement and cementitious materials.

SECTION 3: CO-FUNDING

- Q3.1: If projects are co-funded with funding mechanisms that don't require BABA, must the entire project comply with BABA?

    - A3.1: Yes. Any project that is funded in whole or in part with federal assistance must comply with the BABA requirements, unless the requirements are otherwise waived. A "project" consists of all construction necessary to complete the building or work regardless of the number of contracts or assistance agreements involved so long as all the contracts and assistance agreements awarded are closely related in purpose, time, and place. This precludes the intentional splitting of projects into separate and smaller contracts or assistance agreements to avoid BABA's applicability on some portions of a larger project, particularly where the activities are integrally and proximately related to the whole. However, there are many situations in which major construction activities are clearly undertaken in separate phases that are distinct in purpose, time, or place, in which case, separate contracts or assistance agreements would carry separate requirements.

- Q3.2: How will project requirements be determined for co-funded projects subject to potentially different general applicability/programmatic waiver conditions (such as different adjustment period waivers)?

    - A3.2: OMB Guidance M-22-11 addresses cases with project co-funding from separate programs. EPA would apply the guidance's "cognizant" program determination to projects that are co-funded with different general applicability/programmatic waivers. For instance, if a project were co-funded between WIFIA and SRF and the majority of the Federal funding for the project is from WIFIA, then WIFIA would be the "cognizant" program for application and determination of waivers. In that case, any conditions from an applicable WIFIA waiver would apply.

SECTION 4: WAIVERS

- Q4.1: Who may apply for a waiver and how do you apply?

    - A4.1: Assistance recipients and their authorized representatives may apply for a project-specific waiver. EPA does not accept waiver requests from suppliers, distributors, or manufacturers unless the assistance recipient endorses and submits the request on its own behalf to the funding authority. In the case where multiple programs are providing federal funds to the project, the assistance recipient should submit the waiver request to the cognizant program, the one providing the greatest amount of federal funds for the project. For information on applying for cost waivers, see questions 4.4 and 4.5. For information on the SRF program roles and responsibilities, see question 7.6.

      Project-specific waiver requests should generally include: (1) a brief summary of the project, (2) a description and explanation of the need for the waiver for the product(s) in question, (3) a brief summary of the due diligence conducted in search of domestic alternatives (which could include correspondence between assistance recipient and supplier/distributors), (4) the quantity and materials of the product(s) in question, (5) all engineering specifications and project design considerations relevant to the product(s) in question, (6) the approximate unit cost of items (both foreign and domestic) in addition to an estimated cost of the materials and overall project, (7) the date any products will be needed on site in order to avoid significant project schedule disruptions, and (8) any other pertinent information relevant to EPA's consideration of the waiver (e.g., if relevant for SRF projects: whether the project is designated as an equivalency project, the date the plans and specifications were submitted to the state, the date of construction initiation, expected date of project completion, any special considerations such as local zoning and building ordinances, seismic requirements, or noise or odor control requirements).

      In the case of indirect federal assistance, such as the SRF programs, the state authority reviews and conveys the waiver request to EPA. States should submit waiver requests to the appropriate program waiver request inbox. For SRF projects, please use CWSRFWaiver@epa.gov or DWSRFWaiver@epa.gov.

- Q4.2: Can an assistance recipient request a waiver based on a specification written for a specific brand or model of product (that is, a specification that names a branded item or model)?

    - A4.2: In most cases, performance-based specifications are expected and required for the majority of infrastructure projects funded by EPA's financial assistance programs. In rare cases where "branded" or product-specific sourcing may be included in project specifications, it is suggested that the specifications include the item in question (that is, not simply a catalog page, but also materials of construction, sizing, quantities, and applicable engineering performance design characteristics for the project, etc.) in addition to the standard phrase "or equal." For the purposes of product alternative market research, EPA will evaluate the BABA requirements based on performance-based engineering specifications for the product(s) in question. If the project's specifications do not include performance-based specifications, or at least an "or equal" designation, EPA will base its research on an "or equal" designation using best professional judgment to the extent practicable.

- Q4.3: If a manufactured product is not readily available domestically, will EPA provide short-term "limited availability" product waivers?

    - A4.3: EPA will address the unavailability of domestic products through the waiver process, including potential national short-term waivers for specific products, if appropriate. To the extent practicable and with the intent to maximize domestic market and supply chain development, EPA intends to address issues of broad product unavailability with targeted, time-limited, and conditional waivers, as prescribed in OMB Guidance M-22-11. EPA will follow its robust and thorough product research processes (those put into place for the AIS requirements for the SRF and WIFIA programs and expanded for the new BABA requirements) to identify and determine those products for which proposed national/general applicability waivers may be appropriate.

- Q4.4: What information is needed when applying for a cost waiver under BABA?

    - A4.4: As part of the cost waiver request, the assistance recipient must demonstrate that implementation of the BABA requirements will increase the overall project cost more than 25 percent. Depending on the circumstances of the overall project cost increases, documentation to justify the cost waiver can vary but may include itemized cost estimates or bid tabulations comparing project costs with and without BABA implementation. Assistance recipients should begin assessing the potential cost impacts of the BABA requirements during the design phase of a project.

- Q4.5: Can administrative costs associated with tracking and verification of certifications be considered when determining if the cost of a project increases by 25 percent or more?

    - A4.5: Yes. Section 70914(b)(3) of the IIJA states that a waiver may be provided if the overall

cost of the project increases by more than 25 percent due to the "inclusion of iron, steel, manufactured products, or construction materials produced in the United States." EPA interprets this to mean that the "inclusion" of the BABA-covered products could encompass reasonable administrative costs associated with complying with the BABA requirements, such as staff, contractor, and technological resources to collect and track BABA compliance documentation.

- Q4.6: How can assistance recipients and construction contractors address product delivery delays?

    - A4.6: Assistance recipients should reasonably plan for material procurement to account for known potential supply chain issues or extended lead times and shall notify the funding authority well in advance of the issues so that prompt attention can be given to explore options. Where extended lead times for compliant products are impacting project schedules and may significantly impact construction progress, timely communication with the funding agency is important. For products that are unavailable within a reasonable timeframe to meet the objectives and schedule of a project, EPA may consider a non-availability waiver with adequate justification. An assistance recipient would need to apply for the waiver and contact its funding authority (such as EPA and/or a state) to initiate the waiver process.

SECTION 5: DOCUMENTING COMPLIANCE

- Q5.1: Who will be responsible for BABA enforcement?

    - A5.1: Responsibility for BABA implementation applies at all levels, from manufacturers to suppliers and distributors, construction contractors, assistance recipients, and funding authorities.

      The manufacturers have responsibility to provide adequate and accurate documentation of the products manufactured. If suppliers and distributors are involved, they are responsible for passing along compliance documentation for products supplied to projects that are subject to the BABA requirements.

      The assistance recipient and their representatives are primarily responsible for ensuring the documentation collected for products used on the project is sufficient to document compliance with the BABA requirements.

      The funding authority is responsible for providing oversight and guidance as needed to ensure the proper implementation of the requirements. The Uniform Grants Guidance (UGG) (Title 2 of the Code of Federal Regulations (CFR) Part 200) applies to many Federal financial assistance agreements that will include BABA requirements. The general provisions of 2 CFR Part 200 determine the responsible party for the grant funding authority.

      For information on SRF program roles and responsibilities, see question 7.6.At all levels, where fraud, waste, abuse, or any violation of the law is suspected, the Office of Inspector General (OIG) should be contacted immediately. The OIG can be reached at 1-888- 546-8740

or OIG_Hotline@epa.gov. More information can be found at this website: http://www.epa.gov/oig/hotline.htm.

- Q5.2: When will the BABA requirements be assessed for compliance? Do assistance recipients need to have waivers for potential non-domestic products before assistance agreements are in place, at the time products are procured or products are incorporated into the project (i.e., used)?

    - A5.2: Compliance is assessed where the domestic product is used (or installed) at the project site. Proper compliance documentation, whether it is a BABA certification letter or a waiver, should accompany a product prior to its "use", in accordance with Section 70914(a) of IIJA. This may occur prior to assistance agreements being in place but is not necessary. Additionally, communication of BABA requirements through appropriate Terms and Conditions in financial assistance agreements and in project solicitation and contract documents is key in ensuring all parties involved are informed of the requirements for the project before construction is underway.

- Q5.3: How can product compliance with the BABA requirements be demonstrated?

    - A5.3: Assistance recipients and their representatives should ensure that the products delivered to the construction site are accompanied by proper documentation that demonstrate compliance with the law and be made available to the funding authority upon request. The documentation may be received and maintained in hard copy, electronically, or could be embedded in construction management software. The use of a signed certification letter for the project is the most direct and effective form of compliance documentation for ensuring products used on site are BABA-compliant prior to their installation; however, other forms of documentation are also acceptable as long as collectively, the following can be demonstrated:

        (1) Documentation linked to the project. For example, this can be in the form of the project name, project location, contract number, or project number.
        (2) Documentation linked to the product used on the project. For example, description of product(s) (simple explanation sufficient to identify the product(s)), or an attached (or electronic link to) purchase order, invoice, or bill of lading.
        (3) Documentation includes statement attesting that the products supplied to the assistance recipient are compliant with BABA requirement. Reference to the Infrastructure Investment and Jobs Act ("IIJA") or the Bipartisan Infrastructure Law (BIL) are also acceptable. For iron and steel items under BABA, references to the American Iron and Steel (AIS) requirements are also acceptable and reciprocal with BABA for such items.
        (4) Documentation that manufacturing occurred in the United States, which could include, for example, the location(s) of manufacturing for each manufacturing step that is being certified. It is acceptable for manufactured products to note a single point of manufacturing, documenting that the final point of manufacturing is in the United States. Note that each BABA category may require different determinations for

compliance.

(5) Signature of company representative (on company letterhead and signature can be electronic). The signatory of the certifying statement affirms their knowledge of the manufacturing processes for the referenced product(s) and attests that the product meets the BABA requirements.

In addition to compliance documentation, assistance recipients or their representatives should also conduct a visual inspection of the product when it arrives to the project site, especially for iron and steel products which are often stamped with the country of origin. (Note: A country of origin stamp alone is not sufficient verification of compliance with BABA and assistance receipts should not rely on it to ensure compliance.)

EPA may develop alternative procedures for demonstrating compliance. Additional project- or program-specific instructions may be developed on a case-by-case basis in order to meet individual circumstances.

- Q5.4: Will EPA provide a form or template for tracking and documenting compliance?

- A5.4: EPA does not require a specified format for tracking or documenting compliance. Assistance recipients are free to develop any system (from simple to complex software) for tracking items used on the project and the accompanying compliance documentation, e.g., certification letters, applicable waivers, if it helps with implementation and compliance. Elements that may help with keeping track of compliance may include: product description, quantity required/used, product category (i.e., iron and steel, manufactured product, or construction material), status of obtaining certification letter, product cost, and whether the item might qualify as *de minimis*, or qualify under another applicable waiver.

- Q5.5: If a manufacturer claims to comply with the Buy American Act, does it also comply with BABA?

    - A5.5: No. With the exception of the AIS requirements – which EPA interprets to be equivalent to the "iron and steel" requirements under BABA – EPA does not have an interpretation about the comparability of other domestic preference requirements relative to BABA. Any products that are to be certified as compliant with BABA should include a specific reference to the BABA requirements and appropriate attestation from a responsible manufacturing company official. See Question 5.3 for EPA's recommendations for BABA certification letters.

- Q5.6: How will assistance recipients manage certification letters for hundreds, possibly thousands of products?

    A5.6: EPA recognizes that the new BABA requirements will cover most products used in typical water and wastewater infrastructure projects, and that the number of items which may require certification at large and/or complex projects may reach several hundred. EPA is concerned about the potential administrative burden that this would place on assistance recipients. EPA recommends that projects with a high number of potentially covered

products meet with their funding authority about potential compliance strategies to minimize burden and streamline compliance activity. Assistance recipients should prepare contract bid solicitation documents with a statement for the consulting engineers and construction firms as follows: "By signing payment application and recommending payment, Contractor certifies they have reviewed documentation for all products and materials submitted for payment, and the documentation is sufficient to demonstrate compliance with Build America, Buy America Act requirements." In most cases, the assistance recipient's representatives may assume the responsibility for their clients to conduct due diligence on compliance with applicable domestic preference requirements.

- Q5.7: Who is responsible for documenting the 55 percent content requirement for manufactured products under BABA? What if the final manufacturer cannot trace or verify domestic origin for all components?

    - A5.7: The manufacturer who signs a certification letter is responsible for documenting compliance with any of the three categories of products (iron and steel, manufactured products, or construction materials). For manufactured products, BABA requires that greater than 55 percent of the total cost of all components of the manufactured product be from domestic sources. EPA recommends that the certification letter for manufactured products document whether the item passes the content test in the final product along with a statement attesting to compliance with the BABA requirements for manufactured products.

- Q5.8: How do final product fabricators document compliance when the final step of manufacturing may be simply assembling components?

    - A5.8: It is acceptable, in many cases, especially for highly complex manufactured products that utilize many sub-components, for the final point of assembly to certify without using a "step certification" process. Multiple certifications (i.e., step certifications) or a singular certification can be used for a product, as long as the certifying official is willing to attest to the product's compliance with BABA requirements at all stages of manufacturing.

- Q5.9: Will Material Test Reports be acceptable in lieu of a BABA certification for iron and steel?

    - A5.9: Material Test Reports (MTRs, commonly referred to as "Mill Certifications" or "Mill Certs") provide the chemical composition of steel and iron from a mill or foundry. If an MTR accompanies the delivery of steel or iron to a project site with an invoice or bill of lading, EPA will consider it sufficient to demonstrate compliance (equivalent to a certification letter) as long as the MTR includes a manufacturer representative's signature in addition to the location (city and state) of the mill/foundry. It is common for MTRs to be the first letter in a "step certification" if the product is further fabricated or painted, etc., by another manufacturer.

- Q5.10: Can a manufacturer use a fillable certification letter for products?

- A5.10: EPA recommends that certifications be signed by representatives of the manufacturing entity. EPA does not oppose manufacturers using forms to internally develop letters within their company, thereby providing signed, non-manipulable certification letters to suppliers, distributors, and/or assistance recipients. A fillable form that can be changed by someone outside of the manufacturer after signature does not demonstrate compliance and may create compliance concerns for the manufacturer or assistance recipient.

