Department of Management Services
Purchasing Division
241 West South Street
Kalamazoo, MI 49007-4796
Phone: 269.337.8020
www.kalamazoocity.org
cokpurchasing@kalamazoocity.org

INVITATION FOR BID (IFB)

The City of Kalamazoo, Michigan is soliciting sealed bids for:

PROJECT NAME: VanderSalm Court Water Main Replacement
BID REFERENCE #: 91360-010.0

IFB ISSUE DATE: September 10, 2026

BID DUE/OPENING DATE: October 6, 2026 @ 3:00 p.m. Local Time (ET)
Electronic Bids Will Not Be Accepted.

MAILING ADDRESS & INSTRUCTIONS

Mail to:
Purchasing Division
241 W. South Street
Kalamazoo, MI 49007

Questions about this IFB should be directed to:
Department Contact:**Debbie Jung, P.E., Senior Civil Engineer at jungd@kalamazoocity.org**

Include on the Envelope the Project Name and Bid Reference Number. All Envelopes Must Be Sealed.

You are invited to submit a bid for this project. Specifications, terms, conditions and instructions for submitting bids are contained herein. This Invitation for Bid with all pages, documents and attachments contained herein, or subsequently added to and made a part hereof, submitted as a fully and properly executed bid shall constitute the contract between the City and the successful bidder when approved and accepted on behalf of the City by an authorized official or agent of the City. Please review the bid document as soon as possible and note the **DEADLINE FOR QUESTIONS** in the Instructions to Bidders.

All bidders shall complete and return the Bid and Award page(s) and submit all information requested herein in order for a bid to be responsive. The bid document shall be returned in its entirety, in a properly identified and sealed envelope to the Purchasing Division at the above address. **BIDS MUST BE RECEIVED BEFORE THE DUE DATE - LATE BIDS WILL NOT BE CONSIDERED.** The City reserves the right to postpone the bid opening for its own convenience.

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CITY OF KALAMAZOO – INVITATION FOR BIDS
VanderSalm Court Water Main Replacement **Bid Reference #: 91360-010.0**

STATEMENT OF NO BID

NOTE: If you <u>DO NOT</u> intend to bid on this commodity or service, please complete and return this form immediately. Your response will assist us in evaluating all responses for this important project and to improve our bid solicitation process.

The Purchasing Division of the City of Kalamazoo wishes to keep its bidders list file up-to-date. If, for any reason you cannot supply the commodity/service noted in this bid solicitation, this form must be completed and returned to remain on the particular bid list for future projects of this type.

If you do not respond to this inquiry within the time set for the bid opening date and time noted, we will assume that you can no longer supply this commodity/service, and your name will be removed from this bid list.

_____ Specifications too "tight", i.e. geared toward one brand or manufacturer only (explain below).

_____ Specifications are unclear (explain below).

_____ We are unable to meet specifications.

_____ Insufficient time to respond to the Invitation for Bid.

_____ Our schedule would not permit us to perform.

_____ We are unable to meet bond requirements.

_____ We are unable to meet insurance requirements.

_____ We do not offer this product or service.

_____ Remove us from your bidders list for this commodity or service.

_____ Other (specify below).

REMARKS: _____

_____

SIGNED: _____ NAME: _____
(Type or Print)

TITLE: _____ DATE: _____

FIRM NAME: _____
(if any)

ADDRESS: _____
(Street address) (City) (State) (Zip)

PHONE: _____ EMAIL: _____

SECTION I
INSTRUCTIONS TO BIDDERS

1. **EXAMINATION OF BID DOCUMENT**-Before submitting a bid, bidders shall carefully examine the specifications and shall fully inform themselves as to all existing conditions and limitations. The bidder shall indicate in the bid the sum to cover the cost of all items included on the bid form.

2. **PREPARATION OF BID**-The bid shall be legibly prepared in ink or typed. If a unit price or extension already entered by the bidder on the Bid and Award form is to be altered, it shall be crossed out and the new unit price or extension entered above or below and initialed by the bidder with ink. The bid shall be legally signed and the complete address of the bidder given thereon.

   All bids shall be tightly sealed in an envelope plainly marked SEALED BID and identified by project name, bid opening date and time. Bids opened by mistake, due to improper identification, will be so documented and resealed. The Purchasing Division will maintain and guarantee confidentiality of the contents until the specified opening date and time. Bids submitted electronically will not be accepted.

3. **EXPLANATION TO BIDDERS**-Any binding explanation desired by a bidder regarding the meaning or interpretation of the Invitation for Bids (IFB) and attachments must be requested in writing, **at least 5 business days before the bid opening** so a reply may reach all prospective bidders prior to the submission of bids. Any information given to a prospective bidder concerning the IFB will be furnished to all prospective bidders as an amendment or addendum to the IFB if such information would be prejudicial to uninformed bidders. Receipt of amendments or addenda by a bidder must be acknowledged in the bid by attachment, or by letter or fax received before the time set for opening of bids. Oral explanation or instructions given prior to the opening will not be binding.

4. **CASH DISCOUNTS**-Discount offered for payment of less than thirty (30) days will not be considered in evaluating bids for award. Offered discounts of less than thirty (30) days will be taken if payment is made within the discount period, even though not considered in evaluation of the bid.

5. **WITHDRAWAL OF BIDS**-Bids may be withdrawn in person by a bidder or authorized representative, provided their identity is made known and a receipt is signed for the bid, but only if the withdrawal is made prior to the exact time set for receipt of bid. No bid may be withdrawn for at least ninety (90) days after bid opening.

6. **ALTERNATE BIDS**-bidders are cautioned that any alternate bid, unless specifically requested or any changes, insertions or omissions to the terms and conditions, specifications or any other requirement of this IFB may be considered non-responsive, and at the option of the City, result in rejection of the alternate bid.

7. **LATE BIDS**-Any bid received at the office designated herein after the exact time specified for receipt will not be considered. (Note: The City reserves the right to consider bids that have been determined by the City to be received late due to mishandling by the City after receipt of the bid and no award has been made.)

8. **UNIT PRICES**-If there is a discrepancy between unit prices and their extension, unit prices shall prevail.

9. **BID SUBMITTAL**- Bidders can submit sealed bids in one of the following ways:

   9.1. **Mail your bid,** to be received before the bid due date and time indicated in the bid document, to the City of Kalamazoo at the following address:

City of Kalamazoo
Purchasing Division
241 West South Street
Kalamazoo, MI 49007

9.2. **Deliver your bid to City Hall In-Person** before the bid due date and time indicated in the bid document.

9.3. **Deliver your bid to the Treasurer's Office Payment Drop Box** located in the northwest corner of City Hall (see photos below) before the bid due date and time indicated in the bid document.





1. Open drop box located at City Hall.

2. Insert SEALED BID here.





10. **BID TABULATIONS**- The Purchasing Division makes an effort to post bid tabulations to the City of Kalamazoo website within 24 hours after the bid opening date and time at: https://www.kalamazoocity.org/bidopportunities. However, in certain cases the posting of the bid tabulation may extend beyond the 24-hour window.

SECTION II
BID AND AWARD

The undersigned having become thoroughly familiar with all of the bid/contract documents incorporated herein, the project site and the location conditions affecting the work, hereby proposes to perform everything required to be performed in strict conformity with the requirements of these documents, and to provide and furnish all the equipment, labor and materials necessary to complete in a professional manner the *VanderSalm Court Water Main Replacement*, meeting or exceeding the specifications as set forth herein for the prices as stated below.

VANDERSALM COURT WATER MAIN REPLACEMENT

ITEM #	PAY ITEM	QTY	UNIT	UNIT PRICE	EXTENDED PRICE
1	Mobilization, Max. 5% of Total Bid	1	LS		
2	Tree, Rem, 19 inch to 36 inch	1	Ea		
3	Tree, Rem, 37 inch or Larger	1	Ea		
4	Tree, Rem, 6 inch to 18 inch	1	Ea		
5	Fence, Rem	92	Ft		
6	Sidewalk, Rem	14	Syd		
7	Pavt, Rem, Modified	300	Syd		
8	Non Haz Contaminated Material Handling and Disposal, LM, Modified	20	Cyd		
9	Subgrade Undercutting, Type II	20	Cyd		
10	Machine Grading, Modified	1	LSUM		
11	Erosion Control, Gravel Access Approach	1	Ea		
12	Erosion Control, Silt Fence	200	Ft		
13	Erosion Control, Inlet Protection, Fabric Drop, Modified	6	Ea		
14	Aggregate Base, 8 inch	850	Syd		
15	Shld, Cl II, 4 inch	80	Syd		
16	Maintenance Gravel	30	Ton		
17	Sewer, Cl E, 12 inch, Tr Det B	78	Ft		
18	Dr Structure, 24 inch dia	1	Ea		
19	Dr Structure, Tap, 12 inch	1	Ea		
20	Cover, Adj, Modified	1	Ea		
21	Dr Structure Cover, Type D, Modified	1	Ea		

ITEM #	PAY ITEM	QTY	UNIT	UNIT PRICE	EXTENDED PRICE
22	HMA, 13A, Modified	95	Ton		
23	HMA, 36A, Modified	75	Ton		
24	Sidewalk, Conc, 4 inch	125	Sft		
25	Fence, Chain Link, 48 inch	92	Ft		
26	Maintaining Traffic, Modified	1	LSUM		
27	Slope Restoration, Modified	1	LSUM		
28	Dewatering System For Contaminated Groundwater - % markup	1	LSUM		
29	Live Tap, 12 inch by 6 inch, Modified	1	Ea		
30	Valve Box, Rem	1	Ea		
31	Water Main, 2 inch, Cut and Plug	1	Ea		
32	Water Main, DI, 6 inch, Tr Det G	40	Ft		
33	Water Main, 6 inch, HDD	455	Ft		
34	Polyethylene Encasement, Modified	495	Ft		
35	Compact Ductile Iron Water Main Fittings, Modified	74	Lb		
36	Insulation Board, 2 inch	225	Sft		
37	Water Service, 1 1/4 inch, Modified	3	Ea		
38	Copper Water Service Pipe, 1 1/4 inch, Modified	100	Ft		
39	Fire Hydrant	1	Ea		
40	Sanitary Sewer Lead Conflict, 4 inch, Modified	25	Ft		
41	Sanitary Sewer Lead Conflict, 6 inch, Modified	25	Ft		
				TOTAL BID AMOUNT	

Bidder shall provide all of the information as requested herein with their bid. **Failure to do so and/or failure to provide post-bid requested information may be cause for rejecting the bid as non-responsive.**

Work shall start within **10** working days after receipt of notification by Contractor of Notice to Proceed, and final completion shall be **June 4, 2027**.

Bidder/Contractor has examined and carefully studied the bidding documents and attachments, and acknowledges receipt of the following addenda:

Addendum No: _____ _____ _____ _____ _____

Dated: _____ _____ _____ _____ _____

By my signature below, I certify that the firm bidding on this contract, when making hiring decisions, does not use a past criminal conviction as a bar to or preclude a person with a criminal conviction from being considered for employment with the bidding firm unless otherwise precluded by federal or state law. I further certify that I have read and agree to be bound by the provisions of the City's Non-Discrimination Clause found in Appendix A as updated by City Ordinance 1856.

Signed: _____ Name: _____

Title: _____

CITY OF KALAMAZOO EX-OFFENDER POLICY CHECKLIST

As part of the City's commitment to reducing unacceptable poverty, encouraging rehabilitation, reducing recidivism, and strengthening families in Kalamazoo, the City has updated its Purchasing Policy to ensure that firms with whom the City does business share in this commitment by utilizing hiring practices that do not unfairly deny people with arrest and conviction records gainful employment. *(Important: This requirement also extends to any subcontractors the bidder intends to use to fulfill the contract for goods or services being sought from the City.)*

Part I: Proof that the bidder does not inquire about an individual's past arrest or criminal history on the bidder's employment application form

☐ Attach a copy of the current application for employment being used by the bidder

Part II: Certification that the bidder does not use an individual's past arrest or criminal history to unlawfully discriminate against them by checking *one or more* of the following:

☐ That pursuant to federal or state law bidder is precluded from hiring persons with certain criminal records from holding particular positions or engaging in certain occupations by providing a cite to the applicable statute or regulation; if checking this box, provide a citation to the applicable statute or rule upon which the bidder is relying:

_____

☐ That bidder conducts criminal history background checks only as necessary, and only after making a conditional offer of employment; that any withdrawal of an offer of employment to an individual because of a past criminal history is job-related and consistent with business necessity after the individual has been provided an individualized assessment opportunity to review and challenge or supplement the history of past criminal conduct being relied upon by the bidder;

☐ That the use by bidder of criminal history background checks complies with the U.S. Equal Employment Opportunity Commission's Enforcement Guidance on the Consideration of Arrest and Conviction Records in Employment Decisions and that the bidder has not had a determination rendered against it in the past 7 years that it discriminated against a person through the use of an individual's arrest or criminal history.

I CERTIFY THAT THE ABOVE STATEMENTS ARE TRUE.

_____ _____
Date Signature

_____
Printed Name

_____
Position

CITY OF KALAMAZOO
LOCAL PREFERENCE POLICY AND CERTIFICATION

The lowest responsive Kalamazoo County bidder whose bid is not low but falls within 2% of the lowest responsive bid is afforded the opportunity to become the successful bidder if it agrees to reduce its bid to match the lowest responsive bid. The City of Kalamazoo is the sole determiner whether a bidder is responsible, qualifies as a Kalamazoo County bidder, and if its bid is responsive to the City's specifications, terms, and conditions.

If the lowest Kalamazoo County bidder chooses not to match the lowest bid, the next lowest responsive Kalamazoo County bidder whose bid falls within 2% of the lowest bid is given the opportunity to match the lowest responsive bid.

To qualify as a Kalamazoo County bidder, the bidder must meet both the following criteria:

1. Have a physical presence in Kalamazoo County by maintaining a permanent office, factory, or other facility in Kalamazoo County with employees working in Kalamazoo County.

2. Have paid real or personal property taxes related to said business to the City of Kalamazoo, County of Kalamazoo, or other municipal corporation within Kalamazoo County in the previous tax year, except that a non-profit entity need not meet this requirement.

This local preference policy applies only to purchases for materials, supplies, capital outlay, and services for maintenance, repair or operation of City facilities that are over $25,000. If more than 50% of the contract is sub-contracted to firms located outside of Kalamazoo County that bid does not qualify for the local preference policy outlined above. The local preference policy will not apply if prohibited by law. The Purchasing Agent has the authority to finally determine if the bidder qualifies as a Kalamazoo County bidder as set forth herein. The Purchasing Agent may take into account the permanency of the business in Kalamazoo, and whether the business appears to be claiming to be a Kalamazoo County business solely or primarily to qualify as a Kalamazoo County business under this Resolution, and any other material factors.

CERTIFICATION

If you qualify as a Kalamazoo County bidder and wish to be considered for the local preference provisions as provided above, please certify that fact by providing the information requested below and attesting to its accuracy.
15.
Firm Name:_____

Street Address of Business: _____

City, State, and Zip Code: _____

Number of employees working in Kalamazoo County: _____

Name the city or township to which business real and/or personal property taxes are paid or provide non-profit status:
_____
The above information is accurate:

Signature: _____ Date: _____

Title: _____

Revised April 2008

SUB-CONTRACTING INFORMATION

Using the table below provide information regarding the sub-contractors that will be working to fulfill the requirements of this contract. Submit as complete a list as possible at the time of your bid. You will have two business days after the bid opening to update the list as needed. The information provided will be used for evaluating your bid and to assist in determining if you qualify as a Kalamazoo County Bidder.

INSTRUCTIONS:
Nature of Contract - State a brief description of the work or product that will be provided.
BIDDER – Provide the percentage of services or construction activity that will be provided by your firm.
Subcontractors:

- Provide the Name and Address for each subcontractor providing services or construction activities for this contract.
- Indicate with **YES** or **NO** under the "Local?" box if they qualify as a "Kalamazoo County bidder" (see local preference certification page)
- Provide the percentage for the dollar amount of the contract work they will be performing.

If there are not enough lines in the table below make additional copies as needed.

Nature of Contract:		
Subcontractor Name/Address	***Local?***	**% Of Total Contract**
BIDDER		

Does this List of Subcontractors need to be updated after the bid opening? **Yes __ No __**

REFERENCE QUESTIONNAIRE

Please answer the following questions completely.

1. Firm name: _____

2. Established: Year _____ Number of Employees: _____

3. Type of organization:

   a. Individual: _____ b. Partnership: _____
   c. Corporation: _____ d. Other: _____

4. Former firm name(s) if any, and year(s) in business:

   _____

   _____

5. Include at least 3 references of contracts for similar work performed over the last five (5) years. Include: owner, contact person and phone number and description of work performed.

   5.1 Company Name: _____

   Address: _____

   Phone: _____

   Contact: _____

   Type of work or contract: _____

   5.2 Company Name: _____

   Address: _____

   Phone: _____

   Contact: _____

   Type of work or contract: _____

   5.3 Company Name: _____

   Address: _____

   Phone: _____

   Contact: _____

   Type of work or contract: _____

I hereby certify that all of the information provided is true and answered to the best of my ability.

Signed: _____ Name: _____
(type or print)

Title: _____ Date: _____

I hereby state that all the information I have provided is true, accurate and complete. I hereby state that I have the authority to submit this bid which will become a binding contract if accepted by the City of Kalamazoo. I hereby state that I have not communicated with nor otherwise colluded with any other bidder, nor have I made any agreement with nor offered/accepted anything of value to/from an official or employee of the City of Kalamazoo that would tend to destroy or hinder free competition.

The firm's identification information provided will be used by the City for purchase orders, payment, and other contractual purposes. If the contractual relationship is with, or the payment made to, another firm please provide a complete explanation on your letterhead and attach to your bid. Please provide for accounts payable purposes:

Tax Identification Number (Federal ID): _____

Remittance Address: _____

Financial Contact Name:_____ Financial Contact Phone Number:_____

Financial Contact Email Address:_____

I hereby state that I have read, understand, and agree to be bound by all terms and conditions of this bid document.

SIGNED: _____ NAME: _____
(Type or Print)

TITLE: _____ DATE: _____

FIRM NAME: _____
(If any)

ADDRESS: _____
(Street address) (City) (State) (Zip)

PHONE: _____ EMAIL: _____

FOR CITY USE ONLY - DO NOT WRITE BELOW

SECTION III
CITY OF KALAMAZOO
INDEMNITY AND INSURANCE

Contractor, or any of their subcontractors, shall not commence work under this contract until they have obtained the insurance required under this paragraph, and shall keep such insurance in force during the entire life of this contract. All coverage shall be with insurance companies licensed and admitted to do business in the State of Michigan and acceptable to the City of Kalamazoo within ten (10) days of the Notice of Award. The requirements below should not be interpreted to limit the liability of the Contractor. All deductibles and SIR's are the responsibility of the Contractor.

The Contractor shall procure and maintain the following insurance coverage:

Workers' Compensation Insurance including Employers' Liability Coverage, in accordance with all applicable statutes of the State of Michigan.

Commercial General Liability Insurance on an "Occurrence Basis" with limits of liability not less than $1,000,000 per occurrence and aggregate. Coverage shall include the following extensions: (A) Contractual Liability; (B) Products and Completed Operations; (C) Independent Contractors Coverage; (D) Broad Form General Liability Extensions or equivalent, if not already included and (E) XCU coverage if the nature of the contract requires XC or U work.

Automobile Liability in accordance with all applicable statutes of the State of Michigan, with limits of liability not less than $1,000,000 per occurrence, combined single limit for Bodily Injury, and Property Damage. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.

Additional Insured: Commercial General Liability and Automobile Liability, as described above, shall include an endorsement stating that the following shall be *Additional Insureds*: The City of Kalamazoo, all elected and appointed officials, all employees and volunteers, all boards, commissions, and/or authorities and board members, including employees and volunteers thereof. It is understood and agreed that by naming the City of Kalamazoo as additional insured, coverage afforded is considered to be primary and any other insurance the City of Kalamazoo may have in effect shall be considered secondary and/or excess.

To the fullest extent permitted by law the Contractor agrees to defend, pay on behalf of, indemnify, and hold harmless the City of Kalamazoo, its elected and appointed officials, employees, agents and volunteers, and others working on behalf of the City of Kalamazoo against any and all claims, demands, suits, or loss, including all costs connected therewith, and for any damages which may be asserted, claimed, or recovered against or from the City of Kalamazoo, by reason of personal injury, including bodily injury or death and/or property damage, including loss of use thereof, which arises out of, or is in any way connected or associated with this contract.

Cancellation Notice: All policies, as described above, shall include an endorsement stating that it is understood and agreed that thirty (30) days, or ten (10) days for non-payment of premium, Advance Written Notice of Cancellation, Non-Renewal, Reduction, and/or Material Change shall be sent to: City of Kalamazoo, Purchasing Division, 241 W. South Street, Kalamazoo, MI 49007.

Proof of Insurance Coverage: The Contractor shall provide the City of Kalamazoo at the time that the contracts are returned by him/her for execution, or within 10 days of Notice of Award, whichever is earlier, a Certificate of Insurance as well as the required endorsements. In lieu of required endorsements, if applicable, a copy of the policy sections where coverage is provided for additional insured and cancellation notice would be acceptable. Copies or certified copies of all policies mentioned above shall be furnished, if so requested.

