GOURDIE-FRASER
123 West Front Street
Traverse City, Michigan 49684

Date: July 25, 2024

ADDENDUM NUMBER #1

PROJECT	BIDS DUE
Charter Township of Union DWSRF Project DW-7705A 2024 Water System Upgrades Division B: Water Main Transmission & Extensions GFA Project No: 24024	Date: July 31, 2024 Time: 10:00 AM Location: Charter Township of Union 5228 South Isabella Rd Mt Pleasant, MI 48858

The Addendum is issued prior to the receipt of bid proposals to amend the Contract Documents as follows. Bidders shall acknowledge receipt of this addendum by means of acknowledging on Page 1 of the Bid Form (EJCDC C-410).

BIDDING DOCUMENTS

1. Additional Soil Borings have been completed and attached including location map for reference and incorporated in the bid documents. Ground water was encountered at a depth of approximately 6.5 to 7 feet at bore locations along Pickard Road. Contractor may need to dewater to facilitate installation of watermain in this area. Costs for dewatering are to be included in the cost of the piping installation as stated in Specification 01270.

2. The Davis Bacon Wage Determinations have been recently updated and the current version are attached and incorporated in the bid documents. The previous versions shall be stricken.

3. Table of Contents Technical Specifications Section 3 - 03301 shall be stricken in its' entirety and removed from the bid documents.

4. EJCD C-410 shall be stricken in its' entirety and replaced with the attached document. The bid form has been updated to reflect electrical and telemetry conduit changes and service leads.

5. Specification 01270 shall be stricken in its' entirety and replaced with the attached document. The specification has been updated to reflect electrical and telemetry conduit changes and service leads.

6. Specification 02080 shall be stricken in its' entirety and replaced with the attached document. The specification has been updated to include a safety plan.

7. Union Township Standard Specification 9 WATER MAINS AND APPURTENANCES shall be stricken in its' entirety and replaced with the attached document.

DRAWINGS:

1. Sheets C2.1, C2.2, C2.3 and C2.4 have been updated to show the water main to be 25

feet off edge of pavement and NOT 20 feet. These sheets have been incorporated into this Addendum and shall supersede the previous sheets.

2. Sheet C2.6 notes 3 and 4 shall be stricken and replaced with the following:

    3. Contractor is responsible to install two (2) PVC conduits at 32” minimum Depth for telemetry and electrical from station 66+50 to Station 75+36. Contractor shall install conduits trenchless under Deerfield Road with costs to be included with the cost of the conduit.

    4. Conduit size to be 6” and 2” PVC Schedule 40 for electrical and telemetry respectively with pull road and risers.

3. Sheet C3.1 has been updated to identify use of Megalugs and add service lead transfer detail. This sheet has been incorporated into this addendum and shall supersede the previous.

4. Sheet C2.7 has been updated to show connection to exiting existing gate valve on south Summerton and two (2) service lead transfers. This sheet has been incorporated into this addendum and shall supersede the previous.

5. Sheet C2.1 Water Main Note 7 shall be stricken and replaced with the following:

    7. All connections shall utilize sleeve and megalugs, bell joints are not allowed. All valves and fitting including connection to existing shall be with megalugs and wrapped compliant with the specifications.

This Addendum No. 1 becomes part of the Contract Documents as of this date and supersedes the information in the originally issued Contract Documents where applicable. The Contractor shall acknowledge receipt of the Addendum in the Bid Schedule included with his/her bid.

"General Decision Number: MI20240039 07/12/2024

Superseded General Decision Number: MI20230039

State: Michigan

Construction Type: Heavy

County: Isabella County in Michigan.

Heavy, Includes Water, Sewer Lines and Excavation (Excludes Hazardous Waste Removal; Coal, Oil, Gas, Duct and other similar Pipeline Construction)

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 $17.20 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 2024.
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 $12.90 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 2024.

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	01/05/2024

1	03/08/2024
2	07/05/2024
3	07/12/2024

CARP0706-007 06/01/2023

	Rates	Fringes
CARPENTER (Form Work Only).....	$ 31.49	22.68

ELEC0275-004 06/01/2022

Townships of Bloomfield, Coldwater, Deerfield, Fremont, Gilmore, Nottawa, Rolland & Sherman

	Rates	Fringes
ELECTRICIAN.....	$ 34.41	9.274+28%

ELEC0557-010 06/01/2020

Townships of Lincoln & Coe

	Rates	Fringes
ELECTRICIAN.....	$ 34.25	23.13

ELEC0692-016 06/01/2023

Townships of Chippewa, Denver, Isabella, Union, Vernon & Wise

	Rates	Fringes
ELECTRICIAN.....	$ 36.00	38.03%+9.93

ENGI0325-021 09/01/2023

POWER EQUIPMENT OPERATORS: Underground Construction (Including Sewer)

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	$ 39.27	25.25
GROUP 2.....	$ 34.38	25.25
GROUP 3.....	$ 33.88	25.25
GROUP 4.....	$ 33.60	25.25

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Backhoe/ Excavator, Boring Machine, Bulldozer, Crane, Scraper, Loader, Trencher (over 8 ft. digging capacity)

GROUP 2: Trencher (8-ft digging capacity and smaller)

GROUP 3: Boom Truck (non-swinging, non- powered type boom)

GROUP 4: Broom/ Sweeper, Fork Truck, Tractor

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* ENGI0326-021 06/01/2024

EXCLUDES UNDERGROUND CONSTRUCTION

	Rates	Fringes
OPERATOR: Power Equipment		
Group 1	$ 47.28	25.25
Group 2	$ 43.93	25.25
Group 3	$ 41.28	25.25
Group 4	$ 39.57	25.25
Group 5	$ 31.23	25.25

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: $1.50 per hour above the group 1 rate.
Crane operator with main boom and jib 400' or longer: $3.00 per hour above the group 1 rate.

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane operator with main boom and jib 400', 300', or 220' or longer.

GROUP 2: Crane operator with main boom and jib 140' or longer, tower crane, gantry crane, whirley derrick

GROUP 3: Backhoe/Excavator; Bulldozer; Compactor; Crane; Scraper; Loader

GROUP 4: Boom truck (non-swinging)

GROUP 5: Oiler

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* IRON0025-006 06/01/2024

	Rates	Fringes
IRONWORKER		
Reinforcing	$ 33.43	37.15
Structural	$ 35.55	35.83

LABO0334-003 09/01/2022

SCOPE OF WORK:
OPEN CUT CONSTRUCTION: Excavation of earth and sewer, utilities, and improvements, including underground piping/conduit (including inspection, cleaning, restoration, and relining)

	Rates	Fringes
LABORER		
(4) Grade Checker	$ 22.73	12.95

PLAS0016-030 04/01/2014

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 25.47	12.38

PLUM0085-011 05/01/2023

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 43.50	22.10

TEAM0007-010 06/01/2024

	Rates	Fringes
TRUCK DRIVER		
Lowboy/Semi-Trailer Truck	$ 32.55	.75 + a+b

FOOTNOTE:
a. $470.70 per week.
b. $68.70 daily.

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* SUMI2010-037 11/09/2010

	Rates	Fringes
CARPENTER, Excludes Form Work	$ 23.97	6.29
LABORER: Common or General	$ 19.79	5.95
LABORER: Landscape	$ 10.89 **	1.74
LABORER: Mason Tender - Cement/Concrete	$ 15.97 **	3.51
LABORER: Pipelayer	$ 15.28 **	3.99
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 12.98 **	6.12
OPERATOR: Grader/Blade	$ 15.50 **	3.62
OPERATOR: Roller	$ 13.74 **	7.93
TRUCK DRIVER: Dump Truck	$ 14.06 **	1.25

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

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($17.20) or 13658 ($12.90). 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 classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

State Adopted Rate Identifiers

Classifications listed under the ""SA"" identifier indicate that the prevailing wage rate set by a state (or local) government was 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. 01/03/2024 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:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write 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 the answer to the question in 1.) is yes, then an

interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write 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 by 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

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

"General Decision Number: MI20240001 07/12/2024

Superseded General Decision Number: MI20230001

State: Michigan

Construction Types: Highway (Highway, Airport & Bridge xxxxx and Sewer/Incid. to Hwy.)

Counties: Michigan Statewide.

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 $17.20 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 2024.
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 $12.90 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 2024.

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	01/05/2024
1	02/23/2024
2	04/05/2024

3	04/19/2024
4	04/26/2024
5	05/03/2024
6	05/17/2024
7	05/24/2024
8	06/07/2024
9	06/14/2024
10	06/28/2024
11	07/12/2024

CARP0004-004 06/01/2019

REMAINDER OF STATE

	Rates	Fringes
CARPENTER (Piledriver).....	$ 27.62	20.59

CARP0004-005 06/01/2018

LIVINGSTON (Townships of Brighton, Deerfield, Genoa, Hartland, Oceola & Tyrone), MACOMB, MONROE, OAKLAND, SANILAC, ST. CLAIR AND WAYNE COUNTIES

	Rates	Fringes
CARPENTER (Piledriver).....	$ 30.50	27.28

ELEC0017-005 06/01/2023

STATEWIDE

	Rates	Fringes
Line Construction		
Groundman/Driver.....	$ 30.80	32%+7.20
Journeyman Signal Tech, Communications Tech, Tower Tech & Fiber Optic Splicers.	$ 45.63	32%+7.20
Journeyman Specialist.....	$ 52.47	32%+7.20
Operator A.....	$ 38.62	32%+7.20
Operator B.....	$ 36.08	32%+7.20

Classifications

Journeyman Specialist: Refers to a crew of only one person working alone.
Operator A: Shall be proficient in operating all power equipment including: Backhoe, Excavator, Directional Bore and Boom/Digger truck.
Operator B: Shall be proficient in operating any 2 of the above mentioned pieces of equipment listed under Operator A.

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* ENGI0324-003 06/01/2024

ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON, CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO, ISABELLA, JACKSON, LAPEER, LENAWEE, LIVINGSTON, MACOMB, MIDLAND, MONROE, MONTMORENCY, OAKLAND, OGEMAW, OSCODA, OTSEGO, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLAIR, SANILAC, SHIAWASSEE, TUSCOLA, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
GROUP 1	$ 55.42	25.25
GROUP 2	$ 56.42	25.25
GROUP 3	$ 53.92	25.25
GROUP 4	$ 54.92	25.25
GROUP 5	$ 52.42	25.25
GROUP 6	$ 53.42	25.25
GROUP 7	$ 52.15	25.25
GROUP 8	$ 53.15	25.25
GROUP 9	$ 51.70	25.25
GROUP 10	$ 52.70	25.25
GROUP 11	$ 50.97	25.25
GROUP 12	$ 51.97	25.25
GROUP 13	$ 50.61	25.25
GROUP 14	$ 51.61	25.25
GROUP 15	$ 49.97	25.25
GROUP 16	$ 46.77	25.25
GROUP 17	$ 32.29	12.40
GROUP 18	$ 35.78	25.25

FOOTNOTE:

Paid Holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Engineer when operating combination of boom and jib 400' or longer

GROUP 2: Engineer when operating combination of boom and jib 400' or longer on a crane that requires an oiler

GROUP 3: Engineer when operating combination of boom and jib 300' or longer

GROUP 4: Engineer when operating combination of boom and jib 300' or longer on a crane that requires an oiler

GROUP 5: Engineer when operating combination of boom and jib 220' or longer

GROUP 6: Engineer when operating combination of boom and jib 220' or longer on a crane that requires an oiler

GROUP 7: Engineer when operating combination of boom and jib 140' or longer

GROUP 8: Engineer when operating combination of boom and jib 140' or longer on a crane that requires an oiler

GROUP 9: Tower crane & derrick operator (where operator's work station is 50 ft. or more above first sub-level)

GROUP 10: Tower crane & derrick operator (where operator's work station is 50 ft. or more above first sub-level) on a crane that requires an oiler

GROUP 11: Engineer when operating combination of boom and jib 120' or longer

GROUP 12: Engineer when operating combination of boom and jib 120' or longer on a crane that requires an oiler

GROUP 13: Crane operator; job mechanic and 3 drum hoist and excavator

GROUP 14: Crane operator on a crane that requires an oiler

GROUP 15: Hoisting operator; 2 drum hoist and rubber tired backhoe

GROUP 16: Forklift and 1 drum hoist

GROUP 17: Compressor or welder operator

GROUP 18: Oiler

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* ENGI0324-004 06/01/2024

AREA 1: ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, EATON, HILLSDALE, IONIA, KALAMAZOO, KENT, LAKE, MANISTEE, MASON, MECOSTA, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH, VAN BUREN

AREA 2: ANTRIM, BENZIE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE AND WEXFORD COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
AREA 1		
GROUP 1	$ 55.02	25.25
GROUP 2	$ 52.15	25.25
GROUP 3	$ 50.61	25.25
GROUP 4	$ 46.77	25.25
GROUP 5	$ 32.29	12.40
GROUP 6	$ 35.78	25.25
AREA 2		
GROUP 1	$ 55.02	25.25
GROUP 2	$ 52.15	24.25
GROUP 3	$ 50.61	25.25
GROUP 4	$ 46.77	25.25
GROUP 5	$ 32.29	12.40
GROUP 6	$ 35.78	25.25

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: $1.50 additional to the group 1 rate. Crane operator with main boom and jib 400' or longer: $3.00 additional to the group 1 rate.
PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1: Crane Operator with main boom & jib 400', 300', or 220' or longer.

GROUP 2: Crane Operator with main boom & jib 140' or longer, Tower Crane; Gantry Crane; Whirley Derrick.

GROUP 3: Regular Equipment Operator, Crane, Dozer, Loader, Hoist, Straddle Wagon, Mechanic, Grader and Hydro Excavator.

GROUP 4: Air Tugger (single drum), Material Hoist Pump 6"" or over, Elevators, Brokk Concrete Breaker.

GROUP 5: Air Compressor, Welder, Generators, Conveyors

GROUP 6: Oiler and fire tender

ENGI0324-005 09/01/2023

AREA 1: GENESEE, LAPEER, LIVINGSTON, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW AND WAYNE COUNTIES

AREA 2: ALCONA, ALLEGAN, ALGER, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KWEENAW, LAKE, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

	Rates	Fringes
OPERATOR: Power Equipment (Underground construction (including sewer))		
AREA 1:		
GROUP 1	$ 41.08	25.25
GROUP 2	$ 36.25	25.25
GROUP 3	$ 35.52	25.25
GROUP 4	$ 34.95	25.25
GROUP 5	$ 25.35	12.10
AREA 2:		
GROUP 1	$ 39.27	25.25
GROUP 2	$ 34.38	25.25
GROUP 3	$ 33.88	25.25
GROUP 4	$ 33.60	25.25
GROUP 5	$ 25.35	12.10

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Backfiller tamper; Backhoe; Batch plant operator (concrete); Clamshell; Concrete paver (2 drums or larger); Conveyor loader (Euclid type); Crane (crawler, truck type or pile driving); Dozer; Dragline; Elevating grader; Endloader; Gradall (and similar type machine); Grader; Mechanic; Power shovel; Roller (asphalt); Scraper (self-propelled or tractor drawn); Side boom tractor (type D-4 or equivalent and larger); Slip form paver; Slope paver; Trencher (over 8 ft. digging capacity); Well drilling rig; Concrete pump with boom operator; Hydro Excavator

GROUP 2: Boom truck (power swing type boom); Crusher; Hoist; Pump (1 or more - 6-in. discharge or larger - gas or diesel- powered or powered by generator of 300 amperes or

more - inclusive of generator); Side boom tractor (smaller than type D-4 or equivalent); Tractor (pneu-tired, other than backhoe or front end loader); Trencher (8-ft. digging capacity and smaller);Vac Truck and End dump operator;

GROUP 3: Air compressors (600 cfm or larger); Air compressors (2 or more-less than 600 cfm); Boom truck (non-swinging, non- powered type boom); Concrete breaker (self-propelled or truck mounted - includes compressor); Concrete paver (1 drum-1/2 yd. or larger); Elevator (other than passenger); Maintenance person; Pump (2 or more-4-in. up to 6-in. discharge-gas or diesel powered - excluding submersible pumps); Pumpcrete machine (and similar equipment); Wagon drill (multiple); Welding machine or generator (2 or more-300 amp. or larger - gas or diesel powered)

GROUP 4: Boiler; Concrete saw (40 hp or over); Curing machine (self-propelled); Farm tractor (with attachment); Finishing machine (concrete); Hydraulic pipe pushing machine; Mulching equipment; Pumps (2 or more up to 4-in. discharge, if used 3 hours or more a day, gas or diesel powered - excluding submersible pumps); Roller (other than asphalt); Stump remover; Trencher (service); Vibrating compaction equipment, self-propelled (6 ft. wide or over); Sweeper (Wayne type); Water wagon and Extend-a boom forklift

Group 5: Fire Person, Oiler

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* ENGI0324-006 06/01/2024

GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW, WAYNE, ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

	Rates	Fringes
Power equipment operators: (AIRPORT, BRIDGE & HIGHWAY CONSTRUCTION)		
GROUP 1	$ 43.71	25.25
GROUP 2	$ 42.56	25.25
GROUP 3	$ 35.83	25.55
GROUP 4	$ 35.27	25.25

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Paver Operator (5 bags or more); Slip Form Paver; Asphalt Paver (self propelled); Shovel (Excavator) installing utilities over 20 feet in depth.

Group 2: Asphalt plant operator; crane operator (does not include work on bridge construction projects when the crane operator is erecting structural components); Dragline

operator; Shovel (Excavator) operator; Locomotive operator; Elevating grader operator; Pile driving operator; Roller operator (asphalt); Blade grader operator; Trenching machine operator (ladder or wheel type); Auto-grader; Self-propelled or tractor-drawn scraper; Conveyor loader operator (Euclid type); Bulldozer; Hoisting engineer; Tractor operator; Finishing machine operator (asphalt); Mechanic; Pump operator (6-in. discharge or over, gas, diesel powered or generator of 300 amp. or larger); Shouldering or gravel distributing machine operator (self-propelled); Backhoe (with over 3/8 yd. bucket); Side boom tractor (type D-4 or equivalent or larger); Tube finisher (slip form paving); Gradall (and similar type machine); Asphalt planner (self- propelled); Batch plant (concrete-central mix); Slurry machine (asphalt); Concrete pump (3 in. and over); Roto-mill; Swinging boom truck (over 12 ton capacity); Hydro demolisher (water blaster); Farm-type tractor with attached pan; Vacuum truck operator; Batch Plant (concrete dry batch); Concrete Saw Operator (40h.p. or over; Tractor Operator (farm type); Finishing Machine Operator (concrete); Grader Operator (self-propelled fine grade or form (concrete); tractor operator (farm type with attachment); Wagon Drill operator; Boom or winch hoist truck operator.

GROUP 3: Screening plant operator; Washing plant operator; Crusher operator; Backhoe (with 3/8 yd. bucket or less); Side boom tractor (smaller than D-4 type or equivalent); Sweeper (Wayne type and similar equipment); Greese Truck; Air Compressor Operator (600 cu.ft. per min or more); Air Compressor Operator (two or more, less than 600 cfm); End Loader operator (1 yard Capacity and over); Side boom tractor (type D or equivalent or larger; Endloader operator *under 1 yard capacity; Trencher (service).

GROUP 4: Boiler fire tender; Concrete Breaker; Oiler; Fire tender; Trencher (service); Flexplane operator; Cleftplane operator; Roller operator (other than asphalt); Curing equipment operator (self-propelled); Power bin operator; Plant drier operator (asphalt); Vibratory compaction equipment operator (6 ft. wide or over); Guard post driver operator (power driven); All mulching equipment; Stump remover; Concrete pump (under 3-in.); Mesh installer (self-propelled); End dump;Skid steer.

ENGI0324-007 05/01/2024

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
Compressor, welder and forklift	$ 40.90	25.00
Crane operator, main boom & jib 120' or longer	$ 47.37	25.00
Crane operator, main boom & jib 140' or longer	$ 47.37	24.60
Crane operator, main boom & jib 220' or longer	$ 48.26	25.00

Mechanic with truck and tools	$ 46.50	25.00
Oiler and fireman	$ 39.96	25.00
Regular operator	$ 44.72	25.00

ENGI0324-008 10/01/2023

ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MACOMB, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MONROE, MUSKEGON, NEWAYGO, OAKLAND, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN, WASHTENAW, WAYNE AND WEXFORD COUNTIES

	Rates	Fringes
OPERATOR: Power Equipment (Sewer Relining)		
GROUP 1	$ 37.37	15.44
GROUP 2	$ 35.33	15.44

SEWER RELINING CLASSIFICATIONS

GROUP 1: Operation of audio-visual closed circuit TV system, including remote in-ground cutter and other equipment used in connection with the CCTV system

GROUP 2: Operation of hot water heaters and circulation systems, water jetters and vacuum and mechanical debris removal systems

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ENGI0325-012 05/01/2024

	Rates	Fringes
Power equipment operators - gas distribution and duct installation work:		
GROUP 1	$ 37.98	25.25
GROUP 2	$ 34.75	25.25

SCOPE OF WORK: The construction, installation, treating and reconditioning of pipelines transporting gas vapors within cities, towns, subdivisions, suburban areas, or within private property boundaries, up to and including private meter settings of private industrial, governmental or other premises, more commonly referred to as ""distribution work,"" starting from the first metering station, connection, similar or related facility, of the main or cross country pipeline and including duct installation.

Group 1: Backhoe, crane, grader, mechanic, dozer (D-6 equivalent or larger), side boom (D-4 equivalent or larger), trencher(except service), endloader (2 yd. capacity or greater).

GROUP 2: Dozer (less than D-6 equivalent), endloader (under 2 yd. capacity), side boom (under D-4 capacity), backfiller, pumps (1 or 2 of 6-inch discharge or greater), boom truck (with powered boom), tractor (wheel type other than backhoe or front endloader). Tamper (self-propelled), boom truck (with non-powered boom), concrete saw (20 hp or larger), pumps (2 to 4 under 6-inch discharge), compressor (2 or more or when one is used continuously into the second day) and trencher(service). Oiler, hydraulic pipe pushing machine, grease person and hydrostatic testing operator.

IRON0008-007 06/01/2022

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
Ironworker - pre-engineered metal building erector	$ 23.70	6.95
IRONWORKER		
General contracts $10,000,000 or greater	$ 38.14	28.70
General contracts less than $10,000,000	$ 38.14	28.70

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

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* IRON0025-002 06/01/2024

ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON, CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO, ISABELLA, JACKSON, LAPEER, LIVINGSTON, MACOMB, MIDLAND, MONTMORENCY, OAKLAND, OGEMAW, OSCODA, OTSEGO, PRESQUE ISLE, ROSCOMMON, SAGINAW, SANILAC, SHIAWASSEE, ST. CLAIR, TUSCOLA, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
Ironworker - pre-engineered metal building erector		
ALLEGAN, ANTRIM, BARRY, BENZIE, BRANCH, CALHOUN, CHARLEVOIX, EATON, EMMET, GRAND TRAVERSE, HILLSDALE, IONIA, KALAMAZOO, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH, VAN BUREN AND WEXFORD COUNTIES:	$ 35.55	33.14
Bay, Genesee, Lapeer, Livingston (east of Burkhardt Road), Macomb, Midland, Oakland, Saginaw, St. Clair, The University of Michigan, Washtenaw		

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     (east of U.S. 23) & Wayne...$ 25.81            26.43
IRONWORKER
     Ornamental and Structural...$ 34.50            38.44
     Reinforcing.................$ 33.43            37.15
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 IRON0055-005 07/01/2022

LENAWEE AND MONROE COUNTIES:

                                   Rates          Fringes

IRONWORKER
     Pre-engineered metal
     buildings...................$ 23.59            19.35
     All other work..............$ 33.00            27.20
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 IRON0292-003 06/01/2020

BERRIEN AND CASS COUNTIES:

                                   Rates          Fringes

IRONWORKER (Including
pre-engineered metal building
erector)....................... $ 31.75            22.84
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* LABO0005-006 10/01/2022

                                   Rates          Fringes

Laborers - hazardous waste
abatement: (ALCONA, ALPENA,
ANTRIM, BENZIE, CHARLEVOIX,
CHEBOYGAN, CRAWFORD, EMMET,
GRAND TRAVERSE, IOSCO,
KALKASKA, LEELANAU,
MISSAUKEE, MONTMORENCY,
OSCODA, OTSEGO, PRESQUE ISLE
AND WEXFORD COUNTIES - Zone
10)
     Levels A, B or C............$ 17.45            12.75
      class b....................$ 18.64            12.90
     Work performed in
     conjunction with site
     preparation not requiring
     the use of personal
     protective equipment;
     Also, Level D..............$ 16.45 **         12.75
      class a....................$ 17.64            12.90
  Zone 10
Laborers - hazardous waste
abatement: (ALGER, BARAGA,
CHIPPEWA, DELTA, DICKINSON,
GOGEBIC, HOUGHTON, IRON,
KEWEENAW, LUCE, MACKINAC,
MARQUETTE, MENOMINEE,
ONTONAGON AND SCHOOLCRAFT
COUNTIES - Zone 11)
     Levels A, B or C............$ 25.18            12.90
     Work performed in
     conjunction with site
     preparation not requiring
     the use of personal
     protective equipment;
     Also, Level D..............$ 22.58            12.90
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Laborers - hazardous waste abatement: (ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, IONIA COUNTY (except the city of Portland); KALAMAZOO, KENT, LAKE, MANISTEE, MASON, MECOSTA, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH AND VAN BUREN COUNTIES - Zone 9)

Levels A, B or C	$ 21.88	13.26
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D	$ 20.80	12.90

Laborers - hazardous waste abatement: (ARENAC, BAY, CLARE, GLADWIN, GRATIOT, HURON, ISABELLA, MIDLAND, OGEMAW, ROSCOMMON, SAGINAW AND TUSCOLA COUNTIES - Zone 8)

Levels A, B or C	$ 23.74	12.95
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D	$ 20.80	12.90

Laborers - hazardous waste abatement: (CLINTON, EATON AND INGHAM COUNTIES; IONIA COUNTY (City of Portland); LIVINGSTON COUNTY (west of Oak Grove Rd., including the City of Howell) - Zone 6)

Levels A, B or C	$ 26.33	12.95
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D	$ 24.64	12.90

Laborers - hazardous waste abatement: (GENESEE, LAPEER AND SHIAWASSEE COUNTIES - Zone 7)

Levels A, B or C	$ 24.20	13.80
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D	$ 23.20	13.80

Laborers - hazardous waste abatement: (HILLSDALE, JACKSON AND LENAWEE COUNTIES - Zone 4)

Levels A, B or C	$ 27.13	14.95
Work performed in conjunction with site preparation not requiring the use of personal		

protective equipment;
Also, Level D.....$ 24.17 12.90
Laborers - hazardous waste abatement: (LIVINGSTON COUNTY (east of Oak Grove Rd. and south of M-59, excluding the city of Howell); AND WASHTENAW COUNTY - Zone 3)
Levels A, B or C.....$ 29.93 14.20
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 28.93 14.20
Laborers - hazardous waste abatement: (MACOMB AND WAYNE COUNTIES - Zone 1)
Levels A, B or C.....$ 29.93 16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 28.93 16.90
Laborers - hazardous waste abatement: (MONROE COUNTY - Zone 4)
Levels A, B or C.....$ 31.75 14.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 31.75 14.90
Laborers - hazardous waste abatement: (OAKLAND COUNTY and the Northeast portion of LIVINGSTON COUNTY bordered by Oak Grove Road on the West and M-59 on the South - Zone 2)
Level A, B, C.....$ 29.93 16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 28.93 16.90
Laborers - hazardous waste abatement: (SANILAC AND ST. CLAIR COUNTIES - Zone 5)
Levels A, B or C.....$ 26.21 16.62
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;
Also, Level D.....$ 24.75 16.35

LABO0259-001 09/01/2023

AREA 1: MACOMB, OAKLAND AND WAYNE COUNTIES
AREA 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,

CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONROE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN, WASHTENAW AND WEXFORD COUNTIES

	Rates	Fringes
Laborers - tunnel, shaft and caisson:		
AREA 1		
GROUP 1	$ 23.62	16.93
GROUP 2	$ 23.73	16.93
GROUP 3	$ 23.79	16.93
GROUP 4	$ 23.97	16.93
GROUP 5	$ 24.22	16.93
GROUP 6	$ 24.55	16.93
GROUP 7	$ 17.83	16.93
AREA 2		
GROUP 1	$ 27.57	16.93
GROUP 2	$ 25.24	16.93
GROUP 3	$ 25.34	16.93
GROUP 4	$ 29.57	16.93
GROUP 5	$ 25.76	16.93
GROUP 6	$ 26.07	16.93
GROUP 7	$ 25.57	16.93

SCOPE OF WORK: Tunnel, shaft and caisson work of every type and description and all operations incidental thereto, including, but not limited to, shafts and tunnels for sewers, water, subways, transportation, diversion, sewerage, caverns, shelters, aquafers, reservoirs, missile silos and steel sheeting for underground construction.