- Q5.11: Are product certifications from suppliers and distributors allowed?

    - A5.11: EPA recommends that representatives of product manufacturers certify compliance and discourages suppliers and distributors from creating certification letters. EPA does not rule out the possibility that a third-party certification process, such as a certification by a distributor, may be viable. However, EPA is currently not aware of a system or proposed system that meets the EPA's recommendations for documentation of product certification.

- Q5.12: How long should assistance recipients keep compliance documentation?

    - A5.12: Assistance recipients should apply recordkeeping requirements for the project according to the procedures dictated by the funding authority. For most EPA grant programs, this is prescribed in the UGG at 2 CFR 200.334-200.338; e.g., the SRF programs require a minimum of three years. Other funding programs may require longer documentation retention periods.

SECTION 6: PROGRAMS WITH AMERICAN IRON AND STEEL REQUIREMENTS

- Q6.1: Does BABA supersede the American Iron and Steel (AIS) Requirements?

    - A6.1: The BABA requirements for items considered "iron and steel" are equivalent to those for covered iron and steel products under the AIS requirements in the Clean Water Act and the Safe Drinking Water Act. These requirements apply to the CWSRF, DWSRF, WIFIA, and Water infrastructure Community Grants. BABA includes a "Savings Provision" (Section 70917(b)) that states that BABA does not affect existing domestic content procurement preferences for infrastructure projects funded by Federal financial assistance programs that meet the requirements of section 70914. EPA views the AIS requirements as meeting the "iron and steel" product requirements of BABA Section 70914, as they both include the key requirement that items made of iron and steel be wholly manufactured in the United States from the point of melting and/or pouring the iron or steel components through final manufacturing step. Because of the "Savings Provision" of Section 70917, the AIS requirements satisfy the "iron and steel" requirements of BABA. For the programs that have AIS requirements, EPA intends to implement BABA requirements the same way for iron and steel items as it has done for AIS products.

- Q6.2: For iron and steel products, does a manufacturer need to demonstrate compliance from initial melting through the finished product?

    - A6.2: For iron and steel products, the BABA requirements are the same as the existing AIS requirements, in that all of the iron and steel in a covered product (that is, the product is comprised of more than 50 percent iron and steel by material cost) must be melted and poured in the United States and all subsequent manufacturing processes (such as grinding, rolling, bending, reheating, and casting) must occur in the United States.

Q6.3: Will EPA apply the same manufacturing standards for BABA iron and steel products as for the American Iron and Steel (AIS) requirements?

- A6.3: Yes. For AIS, EPA did not require raw materials used in the production of steel or iron to be domestically sourced. For BABA, EPA interprets the requirements to be the same. Hence, like AIS, raw materials in the production of iron and steel subject to BABA requirements would not need to be domestically sourced. The key step for both AIS and BABA domestic iron and/or steel production is the melting/pouring (that is, the location of the furnace), which must be in the United States.

- Q6.4: Will the certification process be similar to the process established for the American Iron and Steel requirements?

    - A6.4: EPA expects the certification process for the BABA requirements to be very similar to that established for the AIS requirements. For iron and steel products, the process should remain the same for AIS and BABA. EPA recommends for manufactured products and for construction materials that certification letters include direct reference to the product/material content requirements under BABA, in addition to an affirmative statement verifying that the product meets the BABA requirements.

- Q6.5: Will duplicate certification letters be required for AIS and BABA for iron/steel products?

    - A6.5: No. Compliance with BABA requirements will be sufficient to demonstrate compliance with AIS requirements for iron and steel products. If a project is subject to BABA, the only demonstration of compliance necessary is with the BABA requirements, of which the iron and steel requirements are equivalent to those of the AIS statutory requirements: the iron or steel in a product made primarily or predominantly of iron and steel (comprising more than 50 percent iron and steel by material cost) must be melted and/or poured in the United States and all subsequent manufacturing processes must occur in the United States.

SECTION 7: PROGRAM-SPECIFIC ISSUES

- Q7.1.: How do the BABA requirements apply to Community Grants?

    - A7.1: The Community Project Funding/Congressionally Directed Spending grants for the construction of drinking water, wastewater, and stormwater infrastructure and for water

quality protection are subject to the requirements specified in the explanatory statement accompanying the Consolidated Appropriations Act (Explanatory Statement for Division G of P.L. 117-13, the Consolidated Appropriations Act of 2022). The explanatory statement asserts: "Applicable Federal requirements that would apply to a Clean Water State Revolving Fund or Drinking Water State Revolving Fund project grant recipient shall apply to a grantee receiving a CPF grant under this section." Therefore, the federally funded Community Project Funding/Congressionally Directed Spending grants are subject to the same requirements that apply to CWSRF or DWSRF projects, including BABA and AIS requirements. See also A1.2.

- Q7.2: Should SRF projects covered by the BABA SRF Projects Design Planning Adjustment Period Waiver follow the same procedures for demonstrating compliance as outlined for American Iron and Steel requirements?

    - A7.2: Yes. The SRF Design Planning Adjustment Period waiver does not waive the iron and steel requirements under BABA. The SRF programs have existing domestic preference requirements for SRF projects under CWA Section 608 and SDWA Section 1452(a)(4) (AIS requirements) to use iron and steel products that are produced in the United States. Sections 70917(a) and (b) of BIL explain the application of BABA to existing domestic preference requirements. Specifically, the savings provision in Section 70917(b) states that existing domestic preference requirements that meet BABA requirements are not affected by BABA. The statutory AIS requirements were existing at the time BABA became law and satisfy the BABA iron and steel requirements. Therefore, the statutory AIS requirements that have previously applied to SRF-funded projects will continue to do so, and compliance with AIS requirements will satisfy the BABA iron and steel requirements. Demonstration of compliance for iron and steel products will follow the AIS implementation policies for projects subject to the waiver.

- Q7.3: For SRF programs, is BABA considered a federal cross-cutting authority? (i.e., do "equivalency" rules apply?)

    - A7.3: Yes, BABA is considered a federal cross-cutting requirement that applies to SRF assistance equivalent to the federal capitalization grant (i.e., "equivalency" projects). EPA's SRF regulations at 40 CFR 35.3145 and 35.3575 require states and recipients of SRF funds equivalent to the amount of the federal capitalization grant to comply with federal cross-cutting requirements. Section 70914 of the IIJA, which states when a Buy America preference applies, explains that "none of the funds made available for a Federal financial assistance program for infrastructure…may be obligated for a project unless all of the iron, steel, manufactured products, and construction materials used in the project are produced in the United States." Therefore, BABA only applies to projects funded in an amount equivalent to the federal capitalization grant and not to those projects receiving funds in excess of the capitalization grant (i.e., "non-equivalency" projects). (Note: The AIS requirements continue to apply for all SRF projects, including non-equivalency projects, and all WIFIA and Community Grant projects, because equivalency does not apply.)

- Q7.4: Do the BABA requirements apply to Drinking Water State Revolving Fund set-asides?

    - A7.4: Due to requirements related to the deposit of funds in the DWSRF program, almost all of the funds used to conduct set-aside activities are Federal dollars. Therefore, Federal cross- cutting requirements must be applied to all set-aside activities. However, in the case of most set-aside activities, the cross-cutting requirements will not be implicated because of the nature of the activities conducted under the set-asides. Because the BABA requirements only apply to infrastructure, and infrastructure typically is not an eligible set-aside expenditure (with one potential exception being loans for incentive-based source water protection measures under the Local Assistance and Other State Programs Set-Aside), the BABA requirements will not apply to most set-aside activities.

- Q7.5: What if an SRF project is refinanced using Federal financial assistance on or after May 14, 2022?

    - A7.5: If an SRF project began construction, financed from another funding source, prior to May 14, 2022, but is refinanced through an assistance agreement executed on or after that date, BABA requirements will apply to all construction that occurs on or after May 14, 2022, through completion of construction, unless a waiver applies. There is no retroactive application of the BABA requirements where a refinancing occurs for an SRF project that has completed construction prior to May 14, 2022. (Note: If SRF funding is used for the refinancing, the AIS requirements may still apply depending on the timing of construction.)

- Q7.6: What are the roles and responsibilities for SRF programs for BABA implementation?

    - A7.6: Implementation of the BABA requirements for the State Revolving Fund programs will continue the roles and responsibilities from the successful AIS implementation process.

      As with AIS, it is both the assistance recipient's and the state's responsibility to ensure compliance with the BABA requirements. The state is the recipient of a federal capitalization grant and must comply with all grant conditions, including a condition requiring adherence to BABA requirements.

      Consequently, states are strongly advised to conduct site visits of projects during construction and review documentation demonstrating the assistance recipient's proof of compliance. In EPA's experience, most states conduct periodic site visits and arrange timely meetings with funded projects. Observed best practices typically include a meeting early in the process (sometimes before bid and usually prior to commencing construction) and at least one project site visit during the construction process. Assistance recipients must maintain documentation of compliance with the BABA requirements, as explained in question 5.3. The documents must be kept by the assistance recipient and should be reviewed by the state during project reviews.

      The state's role in the waiver process is to review any waiver requests submitted to the state to ensure that all necessary information has been provided by the assistance recipient prior to forwarding the request to EPA. If a state finds the request lacking, the state should work with

the assistance recipient to help obtain complete information. Question 4.1 explains the information needed by EPA to expediently review a waiver request.

In order to implement the BABA requirements, EPA has developed an approach for effective and efficient implementation of the waiver process to allow projects to proceed in a timely manner. The framework described below will allow states, on behalf of the assistance recipients, to apply for waivers of the BABA requirements directly to EPA Headquarters. Only waiver requests received and/or endorsed from states will be considered. Pursuant to BABA, EPA has the responsibility to make findings as to the issuance of waivers to the BABA requirements.

Step-by-step SRF Waiver Process

The waiver process begins with the assistance recipient. To fulfill the BABA requirements, the assistance recipient must in good faith design the project (where applicable) and solicit bids for construction with American-made iron and steel, manufactured goods, and construction materials. It is essential that the assistance recipient include the BABA terms in any request for proposals or solicitations for bids, and in all contracts (see Appendix 2 for sample construction contract language). The assistance recipient may receive a waiver at any point before, during, or after the bid process, if one or more of three statutory conditions is demonstrated to EPA and approved.

To apply for a project-specific waiver, the assistance recipient should email the request in the form of a Word document (.doc) or editable PDF (.pdf) to the funding program. It is strongly recommended that each state identify a person or persons for BABA communications. The state designee(s) will review the application for the waiver and determine whether the necessary information has been included (Note: More information may be provided in the future regarding what information is required to be included in waiver requests). Once the waiver application is complete, the designee (State) will forward the application to the EPA for review.

Evaluation by EPA

After receiving an application for waiver of the BABA requirements and ensuring sufficient information was provided, EPA will publish the request on its website for 15 days and receive public comment. EPA will then determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver.

In the event that EPA finds that adequate documentation and justification has been submitted, the Administrator may grant a waiver to the assistance recipient. EPA will notify the state designee whether a waiver request has been approved or not approved as soon as such a decision has been made. Granting such a waiver is a four-step process:

1. Research – After receiving an application for a waiver, EPA will perform market research to determine whether the iron, steel, manufactured goods, or construction materials are available domestically.

2. Posting – After research, if no domestic product has been identified, EPA is required to

publish the application and all material submitted with the application on EPA's website for 15 days. During that period, the public will have the opportunity to review the request and provide informal comment to EPA. The website can be found at: https://www.epa.gov/cwsrf/build-america-buy-america-baba-waivers-open-public-comment.

3. Evaluation – After receiving an application for waiver of the BABA requirements, EPA will determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver to determine whether or not to grant the waiver.

4. Signature of waiver approval by the Administrator or another agency official with delegated authority – As soon as the waiver is signed and dated, EPA will notify the State SRF program and post the signed waiver on the Agency's website. The assistance recipient should keep a copy of the signed waiver in its project files.

(Note: Additional steps may be required in the future regarding the waiver process depending on additional guidance from OBM) APPENDIX 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 20 2014

OFFICE OF WATER

MEMORANDUM

SUBJECT: Implementation of American Iron and Steel provisions of P.L. 113-76, Consolidated Appropriations Act, 2014

FROM: Andrew D. Sawyers, Director
Office of Wastewater Management (4201M)

Peter C. Grevatt, Director
Office of Ground Water and Drinking Water (4601M)

TO: Water Management Division Directors
Regions I - X

P.L. 113-76, Consolidated Appropriations Act, 2014 (Act), includes an "American Iron and Steel (AIS)" requirement in section 436 that requires Clean Water State Revolving Loan Fund (CWSRF) and Drinking Water State Revolving Loan Fund (DWSRF) assistance recipients to use iron and steel products that are produced in the United States for projects for the construction, alteration, maintenance, or repair of a public water system or treatment works if the project is funded through an assistance agreement executed beginning January 17, 2014 (enactment of the Act), through the end of Federal Fiscal Year 2014.

Section 436 also sets forth certain circumstances under which EPA may waive the AIS requirement. Furthermore, the Act specifically exempts projects where engineering plans and specifications were approved by a State agency prior to January 17, 2014.

The approach described below explains how EPA will implement the AIS requirement. The first section is in the form of questions and answers that address the types of projects that must comply with the AIS requirement, the types of products covered by the AIS requirement, and compliance. The second section is a step-by-step process for requesting waivers and the circumstances under which waivers may be granted.

Implementation

The Act states:

Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j–12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term ''iron and steel products'' means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the ''Administrator'') finds that—

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out

the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency's capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

The following questions and answers provide guidance for implementing and complying with the AIS requirements:

Project Coverage

1) What classes of projects are covered by the AIS requirement?

All treatment works projects funded by a CWSRF assistance agreement, and all public water system projects funded by a DWSRF assistance agreement, from the date of enactment through the end of Federal Fiscal Year 2014, are covered. The AIS requirements apply to the entirety of the project, no matter when construction begins or ends. Additionally, the AIS requirements apply to all parts of the project, no matter the source of funding.

2) Does the AIS requirement apply to nonpoint source projects or national estuary projects?

No. Congress did not include an AIS requirement for nonpoint source and national estuary projects unless the project can also be classified as a 'treatment works' as defined by section 212 of the Clean Water Act.