INDEMNITY AND INSURANCE
Continued

If any of the above coverages expire during the term of this contract, the Contractor shall deliver renewal certificates and/or policies to City of Kalamazoo at least ten (10) days prior to the expiration date.

Scope of Coverage: The above requirements and conditions shall not be interpreted to limit the liability of the Contractor under this Contract, but shall be interpreted to provide the greatest benefit to the City and its officers and employees. The above listed coverages shall protect the Contractor, its employees, agents, representatives and subcontractors against claims arising out of the work performed. It shall be the Contractor's responsibility to provide similar insurance for each subcontractor or to provide evidence that each subcontractor carries such insurance in like amount prior to the time such subcontractor proceeds to perform under the contract.

SECTION IV
SPECIAL REQUIREMENTS

1. BID BOND/GUARANTEE

The bid must be accompanied by a bid bond which shall not be less than five (5%) percent of the total amount of the bid. No bid will be considered unless it is accompanied by the required guarantee. The bid guarantee shall ensure the execution of the bid and award, and the furnishing of a performance bond and a labor and material bond (A and B below) by the successful bidder. (Contractors Note: A cashier's or certified check in lieu of a bid bond is **NOT** acceptable.)

A. PERFORMANCE BOND

A performance bond shall be furnished in the full amount of the contract ensuring the City of faithful performance of all the provisions of the contract, and the satisfactory performance of any equipment required hereunder. The bond shall also ensure the City against defective workmanship and/or materials.

B. LABOR AND MATERIAL (PAYMENT) BOND

A labor and material (payment) bond shall be furnished for the period covered by the contract, in the full amount of the contract for the protection of labor and material suppliers and sub-contractors.

Bonds shall be secured by a guaranty or a surety company listed in the latest issue of the U.S. Treasury, circular 570, and licensed to do business in the State of Michigan, and written in favor of the City of Kalamazoo. The amount of such bonds shall be within the maximum amount specified for such company in said circular 570. The bonds shall be accompanied by a power of attorney showing authority of the bonding agent to sign such bonds on behalf of the guaranty or surety company. The cost of the bonds shall be borne by the Contractor.

Failure of the Contractor to supply the required bonds within ten (10) days after Notice of Award, or within such extended period as the Purchasing Agent may agree to, shall constitute a default and the City of Kalamazoo may either award this contract to the next lowest bidder or re-advertise for bids and may charge against the Contractor for the difference between the amount of the bid and the amount for which a contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the bid bond. If a more favorable bid is received by re-advertising, the defaulting bidder shall have no claim against the City of Kalamazoo for a refund.

2. WAIVERS OF LIEN

Upon completion of all work and request for final payment, the Contractor shall furnish a 100% waiver of lien from each supplier and sub-contractor covering all items of the work. Failure to supply waivers of lien for the entire job upon completion and final payment request will be considered grounds for withholding final payment.

3. SUBCONTRACTORS

A. Contractors shall state on the Bid and Award page any and all subcontractors to be associated with their bid, including the type work to be performed. Any and all subcontractors shall be bound by all of the terms, conditions and requirements of the contract; however, the prime contractor shall be responsible for the performance of the total work requirements.

B. The Contractor shall cooperate with the City of Kalamazoo in meeting its commitments and goals with regard to maximum utilization of minority and women business enterprise, and shall use its best efforts to ensure that minority and women business enterprises have maximum practicable opportunity to compete for subcontract work under this agreement.

4. PREVAILING WAGES

The successful bidder will be required to comply with Section 2-125 of the Code of Ordinances of the City of Kalamazoo regarding prevailing wages and Appendix B attached, incorporated herein by reference. Special note: This provision applies only to projects in excess of $100,000 for City ($2,000 federal) funded projects.

The City's requirements as it relates to prevailing wages includes a meeting with the City's Purchasing Division **prior** to work and payroll and work monitoring to be reported in LCPtracker during the duration of the contract. Please contact Purchasing at (269) 337-8020 if you have any questions regarding Davis-Bacon provisions.

SECTION V
GENERAL PROVISIONS

1. INTENT

It is the intent of these plans and specifications to provide for a contractor who shall provide all labor, materials, tools, and equipment necessary to perform in a professional manner for the ***VanderSalm Court Water Main Replacement*** project as described in the specifications and bid document.

2. SCOPE OF WORK

INSTALLATION OF 6" WATER MAIN IN PUBLIC RIGHT-OF-WAY AND PROPOSED EASEMENT; RECONNECTION OF EXISTING WATER SERVICES, STORM SEWER INSTALLATION; ABANDONMENT OF EXISTING WATER MAIN; HMA PAVING; AND REPLACEMENT OF DRIVEWAYS AND SIDEWALK AS NEEDED.

3. QUANTITIES

The quantities shown or indicated on the plans are only estimated. Payment will be made based upon unit pricing of quantities installed.

4. UNIT PRICING

The unit price, including its pro-rata share of overhead, multiplied by the quantity shown shall represent the total bid and shall be held firm for the life of this contract. Any bid not conforming to this requirement may be rejected as non-responsive.

5. INSPECTION OF WORK

The City may maintain inspectors on the job who shall at all times have access to work.

6. INSPECTION OF SITE

Each bidder shall visit the site of the proposed work and fully acquaint himself/herself with the existing conditions relating to construction and labor and shall fully inform himself/herself as to the facilities involved and the difficulties and restrictions attending the performance of this contract. The bidder shall thoroughly examine and become familiar with the drawings, specifications and all other bid/contract documents. The Contractor, by the execution of this contract, shall in no way be relieved of any obligation under it due to his/her failure to receive or examine any form or legal instrument, or to visit the site and acquaint himself/herself with the conditions there existing. No allowance shall be made subsequently in this connection in behalf of the Contractor for any negligence of his/her part. For inspection call the Public Services Department, Water Resources Division.

7. INSPECTION AND TESTING

The Contractor shall give the City's Project Manager (Project Manager) timely notice of readiness of the work for all required inspections, tests or approvals, and shall cooperate with inspections and testing personnel to facilitate required inspections or tests. Verification that testing required by the contract has been completed on one phase of the project prior to proceeding to the next phase is the responsibility of the Contractor. In the event that the project has proceeded without required testing, the Contractor shall insure that the required testing is obtained retroactively and shall provide access for testing as necessary at his/her sole expense.

8. MATERIALS INSPECTION AND RESPONSIBILITY

8.1 The City shall have the right to inspect any materials to be used in carrying out the terms of the contract.

8.2 The City does not assume any responsibility for the contracted quality and standard of all materials, equipment, components or completed work furnished under this contract.

8.3 Any materials, equipment, components or completed work which does not comply with contract specifications, MDOT, or State codes may be rejected by the City, and shall be replaced by the Contractor at no cost to the City.

8.4 Any materials, equipment or components rejected shall be removed within a reasonable period of time from the premises of the City at the entire expense of the Contractor after notice has been given by the City to the Contractor that such materials, equipment or components have been rejected.

9. LAYING OUT WORK

Before submitting a bid the Contractor shall verify all measurements and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of differences between actual dimensions and the measurements indicated on the drawings. Any difference that may be found shall be submitted to the City Engineer for consideration before proceeding. The City will provide staking for the project.

10. SUPERVISION

The Contractor shall employ an experienced superintendent or foreperson on the job at all times.

11. TEMPORARY UTILITIES

11.1 Temporary or construction water will NOT be available on the sites. The Contractor must provide for drinking water.

11.2 Temporary toilets: To be supplied by the Contractor as may be necessary.

11.3 Municipal water may be used for hydro-seeding and irrigation when performing restoration activities. A City provided backflow preventer shall be used.

12. SITE SECURITY

The Contractor shall be responsible for job site security of all materials and tools and no claim for loss or damage will be considered by the City.

13. TARDINESS

Construction delays resulting from tardiness on the part of the Contractor will be reviewed by the City in the event of any request for contract extension by the Contractor.

14. PROGRESS SCHEDULE

See Progress Clause Special Provision

15. CONSTRUCTION SCHEDULE AND COORDINATION

See Construction Coordination Clause Special Provision

16. CONTRACTOR COORDINATION

16.1 The Contractor shall make every effort to coordinate every aspect of his work with that of other contractors on the site to assure an efficiently managed and proper installation.

16.2 Consideration shall be given to timing of construction, maintaining adequate construction access, and construction staging. Any costs associated with this coordination shall be included in the contract.

17. COORDINATING CLAUSE

The Contractor's attention is called to Article 104.07 of the MDOT Standard Specifications for Construction entitled "Cooperation by Contractor."

18. ADDITIONS

18.1 Any modification to the contract shall be subject to prior approval by the Purchasing Agent. City Commission approval may also be required.

18.2 Prices for additional work required are not requested in the itemized listing contained herein for the base project. Should additional work be authorized, compensation shall be made on the basis of price or prices to be mutually agreed upon. Such additional work shall not begin until approved.

19. MAINTAINING TRAFFIC

19.1 This work shall be in accordance with the requirements of Section 812 of the MDOT Standard Specifications for Construction and as specified herein. The Contractor is advised that the current Michigan Manual of Uniform Traffic Control Devices is hereby established as governing all work in connection with traffic control devices, barricade lighting, etc. required on this project.

19.2 The Contractor shall furnish, erect, maintain and, upon completion of the work, remove all traffic control devices and barricade lights within the project and around the perimeter of the project for the safety and protection of through and local traffic. This includes, but is not limited to: Advance, regulatory and warning signs; barricades and channeling devices at intersecting streets on which traffic is to be maintained; barricades at the ends of the project and at right-of-way lines for intersecting streets which are to be closed with the first usable street on each side of the project. Traffic regulators, where required by the Engineer, are included.

19.3 Where the existing pavement or partial widths of new pavement are to be utilized for the maintenance of through and local traffic, drum type barricades will be required at 50' intervals or as directed by the Engineer for channeling and directing traffic through the construction area.

19.4 Through traffic shall be maintained utilizing sidewalk closures with detours and traffic shifts per MDOT traffic and safety details.

19.5 Protection of all pedestrian and bicycle traffic shall be maintained at all times.

19.6 Payment for the traffic control devices shall be based on the contract lump sum price.

MAINTAINING TRAFFIC *(cont.)*

19.7 Under Article 812.04.D "Operated Pay Items" the term 'Relocating' shall include the relocating of the item from any street covered by the contract to any other street covered by the contract.

Special Restrictions: Access to frontage properties shall be maintained as much as practical. Emergency access shall be maintained at all times. The Contractor shall maintain two-way local traffic with flag control as needed when the road is restricted to only one traffic lane.

20. LIQUIDATED DAMAGES

Liquidated damages, if applicable, shall be assessed per MDOT Standard Specifications Section 108.10.C.1 for Contractor failure to open to traffic or complete the work within the contract time.

21. REMOVAL OF RUBBISH

The Contractor shall daily remove all rubbish and accumulated materials due to his/her construction.

22. SITE ACCESS

The City will provide fair and reasonable access to the job site within the working schedules of both parties.

23. GUARANTEE

The Contractor shall guarantee all of his/her work for a period of two (2) years following the date of final acceptance of the completed work and shall repair, replace or make good any materials or work which fail to function or perform or be found defective, without cost to the City.

24. SAFETY

The Contractor shall comply with all applicable OSHA and MIOSHA regulations.

25. PAY ESTIMATES

The Contractor shall be responsible for the generation of invoices for payment. Payment will be generated by the City based upon an approved invoice. Recommended frequency of payment is monthly, however, frequency of payment will not exceed bi-weekly.

26. PRODUCT/SYSTEM SUBSTITUTIONS

Submit a written request, to be received not later than 10 days prior to scheduled bid opening, for Substitution of any Product not named. If no substitutions are submitted, it will be reasonably concluded by the Owner and Landscape Architect that the specified product will be incorporated into the Work and the Bidder will be committed to supplying the specified product.

26.1 Describe in detail any variance to the Product specified. All proposed substitution for specified items shall be substantially the same size (height, length, width, diameter, etc.), type, color, construction quality and shall meet the design intent to be considered for substitution for the Product specified.

26.2 Document each request with complete data substantiating compliance of proposed Substitution with Product specified including written certification that Product conforms to or exceeds all requirements of the Product specified.

PRODUCT/SYSTEM SUBSTITUTIONS *(cont.)*

26.3 Document all coordination information, including a list of changes or modifications needed to the Contract Documents or other parts of the Work and to construction performed by the Owner and Separate Contractors that will become necessary to accommodate the proposed substitution.

26.4 Provide name, address, and telephone number of manufacturer's authorized representative.

26.5 Submit three copies of all documents for each request for Substitution for consideration.

26.6 Approval of the Substitution request, if given, will be in the form of an addendum issued prior to scheduled opening date and hour at local time.

27. SAMPLES AND DEMONSTRATIONS

Evidence in the form of samples may be requested. Such samples are to be furnished after the date of bid opening only upon request of The City unless otherwise stated in the bid proposal. If samples should be requested, such samples must be received by The City no later than seven (7) days after formal request is made. When required, The City may request full demonstrations of any unit(s) bid prior to the award of any contract. Samples, when requested, must be furnished free of expense to The City and if not used in testing or destroyed, will upon request within thirty (30) days of bid award be returned at the bidder's request.

28. ACCEPTANCE OF MATERIAL

The material delivered under this proposal shall remain the property of the seller until a physical inspection and actual usage of the material and/or services is made and thereafter accepted to the satisfaction of The City and must comply with the terms herein, and be full in accord with specifications and of the highest quality. In the event the material and/or service supplied to The City is found to be defective or does not conform to specifications, The City reserves the right to cancel the order upon written notice to the seller and return the product to seller at the seller's expense.

29. VARIATIONS TO SPECIFICATIONS

For purposes of evaluation, the bidder MUST indicate any variances from our specifications, terms and/or conditions, no matter how slight. If variations are not stated in the proposal, it will be assumed that the product or service fully complies with our specifications, terms and conditions.

30. SAFETY STANDARDS

The bidder warrants that the products supplied to The City conform in all respects to the standards set forth in the Occupational Safety and Health Act of 1970 and its amendments and the failure to comply with this condition will be considered a breach of contract.

31. MANUFACTURER'S CERTIFICATION

The City reserves the right to request from bidders separate manufacturer certification of all statements made in the bid.

32. PROTECTION OF WORK

The Contractor shall maintain adequate protection of all his/her work from damage and shall protect all public and private abutting property from injury or loss arising in connection with this contract.

33. PROTECTION OF PROPERTY

33.1 The Contractor shall confine his/her equipment and operations to those areas of the work site necessary for the completion of the work, or as authorized by the Project Manager. The Contractor shall protect and preserve from damage any facilities, utilities or features including trees, shrubs and turf which are not required to be disturbed by the requirements of the work.

33.2 The Contractor shall be responsible to determine the location of and to protect from damage any utilities or other improvements.

34. QUESTIONS

Bidders shall address questions regarding the specifications to Debbie Jung, P.E., Civil Engineer at jungd@kalamazoocity.org. (This does not relieve the requirements of Page 1, Item 3.) Questions regarding terms, conditions and other related bid requirements may be addressed to Scott Shaffer, Buyer at shaffers@kalamazoocity.org or (269) 337-8444.

SECTION VI
TERMS AND CONDITIONS

1. AWARD OF CONTRACT

1.1. This contract will be awarded to that responsible bidder whose bid, conforming to this solicitation, will be most advantageous to the City, price and other factors considered. The City reserves the right to accept or reject any or all bids and waive informalities and minor irregularities in bids received. Other factors include, as an example but not limited to, delivery time, conformance to specifications, incidental costs such as demurrage and deposits, etc.

Notification of award will be in writing by the Purchasing Agent. Upon notification, the Contractor shall submit to the Purchasing Division all required insurance certificates (if required) and such other documentation as may be requested or required hereunder. Upon their receipt and subsequent approval by the City, the Purchasing Agent will forward to the Contractor a written **NOTICE TO PROCEED**. Work shall **NOT** be started until such **NOTICE TO PROCEED** is received by the Contractor.

1.2 Unilateral changes in bid prices by the bidder shall not be allowed. However, the City, at its sole option, reserves the right to negotiate with bidders in the event of, but not limited to:

1.2.1 No bids received;
1.2.2 A single bid being received; or
1.2.3 Prices quoted are over budget and/or unreasonable.

2. COMPLETE CONTRACT

This bid document together with its addenda, amendments, attachments, and modifications, when executed, becomes the complete contract between the parties hereto, and no verbal or oral promises or representations made in conjunction with the negotiation of this contract shall be binding on either party.

3. SUBCONTRACTORS – NON-ASSIGNMENT

Bidders shall state in writing any and all sub-contractors to be associated with this bid, including the type of work to be performed. The Contractor shall cooperate with the City of Kalamazoo in meeting its commitments and goals regarding maximum utilization of minority and women-owned business enterprises.

The Contractor hereby agrees and understands that the contract resulting from this solicitation shall not be transferred, assigned, or sublet without prior written consent of the City of Kalamazoo.

4. TAXES

The City of Kalamazoo is exempt from all federal excise tax and state sales and use taxes.

5. INVOICING

All original invoice(s) will be sent to the Financial Services Division, 241 W. South Street, Kalamazoo, MI 49007 or via email at apinvoice@kalamazoocity.org. The Finance Division processes payments after receipt of an original invoice from the Contractor and approval by the department. The City of Kalamazoo's policy is to pay invoice(s) within 30 days from the receipt of the original invoice if the services or supplies are satisfactory and the proper paperwork and procedures have been followed**. In order to guarantee payment to the vendor on a timely basis, the vendor needs to receive a purchase order number before supplying the City of Kalamazoo with goods or services.** All original, and copies of original invoice(s), will clearly state which purchase order they are being billed against.

INVOICING (Cont.)

The City of Kalamazoo is a government municipality and therefore is tax exempt from all sales tax.

The vendor is responsible for supplying the Finance Division with a copy of their W9 if they are providing a service to the City of Kalamazoo.

6. **PAYMENTS**

Upon issuance of certificates of Payment by the Architect/Engineer for labor and material incorporated in the work and the materials suitably stored at the site payment shall be made up to ninety (90%) percent of the value thereof.

When the cumulative total of payment is equal to fifty (50%) percent of the contract sum, subsequent payments will be made in the full amount for labor and material certified by the Architect/Engineer.

The amount retained shall be held until final acceptance of the work, receipt of all payrolls, releases, and waiver of liens.

7. **CHANGES AND/OR CONTRACT MODIFICATIONS**

The City reserves the right to increase or decrease quantities, service or requirements, or make any changes necessary at any time during the term of this contract, or any negotiated extension thereof. Price adjustments due to any of the foregoing changes shall be negotiated and mutually agreed upon by the Contractor and the City.

Changes of any nature after contract award which reflect an increase or decrease in requirements or costs shall not be permitted without prior approval by the Purchasing Agent. City Commission approval may also be required.

ANY CHANGES PERFORMED IN ADVANCE OF PURCHASING AGENT APPROVAL, MAY BE SUBJECT TO DENIAL AND NON-PAYMENT.

8. **LAWS, ORDINANCES AND REGULATIONS**

The Contractor shall keep himself/herself fully informed of all local, state, and federal laws, ordinances and regulations in any manner affecting those engaged or employed in the work and the equipment used. Contractor and/or employees shall, at all times, serve and comply with such laws, ordinances and regulations.

Any permits, licenses, certificates, or fees required for the performance of the work shall be obtained and paid for by the Contractor.

This contract shall be governed by the laws of the State of Michigan.

9. **RIGHT TO AUDIT**

The City or its designee shall be entitled to audit all the Contractor's records, and shall be allowed to interview any of the Contractor's employees, throughout the term of this contract and for a period of three years after final payment or longer if required by law to the extent necessary to adequately permit evaluation and verification of:

A. Contractor compliance with contract requirements,
B. Compliance with provisions for pricing change orders, invoices or claims submitted by the Contractor or any of his payees.

10. **HOLD HARMLESS**

If the negligent acts or omissions of the Contractor/Vendor or its employees, agents or officers, cause injury to person or property, the Contractor/Vendor shall indemnify and save harmless the City of Kalamazoo, its agents, officials, and employees against all claims, judgments, losses, damages, demands, and payments of any kind to persons or property to the extent occasioned from any claim or demand arising therefrom.

11. **DEFAULT**

The City may at any time, by written notice to the Contractor, terminate this contract and the Contractor's right to proceed with the work, for just cause, which shall include, but is not limited to the following:

A. Failure to provide insurance and bonds (when called for), in the exact amounts and within the time specified or any extension thereof.

B. Failure to make delivery of the supplies, or to perform the services within the time specified herein, or any extension thereof.

C. The unauthorized substitution of articles for those bid and specified.

D. Failure to make progress if such failure endangers performance of the contract in accordance with its terms.

E. Failure to perform in compliance with any provision of the contract.

F. **Standard of Performance** - Contractor guarantees the performance of the commodities, goods or services rendered herein in accordance with the accepted standards of the industry or industries concerned herein, except that if this specification calls for higher standards, then such higher standards shall be provided.

Upon notice by the City of Contractor's failure to comply with such standards or to otherwise be in default of this contract in any manner following the Notice to Proceed, Contractor shall immediately remedy said defective performance in a manner acceptable to the City. Should Contractor fail to immediately correct said defective performance, said failure shall be considered a breach of this contract and grounds for termination of the same by the City.