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Tunnel, shaft and caisson laborer, dump, shanty, hog house tender, testing (on gas) and watchman

GROUP 2: Manhole, headwall, catch basin builder, bricklayer tender, mortar machine and material mixer

GROUP 3: Air tool operator (jackhammer, bush hammer and grinder), first bottom, second bottom, cage tender, car pusher, carrier, concrete, concrete form, concrete repair, cement invert laborer, cement finisher, concrete shoveler, conveyor, floor, gasoline and electric tool operator, gunite, grout operator, welder, heading dinky person, inside lock tender, pea gravel operator, pump, outside lock tender, scaffold, top signal person, switch person, track, tugger, utility person, vibrator, winch operator, pipe jacking, wagon drill and air track operator and concrete saw operator (under 40 h.p.)

GROUP 4: Tunnel, shaft and caisson mucker, bracer, liner plate, long haul dinky driver and well point

GROUP 5: Tunnel, shaft and caisson miner, drill runner, key

board operator, power knife operator, reinforced steel or mesh (e.g. wire mesh, steel mats, dowel bars, etc.)

GROUP 6: Dynamite and powder

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

LABO0334-001 09/01/2023

	Rates	Fringes
Laborers - open cut:		
ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES:		
GROUP 1	$ 29.87	16.95
GROUP 2	$ 31.87	16.95
GROUP 3	$ 28.03	16.95
GROUP 4	$ 23.71	16.72
GROUP 5	$ 24.17	16.72
GROUP 6	$ 22.00	16.72
GROUP 7	$ 17.84	16.72
ZONE 2 - LIVINGSTON COUNTY (east of M-151 (Oak Grove Rd.)); MONROE AND WASHTENAW COUNTIES:		
GROUP 1	$ 30.70	13.45
GROUP 2	$ 32.70	13.45
GROUP 3	$ 26.89	13.45
GROUP 4	$ 25.10	16.72
GROUP 5	$ 25.25	16.72
GROUP 6	$ 22.55	16.72
GROUP 7	$ 22.11	16.72
ZONE 3 - CLINTON, EATON, GENESEE, HILLSDALE AND INGHAM COUNTIES; IONIA COUNTY (City of Portland); JACKSON, LAPEER AND LENAWEE COUNTIES; LIVINGSTON COUNTY (west of M-151 Oak Grove Rd.); SANILAC, ST. CLAIR AND SHIAWASSEE COUNTIES:		
GROUP 1	$ 28.89	13.45
GROUP 2	$ 30.89	13.45
GROUP 3	$ 26.89	13.45
GROUP 4	$ 23.30	16.72
GROUP 5	$ 23.44	16.72
GROUP 6	$ 20.74	16.72
GROUP 7	$ 22.23	16.72
ZONE 4 - ALCONA, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, GRATIOT AND HURON COUNTIES; IONIA COUNTY (EXCEPT THE CITY OF PORTLAND); IOSCO,		

ISABELLA, KALAMAZOO,
KALKASKA, KENT,
LAKE,LEELANAU, MANISTEE,
MASON, MECOSTA, MIDLAND,
MISSAUKEE, MONTCALM,
MONTMORENCY, MUSKEGON,
NEWAYGO, OCEANA, OGEMAW,
OSCEOLA, OSCODA, OTSEGO,
OTTAWA, PRESQUE ISLE,
ROSCOMMON, SAGINAW, ST.
JOSEPH, TUSCOLA, VAN BUREN
AND WEXFORD COUNTIES:

GROUP 1	$ 27.87	13.45
GROUP 2	$ 29.87	13.45
GROUP 3	$ 25.87	13.45
GROUP 4	$ 22.33	16.72
GROUP 5	$ 22.45	16.72
GROUP 6	$ 19.67	16.72
GROUP 7	$ 22.30	16.72

ZONE 5 - ALGER, BARAGA,
CHIPPEWA, DELTA,
DICKINSON, GOGEBIC,
HOUGHTON, IRON,
KEWEENAW, LUCE, MACKINAC,
MARQUETTE, MENOMINEE,
ONTONAGON AND SCHOOLCRAFT
COUNTIES:

GROUP 1	$ 28.09	13.45
GROUP 2	$ 30.09	13.45
GROUP 3	$ 26.09	13.45
GROUP 4	$ 22.56	16.72
GROUP 5	$ 22.64	16.72
GROUP 6	$ 19.99	16.72
GROUP 7	$ 22.45	16.72

SCOPE OF WORK:

Open cut construction work shall be construed to mean work which requires the excavation of earth including industrial, commercial and residential building site excavation and preparation, land balancing, demolition and removal of concrete and underground appurtenances, grading, paving, sewers, utilities and improvements; retention, oxidation, flocculation and irrigation facilities, and also including but not limited to underground piping, conduits, steel sheeting for underground construction, and all work incidental thereto, and general excavation. For all areas except the Upper Peninsula, open cut construction work shall also be construed to mean waterfront work, piers, docks, seawalls, breakwalls, marinas and all incidental work. Open cut construction work shall not include any structural modifications, alterations, additions and repairs to buildings, or highway work, including roads, streets, bridge construction and parking lots or steel erection work and excavation for the building itself and back filling inside of and within 5 ft. of the building and foundations, footings and piers for the building. Open cut construction work shall not include any work covered under Tunnel, Shaft and Caisson work.

OPEN CUT LABORER CLASSIFICATIONS

GROUP 1: Construction laborer

GROUP 2: Mortar and material mixer, concrete form person,

signal person, well point person, manhole, headwall and catch basin builder, headwall, seawall, breakwall and dock builder

GROUP 3: Air, gasoline and electric tool operator, vibrator operator, driller, pump person, tar kettle operator, bracer, rodder, reinforced steel or mesh person (e.g., wire mesh, steel mats, dowel bars, etc.), welder, pipe jacking and boring person, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger person and directional boring person

GROUP 4: Trench or excavating grade person

GROUP 5: Pipe layer (including crock, metal pipe, multi-plate or other conduits)

GROUP 6: Grouting man, audio-visual television operations and all other operations in connection with closed circuit television inspection, pipe cleaning and pipe relining work and the installation and repair of water service pipe and appurtenances

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

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* LABO0465-001 06/01/2024

LABORER: Highway, Bridge and Airport Construction

AREA 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILAC, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA AND VAN BUREN COUNTIES

AREA 3: ALCONA, ALPENA, ANTRIM, ARENAC, BENZIE, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, IONIA, IOSCO, ISABELLA, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MONTMORENCY, NEWAYGO, OCEANA, OGEMAW, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON AND WEXFORD COUNTIES

AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES

	Rates	Fringes
LABORER (AREA 1)		
GROUP 1	$ 34.01	14.45
GROUP 2	$ 34.14	14.45
GROUP 3	$ 34.32	14.45
GROUP 4	$ 34.40	14.45
GROUP 5	$ 34.61	14.45
GROUP 6	$ 34.91	14.45
LABORER (AREA 2)		
GROUP 1	$ 31.87	14.45

GROUP 2	$ 32.07	14.45
GROUP 3	$ 32.31	14.45
GROUP 4	$ 32.66	14.45
GROUP 5	$ 32.53	14.45
GROUP 6	$ 32.87	14.45
LABORER (AREA 3)		
GROUP 1	$ 31.12	14.45
GROUP 2	$ 31.33	14.45
GROUP 3	$ 31.62	14.45
GROUP 4	$ 32.06	14.45
GROUP 5	$ 31.68	14.45
GROUP 6	$ 32.11	14.45
LABORER (AREA 4)		
GROUP 1	$ 32.02	14.45
GROUP 2	$ 31.73	14.45
GROUP 3	$ 32.52	14.45
GROUP 4	$ 32.96	14.45
GROUP 5	$ 32.58	14.45
GROUP 6	$ 33.01	14.45

LABORER CLASSIFICATIONS

GROUP 1: Asphalt shoveler or loader; asphalt plant misc.; burlap person; yard person; dumper (wagon, truck, etc.); joint filling laborer; miscellaneous laborer; unskilled laborer; sprinkler laborer; form setting laborer; form stripper; pavement reinforcing; handling and placing (e.g., wire mesh, steel mats, dowel bars); mason's tender or bricklayer's tender on manholes; manhole builder; headwalls, etc.; waterproofing,(other than buildings) seal coating and slurry mix, shoring, underpinning; pressure grouting; bridge pin and hanger removal; material recycling laborer; horizontal paver laborer (brick, concrete, clay, stone and asphalt); ground stabilization and modification laborer; grouting; waterblasting; top person; railroad track and trestle laborer; carpenters' tender; guard rail builders' tender; earth retention barrier and wall and M.S.E. wall installer's tender; highway and median installer's tender(including sound, retaining, and crash barriers); fence erector's tender; asphalt raker tender; sign installer; remote control operated equipment.

GROUP 2: Mixer operator (less than 5 sacks); air or electric tool operator (jackhammer, etc.); spreader; boxperson (asphalt, stone, gravel); concrete paddler; power chain saw operator; paving batch truck dumper; tunnel mucker (highway work only); concrete saw (under 40 h.p.) and dry pack machine; roto-mill grounds person.

GROUP 3: Tunnel miner (highway work only); finishers tenders; guard rail builders; highway and median barrier installer; earth retention barrier and wall and M.S.E. wall installer's (including sound, retaining and crash barriers); fence erector; bottom person; powder person; wagon drill and air track operator; diamond and core drills; grade checker; certified welders; curb and side rail setter's tender.

GROUP 4: Asphalt raker

GROUP 5: Pipe layers, oxy-gun

GROUP 6: Line-form setter for curb or pavement; asphalt screed checker/screw man on asphalt paving machines.

LABO1076-005 04/01/2024

MICHIGAN STATEWIDE

	Rates	Fringes
LABORER (DISTRIBUTION WORK)		
Zone 1	$ 27.16	13.45
Zone 2	$ 25.42	13.45
Zone 3	$ 23.55	13.45
Zone 4	$ 22.92	13.45
Zone 5	$ 22.95	13.45

DISTRIBUTION WORK - The construction, installation, treating and reconditioning of distribution pipelines transporting coal, oil, gas or other similar materials, vapors or liquids, including pipelines within private property boundaries, up to and including the meter settings on residential, commercial, industrial, institutional, private and public structures. All work covering pumping stations and tank farms not covered by the Building Trades Agreement. Other distribution lines with the exception of sewer, water and cable television are included.

Underground Duct Layer Pay: $.40 per hour above the base pay rate.

Zone 1 - Macomb, Oakland and Wayne
Zone 2 - Monroe and Washtenaw
Zone 3 - Bay, Genesee, Lapeer, Midland, Saginaw, Sanilac, Shiawassee and St. Clair
Zone 4 - Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft
Zone 5 - Remaining Counties in Michigan

PAIN0022-002 07/01/2008

HILLSDALE, JACKSON AND LENAWEE COUNTIES; LIVINGSTON COUNTY (east of the eastern city limits of Howell, not including the city of Howell, north to the Genesee County line and south to the Washtenaw County line); MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
PAINTER	$ 25.06	14.75

FOOTNOTES: For all spray work and journeyman rigging for spray work, also blowing off, $0.80 per hour additional (applies only to workers doing rigging for spray work on off the floor work. Does not include setting up or moving rigging on floor surfaces, nor does it apply to workers engaged in covering up or tending spray equipment. For all sandblasting and spray work performed on highway bridges, overpasses, tanks or steel, $0.80 per hour additional. For all brushing, cleaning and other preparatory work (other than spraying or steeplejack work) at scaffold heights of fifty (50) feet from the ground or higher, $0.50 per hour additional. For all preparatorial work and painting performed on open steel under forty (40) feet when no scaffolding is involved, $0.50 per hour additional. For all

swing stage work-window jacks and window belts-exterior and interior, $0.50 per hour additional. For all spray work and sandblaster work to a scaffold height of forty (40) feet above the floor level, $0.80 per hour additional. For all preparatorial work and painting on all highway bridges or overpasses up to forty (40) feet in height, $0.50 per hour additional. For all steeplejack work performed where the elevation is forty (40) feet or more, $1.25 per hour additional.

PAIN0312-001 06/01/2018

EXCLUDES: ALLEGAN COUNTY (Townships of Dorr, Fillmore, Heath, Hopkins, Laketown, Leighton, Manlius, Monterey, Overisel, Salem, Saugatuck and Wayland); INCLUDES: Barry, Berrien, Branch, Calhoun, Cass, Hillsdale, Kalamazoo, St. Joseph, Van Buren

	Rates	Fringes
PAINTER		
Brush and roller	$ 23.74	13.35
Spray, Sandblast, Sign Painting	$ 24.94	13.35

PAIN0845-003 05/10/2018

CLINTON COUNTY; EATON COUNTY (does not include the townships of Bellevue and Olivet); INGHAM COUNTY; IONIA COUNTY (east of Hwy. M 66); LIVINGSTON COUNTY (west of the eastern city limits of Howell, including the city of Howell, north to the Genesee County line and south to the Washtenaw County line); AND SHIAWASSEE COUNTY (Townships of Bennington, Laingsbury and Perry):

	Rates	Fringes
PAINTER	$ 25.49	13.74

PAIN0845-015 05/10/2018

MUSKEGON COUNTY; NEWAYGO COUNTY (except the Townships of Barton, Big Prairie, Brooks, Croton, Ensley, Everett, Goodwell, Grant, Home, Monroe, Norwich and Wilcox); OCEANA COUNTY; OTTAWA COUNTY (except the townships of Allendale, Blendone, Chester, Georgetown, Holland, Jamestown, Olive, Park, Polkton, Port Sheldon, Tallmadge, Wright and Zeeland):

	Rates	Fringes
PAINTER	$ 25.49	13.74

PAIN0845-018 05/10/2018

ALLEGAN COUNTY (Townships of Dorr, Fillmore, Heath, Hopkins, Laketown, Leighton, Manlius, Monterey, Overisel, Salem, Saugatuck and Wayland); IONIA COUNTY (west of Hwy. M-66); KENT, MECOSTA AND MONTCALM COUNTIES; NEWAYGO COUNTY (Townships of Barton, Big Prairie, Brooks, Croton, Ensley, Everett, Goodwell, Grant, Home, Monroe, Norwich and Wilcox); OSCEOLA COUNTY (south of Hwy. #10); OTTAWA COUNTY (Townships of Allendale, Blendone,

Chester, Georgetown, Holland, Jamestown, Olive, Park, Polkton, Port Sheldon, Tallmadge, Wright and Zeeland):

	Rates	Fringes
PAINTER	$ 25.49	13.74

FOOTNOTES: Lead abatement work: $1.00 per hour additional.

PAIN1011-003 06/02/2022

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
PAINTER	$ 24.66	14.99

FOOTNOTES: High pay (bridges, overpasses, watertower): 30 to 80 ft.: $.65 per hour additional. 80 ft. and over: $1.30 per hour additional.

PAIN1474-002 06/01/2010

HURON COUNTY; LAPEER COUNTY (east of Hwy. M-53); ST. CLAIR, SANILAC AND TUSCOLA COUNTIES:

	Rates	Fringes
PAINTER	$ 23.79	12.02

FOOTNOTES: Lead abatement work: $1.00 per hour additional. Work with any hazardous material: $1.00 per hour additional. Sandblasting, steam cleaning and acid cleaning: $1.00 per hour additional. Ladder work at or above 40 ft., scaffold work at or above 40 ft., swing stage, boatswain chair, window jacks and all work performed over a falling height of 40 ft.: $1.00 per hour additional. Spray gun work, pick pullers and those handling needles, blowing off by air pressure, and any person rigging (setting up and moving off the ground): $1.00 per hour additional. Steeplejack, tanks, gas holders, stacks, flag poles, radio towers and beacons, power line towers, bridges, etc.: $1.00 per hour additional, paid from the ground up.

PAIN1803-003 06/01/2019

ALCONA, ALPENA, ANTRIM, ARENAC, BAY, BENZIE, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, GRATIOT, IOSCO, ISABELLA, KALKASKA, LAKE, LEELANAU, MANISTEE, MASON, MIDLAND, MISSAUKEE, MONTMORENCY AND OGEMAW COUNTIES; OSCEOLA COUNTY (north of Hwy. #10); OSCODA, OTSEGO, PRESQUE ISLE, ROSCOMMON, SAGINAW AND WEXFORD COUNTIES:

	Rates	Fringes
PAINTER		
Work performed on water,		

bridges over water or moving traffic, radio and powerline towers, elevated tanks, steeples, smoke stacks over 40 ft. of falling heights, recovery of lead-based paints and any work associated with industrial plants, except maintenance of industrial plants.....$ 25.39 14.68

All other work, including maintenance of industrial plant.....$ 25.39 14.68

FOOTNOTES: Spray painting, sandblasting, blowdown associated with spraying and blasting, water blasting and work involving a swing stage, boatswain chair or spider: $1.00 per hour additional. All work performed inside tanks, vessels, tank trailers, railroad cars, sewers, smoke stacks, boilers or other spaces having limited egress not including buildings, opentop tanks, pits, etc.: $1.25 per hour additional.

PLAS0514-001 06/01/2023

ZONE 1: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, SAGINAW, WASHTENAW AND WAYNE COUNTIES

ZONE 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
ZONE 1	$ 33.00	18.51
ZONE 2	$ 31.50	18.51

PLUM0190-003 05/01/2015

ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MACOMB, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MONROE, MUSKEGON, NEWAYGO, OAKLAND, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN, WASHTENAW, WAYNE AND WEXFORD COUNTIES

	Rates	Fringes
Plumber/Pipefitter - gas distribution pipeline:		
Welding in conjunction with gas distribution pipeline work	$ 33.03	20.19
All other work:	$ 24.19	12.28

TEAM0007-004 06/01/2023

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER		
AREA 1		
Euclids, double bottoms and lowboys	$ 31.55	.75 + a+b
Trucks under 8 cu. yds.	$ 31.30	.75 + a+b
Trucks, 8 cu. yds. and over	$ 31.30	.75 + a+b
AREA 2		
Euclids, double bottomms and lowboys	$ 24.895	.50 + a+b
Euclids, double bottoms and lowboys	$ 31.65	.75 + a+b
Trucks under 8 cu. yds.	$ 31.40	.75 + a+b
Trucks, 8 cu. yds. and over	$ 31.50	.75 + a+b

Footnote:
a. $470.70 per week
b. $68.70 daily

TEAM0247-004 04/01/2013

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, SAGINAW, ST.

CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND,
WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
Sign Installer		
AREA 1		
GROUP 1	$ 21.78	11.83
GROUP 2	$ 25.27	11.8375
AREA 2		
GROUP 1	$ 22.03	11.83
GROUP 2	$ 25.02	11.8375

FOOTNOTE:

a. $132.70 per week, plus $17.80 per day.

SIGN INSTALLER CLASSIFICATIONS:

GROUP 1: performs all necessary labor and uses all tools required to construct and set concrete forms required in the installation of highway and street signs

GROUP 2: performs all miscellaneous labor, uses all hand and power tools, and operates all other equipment, mobile or otherwise, required for the installation of highway and street signs

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TEAM0247-010 04/01/2018

AREA 1: LAPEER AND SHIAWASSEE COUNTIES

AREA 2: GENESEE, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW
AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER (Underground construction)		
AREA 1		
GROUP 1	$ 23.82	19.04
GROUP 2	$ 23.91	19.04
GROUP 3	$ 24.12	19.04
AREA 2		
GROUP 1	$ 24.12	19.04
GROUP 2	$ 24.26	19.04
GROUP 3	$ 24.45	19.04

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

SCOPE OF WORK: Excavation, site preparation, land balancing, grading, sewers, utilities and improvements; also including but not limited to, tunnels, underground piping, retention, oxidation, flocculation facilities, conduits, general excavation and steel sheeting for underground construction. Underground construction work shall not include any structural modifications, alterations, additions and repairs to buildings or highway work, including roads,

streets, bridge construction and parking lots or steel erection.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Truck driver on all trucks (EXCEPT dump trucks of 8 cubic yards capacity or over, pole trailers, semis, low boys, Euclid, double bottom and fuel trucks)

GROUP 2: Truck driver on dump trucks of 8 cubic yards capacity or over, pole trailers, semis and fuel trucks

GROUP 3: Truck driver on low boy, Euclid and double bottom

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* SUMI2002-001 05/01/2002

	Rates	Fringes
FLAG PERSON	$ 10.10 **	0.00
LINE PROTECTOR (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)	$ 22.89	13.45
LINE PROTECTOR (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)	$ 20.19	13.45
Pavement Marking Machine (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES) Group 1	$ 30.52	13.45
Pavement Marking Machine (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE) Group 2	$ 27.47	13.45
Pavement Marking Machine (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES) Group 1	$ 26.92	13.45
Pavement Marking Machine (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE) Group 2	$ 24.23	13.45

WORK CLASSIFICATIONS:

PAVEMENT MARKER GROUP 1: Drives or operates a truck mounted striper, grinder, blaster, groover, or thermoplastic melter for the placement or removal of temporary or permanent pavement markings or markers.

PAVEMENT MARKER GROUP 2: Performs all functions involved for the placement or removal of temporary or permanent pavement markings or markers not covered by the classification of

Pavement Marker Group 1 or Line Protector.

LINE PROTECTOR: Performs all operations for the protection or removal of temporary or permanent pavement markings or markers in a moving convoy operation not performed by the classification of Pavement Marker Group 1. A moving convoy operation is comprised of only Pavement Markers Group 1 and Line Protectors.

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

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($17.20) or 13658 ($12.90). 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 classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed

in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

State Adopted Rate Identifiers

Classifications listed under the ""SA"" identifier indicate that the prevailing wage rate set by a state (or local) government was 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. 01/03/2024 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:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write 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 the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write 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 by 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

4.) All decisions by the Administrative Review Board are final.

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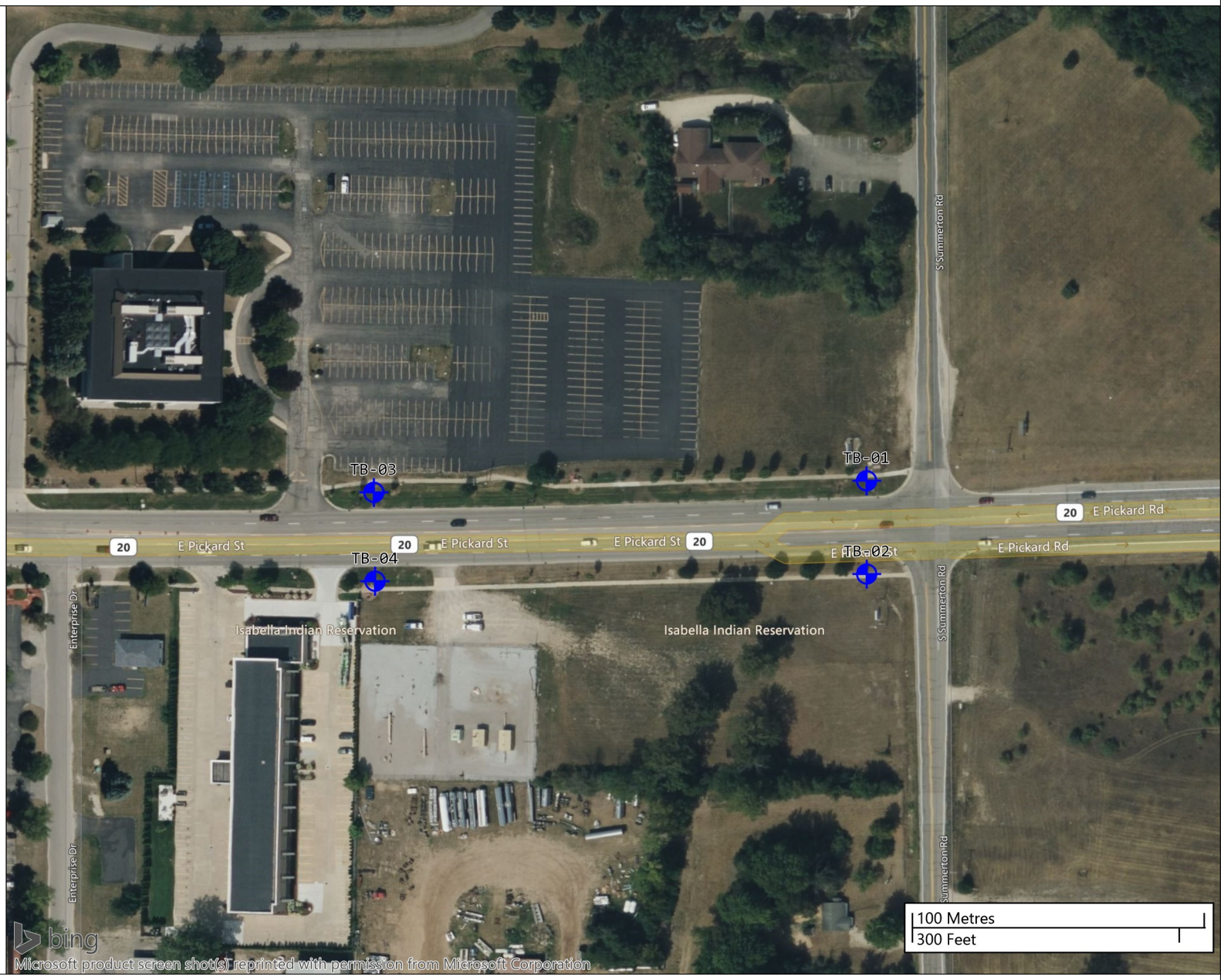
END OF GENERAL DECISION"

Project Id:	2024.1341	Title:	Site Plan
Project Title:	Union Township Trenchless Crossings	Scale:	1:2000
Location:	Union Township, Michigan	Engineer:	Malcolm Thompson, P.E.
Client:	Gourdie Fraser, Inc.	Contractor:	

Legend Key

- Locations By Type - Empty
- Locations By Type - BH



Project Id:	2024.1341	Title:	Site Plan
Project Title:	Union Township Trenchless Crossings	Scale:	1:2000
Location:	Union Township, Michigan	Engineer:	Malcolm Thompson, P.E.
Client:	Gourdie Fraser, Inc.	Contractor:	

Legend Key

- Locations By Type - Empty
- Locations By Type - BH

SOILS & STRUCTURES

Borehole ID: TB-01

Project Name: Union Township Trenchless Crossings
Project Number: 2024.1341
Project Location: Union Township, Michigan
Logged By: L Meddaugh **Reviewed By:** R Roda
Client: Gourdie Fraser, Inc.
Survey Datum: NAD 1983 StatePlane Michigan South **Hole Depth:** 20.00
Date Started: Jul 17 2024 **Completed:** Jul 17 2024
Northing: 769784.5 **Easting:** 13027639.9 **Elevation:** 753.63
Drilling Method: 3-1/4" Hollow Stem Auger
Frost Depth
Equipment: Diedrich D-50
Ground Water Levels
Hammer Type: Automatic Hammer
At Time of Drilling 6.50' on Jul 17 2024 - Water Encountered
Notes:

Depth	Material Description	Sample Type	Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	USCS
0	ASPHALT - (6.0")												
1	BASE COURSE - brown fine to coarse sandy with a trace of silt (7.0")												
2													
3	SAND - compact brown fine to medium with a trace of gravel		SPT-A	100	4-5-7	12	4.5						
4	CLAY - stiff brown mottled silty with sand												CL
5			SPT-B	100	4-6-8	14	4.5						
6													
7	SAND - very compact light brown fine to medium		SPT-C	100	4-10-15	25							SP
8													
9	SAND - very compact light brown fine with seams of clay												
10			SPT-D	100	5-10-15	25							SP
11													
12	SAND - very compact gray fine to coarse gravelly and clayey												
13			SPT-E	47	7-10-20	30							SC
14													
15	SAND - very compact dark gray fine to coarse clayey with silt and a trace of gravel		SPT-F	100	7-14-19	33							
16													
17													SC
18			SPT-G	100	6-18-21	39							
19			SPT-H	100	10-18-21	39							
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

SOILS & STRUCTURES

Borehole ID: TB-02

Project Name: Union Township Trenchless Crossings
Project Number: 2024.1341
Project Location: Union Township, Michigan
Logged By: L Meddaugh
Reviewed By: R Roda
Client: Gourdie Fraser, Inc.
Survey Datum: NAD 1983 StatePlane Michigan South
Hole Depth: 20.00
Date Started: Jul 17 2024
Completed: Jul 17 2024
Northing: 769679.4
Easting: 13027639.8
Elevation: 753.70
Drilling Method: 3-1/4" Hollow Stem Auger
Frost Depth
Equipment: Diedrich D-50
Ground Water Levels
Hammer Type: Automatic Hammer
At Time of Drilling 6.50' on Jul 17 2024 - Water Encountered
Notes:

Depth	Material Description	Sample Type	Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	USCS
0	TOPSOIL - dark brown sandy (6.0")												
1	SAND - slightly compact dark brown fine to coarse silty with a trace of rubble (FILL)												
2													
3			SPT-A	100	5-4-3	7							SM
4	CLAY - stiff dark brown mottled silty with sand												
5			SPT-B	93	5-5-7	12	4.0						CL
6													
7	SAND - very compact brown to gray fine to medium												
8			SPT-C	100	5-8-19	27							SP
9	SAND - very compact light brown fine with a trace of silt												
10			SPT-D	67	8-19-27	46							SP
11													
12	SILT - very stiff dark gray sandy with a trace of clay												
13			SPT-E	87	6-10-17	27	4.5						
14													
15			SPT-F	100	16-17-19	36	4.0						ML
16													
17													
18			SPT-G	100	8-13-17	30	4.5						
19	SAND - very compact dark gray fine to coarse clayey with a trace of gravel		SPT-H	100	7-10-11	21							SC
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

SOILS & STRUCTURES

Borehole ID: TB-03

Sheet 1 of 1

Project Name: Union Township Trenchless Crossings
Project Number: 2024.1341
Project Location: Union Township, Michigan
Logged By: L Meddaugh
Reviewed By: R Roda
Client: Gourdie Fraser, Inc.
Survey Datum: NAD 1983 StatePlane Michigan South
Hole Depth: 20.00
Date Started: Jul 17 2024
Completed: Jul 17 2024
Northing: 769773.8
Easting: 13027082.4
Elevation: 754.55
Drilling Method: 3-1/4" Hollow Stem Auger
Frost Depth
Equipment: Diedrich D-50
Ground Water Levels
Hammer Type: Automatic Hammer
At Time of Drilling 7.00' on Jul 17 2024 - Water Encountered
Notes:

Depth	Material Description	Sample Type	Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	USCS
0	ASPHALT - (7.0")												
1	BASE COURSE - brown fine to coarse sandy with a trace of silt (8.0")												
2													
3	SAND - very compact light brown fine to coarse	SPT	SPT-A	87	12-19-16	35							SP
4													
5	SILT - stiff dark brown sandy with clay	SPT	SPT-B	73	2-4-7	11	4.0						ML
6													
7	SAND - compact gray fine to medium												
8		SPT	SPT-C	100	4-5-8	13							SP
9													
10	SAND - compact gray fine to coarse gravelly	SPT	SPT-D	100	3-4-5	9							SP
11													
12	SAND - very compact gray fine with a trace of silt												
13		SPT	SPT-E	100	16-23-24	47							SP
14													
15	SAND - very compact dark gray fine to coarse clayey with silt and a trace of gravel	SPT	SPT-F	100	10-15-16	31							
16													
17													SC
18		SPT	SPT-G	100	8-15-22	37							
19		SPT	SPT-H	100	9-16-20	36							
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

SOILS & STRUCTURES

Borehole ID: TB-04

Project Name: Union Township Trenchless Crossings
Project Number: 2024.1341
Project Location: Union Township, Michigan
Logged By: L Meddaugh **Reviewed By:** R Roda
Client: Gourdie Fraser, Inc.
Survey Datum: NAD 1983 StatePlane Michigan South **Hole Depth:** 20.00
Date Started: Jul 17 2024 **Completed:** Jul 17 2024
Northing: 769673.7 **Easting:** 13027083.4 **Elevation:** 754.66
Drilling Method: 3-1/4" Hollow Stem Auger
Frost Depth
Equipment: Diedrich D-50
Ground Water Levels
Hammer Type: Automatic Hammer
At Time of Drilling 6.50' on Jul 17 2024 - Water Encountered
Notes:

Depth	Material Description	Sample Type	Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	USCS
0	ASPHALT - (6.0")												
1	BASE COURSE - light brown fine to coarse sandy with a trace of silt (7.0")												
2													
3	SAND - compact light brown fine to coarse	SPT	SPT-A	100	5-4-5	9	3.5						
4	CLAY - stiff dark brown mottled sandy and silty												CL
5	SAND - compact light brown fine to medium	SPT	SPT-B	100	4-8-11	19							SP
6													
7	SAND - very compact light brown fine silty with seams of clay	SPT	SPT-C	87	7-11-17	28							SM
8													
9	SAND - very compact light brown fine												
10		SPT	SPT-D	100	17-21-27	48							SP
11													
12	SILT - very stiff gray sandy												
13		SPT	SPT-E	100	16-20-23	43	4.0						
14													ML
15		SPT	SPT-F	100	13-19-27	46	4.0						
16													
17	SILT - very stiff dark gray sandy with a trace of gravel	SPT	SPT-G	100	8-13-16	29	4.5						ML
18													
19	SAND - very compact dark gray fine to coarse silty with clay and a trace of gravel	SPT	SPT-H	100	8-14-21	35							SM
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

SOILS & STRUCTURES

Borehole ID: TB-05

Sheet 1 of 2

Project Name: Union Township Trenchless Crossings
Project Number: 2024.1341
Project Location: Union Township, Michigan
Logged By: L Meddaugh
Reviewed By: R Roda
Client: Gourdie Fraser, Inc.
Survey Datum: NAD 1983 StatePlane Michigan South
Hole Depth: 35.00
Date Started: Jul 18 2024
Completed: Jul 17 2024
Northing: 752719.2
Easting: 13021340.7
Elevation: 781.41
Drilling Method: 3-1/4" Hollow Stem Auger
Frost Depth
Equipment: Diedrich D-50
Ground Water Levels
Hammer Type: Automatic Hammer
At Time of Drilling 19.50' on Jul 18 2024 - Water Encountered
Notes:

Depth	Material Description	Sample Type	Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	USCS
1	TOPSOIL - dark brown sandy with a trace of clay (16.0")												
2	SAND - slightly compact brown fine with a trace of gravel and silt (POSSIBLE FILL)												
3			SPT-A	100	2-2-3	5							
4	SAND - slightly compact to loose dark brown to black silty with clay and a trace of gravel (POSSIBLE FILL)												SM
5			SPT-B	100	2-1-2	3							
6													
7	CLAY - firm brown silty with a trace of sand												
8			SPT-C	93	1-2-3	5	0.5						CL
9													
10	CLAY - firm brown sandy with silt		SPT-D	87	0-2-3	5	1.0						CL
11													
12	CLAY - firm to stiff dark gray sandy and silty with a trace of gravel												
13			SPT-E	100	2-3-4	7	1.0						
14													CL
15			SPT-F	100	3-5-4	9	1.5						
16													
17	SAND - extremely compact dark gray fine to coarse silty with gravel and a trace of cobbles and clay												
18			SPT-G	100	23-27-32	59							
19													
20			SPT-H	100	24-41-50	91							
21													
22			SPT-I	100	21-27-33	60							
23													
24													
25			SPT-J	87	12-26-31	57							
26													SM
27			SPT-K	48	50/0.42'	50/5"							
28													
29													
30													

SOILS & STRUCTURES

Borehole ID: TB-05

Sheet 2 of 2

Project Name: Union Township Trenchless Crossings
Project Number: 2024.1341
Project Location: Union Township, Michigan
Logged By: L Meddaugh
Reviewed By: R Roda
Client: Gourdie Fraser, Inc.
Survey Datum: NAD 1983 StatePlane Michigan South
Hole Depth: 35.00
Date Started: Jul 18 2024
Completed: Jul 17 2024
Northing: 752719.2
Easting: 13021340.7
Elevation: 781.41
Drilling Method: 3-1/4" Hollow Stem Auger
Frost Depth
Equipment: Diedrich D-50
Ground Water Levels
Hammer Type: Automatic Hammer
At Time of Drilling 19.50' on Jul 18 2024 - Water Encountered
Notes:

Depth	Graphic	Material Description	Sample Type	Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	USCS
31		SAND - extremely compact dark gray fine to coarse silty with gravel and a trace of cobbles and clay		SPT-L	100	10-28-42	70							
32														
33				SPT-M	30	26-50	50							
34				SPT-N	60	22-50/0...	50/4"							
35														
36														
37														
38														
39														
40														
41														
42														
43														
44														
45														
46														
47														
48														
49														
50														
51														
52														
53														
54														
55														
56														
57														
58														
59														
60														

SOILS & STRUCTURES

Borehole ID: TB-06

Sheet 1 of 1

Project Name: Union Township Trenchless Crossings
Project Number: 2024.1341
Project Location: Union Township, Michigan
Logged By: L Meddaugh
Reviewed By: R Roda
Client: Gourdie Fraser, Inc.
Survey Datum: NAD 1983 StatePlane Michigan South
Hole Depth: 29.40
Date Started: Jul 18 2024
Completed: Jul 17 2024
Northing: 752641.1
Easting: 13021309.9
Elevation: 784.91
Drilling Method: 3-1/4" Hollow Stem Auger
Frost Depth
Equipment: Diedrich D-50
Ground Water Levels
Hammer Type: Automatic Hammer
At Time of Drilling 22.00' on Jul 18 2024 - Water Encountered
Notes:

Depth	Material Description	Sample Type	Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	USCS
0	TOPSOIL - dark brown sandy (6.0")												
1	SAND - brown fine to medium with gravel												
2	SAND - very compact brown fine to medium with a trace of gravel and silt												
3			SPT-A	87	7-16-20	36							SP
4	SAND - compact brown fine to coarse with silt and gravel												
5			SPT-B	100	7-10-8	18							SP-SM
6													
7	SILT - stiff brown mottled sandy and clayey												
8			SPT-C	67	4-5-7	12	0.5						ML
9	CLAY - stiff to firm dark brown silty with sand												
10			SPT-D	100	3-3-6	9	1.5						
11													
12			SPT-E	100	3-3-4	7	0.5						CL
13													
14													
15			SPT-F	87	2-3-6	9	1.0						
16													
17	CLAY - very stiff brown gravelly and sandy with cobbles												
18			SPT-G	100	16-10-12	22	4.5						CL
19													
20	SAND - very compact to extremely compact dark gray fine to coarse silty with a trace of gravel and clay		SPT-H	100	8-16-23	39							
21													
22													
23			SPT-I	100	7-15-19	34							
24													SM
25			SPT-J	100	19-23-27	50							
26													
27													
28			SPT-K	100	20-23-35	58							
29			SPT-L	44	17-50/0...	50/5"							
30													

SOILS & STRUCTURES

Borehole ID: TB-07

Sheet 1 of 1

Project Name: Union Township Trenchless Crossings
Project Number: 2024.1341
Project Location: Union Township, Michigan
Logged By: L Meddaugh
Reviewed By: R Roda
Client: Gourdie Fraser, Inc.
Survey Datum: NAD 1983 StatePlane Michigan South
Hole Depth: 25.00
Date Started: Jul 18 2024
Completed: Jul 17 2024
Northing: 752562.9
Easting: 13021279.0
Elevation: 782.66
Drilling Method: 3-1/4" Hollow Stem Auger
Frost Depth
Equipment: Diedrich D-50
Ground Water Levels
Hammer Type: Automatic Hammer
At Time of Drilling 19.00' on Jul 18 2024 - Water Encountered
Notes:

Depth	Material Description	Sample Type	Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	USCS
1	TOPSOIL - dark brown clayey with sand (17.0")												
2	SAND - compact brown fine to medium with lenses of clay												
3			SPT-A	100	4-4-5	9	3.0						
4	SILT - stiff brown mottled sandy and clayey with gravel												
5			SPT-B	100	3-4-5	9	2.5						ML
6													
7	SAND - compact brown fine to coarse silty with gravel												
8			SPT-C	100	3-6-8	14							SM
9													
10	SILT - firm brown mottled sandy and clayey		SPT-D	100	5-3-2	5	2.5						ML
11													
12	CLAY - stiff dark gray with sand and silt and a trace of gravel												
13			SPT-E	100	3-4-4	8	1.5						
14													CL
15			SPT-F	100	2-4-5	9	2.0						
16													
17	CLAY - extremely stiff dark gray sandy with gravel and silt		SPT-G	67	6-50/0....	50/3"	2.5						CL
18													
19	SAND - extremely compact to very compact dark gray fine to coarse gravelly and silty with a trace of cobbles and clay												
20			SPT-H	100	49-24-26	50							
21													
22			SPT-I	43	46-50/0...	50/5"							SM
23													
24			SPT-J	100	13-17-29	46							
25													
26													
27													
28													
29													
30													

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to: **Charter Township of Union, 5228 South Isabella Road, Mt Pleasant, MI 48858**

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security;

B. List of Proposed Subcontractors;

C. List of Proposed Suppliers;

D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;

E. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;

F. Required Bidder Qualification Statement with supporting data; and

G. C-451 – Bidders Experience Form

H. Certification Regarding Debarment, Suspension, & Other Responsibility Matters

I. Davis-Bacon Compliance Certification

ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

3.01 **Deleted**

3.02 *Unit Price Bids*

A. Bidder will perform the following Work at the indicated unit prices:

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Mobilization, Max 5%	LS	1	$	$
2	Water Main, 16" C900 DR 18	LF	4,800	$	$
3	Water Main, 12" C900 DR 18	LF	4,950	$	$
4	Water Main, 8" C900 DR 18	LF	1,000	$	$
5	Directional Drill, 12" C900 DR 14	LF	1,200	$	$
6	Directional Drill, 16" C900 DR 14	LF	350	$	$
7	16" Gate Valve and Box	EA	5	$	$
8	12" Gate Valve and Box	EA	6	$	$
9	Connect to Existing, 16"	EA	1	$	$
10	Connect to Existing, 12"	EA	1	$	$
11	Connect to Existing, 8"	EA	2	$	$
12	Live Tap, 12"	EA	3	$	$
13	Live Tap, 8"	EA	1	$	$
14	Fire Hydrant Assembly	EA	5	$	$
15	Bore and Jack, 24"	LF	280	$	$
16	Tree Removal/Replacement	EA	1	$	$
17	HMA Road Removal/Replacement	SY	65	$	$
18	Curb & Gutter Removal/Replacement	LF	260	$	$
19	HMA Driveway Removal/Replacement	SY	255	$	$
21	Sidewalk Removal/Replacement	SF	1,450	$	$
22	12' Wide Gravel Driveway, 22A	SY	1,400	$	$
23	Double Swing Gate, 12' Wide	EA	1	$	$
24	Asphalt Approach, Commercial	SY	60	$	$
25	2" PVC Sch 40 Telemetry Conduit	LF	950	$	$
26	6" PVC Sch 40 Electrical Conduit	LF	950	$	$
27	Traffic Control	LS	1	$	$
28	Water Service Lead, 1"	1	EA	$	$
29	Water Service Lead Transfer, 1"	2	EA	$	$
30	Site Restoration & Clean-up	LS	1	$	$
				Total of All Unit Price Bid Items	$

ALTERNATE – DIRECTIONAL DRILL C900 DR 14 ALONG US-127 (STATION 45+50 TO 10+00)

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Mobilization, Max 5%	LS	1	$	$
2	Water Main, 16" C900 DR 18	LF	800	$	$
3	Water Main, 12" C900 DR 18	LF	4,800	$	$
4	Water Main, 8" C900 DR 18	LF	1,000	$	$
5	Directional Drill, 12" C900 DR 14	LF	1,200	$	$
6	Directional Drill, 16" C900 DR 14	LF	4,350	$	$
7	16" Gate Valve and Box	EA	5	$	$
8	12" Gate Valve and Box	EA	6	$	$
9	Connect to Existing, 16"	EA	1	$	$
10	Connect to Existing, 12"	EA	1	$	$
11	Connect to Existing, 8"	EA	1	$	$
12	Live Tap, 12"	EA	3	$	$
13	Live Tap, 8"	EA	2	$	$
14	Fire Hydrant Assembly	EA	5	$	$

15	Bore and Jack, 24”	LF	280	$	$
16	Tree Removal/Replacement	EA	1	$	$
17	HMA Road Removal/Replacement	SY	65	$	$
18	Curb & Gutter Removal/Replacement	LF	260	$	$
19	HMA Driveway Removal/Replacement	SY	255	$	$
21	Sidewalk Removal/Replacement	SF	1,450	$	$
22	12’ Wide Gravel Driveway, 22A	SY	1,400	$	$
23	Double Swing Gate, 12’ Wide	EA	1	$	$
24	Asphalt Approach, Commercial	SY	60	$	$
25	2” PVC Sch 40 Telemetry Conduit	LF	950	$	$
26	6” PVC Sch 40 Electric Conduit	LF	950	$	$
27	Traffic Control	LS	1	$	$
28	Site Restoration & Clean-up	LS	1	$	$
Total of All Unit Price Bid Items including Alternate					$

B. Bidder acknowledges that:

1. each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor’s overhead and profit for each separately identified item, and

2. estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 4—DELETED

ARTICLE 5—DELETED

ARTICLE 6—TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of days indicated in the Agreement.

6.02 **Deleted**

6.03 **Deleted**

6.04 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7—BIDDER’S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

7.01 *Bid Acceptance Period*

A. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

7.02 *Instructions to Bidders*

A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

7.03 *Receipt of Addenda*

Bidder hereby acknowledges receipt of the following Addenda:

Bidders are responsible to research Addendums and Acknowledge Addendums on the Bid form. Addendums will be posted, at least three (3) days prior to Bid Opening, on the GFA website at www.gfa.tc, go into the Project Center, Advertisements for Bids, then select the appropriate Project. Failure of any Bidder to obtain any such addendum or interpretation shall not relieve such Bidder from any obligation under his Bids as submitted. All Addendas, so issued, shall become part of the Contract Documents.

Addendum Number	Addendum Date

ARTICLE 8—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

8.01 *Bidder's Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

8.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.

2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.

3. Bidder has not solicited or induced any individual or entity to refrain from bidding.

4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:

a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.

b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.

d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

_____

(typed or printed name of organization)

By: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Date: _____

(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Date: _____

(typed or printed)

Address for giving notices:

_____

_____

Bidder's Contact:

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Phone: _____

Email: _____

Address:

_____

_____

_____

Bidder's Contractor License No.: (if applicable) _____

SECTION 01270 – MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 SUMMARY

A. Refer to Article of the General Conditions.

B. Bid price includes all labor, tools, equipment, materials, transportation, applicable fees, and sales tax necessary to complete the work in accordance with the Plans and Specifications. In addition, where applicable, all excavation, backfilling, density, and all accessory related work not paid for separately in order to complete the installation according to the plans and specifications.

C. All measurement and payment will be based on completed work, ready for use, performed in strict accordance with the Plans and Specifications.

D. Owner reserves the right to delete any line item or quantity on the BID FORM.

E. All work shall conform to all applicable OSHA standards.

F. Owner reserves the right to delete divisions from this contract.

1.02 APPLICATION FOR PAYMENT

A. Pay period: Begins on the 1st of the month and continues through the end of the following month.

B. Payment requests shall be submitted on the forms included in the Specifications and shall be submitted no later than 25th of each month.

1.03 SUBMITTALS

A. Submit Conditional Partial Waiver of Lien with each application for payment request, as specified in the General Conditions paragraph 14.2.

B. Prior to the first partial payment, submit a construction progress schedule in accordance with Article 2.05.B.1 of the General Conditions.

1.04 PAY ITEM DESCRIPTIONS

1. **Mobilization:** Mobilization: The completed work for mobilization will be paid for at the contract lump sum (LS) price. This payment shall be payment in full for equipment and material delivery, transportation and storage, bonds, insurances, all coordination with the ICRC, MDOT, EGLE, MDOT Railroad, Township, Engineers, and public and all other labor and materials.

2. **Water Main, 16" / 12" / 8" C900 DR 18:** The completed work for the water main installation and testing, as shown on the plans and specifications, will be paid for at the contract unit price per linear foot (LF). Payment shall be based on the horizontal field measurements from the point of beginning (connect to existing) to the point where the new water main ends. In

addition, payment shall also include, but not be limited to, all fittings, wrapping of water main joints, clay plugs, pressure testing, bacteria, chlorination, clearing and grubbing and offsite disposal, tree and/or landscape replacement including irrigation removal and replacement, all excavation, sheet piling, dewatering, backfilling, utility protection, stone bedding, sand and gravel subbase including shoulders and driveways, silt fence & temporary soil erosion control measures, density of backfilled materials, ditch reconstruction and culvert replacement / repair labor, equipment, furnishing all materials, accessories and all related items not paid for separately necessary to complete the installation according to the plans and approved methods. (See Standard Details in the plans). Ten Percent (10%) of the water main payment shall be retained until the project is considered substantially completed. This percentage is based on water main only and is over and above the standard retainage for this project.

3. **Directional Drill, 16" / 12" C900 DR 14:** The completed work for water main installation and testing of the size as shown on the plans and specifications, will be paid for at the contract unit price per linear foot (LF). Payment shall be based on the horizontal field measurements from the point of beginning (connect to existing) to the point where the new water main ends. In addition, payment shall also include, but not be limited to, all fittings, pressure testing, chlorination clearing and grubbing, all excavation, dewatering, backfilling, stone bedding, density of backfilled materials, labor, equipment, furnishing all materials, accessories and all related items not paid for separately necessary to complete the installation according to the plans and approved methods. (See Standard Details in the plans). This item shall include traffic control, signing and any work involved with the temporary closure and the re-routing of traffic. Ten Percent (10%) of the water main payment shall be retained until the project is considered substantially completed. This percentage is based on water main only and is over and above the standard retainage for this project.

4. **Gate Valve and Box, 8" / 12" / 16":** The completed work for installation and testing of gate valves and boxes of the size and type, as shown on the plans and detailed in the specifications, will be paid for at the contract unit price per each (EA). Payment shall be based on the actual quantity constructed of the size and type specified. Gate valves that are an integral part of another pay item shall not be counted separately as "gate valve and box" but shall be included as a necessary part of that other item. Ex.: meter manholes, blow off assemblies, tapping sleeve & valves, fire hydrants. Payment shall include, but not be limited to, all excavation, dewatering, backfilling, stone bedding, density of backfilled materials, labor, equipment, furnishing all materials, accessories and all related items not paid for separately necessary to complete the installation according to the plans and approved methods. Payment shall be based on the actual quantity constructed of the size and type specified. (See Standard Details in the plans).

5. **Connect to Existing, 16" / 12" / 8":** The completed work for the connection to the existing water main will be paid for at the contract unit price each (EA). Payment shall be based on the actual number of connections made as indicated on the plans or as directed by the Engineer. The unit price shall include pressure testing, all fittings, and accessories necessary to complete the work according to the plans and specifications. Each connection to main shall either be paid for as connect to existing or live tap, not both.

6. **Live Tap, 12" / 8":** The completed work for installation and testing of a tapping sleeve, valve and construction of the main of the size as shown on the plans and detailed in the specifications, will be paid for at the contract unit price each (EA). Payment shall be based on the actual quantity constructed of the size specified. Payment includes, but is not limited to, all excavation, dewatering, backfilling, stone bedding, density of backfilled materials, labor, equipment, furnishing all materials, accessories and all related items not paid for

separately necessary to complete the installation according to the plans and approved methods, all valve materials, labor, equipment, tapping of the existing main, testing, and all other related work necessary to complete the installation according to the plans and specifications. (See Standard Details in the plans). Each connection to main shall either be paid for as connect to existing or live tap, not both.

7. **Fire Hydrant Assembly:** The completed work for installation and testing of fire hydrant assemblies, as shown on the plans, and detailed in the specifications, will be paid for at the contract unit price per each (EA). Payment shall be based on the actual quantity constructed. In addition, fire hydrant assemblies shall consist of a tee, 8-inch by 6-inch reducer, fire hydrant, six-inch (6") gate valve and box, and all the pipe and fittings necessary to connect the assembly to the water main as per the Plans and Specifications (see Standard Details). If fire hydrant is located at an end run of water main, then the fire hydrant assembly may not include the tee but will be defined from the 8-inch by 6-inch reducer to the hydrant.

8. **Bore & Jack, 16" / 24":** The completed work for bore and jack will be paid for at the contract unit price per linear foot (LF) for each specified thickness and diameter of casing, as noted on the plans and in the specifications. Payment shall be based on the horizontal field measurements from the point of beginning to the point where the casing ends, or from termination point to termination point. In addition, payment shall also include, but not be limited to, filling void remaining after the pipe installation, labor, equipment, furnishing materials, and all accessories and related work which price shall be payment in full for furnishing all labor and material required in installing the protective steel casing. Unacceptable casings that are required to be abandoned shall be abandoned per MDOT bore and jack requirements. No payment shall be made for abandoned casing installations. **This item does not include pipe installed in casing.**

9. **Tree Removal / Replacement:** replacement, as directed by the Engineer, shall be based on trees removed within the one on one influence slope of the pipe placement and will be paid for at the contract unit price each (EA). The unit price shall include furnishing, planting, and all work incidental thereto, as detailed in the plans and specifications. Removal of trees will be considered incidental to the cost of the project. Trees damaged outside the limits of twice the trench depth will be considered incidental to the cost of the project and will be replaced at no additional cost to the contract.

10. **HMA Road Removal / Replacement:** The completed work for asphalt road replacement shall be paid for at the contract unit price by the square yard (SY) on the basis of the actual quantity constructed for placing a bituminous cap over the entire area within the one-on-one influence slope of the pipe placement. This unit price shall include subbase, aggregate base, bituminous or concrete surfacing and all other labor, materials, and equipment necessary to complete the work according to the plans and specifications. Any asphalt damaged outside the limits identified on the plans and 1:1 influence of pipe will be repaired/replaced at no additional cost to the project.

11. **Curb and Gutter Removal / Replacement:** The completed work for concrete curb and gutter replacement shall be paid for at the contract unit price by the linear foot (LF) on the basis of the actual quantity constructed within the one-on-one influence slope of the pipe placement. This unit price shall include but is not limited to removal and disposal of existing concrete, and installation of new curb including subbase and all other labor, materials, and equipment necessary to complete the work according to the plans and specifications. Any concrete damaged outside the limits identified on the plans and 1:1 influence of pipe will be repaired/replaced at no additional cost to the project.

12. **HMA Drive Removal / Replacement:** The completed work for asphalt drive replacement shall be paid for at the contract unit price by the square yard (SY). Payment shall be based on field measurements of the actual quantity constructed within the one-on-one influence slope of the pipe placement. This unit price shall include subbase, aggregate base, bituminous or concrete surfacing and all other labor, materials, and equipment necessary to complete the work according to the plans and specifications. Any asphalt damaged outside the limits identified on the plans and 1:1 influence of pipe will be repaired/replaced at no additional cost to the project.

13. **Sidewalk Removal / Replacement:** The completed work for installation of concrete sidewalk will be paid for at the contract unit price per square foot (SF). Payment shall be based on the actual quantity constructed within the one-on-one influence slope of the pipe placement. The unit price shall include all backfilling, density of backfilled material, labor, equipment, furnishing materials, accessories, ADA ramp, and all related items not paid for separately necessary to complete the placement according to the plans and specifications. Any concrete damaged outside the limits identified on the plans and 1:1 influence of pipe will be repaired/replaced at no additional cost to the project.

14. **12' Wide Gravel Driveway, 22A:** The completed work for gravel driveway shall be paid for at the contract unit price by the square yard (SY) on the basis of the actual quantity constructed for placing aggregate and sand subbase. This unit price shall include subbase, aggregate base, grading, clearing and grubbing, and all other labor, materials, and equipment necessary to complete the work according to the plans and specifications.

15. **Double Swing Gate, 12' Wide:** The completed work for the swing gate shall be paid for on a Unit base each (EA) basis as quoted in the Bid and shall include all work as shown on the plans and called for in the specifications. Included but not limited to, gate, hardware, lock, latch, concrete, posts and caps, and all other equipment and labor necessary to complete the work.

16. **HMA Approach, Commercial:** The completed work for asphalt approach replacement shall be paid for at the contract unit price by the square yard (SY) on the basis of the actual quantity constructed. This unit price shall include subbase, aggregate base, asphalt surfacing, curb/gutter removal, and all other labor, materials, and equipment necessary to complete the work according to the plans and specifications.

17. **2" PVC Sch 40 Telemetry Conduit:** The completed work for telemetry conduit will be paid for at the contract unit price per linear foot (LF) for each specified conduit required for proposed Well Site, as noted on the plans and in the specifications. Payment shall be based on the horizontal field measurements from the point of beginning to the point where the conduit ends. In addition, payment shall also include, but not be limited to, conduit, riser pipes, pull wire, method of installation (open cut and directional drill under Deerfield Road) and all associated labor, equipment and materials not paid for separately necessary to complete the work according with the plans and specifications.

18. **6" PVC Sch 40 Electrical Conduit:** The completed work for electrical conduit will be paid for at the contract unit price per linear foot (LF) for each specified conduit required for proposed Well Site, as noted on the plans and in the specifications. Payment shall be based on the horizontal field measurements from the point of beginning to the point where the conduit ends. In addition, payment shall also include, but not be limited to, conduit, riser

pipes, pull wire, method of install (open cut and directional drill under Deerfield Road) and all associated labor, equipment and materials not paid for separately necessary to complete the work according with the plans and specifications.