3) Are any projects for the construction, alteration, maintenance, or repair of a public water system or treatment works excluded from the AIS requirement?

Any project, whether a treatment works project or a public water system project, for which engineering plans and specifications were approved by the responsible state agency prior to January 17, 2014, is excluded from the AIS requirements.

4) What if the project does not have approved engineering plans and specifications but has signed an assistance agreement with a CWSRF or DWSRF program prior to January 17, 2014?

The AIS requirements do not apply to any project for which an assistance agreement was signed prior to January 17, 2014.

5) What if the project does not have approved engineering plans and specifications, but bids were advertised prior to January 17, 2014 and an assistance agreement was signed after January 17, 2014?

If the project does not require approved engineering plans and specifications, the bid advertisement date will count in lieu of the approval date for purposes of the exemption in section 436(f).

6) What if the assistance agreement that was signed prior to January 17, 2014, only funded a part of the overall project, where the remainder of the project will be funded later with another SRF loan?

If the original assistance agreement funded any construction of the project, the date of the original assistance agreement counts for purposes of the exemption. If the original assistance agreement was only for planning and design, the date of that assistance agreement will count for purposes of the exemption only if there is a written commitment or expectation on the part of the assistance recipient to fund the remainder of the project with SRF funds.

7) What if the assistance agreement that was signed prior to January 17, 2014, funded the first phase of a multi-phase project, where the remaining phases will be funded by SRF assistance in the future?

In such a case, the phases of the project will be considered a single project if all construction necessary to complete the building or work, regardless of the number of contracts or assistance agreements involved, are closely related in purpose, time and place. However, there are many situations in which major construction activities are clearly undertaken in phases that are distinct in purpose, time, or place. In the case of distinct phases, projects with engineering plans and specifications approval or assistance agreements signed prior to January 17, 2014 would be excluded from AIS requirements while those approved/signed on January 17, 2014, or later would be covered by the AIS requirements.

8) What if a project has split funding from a non-SRF source?

Many States intend to fund projects with "split" funding, from the SRF program and from State or other programs. Based on the Act language in section 436, which requires that American iron and steel products be used in any project for the construction, alteration, maintenance, or repair of a public water system or treatment works receiving SRF funding between and including January 17, 2014 and September 30, 2014, any project that is funded in whole or in part with such funds must comply with the AIS requirement. A "project" consists of all construction necessary to complete the building or work regardless of the number of contracts or assistance agreements involved so long as all contracts and assistance agreements awarded are closely related in purpose, time and place. This precludes the intentional splitting of SRF projects into separate and smaller contracts or assistance agreements to avoid AIS coverage on some portion of a larger project, particularly where the activities are integrally and proximately related to the whole. However, there are many situations in which major construction activities are clearly undertaken in separate phases that are distinct in purpose, time, or place, in which

case, separate contracts or assistance agreement for SRF and State or other funding would carry separate requirements.

9) What about refinancing?

If a project began construction, financed from a non-SRF source, prior to January 17, 2014, but is refinanced through an SRF assistance agreement executed on or after January 17, 2014 and prior to October 1, 2014, AIS requirements will apply to all construction that occurs on or after January 17, 2014, through completion of construction, unless, as is likely, engineering plans and specifications were approved by a responsible state agency prior to January 17, 2014. There is no retroactive application of the AIS requirements where a refinancing occurs for a project that has completed construction prior to January 17, 2014.

10) Do the AIS requirements apply to any other EPA programs, besides the SRF program, such as the Tribal Set-aside grants or grants to the Territories and DC?

No, the AIS requirement only applies to funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j–12)

<u>Covered Iron and Steel Products</u>

11) What is an iron or steel product?

For purposes of the CWSRF and DWSRF projects that must comply with the AIS requirement, an iron or steel product is one of the following made primarily of iron or steel that is permanently incorporated into the public water system or treatment works:

Lined or unlined pipes or fittings;
Manhole Covers;
Municipal Castings (defined in more detail below);
Hydrants;
Tanks;
Flanges;
Pipe clamps and restraints;
Valves;
Structural steel (defined in more detail below);
Reinforced precast concrete; and
Construction materials (defined in more detail below).

12) What does the term 'primarily iron or steel' mean?

'Primarily iron or steel' places constraints on the list of products above. For one of the listed products to be considered subject to the AIS requirements, it must be made of greater than 50% iron or steel, measured by cost. The cost should be based on the material costs.

13) Can you provide an example of how to perform a cost determination?

For example, the iron portion of a fire hydrant would likely be the bonnet, body and shoe, and the cost then would include the pouring and casting to create those components. The other material costs would include non-iron and steel internal workings of the fire hydrant (i.e., stem, coupling, valve, seals, etc). However, the assembly of the internal workings into the hydrant body would not be included in this cost calculation. If one of the listed products is not made primarily of iron or steel, United States (US) provenance is not required. An exception to this definition is reinforced precast concrete, which is addressed in a later question.

14) If a product is composed of more than 50% iron or steel, but is not listed in the above list of items, must the item be produced in the US? Alternatively, must the iron or steel in such a product be produced in the US?

The answer to both question is no. Only items on the above list must be produced in the US. Additionally, the iron or steel in a non-listed item can be sourced from outside the US.

15) What is the definition of steel?

Steel means an alloy that includes at least 50 percent iron, between .02 and 2 percent carbon, and may include other elements. Metallic elements such as chromium, nickel, molybdenum, manganese, and silicon may be added during the melting of steel for the purpose of enhancing properties such as corrosion resistance, hardness, or strength. The definition of steel covers carbon steel, alloy steel, stainless steel, tool steel and other specialty steels.

16) What does 'produced in the United States' mean?

Production in the United States of the iron or steel products used in the project requires that all manufacturing processes, including application of coatings, must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives. All manufacturing processes includes processes such as melting, refining, forming, rolling, drawing, finishing, fabricating and coating. Further, if a domestic iron and steel product is taken out of the US for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the material(s), if any, being applied as a coating are similarly not covered. Non-iron or steel components of an iron and steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-iron and steel components

do not have to be of domestic origin.

17) Are the raw materials used in the production of iron or steel required to come from US sources?

No. Raw materials, such as iron ore, limestone, scrap iron, and scrap steel, can come from non-US sources.

18) If an above listed item is primarily made of iron or steel, but is only at the construction site temporarily, must such an item be produced in the US?

No. Only the above listed products made primarily of iron or steel, permanently incorporated into the project must be produced in the US. For example trench boxes, scaffolding or equipment, which are removed from the project site upon completion of the project, are not required to be made of U.S. Iron or Steel.

19) What is the definition of 'municipal castings'?

Municipal castings are cast iron or steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and surface infrastructure. They are typically made of grey or ductile iron, or steel. Examples of municipal castings are:

Access Hatches;
Ballast Screen;
Benches (Iron or Steel);
Bollards;
Cast Bases;
Cast Iron Hinged Hatches, Square and Rectangular;
Cast Iron Riser Rings;
Catch Basin Inlet;
Cleanout/Monument Boxes;
Construction Covers and Frames;
Curb and Corner Guards;
Curb Openings;
Detectable Warning Plates;
Downspout Shoes (Boot, Inlet);
Drainage Grates, Frames and Curb Inlets;
Inlets;
Junction Boxes;
Lampposts;
Manhole Covers, Rings and Frames, Risers;

Meter Boxes;
Service Boxes;
Steel Hinged Hatches, Square and Rectangular;
Steel Riser Rings;
Trash receptacles;
Tree Grates;
Tree Guards;
Trench Grates; and
Valve Boxes, Covers and Risers.

20) What is 'structural steel'?

Structural steel is rolled flanged shapes, having at least one dimension of their cross-section three inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees and zees. Other shapes include H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

21) What is a 'construction material' for purposes of the AIS requirement?

Construction materials are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered "structural steel". This includes, but is not limited to, the following products: wire rod, bar, angles, concrete reinforcing bar, wire, wire cloth, wire rope and cables, tubing, framing, joists, trusses, fasteners (i.e., nuts and bolts), welding rods, decking, grating, railings, stairs, access ramps, fire escapes, ladders, wall panels, dome structures, roofing, ductwork, surface drains, cable hanging systems, manhole steps, fencing and fence tubing, guardrails, doors, and stationary screens.

22) What is not considered a 'construction material' for purposes of the AIS requirement?

Mechanical and electrical components, equipment and systems are not considered construction materials. Mechanical equipment is typically that which has motorized parts and/or is powered by a motor. Electrical equipment is typically any machine powered by electricity and includes components that are part of the electrical distribution system.

The following examples (including their appurtenances necessary for their intended use and operation) are NOT considered construction materials: pumps, motors, gear reducers, drives (including variable frequency drives (VFDs)), electric/pneumatic/manual accessories used to operate valves (such as electric valve actuators), mixers, gates, motorized screens (such as traveling screens), blowers/aeration equipment, compressors, meters, sensors, controls and switches, supervisory control and data acquisition (SCADA), membrane bioreactor systems, membrane filtration systems, filters, clarifiers and clarifier mechanisms, rakes, grinders, disinfection systems, presses (including belt presses), conveyors, cranes, HVAC (excluding ductwork), water heaters,

heat exchangers, generators, cabinetry and housings (such as electrical boxes/enclosures), lighting fixtures, electrical conduit, emergency life systems, metal office furniture, shelving, laboratory equipment, analytical instrumentation, and dewatering equipment.

23) If the iron or steel is produced in the US, may other steps in the manufacturing process take place outside of the US, such as assembly?

No. Production in the US of the iron or steel used in a listed product requires that all manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives.

24) What processes must occur in the US to be compliant with the AIS requirement for reinforced precast concrete?

While reinforced precast concrete may not be at least 50% iron or steel, in this particular case, the reinforcing bar and wire must be produced in the US and meet the same standards as for any other iron or steel product. Additionally, the casting of the concrete product must take place in the US. The cement and other raw materials used in concrete production are not required to be of domestic origin.

If the reinforced concrete is cast at the construction site, the reinforcing bar and wire are considered to be a construction material and must be produced in the US.

Compliance

25) How should an assistance recipient document compliance with the AIS requirement?

In order to ensure compliance with the AIS requirement, specific AIS contract language must be included in each contract, starting with the assistance agreement, all the way down to the purchase agreements. Sample language for assistance agreements and contracts can be found in Appendix 3 and 4.

EPA recommends the use of a step certification process, similar to one used by the Federal Highway Administration. The step certification process is a method to ensure that producers adhere to the AIS requirement and assistance recipients can verify that products comply with the AIS requirement. The process also establishes accountability and better enables States to take enforcement actions against violators.

Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. A step certification is a process under which each handler (supplier, fabricator, manufacturer,

processor, etc) of the iron and steel products certifies that their step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin. A certification can be quite simple. Typically, it includes the name of the manufacturer, the location of the manufacturing facility where the product or process took place (not its headquarters), a description of the product or item being delivered, and a signature by a manufacturer's responsible party. Attached, as Appendix 5, are sample certifications. These certifications should be collected and maintained by assistance recipients.

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the US. While this type of certification may be acceptable, it may not provide the same degree of assurance. Additional documentation may be needed if the certification is lacking important information. Step certification is the best practice.

26) How should a State ensure assistance recipients are complying with the AIS requirement?

In order to ensure compliance with the AIS requirement, States SRF programs must include specific AIS contract language in the assistance agreement. Sample language for assistance agreements can be found in Appendix 3.

States should also, as a best practice, conduct site visits of projects during construction and review documentation demonstrating proof of compliance which the assistance recipient has gathered.

27) What happens if a State or EPA finds a non-compliant iron and/or steel product permanently incorporated in the project?

If a potentially non-compliant product is identified, the State should notify the assistance recipient of the apparent unauthorized use of the non-domestic component, including a proposed corrective action, and should be given the opportunity to reply. If unauthorized use is confirmed, the State can take one or more of the following actions: request a waiver where appropriate; require the removal of the non-domestic item; or withhold payment for all or part of the project. Only EPA can issue waivers to authorize the use of a non-domestic item. EPA may use remedies available to it under the Clean Water Act, the Safe Drinking Water Act, and 40 CFR part 31 grant regulations, in the event of a violation of a grant term and condition.

It is recommended that the State work collaboratively with EPA to determine the appropriate corrective action, especially in cases where the State is the one who identifies the item in noncompliance or there is a disagreement with the assistance recipient.

If fraud, waste, abuse, or any violation of the law is suspected, the Office of Inspector General (OIG) should be contacted immediately. The OIG can be reached at 1-888-546-8740 or OIG_Hotline@epa.gov. More information can be found at this website: http://www.epa.gov/oig/hotline.htm.

28) How do international trade agreements affect the implementation of the AIS requirements?

The AIS provision applies in a manner consistent with United States obligations under international agreements. Typically, these obligations only apply to direct procurement by the entities that are signatories to such agreements. In general, SRF assistance recipients are not signatories to such agreements, so these agreements have no impact on this AIS provision. In the few instances where such an agreement applies to a municipality, that municipality is under the obligation to determine its applicability and requirements and document the actions taken to comply for the State.

Waiver Process

The statute permits EPA to issue waivers for a case or category of cases where EPA finds (1) that applying these requirements would be inconsistent with the public interest; (2) iron and steel products are not produced in the US in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron and steel products produced in the US will increase the cost of the overall project by more than 25 percent.

In order to implement the AIS requirements, EPA has developed an approach to allow for effective and efficient implementation of the waiver process to allow projects to proceed in a timely manner. The framework described below will allow States, on behalf of the assistance recipients, to apply for waivers of the AIS requirement directly to EPA Headquarters. Only waiver requests received from states will be considered. Pursuant to the Act, EPA has the responsibility to make findings as to the issuance of waivers to the AIS requirements.

Definitions

The following terms are critical to the interpretation and implementation of the AIS requirements and apply to the process described in this memorandum:

Reasonably Available Quantity: The quantity of iron or steel products is available or will be available at the time needed and place needed, and in the proper form or specification as specified in the project plans and design.

Satisfactory Quality: The quality of iron or steel products, as specified in the project plans and designs.

Assistance Recipient: A borrower or grantee that receives funding from a State CWSRF or DWSRF program.

Step-By-Step Waiver Process

Application by Assistance Recipient

Each local entity that receives SRF water infrastructure financial assistance is required by section 436 of the Act to use American made iron and steel products in the construction of its project. However, the recipient may request a waiver. Until a waiver is granted by EPA, the AIS requirement stands, except as noted above with respect to municipalities covered by international agreements.