In the event of any breach of this contract by Contractor, Contractor shall pay any cost to the City caused by said breach including but not limited to the replacement cost of such goods or services with another Contractor.

The City reserves the right to withhold any or all payments until any defects in performance have been satisfactorily corrected.

In the event the Contractor is in breach of this contract in any manner, and such breach has not been satisfactorily corrected, the City may bar the Contractor from being awarded any future City contracts.

G. All remedies available to the City herein are cumulative and the election of one remedy by the City shall not be a waiver of any other remedy available to the City.

12. **TERMINATION OF CONTRACT**

The City may, at any time and without cause, suspend the work of this contract for a period of not more than ninety days after providing notice in writing to the Contractor. The Contractor shall be allowed an adjustment in the contract price or an extension of the contract times, or both, directly attributable to the suspension if Contractor makes an approved claim.

The City may, without prejudice to any other right or remedy of the City, and with or without cause, terminate the contract by giving seven days written notice to the Contractor. In such case the Contractor shall be paid, without duplication, for the following items:

TERMINATION OF CONTRACT *(Cont.)*

A. Completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such work;

B. Expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the contract documents in connection with uncompleted work, plus fair and reasonable sums for overhead and profit on such expenses;

C. All documented claims, costs, losses, and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

D. Reasonable expenses directly attributable to termination.

The Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

13. **INDEPENDENT CONTRACTOR**

At all times, the Contractor, any of his/her employees, or his/her sub-contractors and their subsequent employees shall be considered independent contractors and not as City employees. The Contractor shall exercise all supervisory control and general control over all workers' duties, payment of wages to Contractor's employees and the right to hire, fire and discipline their employees and workers. As an independent contractor, payment under this contract shall not be subject to any withholding for tax, social security or other purposes, nor shall the Contractor or his/her employees be entitled to sick leave, pension benefit, vacation, medical benefits, life insurance or workers' unemployment compensation or the like.

14. **PROJECT SUPERVISOR**

The Contractor shall employ an individual to act as Project Supervisor. The Project Supervisor shall be available to the Contractor's workers and the Project Manager at all times by use of a beeper or other reliable means. The Project Supervisor shall prepare daily work plans for the employees, monitor employee performance, attendance, and punctuality; and work closely with the City's Project Manager in assuring contract compliance.

15. **MEETINGS**

The Contractor and/or Project Supervisor shall be available to meet with the Department Head or Project Manager at a mutually agreeable time to discuss problems, issues or concerns relative to the contract. Either party may call a meeting at any time. When such a request for a meeting is made, the meeting date shall, in no case exceed five (5) working days after the request; and, if in the sole opinion of the Department Head, the severity of the circumstance warrants, no more than one (1) working day.

16. **INSPECTION OF WORK SITE**

Before submitting bids or quotes for work, the Contractor shall be responsible for examining the work site and satisfying himself/herself as to the existing conditions under which he/she will be obligated to operate, or that in any way affects the work under this contract. No allowance shall be made subsequently, on behalf of the Contractor, for any negligence on his/her part.

17. CONTRACT PERIOD, EXTENSIONS, CANCELLATION

A. The contract shall be in effect for the term stated in the specifications.

B. The City may opt to extend this contract upon mutual agreement of both parties. The number of extensions shall be limited to that stated in the specifications.

C. The City may, from time to time, find it necessary to continue this contract on a month-to-month basis only, not to exceed a six (6) month period. Such month-to-month extended periods shall be by mutual agreement of both parties, with all provisions of the original contract or any extension thereof remaining in full force and effect.

D. All contracts, extensions and cost increases are subject to availability of funds and the approval of the City Commission (if required).

E. The City reserves the right to cancel the contract due to non-appropriation of funds by the City with thirty (30) days written notice.

F. Either party may terminate the contract (or any extension thereof) without cause at the end of any twelve (12) month term by giving written notice of such intent at least 60 days prior to the end of said twelve (12) month term.

G. All notices are in effect commencing with the date of mailing. Written notices may be delivered in person or sent by First Class mail; or emailed to the last known address.

H. If cancellation is for default of contract due to non-performance, the contract may be canceled at any time (see Item 11, DEFAULT)

APPENDIX A
NON-DISCRIMINATION CLAUSE FOR ALL CITY OF KALAMAZOO CONTRACTS

The Contractor agrees to comply with the Federal Civil Rights Act of 1964 as amended; the Federal Civil Rights Act of 1991 as amended; the Americans With Disabilities Act of 1990 as amended; the Elliott-Larson Civil Rights Act, Act. No. 453, Public Act of 1976 as amended; the Michigan Handicappers Civil Rights Act, Act No. 220, Public Act of 1976 as amended, City Ordinance 1856 and all other applicable Federal and State laws. The Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, sex, age, height, weight, marital status, physical or mental disability, family status, sexual orientation or gender identity that is unrelated to the individual's ability to perform the duties of the particular job or position. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment advertising, layoff or termination; rates of pay or other forms of compensations; and selection for training, including apprenticeship.

2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, sex, age, height, weight, marital status, physical or mental disability family status, sexual orientation or gender identity that is unrelated to the individuals ability to perform the duties of the particular job or position.

3. If requested by the City, the Contractor shall furnish information regarding practices, policies and programs and employment statistics for the Contractor and subcontractors. The Contractor and subcontractors shall permit access to all books, records and accounts regarding employment practices by agents and representatives of the City duly charged with investigative duties to assure compliance with this clause.

4. Breach of the covenants herein may be regarded as a material breach of the contract or purchasing agreement as provided in the Elliott-Larsen Civil Rights Act and City Ordinance 1856.

5. The Contractor will include or incorporate by reference the provisions of the foregoing paragraphs 1 through 4 in every subcontract or purchase order unless exempted by the rules, regulations or orders of the Michigan Civil Rights Commission* and will provide in every subcontract or purchase order that said provision will be binding upon each subcontractor or seller.

6. The Contractor will not preclude a person with a criminal conviction from being considered for employment unless otherwise precluded by federal or state law. (for contracts over $25,000)

   The Elliott-Larson Civil Rights Act, Sec. 202 of Act. No. 453 of 1976 reads in part as follows:

   Sec. 202. (1) An employer shall not:

   (a) Fail or refuse to hire, or recruit, or discharge or otherwise discriminate against an individual with respect to employment, compensation, or a term condition or privilege of employment because of religion, race, color, national origin, age, sex, height, weight or marital status.

   (b) Limit, segregate or classify an employee or applicant for employment in a way which deprives or tends to deprive the employee or applicant of an employment opportunity or otherwise adversely affects the status of an employee or applicant because of religion, race, color, national origin, age, sex, height, weight or marital status.

   (c) Segregate, classify or otherwise discriminate against a person on the basis of sex with respect to a term, condition or privilege of employment, including a benefit plan or system.

* Except for contracts entered into with parties employing less than three employees.
1-2010

APPENDIX B - PREVAILING WAGES

Prevailing wages are applicable to this contract, therefore, rates will apply as follows:

(XX) Project is funded by City of Kalamazoo monies and is estimated to be in excess of $100,000.00. The applicable prevailing wage rates are attached.

Specifications for projects in which the City of Kalamazoo is a party for construction, alterations and/or repair including painting and decorating of public buildings or public works in, or for, the City of Kalamazoo and which requires or involves the employment of mechanics and/or laborers shall contain the following provisions stating the minimum wages to be paid the various classes of laborers and mechanics for the project. Prevailing wage rates determined by the U.S. Department of Labor under Davis Bacon and related acts will be used for City of Kalamazoo construction projects.

By the incorporation of prevailing wage rates within this specification, the City of Kalamazoo stipulates that:

- ✓ Contractor or his/her subcontractor shall pay all mechanics and laborers employed directly upon the site of the work, unconditionally and not less than once a week and without subsequent deduction or rebate on any account the full amount, accrued at the time of payment, computed at wage rates as incorporated herein regardless of any contractual relationship which may be alleged to exist between the contractor or subcontractor and such laborers and mechanics;
- ✓ The scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work;
- ✓ The Prime Contractor and all subcontractors shall submit weekly certified payrolls documenting the hours worked and wages paid by work classification. **NOTE: Contractor shall not include Social Security numbers of employees on certified payrolls.**
- ✓ There may be withheld from the contractor's accrued payments the amount considered necessary by the City's Contracting Official to pay to laborers and mechanics employed by the contractor or any subcontractor on the work for the difference between the rates of wages required by the contract and the rates of wages received by such laborers and mechanics except those amounts properly deducted or refunded pursuant to the terms of the Davis-Bacon Act (USC, Title 40, Sec. 276a) and interpretations thereof.

Special Note: The City's requirements as it relates to prevailing wages **includes a meeting with the City's Purchasing Agent prior to starting work and the submission of weekly certified payrolls by prime contractors and all subcontractors.** The City will monitor certified payrolls, work progress, and may conduct interviews with the mechanics and labors employed directly upon the site during the duration of the contract Please contact the Purchasing Department at (269) 337-8020 if you have any questions regarding the prevailing wage provision.

The overtime pay to which a laborer or mechanic is entitled under this contract shall be that overtime pay to which he/she is entitled by any agreement made with the contractor or subcontractor or by any applicable provision of law; but in no event shall such amount be less than the prevailing wage in the Kalamazoo community for such overtime.
Revised 4-08



PREVAILING WAGES

VanderSalm Court
Water Main Replacement

Bid Reference #: 91360-010.0

September 2026

"General Decision Number: MI20260061 05/18/2026

State: Michigan

Construction Types: Heavy

Counties: Michigan Counties of
Kalamazoo

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

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

CARP0525-006 06/01/2023

	Rates	Fringes
CARPENTER, INCLUDES FORM WORK	$ 28.29	21.42

ELEC0131-006 06/01/2025

	Rates	Fringes
ELECTRICIAN	$ 42.78	21.84

ENGI0325-009 09/01/2025

	Rates	Fringes
POWER EQUIPMENT OPERATOR: UNDERGROUND CONSTRUCTION (INCLUDING SEWER) GROUP 4 BROOM/ SWEEPER, FORK TRUCK, TRACTOR, BOBCAT/ SKID STEER /SKID LOADER	$ 39.95	25.25
POWER EQUIPMENT OPERATOR: UNDERGROUND CONSTRUCTION (INCLUDING SEWER) GROUP 3 BOOM TRUCK (NON-SWINGING, NON- POWERED TYPE BOOM)	$ 40.52	25.25
POWER EQUIPMENT OPERATOR: UNDERGROUND CONSTRUCTION (INCLUDING SEWER) GROUP 2 TRENCHER (8-FT DIGGING CAPACITY AND SMALLER)	$ 41.25	25.25
POWER EQUIPMENT OPERATOR: UNDERGROUND CONSTRUCTION (INCLUDING SEWER) GROUP 1 BACKHOE/ EXCAVATOR, BORING MACHINE, BULLDOZER, CRANE, GRADER/ BLADE, LOADER, ROLLER, SCRAPER, TRENCHER (OVER 8 FT. DIGGING CAPACITY)	$ 45.98	25.25

ENGI0326-025 06/01/2025

	Rates	Fringes
OPERATOR: POWER EQUIPMENT, EXCLUDES UNDERGROUND CONSTRUCTION: GROUP 7 OILER PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF ULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY. 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	$ 32.98	25.25
OPERATOR: POWER EQUIPMENT, EXCLUDES UNDERGROUND CONSTRUCTION: GROUP 6 FORK TRUCK (20' LIFT AND UNDER FOR MASONRY WORK) PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF ULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY. 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	$ 35.46	25.25
OPERATOR: POWER EQUIPMENT, EXCLUDES UNDERGROUND CONSTRUCTION: GROUP 5 BOOM TRUCK (NON-SWINGING) PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF ULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY. 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	$ 41.32	25.25
OPERATOR: POWER EQUIPMENT, EXCLUDES UNDERGROUND CONSTRUCTION: GROUP 4 BOBCAT/SKID LOADER; BROOM/SWEEPER; FORK TRUCK (OVER 20' LIFT) PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF ULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY. 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	$ 41.32	25.25
OPERATOR: POWER EQUIPMENT, EXCLUDES UNDERGROUND CONSTRUCTION: GROUP 3 BACKHOE/EXCAVATOR; BORING MACHINE; BULLDOZER; CRANE; GRADER/BLADE; LOADER; ROLLER; SCRAPER; TRACTOR; TRENCHER PAID HOLIDAYS:		

NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF ULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.
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: $3.00 PER HOUR ABOVE THE GROUP 1 RATE....$ 44.00 25.25
OPERATOR: POWER EQUIPMENT, EXCLUDES UNDERGROUND CONSTRUCTION: GROUP 2 CRANE OPERATOR WITH MAIN BOOM AND JIB 140' OR LONGER, TOWER CRANE, GANTRY CRANE, WHIRLEY DERRICK PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF ULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY. 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: $3.00 PER HOUR ABOVE THE GROUP 1 RATE.....$ 45.68 25.25
OPERATOR: POWER EQUIPMENT, EXCLUDES UNDERGROUND CONSTRUCTION: GROUP 1 CRANE OPERATOR WITH MAIN BOOM AND JIB 400', 300', OR 220' OR LONGER. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF ULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.
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: $3.00 PER HOUR ABOVE THE GROUP 1 RATE....$ 48.98 25.25

IRON0025-011 06/01/2025

	Rates	Fringes
IRONWORKER: STRUCTURAL	$ 36.55	34.04
IRONWORKER: REINFORCING	$ 36.55	34.04

LABO0334-011 09/01/2022

	Rates	Fringes
LABORER ((5) PIPELAYER)	$ 22.85	12.95
LABORER ((4) GRADE CHECKER)	$ 22.73	12.95
LABORER ((2) MASON TENDER-CEMENT/CONCRETE)	$ 22.55	12.95
LABORER ((1) COMMON OR GENERAL)	$ 22.42	12.95

LABO0355-010 06/01/2025

	Rates	Fringes
LABORER (COMMON OR GENERAL; GRADE CHECKER; MASON TENDER - CEMENT/CONCRETE) (EXCLUDES OPEN CUT CONSTRUCTION)	$ 27.21	13.45

PAIN0312-014 06/12/2014

	Rates	Fringes
PAINTER: SPRAY	$ 22.75	11.94
PAINTER: BRUSH & ROLLER	$ 21.75	11.94

PLAS0016-020 04/01/2014

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 22.31	12.83

PLUM0333-026 06/01/2022

	Rates	Fringes
PLUMBER (FORT CUSTER)	$ 42.29	23.94

PLUM0357-012 07/01/2020

	Rates	Fringes
PLUMBER (EXCLUDING FORT CUSTER)	$ 35.20	22.35

SUMI2010-059 11/09/2010

	Rates	Fringes
TRUCK DRIVER: OFF THE ROAD TRUCK	$ 20.82	3.69
TRUCK DRIVER: DUMP TRUCK	$ 18.00	6.43
LABORER: LANDSCAPE	$ 12.25	0.00

TEAM0007-011 06/01/2025

	Rates	Fringes
TRUCK DRIVER: TRACTOR HAUL TRUCK FOOTNOTE: A. $470.70 PER WEEK. B. $68.70 DAILY	$ 33.30	0.75
TRUCK DRIVER: LOWBOY/SEMI-TRAILER TRUCK FOOTNOTE: A. $470.70 PER WEEK. B. $68.70 DAILY	$ 33.55	0.75

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

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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.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least $13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

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

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

Union Rate Identifiers

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

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

Union Average Rate Identifiers

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

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

Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the

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

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

State Adopted Rate Identifiers

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

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

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

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

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

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END OF GENERAL DECISION

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"General Decision Number: MI20260001 06/25/2026

State: Michigan

Construction Types: Highway

Counties: Michigan Counties of
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, Monroe, Montcalm,
Montmorency, Muskegon, Newaygo, Oakland,
Oceana, Ogemaw, Ontonagon, Osceola,
Oscoda, Otsego, Ottawa, Presque Isle,
Roscommon, Saginaw, Sanilac,
Schoolcraft, Shiawassee, St Clair, St
Joseph, Tuscola, Van Buren, Washtenaw,
Wayne and Wexford

Modification Number	Publication Date
1	01/09/2026
2	05/18/2026
3	06/25/2026

CARP0004-004 06/01/2025

	Rates	Fringes
CARPENTER: PILEDRIVER (REMAINDER OF STATE)	$ 35.57	21.54

CARP0004-005 06/01/2025

	Rates	Fringes
CARPENTER: PILEDRIVER (LIVINGSTON (TOWNSHIPS OF BRIGHTON, DEERFIELD, GENOA, HARTLAND, OCEOLA & TYRONE), MACOMB, MONROE, OAKLAND, SANILAC, ST. CLAIR AND WAYNE COUNTIES)	$ 41.37	28.69

ELEC0017-005 06/01/2025

	Rates	Fringes
LINE CONSTRUCTION: OPERATOR B (SHALL BE PROFICIENT IN OPERATING ANY 2 OF THE ABOVE MENTIONED PIECES OF EQUIPMENT LISTED UNDER OPERATOR A.)	$ 38.98	20.26
LINE CONSTRUCTION: OPERATOR A (SHALL BE PROFICIENT IN OPERATING ALL POWER EQUIPMENT INCLUDING:		

BACKHOE, EXCAVATOR, DIRECTIONAL BORE AND
BOOM/DIGGER TRUCK.).....$ 41.71 21.16
LINE CONSTRUCTION: JOURNEYMAN SPECIALIST
JOURNEYMAN SPECIALIST: REFERS TO A CREW OF ONLY ONE
PERSON WORKING ALONE.....$ 56.65 26.09
LINE CONSTRUCTION: JOURNEYMAN SIGNAL TECH,
COMMUNICATIONS TECH, TOWER TECH & FIBER OPTIC
SPLICERS.....$ 49.26 23.66
LINE CONSTRUCTION: GROUNDMAN/DRIVER.....$ 33.32 18.40

ENGI0324-003 06/01/2025

	Rates	Fringes
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 18- OILER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.	$ 35.78	28.25
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 17- COMPRESSOR OR WELDER OPERATOR (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.	$ 32.29	15.40
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 16- FORKLIFT AND 1 DRUM HOIST (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.	$ 46.77	28.25
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 15- HOISTING OPERATOR; 2 DRUM HOIST AND RUBBER TIRED BACKHOE (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.	$ 49.97	28.25
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 14- CRANE OPERATOR ON A CRANE THAT REQUIRES AN OILER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 51.61 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 13- CRANE OPERATOR; JOB MECHANIC AND 3 DRUM HOIST AND EXCAVATOR (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 50.61 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 12- ENGINEER WHEN OPERATING COMBINATION OF BOOM AND JIB 120' OR LONGER ON A CRANE THAT REQUIRES AN OILER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 51.97 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 11- ENGINEER WHEN OPERATING COMBINATION OF BOOM AND JIB 120' OR LONGER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 50.97 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: 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 (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 52.70 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 9- TOWER CRANE & DERRICK OPERATOR (WHERE OPERATOR'S WORK STATION IS 50 FT. OR MORE ABOVE FIRST SUB-LEVEL) (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 51.70 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 8- ENGINEER WHEN OPERATING COMBINATION OF BOOM AND JIB 140' OR LONGER ON A CRANE THAT REQUIRES AN OILER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 53.15 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 7- ENGINEER WHEN OPERATING COMBINATION OF BOOM AND JIB 140' OR LONGER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 52.15 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 6- ENGINEER WHEN OPERATING COMBINATION OF BOOM AND JIB 220' OR LONGER ON A CRANE THAT REQUIRES AN OILER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 53.42 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 5- ENGINEER WHEN OPERATING COMBINATION OF BOOM AND JIB 220' OR LONGER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 52.42 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 4- ENGINEER WHEN OPERATING COMBINATION OF BOOM AND JIB 300' OR LONGER ON A CRANE THAT REQUIRES AN OILER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 54.92 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 3- ENGINEER WHEN OPERATING COMBINATION OF BOOM AND JIB 300' OR LONGER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 53.92 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 2- ENGINEER WHEN OPERATING COMBINATION OF BOOM AND JIB 400' OR LONGER ON A CRANE THAT REQUIRES AN OILER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 56.42 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 1- ENGINEER WHEN OPERATING COMBINATION OF BOOM AND JIB 400' OR LONGER (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:) FOOTNOTE: PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY AND CHRISTMAS DAY.....$ 55.42 28.25

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	Rates	Fringes
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 6- OILER AND FIRE TENDER (AREA 2: ANTRIM, BREEZE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE, AND WEXFORD COUNTIES) FOOTNOTE: 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 HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....	$ 35.78	28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 6-OILER AND FIRE TENDER. (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, AND VAN BUREN COUNTIES) FOOTNOTE: 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: $3.00 ADDITIONAL TO THE GROUP 1 RATE. PAID HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 35.78 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 5-AIR COMPRESSOR, WELDER, GENERATORS, CONVEYORS. (AREA 2: ANTRIM, BREEZE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE, AND WEXFORD COUNTIES) FOOTNOTE: 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: $3.00 ADDITIONAL TO THE GROUP 1 RATE. PAID HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 32.29 15.40

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 5-AIR COMPRESSOR, WELDER, GENERATORS, CONVEYORS. (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, AND VAN BUREN COUNTIES) FOOTNOTE: 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: $3.00 ADDITIONAL TO THE GROUP 1 RATE. PAID HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 32.29 15.40