19. **Water Service Leads Transfer, 1":** The completed work for transferring water service leads from the existing water main to the new water main shall be paid for at the contract unit price per each (EA). Payment shall be based on the actual number of leads transferred, which includes but is not limited to materials shown on the plans and in the details. Payment shall include pressure testing, removal of box and bury, installation of new corporation, service line and connection to new main, curb stops and box, installation and removal of the 1" temporary blow off line, all fittings and accessories necessary to complete the connections according to the plans and specifications. The unit price shall include all excavation, dewatering, backfilling, stone bedding, density of backfilled materials, labor, equipment, furnishing all materials, coordination with property owners to complete work, landscape removal and replacement, accessories and all related items not paid for separately necessary to complete the installation according to the plans and approved methods.

20. **Service Lead, 1"**: The completed work for water service leads shall be paid for at the contract unit price each (EA). Payment shall include pressure testing, and all fittings and accessories necessary to complete the connections according to the plans and specifications. The unit price shall include service line, connection to main, curb stop and box, corporation and all other materials to complete installation in addition to all excavation, soil erosion control measures, dewatering, backfilling, stone bedding, density of backfilled materials, labor, equipment, furnishing all materials, accessories and all related items not paid for separately necessary to complete the installation according to the plans and approved methods.

21. **Traffic Control:** The completed work for traffic control will be paid for at the contract lump sum (LS) price. This payment shall be payment in full for temporary signage, flagging, re-routing of traffic, all coordination with the ICRC, MDOT, Township, Engineers, and public and all other labor and materials. The proposed traffic control to be implemented shall comply 2020 MDOT Specifications.

22. **Site Restoration and Clean-up:** The completed work for restoration and clean-up will be paid for at the contract lump sum (LS) price. This payment shall be payment in full for soil erosion control measures, landscape repair/replacement, existing ditch and check dam repair / replacement, culvert replacement, raking, seedbed preparation, providing seed, fertilizer, mulch, topsoil and any labor or equipment necessary to complete the work as per the plans and specifications. If winter seeding is necessary, spring seeding will be required and included in the cost of this item.

END OF SECTION 01270

SECTION 02080 – DIRECTIONALLY DRILLED AND BORE & JACK WATER MAIN

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section includes work required to place a specified size and type of pipe under an existing structure, roadway, wetland, body of water, railroad or as specified on the Engineering Drawings by horizontal directional drilling or Bore & Jack without disturbing their condition or use.

1.02 SUBMITTALS

A. Type of Equipment and Materials.

1. Pipe material certification.
2. Evidence of an environmentally safe drilling fluid.
3. Material Safety Data Sheets (MSDS) for all materials used.

B. Permits:

1. Supply written verification that all directional boring equipment and materials are in compliance to applicable permit requirements.
2. Submit this verification for the Engineer's approvals prior to beginning this work.
3. Obtain any required permits for the legal and proper directional boring operation under the existing obstacle.

C. Safety Plan:

1. Horizontal directional drilling is a pipeline installation method typically used to avoid disturbance of sensitive surface features, including water bodies and wetlands. There is however, the potential for surface disturbance through an inadvertent drilling fluid release. Drilling fluid is not a hazardous material as it is composed of benign components; however, an inadvertent release will require mitigation measures to reduce the potential for impact to a water body or sensitive area.
2. Contractor shall submit to Owner and Engineer a plan to prevent loss of drilling fluids in waters of the State. This plan shall include steps to minimize impact caused by accidental release. Plan must be approved by the Owner and Engineer prior to starting work. The prevention plan shall account for the following
3. The areas that present the best potential for drilling fluid seepage are the drill entry and exit points where the overburden depth is minimal. At the entry and exit points, a pit will be constructed to collect and provide temporary storage for the drilling fluid seepage until it can be removed. These pits should be lined with geotextile and sized adequately to accommodate the maximum volume of drilling fluid that may need to be contained in the pits. Secondary containment of the pits shall be provided to contain any seepage and minimize any migration of the mud from the work area. This containment system may consist of straw bales and silt fencing around the pit. To determine if an inadvertent release has occurred, horizontal directional drilling activities will constantly be monitored by the contractor and engineer.
4. Contractor shall submit to Owner and Engineer a plan to control the loss of drilling fluids in waters of the State in the event of inadvertent release. Plan must be approved by the Owner and Engineer prior to starting work. The control plan shall be implemented immediately upon discovery and account for the following

a. If a wetland/water body release occurs, inspection to determine the potential movement of released drilling mud within the wetland/water body will be necessary. To contain and control drilling fluid seepage on land or in a water body, the contractor will have equipment and materials available onsite. Containment equipment including portable pumps, hand tools, sandbags, straw bales, silt fencing, inadvertent return barrel and lumber will be readily available and stored at the drilling site.
b. The following measures will be implemented to minimize or prevent further release, contain the release, and clean up the affected area:

   Upland Release: The contractor will place containment structures at the affected area to prevent migration of the release. If the amount of the release is large enough to allow collection, the drilling mud released into containment structures be collected and disposed of. If the amount of the release is not large enough to allow collection, the affected area will be diluted with fresh water and restored as necessary. Steps will be taken to prevent silt-laden water from flowing into a wetland or water body. All disturbed areas associated with the project will be stabilized and restored per Section 13.

   Water Body Release: The contractor will attempt to place containment structures at the affected area to prevent migration of the release if feasible. If the amount of surface return exceeds that which can be collected using small pumps, drilling operations will be suspended until surface volumes can be brought under control. Once contained, drilling fluid will be removed by pumping, vacuuming or by hand, and disposed of at an approved upland disposal site.

c. In the event of a release the EGLE Water Resource Division (WRD) shall be contacted immediately. In addition, a written report summarizing the location of surface returns, estimated quantity of fluid, and summary of cleanup efforts shall be submitted to the owner and engineer.

1.03 JOB CONDITIONS

A. General: Refer to Instructions to Bidders.

B. Other Jurisdictions: Comply with all permit requirements.

C. Launching and Receiving Areas: Arrange for necessary area with Owner. All work to be completed within the limits of the Right-of-Way.

D. It shall be the Contractor's responsibility to verify any subsurface investigation information provided and perform all investigation as deemed necessary.

1.04 SCHEDULING

A. General: Coordinate with Engineer and Owner.

B. Special Conditions: Where special use or conditions of an overlaying obstacle exist, schedule the work so as not to alter, interfere, or endanger the obstacle.

C. Permit Scheduling: Conduct the work in such a manner as to comply with any permit scheduling requirements.

D. Restoration: Restore area promptly after completion of the backfill operation.

1.05 WARRANTIES

A. General: Refer to General Conditions.

B. Permit Obligations: Uphold all warranties spelled out and implied in the conditions of the applicable permits.

1.06 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

A. See Section 01270 – Measurement and Payment

1.07 START-UP

A. General: provide written scheduling notification to the Engineer, prior to start-up.

B. Obtain written approval from the Engineer of acquisition and compliance with all applicable permits by the Contractor prior to start-up.

C. Provide all equipment, materials, and personnel necessary for non-stop completion of the directional boring operation prior to start-up, including all equipment and materials for safety.

PART 2- PRODUCTS

2.01 MATERIALS

A. Boring Device: Provide mechanical means or equipment to complete boring operation through any potential soil type.

B. Drilling Fluid: Provide sufficient drilling fluid to allow for flowable slurry capable of maintaining the integrity of the bore hole.

C. Pipe: Fusible C900, DR 14, (DIPS)

E. Tracer Wire: Refer to Standard Technical Specifications, Section 9 "Water Mains".

F. Casing: Refer to Standard Technical Specifications, Section 4

PART 3-EXECUTION

3.01 PREPARATION

A. Clearing: Clear all areas as necessary.

B. Drilling Fluid Pits:

1. Line pits with necessary lining to prevent seepage into native soils.
2. Comply with applicable codes and regulations.

3.02 LAUNCHING

A. Allow for connection to existing/proposed utility with necessary cover and/or grade.

B. Penetration Angle:

1. Acceptable Range-8°-20° measured from horizontal.
2. Comply with drilling equipment manufacturer's recommendations.

3.03 TRACKING

A. Monitor Progress of Drilling Unit:

1. Maintain scheduled line and grade within 0.5 ft. on vertical and ±1 ft. on horizontal.
2. Maintain scheduled line and grade within 0.02 ft. on vertical and 0.2 ft. on horizontal for the gravity sewer portion to be directionally drilled only
3. Adjust pipe location (horizontal and vertical) accordingly throughout the process to maintain tolerances.

B. Isolated High Points: Not acceptable.

3.04 RECEIVING

A. Exit angle to be between 5° and 12° measured from horizontal.

3.05 ACCURACY

A. If greater than 10 lineal feet to right or left, or more than 10 lineal feet short or 50 feet long, consult Owner and Engineer for approval.

3.06 FIELD QUALITY CONTROL

A. Consult applicable Section of Specifications for utility being placed.

B. Specific for Bore and Jack:
1. Where the method of installation consists of pushing the casing pipe into the sub grade section with a boring auger rotating within the pipe to remove the spoil, the auger shall not be advanced more than one-half the diameter of the casing pipe, where the auger and casing advancement is coordinated. Where the auger is advanced separately, the auger shall not precede the casing pipe.
2. A bore/jack installation shall have a push hole essentially the same as the outside diameter of the pipe plus protective coating. If voids should develop creating a hole diameter greater than 1 in. plus the pipe diameter, grout shall be used to fill such voids. The auger shall be removable from within the pipe in the event an obstruction is encountered. When an obstruction is encountered that stops the forward advancement of the pipe, operations shall cease and the pipe shall be

abandoned in place, cut flush with the front slope, and filled completely with grout before any further bore attempts are made.

3. Where field welding is required, the steel pipe ends shall be prepared and a minimum of three complete circumference passes, or three overlapping beads of weld shall be applied at seams or joints. During field welding, water shall not be present inside the pipe and must be a sufficient distance below the pipe to allow a quality weld.

END OF SECTION 02080

SECTION 9

WATER MAINS AND APPURTENANCES

9.01 SCOPE OF WORK

The work covered by this section of the specifications consists of furnishing all plant, labor, materials, equipment and in performing all operations for the installation of the water mains and appurtenances in strict accordance with these specifications and applicable contract drawings.

9.02 MATERIALS

A. Pipe Materials

1. Ductile Iron Pipe and Fittings shall be designed in accordance with American Water Works Association (AWWA) Standards C150 and C151 also ANSI Standards A21.50 and A21.51. The pipe shall be designed to withstand a minimum working pressure of 200 psi and a minimum hydrostatic test pressure of 300 psi. The pipe shall also be designed for a laying depth of a minimum of 6'. Pipe designed or installed at a depth less than or greater than 6' must be approved by the owner or Township Engineer prior to installation. All ductile iron pipe shall meet the requirements of NSF International (NSF) Standard 61.

   All ductile iron pipe and fittings shall be coated on the outside with an asphaltic coating of asphalt base one mil thick at the point of manufacture in accordance with the specifications of the AWWA Standard C151 and ANSI Standard A21.51. Cement lining requirement shall conform to AWWA Standard C104 and ANSI Standard A21.4. The spigot ends of all pipe lengths which have been cut in the field shall be ground to a smooth surface, tapered back about ⅛" at an angle of 30° with the pipe centerline, and painted with two coats of asphaltum metal protective paint.

   Ductile iron pipe shall conform to the dimensions set forth in the table below (Design Engineer shall verify expected pressure range with Township Engineer during design phase).

Pipe Size Nominal Inside Diameter in Inches	Outside Diameter in Inches	Pipe Barrel Thickness in Inches	Thickness Class
6"	6.90	.31	52
8"	9.05	.33	52
10"	11.10	.35	52
12"	13.20	.37	52
16"	17.40	.40	52
20"	21.60	.42	52

2. High Density Polyethylene Pipe (HDPE) for river crossings or wetland crossings shall be DR 9, Class 3408 as supplied by Driscoplex PW 4000 by Performance Pipe or equal, and meet the following conditions.

Pipe Size Standard	Dimension Ratio (DR)	Working Pressure	Working Pressure + Surge Pressure
IPS	9	200 psi	300 psi

All HDPE pipe shall be joined by heat fusion per manufacturer's requirements. HDPE pipe must meet the requirements of AWWA C906 and NSF Standards 14 and 61 to be used for potable water systems. The exterior wall print line of all HDPE pipe proposed for installation and potable use must bear the AWWA C906 and NSF-PW identification. River crossing section shall be pressure tested independently of other water main. See Section 9.07 of these specifications. This method and locations must be approved by the Township Engineer. Refer to standard details for the connection of ductile iron pipe to HDPE. This connection shall be a mechanical joint (gate or butterfly valve, and corporations on the ductile iron) shall be enclosed in a pre-cast concrete manhole. The size of the manhole will be determined by the Engineer and a standard EJIW 1040 shall be utilized for this structure and shown in the standard detail.

Refer to MDOT specification BJ-2D, Special Provisions for Directionally Bored Pipe and EGLE DWRP-03-009, Requirements for Use of HDPE Water main.

HDPE pipe shall be inspected prior to installation by a qualified person or by the Township Engineer. If damage is found to be unacceptable according to the manufacturer, then suitable efforts

shall be made to repair the damaged pipe or the pipe shall be rejected from use.

The pipe should all be approved by the Township.

3. Polyvinyle Chloride Pipe (PVC) 4" – 12" shall be designed in accordance with standards set forth in the latest revision of American Water Works Association Specifications AWWA C900. The pipe shall be designed to withstand a minimum working pressure of 150 psi and a minimum hydrostatic test pressure of 300 psi. The pipe shall also be designed for a laying depth of a minimum of 6'.

   PVC pipe must meet the requirements of NSF Standard 14 and NSF Standard 61 to be used for potable water systems. The exterior wall print line of all PVC pipe proposed for installation and potable use must bear the NSF-PW identification.

   Polyvinyle Chloride Pipe (PVC) shall conform to the dimensions set forth in the table below. Tolerances permitted in AWWA specifications listed above will apply.

Pipe size Nominal Inside Diameter in Inches	Outside Diameter In Inches	Pipe Barrel Thickness in Inches	Pressure Class
6"	6.90	.506	150
8"	9.05	.533	150
10"	11.10	.654	150
12"	13.20	.777	150

4. Fusible Polyvinyl Chloride Pipe (PVC) for river crossings or wetland crossings shall be DR 14, Class 12454 per ASTM D1784 and meet the following conditions.

Pipe Size Standard	Dimension Ratio (DR)	Working Pressure	Working Pressure + Surge Pressure
DIPS	14	200 psi	300 psi

   All Fusible PVC pipe shall be joined by heat fusion per manufacturer's requirements. Fusible PVC pipe must meet the requirements of NSF Standard 14 and NSF Standard 61 to be used for potable water systems. The exterior wall print line of all Fusible PVC pipe proposed for installation and potable use must bear the NSF-PW identification. River crossing section shall be pressure tested independently of other water main. See Section 9.07 of

these specifications. This method and locations must be approved by the Township Engineer. Refer to standard details for the connection of ductile iron pipe to Fusible PVC. This connection, a mechanical joint (gate or butterfly valve, and corporations on the ductile iron) shall be enclosed in a pre-cast concrete manhole. The size of the manhole will be determined by the Engineer and a standard EJIW 1040 shall be utilized for this structure and shown in the standard detail.

Refer to MDOT specification BJ-2D, Special Provisions for Directionally Bored Pipe.

Fusible PVC pipe shall be inspected prior to installation by a qualified person or by the Township Engineer. If damage is found to be unacceptable according to the manufacturer, then suitable efforts shall be made to repair the damaged pipe or the pipe shall be rejected from use.

The pipe should all be approved by the Township.

B. Joints for Water main pipe shall conform to the following:

1. Flanged joints for ductile iron pipe shall be made with flanges, bolts, nuts, washers and gaskets conforming to AWWA Standard C110 and ANSI Standard A21.10.

2. Mechanical joints shall conform to AWWA Standards C110 and C111 along with ANSI Standards A21.10 and A21.11. Rubber gaskets shall conform to manufacturer's standards.

   a. Megalugs shall be utilized on all mechanical joint fittings.

   b. Lead tip gaskets will not be allowed for providing metal to metal contact at joints.

3. Rubber gasket joints for ductile iron pipe shall be of a bell and spigot type which employs a single rubber gasket to effect the joint seal. These joints shall conform to AWWA Standard C111 and ANSI Standard A21.11. These joints shall be similar to "Tyton" as manufactured by U.S. Pipe and Foundry Co., "Bell-Tite" as manufactured by James B. Clow and Sons, Inc. or approved equal.

4. Bell joints shall be cast iron, mechanical, flexible joint tube designed to withstand a working pressure of 200 pounds and a hydrostatic test pressure of 300 pounds. Joints shall be similar to "Molox" as manufactured by the American Cast Iron Pipe Company, "Usiflex" as manufactured by U.S. Pipe and Foundry Co., "River Crossing Pipe" James B. Clow & Sons, Inc. or an approved equal.

5. Field-Loc gaskets/Fast-Grip or equal are accepted for the use of Tyton push on joints for fittings.

6. Ductile sleeves shall have “cookie” piece inserted between two pipes if there is any separation between the two pipes.

7. All pipe fittings to be wrapped in linear low density polyethylene (LLDPE) plastic film that fully encapsulates fitting. Wrapping to be 8-mil and shall conform to ANSI/AWWA C105.

C. Gate Valves

Gate valves shall meet the requirements of AWWA Standard C509. Valves shall be designed for not less than 150 psi working pressure and shall be tested for leakage and distortion under a hydraulic pressure of not less than 300 psi. Under such pressure, the valves shall show no leakage or distortion.

All gate valves shall be cast iron body, fully bronze mounted, bronze stem, resilient wedge gate valves. The wedge casting shall be of a solid design and 100% encapsulated with nitrile rubber. Hollow wedges are not allowed and no epoxy coating is allowed in wedge. There shall be 3 (three) stem seal o-rings; two (2) in the seal plate which shall be replaceable with the valve in the full open position at rated working pressure, and one (1) under the stem thrust collar. All gaskets shall be o-ring seals. O-rings set in a cartridge shall not be allowed. Each valve shall have a clear waterway equivalent in area, when open, to that of the connecting pipe. Valves shall be made to open left (counter-clockwise). All valves shall be connected to the pipeline by mechanical joints. All valves shall be operated by non-rising stems and shall have square wrench nuts.

All valves shall be furnished with a three piece adjustable valve box as specified herein unless the valve is housed in a manhole. Valves intended to be specifically used in fire line shall be designed and tested at minimum pressure of 200 psi.

D. Butterfly Valves

Butterfly valves, as called out on the plans, shall be so designed and fabricated that they will conform to AWWA Standard C504 for Class 150B valves. The rubber valve seat shall cover the entire interior surface of the valve body and the face of the body. The valve disc shall be streamlined, free of external ribs, keyed to the shaft, provided with suitable means for positioning and shall utilize wedge type closing against the rubber liner at a full close seating angle of 90° to the axis of the pipe. Valves shall be as

manufactured by Dresser Manufacturing Division, Keystone International, Inc. or an approved equal.

All Butterfly valves shall be installed in a manhole per the Standard Detail Sheet.

E. Valve Boxes

Valve boxes shall be cast iron, three-piece, adjustable type, with a 5¼" shaft. Covers shall be furnished with fingerholes and marked "WATER". Valve boxes shall be similar to that as manufactured by the East Jordan Iron Works or an approved equal. Contractors shall be responsible for adjusting valve boxes to meet finish grades once finish grades are established.

F. Fire Hydrants

At the points indicated on the drawings, there shall be installed a hydrant assembly consisting of a hydrant, a 6" gate valve, a cast iron valve box and all piping and fittings necessary for a complete job. All fire hydrants shall be serviced by piping that is at least 8” in diameter. Hydrant service leads shall be at least 6” in diameter and shall not consist of a run greater than 40’. Placement and piping size of all hydrants, hydrant leads, and valves are subject to approval by the Township. Gate valves shall be as specified above. Valves shall be located three feet, plus or minus, from the hydrant as shown on typical hydrant setting on drawings

1. Hydrant barrel inside dimension to be a minimum of 6" I.D. from top to bottom.

2. Nozzles to be on a removable head so that they may be rotated by changing the position of the top flange without removing the barrel.

3. Hydrant to be fully bronze mounted including top of operating stem where it passes through the double "O" ring seal in the bronze packing gland. Operating stem in base and valve seat shall be made of bronze. No "V" type threads are allowed for the operating stem or nut.

4. The drain valve shall be plugged in all locations.

5. Hydrant nozzle shall be located 3'-0" to 3'-6" above breakaway flange.

   Hydrants furnished for this work shall meet the requirements of AWWA Standard C502 Standard for Dry-Barrel Fire Hydrants. They shall be East Jordan Iron Works Model 5-BR Water Master or Water Master 5BR250, or approved equal. Hydrants shall be

designed for installation with 6' of cover over the connection. The diameter of the valve port in the hydrant shall be at least 6". The hydrant shall be equipped with one 4" pumper nozzles and two 2½" pumper nozzles. Threads shall conform to national standard threads. Hydrant stems shall be built to open right (clockwise).

Hydrants shall be of the "break flange" type. The hydrant shall be so designed that all working parts, including valve and drip mechanism, may be removed from the hydrant through the barrel without the necessity of excavation. The hydrant shall be designed for a working pressure of 150 psi. Operating nuts shall be pentagon 1¾" size, as measured point to opposite flat.

G. Water Service Connections

Water service connections are the water line connections which extend from the water main to the property line or easement line of water system customers. A water service connection shall consist of a corporation stop in the water main, a small diameter water line to the property line, a curb stop at the property line and curb box and cover. The Contractor shall place the water service connections where directed by the Design Engineer. The service line piping and fittings shall be either 1" or 2" size, as called out on the plans. The service line piping and fittings shall be either 1" or 2" copper tubing (CTS) size as called out on the plans. Water service connections cannot be placed under a driveway, approach, or any other obstruction. The location and intended use of the water service connection shall be approved by the Township Utility Department prior to installation. Installation of the water service connection will be completed by the Township or a Township approved contractor.

1. Service Line Pipe and Fittings

Pipe material shall be one or two size Polyvinyle Chloride Pipe (PVC), 200 psi (SDR9) Aqua Jet Tubing.

PVC pipe must meet the requirements of NSF Standard 14 and NSF Standard 61 to be used for potable water systems. The exterior wall print line of all PVC pipe proposed for installation and potable use must bear the NSF-PW identification.

2. Corporation Stops

1" and 2" corporation stops shall be Mueller or Ford for plastic. All corporation stops to be compression fittings. Corporation stops shall be in the "open" position after the service connection is complete.

3. Curb Stops

Curb stops shall be Mueller or Ford oriseal curb valves series H-10300 or equal. Curb stops shall be of the quarter turn, positive shut-off type.

4. Curb Boxes

Curb boxes shall be adjustable in height to allow for variable grade elevations. Curb boxes shall be all cast iron construction and coated inside and out with tar base enamel. A cast iron lid shall be furnished with house nut center plug and shall have "WATER" permanently stamped.

Curb boxes for 2" services shall be the buffalo type with 3" diameter shaft and arch pattern base equal to Mueller series H-10346. Enlarged bases shall be included in installation, if so required, for the curb box to accommodate 2" curb stop.

H. Tapping Sleeve and Valve

Where shown on the plans or where a tee and valve are to be installed on an existing main under pressure, a tapping sleeve and drilling machine shall be used. After installing the sleeve and prior to drilling, the sleeve shall be pressure tested at 150 psi for five minutes. The Township Resident Project Representative and the Charter Township of Union's Department of Public Works shall be given 72 hours notice of all water main live taps. Tapping sleeves All tapping sleeves shall be stainless steel with tapping valve (up style) directly bolted to sleeve. Tapping sleeve and valve shall be mechanical joint, class 250, as manufactured by East Jordan Iron Works, or an approved equal.

I. Water Main Stubs

At the end of a stub, the last two (2) pipe joints shall have Field-Loc gaskets/Fast-Grip gaskets or equal. No galvanized pipe materials shall be allowed. A corporation shall be placed for the use of flushing and sampling. A blowoff and cap shall be installed at the Township and/or Engineers request.

9.03 INSTALLATION OF PIPE AND FITTINGS FOR WATER MAINS

All pipe and fittings shall be installed in strict accordance with the recommendations of the manufacturer and AWWA Standard C600 for Ductile Iron Pipe and C605 for PVC Pipe. Piping and fittings for water mains shall be of the types and materials hereinbefore specified. The pipe and accessories shall be new and unused. Before installation, the pipe shall be inspected for defects and any section of pipe or fittings found to be defective, before or after laying, will

be rejected and replaced with sound pipe without additional expense to the Owner.

The interior of the pipe and fittings shall be thoroughly cleaned of foreign matter before being lowered into the trench with an approved method and shall be kept clean during laying operations by plugging the ends or other approved methods. The plug shall be fitted with a means for venting. When work is not in progress, open ends of pipe and fittings shall be securely closed so that no trench water, earth, animals or other substance will enter the pipes. When practical, the plug shall remain in place until the trench is pumped completely dry. Care must be taken to prevent pipe floatation, if the trench fills with water. No pipe or fittings shall be laid in water or when the trench or weather conditions are unsuitable for work except by permission of the Township Engineer. Valves shall be installed in the closed position.

The full length of each section of pipe shall rest solidly upon the pipe bed with recesses provided to accommodate the bells and joints. Deflections from a straight line or grade, as required by vertical curves, horizontal curves or off-sets, shall not exceed one (1) inch per lineal foot of pipe for pipe less than ten (10) inches in diameter between the centerlines extended of any two connection pipes. If the alignment requires deflections in excess of these limitations, special bends or a sufficient number of shorter lengths of pipe shall be furnished to provide the angular deflection required. For pipes 12 inches in diameter up to 24 inches in diameter, the maximum deflection per joint shall not exceed 1/2 inch per lineal foot of pipe. If necessary, special bends or shorter bends furnished to provide the angular deflection are required. Pipe deflections for diameters in excess of 24 inches shall be per manufacturer’s recommendation

Ductile iron pipe and fittings used on ductile iron (except flanged pipe) shall be provided with three brass wedges at each joint, Fastite conductive (American Pipe) or equal, "Electro-bond" strips of "Cadweld" connectors or other means of providing metal-to-metal contact at the joint to allow an electric current to flow through the joint.

Trench widths shall meet all standards, such as OSHA and AWWA Standard C600 and C605. The full length of each section of pipe shall rest solidly upon the pipe bed with recesses provided to accommodate the bells and joints. Refer to AWWA Standard C600 and C605 for maximum allowable joint deflection.

When pipe is cut in the field, the outside of the cut end shall be tapered back about ⅛" at an angle of 30° with the centerline of the pipe to remove any sharp, rough edges. Exposed edges shall be coated with two coats of asphaltum metal protective paint.

Fittings at bends in the pipe line shall be firmly wedged against the undisturbed vertical face of the trench to prevent the fittings from being blown off the lines when under pressure. Concrete thrust blocks shall be provided as shown in the standard details or directed by the Township. Mega lugs shall be installed on all

bolt ups and fittings. Restraining collars and rods shall be installed were deemed necessary by the Township and/or Engineer. Mega lugs may also be utilized for restraining. Thrust blocking must also be used with mega lugs. See section 9.14 for thrust blocking specifics.

Where pipe ends are left for future connections, they shall be valved, plugged, or capped as called for on the drawings. This includes the addition of one 20’ length of water main which is plugged or capped. Where connections are made between new work and existing mains, the connections shall be made by using special pipes and fittings as required to suit the actual conditions.

9.04 SETTING HYDRANTS

Under each hydrant the ground shall be excavated to a depth of at least 1' below the hydrant base and over an area approximately 3' square. Refer to the standard details.

Each hydrant shall be set truly plumb and held firmly braced in this position. The connection of the hydrant to the branch shall be made by mechanical joint as herein specified under jointing. After the joining has been made, a concrete thrust block shall be poured on the side opposite the branch connection, from the hydrant to the solid undisturbed earth of the excavation wall.

When the concrete has become sufficiently hard, an additional one foot depth of gravel shall be spread and tamped around the hydrant. When this has been done, the remaining backfill shall be placed and compacted, taking care at all times to avoid jarring the hydrant.

Wherever it is necessary to adjust the length of the barrel to meet variations in elevation of the ground surface over the water main and at the hydrant location, suitable extensions shall be provided for the hydrant barrel and operating stem. In all cases, the break flange shall be located at grade.

Contractor shall remove all water from fire hydrants. Water left remaining in each fire hydrant assembly will be removed by pumping prior to acceptance by the Township. Thawing and/or repair of frozen hydrants shall be performed by the Contractor at no additional expenses to the Owner.