The waiver process begins with the SRF assistance recipient. In order to fulfill the AIS requirement, the assistance recipient must in good faith design the project (where applicable) and solicit bids for construction with American made iron and steel products. It is essential that the assistance recipient include the AIS terms in any request for proposals or solicitations for bids, and in all contracts (see Appendix 3 for sample construction contract language). The assistance recipient may receive a waiver at any point before, during, or after the bid process, if one or more of three conditions is met:

1. Applying the American Iron and Steel requirements of the Act would be inconsistent with the public interest;
2. Iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
3. Inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

Proper and sufficient documentation must be provided by the assistance recipient. A checklist detailing the types of information required for a waiver to be processed is attached as Appendix 1.

Additionally, it is strongly encouraged that assistance recipients hold pre-bid conferences with potential bidders. A pre-bid conference can help to identify iron and steel products needed to complete the project as described in the plans and specifications that may not be available from domestic sources. It may also identify the need to seek a waiver prior to bid, and can help inform the recipient on compliance options.

In order to apply for a project waiver, the assistance recipient should email the request in the form of a Word document (.doc) to the State SRF program. It is strongly recommended that the State designate a single person for all AIS communications. The State SRF designee will review the application for the waiver and determine whether the necessary information has been included. Once the waiver application is complete, the State designee will forward the application to the EPA for review.

Evaluation by EPA

After receiving an application for waiver of the AIS requirements, EPA Headquarters will publish the request on its website for 15 days and receive informal comment. EPA Headquarters will then use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to

determine whether or not to grant the waiver.

In the event that EPA finds that adequate documentation and justification has been submitted, the Administrator may grant a waiver to the assistance recipient. EPA will notify the State designee that a waiver request has been approved or denied as soon as such a decision has been made. Granting such a waiver is a three-step process:

1. Posting – After receiving an application for a waiver, EPA is required to publish the application and all material submitted with the application on EPA's website for 15 days. During that period, the public will have the opportunity to review the request and provide informal comment to EPA. The website can be found at: http://water.epa.gov/grants_funding/aisrequirement.cfm

2. Evaluation – After receiving an application for waiver of the AIS requirements, EPA Headquarters will use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.

3. Signature of waiver approval by the Administrator or another agency official with delegated authority – As soon as the waiver is signed and dated, EPA will notify the State SRF program, and post the signed waiver on our website. The assistance recipient should keep a copy of the signed waiver in its project files.

Public Interest Waivers

EPA has the authority to issue public interest waivers. Evaluation of a public interest waiver request may be more complicated than that of other waiver requests so they may take more time than other waiver requests for a decision to be made. An example of a public interest waiver that might be issued could be for a community that has standardized on a particular type or manufacturer of a valve because of its performance to meet their specifications. Switching to an alternative valve may require staff to be trained on the new equipment and additional spare parts would need to be purchased and stocked, existing valves may need to be unnecessarily replaced, and portions of the system may need to be redesigned. Therefore, requiring the community to install an alternative valve would be inconsistent with public interest.

EPA also has the authority to issue a public interest waiver that covers categories of products that might apply to all projects.

EPA reserves the right to issue national waivers that may apply to particular classes of assistance recipients, particular classes of projects, or particular categories of iron or steel products. EPA may develop national or (US geographic) regional categorical waivers through the identification of similar circumstances in the detailed justifications presented to EPA in a waiver request or requests. EPA may issue a national waiver based on policy decisions regarding the public's interest or a determination that a particular item is not produced domestically in reasonably available quantities or of a sufficient quality. In such cases, EPA may determine it is necessary to issue a national waiver.

If you have any questions concerning the contents of this memorandum, you may contact us, or have your staff contact Jordan Dorfman, Attorney-Advisor, State Revolving Fund Branch, Municipal Support Division, at dorfman.jordan@epa.gov or (202) 564-0614 or Kiri Anderer, Environmental Engineer, Infrastructure Branch, Drinking Water Protection Division, at anderer.kirsten@epa.gov or (202) 564-3134.

Attachments

Appendix 1: Information Checklist for Waiver Request

The purpose of this checklist is to help ensure that all appropriate and necessary information is submitted to EPA. EPA recommends that States review this checklist carefully and provide all appropriate information to EPA. This checklist is for informational purposes only and does not need to be included as part of a waiver application.

Items	✓	Notes
General • Waiver request includes the following information: — Description of the foreign and domestic construction materials — Unit of measure — Quantity — Price — Time of delivery or availability — Location of the construction project — Name and address of the proposed supplier — A detailed justification for the use of foreign construction materials • Waiver request was submitted according to the instructions in the memorandum • Assistance recipient made a good faith effort to solicit bids for domestic iron and steel products, as demonstrated by language in requests for proposals, contracts, and communications with the prime contractor		
Cost Waiver Requests • Waiver request includes the following information: — Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products — Relevant excerpts from the bid documents used by the contractors to complete the comparison — Supporting documentation indicating that the contractor made a reasonable survey of the market, such as a description of the process for identifying suppliers and a list of contacted suppliers		
Availability Waiver Requests • Waiver request includes the following supporting documentation necessary to demonstrate the availability, quantity, and/or quality of the materials for which the waiver is requested: — Supplier information or pricing information from a reasonable number of domestic suppliers indicating availability/delivery date for construction materials — Documentation of the assistance recipient's efforts to find available domestic sources, such as a description of the process for identifying suppliers and a list of contacted suppliers. — Project schedule — Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of construction materials • Waiver request includes a statement from the prime contractor and/or supplier confirming the non-availability of the domestic construction materials for which the waiver is sought • Has the State received other waiver requests for the materials described in this waiver request, for comparable projects?		

Appendix 2: HQ Review Checklist for Waiver Request

Instructions: To be completed by EPA. Review all waiver requests using the questions in the checklist, and mark the appropriate box as Yes, No or N/A. Marks that fall inside the shaded boxes may be grounds for denying the waiver. If none of your review markings fall into a shaded box, the waiver is eligible for approval if it indicates that one or more of the following conditions applies to the domestic product for which the waiver is sought:

1. The iron and/or steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality.
2. The inclusion of iron and/or steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

Review Items	Yes	No	N/A	Comments
Cost Waiver Requests • Does the waiver request include the following information? — Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products — Relevant excerpts from the bid documents used by the contractors to complete the comparison — A sufficient number of bid documents or pricing information from domestic sources to constitute a reasonable survey of the market • Does the Total Domestic Project exceed the Total Foreign Project Cost by more than 25%?				
Availability Waiver Requests • Does the waiver request include supporting documentation sufficient to show the availability, quantity, and/or quality of the iron and/or steel product for which the waiver is requested? — Supplier information or other documentation indicating availability/delivery date for materials — Project schedule — Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of materials • Does supporting documentation provide sufficient evidence that the contractors made a reasonable effort to locate domestic suppliers of materials, such as a description of the process for identifying suppliers and a list of contacted suppliers? • Based on the materials delivery/availability date indicated in the supporting documentation, will the materials be unavailable when they are needed according to the project schedule? (By item, list schedule date and domestic delivery quote date or other relevant information) • Is EPA aware of any other evidence indicating the non-availability of the materials for which the waiver is requested? Examples include: — Multiple waiver requests for the materials described in this waiver request, for comparable projects in the same State — Multiple waiver requests for the materials described in this waiver request, for comparable projects in other States — Correspondence with construction trade associations indicating the non-availability of the materials • Are the available domestic materials indicated in the bid documents of inadequate quality compared those required by the project plans, specifications, and/or permits?				

SR.EPA.61

Appendix 5: Sample Certifications

The following information is provided as a sample letter of **step** certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. Xxxx
2. Xxxx
3. Xxxx

Such process took place at the following location:

_____

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

The following information is provided as a sample letter of certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Certification for Project (XXXXXXXXXX)

I, (company representative), certify that the following products and/or materials shipped/provided to the subject project are in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. Xxxx
2. Xxxx
3. Xxxx

Such process took place at the following location:

_____

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

American Iron & Steel (AIS) Requirement of the Consolidated Appropriations Act of 2014
(Public Law 113-76)

Q&A Part 2

PRODUCT QUESTIONS

1. **Q: Do all fasteners qualify for de minimis exemption?**

   A: No. There is no broad exemption for fasteners from the American Iron and Steel (AIS) requirements. Significant fasteners used in SRF projects are not subject to the de minimis waiver for projects and must comply with the AIS requirements. Significant fasteners include fasteners produced to industry standards (e.g., ASTM standards) and/or project specifications, special ordered or those of high value. When bulk purchase of unknown-origin fasteners that are of incidental use and small value are used on a project, they may fall under the national de minimis waiver for projects. The list of potential items could be varied, such as big-box/hardware-store-variety screws, nails, and staples. The key characteristics of the items that may qualify for the de minimis waiver would be items that are incidental to the project purpose (such as drywall screws) and not significant in value or purpose (such as common nails or brads).

   EPA also clarifies that minor components of two listed products – valves and hydrants -- may not need to meet the AIS requirements if the minor components compromise a very small quantity of minor, low-cost fasteners that are of unknown origin.

2. **Q: Does PCCP pipe have to be domestically produced?**

   A: Yes. Pre-stressed concrete cylinder pipe (PCCP) or other similar concrete cylinder pipes would be comparable to pre-cast concrete which is specifically listed in the Consolidated Appropriations Act of 2014 as a product subject to the AIS requirement.

3. **Q: If the iron or steel is made from recycled metals will the vendor/supplier have to provide a certification document certifying that the recycled metals are domestically produced?**

   A: No. Recycled source materials used in the production of iron and steel products do not have to come from the U.S. Iron or steel scrap, for instance, are considered raw materials that may come from anywhere. While certification is not required for the raw material, EPA does recommend that additional final processing of iron and steel be certified to have occurred in the U.S.

4. **Q: Do tanks used for filtration systems, if delivered to the construction site separately and then filled with filtration media onsite, have to be domestically produced?**

A: No. Tanks that are specifically designed to be filters, or as parts of a filtration system, do not have to be domestically produced because these parts are no longer simply tanks, even if the filter media has not been installed and will be installed at the project site, as is customary to do for shipping purposes. These parts have only one purpose which is to be housing for filters and cannot be used in another fashion.

5. **Q: Can a recipient use non-domestic flanged pipe?**

   A: No. While the Consolidated Appropriations Act of 2014 does not specifically mention flanged pipe, since it does mention both pipe and flanges, both products would need to be domestically produced. Therefore, flanged pipe would also need to be domestically produced.

6. **Q: Can a recipient use non-domestic couplings, expansion joints, and other similar pipe connectors?**

   A: No. These products would be considered specialty fittings, due to their additional functionality, but still categorized under the larger "fitting" categorization. Fittings are defined as a material that joins pipes together or connects to a pipe (AWWA, The Drinking Water Dictionary, 2000). Therefore, these products must comply with the AIS requirements and be produced domestically.

7. **Q: Can a recipient use non-domestic service saddles and tapping sleeves?**

   A: No. These products are necessary for pipe repair, to tap a water main, or to install a service or house connection. Therefore, they are included under the larger "pipe restraint" category which is a specifically identified product subject to the domestic preference in the Consolidated Appropriations Act of 2014.

8. **Q: The AIS guidance does not appear to cover reused items (i.e., existing pipe fittings, used storage tanks, reusing existing valves). How should reused items be addressed?**

   A: The AIS guidance does not address reuse of items. Reuse of items that would otherwise be covered by AIS is acceptable provided that the item(s) was originally purchased prior to January 17, 2014, the reused item(s) is not substantially altered from original form/function, and any restoration work that may be required does not include the replacement or addition of foreign iron or steel replacement parts. EPA recommends keeping a log of these reused items by including them on the assistance recipient's de minimis list, and stating therein that these items are reused products. The donation of new items (such as a manufacturer waiving cost for certain delivered items because of concerns regarding the origin of a new product) is not, however, considered reuse.

9. **Q: What does "time needed" mean in the AIS guidance, in reference to the definition of "Reasonably Available Quantity"?**

A: For considering whether a product would meet reasonably available quantity, "time needed" is based on the construction schedule. If the item is delayed and there is substantial impact on the overall construction schedule, this would not be according to the "time needed."

10. **Q: If a product is not specifically included on the list of AIS covered products, must it comply with AIS?**

    A: Possibly. The AIS requirements include a list of specifically covered products, one of which is construction materials, a broad category of potential products. For construction materials, EPA's AIS guidance includes a set of example items that it considers construction materials composed primarily of iron and steel and covered by the Act. This example list in the guidance is not an all-inclusive list of potential construction materials. However, the guidance also includes a list of items that EPA specifically does not consider construction materials, generally those of electrical or complex-mechanical nature. If a product is similar to the ones in the non-construction material list (and it is also not specifically listed by the Act), it is not a construction material. For all other items specifically included in the Act, coverage is generally self-evident.

11. **Q: If a listed iron and steel product is used as a part for an assembled product that is non-domestic, do the AIS requirements apply?**

    A: AIS requirements only apply to the final product as delivered to the work site and incorporated into the project. Other assemblies, such as a pumping assembly or a reverse osmosis package plant, are distinct products not listed and do not need to be made in the U.S. or composed of all U.S. parts. Therefore, for the case of a non-covered product used in a larger non-domestic assembly, the components, even if specifically listed in the Consolidated Appropriations Act, do not have to be domestically produced.

12. **Q: Is cast iron excluded from the AIS requirements?**

    A: No. Cast iron products that fall under the definition of iron and steel products must comply with the AIS requirements.

13. **Q: The guidance states that "construction materials" do not include mechanical equipment, but then identifies ductwork as a construction material. Please clarify.**

    A: Ductwork is not mechanical equipment, therefore it is considered a "construction material" and must comply with the AIS requirements.

14. **Q: Do "meters" mentioned in EPA's guidance as non-construction materials include both flow meters and water meters?**

    A: Yes. "Meters" includes any type of meter, including: flow meters, wholesale meters, and water meters/service connections.

15. **Q: Must coiled steel be domestic?**

    A: Yes. Coiled steel is an intermediate product used in the production of steel pipe and must come from a U.S. source or subject to a waiver in order to comply with the AIS requirements.