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 4- AIR TUGGER (SINGLE DRUM), MATERIAL HOIST PUMP 6"" OR OVER, ELEVATORS, BROKK CONCRETE BREAKER. (AREA 2: ANTRIM, BREEZE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE, AND WEXFORD COUNTIES) FOOTNOTE: 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: $3.00 ADDITIONAL TO THE GROUP 1 RATE. PAID HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 46.77 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 4- AIR TUGGER (SINGLE DRUM), MATERIAL HOIST PUMP 6"" OR OVER, ELEVATORS, BROKK CONCRETE BREAKER. (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, AND VAN BUREN COUNTIES) FOOTNOTE: 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: $3.00 ADDITIONAL TO THE GROUP 1 RATE. PAID HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 46.77 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 3- REGULAR EQUIPMENT OPERATOR, CRAE, DOZER, LOADER, HOIST, STRADDLE WAGON, MECHANIC, GRADER AND HYDRO EXCAVATOR. (AREA 2: ANTRIM, BREEZE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE, AND WEXFORD COUNTIES) FOOTNOTE: 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 HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF

JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 50.61 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 3- REGULAR EQUIPMENT OPERATOR, CRAE, DOZER, LOADER, HOIST, STRADDLE WAGON, MECHANIC, GRADER AND HYDRO EXCAVATOR. (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, AND VAN BUREN COUNTIES) FOOTNOTE: 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: $3.00 ADDITIONAL TO THE GROUP 1 RATE. PAID HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 50.61 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 2- CRANE OPERATOR WITH MAIN BOOM & JIB 140' OR LONGER, TOWER CRANE; GANTRY CRANE; WHIRLEY DERRICK. (AREA 2: ANTRIM, BREEZE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE, AND WEXFORD COUNTIES) FOOTNOTE: 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: $3.00 ADDITIONAL TO THE GROUP 1 RATE. PAID HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 52.15 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 2- CRANE OPERATOR WITH MAIN BOOM & JIB 140' OR LONGER, TOWER CRANE; GANTRY CRANE; WHIRLEY DERRICK. (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, AND VAN BUREN COUNTIES) FOOTNOTE: 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: $3.00 ADDITIONAL TO THE GROUP 1 RATE. PAID HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 52.15 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 1- CRANE OPERATOR WITH MAIN BOOM & JIB 400', 300', OR 220' OR LONGER. (AREA 2: ANTRIM, BREEZE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE, AND WEXFORD COUNTIES) FOOTNOTE: 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: $3.00 ADDITIONAL TO THE GROUP 1 RATE. PAID HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 55.02 28.25

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: GROUP 1- CRANE OPERATOR WITH MAIN BOOM & JIB 400', 300', OR 220' OR LONGER. (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, AND VAN BUREN COUNTIES) FOOTNOTE: 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: $3.00 ADDITIONAL TO THE GROUP 1 RATE. PAID HOLIDYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.....$ 55.02 28.25

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	Rates	Fringes
OPERATOR: POWER EQUIPMENT, UNDERGROUND CONSTRUCTION (INCLUDING SEWER): GROUP 5- FIRE PERSON, OILER (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, LAKW, 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, RUSCOLA, VAN BUREN, AND WEXFORD COUNTIES)...	$ 30.35	12.10
OPERATOR: POWER EQUIPMENT, UNDERGROUND CONSTRUCTION (INCLUDING SEWER): GROUP 5- FIRE PERSON, OILER (AREA 1: GENESEE, LAPEER, LIVINGSTON, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASTENAW, AND WAYNE COUNTIES).....	$ 30.35	12.10
OPERATOR: POWER EQUIPMENT, UNDERGROUND CONSTRUCTION (INCLUDING SEWER): 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 OR MORE HOURS A DAY, GAS OR DIESEL POWERED0-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. (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, LAKW, 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, RUSCOLA, VAN BUREN, AND WEXFORD COUNTIES).....	$ 39.95	25.25
OPERATOR: POWER EQUIPMENT, UNDERGROUND CONSTRUCTION (INCLUDING SEWER): 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 OR MORE HOURS A DAY, GAS OR DIESEL POWERED0-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. (AREA 1: GENESEE, LAPEER, LIVINGSTON, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASTENAW, AND WAYNE COUNTIES).....$ 39.95 25.25

OPERATOR: POWER EQUIPMENT, UNDERGROUND CONSTRUCTION (INCLUDING SEWER): 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); MAINTENACNE 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). (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, LAKW, 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, RUSCOLA, VAN BUREN, AND WEXFORD COUNTIES)...$ 40.52 25.25

OPERATOR: POWER EQUIPMENT, UNDERGROUND CONSTRUCTION (INCLUDING SEWER): 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); MAINTENACNE 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). (AREA 1: GENESEE, LAPEER, LIVINGSTON, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASTENAW, AND WAYNE COUNTIES).....$ 40.52 25.25

OPERATOR: POWER EQUIPMENT, UNDERGROUND CONSTRUCTION (INCLUDING SEWER): 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. (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, LAKW, 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, RUSCOLA, VAN BUREN, AND WEXFORD COUNTIES).....$ 41.25 25.25

OPERATOR: POWER EQUIPMENT, UNDERGROUND CONSTRUCTION (INCLUDING SEWER): 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. (AREA 1: GENESEE, LAPEER, LIVINGSTON, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASTENAW, AND WAYNE COUNTIES)...$ 41.25 25.25

OPERATOR: POWER EQUIPMENT, UNDERGROUND CONSTRUCTION (INCLUDING SEWER): GROUP 1- BACKFILLER TAMPER; BACKHOE; BATCH PLANT OPERATOR (CONCRETE); CLAMSHELL; CONCRETE PAVER (2 DRUMS OR LARGER); CONVERYOR 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. (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, LAKW, 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, RUSCOLA, VAN BUREN, AND WEXFORD COUNTIES)...$ 45.98 25.25

OPERATOR: POWER EQUIPMENT, UNDERGROUND CONSTRUCTION (INCLUDING SEWER): GROUP 1 (AREA 1: GENESEE, LAPEER, LIVINGSTON, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASTENAW, AND WAYNE COUNTIES)...$ 45.98 25.25

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	Rates	Fringes

POWER EQUIPMENT OPERATORS:, AIRPORT, BRIDGE & HIGHWAY CONSTRUCTION: 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 COMPCTION EQUIPMENT OPEARTOR (6 FT. WIDE OR OVER); GUARD POST DRIVER OPERATOR (POWER DRIVEN); ALL MULCHING EQUIPMENT; STUMP REMOVER; CONCRETE PUM (UNDER 3-IN.); MESH INSTALLER (SELF-PROPELLED); END DUMP; SKID STEER. .....$ 37.77 25.25

POWER EQUIPMENT OPERATORS:, AIRPORT, BRIDGE & HIGHWAY CONSTRUCTION: GROUP 3- SCREENING PLANT OPERATOR; WASHING PLANT OPERATOR; CRUSTHER 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); GREASE 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) .....$ 38.33 25.25

POWER EQUIPMENT OPERATORS:, AIRPORT, BRIDGE & HIGHWAY CONSTRUCTION: 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; TRNECHING 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.C 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 (40 H.P. OR OVER); TRACTOR OPERATOR (FARM TYPE); FINISHING MACHINE OPERATOR (CONCRETE); GRADER OPEARTOR (SELF-PROPELLED FINE GRADE OR FORM (CONCRETE)); TRACTOR OPERATOR (FARM TYPE WITH ATTACHMENT); WAGON DRILL OPERATOR; BOOM OR WINCH HOIST TRUCK OPERATOR. .....$ 45.06 25.25

POWER EQUIPMENT OPERATORS:, AIRPORT, BRIDGE & HIGHWAY CONSTRUCTION: GROUP 1- PAVER OPERATOR (5 BAGS OR MORE); SLIP FORM PAVER; ASPHALT PAVER (SELF-PROPELLED); SHOVEL (EXCVAVATOR) INSTALLING UTILITIES OVER 20 FEET IN DEPTH.....$ 46.21 25.25

ENGI0324-007 05/01/2025

	Rates	Fringes

OPERATOR: POWER EQUIPMENT, STEEL ERECTION: REGULAR OPERATOR (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND

SCHOOLCRAFT COUNTIES:).....$ 47.12 25.00
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: OILER AND FIREMAN (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:).....$ 41.76 25.00
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: MECHANIC WITH TRUCK AND TOOLS (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:).....$ 48.90 25.00
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: CRANE OPERATOR, MAIN BOOM & JIB 220' OR LONGER (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:).....$ 50.66 25.00
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: CRANE OPERATOR, MAIN BOOM & JIB 140' OR LONGER (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:).....$ 50.07 24.60
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: CRANE OPERATOR, MAIN BOOM & JIB 120' OR LONGER (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:).....$ 49.77 25.00
OPERATOR: POWER EQUIPMENT, STEEL ERECTION: COMPRESSOR, WELDER AND FORKLIFT (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:).....$ 43.30 25.00

ENGI0324-008 10/01/2023

	Rates	Fringes
OPERATOR: POWER EQUIPMENT, SEWER RELINING: GROUP 2- OPERATION OF HOT WATER HEATERS AND CIRCULATION SYSTEMS, WATER JETTERS AND VACUUM AND MECHANICAL DEBRIS REMOVAL SYSTEMS. (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, MAR...	$ 35.33	15.44
OPERATOR: POWER EQUIPMENT, SEWER RELINING: 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. (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, MAR.....$ 37.37		15.44

ENGI0325-012 05/01/2025

	Rates	Fringes
POWER EQUIPMENT OPERATORS - GAS DISTRIBUTION AND DUCT INSTALLATION WORK: 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. 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.....	$ 36.05	25.25
POWER EQUIPMENT OPERATORS - GAS DISTRIBUTION AND DUCT INSTALLATION WORK: 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). 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.....	$ 39.78	25.25

IRON0008-007 06/01/2024

	Rates	Fringes
IRONWORKER: GENERAL CONTRACTS LESS THAN $10,000,000 (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES) PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, JULY 4TH, LABOR DAY, THANKSGIVING DAY & CHRISTMAS DAY.....	$ 39.91	32.32
IRONWORKER: GENERAL CONTRACTS $10,000,000 OR GREATER (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES) PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, JULY 4TH, LABOR DAY, THANKSGIVING DAY & CHRISTMAS DAY.....	$ 39.91	32.32
IRONWORKER - PRE-ENGINEERED METAL BUILDING ERECTOR (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES) PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, JULY 4TH, LABOR DAY, THANKSGIVING DAY		

& CHRISTMAS DAY	$ 23.70	6.95

IRON0025-002 06/01/2025

	Rates	Fringes
IRONWORKER: REINFORCING (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:)	$ 36.55	32.87
IRONWORKER: ORNAMENTAL AND STRUCTURAL (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:)	$ 36.55	35.93
IRONWORKER - PRE-ENGINEERED METAL BUILDING ERECTOR: BAY, GENESEE, LAPEER, LIVINGSTON (EAST OF BURKHARDT ROAD), MACOMB, MIDLAND, OAKLAND, SAGINAW, ST. CLAIR, THE UNIVERSITY OF MICHIGAN, WASHTENAW (EAST OF U.S. 23) & WAYNE (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	$ 30.02	28.13
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: (ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON, CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO, ISABELLA, JACKSON, LAPEER, LIVINGSTON, MACOM	$ 28.80	27.43

IRON0055-005 07/01/2022

	Rates	Fringes
IRONWORKER: PRE-ENGINEERED METAL BUILDINGS (LENAWEE AND MONROE COUNTIES)	$ 23.59	19.35
IRONWORKER: ALL OTHER WORK (LENAWEE AND MONROE COUNTIES)	$ 33.00	27.20

IRON0292-003 06/01/2020

	Rates	Fringes
IRONWORKER: INCLUDING PRE-ENGINEERED METAL BUILDING ERECTOR (BERRIEN AND CASS COUNTIES:)	$ 31.75	22.84

LABO0005-006 10/01/2022

	Rates	Fringes
LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B OR C. (SANILAC AND ST. CLAIR COUNTIES - ZONE 5)	$ 26.21	16.62
LABORERS - HAZARDOUS WASTE ABATEMENT: WORK		

PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D. (SANILAC AND ST. CLAIR COUNTIES - ZONE 5)	$ 24.75	16.35
LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D. (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)	$ 28.93	16.90
LABORERS - HAZARDOUS WASTE ABATEMENT: LEVEL A, B, C. (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)	$ 29.93	16.90
LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D. (MONROE COUNTY - ZONE 4)	$ 31.75	14.90
LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B OR C. (MONROE COUNTY - ZONE 4)	$ 31.75	14.90
LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D. (MACOMB AND WAYNE COUNTIES - ZONE 1)	$ 28.93	16.90
LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B OR C. (MACOMB AND WAYNE COUNTIES - ZONE 1)	$ 29.93	16.90
LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D (LIVINGSTON COUNTY (EAST OF OAK GROVE RD. AND SOUTH OF M-59, EXCLUDING THE CITY OF HOWELL); AND WASHTENAW COUNTY - ZONE 3)	$ 28.93	14.20
LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B OR C. (LIVINGSTON COUNTY (EAST OF OAK GROVE RD. AND SOUTH OF M-59, EXCLUDING THE CITY OF HOWELL); AND WASHTENAW COUNTY - ZONE 3)	$ 29.93	14.20
LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B OR C. (HILLSDALE, JACKSON AND LENAWEE COUNTIES - ZONE 4)	$ 27.13	14.95
LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTETIVE EQUIPMENT; ALSO, LEVEL D. (HILLSDALE, JACKSON AND LENAWEE COUNTIES - ZONE 4)	$ 24.17	12.90
LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D (GENESEE, LAPEER AND SHIAWASSEE COUNTIES - ZONE 7)	$ 23.20	13.80
LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B OR C. (GENESEE, LAPEER AND SHIAWASSEE COUNTIES - ZONE 7)	$ 24.20	13.80
LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B OR C. (CLINTON, EATON AND INGHAM COUNTIES; IONIA COUNTY (CITY OF PORTLAND); LIVINGSTON COUNTY (WEST OF OAK GROVE RD., INCLUDING THE CITY OF HOWELL) - ZONE 6)	$ 26.33	12.95
LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D. (CLINTON, EATON AND INGHAM COUNTIES; IONIA COUNTY (CITY OF PORTLAND); LIVINGSTON COUNTY (WEST OF OAK GROVE RD., INCLUDING THE CITY OF HOWELL) - ZONE 6)	$ 24.64	12.90

LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B OR C. (ARENAC, BAY, CLARE, GLADWIN, GRATIOT, HURON, ISABELLA, MIDLAND, OGEMAW, ROSCOMMON, SAGINAW AND TUSCOLA COUNTIES - ZONE 8).....$ 23.74 12.95

LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D. (ARENAC, BAY, CLARE, GLADWIN, GRATIOT, HURON, ISABELLA, MIDLAND, OGEMAW, ROSCOMMON, SAGINAW AND TUSCOLA COUNTIES - ZONE 8)...$ 20.80 12.90

LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D. (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) .....$ 20.80 12.90

LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B OR C. (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) .....$ 21.88 13.26

LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B, OR C (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES - ZONE 11).....$ 25.18 12.90

LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D. (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES - ZONE 11).....$ 22.58 12.90

LABORERS - HAZARDOUS WASTE ABATEMENT: LEVELS A, B, OR C (ALCONA, ALPENA, ANTRIM, BENZIE, CHARLEVOIX, CHEBOYGAN, CRAWFORD, EMMET, GRAND TRAVERSE, IOSCO, KALKASKA, LEELANAU, MISSAUKEE, MONTMORENCY, OSCODA, OTSEGO, PRESQUE ISLE, AND WEXFORD COUNTIES- ZONE 10).....$ 17.45 12.75

LABORERS - HAZARDOUS WASTE ABATEMENT: CLASS B (ALCONA, ALPENA, ANTRIM, BENZIE, CHARLEVOIX, CHEBOYGAN, CRAWFORD, EMMET, GRAND TRAVERSE, IOSCO, KALKASKA, LEELANAU, MISSAUKEE, MONTMORENCY, OSCODA, OTSEGO, PRESQUE ISLE, AND WEXFORD COUNTIES- ZONE 10).....$ 18.64 12.90

LABORERS - HAZARDOUS WASTE ABATEMENT: WORK PERFORMED IN CONJUNCTION WITH SITE PREPARATION NOT REQUIRING THE USE OF PERSONAL PROTECTIVE EQUIPMENT; ALSO, LEVEL D(ALCONA, ALPENA, ANTRIM, BENZIE, CHARLEVOIX, CHEBOYGAN, CRAWFORD, EMMET, GRAND TRAVERSE, IOSCO, KALKASKA, LEELANAU, MISSAUKEE, MONTMORENCY, OSCODA, OTSEGO, PRESQUE ISLE, AND WEXFORD COUNTIES- ZONE 10).....$ 16.45 12.75

LABORERS - HAZARDOUS WASTE ABATEMENT: CLASS A (ALCONA, ALPENA, ANTRIM, BENZIE, CHARLEVOIX, CHEBOYGAN, CRAWFORD, EMMET, GRAND TRAVERSE, IOSCO, KALKASKA, LEELANAU, MISSAUKEE, MONTMORENCY, OSCODA, OTSEGO, PRESQUE ISLE, AND WEXFORD COUNTIES- ZONE 10).....$ 17.64 12.90

LABO0259-001 09/01/2025

	Rates	Fringes
LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 1- TUNNEL, SHAFT AND CAISSON LABORER, DUMP, SHANTY, HOG HOUSE TENDER, TESTING (ON GAS) AND WATCHMAN. 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. (AREA 1: MACOMB, OAKLAND, AND WAYNE COUNTIES).....	$ 30.13	22.75
LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 2- MANHOLE, HEADWALL, CATCH BASIN BUILDER, BRICKLAYER TENDER, MORTAR MACHINE AND MATERIAL MIXER. 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. (AREA 1: MACOMB, OAKLAND, AND WAYNE COUNTIES).....	$ 32.13	22.75
LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 3- AIR TOOL OPERATOR (JACKHAMMER, BUSH HAMMER AND GRINTER), 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.). 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. (AREA 1: MACOMB, OAKLAND, AND WAYNE COUNTIES).....	$ 28.13	22.75
LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 4- TUNNEL, SHAFT, AND CAISSON MUCKER, BRACER, LINER PLATE, LONG HAUL DINKY DRIVER AND WELL POINT. 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. (AREA 1: MACOMB, OAKLAND, AND WAYNE COUNTIES).....	$ 23.97	16.93
LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 5- TUNNEL, SHAFT AND CAISSON MINER, DRILL RUNNER, KEY BOARD OPERATOR, POWER KNIFE OPERATOR, REINFORCED STEEL OR MESH (E.G. WIRE MESH, STELL MATS, DOWEL BARS, ETC.). 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. (AREA 1: MACOMB, OAKLAND, AND WAYNE COUNTIES).....$ 24.22 16.93

LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 6- DYNAMITE AND POWDER. 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. (AREA 1: MACOMB, OAKLAND, AND WAYNE COUNTIES).....$ 24.55 16.93

LABORERS - TUNNEL, SHAFT AND CAISSON: 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. 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. (AREA 1: MACOMB, OAKLAND, AND WAYNE COUNTIES).....$ 17.83 16.93

LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 1- TUNNEL, SHAFT AND CAISSON LABORER, DUMP, SHANTY, HOG HOUSE TENDER, TESTING (ON GAS) AND WATCHMAN. 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.(AREA 2: REMAINING COUNTIES).....$ 32.13 17.95

LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 2- MANHOLE, HEADWALL, CATCH BASIN BUILDER, BRICKLAYER TENDER, MORTAR MACHINE AND MATERIAL MIXER. 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.(AREA 2: REMAINING COUNTIES).....$ 34.40 17.95

LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 3- AIR TOOL OPERATOR (JACKHAMMER, BUSH HAMMER AND GRINTER), 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.). 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.(AREA 2: REMAINING COUNTIES).....$ 28.00 17.45

LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 4- TUNNEL, SHAFT, AND CAISSON MUCKER, BRACER, LINER PLATE, LONG HAUL DINKY DRIVER AND WELL POINT. 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.(AREA 2: REMAINING COUNTIES).....$ 29.57 16.93

LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 5- TUNNEL, SHAFT AND CAISSON MINER, DRILL RUNNER, KEY BOARD OPERATOR, POWER KNIFE OPERATOR, REINFORCED STEEL OR MESH (E.G. WIRE MESH, STELL MATS, DOWEL BARS, ETC.). 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.(AREA 2: REMAINING COUNTIES).....$ 25.76 16.93

LABORERS - TUNNEL, SHAFT AND CAISSON: GROUP 6- DYNAMITE AND POWDER. 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.(AREA 2: REMAINING COUNTIES).....$ 26.07 16.93

LABORERS - TUNNEL, SHAFT AND CAISSON: 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. 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.(AREA 2: REMAINING COUNTIES).....$ 25.57 16.93

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LABORERS - OPEN CUT: GROUP 1- CONSTRUCTION LABORER. 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.
(ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES) ....$ 29.98 22.75
LABORERS - OPEN CUT: 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. 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.
(ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES).....$ 31.98 22.75
LABORERS - OPEN CUT: 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. 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. (ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES) .....$ 28.14 22.75