9.05 CONNECTING TO EXISTING WATER MAINS

Where connections are made between new work and existing water mains, the connections shall be made by using special pipes and fittings as required to suit the actual conditions. No connections to existing mains shall be made until the new main has been pressure tested and chlorinated and is ready to be placed into service. When making the connection, swab pipe and fittings with four percent chlorine solution. The Township Engineer shall witness all connections and shall be notified 48 hours prior to the connection of new pipe to existing pipe. Bacteriological samples shall be taken after connection to existing is completed

to provide a record for determining the procedures effectiveness per AWWA Standard C651. Conform to AWWA Standards C600, C605 and C651.

9.06 DIRECTIONALLY DRILLED WATER MAIN

A. Description

This work shall consist of constructing underground crossings of a wetland using the directional drilling method of placing pipe to serve as carrier pipe.

B. Depth of Bore

The minimum depth of drill using this method shall be 6' of cover below existing grade, and a minimum depth of 3' under any existing stream.

C. Materials

Plastic Pipe: Section 9.02 A.2. High Density Polyethylene Pipe or Fusible PVC C900.

D. Construction Method

This method consists of auguring or jacking a steerable rod under the wetland; then pulling back a cone that expands the soil or a wing cutter, which cuts a hole big enough to obtain the desired diameter. The diameter of the reamer or wing cutter is not to exceed the diameter of the pipe being placed plus 2".

A drilling fluid of water and bentonite may be used in all operations of a directional drill. The use of a polymer for lubrication in the drilling fluid is acceptable.

Connection to HDPE and PVC Pipe shall not be made immediately after the pipe has been installed. It is recommended to wait overnight so that the pipe can approach an equilibrium temperature with its surrounding environments. Linear dimensions will vary with temperature changes. A tracer wire adequate for future location of the pipe shall be installed with all HDPE and PVC projects, in accordance with Section 9.12 of these specifications.

9.07 ACCEPTANCE TESTING WATER MAIN

A. General

Prior to connecting the new water main to an existing water main, the new main shall be flushed, chlorinated, and pressure tested as outlined herein.

The Township Engineer shall be notified 48 hours prior to the start of a pressure test. All acceptance testing shall be witnessed by the Township Engineer or Township Resident Project Representative.

A physical gap of at least 3' must be left between the existing and new water main until all testing results are satisfactory. The testing sequence shall be: 1) flushing, 2) pressure test, and 3) chlorination. Water for testing may be taken from a nearby hydrant or tee connection by using fittings to accommodate a standard fire hose connection. A reduced pressure principle backflow prevention assembly must be used on the 2½" connection to the main being tested. All water being used shall be metered and equipment to be approved by the Township.

B. Flushing of Mains

The water main shall be flushed clean of sand and debris. Flushing shall be done using the "poly-pig" method of flushing. The Contractor shall furnish the brand new, unused, foam "poly-pig" swabs to be used. Prior to pigging and flushing the water main must be charged with water.

Contractor shall insert "poly-pig" swab in the end of the new main nearest the existing water main (or where shown on the plans). The swab shall be passed through the new main using water pressure. The swab shall be recovered at the end of the main through the blow-off assembly.

C. Hydrostatic Testing

The water main or sections thereof shall be tested by the Contractor in the presence of the Township Engineer and all leaks shall be made tight to meet the requirements below. The Contractor shall furnish all piping, bulkheads, pumps, gauges and other equipment required to carry out the test and shall obtain Township Engineer's approval of same prior to testing.

The section of main to be tested shall be slowly filled with water at least 24 hours prior to starting the test. Expel air through corporation stops installed at high points in line. The Contractor shall make arrangements with the operation/maintenance personnel for obtaining water for testing. All water used shall be metered and quantities reported to the operation/maintenance personnel.

At the start of testing, the main shall be pumped up to a pressure of 150 psi and the test period shall start immediately thereafter. Test pressure shall not be less than 1.25 times the working pressure at the highest point along the test section. The line shall then be maintained under this test

pressure for a continuous period of two hours by pumping water into the line at frequent intervals. The test pressure shall not vary by more than ±5 psi for the duration of the test. The volume of water so added shall be measured and considered to represent the leakage from the line under test during the intervals. All water service leads shall be tested with the mainline pipe. Conform to AWWA standard C600 and C605.

Testing allowance. No pipe installation will be accepted if the amount of makeup water is greater than that determined by the following formula:

In inch-pound units,

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

Where:

L=Testing allowance (makeup water), in gallons per hour
S=Length of pipe tested, in feet
D=Nominal diameter of the pipe, in inches
P=average test pressure during the hydrostatic test, in pounds per square inch (gauge)

The leakage per 1,000' under the conditions of test shall not exceed the values shown in the following table, in accordance with AWWA Standard C600 for Ductile Iron and C605 for Plastic Pipe:

Hydrostatic testing allowance per 1,000' of pipeline-gph
Test Pressure 150 psi

Nominal Pipe diameter	Maximum Leakage Gallons Per Hour Per 1,000 Feet of Pipeline
6"	0.50
8"	0.66
10"	0.83
12"	0.99
14"	1.16
16"	1.32
18"	1.49
20"	1.66
24"	1.99

In the event that the leakage exceeds the specified amount, the joints in the line shall be carefully inspected for leaks and repaired where necessary. Any pipes or special casting found to be cracked shall be removed and replaced with new pieces by the Contractor. No repair clamps or bell clamps can be utilized for repairs on new construction. After this work has been done, the tests shall be repeated. Final acceptance of the lines will not be made until satisfactory tests have been passed.

Water service leads installed with mainline pipe will be included in the water main pressure test. Installed water service leads shall have a riser (extension of water service) placed at the downstream side of the curb box. For flushing, testing, and sampling, once all tests are completed, this riser must be removed or buried 6' below grade.

Not more than 1,000 LF of water main shall be tested at one time. If the pipeline under test contains sections of various diameters, the testing allowance will be the sum of the testing allowance for each size.

Where there is a considerable elevation difference in the section of water main being tested, the test pressure shall average 150 psi over the length of main, but shall be not less than 140 psi at the highest elevation.

All main line valves and hydrant lead valves within the test section shall remain open during the pressure test.

After completion of the two hour pressure test, each valve shall be checked against test pressure.

D. Disinfecting Water Mains

After completion of pressure testing and flushing of the water main, the disinfection of the water main shall be carried out in accordance with AWWA Standard C651, latest edition.

The method of chlorination chosen shall be one of the three methods specified under Section 4.4 of AWWA Standard C651, latest edition. Sampling requirements stipulated by the Charter Township of Union Water Treatment Department shall also be followed for new construction or extensive repair for all water systems that are operated and maintained by the Charter Township of Union Department of Public Works. This procedure is as follows:

a) After disinfecting, flush the system until the chlorine residual equals the source water and then allow the water to remain static for 24 hours before drawing the first sample. Submit the first sample which will then be tested using the Colilert procedure.

b) Twenty four or more hours after the first sample has been drawn and has passed the Colilert test, submit two samples from the same sample point, one of which will be tested using the Colilert procedure and the other using the Membrane Filter procedure. If both of the second samples are negative, authorization will be

given to use the new construction or repair. If the second Colilert sample is negative but the Membrane Filter sample produces background growth, resampling for the Membrane Filter testing shall only be required until no growth occurs on the Membrane Filter sample.

Note: If the system is rechlorinated or repigged the sampling procedure shall be started over as listed above in paragraphs a & b. When no growth occurs on the Membrane Filter, approval will be given to activate the system.

The Contractor shall discuss his proposed disinfection procedure with the Township Engineer and have it approved prior to beginning the process.

The Contractor shall supply the chlorine, all necessary equipment and labor necessary for its application. The Contractor shall make suitable arrangements with the Township Engineer for bacteriological analysis and shall be responsible for all cost incurred from bacteriological testing. Bacteriological analysis shall conform to the requirements of the Michigan Safe Drinking Water Act and be performed by a State approved drinking water testing laboratory.

E. Continuity Testing

The system (pipeline and hydrants) shall be tested for electrical continuity and current capacity. The electrical test shall be made after the hydrostatic pressure test and while the line is at normal operating pressure. Backfilling shall have been completed. The new water main must not be connected to existing during this testing operation. The line may be tested in sections from hydrant to hydrant as approved by the Township Engineer. Direct current of 400 amperes $\pm$ 10% shall be passed through the pipe line for five minutes. Current flow through the pipe shall be measured continuously on a suitable ammeter and shall remain steady without interruption or excessive fluctuation throughout the five minute test period.

Insufficient current or intermittent current or arcing, indicated by large fluctuation of the ammeter needle, shall be evidence of defective electrical contact in the pipeline. The cause shall be isolated and corrected. Thereafter, the section in which the defective test occurred shall be retested.

9.08 TRANSFER OF WATER SERVICES

Where water services are to be transferred from an existing water main to a new water main, as shown on the plans, Contractor shall provide corporation stop and

necessary pipe and fittings. Work shall be scheduled in such a manner that transfer of service to any residence or water customer will result in the least possible interruption of water supply service. All services are 1" unless otherwise shown on the plans.

9.09 TRANSFER OF EXISTING HYDRANTS

Where indicated, existing hydrants are to be transferred from an existing main to a new main, as shown on the plans. Contractor shall excavate and reset the hydrant, as shown on Hydrant Assembly Detail, provide new 6" hydrant gate valve, 6" hydrant lead to new main and all fittings required for a complete installation.

9.10 HANDLING PIPE

All pipes and special castings shall be unloaded and distributed along the line of work in such a manner and with such care as will effectively avoid the cracking of any pipe or casting. Dropping directly from the truck will not be permitted. Care must also be exercised on the inside of the pipe. Wherever the outside coating may be found to have rubbed off, the part shall be thoroughly cleaned by brushing and shall then be recoated with an approved asphaltic paint or as may be required by the nature of the pipe coating. The Contractor shall keep on hand a supply of paint for such purposes.

9.11 MARKING PIPE

Each cast iron fitting shall have its weight and class designation conspicuously painted or cast on it. All other pipe materials shall have the class designation painted thereon. Where required, other designation marks shall be painted on the pipe or fittings to indicate correct location in the pipe section in conformity to a detailed layout plan.

9.12 PIPE LOCATOR

Directional Drilled

A continuous ¼" diameter stainless steel cable shall be installed along with the plastic pipe for use as a locator wire on all directionally drilled projects. Contractor shall verify continuity of the locator wire prior to acceptance by the engineer. The ¼" stainless steel cable locator wire shall be looped at 400' intervals and installed within a tracer wire access box. This tracer wire box shall be made of cast iron with a permanently attached 3"x12" ABS tube with a flared end to secure it in the ground. It shall be tamper resistant, with a cast iron locking lid and stainless steel terminal connections on the bottom side to which the tracer wires/cables are attached. Lid will open using a standard AWWA pentagon key. Tracer wire access box as distributed by USA Blue Book shall be utilized or equal. Located at each tracer wire access box a flexible rebounding marking post must be installed. This marking post must be able to snap back to its normal position when hit. It must extend at least 3' above ground for visibility

and have a width of 4". This flexible blue rebounding marking post must have a permanent decal applied indicating “Warning Water Main Pipeline”. This marker size and type must be approved by the owner.

Open-Cut

Tracer wire (#10 solid copper insulated trace wire) must be brought up into all valve boxes, fire hydrant valve boxes, metering houses, metering pits, and blow offs. The locator wire shall be looped at 400' intervals and installed within a tracer wire access box. All underground splices shall be butt spliced, sealed, and waterproofed. This will be done using the heat shrink method and electrical coating, or approved equal. Wire nuts and black tape will not be allowed. This tracer wire box shall be made of cast iron with a permanently attached 3"x12" ABS tube with a flared end to secure it in the ground. It shall be tamper resistant, with a cast iron locking lid and stainless steel terminal connections on the bottom side to which the tracer wires/cables are attached. Lid will open using a standard AWWA pentagon key. Tracer wire access box as distributed by USA Blue Book shall be utilized or equal. Located at each tracer wire access box a flexible rebounding marking post must be installed. This marking post must be able to snap back to its normal position when hit. It must extend at least 3' above ground for visibility and have a width of 4". This flexible blue rebounding marking post must have a permanent decal applied indicating “Warning Water Main Pipeline”. This marker size and type must be approved by the owner. All underground splices shall be butt spliced, sealed, and waterproofed. This will be done using the heat shrink method and electrical coating, or approved equal. Wire nuts and black tape will not be allowed. Underground caution tape must also be used. Must read “Caution Water Main Buried Below”. This must be at a minimum depth of 1' and no more than 2' below finished grade.

9.13 PIPE TAPS

Pipe lines shall be tapped for corporation cocks where shown or required for testing of completed water mains. For ductile iron or steel pipe, cocks shall be threaded directly into the pipe.

9.14 BLOWOFF

Blowoffs shall be placed on all dead-end mains and shall be as shown on the plans. Permanent blow-off assemblies shall be cut off below grade after testing is complete. Standing water within the blowoff shall be pumped out of the riser, capped, bolted, and buried.

9.15 THRUST BLOCKS

Concrete thrust blocks shall be poured on hand-excavated, undisturbed soil bearing surfaces of a minimum size as shown on the standard details or increased in size according to the actual bearing values of the soil in each location, in accordance with the instructions of the Design Engineer.

Thrust blocks shall be made of 3,000 psi concrete, wet mix. Concrete thrust blocks shall be placed at all 22-½° bends or greater, deadends, tees, reducers, hydrants and crosses, as required. Pre-cast thrust blocks may be utilized for certain applications, if approved by the Township Engineer. Retainer glands and/or mega lugs shall be utilized on all mechanical joint fittings.

9.16 PAINTING

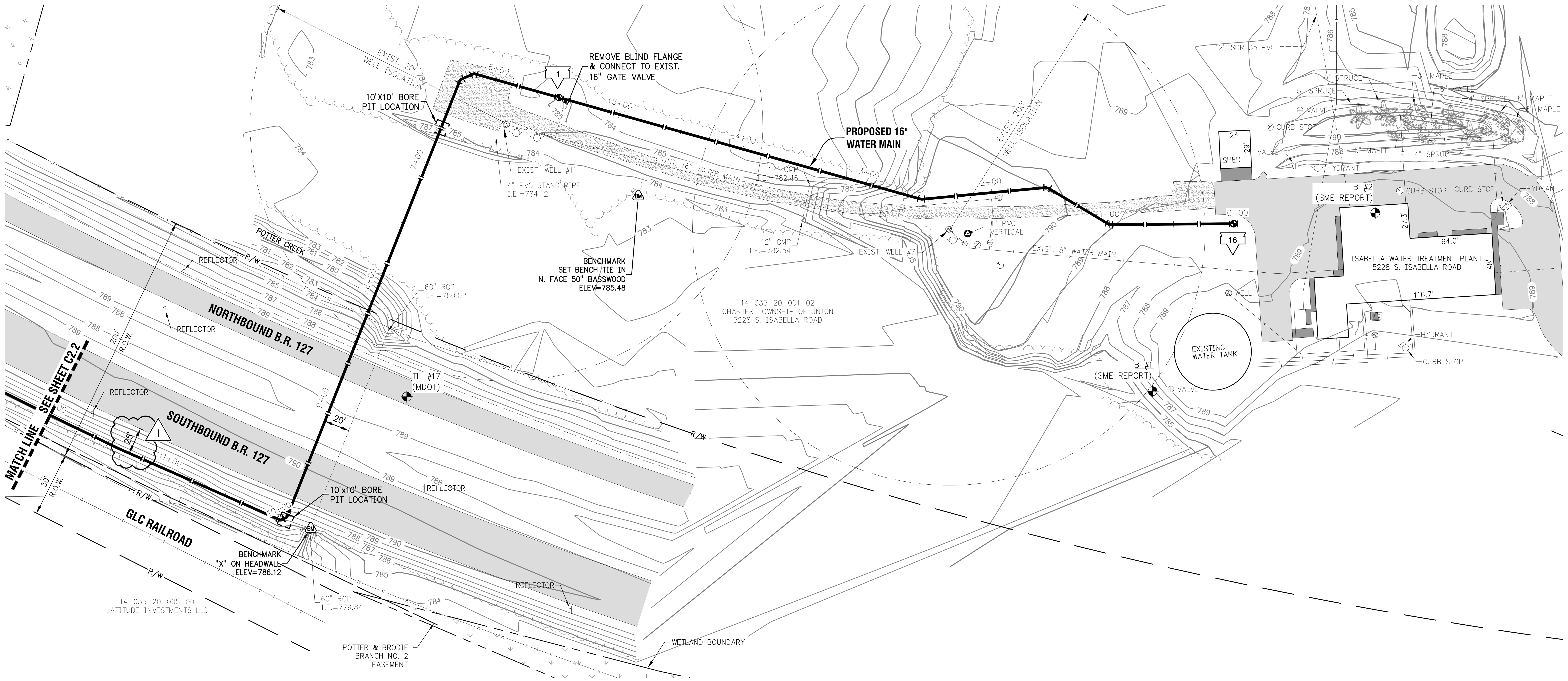
All pipe, valves, bolts and any other portions of water main exposed inside manholes and other structures shall be painted. If necessary, heat shall be provided to maintain good drying conditions. All items to be painted shall be dry and clean before application of the paint. Any rust or scale shall be removed by wire brushing or scraping.

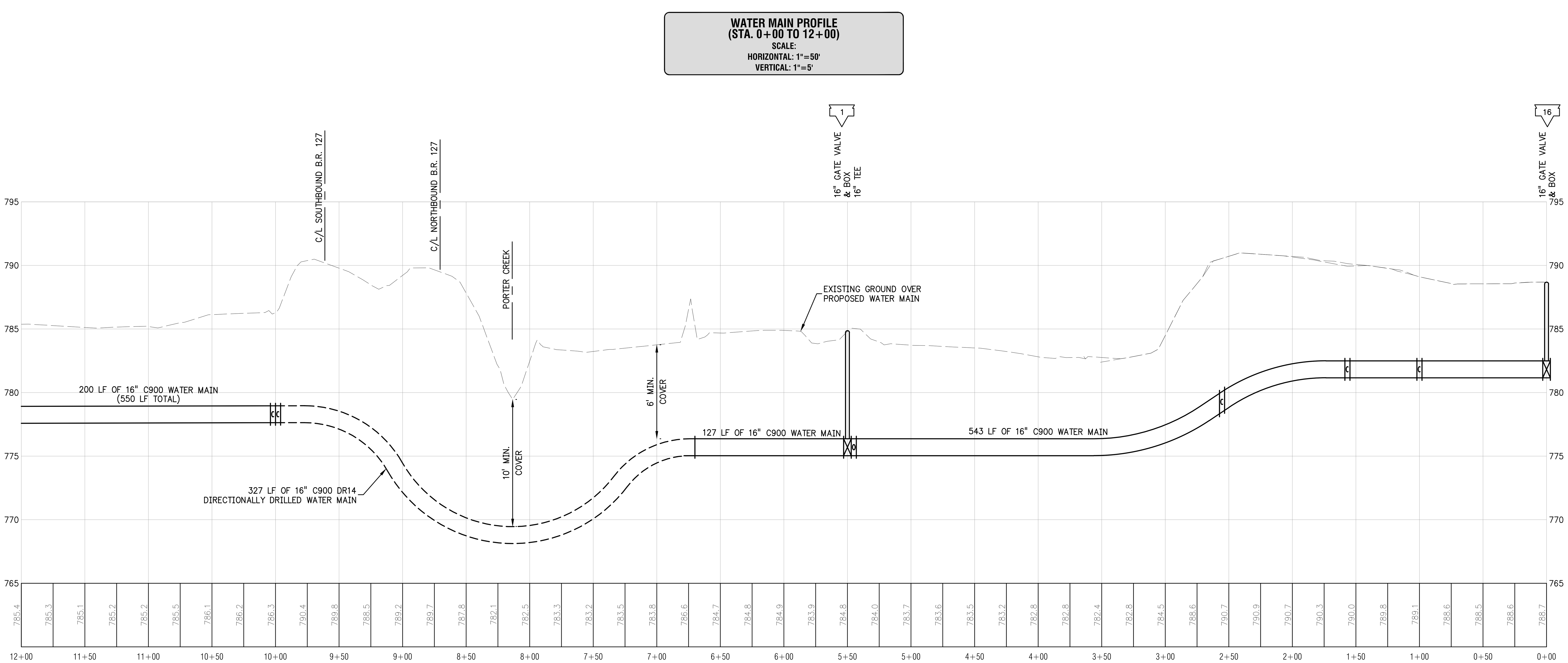
9.17 SHOP DRAWINGS

The Contractor shall furnish, as prescribed under Section "General Requirements" dimension and erection drawings and details of the water main, valves, and other appurtenances furnished under this section. Complete details of all pipe deflections and ties to adjoining pipe shall be submitted to the Township Engineer for approval.

9.18 CERTIFICATION

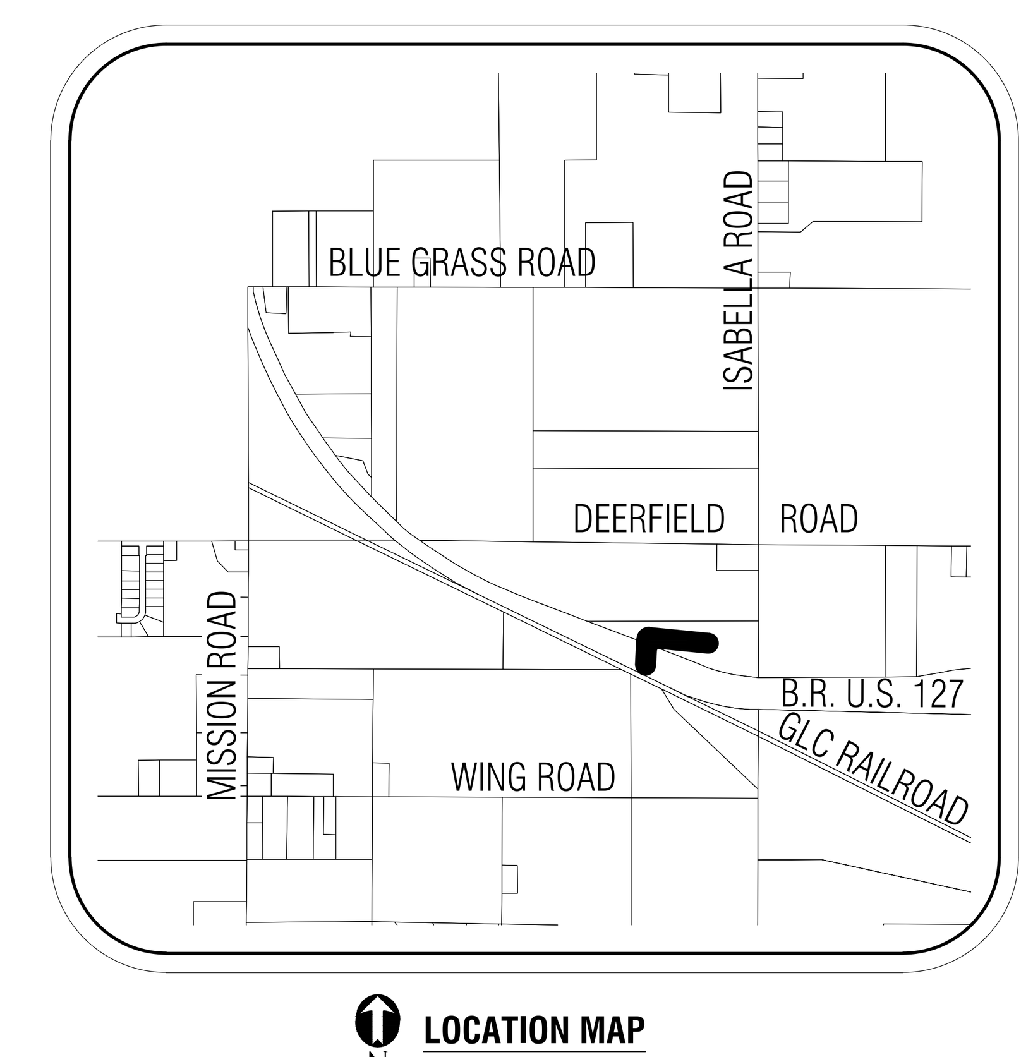
The manufacturer of pipe and fittings shall furnish a certified statement that all pipe and fittings furnished by him have been inspected and tested in accordance with the applicable specifications. Pipe will be subject to inspection and approval upon delivery and no cracked, broken, damaged or defective pipe or fittings shall be laid in the work. Any piece that is found to be defective after it has been laid shall be removed by the Contractor and replaced by a sound and perfect piece.





NOTES

1. CONTRACTOR TO ANTICIPATE ACCESSING M.D.O.T. RIGHT-OF-WAY FROM UNION TOWNSHIP PARCEL. FENCE MAY BE REMOVED TO FACILITATE WATER MAIN INSTALLATION AND RE-INSTALLED PER M.D.O.T. COSTS TO BE INCLUDED IN THE COST OF THE PROJECT.
2. THE WATER MAIN AS SHOWN DEPICTS BASE BID OF OPEN CUT C900 DR18, 16" HOWEVER AN ALTERNATE PRICE FOR DIRECTIONAL DRILL C900 DR14, 12" ALONG SOUTH BOUND US 127 FROM STATION 10+00 TO STATION 45+50 WILL BE CONSIDERED AND IS IDENTIFIED IN THE BID FORM. BORE PITS SHALL BE STRATEGICALLY PLACED IN LOCATIONS OF PROPOSED VALVES AND WHERE DEFLECTION EXCEEDS PIPE CAPABILITIES AND BENDS ARE REQUIRED.
3. CLEARING AND GRUBBING MAY BE REQUIRED TO ACCOMMODATE INSTALLATION OF WATER MAIN. CONTRACTOR TO PERFORM AT NO ADDITIONAL COST TO THE PROJECT, INCLUDING OFFSITE DISPOSAL.