16. **Q: Are pig iron, direct reduced iron (DRI), and ingot considered raw materials?**

    A: No. These are considered intermediate products used in the production of iron or steel and must come from a U.S. source or subject to a waiver in order to comply with the AIS requirements.

17. **Q: Can assistance recipients rely on a marking that reads, "Made in the USA," as evidence that all processes took place in the U.S.?**

    A: No. This designation is not consistent with our requirements that all manufacturing processes of iron and steel products must take place in the U.S.

18. **Q: When determining what constitutes a product made "primarily" of iron or steel, who makes this determination?**

    A: The manufacturer will show if its product qualifies as primarily made of iron or steel. The recipient should expect the manufacturer to provide documentation/ certification that its product is AIS compliant.

19. **Q: Do aerators need to be produced domestically in order to comply with AIS?**

    A: No. Aerators, similar to pumps, are mechanical equipment that do not need to meet the AIS requirements. "Blowers/aeration equipment, compressors" are listed in EPA's guidance as non-construction materials.

20. **Q: Are Sluice and Slide Gates considered valves?**

    A: No. Valves are products that are generally encased / enclosed with a body, bonnet, and stem. Examples include enclosed butterfly, ball, globe, piston, check, wedge, and gate valves. Furthermore, "gates" (meaning sluice, slide or weir gates) are listed in EPA's guidance as non-construction materials.

AIS PROCESS QUESTIONS

21. **Q: Will notices of waiver applications be published in the federal register?**

    A: No. Applications for waivers will be published on EPA's website (http://water.epa.gov/grants_funding/aisrequirement.cfm**).** EPA will provide 15 days for open public comment, as noted on the website.

22. Q: Will states be collecting the step certification paper trail, as presented in the AIS guidance?

A. No. Assistance recipients must maintain documentation of compliance with AIS. EPA recommends use of the step certification process. This process is a best practice and traces all manufacturing of iron and steel products to the U.S. If the process is used, the state does not have to collect the documentation. The documents must be kept by the assistance recipient and reviewed by the state during project reviews.

23. Q: Why is it considered a best practice for states to conduct site visits, when it is the assistance recipient's responsibility to meet the AIS requirements?

A: It is both the assistance recipient's and the state's responsibility to ensure compliance with the AIS requirements. The state is the recipient of a federal grant and must comply with all grant conditions, including a condition requiring that the AIS requirements be adhered to. Therefore, it is recommended that states conduct site visits of projects during construction and review documentation demonstrating the assistance recipient's proof of compliance.

24. Q: Please further define the state's role in the waiver process.

A: The state's role in the waiver process is to review any waiver requests submitted to the state in order to ensure that all necessary information has been provided by the assistance recipient prior to forwarding the request to EPA. If a state finds the request lacking, the state should work with the assistance recipient to help obtain complete information.

25. Q: How much time does EPA have to evaluate the waiver during the evaluation step?

A: At a minimum, EPA is required to provide 15 days for open public comment. There is no specific deadline or time limit for EPA to review waiver requests. Each waiver request will come with its own specific details and circumstances and may require a different amount of time for review and analysis. For example, public interest waivers in general may take longer to review than availability waivers which are typically more straightforward. However, EPA understands that construction may be delayed while waiting for a waiver and will make every effort to review and issue decisions on waiver requests in a timely manner.

PROJECT QUESTIONS

26. Q: What if a project is funded by another funding entity (i.e., United States Department of Agriculture – Rural Development) where AIS is not required and begins construction after January 17, 2014 but then applies to the SRF to refinance the project? Are they ineligible?

A: The project is not ineligible. AIS requirements will apply to any construction that occurs after the assistance agreement is signed, through the end of construction. If construction is complete, there is no retroactive application of the AIS requirements.

27. **Q: If the assistance recipient can demonstrate through market research that the AIS requirement will exceed the 25 percent cost threshold, is the entire project exempt from the AIS requirement?**

    A: If the waiver application shows that the inclusion of American iron and steel products causes the entire cost of the project to increase by more the 25 percent, a waiver may be granted for the entirety of the project.

28. **Q: Can the recipient use non-SRF funds to pay for the non-compliant item.**

    A: No. It is not an acceptable to use non-SRF funds to pay for a non-compliant item. The Consolidated Appropriations Act of 2014 requires that all iron and steel products, no matter the source of funding, must be made in the U.S. if SRF funds are used in the project.

29. **Q: What constitutes "satisfactory quality" as defined in the AIS guidance, in reference to the availability waiver process.**

    A: "Satisfactory quality" means the product meets the project design specifications. A waiver may be granted if a recipient determines that the project plans and design would be compromised because there are no American made products available that meet the project design specifications.

30. **Q: The guidance states that the AIS requirement applies to any project "funded in whole or in part" by an SRF. Where is this in the Act?**

    A: The Act states that, "None of the funds made available by a … [State SRF program] … shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States." This sentence clearly states that no SRF program may use its funds for a project unless all of the iron and steel products used in the project are made in the U.S. This is true even if only $1 of SRF funding is used in the project.

31. **Q: There is always an expectation on the part of an assistance recipient that the construction phase of a planning and/or design only loan will be funded through the SRF. If the original planning and/or design only loan was executed prior to a January 17, 2014, does this mean the entire project will be exempt from the AIS requirement?**

    A: If the original loan includes construction, and was executed prior to January 17, 2014, then the AIS provision does not apply to the project. If the original loan was only for planning and/or design, then a written commitment or documented "expectation" is needed to show exemption from the

requirements. Appearance on a priority list in an Intended Use Plan along with written reasonable assurance from the state that the recipient will receive SRF funding for project construction could provide sufficient evidence of "expectation of funding".

32. **Q: What if there has been a change order or redesign requiring new plans and specifications to be approved and they were approved after January 17, 2014: does the project now have to comply with AIS?**

    A: In most cases, no. Change orders are typically small enough changes that the original plan and specification date will still hold true. For example, if a pipe alignment has to be changed for a block or two due to unforeseen conditions, but new plans and specifications had to be submitted for this section of the project, then that could be considered a minor change. However, if there has been a major redesign, perhaps the whole project had to be redesigned starting from scratch, then the new plans and specification approval date would apply.

33. **Q: What if the bids on a project with plans and specifications approved before January 17, 2014 but the loan is signed after January 17, 2014 come in low, and there is significant funding remaining in the loan agreement, so the community designs a second project with the remaining funds: does that project have to comply with the AIS requirements?**

    A: If the second project is closely related in purpose, place and time to the first project, then the second project would be exempt from the AIS requirements. It is the assistance recipient's responsibility (with state oversight) to show that a project is closely related, or not, in purpose, place and time.

34. **Q: What if the assistance agreement was signed after January 17, 2014, state approval of plans for the first phase of the project was in place prior to January 17, 2014, but state approval of the plans for the second phase of the project was received after January 17, 2014?**

    A: In such a case, the AIS provision would not apply to the first phase of the project. If the second phase of the project is considered the same project as the first phase, due to its close relation in purpose, place and time, the entire project may be exempt. It is the assistance recipient's responsibility (with state oversight) to show that phases of a project is closely related, or not, in purpose, place and time.

35. **Q: Do products purchased through procurement-only contracts have to be comply with AIS?**

    A: Yes. For projects funded by SRF, the products procured under any form of contract must comply with AIS. A procurement-only contract generally involves the bulk purchase of common items (such as pipe, concrete, and/or pumps) of independent timing from a set of planned projects. If products which are purchased through a procurement-only contract are being installed under another contract, the procurement-only contract would probably not be considered a separate project in purpose, place and time; and therefore, would have to comply with the AIS requirements.

March 2015

American Iron & Steel Requirement for the Clean Water and Drinking Water State Revolving Funds

Q&A Part 3

*For CWSRF and DWSRF: On **January 17, 2014**, Public Law 113-76, the "Consolidated Appropriations Act, 2014," was enacted and included an American Iron and Steel requirement for the Clean Water and Drinking Water State Revolving Fund programs through the end of fiscal year 2014. Since then, the AIS requirement has continued for both programs, but through different statutes, with a few changes as described in the questions and answers provided below.*

*For CWSRF: On **June 10, 2014**, the Water Resources Reform and Development Act amended the Clean Water Act to include permanent requirements for the use of AIS products in CWSRF assistance agreements. Section 608 of the CWA now contains requirements for AIS that repeat those of the Consolidated Appropriations Act, 2014. All CWSRF assistance agreements must comply with Section 608 of the CWA for implementation of the permanent AIS requirement.*

*For DWSRF: On **December 16, 2014**, the President signed Public Law 113- 235, the "Consolidated and Further Continuing Appropriations Act, 2015," which provides fiscal year 2015 full-year appropriations through September 30, 2015. This law continues the requirement for the use of AIS products in DWSRF assistance agreements through September 30, 2015.*

CWSRF PROGRAM

1. **Q: The Water Resources Reform and Development Act amended the Clean Water Act to include permanent requirements for the use of AIS for CWSRF funded assistance agreements. Does the CWA include an exemption for plans and specifications approved prior to the enactment of the legislation similar to the exemption included in the Consolidated Appropriations Act (CAA) 2014?**

   A: Yes. The WRRDA amendment to the CWA, which included AIS requirements, included a similar exemption as the CAA 2014. For any CWSRF assistance agreement signed on or after October 1, 2014, if the plans and specifications were approved prior to June 10, 2014 (the enactment of WRRDA), then the project is exempt from AIS requirements. For assistance agreements signed prior to October 1, 2014, the previous dates in the CAA 2014 apply (see March 20, 2014, AIS guidance document).

   If a project does not require approved engineering plans and specifications, the bid advertisement date will count in lieu of the plans and specifications approval date for purposes of this exemption in Section 608 (f).

   The following table summarizes AIS exemptions based on the plans and specifications approval date for CWSRF funded projects.

CWSRF AIS Project Exemption Based on Plans and Specifications Approval Date		
Assistance Agreement Signed:	Exempt from AIS if Plans and Specifications Were Approved Before:	Basis for Exemption:
1/17/2014 through 9/30/2014	4/15/2014	• Consolidated Appropriations Act 2014 • National waiver signed 4/15/2014*
On or after 10/1/2014	6/10/2014	• Clean Water Act Section 608

** To be covered by the national waiver, the plans and specifications had to be submitted to the state prior to 1/17/2014*

2. **Q: Does the AIS requirement apply to refinanced CWSRF projects?**

   A: Yes, in some cases. If a project began construction, financed from a non-CWSRF source prior to June 10, 2014, but is refinanced through a CWSRF assistance agreement executed on or after October 1, 2014, AIS requirements will apply to all construction that occurs on or after June 10, 2014, through completion of construction, unless engineering plans and specifications were approved by the responsible state agency prior to June 10, 2014. For CWSRF projects funded on or after October 1, 2014, there is no retroactive application of the AIS requirements where a refinancing occurs for a project that has completed construction prior to June 10, 2014.

DWSRF PROGRAM

3. **Q: The Consolidated and Further Continuing Appropriations Act 2015 continues the AIS requirements for DWSRF funded assistance agreements. Does the Act include an exemption for plans and specifications approved prior to the enactment of the legislation, similar to the exemption included in the Consolidated Appropriations Act (CAA) 2014?**

   A: Yes. The Consolidated and Further Continuing Appropriations Act 2015 includes a similar exemption as the CAA 2014. For any assistance agreement signed on or after December 16, 2014 (the enactment of the Act), if the plans and specifications were approved prior to December 16, 2014, then the project is exempt from the AIS requirements. For assistance agreements signed prior to December 16, 2014, the previous dates in the CAA 2014 apply (see March 20, 2014 AIS guidance document).

   If a project does not require approved engineering plans and specifications, the bid advertisement date will count in lieu of the plans and specifications approval date for purposes of the exemption in Section 424(f).

4. **Q: Do DWSRF assistance agreements signed during the time period between September 30, 2014, and December 16, 2014, still have to comply with the AIS requirements?**

A: Yes. The Continuing Appropriations Resolution 2015 was signed on September 19, 2014, which extended funding for the DWSRF with the same conditions that were made applicable by the language in the Fiscal Year 2014 appropriations, including the requirement for the use of American Iron and Steel products in projects receiving financial assistance from the DWSRF. Therefore, all assistance agreements starting October 1, 2014, through the enactment of the Consolidated and Further Continuing Appropriations Act 2015 (signed December 16, 2014), must include the AIS requirements. However, if the plans and specifications for any of these projects were approved prior to April 15, 2014 (the date the national waiver was signed), then the project is exempt from the AIS requirements.

The following table summarizes AIS exemptions based on the plans and specifications approval date for DWSRF funded projects.

DWSRF AIS Project Exemption Based on Plans and Specifications Approval Date		
Assistance Agreement Signed:	Exempt from AIS if Plans and Specifications Were Approved Before:	Basis for Exemption:
1/17/2014 through 9/30/2014	4/15/2014	• Consolidated Appropriations Act 2014 • National waiver signed 4/15/2014*
10/1/2014 through 12/15/2014	4/15/2014	• Continuing Appropriations Resolution 2015 (continued CAA 2014 requirements)** • National waiver signed 4/15/2014*
12/16/2014 through 9/30/2015	12/16/2014	• Consolidated and Further Continuing Appropriations Act 2015

** To be covered by the national waiver, the plans and specifications had to be submitted to the state prior to 1/17/2014*

*** Following the first continuing resolution, there were two additional CRs to fill the gap between 12/11/2014 and 12/16/2014*

5. **Q: Does the AIS requirement apply to refinanced DWSRF projects?**

A: Yes, in some cases. If a project began construction, financed from a non-DWSRF source prior to December 16, 2014, but is refinanced through a DWSRF assistance agreement executed on or after December 16, 2014, AIS requirements will apply to all construction that occurs on or after December 16, 2014, through completion of construction, unless engineering plans and

specifications were approved by the responsible state agency prior to December 16, 2014. For DWSRF projects funded on or after December 16, 2014, there is no retroactive application of the AIS requirements where a refinancing occurs for a project that has completed construction prior to December 16, 2014.

BOTH CWSRF AND DWSRF PROGRAMS

6. **Q: If a coating is applied to the external surface of a domestic iron or steel component, and the application takes place outside of the United States, would the product be compliant under the AIS requirements?**

   A: Yes. The product would still be considered a compliant product under AIS requirements. Any coating processes that are applied to the external surface of iron and steel components that would otherwise be AIS compliant would not disqualify the product from meeting the AIS requirements regardless of where the coating processes occur, provided that final assembly of the product occurs in the United States.