LABORERS - OPEN CUT: GROUP 4- TRENCH OR EXCAVATING GRADE PERSON. 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. (ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES) .....$ 23.71 16.72

LABORERS - OPEN CUT: GROUP 5- PIE LAYER (INCLUDING CROCK, METAL PIPE, MULTI-PLATE OR OTHER CONDUITS). 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. (ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES) .....$ 24.17 16.72

LABORERS - OPEN CUT: GROUP 6- GROUTING MAN, AUDIO-VIDUAL TELEVISION OPERATIONS AND ALL OTHER OPERATIONS IN CONNECTION WITH CLOSED CIRCUIT TELEVITION INSPECTION, PIPE CLEANING AND PIPE RELINING WORK AND THE INSTALLATION AND REPAIR OF WATER SERVICE PIPE AND APPURTENANCES. 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. (ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES) .....$ 22.00 16.72

LABORERS - OPEN CUT: 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. 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.
(ZONE 1 - MACOMB, OAKLAND AND WAYNE COUNTIES) ......$ 17.84 16.72
LABORERS - OPEN CUT: GROUP 1- CONSTRUCTION LABORER.
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.
(ZONE 2 - LIVINGSTON COUNTY (EAST OF M-151 (OAK GROVE RD.)); MONROE AND WASHTENAW COUNTIES).......$ 32.10 17.45
LABORERS - OPEN CUT: 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. 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. (ZONE 2 - LIVINGSTON COUNTY (EAST OF M-151 (OAK GROVE RD.)); MONROE AND WASHTENAW COUNTIES).....$ 34.10 17.45

LABORERS - OPEN CUT: 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. 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. (ZONE 2 - LIVINGSTON COUNTY (EAST OF M-151 (OAK GROVE RD.)); MONROE AND WASHTENAW COUNTIES).....$ 30.10 17.45

LABORERS - OPEN CUT: GROUP 4- TRENCH OR EXCAVATING GRADE PERSON. CONSTRUCTION LABORER 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. (ZONE 2 - LIVINGSTON COUNTY (EAST OF M-151 (OAK GROVE RD.)); MONROE AND WASHTENAW COUNTIES).....$ 25.10 16.72

LABORERS - OPEN CUT: GROUP 5- PIE LAYER (INCLUDING CROCK, METAL PIPE, MULTI-PLATE OR OTHER CONDUITS). CONSTRUCTION LABORER 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. (ZONE 2 - LIVINGSTON COUNTY (EAST OF M-151 (OAK GROVE RD.)); MONROE AND WASHTENAW COUNTIES).....$ 25.25 16.72

LABORERS - OPEN CUT: GROUP 6- GROUTING MAN, AUDIO-VIDUAL TELEVISION OPERATIONS AND ALL OTHER OPERATIONS IN CONNECTION WITH CLOSED CIRCUIT TELEVITION INSPECTION, PIPE CLEANING AND PIPE RELINING WORK AND THE INSTALLATION AND REPAIR OF WATER SERVICE PIPE AND APPURTENANCES. CONSTRUCTION LABORER 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. (ZONE 2 - LIVINGSTON COUNTY (EAST OF M-151 (OAK GROVE RD.)); MONROE AND WASHTENAW COUNTIES).....$ 22.55 16.72

LABORERS - OPEN CUT: 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. 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. (ZONE 2 - LIVINGSTON COUNTY (EAST OF M-151 (OAK GROVE RD.)); MONROE AND WASHTENAW COUNTIES).....$ 22.11 16.72

LABORERS - OPEN CUT: GROUP 1- CONSTRUCTION LABORER. 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. (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) .....$ 30.29 17.45

LABORERS - OPEN CUT: 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. 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. (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).....$ 32.29 17.45

LABORERS - OPEN CUT: 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. 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. (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).....$ 28.29 17.45

LABORERS - OPEN CUT: GROUP 4- TRENCH OR EXCAVATING GRADE PERSON. CONSTRUCTION LABORER 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. (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).....$ 23.30 16.72

LABORERS - OPEN CUT: GROUP 5- PIE LAYER (INCLUDING CROCK, METAL PIPE, MULTI-PLATE OR OTHER CONDUITS). CONSTRUCTION LABORER 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. (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).....$ 23.44 16.72

LABORERS - OPEN CUT: GROUP 6- GROUTING MAN, AUDIO-VIDUAL TELEVISION OPERATIONS AND ALL OTHER OPERATIONS IN CONNECTION WITH CLOSED CIRCUIT TELEVITION INSPECTION, PIPE CLEANING AND PIPE RELINING WORK AND THE INSTALLATION AND REPAIR OF WATER SERVICE PIPE AND APPURTENANCES. 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. (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).....$ 20.74 16.72

LABORERS - OPEN CUT: 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. 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. (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).....$ 22.23 16.72

LABORERS - OPEN CUT: GROUP 1- CONSTRUCTION LABORER. 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. (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, ROSCOOMMON, SAGINAW, ST. JOSEPH, TUSCOLA, VAN BUREN, AND WEXFORD COUNTIES).....$ 28.72 18.45

LABORERS - OPEN CUT: 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.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. (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, ROSCOOMMON, SAGINAW, ST. JOSEPH, TUSCOLA, VAN BUREN, AND WEXFORD COUNTIES).....$ 30.72 18.45

LABORERS - OPEN CUT: 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. 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. (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, ROSCOOMMON, SAGINAW, ST. JOSEPH, TUSCOLA, VAN BUREN, AND WEXFORD COUNTIES).....$ 26.72 18.45

LABORERS - OPEN CUT: GROUP 4- TRENCH OR EXCAVATING GRADE PERSON. 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. (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, ROSCOOMMON, SAGINAW, ST. JOSEPH, TUSCOLA, VAN BUREN, AND WEXFORD COUNTIES).....$ 22.33 16.72

LABORERS - OPEN CUT: GROUP 5- PIE LAYER (INCLUDING CROCK, METAL PIPE, MULTI-PLATE OR OTHER CONDUITS). 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. (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, ROSCOOMMON, SAGINAW, ST. JOSEPH, TUSCOLA, VAN BUREN, AND WEXFORD COUNTIES).....$ 22.45 16.72

LABORERS - OPEN CUT: GROUP 6- GROUTING MAN, AUDIO-VIDUAL TELEVISION OPERATIONS AND ALL OTHER OPERATIONS IN CONNECTION WITH CLOSED CIRCUIT TELEVITION INSPECTION, PIPE CLEANING AND PIPE RELINING WORK AND THE INSTALLATION AND REPAIR OF WATER SERVICE PIPE AND APPURTENANCES. 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. (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, ROSCOOMMON, SAGINAW, ST. JOSEPH, TUSCOLA, VAN BUREN, AND WEXFORD COUNTIES).....$ 19.67 16.72

LABORERS - OPEN CUT: 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. 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. (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, ROSCOOMMON, SAGINAW, ST. JOSEPH, TUSCOLA, VAN BUREN, AND WEXFORD COUNTIES).....$ 22.30 16.72

LABORERS - OPEN CUT: GROUP 1- CONSTRUCTION LABORER. 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. (ZONE 5 - ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES).....$ 29.98 22.75

LABORERS - OPEN CUT: 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.MORTAR AND MATERIAL MIXER, CONCRETE FORM PERSON, SIGNAL PERSON, WELL POINT PERSON, MANHOLE, HEADWALL AND CATCH BASIN BUILDER, HEADWALL, SEAWALL, BREAKWALL AND DOCK BUILDER 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. (ZONE 5 - ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES).....$ 30.09 19.45

LABORERS - OPEN CUT: 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. 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 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. (ZONE 5 - ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES).....$ 26.09 19.45

LABORERS - OPEN CUT: GROUP 4- TRENCH OR EXCAVATING GRADE PERSON. CONSTRUCTION LABORER 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. (ZONE 5 - ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES).....$ 22.56 16.72

LABORERS - OPEN CUT: GROUP 5- PIE LAYER (INCLUDING

CROCK, METAL PIPE, MULTI-PLATE OR OTHER CONDUITS).
CONSTRUCTION LABORER 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. (ZONE 5 - ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES).....$ 22.34 16.72
LABORERS - OPEN CUT: GROUP 6- GROUTING MAN, AUDIO-VIDUAL TELEVISION OPERATIONS AND ALL OTHER OPERATIONS IN CONNECTION WITH CLOSED CIRCUIT TELEVITION INSPECTION, PIPE CLEANING AND PIPE RELINING WORK AND THE INSTALLATION AND REPAIR OF WATER SERVICE PIPE AND APPURTENANCES. 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. (ZONE 5 - ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND

SCHOOLCRAFT COUNTIES).....$ 19.99 16.72
LABORERS - OPEN CUT: 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. 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. (ZONE 5 - ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES).....$ 22.45 16.72

LABO0465-001 06/01/2025

	Rates	Fringes
LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 4: GROUP 6- LINE-FORM SETTER FOR CURB OR PAVEMENT; ASPHALT SCREED CHECKER/SCREW MAN ON ASPHALT PAVING MACHINES. (AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON, AND SCHOOL CRAFT COUNTIES)....	$ 34.51	13.45
LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 4: GROUP 5- PIPE LAYERS, OXY-GUN. (AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON, AND SCHOOL CRAFT COUNTIES).....	$ 34.08	13.45
LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 4: GROUP 4- ASPHALT RAKER. (AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON, AND SCHOOL CRAFT COUNTIES).....	$ 34.46	13.45
LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 4: 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; POWEDER PERSON; WAGON DRILL		

AND AIR TRACK OPERATOR; DIAMOND AND CORE DRILLS; GRADE CHECKER; CERTIFIED WELDERS; CURB AND SIDE RAIL SETTER'S TENDER. (AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON, AND SCHOOL CRAFT COUNTIES)....$ 34.02 13.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 4: 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. (AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON, AND SCHOOL CRAFT COUNTIES).....$ 33.73 13.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 4: GROUP 1- ASPHALT SHOVELER OR LOADER; ASPHALT PLANT MISC.; BURLAP PERSON; YARD PERSON; DUMPER (WAGON, TRUCK, ETC.); JOINT FILLING LABORER; MISCELLANEOUS LABORER; UNSKILLED LABORER; PAVEMENT REINFORCEING; 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 BUILDLINGS), 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; ASPHALT RAKER TENDER; SIGN INSTALLER; REMOTE CONTROL OPERATED EQUIPMENT. (AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON, AND SCHOOL CRAFT COUNTIES).....$ 33.52 13.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 3: GROUP 6- LINE-FORM SETTER FOR CURB OR PAVEMENT; ASPHALT SCREED CHECKER/SCREW MAN ON ASPHALT PAVING MACHINES. (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, PREQUE ISLE, ROSCOMMON, AND WEXFORD COUNTIES).....$ 33.61 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 3: GROUP 5- PIPE LAYERS, OXY-GUN. (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, PREQUE ISLE, ROSCOMMON, AND WEXFORD COUNTIES).....$ 33.18 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 3: GROUP 4- ASPHALT RAKER. (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, PREQUE ISLE, ROSCOMMON, AND WEXFORD COUNTIES).....$ 33.56 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 3: 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; POWEDER PERSON; WAGON DRILL AND AIR TRACK OPERATOR; DIAMOND AND CORE DRILLS; GRADE CHECKER; CERTIFIED WELDERS; CURB AND SIDE RAIL SETTER'S TENDER. (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, PREQUE ISLE, ROSCOMMON, AND WEXFORD COUNTIES).....$ 33.12 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 3: 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. (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, PREQUE ISLE, ROSCOMMON, AND WEXFORD COUNTIES).....$ 33.83 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 3: GROUP 1- ASPHALT SHOVELER OR LOADER; ASPHALT PLANT MISC.; BURLAP PERSON; YARD PERSON; DUMPER (WAGON, TRUCK, ETC.); JOINT FILLING LABORER; MISCELLANEOUS LABORER; UNSKILLED LABORER; PAVEMENT REINFORCEING; 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 BUILDLINGS), 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; ASPHALT RAKER TENDER; SIGN INSTALLER; REMOTE CONTROL OPERATED EQUIPMENT. (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, PREQUE ISLE, ROSCOMMON, AND WEXFORD COUNTIES).....$ 32.62 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 2: GROUP 6- LINE-FORM SETTER FOR CURB OR PAVEMENT; ASPHALT SCREED CHECKER/SCREW MAN ON ASPHALT PAVING MACHINES. (AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILACK, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, AND VAN BUREN COUNTIES).....$ 34.37 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 2: GROUP 5- PIPE LAYERS, OXY-GUN. (AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILACK, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, AND VAN BUREN COUNTIES).....$ 34.03 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 2: GROUP 4- ASPHALT RAKER. (AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILACK, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, AND VAN BUREN COUNTIES).....$ 34.16 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 2: 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; POWEDER PERSON; WAGON DRILL AND AIR TRACK OPERATOR; DIAMOND AND CORE DRILLS; GRADE CHECKER; CERTIFIED WELDERS; CURB AND SIDE RAIL SETTER'S TENDER. (AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILACK, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, AND VAN BUREN COUNTIES).....$ 33.81 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 2: 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. (AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILACK, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, AND VAN BUREN COUNTIES).....$ 30.03 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 2: GROUP 1- ASPHALT SHOVELER OR LOADER; ASPHALT PLANT MISC.; BURLAP PERSON; YARD PERSON; DUMPER (WAGON, TRUCK, ETC.); JOINT FILLING LABORER; MISCELLANEOUS LABORER; UNSKILLED LABORER; PAVEMENT REINFORCEING; 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 BUILDLINGS), 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; ASPHALT RAKER TENDER; SIGN INSTALLER; REMOTE CONTROL OPERATED EQUIPMENT. (AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILACK, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, AND VAN BUREN COUNTIES).....$ 33.37 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 1: GROUP 6- LINE-FORM SETTER FOR CURB OR PAVEMENT; ASPHALT SCREED CHECKER/SCREW MAN ON ASPHALT PAVING MACHINES. (AREA 1: GENESE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES).....$ 36.41 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 1: GROUP 5- PIPE LAYERS, OXY-GUN. (AREA 1: GENESE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES).....$ 36.11 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 1: GROUP 4- ASPHALT RAKER. (AREA 1: GENESE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES).....$ 35.90 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 1: 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; POWEDER PERSON; WAGON DRILL AND AIR TRACK OPERATOR; DIAMOND AND CORE DRILLS; GRADE CHECKER; CERTIFIED WELDERS; CURB AND SIDE RAIL SETTER'S TENDER. (AREA 1: GENESE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES).....$ 35.82 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 1: 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. (AREA 1: GENESE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES).....$ 31.96 14.45

LABORER- HIGHWAY, BRIDGE, AND AIRPORT CONSTRUCTION AREA 1: GROUP 1- ASPHALT SHOVELER OR LOADER; ASPHALT PLANT MISC.; BURLAP PERSON; YARD PERSON; DUMPER (WAGON, TRUCK, ETC.); JOINT FILLING LABORER; MISCELLANEOUS LABORER; UNSKILLED LABORER; PAVEMENT REINFORCEING; 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 BUILDLINGS), 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; ASPHALT RAKER TENDER; SIGN INSTALLER; REMOTE CONTROL OPERATED EQUIPMENT. (AREA 1: GENESE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES).....$ 35.51 14.45

LABO1076-005 04/01/2025

	Rates	Fringes
LABORER: 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 5 - REMAINING COUNTIES IN MICHIGAN)	$ 22.95	13.45
LABORER: 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 4 - ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT)	$ 22.92	13.45
LABORER: 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 3 - BAY, GENESEE, LAPEER, MIDLAND, SAGINAW, SANILAC, SHIAWASSEE AND ST. CLAIR)	$ 23.55	13.45
LABORER: 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: $.40 PER HOUR ABOVE THE BASE PAY RATE. (ZONE 2 - MONROE AND WASHTENAW)......$ 24.55 13.45

LABORER: 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: $.40 PER HOUR ABOVE THE BASE PAY RATE. (ZONE 1 - MACOMB, OAKLAND AND WAYNE).....$ 28.41 13.45

PAIN0022-002 07/01/2008

	Rates	Fringes
PAINTER (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). 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..	$ 25.06	14.75

PAIN0312-001 06/01/2018

	Rates	Fringes
PAINTER: SPRAY, SANDBLAST, SIGN PAINTING (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).....$ 24.94 13.35

PAINTER: BRUSH AND ROLLER (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).....$ 23.74 13.35

PAIN0845-003 05/10/2018

	Rates	Fringes
PAINTER (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))	$ 25.49	13.74

PAIN0845-015 05/10/2018

	Rates	Fringes
PAINTER (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):)	$ 25.49	13.74

PAIN0845-018 05/10/2018

	Rates	Fringes
PAINTER (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, POLK	$ 25.49	13.74

PAIN1011-003 06/02/2022

	Rates	Fringes
PAINTER (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES) FOOTNOTES: HIGH PAY (BRIDGES, OVERPASSES, WATERTOWER): 30 TO 80 FT.: $.65 PER HOUR ADDITIONAL. 80 FT. AND OVER: $1.30 PER HOUR ADDITIONAL	$ 24.66	14.99

PAIN1474-002 06/01/2010

	Rates	Fringes
PAINTER (HURON COUNTY; LAPEER COUNTY (EAST OF HWY. M-53); ST. CLAIR, SANILAC AND TUSCOLA COUNTIES)		

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.: $1.00 PER HOUR ADDITIONAL, PAID FROM THE GROUND UP.....$ 23.79 12.02

PAIN1803-003 06/01/2025

	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. (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, PREQUE ISLE, ROSCOMMON, SAGINAW AND WEXFORD COUNTIES).....	$ 29.23	19.11
PAINTER: ALL OTHER WORK, INCLUDING MAINTENANCE OF INDUSTRIAL PLANT. (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) 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.....	$ 29.35	19.05

PLAS0514-001 06/01/2023

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER: 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).....$ 31.50 18.51

CEMENT MASON/CONCRETE FINISHER: ZONE 1 (GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, SAGINAW, WASHTENAW AND WAYNE COUNTIES).....$ 33.00 18.51

PLUM0190-003 05/01/2015

	Rates	Fringes
PLUMBER/PIPEFITTER - GAS DISTRIBUTION PIPELINE: WELDING IN CONJUNCTION WITH GAS DISTRIBUTION PIPELINE WORK	$ 33.03	20.19
PLUMBER/PIPEFITTER - GAS DISTRIBUTION PIPELINE: ALL OTHER WORK	$ 24.19	12.28

SUMI2002-001 08/13/1986

	Rates	Fringes
PAVEMENT MARKING MACHINE: 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. ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)	$ 30.03	14.45
PAVEMENT MARKING MACHINE: 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. ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE	$ 31.96	14.45
PAVEMENT MARKING MACHINE: 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. ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES)	$ 33.37	14.45
PAVEMENT MARKING MACHINE: 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. ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES	$ 35.51	14.45
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 compreised of only Pavement Markers Group 1 and Line Protectors. (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)	$ 25.03	14.45
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 compreised of only Pavement Markers Group 1 and Line Protectors. (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)	$ 26.63	14.45

FLAG PERSON	$ 10.10	0.00

TEAM0007-004 06/01/2025

	Rates	Fringes
TRUCK DRIVER TRUCKS, 8 CU. YDS. AND OVER (AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW, AND WAYNE COUNTIES). FOOTNOTE: +A +B TO FRINGE BENEFITS. A. $470.70 PER WEEK B. $68.70 DAILY	$ 33.50	0.75
TRUCK DRIVER TRUCKS, 8 CU. YDS. AND OVER (AREA 1: REMAINING COUNTIES) FOOTNOTE: +A +B TO FRINGE BENEFITS. A. $470.70 PER WEEK B. $68.70 DAILY	$ 33.40	0.75
TRUCK DRIVER TRUCKS UNDER 8 CU. YDS. (AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW, AND WAYNE COUNTIES) FOOTNOTE: +A +B TO FRINGE BENEFITS. A. $470.70 PER WEEK B. $68.70 DAILY	$ 33.50	0.75
TRUCK DRIVER TRUCKS UNDER 8 CU. YDS. (AREA 1: REMAINING COUNTIES) FOOTNOTE: +A +B TO FRINGE BENEFITS. A. $470.70 PER WEEK B. $68.70 DAILY	$ 33.40	0.75
TRUCK DRIVER EUCLIDS, DOUBLE BOTTOMS AND LOWBOYS (AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW, AND WAYNE COUNTIES) FOOTNOTE: +A +B TO FRINGE BENEFITS. A. $470.70 PER WEEK B. $68.70 DAILY	$ 33.65	0.75
TRUCK DRIVER EUCLIDS, DOUBLE BOTTOMS AND LOWBOYS (AREA 1: REMAINING COUNTIES) FOOTNOTE: +A +B TO FRINGE BENEFITS. A. $470.70 PER WEEK B. $68.70 DAILY	$ 33.55	0.75