LOCATION MAP
NO SCALE

ENGINEERING
SURVEYING
TESTING & OPERATIONS
123 West Front Street
Traverse City, MI 49684
http://gfa.tc
231.946.5874 (p)
231.946.3703 (f)

REV #	DATE	DRN	DESC
A	05/07/2024	CPB	ISSUED FOR PERMITS
0	07/03/2024	CPB	ISSUED FOR BIDS
1	07/09/2024	CPB	ADDENDUM #1

CHARTER TOWNSHIP OF UNION

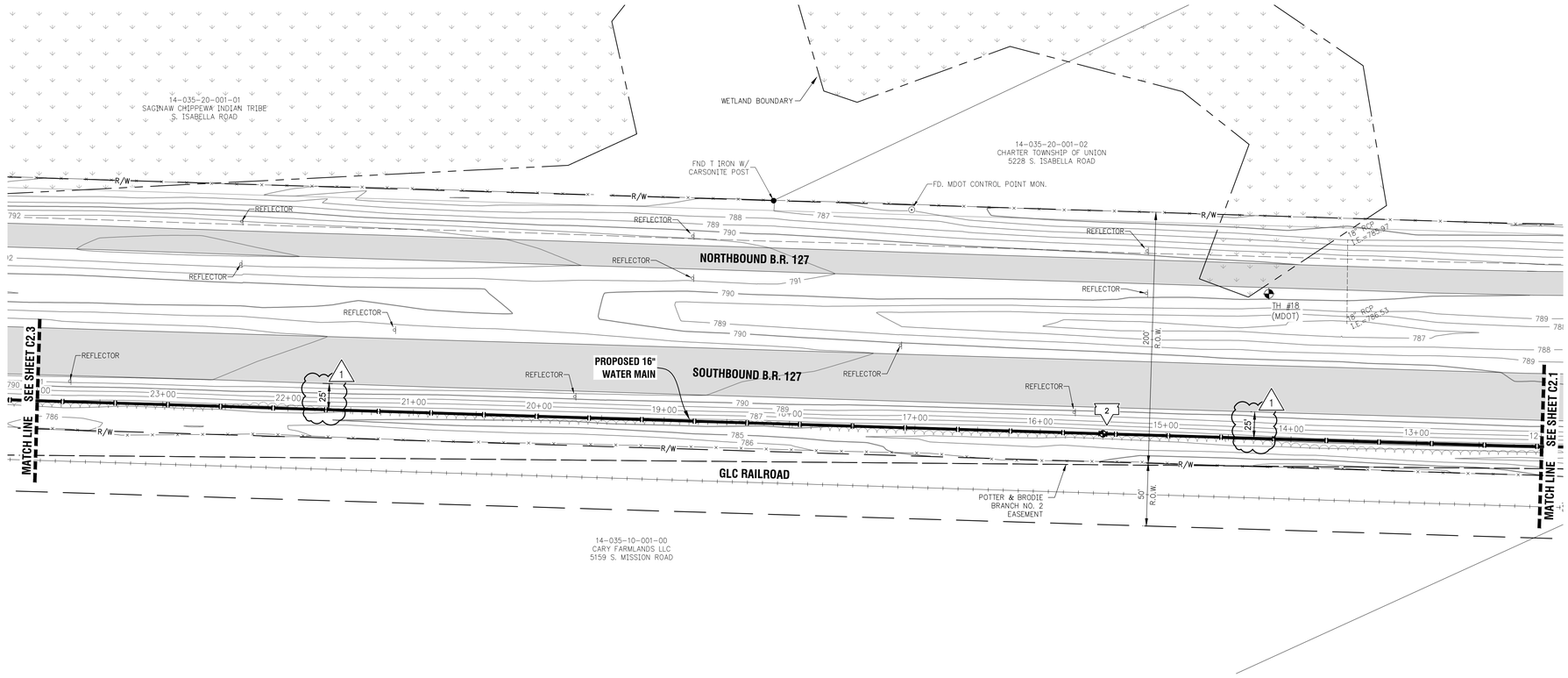
DIV. B - WATER MAIN TRANSMISSION & EXTENSIONS

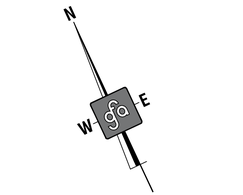
PLAN AND PROFILE SHEET

SECTION 26,27,34,35, T.14 N., R.4 W.
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

P.M.: JENNIFER GRAHAM, P.E.
DR.: C. BALLANCE
CKD.: A. BELANGER
JOB NO.: 23349

C2.1



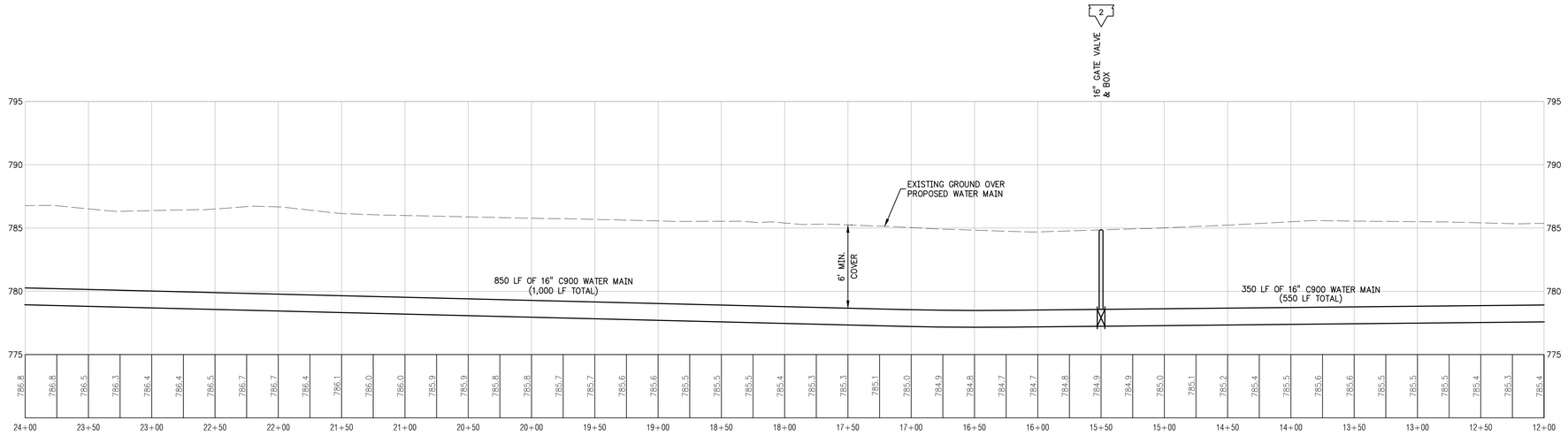


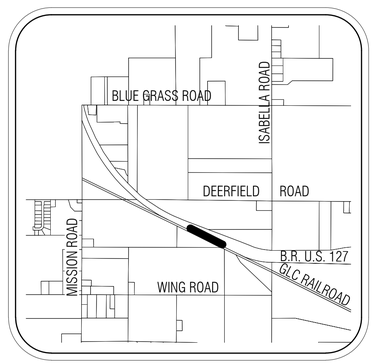
GRAPHIC SCALE: 1 inch = 50 feet
0 25 50 100 150

NOTES

1. THE WATER MAIN AS SHOWN DEPICTS BASE BID OF OPEN CUT C900 DR18, 16" HOWEVER AN ALTERNATE PRICE FOR DIRECTIONAL DRILL C900 DR14, 12" ALONG SOUTH BOUND US 127 FROM STATION 10+00 TO STATION 45+50 WILL BE CONSIDERED AND IS IDENTIFIED IN THE BID FORM. BORE PITS SHALL BE STRATEGICALLY PLACED IN LOCATIONS OF PROPOSED VALVES AND WHERE DEFLECTION EXCEEDS PIPE CAPABILITIES AND BENDS ARE REQUIRED.
2. CLEARING AND GRUBBING MAY BE REQUIRED TO ACCOMMODATE INSTALLATION OF WATER MAIN. CONTRACTOR TO PERFORM AT NO ADDITIONAL COST TO THE PROJECT, INCLUDING OFFSITE DISPOSAL.

WATER MAIN PROFILE
(STA. 12+00 TO 24+00)
SCALE:
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'





LOCATION MAP
NO SCALE

ENGINEERING
SURVEYING
TESTING & OPERATIONS
123 West Front Street
Traverse City, MI 49684
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231.946.5874 (p)
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REV#	DATE	DRN	DESC
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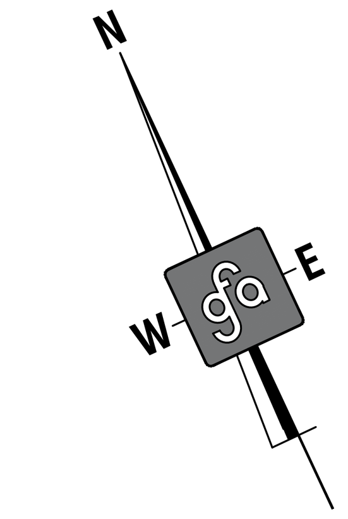
CHARTER TOWNSHIP OF UNION
DIV. B - WATER MAIN TRANSMISSION & EXTENSIONS
PLAN AND PROFILE SHEET
SECTION 26,27,34,35, T.14 N., R.4 W.
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

P.M.: JENNIFER GRAHAM, P.E.
DR.: C. BALLANCE
CHD.: A. BELANGER
JOB NO.: 23349
C2.2



GRAPHIC SCALE: 1 inch = 50 feet
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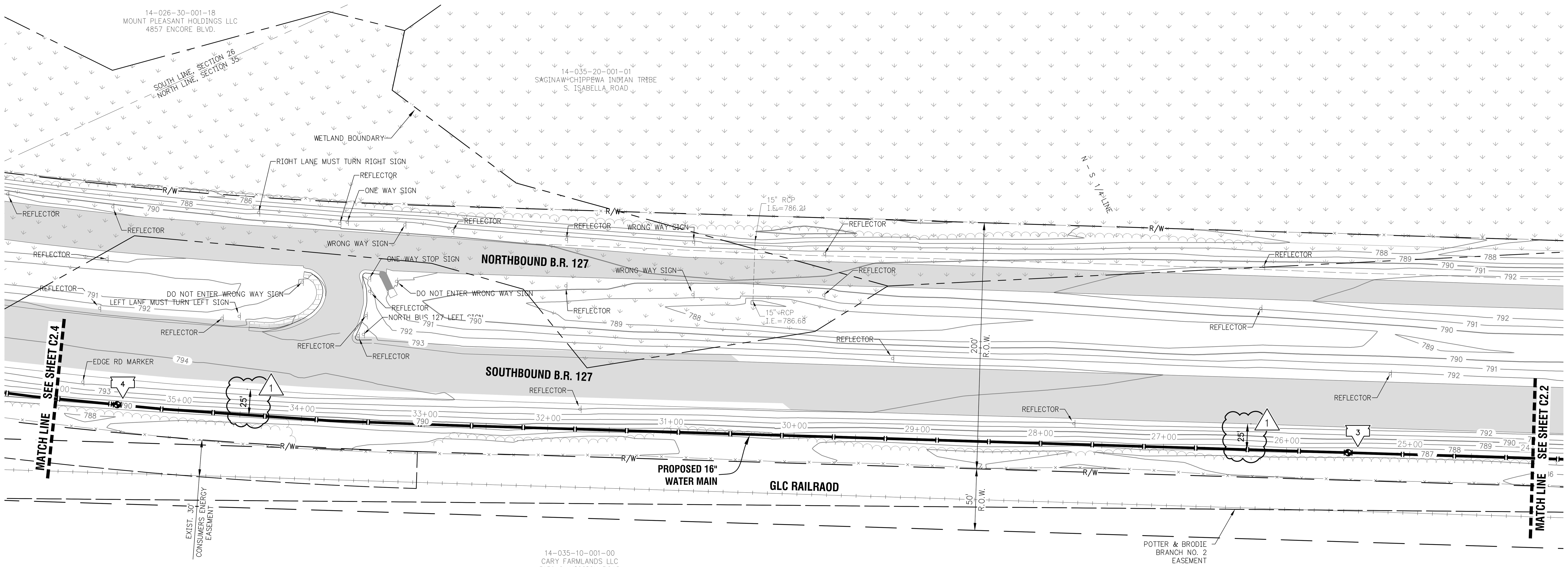
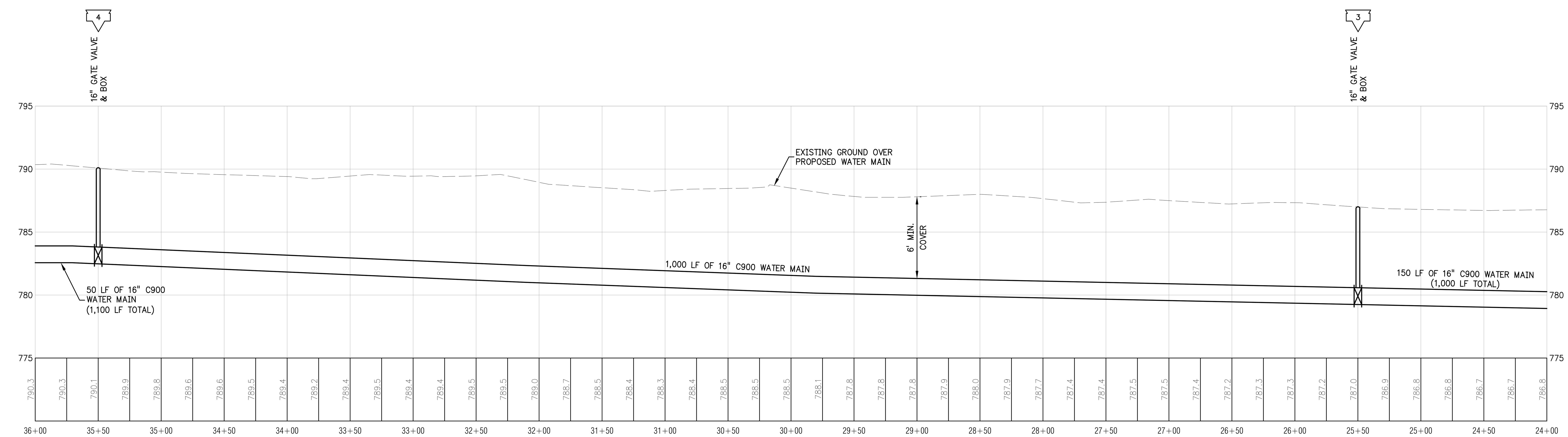
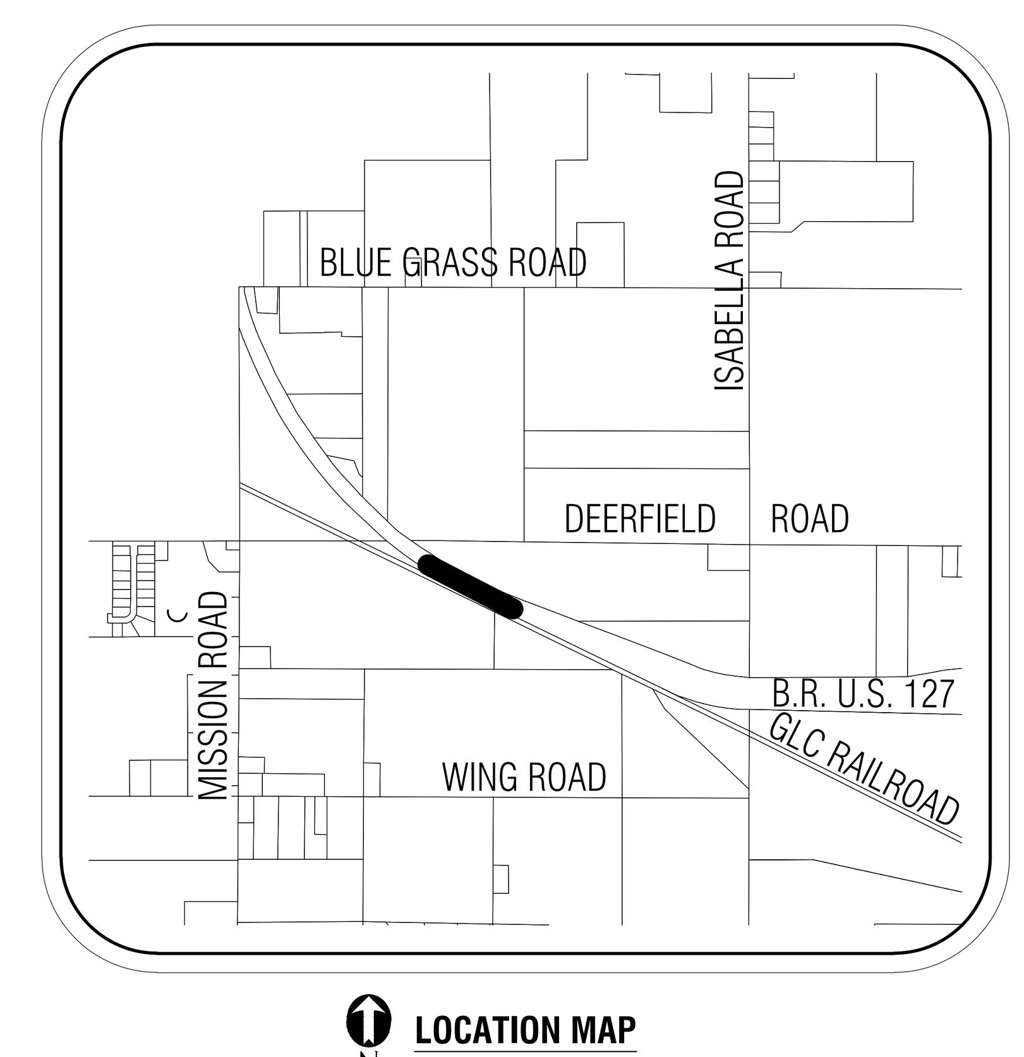


NOTES

1. THE WATER MAIN AS SHOWN DEPICTS BASE BID OF OPEN CUT C900 DR18, 16" HOWEVER AN ALTERNATE PRICE FOR DIRECTIONAL DRILL C900 DR14, 12" ALONG SOUTH BOUND US 127 FROM STATION 10+00 TO STATION 45+50 WILL BE CONSIDERED AND IS IDENTIFIED IN THE BID FORM. BORE PITS SHALL BE STRATEGICALLY PLACED IN LOCATIONS OF PROPOSED VALVES AND WHERE DEFLECTION EXCEEDS PIPE CAPABILITIES AND BENDS ARE REQUIRED.
2. CLEARING AND GRUBBING MAY BE REQUIRED TO ACCOMMODATE INSTALLATION OF WATER MAIN. CONTRACTOR TO PERFORM AT NO ADDITIONAL COST TO THE PROJECT, INCLUDING OFFSITE DISPOSAL.

WATER MAIN PROFILE
(STA. 24+00 TO 36+00)
SCALE:
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'





LOCATION MAP
NO SCALE

These documents are prepared in accordance with the contractual terms and conditions for this project.

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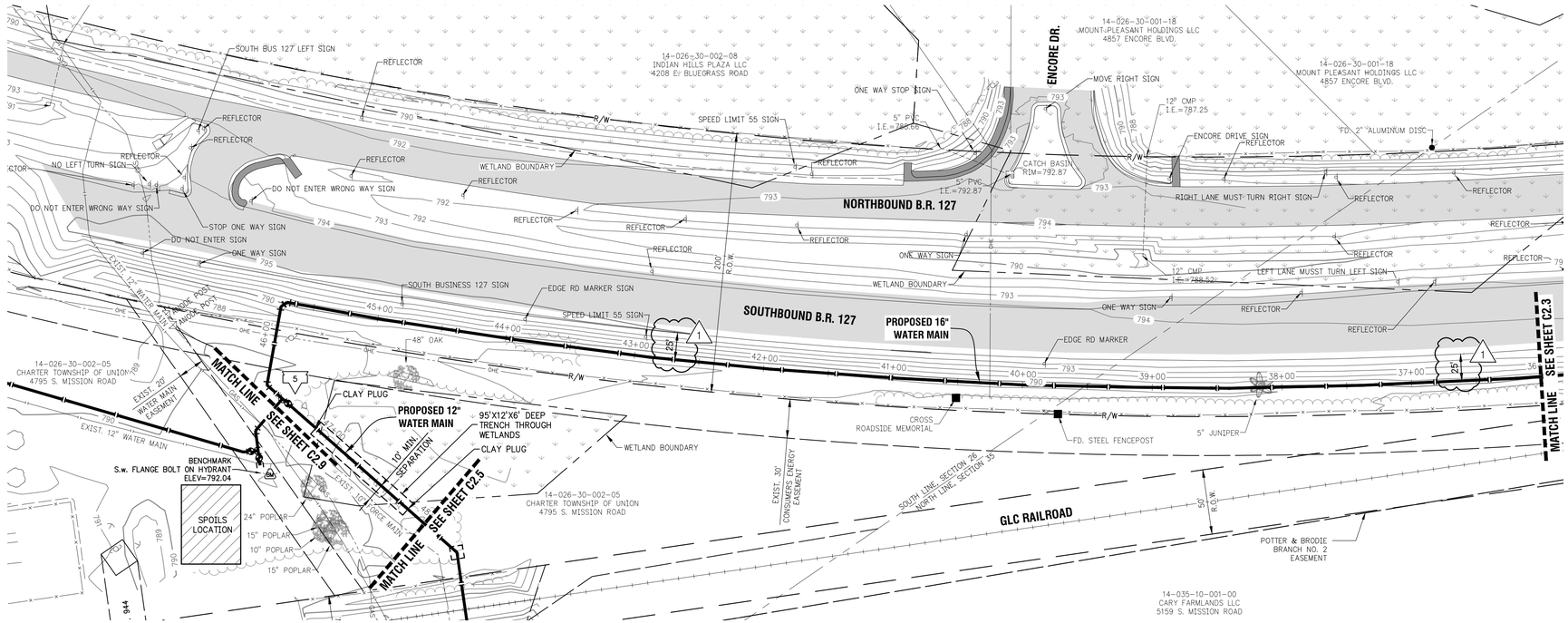
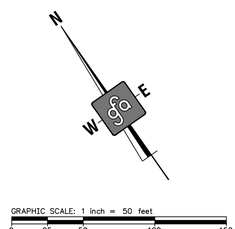
CHARTER TOWNSHIP OF UNION
DIV. B - WATER MAIN TRANSMISSION & EXTENSIONS
PLAN AND PROFILE SHEET
SECTION 26,27,34,35, T.14 N., R.4 W.
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

P.M.: JENNIFER GRAHAM, P.E.
DR.: C. BALLANCE
CKD.: A. BELANGER
JOB NO.: 23349
C2.3



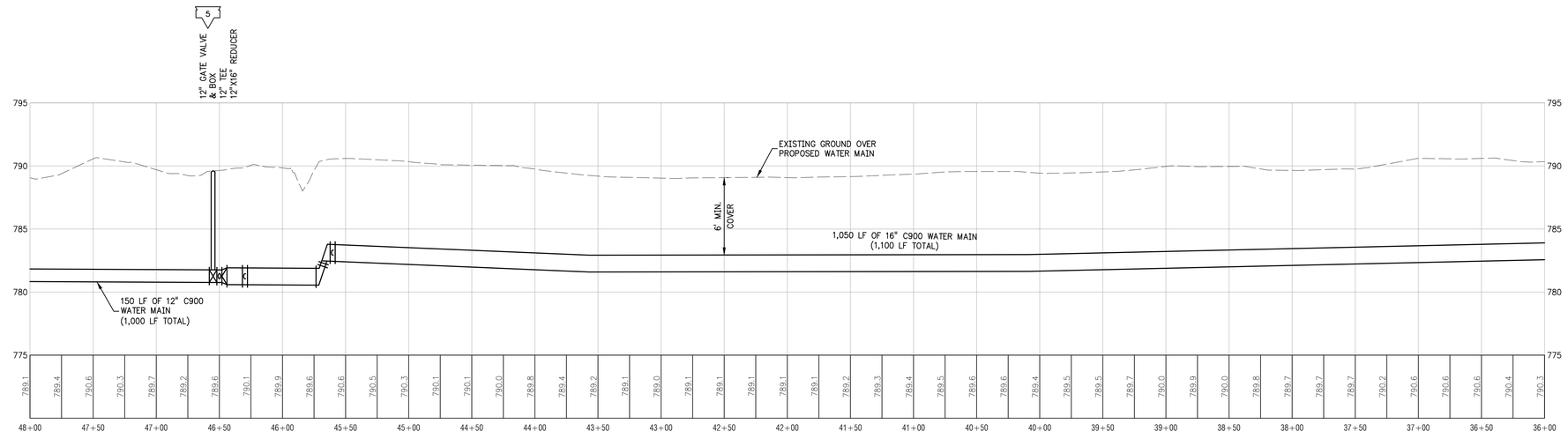


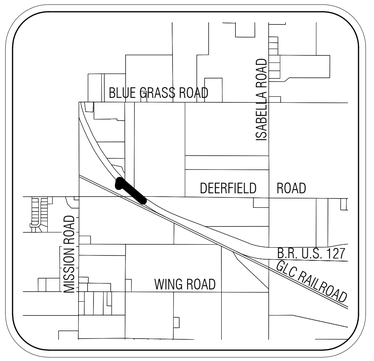
GRAPHIC SCALE: 1 inch = 50 feet
0 25 50 100 150

NOTES

1. CONTRACTOR TO ANTICIPATE ACCESSING M.D.O.T. RIGHT-OF-WAY FROM UNION TOWNSHIP PARCEL. FENCE MAY BE REMOVED TO FACILITATE WATER MAIN INSTALLATION AND RE-INSTALLED PER M.D.O.T. COSTS TO BE INCLUDED IN THE COST OF THE PROJECT.
2. CONTRACTOR TO WORK WITHIN THE WETLAND LIMITS COMPLIANT PERMIT AND PLACE SPOILS IN AREA IDENTIFIED ON PLANS.
3. FOR WORK WITHIN THE WETLAND ALL OPEN CUT TRENCH EXCAVATION SHALL INCLUDE SEPARATION OF THE TOP 12" OF TOPSOIL AND TO BE PLACED BACK ON TOP OF THE TRENCH AS PART OF THE RESTORATION.
4. ALL UPLAND/WETLAND LINES SHALL INCLUDE STANDARD CLAY PLUG. CLAY SOILS TO BE PACKED AROUND PIPE IN OPEN TRENCH EXCAVATIONS AT LOCATIONS INDICATED ON PLANS.
5. THE WATER MAIN AS SHOWN DEPICTS BASE BID OF OPEN CUT C900 DR18, 16" HOWEVER AN ALTERNATE PRICE FOR DIRECTIONAL DRILL C900 DR14, 12" ALONG SOUTH BOUND US 127 FROM STATION 10+00 TO STATION 45+50 WILL BE CONSIDERED AND IS IDENTIFIED IN THE BID FORM. BORE PITS SHALL BE STRATEGICALLY PLACED IN LOCATIONS OF PROPOSED VALVES AND WHERE DEFLECTION EXCEEDS PIPE CAPABILITIES AND BENDS ARE REQUIRED.
6. CLEARING AND GRUBBING MAY BE REQUIRED TO ACCOMMODATE INSTALLATION OF WATER MAIN. CONTRACTOR TO PERFORM AT NO ADDITIONAL COST TO THE PROJECT, INCLUDING OFFSITE DISPOSAL.

WATER MAIN PROFILE
(STA. 36+00 TO 48+00)
SCALE:
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'





LOCATION MAP
NO SCALE

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DIV. B - WATER MAIN TRANSMISSION & EXTENSIONS
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UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