   The exemption above only applies to coatings on the *external surface* of iron and steel components. It does not apply to coatings or linings on internal surfaces of iron and steel products, such as the lining of lined pipes. All manufacturing processes for lined pipes, including the application of pipe lining, must occur in the United States for the product to be compliant with AIS requirements.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

DECISION MEMORANDUM

SUBJECT: De Minimis Waiver of Section 436 of P.L. 113-76, Consolidated Appropriations Act (CAA), 2014

FROM: Nancy K. Stoner
Acting Assistant Administrator

The EPA is hereby granting a nationwide waiver pursuant to the "American Iron and Steel (AIS)" requirements of P.L. 113-76, Consolidated Appropriations Act, 2014 (Act), section 436 under the authority of Section 436(b)(**1**) (public interest waiver) for de minimis incidental components of eligible water infrastructure projects. This action permits the use of products when they occur in de minimis incidental components of such projects funded by the Act that may otherwise be prohibited under section 436(a). Funds used for such de minimis incidental components cumulatively may comprise no more than a total of 5 percent of the total cost of the materials used in and incorporated into a project; the cost of an individual item may not exceed **1** percent of the total cost of the materials used in and incorporated into a project.

P.L. 113-76, Consolidated Appropriations Act, 2014 (Act), includes an "American Iron and Steel" (AIS) requirement in section 436 that requires Clean Water State Revolving Loan Fund (CWSRF) and Drinking Water State Revolving Loan Fund (DWSRF) assistance recipients to use specific domestic iron and steel products that are produced in the United States if the project is funded through an assistance agreement executed beginning January 17, 2014 (enactment of the Act), through the end of Fiscal Year 2014, unless the agency determines it necessary to waive this requirement based on findings set forth in Section 436(b). The Act states, "[the requirements] shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency...finds that- (1) applying subsection (a) would be inconsistent with the public interest" 436(b)**(1)**.

In implementing section 436 of the Act, the EPA must ensure that the section's requirements are applied consistent with congressional intent in adopting this section and in the broader context of the purposes, objectives, and other provisions applicable to projects funded under the SRF. Water infrastructure projects typically contain a relatively small number of high-cost components incorporated into the project. In bid solicitations for a project, these high-cost components are generally described in detail via project specific technical specifications. For these major components, utility owners and their contractors are generally familiar with the conditions of availability, the potential alternatives for each detailed specification, the approximate cost, and the country of manufacture of the available components.

Every water infrastructure project also involves the use of thousands of miscellaneous, generally low-cost components that are essential for, but incidental to, the construction and are incorporated into the physical structure of the project. For many of these incidental components, the country of manufacture and the availability of alternatives is not always readily or reasonably identifiable prior to procurement in the normal course of business; for other incidental components, the country of manufacture may be known but the miscellaneous character in conjunction with the low cost, individually and (in total) as typically procured in bulk, mark them as properly incidental. Examples of incidental components could include small washers, screws, fasteners (i.e., nuts and bolts), miscellaneous wire, comer bead, ancillary tube, etc. Examples of items that are clearly not incidental include significant process fittings (i.e., tees, elbows, flanges, and brackets), distribution system fittings and valves, force main valves, pipes for sewer collection and/or water distribution, treatment and storage tanks, large structural support structures, etc.

The EPA undertook multiple inquiries to identify the approximate scope of de minimis incidental components within water infrastructure projects during the implementation of the American Reinvestment and Recovery Act (ARRA) and its requirements (Buy American provisions, specifically). The inquiries and research conducted in 2009 applies suitably for the case today. In 2009, the EPA consulted informally with many major associations representing equipment manufacturers and suppliers, construction contractors, consulting engineers, and water and wastewater utilities, and performed targeted interviews with several well-established water infrastructure contractors and firms who work in a variety of project sizes, and regional and demographic settings to ask the following questions:

- What percentage of total project costs were consumables or incidental costs?

- What percentage of materials costs were consumables or incidental costs?

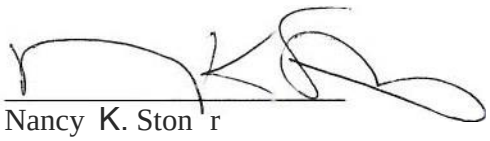
- Did these percentages vary by type of project (drinking water vs. wastewater treatment plant vs. pipe)?

The responses were consistent across the variety of settings and project types, and indicated that the percentage of total costs for drinking water or wastewater infrastructure projects represented by these incidental components is generally not in excess of 5 percent of the total cost of the materials used in and incorporated into a project. In drafting this waiver, the EPA has considered the de minimis proportion of project costs generally represented by each individual type of these incidental components within the many types of such components comprising those percentages, the fact that these types of incidental components are obtained by contractors in many different ways from many different sources, and the disproportionate cost and delay that would be imposed on projects if the EPA did not issue this waiver.

Assistance recipients who wish to use this waiver should in consultation with their contractors determine the items to be covered by this waiver and must retain relevant documentation (i.e., invoices) as to those items in their project files.

If you have any questions concerning the contents of this memorandum, please contact Timothy Connor, Chemical Engineer, Municipal Support Division, at connor.timothy@epa.gov or (202) 566-1059 or Kirsten Anderer, Environmental Engineer, Drinking Water Protection Division, at anderer.kirsten@epa.gov or (202) 564-3134.

Issued on: APR 15 2014

Approved by: 

Nancy K. Stoner
Acting Assistant Administrator

Ohio Water Pollution Control Loan Fund
Use of American Iron and Steel - De Minimis Final Utilization and Certification Form

The Consolidated Appropriations Act of 2014 (P.L. 113-76) Section 436 requires the use of American & Steel in SRF-funded projects. Under the authority of Section 436(b)(1), the EPA has issued a public interest waiver for De Minimis incidental components. The assistance recipient wishing to use this waiver should consult with their contractor(s) to maintain an itemized list of components covered under De Minimis. At the conclusion of the project, this form must be completed and retained in the assistance recipient's project files and a copy provided to DEFA. Please print clearly or type.

Project Name:_____ Loan Agrmt #: _____

NOTE: The De Minimis waiver is only applicable to the cost of materials for the entire project. Do not include other project costs (labor, installation costs, etc.) in the "Total Cost of Materials". The cost of a material must include delivery to the site and any applicable tax. Must have sufficient documentation to support all costs included in this calculation.

Funds used for de minimis incidental components cumulatively may comprise no more than a total of 5 percent of the total cost of the materials used in and incorporated into a project; the cost of an individual item may not exceed 1 percent of the total cost of the materials used in and incorporated into a project.

Total Cost of Materials: | 5% Limit: | 1% limit:

Manufacturer & Component Description	Part/Model #	Quantity (if applicable)	Cost per Unit (if applicable)	Component's Total Cost	How is Cost Documented?*

Use additional sheets as necessary

Total De Minimis Cost of Components:

If approaching the 5% or 1% limits, contact DEFA immediately

* Documentation must demonstrate confirmation of the components' actual costs (invoice, etc.).

Completed by:

Name: _____ Title: _____

Signature: _____ Date: _____

Prohibition on Telecommunications and Video Surveillance

§ 200.216 Prohibition on certain telecommunications and video surveillance services or equipment.

(a) Recipients and subrecipients are prohibited from obligating or expending loan or grant funds to:

(1) Procure or obtain;

(2) Extend or renew a contract to procure or obtain; or

(3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115–232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

(ii) Telecommunications or video surveillance services provided by such entities or using such equipment.

(iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

(b) In implementing the prohibition under Public Law 115–232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

(c) See Public Law 115–232, section 889 for additional information.

(d) See also § 200.471.

Resources:

2 CRF 200.216

FAQ's: Sec. 889 of 2019 NDAA_FAQ_20201124.pdf (performance.gov)

Public Law 115-232, Section 889

§ 200.471

SECTION 9
PREVAILING WAGES

Davis-Bacon Wage Rate Requirements

(required contract provision)

Background and Applicability

On October 30, 2009, P.L. 111-88, "Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2010, and for other purposes," was enacted. This law provides appropriations for both the Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF) for Fiscal Year 2010, while adding new requirements to these already existing programs. One new requirement requires the application of Davis-Bacon Act requirements.

Application of the Davis-Bacon Act requirements extend not only to assistance agreements funded with Fiscal Year 2010 appropriations, but to all assistance agreements executed on or after October 30, 2009, whether the source of the funding is prior year's appropriations, state match, bond proceeds, interest earnings, principal repayments, or any other source of funding so long as the project is financed by an SRF assistance agreement. If a project began construction prior to October 30, 2009 but is financed or refinanced through an assistance agreement executed on or after October 30, 2009, Davis-Bacon Act requirements will apply to all construction that occurs on or after October 30, 2009, through completion of construction.

Ohio EPA Responsibilities

With respect to the Water Pollution Control Loan Fund (WPCLF) and Water Supply Revolving Loan Account (WSRLA) revolving funds, EPA provides capitalization grants to each State which in turn provides funding assistance to eligible recipients within the State. Typically, the assistance recipients are municipal or other local governmental entities that manage the funds. Occasionally, the assistance recipients may be a private for profit or not for profit entity. Although EPA and the State are responsible for ensuring assistance recipients incorporate the wage rate requirements set forth herein as part of contracts for WPCLF and WSRLA funding, the assistance recipient has the primary responsibility to maintain payroll records and for compliance with Davis-Bacon Act requirements as described below.

Municipal Or Other Local Governmental Entities Recipient's Responsibilities

The following is intended to help assistance recipients understand and meet their obligations related to Davis-Bacon (DB). Each assistance recipients should, however, review the contract/subcontract requirements that are set forth later in this document for a more full understanding of DB obligations.

Prior to advertising for bids:

> Obtain the wage determination for the locality in which a covered activity subject to DB will take place from the Department of Labor (DOL) at www.wdol.gov.

> Incorporate these wage determinations into the request for bids.

> Include the required contract provisions (see below) into the contract documents.

> Require prime contracts to include provisions that subcontractors follow the wage determination incorporated into the prime contract.

During the advertisement period:

> Monitor www.wdol.gov on a weekly basis to ensure that the wage determination contained in the request for bids remains current.

> If DOL modifies the DB wage determination more than 10 days prior to the bid opening, issue an addendum reflecting the modification.

> If DOL modifies or supersedes the DB wage determination less than 10 days prior to bid opening and you cannot issue an addendum for the change, you must request a finding from Ohio EPA that there is not reasonable time to notify interested contractors of the modification of the wage determination. The Ohio EPA will give you a report of its findings.

After opening bids:

> If the contract(s) aren't awarded within 90 days of the bid opening you must monitor www.wdol.gov on a weekly basis to ensure that wage determinations used in the bids remain current.

> If the contract(s) aren't awarded within 90 days of the bid opening, any modifications or supersedes that DOL makes to the wage determination must be incorporated into the contract unless (1) you request an extension from Ohio EPA AND (2) Ohio EPA obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv).

After contracts are signed and during construction:

> Review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

> DOL may issue a revised wage determination applicable to one or all of your contracts after the award of the contract or execution of the change order which incorporated DB requirements into the contract if DOL determines that you have failed to incorporate a wage determination or have used a wage determination that clearly does not apply to the contract. If this occurs, you shall either terminate the contract or change order and rebid the contract OR incorporate DOL's wage determination retroactive to the beginning of the contract by change order. The contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

> Periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. You must use Standard Form 1445 or equivalent documentation to memorialize the interviews.

> Establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, you must:

- conduct all interviews in confidence.
- conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract.
- conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB.
- immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements.

> Periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. You must:

- establish and follow a spot check schedule based on your assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract.
- spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract at a minimum.
- conduct more frequent spot checks if the initial spot check or other information indicates that there

is a risk that the contractor or subcontractor is not complying with DB.

• during the examinations, verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

> Periodically review contractors' and subcontractors' use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the DOL or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews.

> Immediately report potential violations of the DB prevailing wage requirements to Andrew Lausted at EPA Region V at 312-886-0189 and to the appropriate DOL Wage and Hour District Office listed at http://www.dol.gov/esa/contacts/whd/america2.htm.

If contracts have already been signed and DB requirements need to be incorporated:

> If contracts have already been signed prior to WPCLF/WSRLA funding being provided, you must issue a change order, task order, work assignment or similar legally binding instrument and incorporate the appropriate DOL wage determination from www.wdol.gov as well as the required contract provisions into the contract(s).

> Initiate the contractor and subcontractor review and wage interview requirements as described above and provided in the **Contract And Subcontract Provisions**.

Private For Profit Or Not For Profit (Non-Governmental) Entities Recipient's Responsibilities

The requirements, responsibilities and contract provisions for Private For Profit or Not For Profit Entities (Non-Governmental Entities) is exactly the same as for Municipal Or Other Local Governmental Entities EXCEPT for the following:

Prior to advertising for bids:

> Obtain the proposed wage determinations for specific localities from www.wdol.gov.

> Submit the wage determination to Ohio EPA for approval prior to inserting the wage determination into the solicitation unless subsequently directed otherwise by Ohio EPA.

Contract And Subcontract Provisions For Contracts In Excess Of $2,000

The following language must be included in full in any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part with WPCLF or WSRLA funds and which is subject to the labor standards provisions of any of the acts listed in §5.1:

NOTE: Modify the first sentence to include the name of the WPCLF/WSRLA funding recipient prior to including these provisions in the contract documents.

Wage Rate Requirements

As used in these provisions "subrecipient" means_____(fill in WPCLF/WSRLA funding recipient name here).

(a) The following applies to any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public

work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1.

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, www.wdol.gov.

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The EPA award official shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the subrecipient(s) to the State award official. The State award official will transmit the report, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department

of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the questions, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account asset for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the

plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the subgrant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees --

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe

benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may by appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

Contract Provision For Contracts In Excess Of $100,000 And Subject To The Overtime Provisions Of The Contract Work Hours And Safety Standards Act

The following language must be included in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These provisions are to be included in addition to the provisions for contracts in excess of $2,000. As used in these paragraphs, the terms laborers and mechanics include watchmen and guards.