TEAM0247-004 04/01/2013

	Rates	Fringes
SIGN INSTALLER GROUP 2: PERFORMS ALL MISCELLANEOUS LABOR, USES ALL HAND AND POWER TOOLS, AND OPERATORES ALL OTHER EQUIPMENT, MOBILE OR OTHERWISE, REQUIRED FOR THE INSTALLATION OF HIGHWAY AND STREET SIGNS. (AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW, AND WAYNE COUNTIES) FOOTENOTE: A. $132.70 PER WEEK, PLUS $17.80 PER DAY	$ 25.05	11.84
SIGN INSTALLER GROUP 2: PERFORMS ALL MISCELLANEOUS LABOR, USES ALL HAND AND POWER TOOLS, AND OPERATORES ALL OTHER EQUIPMENT, MOBILE OR OTHERWISE, REQUIRED FOR THE INSTALLATION OF HIGHWAY AND STREET SIGNS. (AREA 1: REMAINING COUNTIES) FOOTENOTE: A. $132.70 PER WEEK, PLUS $17.80 PER DAY	$ 25.27	11.84
SIGN INSTALLER 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. (AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW, AND WAYNE COUNTIES) FOOTENOTE: A. $132.70 PER WEEK, PLUS $17.80 PER DAY	$ 22.03	11.83
SIGN INSTALLER 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. (AREA 1: REMAINING COUNTIES) FOOTENOTE: A. $132.70 PER WEEK, PLUS $17.80 PER DAY	$ 21.78	11.83

TEAM0247-010 04/01/2018

	Rates	Fringes
TRUCK DRIVER, UNDERGROUND CONSTRUCTION: GROUP 3- TRUCK DRIVER ON LOW BOY, EUCLID AND DOUBLE BOTTOM. SCOPE OF WORK: EXCAATION, 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. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, TANKSGIVING DAY, AND CHRISTMAS DAY. (AREA 2 GENESEE, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW, AND WAYNE COUNTIES)	$ 24.45	19.04
TRUCK DRIVER, UNDERGROUND CONSTRUCTION: GROUP 3- TRUCK DRIVER ON LOW BOY, EUCLID AND DOUBLE BOTTOM. SCOPE OF WORK: EXCAATION, 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. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, TANKSGIVING DAY, AND CHRISTMAS DAY. (AREA 1: LAPEER AND SHIAWASSEE COUNTIES)	$ 24.12	19.04
TRUCK DRIVER, UNDERGROUND CONSTRUCTION: GROUP 2- TRUCK DRIVER ON DUMP TRUCKS OF 8 CUBIC YARDS CAPACITY OR OVER, POLE TRAILERS, SEMIS AND FUEL TRUCKS. SCOPE OF WORK: EXCAATION, 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. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, TANKSGIVING DAY, AND CHRISTMAS DAY. (AREA 2 GENESEE, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW, AND WAYNE COUNTIES)	$ 24.26	19.04
TRUCK DRIVER, UNDERGROUND CONSTRUCTION: GROUP 2- TRUCK DRIVER ON DUMP TRUCKS OF 8 CUBIC YARDS CAPACITY OR OVER, POLE TRAILERS, SEMIS AND FUEL TRUCKS. SCOPE OF WORK: EXCAATION, 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.
PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH
OF JULY, LABOR DAY, TANKSGIVING DAY, AND CHRISTMAS
DAY. (AREA 1: LAPEER AND SHIAWASSEE COUNTIES)......$ 23.91 19.04
TRUCK DRIVER, UNDERGROUND CONSTRUCTION: 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).
SCOPE OF WORK: EXCAATION, 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.
PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH
OF JULY, LABOR DAY, TANKSGIVING DAY, AND CHRISTMAS
DAY. (AREA 2 GENESEE, MACOMB, MONROE, OAKLAND, ST.
CLAIR, WASHTENAW, AND WAYNE COUNTIES).....$ 24.12 19.04
TRUCK DRIVER, UNDERGROUND CONSTRUCTION: 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).
SCOPE OF WORK: EXCAATION, 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.
PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, FOURTH
OF JULY, LABOR DAY, TANKSGIVING DAY, AND CHRISTMAS
DAY. (AREA 1: LAPEER AND SHIAWASSEE COUNTIES)......$ 23.82 19.04

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

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least $13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

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

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

Union Rate Identifiers

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

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

Union Average Rate Identifiers

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

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

Survey Rate Identifiers

The ◆SU◆ identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

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

State Adopted Rate Identifiers

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

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

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

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

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

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END OF GENERAL DECISION

"



Special Provisions

VanderSalm Court
Water Main Replacement

Bid Reference #: 91360-010.0

September 2026

SPECIAL PROVISIONS: PAGE

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CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
PROGRESS CLAUSE

H&S:ARP 1 of 1 5/14/2026

Contractor shall start work on or before the date shown in the table below, or on a date agreed upon with the Engineer. In no case, shall any work be commenced prior to receipt of formal notice to proceed by the City. The project shall be substantially completed and ready for final inspection in accordance with the following table.

Milestone	Date
Estimated Award – City Council	April 20, 2026
Commence Work	September 1, 2026
Substantial Completion - Final Inspection	November 13, 2026
Final Completion - Restoration Punchlist	May 28, 2027

The approved low bidder(s) for the work covered by this proposal shall be required to participate in a pre-construction meeting with the City and the Engineer to work out a detailed progress schedule. The schedule of this meeting will be set within a week of contract award.

The Progress Schedule shall include, at a minimum, the controlling work items for the completion of the project and the planned dates (or work day for a work day project) that these work items will be controlling operations. When specified in the Bidding Proposal, the date the project is to be opened to traffic as well as the final project completion date specified shall also be included in the Project Schedule.

If the Bidding Proposal specifies other controlling dates, these shall also be included in the Progress Schedule. See Maintaining Traffic Special Provision.

Liquidated damages shall be assessed in accordance with Special Provision for Schedule of Liquidated Damages for Oversight.

Failure on the part of the Contractor to carry out the provisions of the Progress Schedule, as establish, may be considered sufficient cause to prevent bidding future projects until a satisfactory rate of progress is again established.

Work of a similar nature may be added to this contract if agreed to by the City and the Contractor. In the event that work is added, the progress schedule for the work will remain unchanged. Any contract time added for additional work will be applied to that additional work only, and cannot be added to items in the original contract. Any work done on the items in the original contract past the number of working days stated herein will be subject to liquidated damages regardless of any work that may be added at a later date.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
MAINTAINING TRAFFIC

a. Description. This work shall consist of all labor, materials, and equipment required to maintain traffic in accordance with this special provision for all work on VanderSalm Court and any affected side streets as described and as directed by the Engineer.

b. General. Maintain traffic throughout the project according to Sections 104.11, 812 and 922 of the Michigan Department of Transportation *2020 Standard Specifications for Construction*, the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), including any Supplemental Specifications, and as specified herein.

1. The Contractor shall notify the Engineer, the City of Kalamazoo, Metro Transit, local police department, local fire department, and other emergency response units a ***minimum of 10 business days*** prior to the implementation of any detours, road closures, or lane closures, major traffic shifts, and changes between each.

2. Coordinate operations with Contractors performing work on other projects within or adjacent to the Construction Influence Area (CIA) as described below. The Contract Maintenance Agency will coordinate their operations with the Engineer to minimize the interference with the Contractor. No additional payment will be made to the Contractor for the joint use of the traffic control items.

3. During all times of construction, access to local businesses and drives for emergency vehicles shall be maintained by the Contractor until the project is completed unless a temporary closure is approved in writing by the Engineer.

4. The Contractor shall conduct their work in such a manner so no excavations are left open overnight. If this is not possible, the Contractor shall provide and install a temporary fence to protect the excavation at their own expense. Whenever possible, the Contractor shall use a trench box and backfill all excavations and/or trenches and cover or protect the trench box at the end of each workday. No excavations and/or trenches are to be left open overnight unless a full closure is in place.

5. Coordinate all lane or road closures with Kalamazoo Metro Transit to maintain access or provide alternate access for any bus stops within the CIA.

6. The Contractor shall maintain and coordinate daily waste pickup and deliveries to all business buildings affected by driveway, alley, and road closures for this project.

7. The Contractor shall coordinate all signal modifications, temporary signals, signal bagging and un-bagging and traffic shifts with the City of Kalamazoo Traffic Engineer so that appropriate signal timing and camera adjustments can be completed. The Contractor shall notify the City of Kalamazoo a ***minimum of 7 business days*** prior to implementing traffic shifts requiring traffic signal modifications.

8. Streets and curbline within the CIA shall be swept daily, or as directed by the Engineer.

c. Relations and Responsibility to the Public.

1. Door hanger notifications shall be provided to residents/businesses directly affected by proposed work no less than 72 hours before the portion of road adjacent to their property is planned to receive work. The Contractor will provide a pre-printed door hanger with the Contractor's message to the residents/businesses. Message content must be approved by the Engineer prior to printing and distribution. The Contractor is responsible for filling out and distributing the door hangers. No work shall be performed in any section of the project prior to the affected residents/businesses being notified via distribution of door hangers.

2. 24-hour notification shall be provided to residents/businesses before every construction operation that will substantially affect a resident/business adjacent to the project site, (such as driveway closures, water service installations, etc.) The Contractor shall assist the Engineer and/or Owner in coordinating work and mitigating impacts to the extent possible while maintaining construction schedules.

d. Construction Influence Area (CIA). The CIA includes the right-of-way of the following roadways, within the approximate limits described below:

1. VanderSalm Court from west end to Burdick Street.

2. The right-of-way of any intersecting roadways and sidewalks adjacent to the work zone for a distance of approximately 500 feet including Burdick Street and Rose Street.

3. The rights-of-way of any signed detour routes.

e. Traffic Restrictions.

1. No work shall be performed during the Labor Day (September 7th) holiday period as defined in the following table:

Labor Day
3:00 pm September 5th to 6:00 am September 8th

2. The City of Kalamazoo observes the **Veterans' Day Holiday on November 11th**. The Contractor may perform work on this Holiday but is advised that City Staff will be unavailable. An extension of time or additional payment will not be granted for delays due to being unable to contact City staff on these days.

3. All work shall be done between the hours of 7 am to 7 pm (Monday – Saturday) unless otherwise specified herein. Work done outside of the times specified herein will be at the discretion of the Engineer and any additional cost for maintaining traffic shall be borne by the Contractor.

4. No work shall be done on Sunday unless otherwise specified herein or approved by the Engineer in writing. The Contractor shall request permission to work no later than 12:00 pm the Wednesday prior to the weekend they are requesting to work.

5. The arrow board, signs, and channelizing tapers for any flag control operations shall be placed at locations approved by the Engineer for adequate visibility to oncoming traffic.

6. The minimum lane width throughout the CIA shall be 10 feet.

7. Maintain access to commercial and residential properties at all times and assist business patrons and residents with navigating the CIA as needed. Part-width driveway construction may be required. All driveway closures must be approved by the Engineer. Where a driveway is closed or partially closed, the adjacent driveway must remain open to traffic. The Contractor shall coordinate their work with the impacted property owners and give a minimum of 3 days' notice prior to closing a driveway.

8. Utilize intermediate traffic regulators during the reconstruction of driveways with commercial traffic.

9. Maintain access for pedestrians to all commercial and residential properties.

10. Cover all existing regulatory, warning, and construction signs that are not applicable during construction.

11. The Contractor must submit a work zone traffic control plan to the Engineer in accordance with section 104 of the 2020 MDOT Standard Specifications for Construction and a haul route plan. The Engineer will have seven (7) calendar days to review the plan for acceptance or provide comments for plan revisions required to obtain acceptance. At a minimum, the work zone traffic control plan shall include the proposed ingress/egress locations for construction equipment and vehicles, traffic control devices that will be utilized to warn the motoring public of ingress/egress locations, and measures that will be taken to ensure compliance with the plan as specified herein. The haul route plan shall indicate routes to be utilized during construction for the purposes of transporting equipment, materials, and removed spoils within City of Kalamazoo limits to and from the site for each phase. Once approved, the contractor shall communicate the work zone traffic control plan and haul route plan for each phase to all drivers and subcontractors and enforce compliance. The Engineer may suspend work if compliance with the approved work zone traffic control plan and haul route plan is not maintained. No work shall begin prior to acceptance of the work zone traffic control plan and haul route plan. Additional time required to obtain an accepted work zone traffic control plan and haul route plan shall not be cause for delay or impact claims. All costs associated with obtaining an acceptable plan, providing and executing all parts of the accepted plan including required traffic control devices, or resolving an incomplete or unacceptable plan shall be borne by the Contractor.

12. The Contractor shall comply with local noise ordinances, which are available on the City of Kalamazoo's website, except for any night work specified herein.

f. Traffic Control. The traffic control required by this Special Provision for work on VanderSalm Court and adjacent roadways is to erect and maintain signs to close VanderSalm Court to vehicle traffic as provided herein.

1. The Contractor shall provide access to emergency vehicles at all times

2. The Contractor shall coordinate with VanderSalm's Flower Shop to minimize the impacts of the closure of driveways off VanderSalm Court.

3. The Contractor shall provide access to City staff to the Sanitary and Storm lift stations at the west end of VanderSalm Court as needed.

g. Pedestrian or Non-Motorized Facilities.

1. Maintain all facilities in accordance with *The Americans with Disability Act* (ADA) requirements. Provide facilities equivalent to, or better than, the route a person would have encountered prior to construction activities.

2. Close and detour any sidewalk ramps and crosswalk areas to pedestrian traffic that are impacted by the work. Cover/Bag pedestrian signal heads when the crosswalk or ramp is affected. Close sidewalks with Pedestrian Type II barricades and 'Sidewalk Closed' signs.

3. Keep sidewalk areas clear of any equipment or materials at all times the sidewalks are open to pedestrian traffic.

4. At signalized intersections a minimum of one crossing shall be maintained in each direction of travel at all times.

5. Pedestrian access routes shall be kept clear of all material, equipment, and debris except for when work is actively occurring to remove and reconstruct sidewalk or install utility crossings at that specific location. Once direct work ceases at a specific location the pedestrian route shall be cleaned and re-opened using either temporary or permanent measures.

6. Contractor shall submit pedestrian detour routes to the engineer prior to closing sidewalks.

h. Traffic Control Devices

1. *General.* Conform all traffic control devices and their usage to Part 6 of the Michigan Manual on Uniform Traffic Control Devices (MMUTCD). This document can be found at the following website:

   http://mdotjboss.state.mi.us/TSSD/tssdHome.htm

   a. Temporary traffic control devices shall be delivered to the site no earlier than 96 hours prior to being placed in use and shall be removed from the site immediately upon deactivation unless directed otherwise by the Engineer. Traffic control devices shall not be placed in use until necessary for each phase of work.

   b. At a minimum, temporary traffic control devices within the CIA and detour routes shall have their location confirmed or corrected and be inspected, cleaned, and/or repaired by the Contractor at the end of each workday or as directed by the Engineer.

2. Temporary Signs

   a. Place temporary signs at the spacing and taper lengths as shown on the attached Typical 101-GEN-SPACING-CHARTS.

   b. Utilize MDOT Typical 102-GEN_NOTES if called for on the MDOT Maintaining Traffic Typicals.

c. Utilize signs identified in the MDOT Maintaining Traffic Typical 103-GEN_SIGN unless otherwise specified on the plans or in this Special Provision.

d. Place temporary advance signing treatment and signing for lane closures and lane shifts on the project as shown on the attached MDOT Typicals: 123-NFW-1-LC-(L) and 140-CLT_PARK_LANE

e. Fabricate all temporary signs with legends and symbols flush to the sign's face and do not extend beyond the sign borders or edges.

f. Mount all temporary signs that will be in place for more than 14 days on driven posts.

g. When a portable construction sign is no longer applicable, remove it or lay the sign down with legs pointed in the same direction as traffic flow, with its feet off and laid flat.

h. Temporary neighborhood business signage shall be used to direct the public to the various businesses within the Construction area. The Contractor shall be responsible for the installation, maintenance, and relocation of these signs as necessary to coincide with the various phases of the project.

3. Channelizing Devices

    a. Channelizing devices required shall be **Channelizing Device, 42 inch, Fluorescent**.

4. Plastic Drums

    a. Plastic drums required shall be **Plastic Drum, Fluorescent**.

5. Lighted Arrows

    a. **Lighted Arrow, Type C** shall be used whenever shifting a traffic lane, closing a traffic lane or shoulder, and as called for on the traffic control plans.

6. NTCIP-Compliant Portable Changeable Message Sign (PCMS)

    a. NTCIP-Compliant PCMS shall be furnished to the site 2 weeks prior to commencement of construction at locations agreed upon by the Engineer.

    b. Contractor shall verify the message with the Engineer and change as directed per current operations in a timely manner.

7. Permanent Pavement Markings

    a. Fabricate all pavement markings per MDOT Pavement Marking Standards and Special Details PAVE-900 through PAVE-985.

8. Permanent Signs

    a. Fabricate and place permanent signs according to current editions of the Michigan Manual on Uniform Traffic Control Devices (MMUTCD) and the MDOT Standard Highway Signs manual and sign support typicals.

b. Mount all permanent signs at a 7-foot bottom height.

c. Fabricate all new permanent signs with high intensity reflective sheeting.

d. Install all permanent signs as shown on the signing plans or as directed by the Engineer prior to opening roadways to traffic.

e. Replace signs requiring relocation for Contractor convenience or due to Contractor damage as determined by the Engineer at the Contractor's expense.

j. Measurement and Payment. The estimated quantities listed on the plan sheets for maintaining traffic on this project are based on the suggested sequence of operations and as described in this special provision.

Pay Item	**Pay Unit**
Maintaining Traffic	Lump Sum

Payment for **Maintaining Traffic** includes the cost for:

1. Furnishing all materials and labor for the road closure and construction signing
2. Covering any existing signs that are not applicable during construction
3. Modifying traffic signals as necessary/required by the Engineer
4. The fabrication, installation, maintenance, and relocation of temporary neighborhood business signs
5. Resident and business notifications
6. Traffic regulator control, including directing traffic to business entrances.
7. Any channelizing devices required for use with a Lighted Arrow or PCMS.
8. Any additional signing or maintaining traffic devices required to expedite the construction shall be at the Contractor's expense. Additional compensation will not be made for unused traffic control and/or signing.

Permanent Pavement Markings shall be paid per the MDOT 2020 Standard Specifications

Permanent Signs shall be paid per the MDOT 2020 Standard Specifications

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
UTILITY COORDINATION CLAUSE

H&S:ARP 1 of 2 8/27/26

The Contractor shall cooperate and coordinate construction activities with the owner of utilities as stated in Section 104.08 of the MDOT 2020 Standard Specifications for Construction. In addition, for the protection of underground utilities, the contractor shall follow the requirements in Section 107.12 of the MDOT 2020 Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 109.05E of the MDOT 2020 Standard Specifications for Construction.

The following Utility Owners have facilities located within the right-of-way.

Cable: Charter Communications,
4176 Commercial Avenue
Portage, MI 49002
(269) 459-8746
Bryan.Longcore2@Charter.com

Electric: Consumers Energy,
2500 East Cork Street
Kalamazoo, MI 49001
(317) 445-8814, Cole Rochowiak
Cole.Rochowiak@cmsenergy.com

Gas: Consumers Energy,
2500 East Cork Street
Kalamazoo, MI 49001
(269) 666-0707, Jake Wahlstrom
Jacob.Wahlstrom@cmsenergy.com

Telephone: AT&T,
2919 Millcork Street
Kalamazoo, MI 49001
(616) 304-0861, Carrie DeMott
cd3249@att.com

Fiber Optic: City of Kalamazoo,
415 Stockbridge Avenue
Kalamazoo, MI 49001
(269) 337-8601, Ron Ridenour
ridenourr@kalamazoocity.org

Q3 Technologies, LLC,
1005 Foster Avenue
Kalamazoo, MI 49048
(269) 377-1308, Troy Quakenbush
tquakenbush@q3-tech.com

CTS Telecom,
13800 East Michigan Avenue
Galesburg, MI 49053
(269) 746-3232, Tom Cady
tcady@ctstelecom.com

Water: City of Kalamazoo,
415 Stockbridge Avenue
Kalamazoo, MI 49001
(269) 337-8558, Debbie Jung
jungd@kalamazoocity.org

Sewer: City of Kalamazoo,
1415 North Harrison Street
Kalamazoo, MI 49007
(269) 337-8551, Ryan Stoughton
stoughtonr@kalamazoocity.org

The Contractor shall call "Miss Dig" a minimum of 3 working days prior to beginning construction operations. Saturday, Sundays and Holidays shall not be included as a working day. On all projects:

"3 Days before you Dig - Call Miss Dig - Toll Free" 811.

The owners of existing service facilities that are within grading or structure limits will move them to locations designated by the Engineer or will remove them entirely from the highway right-of-way. Owners of Public Utilities will not be required by the City to move additional poles or structures in order to facilitate the operation of construction equipment unless it is determined by the Engineer that such poles or structures constitute a hazard to the public or are extraordinarily dangerous to the Contractor's operations.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
COMPACT DUCTILE IRON WATER MAIN FITTINGS, MODIFIED

H&S:COK 1 of 2 05/27/2026

a. **Description.** For the unit price per pound bid for the miscellaneous water main fittings, the Contractor shall furnish all materials and install at locations shown on the plans. All work shall be done in accordance with section 823 of the MDOT Standard Specifications for Construction and with the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation unless otherwise specified herein.