P.M.: JENNIFER GRAHAM, P.E.
DR.: C. BALLANCE
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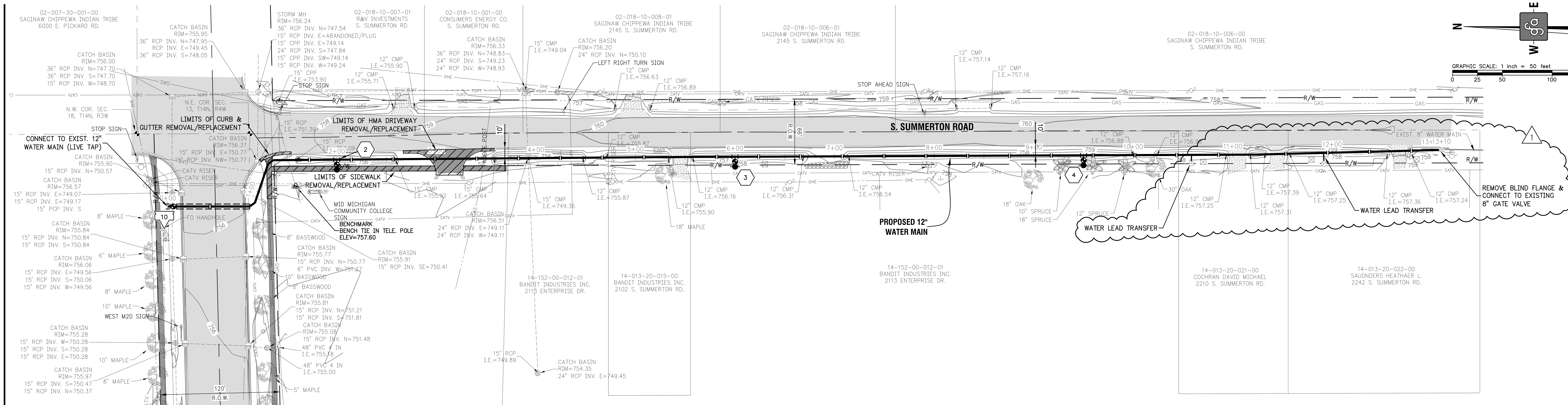
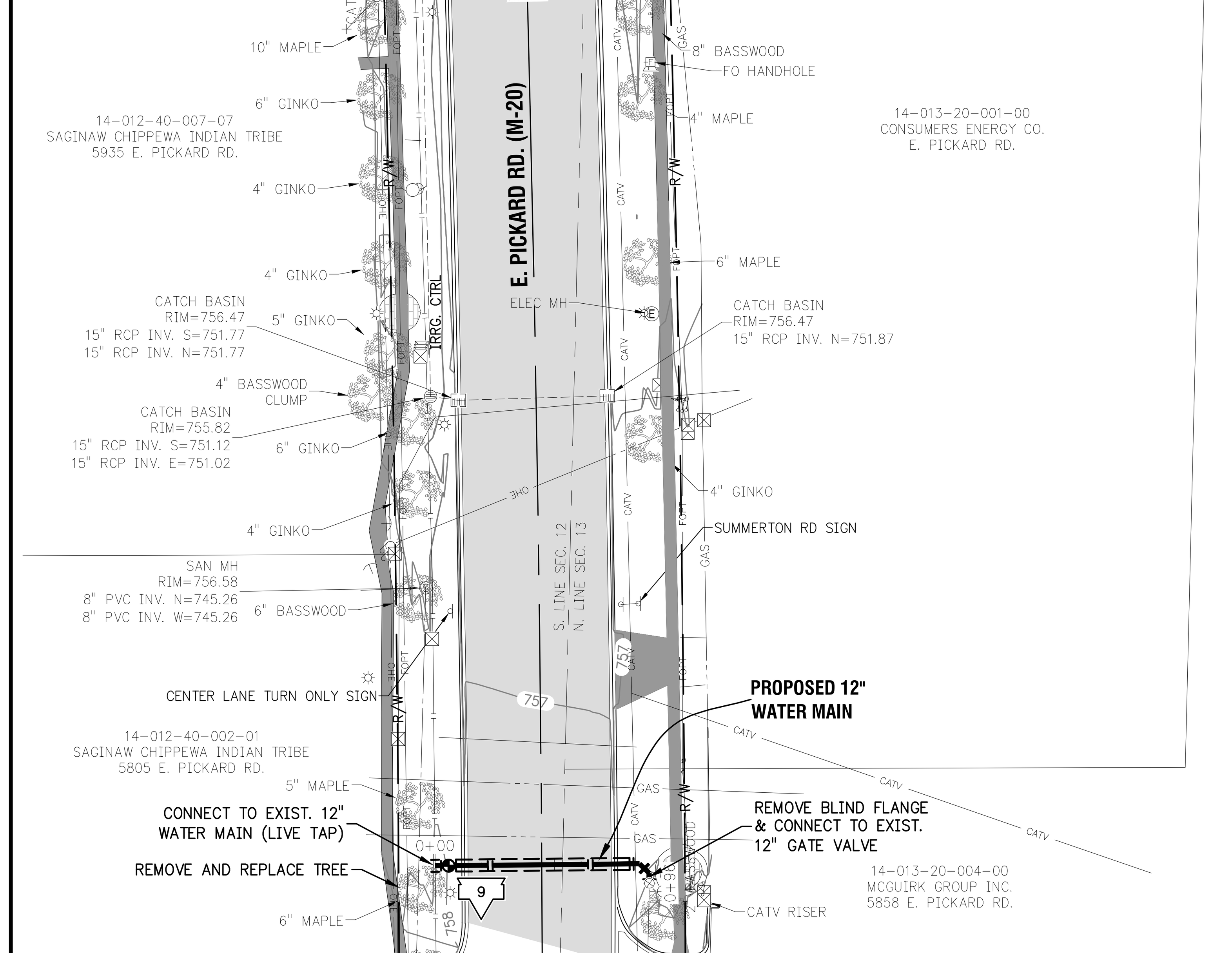
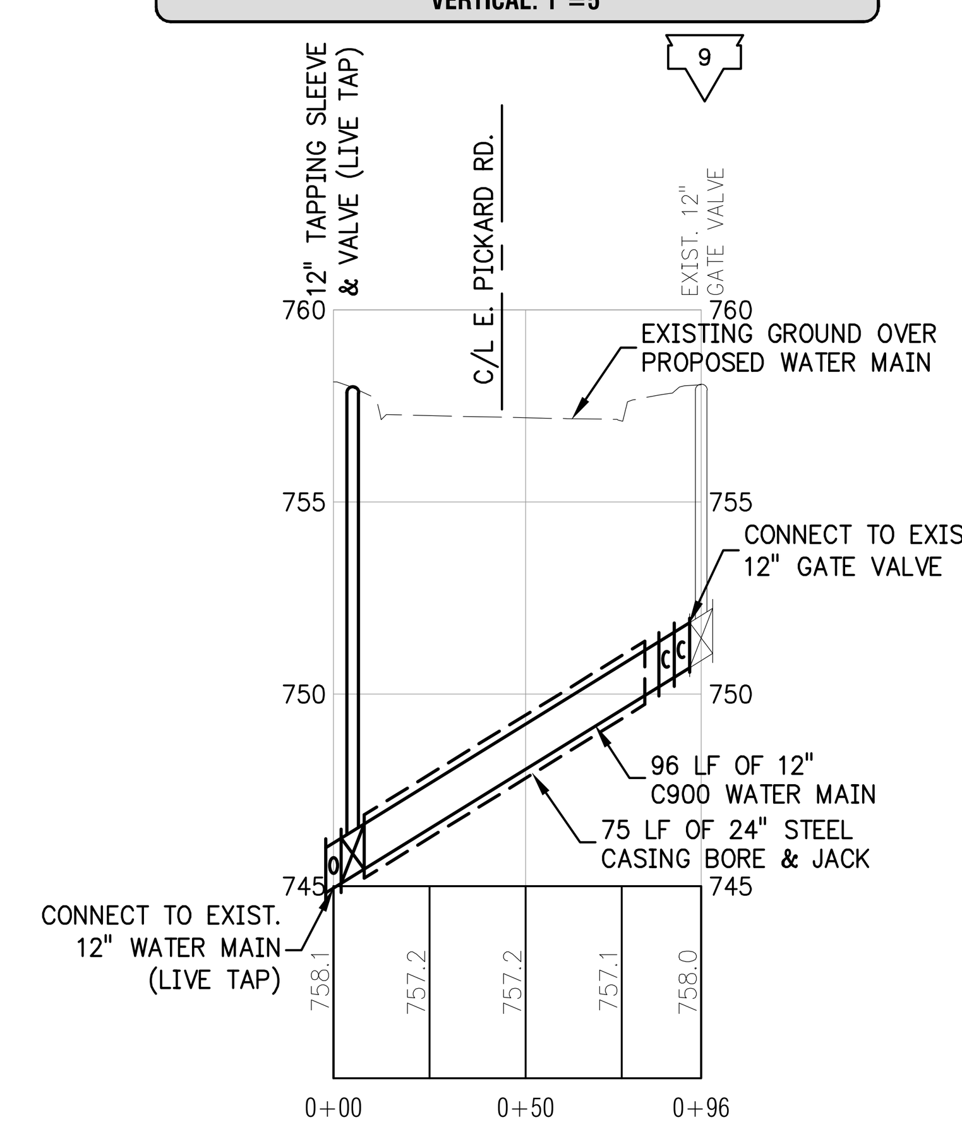
JOB NO.: 23349
C2.4



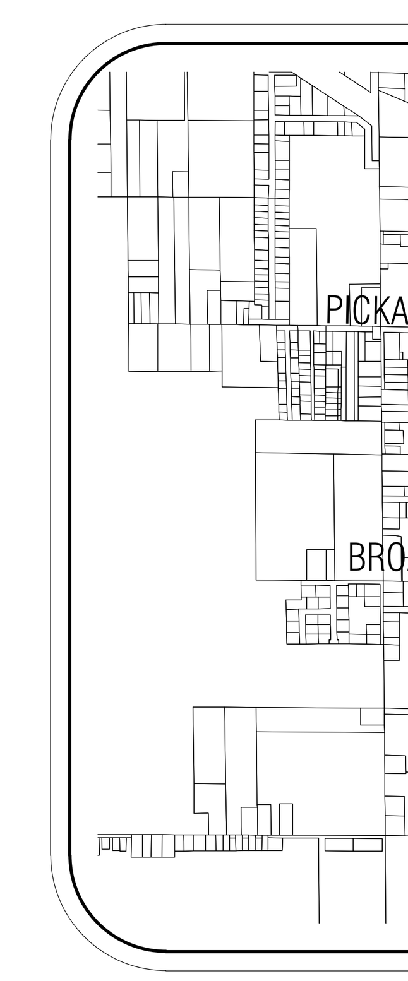


PICKARD RD. WATER MAIN CROSSING PROFILE (STA. 0+00 TO 0+96)
SCALE:
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



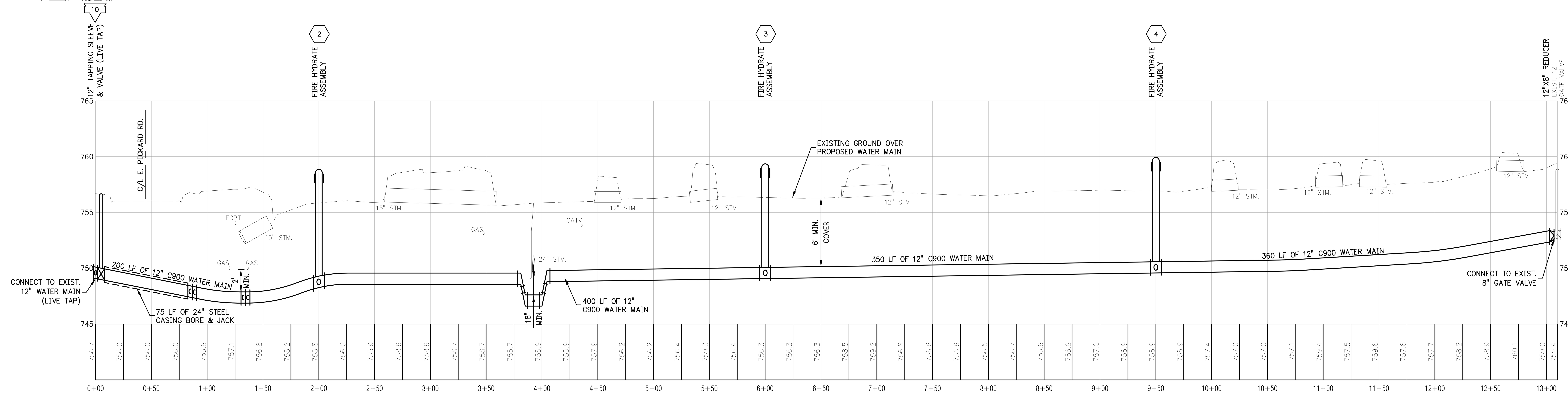
NOTES

1. CONTRACTOR TO UTILIZE A TRENCH BOX AS NECESSARY TO MINIMIZE DISRUPTION DUE TO CLOSE PROXIMITY TO EXISTING INFRASTRUCTURE AND ADJUST ALIGNMENT AS NEEDED BASED UPON FIELD CONDITIONS ENCOUNTERED. ANY DAMAGE TO EXISTING INFRASTRUCTURE (NOT IDENTIFIED FOR REMOVAL/REPLACEMENT) INCLUDING LANDSCAPING, TREES, SIDEWALK, ASPHALT, GRAVEL BASE, DRIVEWAYS, ETC. TO BE REPAIRED AND REPLACED AT NO ADDITIONAL COST TO THE PROJECT.
2. ALL EXISTING VALVES TO BE CONNECTED TO SHALL BE RESTRAINED WITH MEGA-LUGS.
3. CONTRACTOR IS RESPONSIBLE TO LOCATE EXISTING WATER SERVICE LEADS AND COMPLETE TRANSFER TO NEW WATER MAIN WITH MINIMAL DISRUPTION. COST FOR FIELD LOCATION AND COORDINATION WITH PROPERTY OWNER TO BE INCLUDED IN THE COST OF THE PROJECT.



LOCATION MAP
NO SCALE

SUMMERTON RD. WATER MAIN PROFILE (STA. 0+00 TO 11+70)
SCALE:
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



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1	07/25/2024	CPB	ADDENDUM #1

CHARTER TOWNSHIP OF UNION
DIV. B - WATER MAIN TRANSMISSION & EXTENSIONS
PLAN AND PROFILE SHEET
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P.M.: JENNIFER GRAHAM, P.E.
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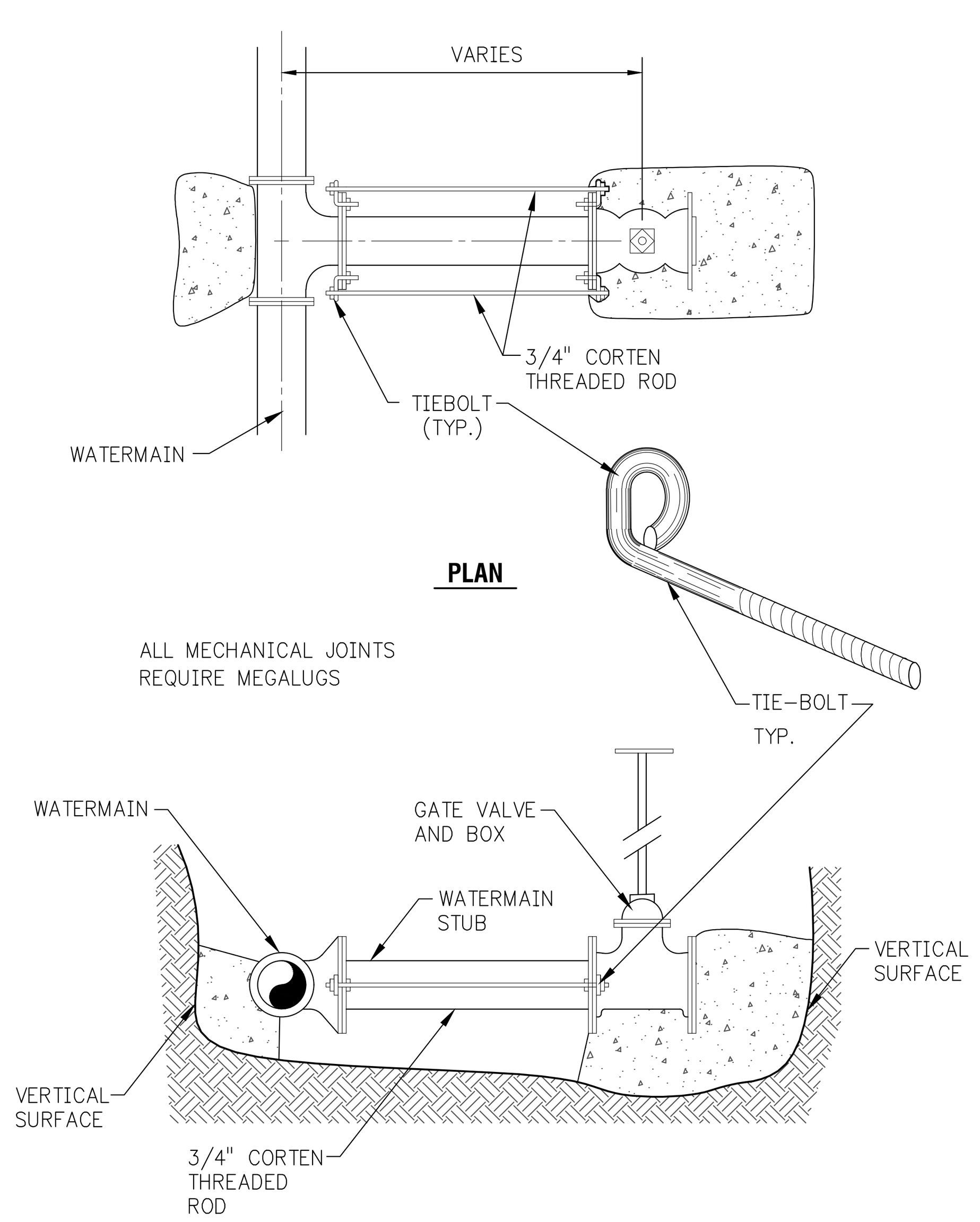
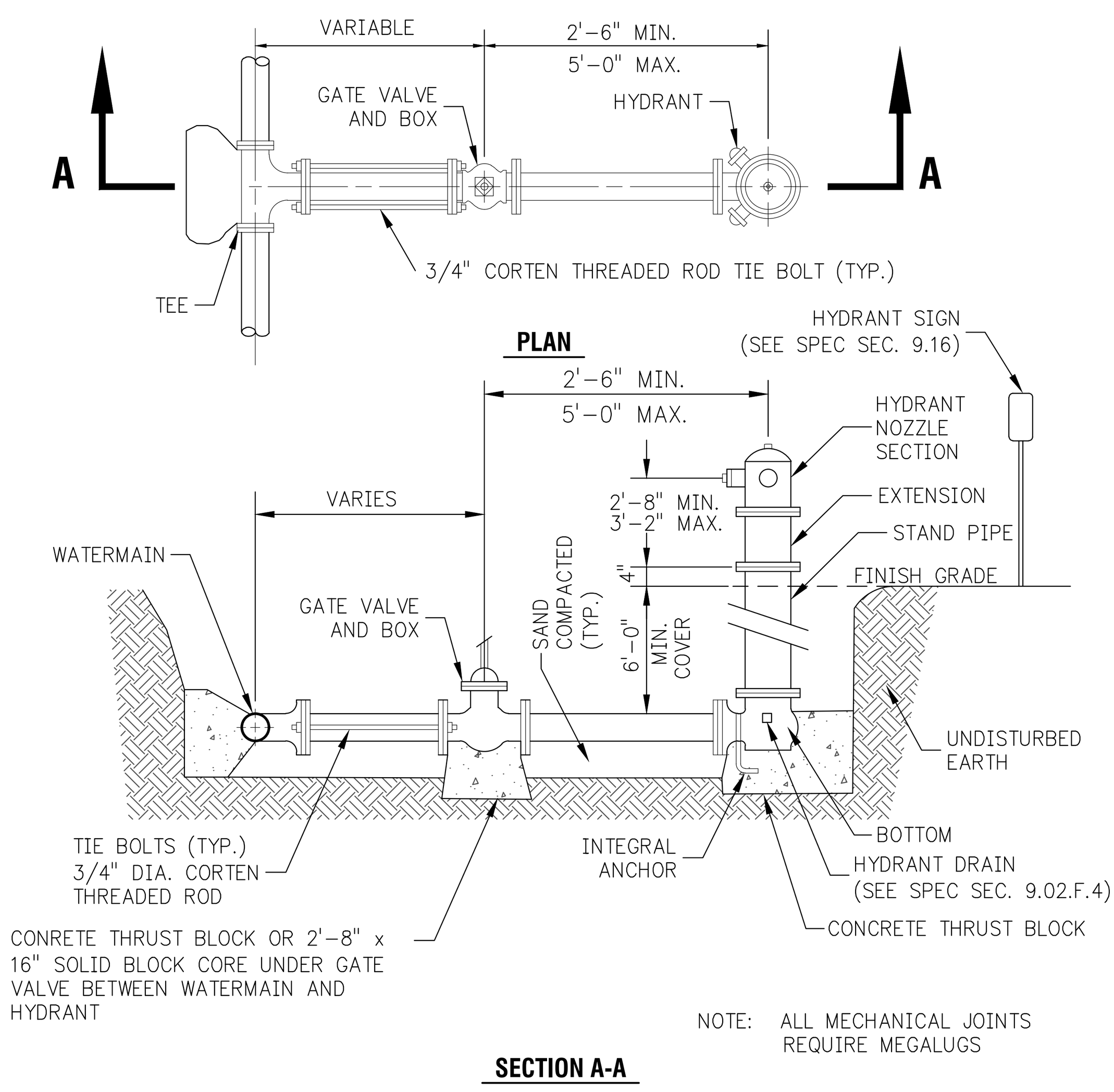
JOB NO.: 23349
C2.7



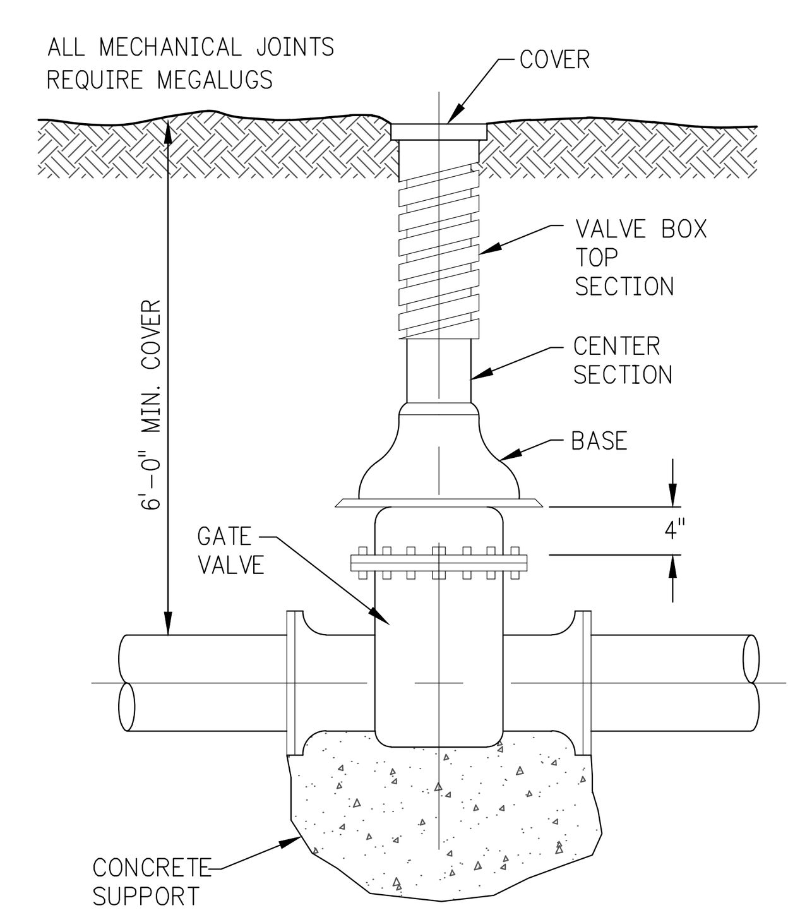
THRUST RESTRAINT DETAIL FOR ALL VALVES ON STUBBED LINES

NO SCALE



HYDRANT ASSEMBLY DETAIL

NO SCALE



VALVE BOX INSTALLATION DETAIL

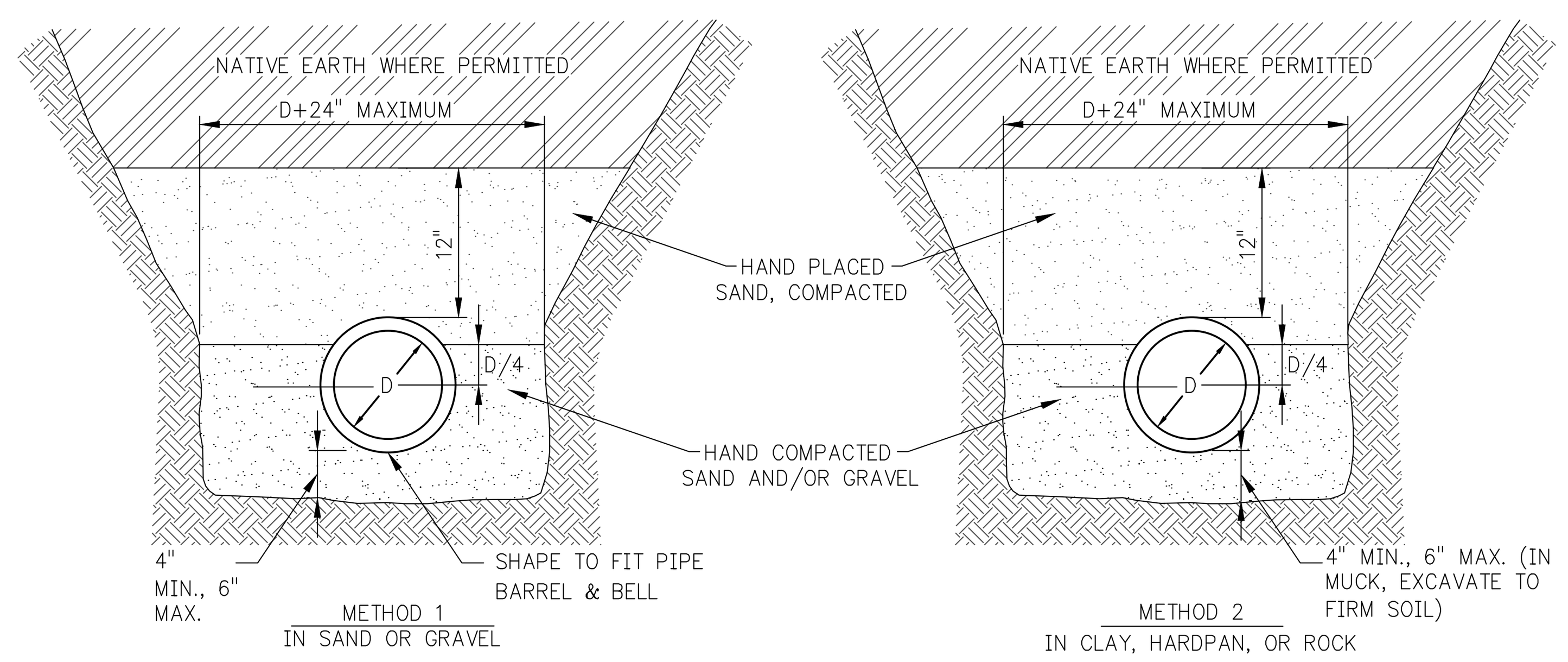
NO SCALE

NOTE:

ALL BACKFILL MATERIAL SHALL CONFORM TO AWWA C600 OR C605 AS APPROPRIATE.

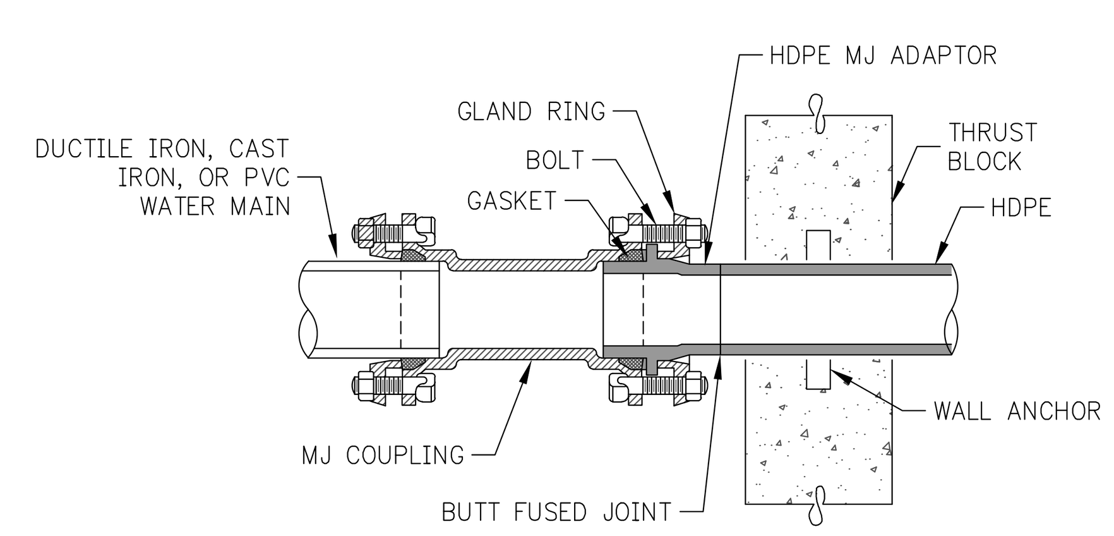
NOTE:

WATERMAIN TRENCHES NEED TO PROVIDE A MINIMUM WIDTH OF PIPE DIAMETER PLUS 16 INCHES FOR 8 INCH TO 18 INCH DIAMETER PLASTIC/FLEXIBLE PIPE MATERIALS. FOR 18 INCH AND LARGER PIPE DIAMETERS, THE MINIMUM TRENCH WIDTH IS 1.25 TIMES THE PIPE DIAMETER PLUS 12 INCHES FOR PLASTIC/FLEXIBLE PIPE MATERIALS.



PIPE BEDDING DETAIL

(CLASS A) NO SCALE



NOTES:
1. ALL MECHANICAL JOINTS REQUIRE MEGALUGS.
2. INSTALL FIELD LOCKS ON THREE ADJACENT DI PIPE JOINTS

HDPE WATER MAIN JOINT RESTRAINT DETAIL

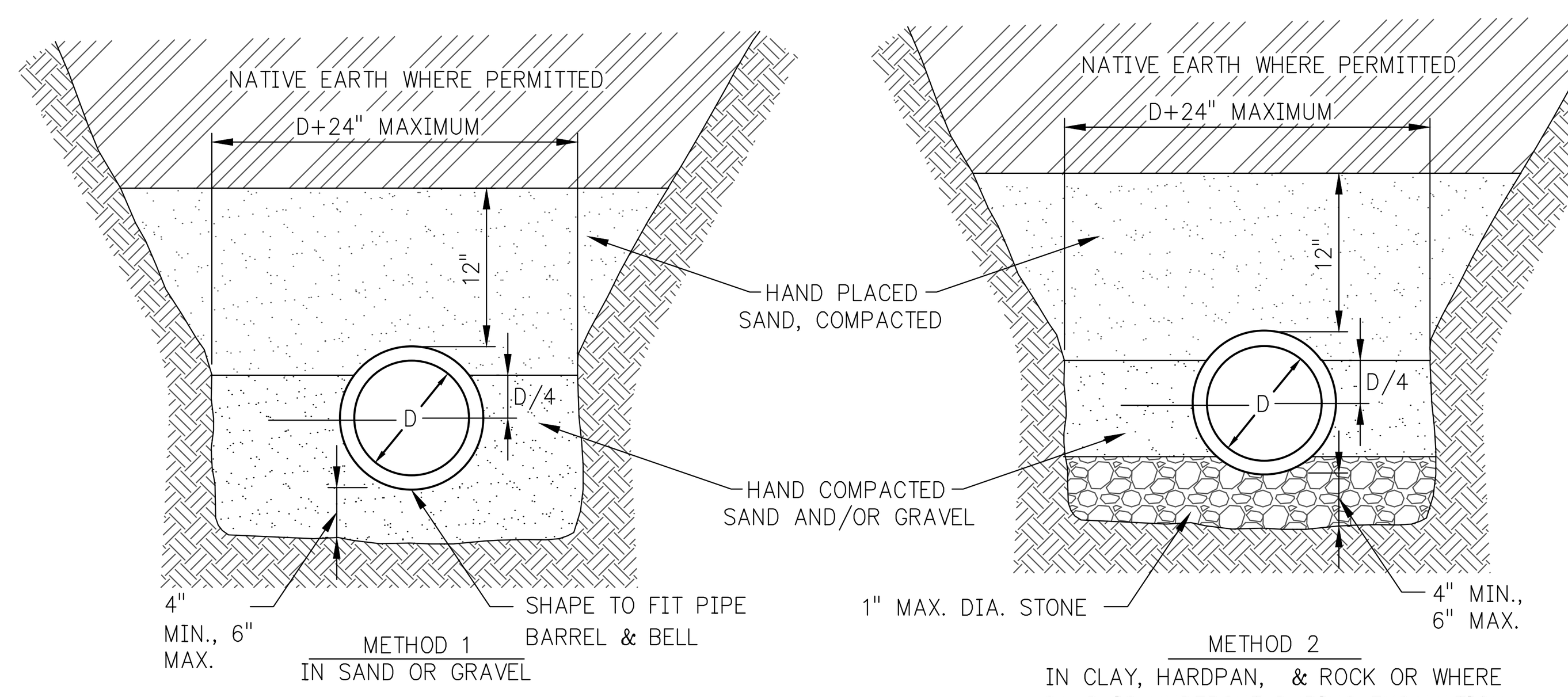
NO SCALE

NOTE:

ALL BACKFILL MATERIAL SHALL CONFORM TO AWWA C600 OR C605 AS APPROPRIATE.