(b) Contract Work Hours and Safety Standards Act. The following applies to any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. As used in these paragraphs, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

Contract Provision For Contracts In Excess Of $100,000 Subject ONLY To The Contract Work Hours And Safety Standards Act

In addition to the provisions for contracts in excess of $2,000, for any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, you must insert clauses requiring:

(c) The following applies to any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1.

The contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid.

The records shall be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the Ohio EPA, EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐	ADDRESS	
PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION / PROJECT OR CONTRACT NO.

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

DB.11

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date _____

I, _____ _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ on the
(Contractor or Subcontractor)

_____; that during the payroll period commencing on the
(Building or Work)

_____ day of _____, _____, and ending the _____ day of _____, _____,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full
(Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

DB.12

_____

_____

_____

_____

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

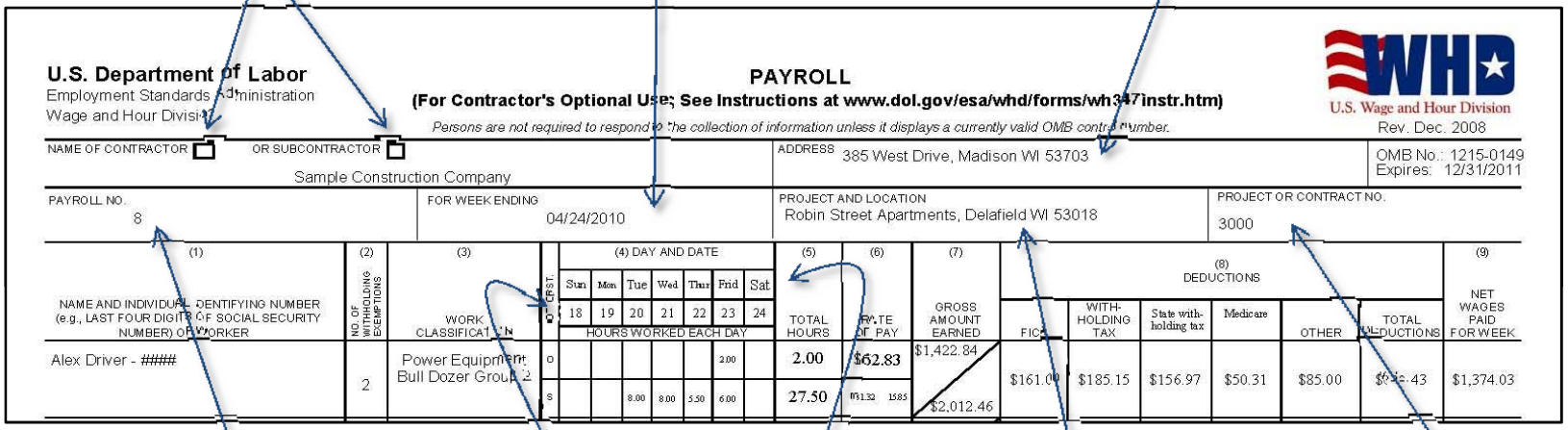
How to Correctly Fill Out a WH-347 Payroll Form

The completion of the WH-347 Payroll Form is optional; contractors may utilize their own payroll system as long as it conforms to the WH-347 Payroll Form and contains all the necessary information. If you utilize WH-347 Payroll Form as a pdf, saving it electronically aids in making any needed corrections.

Check one of the boxes and list name of contractor or subcontractor

The last day of the payroll period.

Fill out completely with contractor or subcontractor address



U.S. Department of Labor
Employment Standards Administration
Wage and Hour Division

PAYROLL
(For Contractor's Optional Use; See Instructions at www.dol.gov/esa/whd/forms/wh347instr.htm)
Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division
Rev. Dec. 2008

OMB No.: 1215-0149
Expires: 12/31/2011

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐ Sample Construction Company

ADDRESS 385 West Drive, Madison WI 53703

PAYROLL NO. 8

FOR WEEK ENDING 04/24/2010

PROJECT AND LOCATION Robin Street Apartments, Delafield WI 53018

PROJECT OR CONTRACT NO. 3000

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION		(4) DAY AND DATE: Sun 18	Mon 19	Tue 20	Wed 21	Thur 22	Frid 23	Sat 24	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX	State with-holding tax	Medicare	OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
Alex Driver - #####	2	Power Equipment Bull Dozer Group 2	O						2.00		2.00	$62.83	$1,422.84							
			S			8.00	8.00	5.50	6.00		27.50		$2,012.46	$161.00	$185.15	$156.97	$50.31	$85.00	[illegible]43	$1,374.03

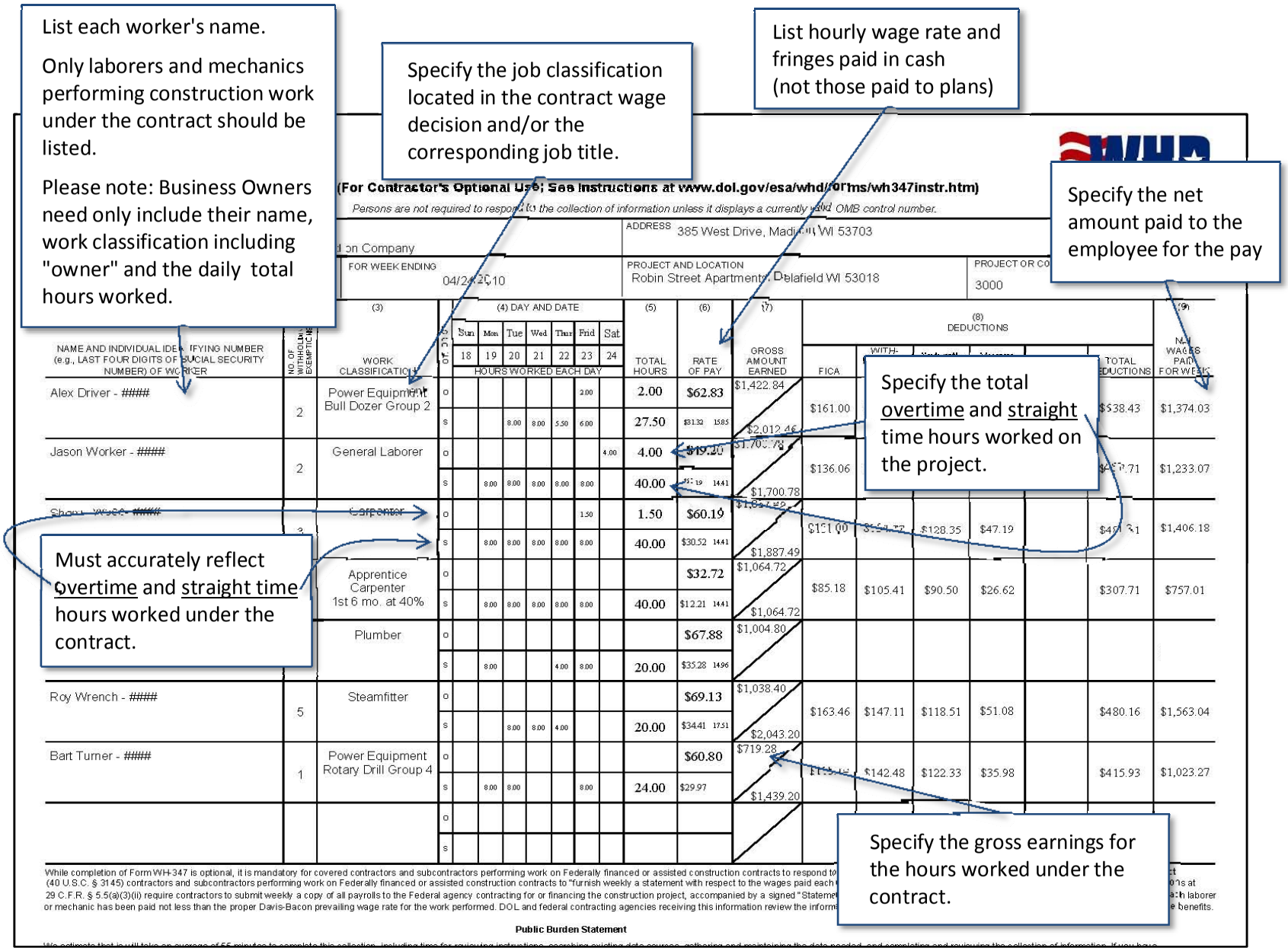
Payrolls must be numbered sequentially and should be based on the weeks worked under a contract.

Type the word "Final" when the last payroll is submitted for the project.

Indicate the days and dates of the pay period. (should match week ending directly above)

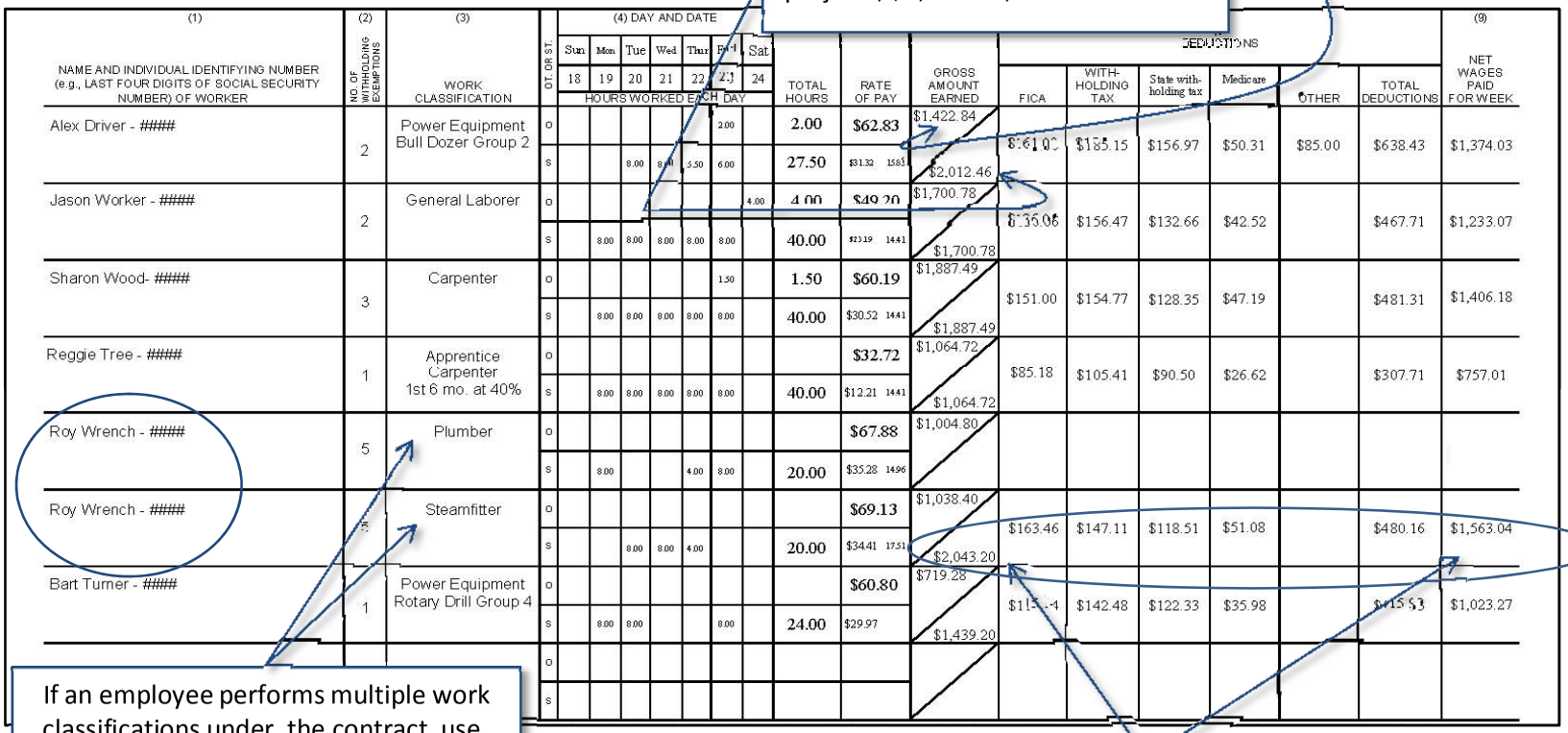
The name and location of project.

The prime contractor should include the project number as listed in the loan


List each worker's name.
Only laborers and mechanics performing construction work under the contract should be listed.
Please note: Business Owners need only include their name, work classification including "owner" and the daily total hours worked.
Specify the job classification located in the contract wage decision and/or the corresponding job title.
List hourly wage rate and fringes paid in cash (not those paid to plans)
Specify the net amount paid to the employee for the pay
Specify the total overtime and straight time hours worked on the project.
Must accurately reflect overtime and straight time hours worked under the contract.
Specify the gross earnings for the hours worked under the contract.
(For Contractor's Optional Use; See Instructions at www.dol.gov/esa/whd/forms/wh347instr.htm)
Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.
ADDRESS 385 West Drive, Madison WI 53703
FOR WEEK ENDING 04/24/2010
PROJECT AND LOCATION Robin Street Apartments, Delafield WI 53018
3000
NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER
NO. OF WITHHOLDING EXEMPTIONS
WORK CLASSIFICATION
OT or ST
(4) DAY AND DATE
Sun Mon Tue Wed Thur Fri Sat
18 19 20 21 22 23 24
HOURS WORKED EACH DAY
(5) TOTAL HOURS
(6) RATE OF PAY
(7) GROSS AMOUNT EARNED
(8) DEDUCTIONS
FICA
WITH-
TOTAL DEDUCTIONS
(9) NET WAGES PAID FOR WEEK
Alex Driver - ####
2
Power Equipment Bull Dozer Group 2
O 2.00 $62.83 $1,422.84
S 27.50 $1,700.78
$161.00 $538.43 $1,374.03
Jason Worker - ####
2
General Laborer
O 4.00 $19.20
S 40.00 $1,700.78
$136.06 $1,233.07
Carpenter
O 1.50 $60.19
S 40.00 $30.52 $1,887.49
$128.35 $47.19 $1,406.18
Apprentice Carpenter 1st 6 mo. at 40%
O $32.72 $1,064.72
S 40.00 $12.21 $1,064.72
$85.18 $105.41 $90.50 $26.62 $307.71 $757.01
Plumber
O $67.88 $1,004.80
S 20.00 $35.28
Roy Wrench - ####
5
Steamfitter
O $69.13 $1,038.40
S 20.00 $34.41 $2,043.20
$163.46 $147.11 $118.51 $51.08 $480.16 $1,563.04
Bart Turner - ####
1
Power Equipment Rotary Drill Group 4
O $60.80 $719.28
S 24.00 $29.97 $1,439.20
$142.48 $122.33 $35.98 $415.93 $1,023.27
While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to
(40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each
29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statemen
or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the inform
Public Burden Statement