Work Included Under Other Contract Items

Valves and Boxes
Fire Hydrants
Water Services

b. **Materials.** Provide materials in accordance with section 823 of the 2020 MDOT Standard Specifications for Construction and with the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation.

c. **Construction.** Complete all work in accordance with the Standard Specifications, the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation.

d. **Measurement and Payment.** Payment for Water Main Fittings with the exception of any plugs, caps or sleeves will be based on the weights of fittings as provided in the following tables and paid for by the Pound.

Pay Item	**Pay Unit**
Compact Ductile Iron Water Main Fittings, Modified	Pound

Compact Ductile Iron Water Main Fittings, Modified includes payment in full for furnishing all material, labor and equipment necessary to perform the work specified herein and shown on the plans.

Payment for Compact Ductile Iron Water Main Fittings, Modified shall be made on the basis of the following tables of weights for mechanical joint ductile iron compact fittings. Joint accessories are not included in the following weights and will not be measured separately for payment.

Bends				
Size	90° Bend Weight (LBS)	45° Bend Weight (LBS)	22.5° Bend Weight (LBS)	22.5° Bend Weight (LBS)
4"	23	19	17	16
6"	44	37	33	31
8"	61	49	44	40
10"	94	74	64	57
12"	124	101	85	73
16"	264	202	179	162
20"	505	348	364	227
24"	586	475	385	345

Tee, Reducer, and Cross			
Size	Tee Weight (LBS)	Reducer Weight (LBS)	Cross Weight (LBS)
6"	63	-	72
6"x4"	51	32	68
8"	87	-	108
8"x4"	61	43	99
8"x6"	75	54	108
12"x6"	113	85	140
12"x10"	137	82	190
16"	323	-	385
16"x6"	229	136	250
16"x8"	248	132	289
16"x12"	281	125	397
24"	720	-	830
24"x6"	415	-	403
24"x8"	445	-	431
24"x12"	500	310	494
24"x16"	580	324	714
24"x20"	660	315	809

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
WATER MAIN FIRE HYDRANT EXTENSION

H&S:COK 1 of 1 05/27/2026

a. **Description.** This work consists of providing and installing extension kits for water main fire hydrants. The contractor shall furnish all materials and do all work necessary to install standpipe and rod extension kit for fire hydrants, except for work which is specifically included in other contract items. All work shall be done in accordance with section 823 of the 2020 MDOT Standard Specifications for Construction and with the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation unless otherwise specified herein.

Work Included Under Other Contract Items
Valves and Boxes
Fire Hydrants
Fire Hydrant, Rem

b. **Materials.** Provide materials in accordance with section 823 of the 2020 MDOT Standard Specifications for Construction and with the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation.

Standpipe and rod extension kit used must be approved by the hydrant manufacturer for use on the hydrant installed and must meet the same requirements/specifications as the hydrant installed. Provide product submittal to Engineer for approval.

c. **Construction.** Complete all work in accordance with the 2020 MDOT Standard specifications for Construction, the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation. Install standpipe and rod extension kit in strict accordance with manufacturer's recommendation. Install Water Main Fire Hydrant Extension at locations as directed by the Engineer.

d. **Measurement and Payment.** The completed work, as described, will not be paid and measured by a separate pay item. Cost shall be included with Fire Hydrant pay item.

Pay Item	**Pay Unit**
Water Main Fire Hydrant Extension……	Cost shall be included with Fire Hydrant pay item. No additional payment will be allowed for hydrant extensions.

Fire Hydrant, Modified includes furnishing all material, labor, and equipment necessary to perform the work specified herein and shown on the plans.

Perform all work required in conjunction with dewatering operations, without separate payment, and consider it is included in the Fire Hydrant pay item.

Furnish all labor, equipment and materials for trench excavation, disposal, and backfill and consider it is included in the Fire Hydrant pay item.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
WATER SERVICES

a. **Description.** This work consists of constructing proposed water services, 2-inch and smaller, from the distribution main to the curb shut off valve, or as directed by the Engineer. The intent of this special provision is to replace all street side water services and connections between the proposed water main and the existing curb stop locations and temporary water service connections as required.

Non-Copper Water Service Replacement Requirements: Under the Michigan Lead Copper Rule, partial lead service line replacements are not allowed. Once the service line is taken out of service for replacement, all non-copper or non-plastic portions of that service line, including the water meter, shall be replaced prior to the service being reconnected and the water turned back on to reduce particulate lead release. This includes replacing any non-copper or non-plastic private water lines from meter pits to the inside of the house. All water services with a meter pit must have the service line material from the meter pit to the house verified. Any non-copper water services that need temporary relocation must be replaced at the time of relocation. All lead water service replacements shall be coordinated with the contractor for the City's "DWSRF Contract 4" non-copper water service replacement project.

Work Included Under Other Contract Items
Water Main and Fittings
Valves and Boxes

b. **Materials.** Materials shall meet the requirements of the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation.

1. Copper Service Lines

   i. Copper pipe shall be used for service lines which are 2 inches and smaller. All copper services shall conform to AWWA C800. Water service pipe shall be copper meeting the requirements of ASTM B88, type K.
   ii. All appurtenances on copper service lines shall be flare copper connections. Other connections may be used in lieu of flare copper connections if approved by the Engineer prior to installation.

2. When replacing a street service that is ¾ inch, the new street service will be 1 ¼ inch from the main to the curb stop and reduced down after the curb stop.

c. **Construction Methods.** This work shall be in accordance with the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation and the 2020 MDOT Standard Specifications for Construction. The Contractor shall notify the City of Kalamazoo's Public Services Department before this work is to begin and follow all City procedures for notifying the residents.

1. The replacement of the street service for any water service that has a portion of the service identified as non-copper and/or non-plastic shall be coordinated with the contractor for the City's DWSRF Contract 4 Project.

2. Water Services shall not be connected to the water main until approved by the Engineer or authorized representative.

3. Water Service, 1 ¼ inch

    i. The minimum size for all new services shall be 1 ¼ inch. The property owner/developer may request a larger size if needed.
    ii. When replacing a street service that is ¾ inch, the new street service shall be 1 ¼ inch from the main to the curb stop and reduced down after the curb stop.
    iii. Services shall be installed via trenchless installation methods where feasible to minimize pavement removal and open-cut trenches.
    iv. Make all service connections and transfers. Maintain and protect, at no additional cost, existing service connections requiring transfer but not shown on the plans, until reconnection or disposal.
    v. If relocating a portion of a water service, shut down the water service by method approved by the engineer or authorized representative.
    vi. Install new street service from the main to the curb stop, replace the curb stop valve and box, and connect to existing yard service as shown on the plans or directed by engineer.
    vii. Existing curb boxes shall be completely removed.

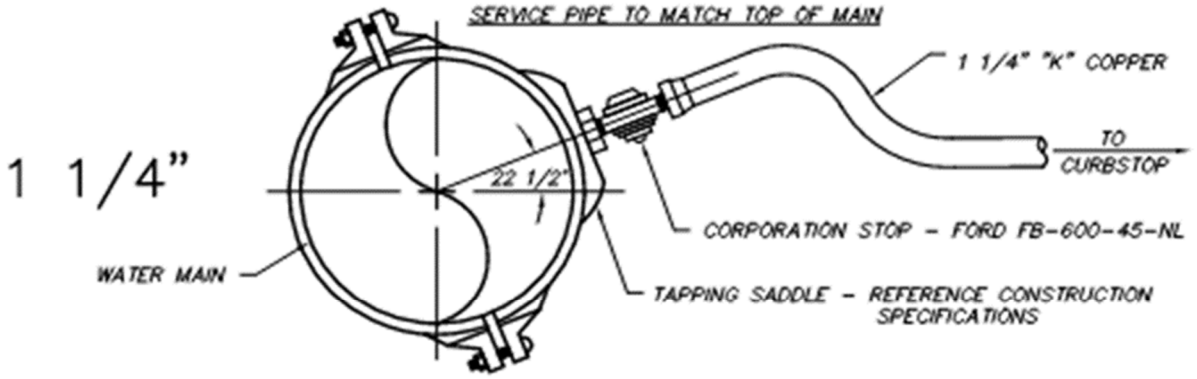
d. **Measurement and Payment.** The completed work, as measured, shall be paid for at the contract unit price for the following contract pay items.

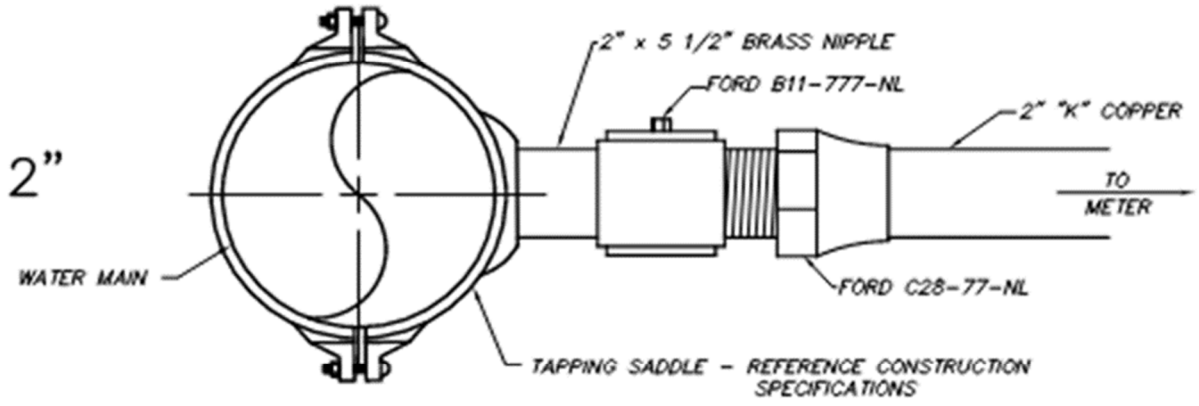
Pay Item	**Unit**
Water Serv, 1 ¼ inch, Modified	Each
Copper Water Service Pipe, 1 ¼ inch, Modified	Foot

Water Service, 1 ¼ inch, Modified is payment in full for each water service installed on the proposed water main and reconnected to the existing yard service. The item shall include any excavation, trenchless installation methods, tapping the main, installing the service saddle and corporation stop, installing a new curb stop and box, connecting the street service to the existing yard service including any other required fittings, removing and disposing any portion of the old water service and curb stop box. Providing, placing, and compacting backfill and any other miscellaneous materials, equipment, and work necessary for the installation of the service as described is also included.

Copper Water Service Pipe, 1 ¼ inch, Modified is payment in full for each linear foot actually installed.

WS–9–D





THE CITY OF Kalamazoo	CITY OF KALAMAZOO Department Of Public Services WATER SERVICE TAPPING SLEEVE	RECOMMENDED BY APPROVED BY APPROVED BY ACCEPTED BY	DATE

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
POLYETHYLENE ENCASEMENT, MODIFIED

H&S:ARP 1 of 1 11/1/2025

a. **Description.** For the unit price per linear foot bid for polyethylene encasement, the Contractor shall furnish all materials and install per the City of Kalamazoo 2021 Standard specifications for Water Main and Service Installation unless otherwise specified herein.

b. **Materials.** Provide materials in accordance with the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation.

I. All water main must be encased by 8 mil thick V-Bio polyethylene wrap.
II. Provide the tube size recommended by the manufacturer to protect the pipe and fitting sizes.
III. Provide adhesive tape for V-Bio as recommended by the manufacturer. Tape for repairing damage to V-Bio must have a life expectancy equal to or greater than the life expectancy of V-Bio.
IV. V-Bio shall be overlapped one foot in either direction at joints and secured in place around the pipe.
V. V-Bio shall be oversized for fittings and valves to allow for encasement without cutting the polyethylene laterally or otherwise.
VI. V-Bio shall be color code: Blue.

c. **Construction.** Complete all work in accordance with the Standard Specifications, the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation.

d. **Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item. Payment for Water Main Encasement shall be measured along the centerline of the pipe, with no deductions for fittings.

Pay Item	**Pay Unit**
Polyethylene Encasement, Modified…….……..Foot	

Polyethylene Encasement, Modified includes payment in full for furnishing all material, labor and equipment necessary to perform the work specified herein and shown on the plans.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
LIVE TAP, __ inch by __ inch, Modified

H&S:IJV 1 of 1 2/17/2026

a. Description. This work consists of providing and installing the tapping sleeve, valve, all necessary restraints, and valve box complete and ready for use. This work includes the complete live tapping procedure.

b. Materials. Provide materials in accordance with section 823 of the 2020 MDOT Standard Specifications for Construction and with the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation. Submit catalog cuts to the Engineer for approval prior to ordering tapping sleeve materials.

c. Construction. Complete all work in accordance with section 823 of the 2020 MDOT Standard Specifications for Construction and with the City of Kalamazoo 2021 Standard Specifications for Water Main and Service Installation. Verify the material, size, ovality, and condition of the existing water main prior to ordering the tapping sleeve materials.

Verify the pressure in the existing main is below the tapping sleeve manufacturer's recommendation before installation of the tapping sleeve.

Do not attempt to force, reshape, or bend saddle plates by excessive tightening of saddle studs.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item.

Pay Item	**Pay Unit**
Live Tap, __inch by __ inch, Modified..……	Each

Live Tap, __inch by __ inch, Modified includes payment in full for furnishing all material, labor and equipment necessary to perform the work specified herein and shown on the plans.

Perform all work required in conjunction with dewatering operations, without separate payment, and consider it is included in the **Live Tap, __inch by __ inch, Modified** pay item.

Furnish all labor, equipment and materials for trench excavation, disposal, and backfill and consider it is included in the **Live Tap, __inch by __ inch, Modified** pay item.

Removal and replacement of pavement, curb, curb and gutter, and sidewalk will be paid for separately, based on actual quantities.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
INSULATION BOARD

TAS:ARP 1 of 1 11/1/2025

a. Description. This work consists of insulating the proposed water main or proposed service lines at locations shown on the plans, or determined at the time of construction, to protect against the penetration of frost.

This work includes furnishing and placing insulation board to the prepared grade. It also includes excavating, backfilling, shaping and compaction necessary to install the insulation board.

b. Materials. The insulation must be rigid, extruded polystyrene board meeting *ASTM C 578, Type V*, having a nominal board thickness of 2 inches, minimum compressive strength of 100 psi and a minimum R-Value of 10. Furnish the board in minimum 4 foot by 8 foot sheets unless otherwise approved by the Engineer, and of the cumulative thickness indicated on the plans or determined at the time of construction and approved by the Engineer. Trim the edges square with maximum ¼ inch bow measured against a straightedge.

c. Construction. It is necessary to insulate the water main or service lines wherever indicated on the plans or determined at the time of construction. Place the insulation board on a prepared grade 6 to 12 inches above or below the top or bottom of the pipe, where possible and fasten with skewers or other means approved by the Engineer, so that backfill compaction requirements of the trench can be met. Where necessary to place more than one layer of insulation board, ensure the joints are staggered.

Install the insulation board using methods and means that will not cause damage. Remove damaged insulation board and replaced at no cost to the City.

Asphalt or other material having a temperature exceeding 150 degrees Fahrenheit must not be placed in direct contact with the insulation board.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Insulation Board, 2 inch	Square Foot

Insulation Board, 2 inch includes furnishing and installing the insulation board complete including fasteners and any required granular material Class II.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
VALVE BOX REMOVAL

H&S:ARP 1 of 1 02/18/26

a. Description. This work consists of removing valve boxes from abandoned water main. This work includes excavation, pavement removal, and backfilling as shown on the plans and specified herein.

b. Materials. Furnish all materials in accordance with section 902 and other applicable sections of the MDOT Standard Specifications for Construction.

c. Construction. Perform all construction in accordance with the MDOT Standard Specifications. Remove all portions of the gate box to at least 3 feet below the pavement surface and to at least 1 foot below the planned grade if outside the road and fill with concrete.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Valve Box, Rem	Each

Valve Box, Rem includes saw cutting, removing and replacing existing pavement, excavating, backfilling, removal and disposal of the valve box, and filling of valve box with concrete.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
DEWATERING SYSTEM, EXCAVATION

H&S:ARP 1 of 3 02/18/2026

a. Description. This work consists of lowering the groundwater table to facilitate construction in the area of the excavation. The lowered groundwater elevation must be maintained until construction activities no longer require dewatering and the installed pipe has sufficient soil cover to prevent pipe heave from buoyancy. Dewatering work may require the use of pumps for trench dewatering or well points, deep wells, or other measures that are utilized to control groundwater to facilitate installation of underground utilities.

The groundwater removed during the dewatering process shall be discharged to the adjacent stormwater system as permitted under NPDES discharge permit (# MIG080000). The permit was obtained for this project to treat and discharge groundwater generated from dewatering wells to the existing stormwater system. The permit requires activated carbon treatment of groundwater and meeting effluent limits for specific parameters. The contractor will be responsible for the removal, treatment, and discharge of water to the storm sewer system following the requirements of the permit. The Owner's representative will be responsible for the sampling, analytical testing, and reporting of effluent water samples.

b. Contaminated Groundwater. Groundwater contamination has been identified in the vicinity of the monitoring wells completed as part of the geotechnical evaluation report for the project. Specifically, groundwater analytical testing identified concentrations of cyanide, lead, ammonia, and PFOS exceeding laboratory reporting limits with the above contaminates also exceeding permitted effluent concentrations. The source of the contamination is currently unknown. Groundwater laboratory reports, provided to EGLE as part of the permit application process, are included as part of this special provision.

The flow required must adequately dewater the trench, as specified above, and yield an effluent concentration that meets the requirements of the NPDES permit (attached). Given the presence of contaminants, pumping rates may need to be adjusted to meet permitted effluent concentrations. The system shall be approved by the Engineer prior to starting the work.

c. Well Points, Deep Wells, and Trench. Should groundwater control be performed by deep well, well points, and/or trench pumping systems, ensure it is done without damage to property or structures, and without interference with the rights of the public, owners of private property, pedestrians, vehicular traffic, or the work of other contractors. Any pumping methods used for dewatering and control of groundwater and seepage must have properly designed filters. This is to ensure that adjacent soil will not be pumped with the water creating voids underground and around the face of the excavation or under existing structures. Ensure the filter design is reviewed and approved by the Engineer prior to placement.

Perform the dewatering operations in an approved and predetermined sequence with the excavation operation such that the perimeter and face of the excavation is stable. Dewatering well diameter, pumping rate and well spacing must provide adequate drawdown of the water level. Set wells to intercept groundwater that, otherwise, would enter the excavation and interfere with

the work. Submit a plan showing the location of proposed wells or wellpoints, header pipes, power supplies, vacuum pumps, treatment equipment, effluent sampling locations, and discharge points. System components should be positioned to minimize interference with roads, streets, walks, and other occupied and used facilities, unless approved by the City of Kalamazoo.

Install observation wells at key locations for observation of groundwater levels during the excavation. Submit a plan for locations and monitoring frequency of the observation wells to the Engineer a minimum of 7 calendar days in advance of placement of the dewatering system. Add additional wells as needed to lower the groundwater to the elevation required.

Filters or settling devices may be required before discharge to ensure that storm sewers, sanitary sewer systems, or surface waters are not adversely affected by construction debris or increased sediment load.

Continue dewatering operations until the pipe is installed and the trench is backfilled sufficiently to prevent the pipe from heaving from buoyancy. Obtain the Engineer's approval before ceasing dewatering activities.

Operate system continuously until infrastructure below the design groundwater elevation have been constructed and the Engineer has given approval to cease dewatering.

d. Storm Sewer System Discharge. Monitor the volume of flow being treated and discharged to the storm sewer system and document daily by reading the register on the flow meter. Furnish this information to the Engineer daily or as otherwise approved. The discharge shall be tested at the discharge point (before mixing with receiving waters occurs) as required by the NPDES permit by the owner's representative.

If the water being discharged into the storm sewer system exhibits evidence of contamination, or monitoring results are non-compliant with the NPDES Permit, dewatering operations shall cease and the Engineer notified immediately.

e. Construction. Lower the groundwater to the elevation required. Determine the methods and materials required to accomplish this work, subject to approval by the Engineer before initiation or installation of the dewatering system.

Ensure the dewatering system for contaminated groundwater is independent of other dewatering operations by a separate installation. Utilize the system for the entirety of the project as determined necessary by the Engineer. Take all appropriate precautions to prevent exacerbation of contamination.

Dewatering systems may be installed within the City of Kalamazoo right-of-way. Traffic control will be required as necessary. Any dewatering work that is outside the City's right-of-way will require signed agreements by the property owner.

The Engineer may order corrective actions to the dewatering or treatment system at any time to meet NPDES permit requirements. Any additional costs shall be borne by the contractor.

Remove dewatering system and all associated appurtenances when no longer needed, properly dispose of system consumables and decontaminate the system as necessary, and restore the area as directed by the Engineer.

Abandon deep wells and observation wells in accordance with current EGLE requirements when no longer needed.

f. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

Pay Item	Pay Unit
Dewatering System for Contaminated Groundwater	Dollar

Dewatering System for Contaminated Groundwater includes the initial setup and subsequent reconfiguration of all wells, piping, supplies, power, and fuel necessary for the installation, removal and disposal at each dewatering location. Fuel for the system shall not be stored onsite. Daily operation and maintenance of all wells, piping, supplies, power, and fuel necessary for the dewatering operation shall be included.