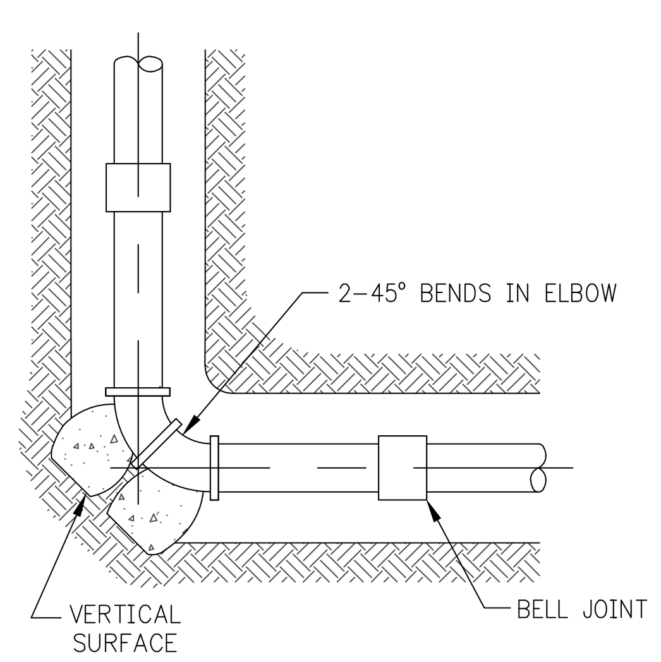
NOTE:

WATERMAIN TRENCHES NEED TO PROVIDE A MINIMUM WIDTH OF PIPE DIAMETER PLUS 16 INCHES FOR 8 INCH TO 18 INCH DIAMETER PLASTIC/FLEXIBLE PIPE MATERIALS. FOR 18 INCH AND LARGER PIPE DIAMETERS, THE MINIMUM TRENCH WIDTH IS 1.25 TIMES THE PIPE DIAMETER PLUS 12 INCHES FOR PLASTIC/FLEXIBLE PIPE MATERIALS.



PIPE BEDDING DETAIL

(CLASS B) NO SCALE

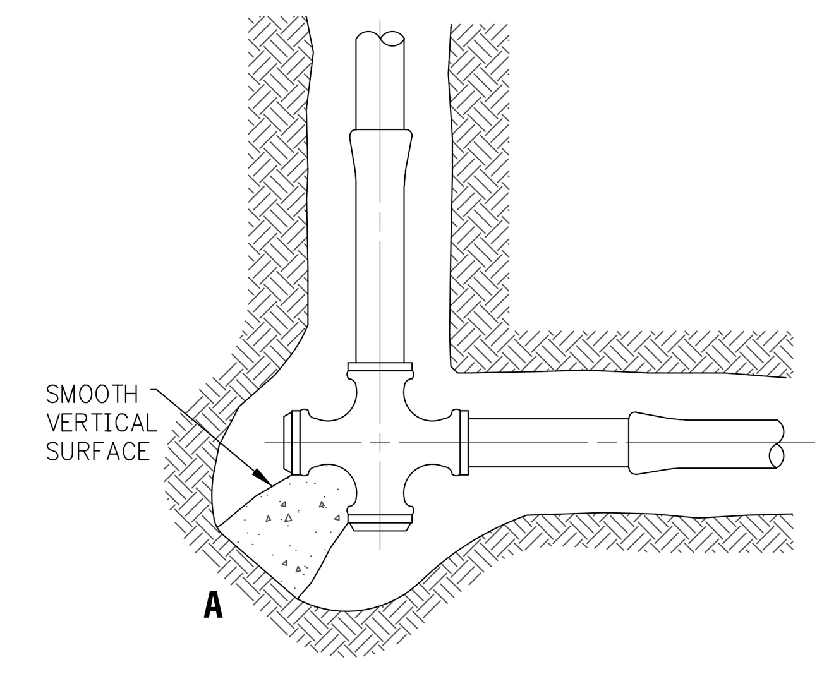


PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
	SURFACE A
4"	1'-9"x 1'-4" = 2.3 SQ.FT.
6"	2'-3"x 2'-0" = 4.5 SQ.FT.
8"	2'-8"x 2'-8" = 7.1 SQ.FT.
10"	3'-0"x 3'-0" = 9.0 SQ.FT.
12"	3'-8"x 3'-8" = 13.5 SQ.FT.
16"	5'-0"x 5'-0" = 25 SQ.FT.

ALL MECHANICAL JOINTS REQUIRE MEGALUGS

TYPICAL BEND DETAIL

NO SCALE

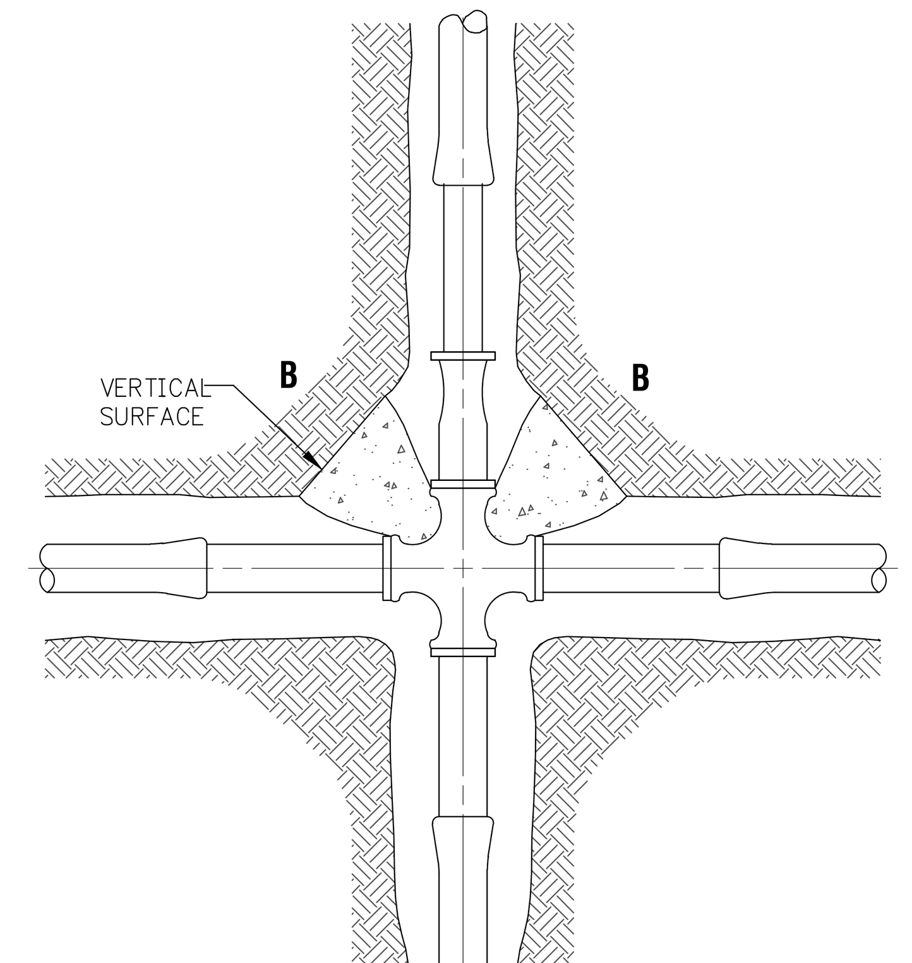


PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
	SURFACE A
4"	1'-9"x 1'-4" = 2.3 SQ. FT.
6"	2'-3"x 2'-0" = 4.5 SQ. FT.
8"	2'-8"x 2'-8" = 7.1 SQ. FT.
10"	3'-0"x 3'-0" = 9.0 SQ. FT.
12"	3'-8"x 3'-8" = 13.5 SQ. FT.

ALL MECHANICAL JOINTS REQUIRE MEGALUGS

CROSS WITH 2 PLUGS DETAIL

NO SCALE

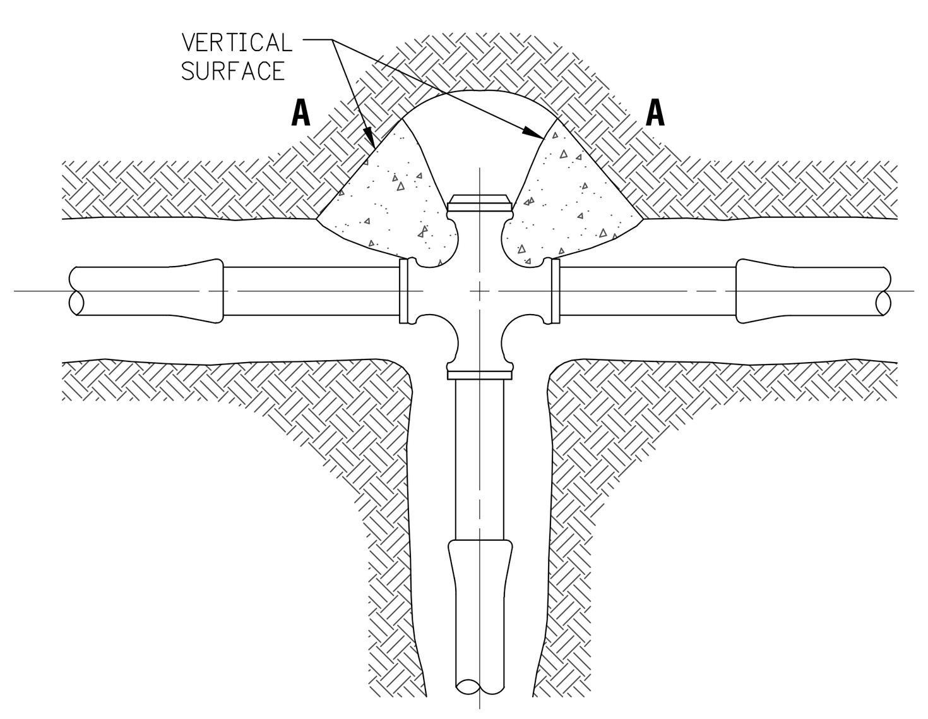


PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
	SURFACE B
4"	0'-6"x 0'-6" = 0.3 SQ.FT.
6"	0'-10"x 0'-8" = 0.6 SQ.FT.
8"	1'-0"x 0'-10" = 0.8 SQ.FT.
10"	1'-4"x 1'-4" = 1.8 SQ.FT.
12"	1'-8"x 1'-8" = 2.8 SQ.FT.
16"	2'-0"x 2'-0" = 4.0 SQ.FT.

ALL MECHANICAL JOINTS REQUIRE MEGALUGS

CROSS AND REDUCER DETAIL

NO SCALE



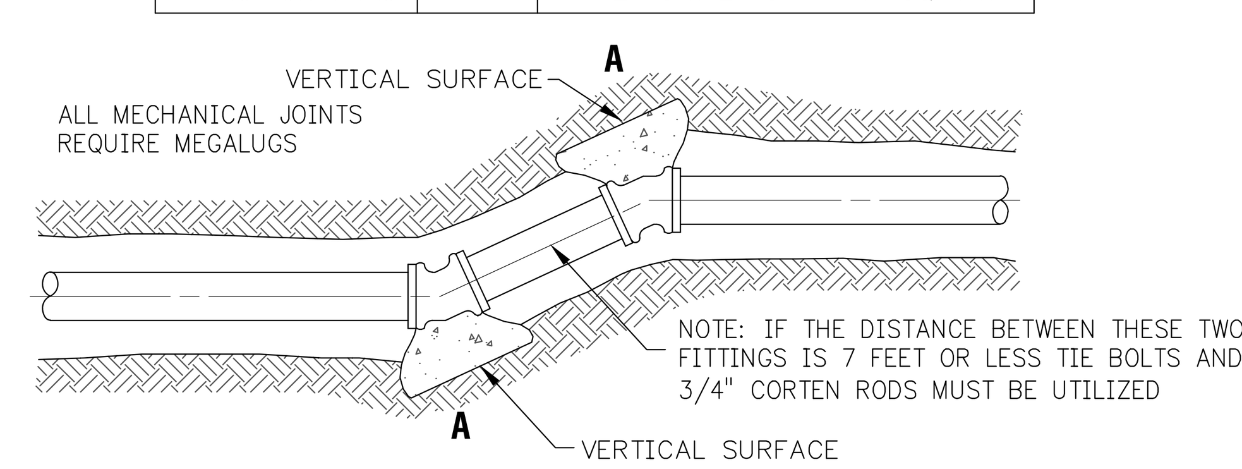
PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
	SURFACE A
4"	1'-0"x 1'-0" = 1.0 SQ.FT.
6"	1'-4"x 1'-0" = 1.8 SQ.FT.
8"	2'-0"x 1'-4" = 2.7 SQ.FT.
10"	1'-10"x 1'-10" = 3.4 SQ.FT.
12"	2'-4"x 2'-4" = 5.4 SQ.FT.
16"	2'-10"x 2'-10" = 8.0 SQ.FT.

ALL MECHANICAL JOINTS REQUIRE MEGALUGS

TYPICAL CROSS AND PLUG DETAIL

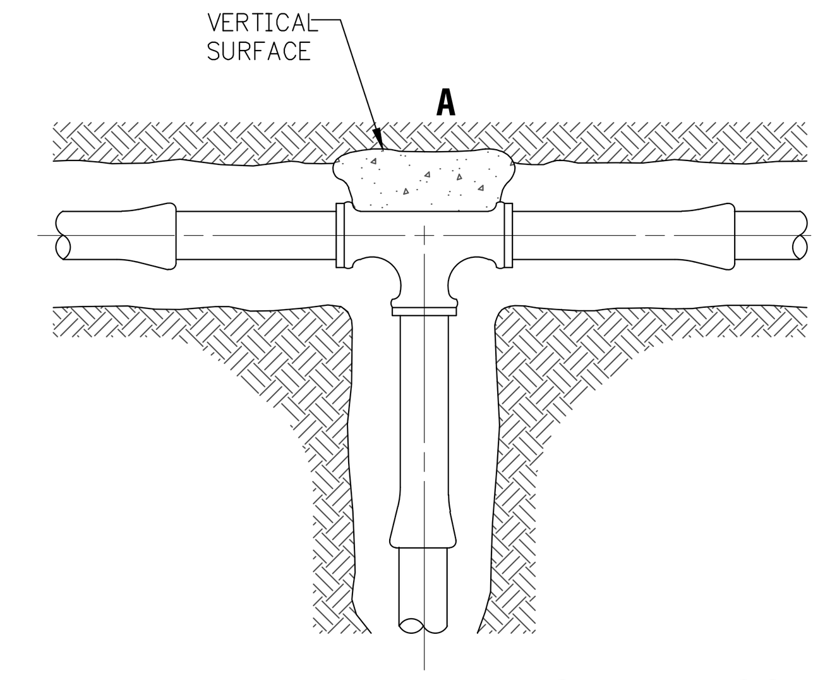
NO SCALE

DEGREE OF BEND IN ELBOW	PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
		SURFACE A
45°	4"	1'-4"x 1'-0" = 1.3 SQ. FT.
45°	6"	1'-8"x 1'-4" = 2.2 SQ. FT.
45°	8"	2'-0"x 2'-0" = 4.0 SQ. FT.
45°	10"	2'-4"x 2'-4" = 5.4 SQ. FT.
45°	12"	2'-8"x 2'-8" = 7.1 SQ. FT.
45°	16"	3'-8"x 3'-8" = 13.5 SQ. FT.
22.5° OR 11.25°	4"	1'-0"x 0'-8" = 0.7 SQ. FT.
22.5° OR 11.25°	6"	1'-4"x 1'-0" = 1.3 SQ. FT.
22.5° OR 11.25°	8"	1'-8"x 1'-4" = 2.2 SQ. FT.
22.5° OR 11.25°	10"	1'-8"x 1'-8" = 2.8 SQ. FT.
22.5° OR 11.25°	12"	1'-10"x 1'-10" = 3.4 SQ. FT.
22.5° OR 11.25°	16"	2'-8"x 2'-8" = 7.1 SQ. FT.



TYPICAL OFFSET DETAIL

NO SCALE

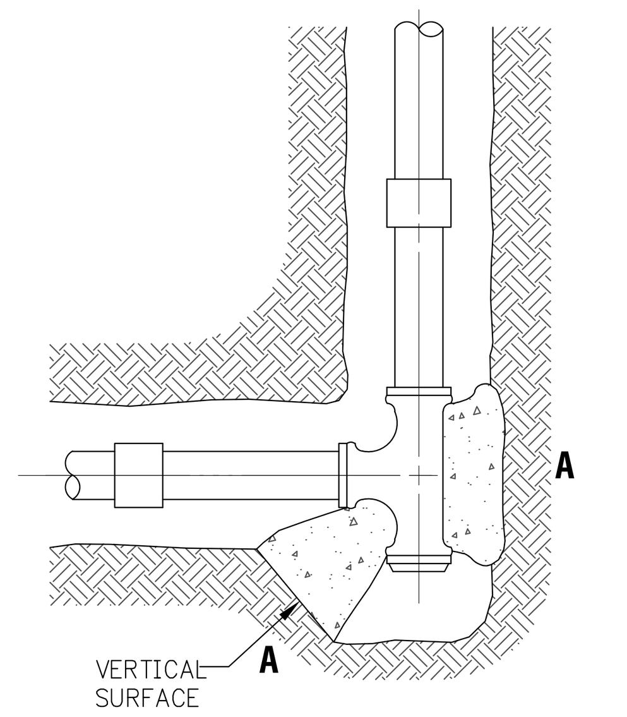


PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
	SURFADCE A
4"	1'-6"x 1'-6" = 2.3 SQ. FT.
6"	1'-9"x 1'-9" = 3.1 SQ. FT.
8"	2'-4"x 2'-4" = 5.4 SQ. FT.
10"	2'-8"x 2'-8" = 7.1 SQ. FT.
12"	3'-0"x 3'-0" = 9.0 SQ. FT.
16"	4'-5"x 4'-5" = 19.5 SQ. FT.

ALL MECHANICAL JOINTS REQUIRE MEGALUGS

TYPICAL TEE CONNECTION DETAIL

NO SCALE

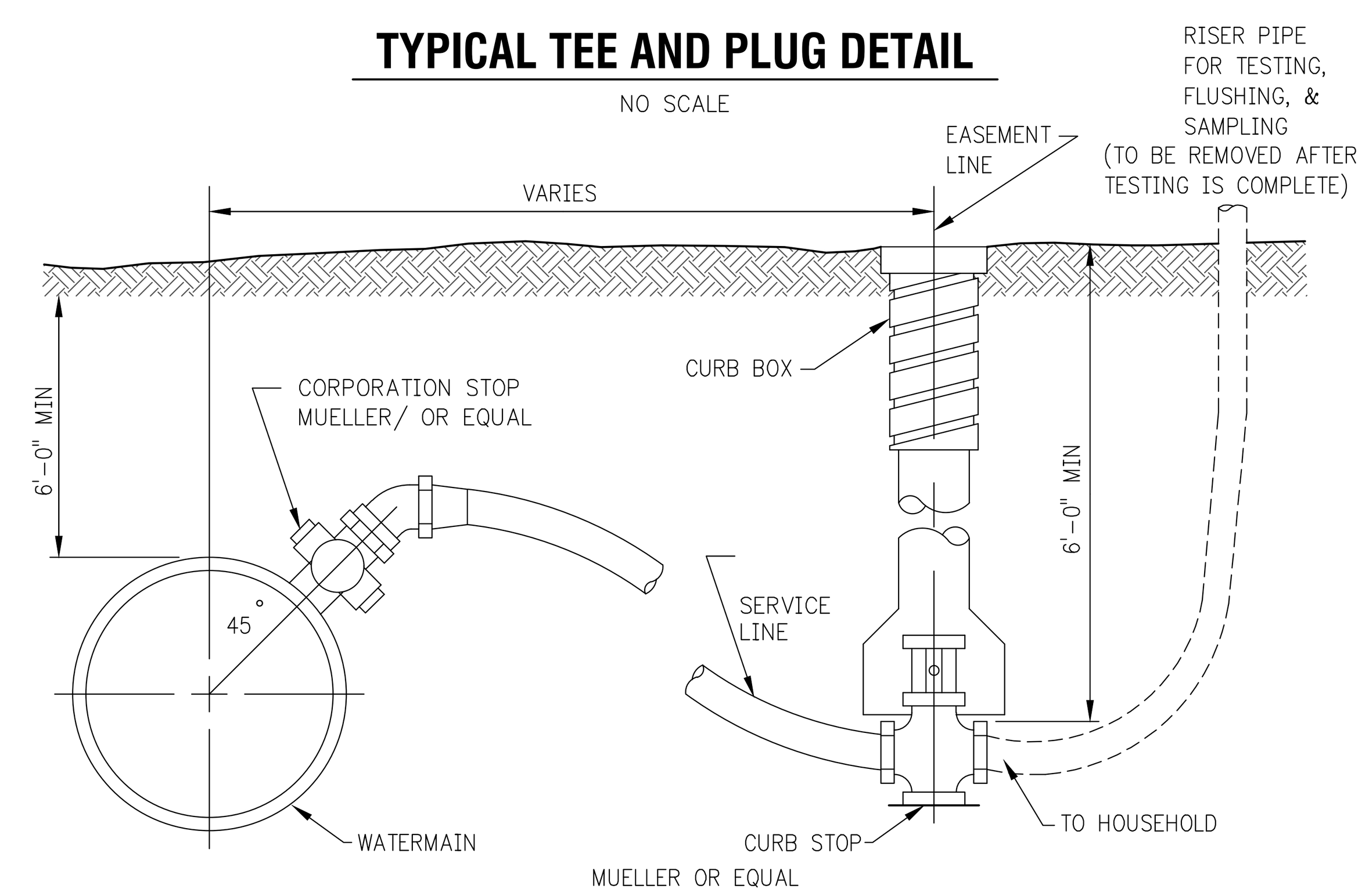


PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS
	SURFACE A
4"	1'-4"x 0'-8" = 0.9 SQ. FT.
6"	1'-8"x 1'-4" = 2.2 SQ. FT.
8"	2'-0"x 1'-9" = 3.5 SQ. FT.
10"	2'-4"x 2'-4" = 5.4 SQ. FT.
12"	2'-8"x 2'-8" = 7.1 SQ. FT.
16"	3'-8"x 3'-8" = 13.5 SQ. FT.

ALL MECHANICAL JOINTS REQUIRE MEGALUGS

TYPICAL TEE AND PLUG DETAIL

NO SCALE

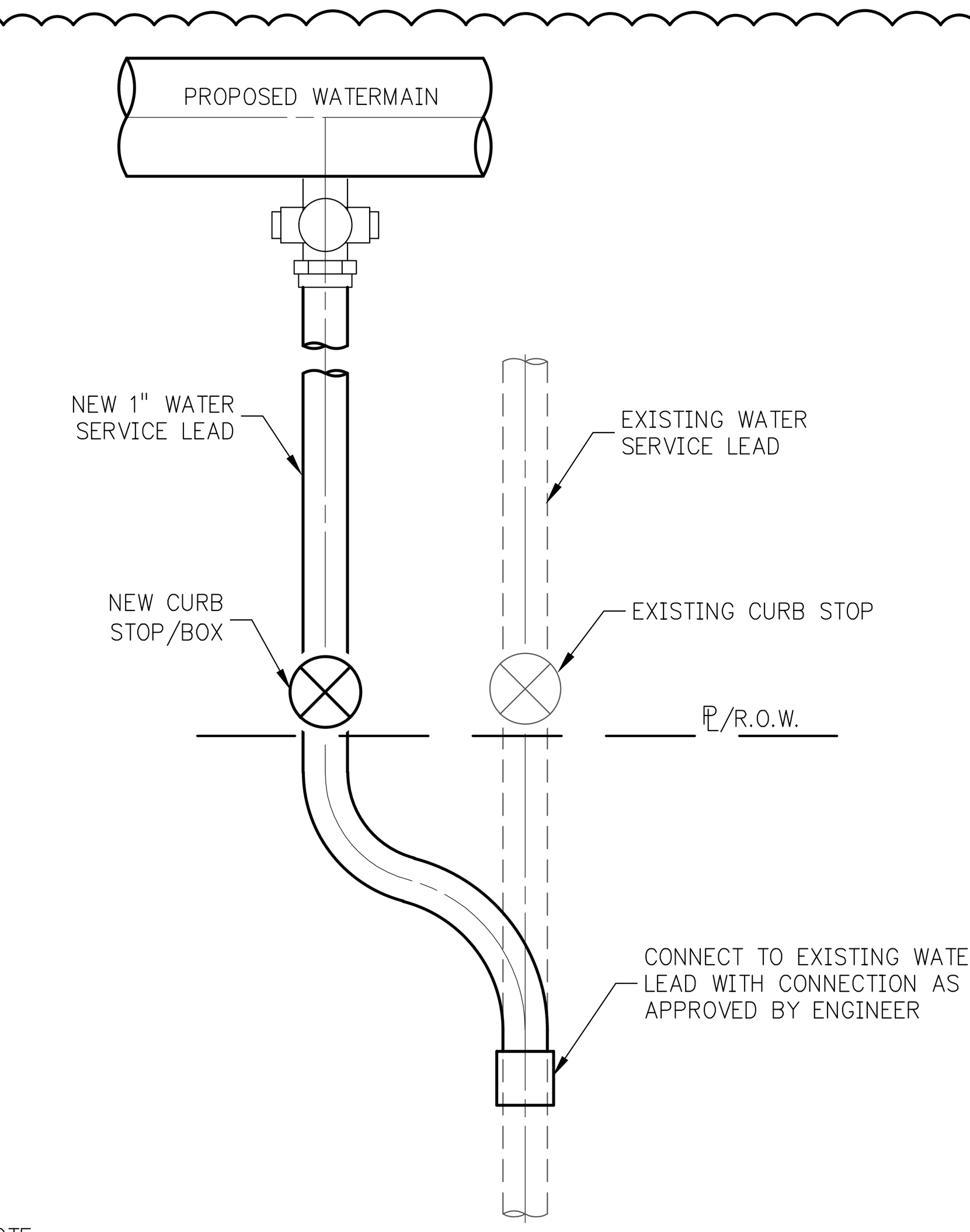


NOTE:
ALL 2" BLOWOFFS AT WATERMAIN STUBS TO BE LOCATED BY ENGINEER/FIELD REPRESENTATIVE.

SERVICE CONNECTION DETAIL

NO SCALE

1



NOTE:
1. CONTRACTOR SHALL INSTALL ALL NEW WATER SERVICES FROM NEW MAIN TO THE EXISTING WATER SERVICE LEAD AT THE RIGHT-OF-WAY ON EXISTING CURB STOP.

WATER SERVICE LEAD TRANSFER DETAIL

NO SCALE

http://gfa.tc
231.946.5874 (p)
231.946.3703 (f)

gfa

ENGINEERING
SURVEYING
TESTING & OPERATIONS
123 West Front Street
Traverse City, MI 49684

REV#	DATE	DRN	DESC
A	05/07/2024	CPB	ISSUED FOR PERMITS
0	07/03/2024	CPB	ISSUED FOR BIDS
1	07/25/2024	CPB	ADDENDUM #1

CHARTER TOWNSHIP OF UNION
DIV. B - WATER MAIN TRANSMISSION & EXTENSIONS
WATER MAIN DETAILS
SECTION 26,27,34,35, T.14 N., R.4 W.
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

P.M.: JENNIFER GRAHAM, P.E.
DR.: C. BALLANCE | CKD.: A. BELANGER
JOB NO.: 23349
C3.1