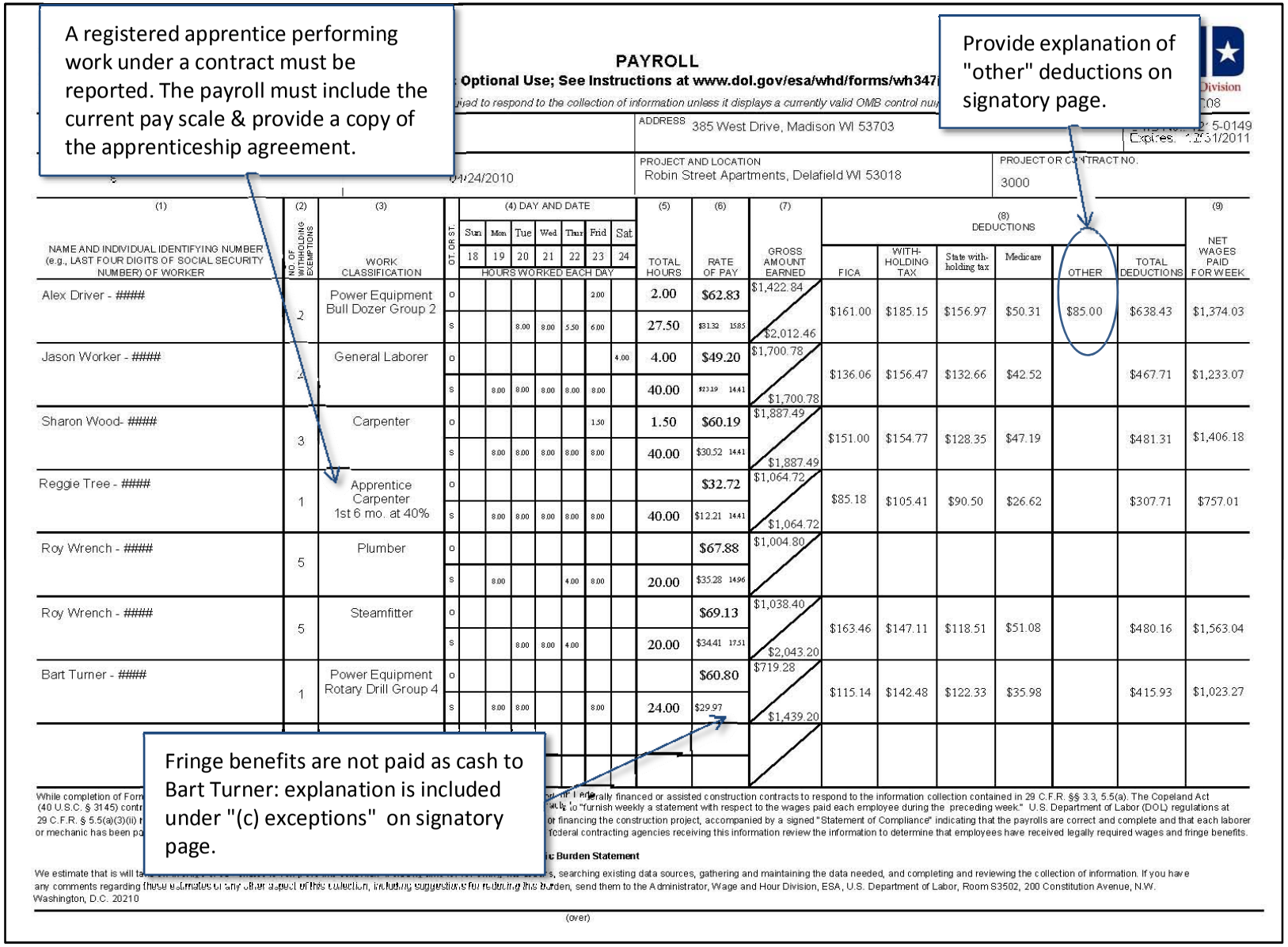
If part of a worker's weekly wage was earned on projects other than the project described on this payroll, enter the gross amount earned on this contract in the top half of column 7. Enter the gross amount earned during the week for all projects in the bottom half.

Alex Driver worked 29.5 hours on this contract and 12.5 hours on another contract.
The gross wages earned on this project, $1,422.84, is entered in the top half of column 7.
The gross wages earned on all projects, $2,012.46, is entered in the



If an employee performs multiple work classifications under the contract, use two or more lines to distinguish the different job classifications, hours worked, and hourly wage earned for each.

Combine the two classifications when recording the gross amount earned for this pay period, deductions, and net wages.



A registered apprentice performing work under a contract must be reported. The payroll must include the current pay scale & provide a copy of the apprenticeship agreement.

Provide explanation of "other" deductions on signatory page.

Fringe benefits are not paid as cash to Bart Turner: explanation is included under "(c) exceptions" on signatory page.

PAYROLL

Optional Use; See Instructions at www.dol.gov/esa/whd/forms/wh347

required to respond to the collection of information unless it displays a currently valid OMB control nu

Division

08

5-0149

Expires: 12/31/2011

ADDRESS 385 West Drive, Madison WI 53703

PROJECT AND LOCATION Robin Street Apartments, Delafield WI 53018

PROJECT OR CONTRACT NO. 3000

0/24/2010

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: Sun 18	Mon 19	Tue 20	Wed 21	Thur 22	Frid 23	Sat 24	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX	State with-holding tax	Medicare	OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
				HOURS WORKED EACH DAY																
Alex Driver - ####	2	Power Equipment Bull Dozer Group 2	O						2.00		2.00	$62.83	$1,422.84							
			S			8.00	8.00	5.50	6.00		27.50	$31.32 1585	$2,012.46	$161.00	$185.15	$156.97	$50.31	$85.00	$638.43	$1,374.03
Jason Worker - ####	4	General Laborer	O							4.00	4.00	$49.20	$1,700.78							
			S		8.00	8.00	8.00	8.00	8.00		40.00	$23.19 1441	$1,700.78	$136.06	$156.47	$132.66	$42.52		$467.71	$1,233.07
Sharon Wood- ####	3	Carpenter	O						1.50		1.50	$60.19	$1,887.49							
			S		8.00	8.00	8.00	8.00	8.00		40.00	$30.52 1441	$1,887.49	$151.00	$154.77	$128.35	$47.19		$481.31	$1,406.18
Reggie Tree - ####	1	Apprentice Carpenter 1st 6 mo. at 40%	O									$32.72	$1,064.72							
			S		8.00	8.00	8.00	8.00	8.00		40.00	$12.21 1441	$1,064.72	$85.18	$105.41	$90.50	$26.62		$307.71	$757.01
Roy Wrench - ####	5	Plumber	O									$67.88	$1,004.80							
			S		8.00			4.00	8.00		20.00	$35.28 1496								
Roy Wrench - ####	5	Steamfitter	O									$69.13	$1,038.40							
			S			8.00	8.00	4.00			20.00	$34.41 1751	$2,043.20	$163.46	$147.11	$118.51	$51.08		$480.16	$1,563.04
Bart Turner - ####	1	Power Equipment Rotary Drill Group 4	O									$60.80	$719.28							
			S		8.00	8.00			8.00		24.00	$29.97	$1,439.20	$115.14	$142.48	$122.33	$35.98		$415.93	$1,023.27
			O																	
			S																	

While completion of Form ... (40 U.S.C. § 3145) contr... 29 C.F.R. § 5.5(a)(3)(ii) ... or mechanic has been p...

...erally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act ...ect to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at ...or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer ...ederal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

...c Burden Statement

We estimate that is will ta... ...s, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, ESA, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

DB.16

Date 04/28/2010

I, Tiffany Payer (Name of Signatory Party) Payroll Supervisor (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by Sample Construction Company (Contractor or Subcontractor) on the Robin Street Apartments, Delafield WI (Building or Work); that during the payroll period commencing on the 18 day of 4, 2010, and ending the 24 day of 4, 2010, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said Sample Construction Company (Contractor or Subcontractor) from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Start. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

Alex Driver - #### - other deductions - $85 for child support

Explanation of "other"

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION
Power Equipment Rotary Drill Group 4	paid directly to plan: health & dental at $12.50 per hour and Pension at $6.25 per hour

Explanation of exception to fringe benefits

REMARKS:

NAME AND TITLE	SIGNATURE
Robert Sample, Owner	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

CONTRACTOR FRINGE BENEFIT STATEMENT

Contract # /Project Name:	Contract Location:	Today's Date:
Contractor / Subcontractor Name:	Business Address:	

In order that the proper Fringe Benefit rates can be verified when checking payrolls on the above contract, the hourly rates for fringe benefits, subsistence and/or travel allowance payment made for employees by the employer on the various classes of work are tabulated below. Please Include Apprentice Rates.

Classification:		Effective Date:	Subsistence or Travel Pay: $_____
EMPLOYER PAID FRINGE BENEFITS	Health & Welfare $_____hr	Paid To: Name of Plan/Fund/Program: Address:	_____ _____
	Pension $_____hr	Paid To: Name of Plan/Fund/Program: Address:	_____ _____
	Vacation/Holiday $_____hr	Paid To: Name of Plan/Fund/Program: Address:	_____ _____
	Training $_____hr	Paid To: Name of Plan/Fund/Program: Address:	_____ _____
	Other $_____hr	Paid To: Name of Plan/Fund/Program: Address:	_____ _____

Classification:		Effective Date:	Subsistence or Travel Pay: $_____
EMPLOYER PAID FRINGE BENEFITS	Health & Welfare $_____hr	Paid To: Name of Plan/Fund/Program: Address:	_____ _____
	Pension $_____hr	Paid To: Name of Plan/Fund/Program: Address:	_____ _____
	Vacation/Holiday $_____hr	Paid To: Name of Plan/Fund/Program: Address:	_____ _____
	Training $_____hr	Paid To: Name of Plan/Fund/Program: Address:	_____ _____
	Other $_____hr	Paid To: Name of Plan/Fund/Program: Address:	_____ _____

Supplemental statements must be submitted during the progress of the work should there be an increase or change in rates. Use additional sheets as necessary. (Attach a copy of your most recent premium transmittal (including copy of check submitted) into each of the above plans/funds/programs or a letter from the above plans/funds/programs reflecting current payment status).

I certify under penalty of perjury that fringe benefits are paid to the approved plans, funds or programs as listed above.

Name and Title	Signature and Date (Wet Signature Required)

GSLC #16 (1/09)

PREVAILING WAGE NOTIFICATION TO EMPLOYEE

Project Name:	Job Number:
Contractor:	
Project Location:	
Jobsite posting of prevailing wage rates located:	

Prevailing Wage Coordinator	Employee
Name:	Name:
Street:	Street:
City:	City:
State / Zip:	State / Zip:
Phone:	Phone:

You will be performing work on this project that falls under these classifications. You will be paid the appropriate rate for the type of work you are performing.

Classification	Prevailing Wage Rate Total Package	Minus Your Fringe Benefits	Your Hourly Base Rate

Hourly fringe benefits paid on your behalf by this company.

Fringe	Amount	Fringe	Amount
Health Insurance		Vacation	
Life Insurance		Holiday	
Pension		Sick Pay	
Bonus		Training	
Other		**TOTAL HOURLY FRINGES**	

Contractor's Signature:	Date:
Employee's Signature:	Date:

whpw1512

10-DAY FEDERAL PREVAILING WAGE RATE VERIFICATION

Date: 9/19/26 9/22/25

Project No.: 241222

Project Name: Contract A - Harpersfield Water Tank & Waterline Improvements
Contract B - South River Road Waterline Extension Phase 2

Bid Opening Date: ~~9/26/25~~ 10/3/25

Community Name: Ashtabula County Board of Commissioners

Wage Decision Included in Bid Package: OH20250001

Wage Classification (Heavy/Highway or Building): Heavy/Highway

Modification Number: 18 Publication Date: 09/05/25

Has There Been An Update To This Decision? ✓ Yes ____ No

If Yes, General Decision Number: OH20250001

Modification Number: 19 and 20

Publication Date: 09/12/2025 09/26/25

Issued via Addendum 01 dated 09/22/25 – Mod 19
Issued via Addendum 02 dated 09/30/25 – Mod 20

Signature: Michael E Pittenger

Printed Name: Michael E. Pittenger

Organization: Verdantas, LLC

Address: 8150 Sterling Court, Mentor, OH 44060

Telephone Number: 440-951-9000

SECTION 10
APPENDIX

Federal Grant Compliance - American Rescue Plan Act of 2021

All references to the Contractor shall include all subcontractors and suppliers at any tier.

All procurement activities involving the expenditure of federal funds must be conducted in compliance with the Procurement Standards codified in 2 C.F.R. § 200.317 through §200-326 unless otherwise directed in writing by the federal agency or state pass-through agency that awarded the funds. All applicable local, state, and federal procurement requirements will be followed when expending federal funds. Should the State of Ohio have more stringent requirements, the most restrictive requirement shall apply so long as it is consistent with state and federal law.

The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause. 41 C.F.R. 60-1.4(b).

The Contractor shall comply with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States").

The Contractor shall comply with the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 - 3708) as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each Contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

The Contractor shall comply with the Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

A contract with a Contractor will not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with OBM guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp. p.189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

The Contractor shall comply with the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352) and must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

The Contractor shall comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

The Contractor shall comply with CFR §200.216, Prohibition on certain telecommunications and video surveillance services or equipment. The Contractor is prohibited from obligating or expending loan or grant funds to:

(1) Procure or obtain;

(2) Extend or renew a contract to procure or obtain; or

(3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, Section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

    (i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

(ii) Telecommunications or video surveillance services provided by such entities or using such equipment.

(iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

In implementing the prohibition under Public Law 115 -232, Section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

See Public Law 115-232, Section 889 and § 200.471 for additional information.

BABA - The Contractor shall, as appropriate and to the extent consistent with law, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

(a) For purposes of this section:
(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
(2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

End of Section [7/29/22]