Installation and removal of the treatment system, including but not limited to: frac tanks, bag filters, activated carbon treatment vessels, granular activated carbon, piping, and sampling ports shall be included. Replacement of the activated carbon utilized within the treatment system, if needed as determined by the environmental contractor and/or laboratory test results shall be included. This shall include, but is not limited to: removal, transport, storage testing and disposal/regeneration of spent carbon and purchase, delivery and installation of virgin carbon. Include fee for all decontamination and disposal at the conclusion of the project.

Payment of this item will be made on a time and material basis. The Contractor shall submit detailed supporting documentation for costs for payment including supporting invoices, receipts, subcontractor agreements, time records, and proof of payment. An allowable markup of up to 25% will be allowed for sub-contract work. The markup percentage will be established on the bid tab and will be held for the length of the contract.

Contractor may request reimbursement for documented, actual, and reasonable costs incurred in excess of the pay item provided that:

1. The overrun results solely from unforeseeable conditions not reasonably discoverable prior to execution of this agreement and not caused by Contractor's negligence, error, omission, mismanagement, or failure to properly estimate costs;
2. Contractor provides written notice to the Engineer immediately upon becoming aware of any circumstance likely to increase costs and, in any event, no later than when eighty percent (80%) of the pay item has been expended;
3. The Engineer provides written approval before Contractor incurs any cost that would cause the pay item to be exceeded.

No overrun costs shall be due or payable unless and until approved in writing by the Engineer.

Any required traffic control shall be included in the Maintaining Traffic pay item.

Disposal of contaminated soil or sediment, excavated or displaced during the installation of this system, will be included in the pay item of **Non-hazardous Contaminated Material Handling and Disposal (LM)**.

CITY OF KALAMAZOO

SPECIAL PROVISION FOR
NON-HAZARDOUS CONTAMINATED MATERIAL HANDLING AND DISPOSAL, MODIFIED

H&S: ARP 1 of 2 09/22/2025

a. Description. This work consists of handling, transporting, and disposing of non-hazardous contaminated material, including all laboratory testing required for the proper disposal of the material and site restoration of temporary storage locations. Ensure this special provision is not employed without authorization by the Engineer. The laboratory testing will be used to solicit landfill approval and is not intended to determine whether or not the material is contaminated. Soil delineated on the plans and classified as non-hazardous contaminated cannot be used elsewhere on the project regardless of the laboratory test results unless otherwise directed by the Engineer.

b. Materials. None specified.

c. Construction Complete this work in accordance with sections 204 and 205 of the Standard Specifications for Construction, except as modified herein or as directed by the Engineer.

1. Excavation of Non-hazardous Contaminated Material. Excavate non-hazardous contaminated material as shown on the plans or as directed by the Engineer.

2. Temporary Storage of Non-hazardous Contaminated Material. Place excavated non-hazardous contaminated material which is to be temporarily stockpiled on plastic sheeting or tarps having a minimum thickness of 6 mils or in trucks, roll off boxes, or other containers, such that no liquid may escape from the containment. Cover the non-hazardous contaminated material securely with plastic sheeting of 6 mils thickness or greater at the end of each work day.

Dispose of excavated non-hazardous contaminated material as soon as approval is received from the disposal site. This material cannot be stockpiled for longer than 30 days prior to disposal.

Restore temporary storage locations to the condition prior to conducting the work.

3. Sampling and Analysis of Non-hazardous Contaminated Material. Sample and analyze non-hazardous contaminated material prior to disposal. The analysis required is dictated by the disposal facility to be utilized for disposal. Should the results of the analysis show the material to be hazardous waste, as defined by the 1994 PA 451, Part 111, of the Natural Resources and Environmental Protection Act, notify the Engineer immediately. The material must then be disposed of as directed by the Engineer.

4. Disposal of Non-hazardous Contaminated Material. Dispose of non-hazardous contaminated material at a licensed sanitary landfill. Submit at the preconstruction meeting the name of the landfill to be used for disposal, the sampling and analysis requirements of that landfill, and verification that use of the proposed landfill will meet the requirements of the county solid waste plan.

Ensure the proposed landfill is acceptable to the City and approval is obtained from the Engineer prior to commencing disposal operations. Provide a copy of the laboratory analysis to the Engineer as a requirement of approval for disposal. Following disposal and prior to approval for payment, provide landfill receipts for all non-hazardous contaminated material disposed.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Non Haz Contaminated Material handling and disposal, LM, Modified	Cubic Yard

Non Haz Contaminated Material Handling and Disposal, LM, Modified includes payment for all costs for materials, labor and equipment needed for storage, loading, transportation, testing, restoration of temporary storage locations and disposal of the non-hazardous contaminated material. Disposal costs will include all documentation required by the landfill. Provide Engineer receipts from the disposal facility for the number of cubic yards disposed at that facility prior to payment.

Payment for excavation of non-hazardous contaminated material will be included with the related items of work.

Delays in testing and disposal of non-hazardous contaminated material that are not the fault of the Contractor may be considered valid reasons for extension of time. However, these delays and the resultant extensions of time will not be considered valid reasons for additional payment.

Should the analysis of the material document that it is hazardous waste, then payment for disposal of hazardous waste will be measured and paid for as extra work. Disposal includes hauling by a licensed hazardous waste hauler and disposal at an appropriate licensed disposal facility. Prequalification is waived.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
Soil Erosion Control, Inlet Protection, Fabric Drop, Modified

COK 1 of 1 02/17/2025

a. Description. This work consists of furnishing, installing, maintaining and removing Soil Erosion and Sedimentation Control (SESC) Devices, including permitting with local agencies (City, County, etc.) and routine inspection and reporting by an SESC Construction Site Inspector who is certified in the State of Michigan.

b. Materials. The following devices are approved for use, or approved equal:

1. Siltsack Type B, Regular Flow with or without Curb Deflector, by ACF Environmental, Inc.

2. Inlet Pro Sediment Bag, Standard Flow, with or without foam deflector by Hanes Geo Components.

3. Dandy Curb Bag, Dandy Bag, Dandy Curb Sack, Dandy Sack, or Dandy Pop by Dandy Products, Inc.

4. Flexstorm Catch-It and Flexstorm Pure used with filter bag types FX, FX+, FXO, PC, PC+ or IL.

5. Silt Fence

Fabric drops installed in curb inlets shall have a curb filter or deflector integrated into the product that fits across the curb back opening.

Ensure provided devices are sized appropriately for the drainage structures in which they will be installed.

c. Construction. Install, maintain and remove the devices in accordance with the manufacturer's guidelines. Remove material collected by the devices in accordance with the manufacturer's guidelines or as directed by the Engineer.

Dispose of collected material in accordance with subsection 205.03.P of the 2020 MDOT Standard Specifications for Construction. Those devices that are no longer needed and have been removed may be reused elsewhere on the project as approved by the Engineer.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Soil Erosion Control, Inlet Protection, Fabric Drop, Modified	Each

Soil Erosion Control, Inlet Protection, Fabric Drop, Modified will be paid for by each device installed with 50% payment for installation and maintenance of SESC measures and 50% payment for removal of SESC measures once turf is established, or as directed by the Engineer.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
NON-COMPLIANCE WITH SOIL EROSION AND SEDIMENTATION CONTROL REQUIREMENTS

COS:DMG 1 of 2 APPR:TWK:HLZ:02-26-20
FHWA:APPR:03-02-20

a. Description. This special provision establishes negative adjustments related to the failure to properly install and maintain soil erosion and sedimentation control (SESC) measures and the conditions under which these adjustments will be determined and applied. Nothing in this special provision modifies section 107 of the Standard Specifications for Construction.

Delays to the project as a result of the Contractor conducting corrective actions for SESC measures do not constitute a valid reason for an extension of time.

Ensure deficiencies with SESC measures are corrected in the time frame stated herein. For those deficiencies not corrected within the stated time frame, the Engineer will make a negative adjustment to the contract as stated herein.

b. Materials. None specified.

c. Construction. Install all temporary erosion control measures identified on the plans and as directed by the Engineer for an impacted area of the project prior to the start of any earth disturbance including, but not limited to, clearing, grading and excavation in that area. The Engineer will inspect these measures every 7 days and within 24 hours after a precipitation event that results in a discharge from the site. Deficiencies will be documented on the National Pollutant Discharge Elimination System and SESC Inspection Report (MDOT Form 1126).

If at any time during the project, including the time during the seasonal suspension, the Engineer documents deficient SESC measures, the Engineer will provide written notification with instructions for corrective action to the Contractor. The time frame for completion of these corrective actions will be specified in the notification and will be discussed with the Contractor as necessary.

Deficiencies are defined as one or more of the following:

1. Failure to install or construct SESC measures shown on the plans or as directed by the Engineer;

2. Failure to maintain the measures;

3. Failure to conduct earth change activities in a manner consistent with all applicable environmental permit requirements;

4. Failure to comply with the area limitations or the time limitations stated in subsections 208.03.A and 208.03.B, respectively, of the Standard Specifications for Construction.

SESC deficiencies are either emergency or non-emergency and the time frame for corrective action is determined accordingly. Sediment leaving the right-of-way or entering a drainage structure, waters of the state, or loss of support of the roadbed impacting public safety constitutes an emergency and corrective actions must be completed within 24 hours of notification, including weekends or holidays regardless of whether the Contractor is working or not. Non-emergency deficiencies must be corrected within 5 calendar days of notification.

For those emergency corrective actions not completed within 24 hours of notification, the Contractor will be assessed $100.00 per hour for every hour the deficiency remains uncorrected after the initial 24 hours of notification. For those non-emergency corrective actions not completed within 5 calendar days, the Contractor will be assessed $500.00 per day for every day, or part thereof, the deficiency remains uncorrected after the initial 5 days of notification.

If it is not practicable to complete the non-emergency corrective actions within 5 calendar days, the Contractor must document the reasons and propose a corrective action plan to the Engineer within 5 days of notification. The corrective action plan must contain the Contractor's course of action and a time frame for completion. If the reasons and the corrective action plan are acceptable to the Engineer, the Contractor will be allowed to proceed with the plan as proposed without incurring a negative adjustment. If the approved corrective action plan is not completed as proposed, the Contractor will be assessed $1000.00 per calendar day for every day, or part thereof, the deficiency remains uncorrected after the time frame is exceeded in the approved corrective action plan.

Correct, in the timeframe stated herein, all other emergency or non-emergency SESC deficiencies documented anywhere else on the project during completion of the approved corrective action plan.

d. Measurement and Payment. The Engineer will make the necessary monetary adjustment to the contract amount based on the length of time the Contractor allows the deficiencies to remain uncorrected after the time allowance stated herein and as described to cover any costs incurred by the Department as a result of SESC violations.

All costs associated with corrective actions required due to the Contractor's failure to properly install or maintain SESC measures on this project will be borne by the Contractor.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
SANITARY SEWER LEAD CONFLICTS

H&S:ARP 1 of 1 11/1/2025

a. Description. This work consists of furnishing and constructing sanitary leads as necessary to adjust sanitary sewer connections from the main sewer to the nearest possible end point in instances of conflict with proposed water main or storm sewer. This includes sewer pipe, fittings, temporary plugs, clearing and grading, dewatering, earth excavation, joint materials, concrete, laying of pipe, backfill, and disposal of excess material; protection of existing structures and utilities, cleanup and other operations necessary to complete the work as shown on the plans and as specified in the City of Kalamazoo Standard Specifications for Collector Sewers and Service Installations, 2026.

b. Materials. All materials shall conform with Section 2.01 and 2.02 of the City of Kalamazoo Standard Specifications for Collector Sewers and Service Installations, 2026.

c. Construction. All construction shall conform with Part 3 of the City of Kalamazoo Standard Specifications for Collector Sewers and Service Installations, 2026.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Sanitary Sewer Lead Conflict, 4 inch, Modified……..…….	Foot
Sanitary Sewer Lead Conflict, 6 inch, Modified……..…….	Foot

The unit price of **Sanitary Sewer Lead Conflict, _ inch, Modified** includes the cost of the following:

1. Excavation and backfill;
2. Dewatering operations (trench and/or pipe);
3. Providing and installing fittings, gaskets, and geotextile fabric;
4. Installing risers as detailed on the plans;
5. Plugging and marking terminations;
6. Testing and televising; and
7. Preparing and providing as-built plans.

The cost of dewatering of trenches, pipe, or both is included in the unit price for relevant items of work.

The cost of excavating, disposing of excess material, and providing, placing, and compacting the backfill, is included in the unit price for related items of work.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
PAVEMENT REMOVAL, MODIFIED

H&S:ARP 1 of 1 02/17/2026

a. Description. This work consists of removing existing pavement to the limits shown on the plans and as directed by the Engineer regardless of the existing material type (HMA, reinforced concrete, non-reinforced concrete, brick pavers) or number of layers and thickness of individual layers.

b. Materials. Furnish materials in accordance with subsection 204.02 of the 2020 MDOT Standard Specifications for Construction.

c. Construction. Remove and dispose of existing HMA, reinforced concrete, non-reinforced concrete, and brick paver pavements in accordance with subsection 204.03 of the MDOT Standard Specifications for Construction. Remove pavement a minimum of 2 feet past trenches edges and/or the nearest lane line with a saw cut edge or neatly trim edge with air hammer.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Pavt, Rem, Modified	Square Yard

Pavt, Rem, Modified will be measured and paid for once all areas identified for removal, regardless of the existing material type, number of layers or thickness of individual layers, are removed.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
MACHINE GRADING, MODIFIED

H&S: ARP 1 of 1 05/01/226

a. Description. This work consists of all excavation and grading operations required to develop the proposed road cross section and driveways as shown on the plans and in accordance with section 205 of the 2020 MDOT Standard Specifications for Construction.

Machine Grading, Modified will consist of the following:

1. Identify any areas of unsuitable material with project manager and verify limits with geotechnical engineer.

2. All excavation and embankment required to construct the proposed cross section.

3. Compaction of the subgrade to not less than 95% of the maximum unit weight.

4. Shaping and compacting any disturbed subbase to standard specifications for subbase.

5. Hauling, disposal of all excess materials in accordance with subsection 205.03 of the Standard Specifications for Construction.

6. Removal of all miscellaneous items identified for removal, unless noted otherwise.

b. Materials. All material used in the construction of the project aggregate base and subbase must meet the requirements of Section 902.

c. Construction. Construction shall be in accordance with section 205 of the Standard Specifications.

d. Measurement and Payment. The completed work, as measured, shall be paid for at the contract unit price for the following contract pay item.

Pay Item	**Pay Unit**
Machine Grading, Modified	Lump Sum

Machine Grading, Modified includes all labor and equipment necessary to construct the proposed cross section as indicated on the plans and this special provision.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
HMA APPLICATION ESTIMATE

H&S: ARP 1 of 1 11/1/2025

a. Description. This work shall be done in accordance with Division 5 of the 2020 MDOT Standard Specifications for Construction except as herein specified. The engineer representative will perform density testing.

b. Materials. The HMA application estimate is as follows:

1. HMA, 13A, Modified (base) shall have a yield of 220 pounds per square yard
2. HMA, 36A, Modified (top) shall have a yield of 165 pounds per square yard

Asphalt binder shall be PG 64-28 for all mixes

Target air voids shall be designed for 4.0% and field regressed to 3.0% for all HMA mixes.

Aggregate Wear Index for the HMA, 5E (Top) and HMA, 36A (Top) shall be 260 minimum. HMA Bond Coat shall be type SS – 1h and be applied at the rate of 0.05 to 0.10 gal/syd per Manufacturer's recommendation.

Hand Patching shall be HMA, 13A, Modified or other mix as approved by the Engineer in writing before placement.

RAP shall not exceed Tier 1 limits as specified in the MDOT Special Provision for Recycled Hot Mix Asphalt Mixture on Local Agency Projects included in this proposal.

c. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
HMA, (type), Modified	Ton

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
COVER, ADJ, MODIFIED

H&S:ARP 1 of 2 11/1/2025

a. Description. This work consists of removing and replacing existing City of Kalamazoo owned manhole structure covers and water valve boxes during HMA surface operations with City of Kalamazoo standard covers. This operation uses the Mr. Manhole™, Manhole Leveling System, or equivalent. Section references are to the current version of the MDOT Standard Specifications for Construction.

b. Materials. Provide materials in accordance with the following:

1. Cover and Casting:
    a. Supply the City of Kalamazoo standard design cover and casting for Sanitary and Storm sewer per special provision for **DR STRUCTURE COVER, TYPE __, MODIFIED**
    b. Water main valve boxes meeting the City of Kalamazoo Standard Specifications for Water Main and Service Installation, 2021

2. Concrete:
    a. Use Grade P-NC concrete meeting the requirements of Section 1006.

3. Mortar Type R-2:
    a. Use mortar meeting the requirement of Section 1005.

4. HMA:
    a. Use HMA mixtures as specified in the special provisions

c. Construction. Remove existing pavement around manhole structures and water valve boxes using the Mr. Manhole™ or equivalent system. Remove the existing structure cover in a manner to avoid roadway materials from entering the manhole structure. Salvage existing manhole covers and castings as determined by Engineer. Notify the Engineer when manhole cover and casting are ready for pickup. Place a steel plate over the manhole structure and fill in the resulting void with the HMA mixture or material approved by the Engineer. Record the location of each structure and use a locating system or GPS record of each structure to find it following final paving.

Prior to paving, ensure that locations of structures are confirmed and recorded, and any markers or caps used are in place to easily identify and find each structure after final paving. Upon completion of final paving, cut out and remove the pavement around the structure using the Mr. Manhole™ or equivalent system. Avoid roadway materials from entering the manhole structure. Remove the plate and locator cap. Set the new structure cover in a full bed of mortar or using custom adjusting rings built for this purpose. Adjust in accordance with manufacturer's instructions, MDOT Standard Specifications, and best practices. Set the structure cover level with the roadway (nominal offset = 0", maximum offset = +/- 1/8"). Fill in resulting void with

concrete meeting the requirements of Section 1006. Assume ownership of removed materials and dispose of according to subsection 205.03P.

Any material entering the sewer systems must be removed promptly. If the contractor neglects to remove the material within 7 days for storm or 24 hours for sanitary after receiving written notification from the Engineer, the Engineer may proceed with the removal. The Engineer will deduct the cost of the removal from the monies that are or may become due to the Contractor.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Cover, Adj, Modified……	Each

The unit price for **Cover, Adj, Modified** includes all labor, equipment, and materials to remove pavement, provide and install the new cover and casting or valve box, and place the concrete collar.

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
DR STRUCTURE COVER, TYPE __, MODIFIED

H&S:ARP 1 of 1 11/1/2025

a. Description. This work consists of installing drainage structure castings with City logos in accordance with City of Kalamazoo standards.

b. Materials. All materials shall conform with Section 403.02 of the Michigan Department of Transportation 2020 Standard Specifications for Construction with the exception of the following:

Cover B, Modified shall consist of an EJIW 1045ZPT bolted frame with a 1040A non-bolted, non-vented cover with 2 inch “STORM SEWER” lettering or approved equal.

Cover D, Modified shall consist of an EJIW 5100 frame with 5105 M1 grate.

Cover K1, Modified shall be East Jordan Iron Works 7030 frame with M2 grate and T1 back.

Cover Q, Modified shall consist of an EJIW 1045ZPT bolted frame with a 1040A non-bolted cover with 2 inch “SANITARY SEWER” lettering or approved equal.

c. Construction. All construction shall conform with Section 403.03 of the Michigan Department of Transportation 2020 Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Dr Structure Cover, Type B, Modified	Each
Dr Structure Cover, Type K1, Modified	Each
Dr Structure Cover, Type Q, Modified	Each

CITY OF KALAMAZOO

SPECIAL PROVISION
FOR
SLOPE RESTORATION, MODIFIED

H&S:ARP 1 of 1 11/1/2025

a. Description. This work consists of preparing all areas disturbed during construction for slope restoration by the contractor or as directed by the Engineer, and applying topsoil, fertilizer, seed, and mulch with mulch anchor, mulch blanket or high velocity mulch blanket to those areas.

b. Materials. All materials shall conform with Sections 816 and 917 of the MDOT Standard Specifications for Construction, current edition unless modified by this special provision or as directed by the Engineer. All seeding shall use “TUF” Mixture and fertilizer Class “A” in accordance with Section 816.03.

Erosion control blankets shall be biodegradable jute/scrim netting with leno weave type mesh or equivalent. Plastic or synthetic net or netting shall not be authorized.

Approved products:

1. Western Green, BioNet SC150BN
2. Western Excelsior, Excel SS-2
3. Or Equivalent

c. Construction. Construction methods shall be in accordance with Section 816.03 of the MDOT Standard Specifications for Construction current edition.

High Velocity Mulch Blanket shall be placed in large disturbed areas with a 1-on-4 slope or greater as directed by the Engineer.

If an area washes out after this work has been properly completed and approved by the Engineer, Contractor shall make the required restorations and corrections to prevent future washouts and replace the topsoil, fertilizer, seed and mulch. This replacement will be paid for as additional work.

If weeds are determined by the Engineer to cover more than ten percent of the total area of slope restoration, the Contractor shall provide weed control in accordance to subsection 816.03.J of the MDOT Standard Specifications for Construction, current edition. Weed control shall be at the Contractor’s expense with no additional charges to the project for materials, labor or equipment.

d. Measurement and Payment. The completed work as described will be paid for at the contract unit price for the following contract item (pay item):

Pay Item	**Pay Unit**
Slope Restoration, Modified	Lump Sum

Slope Restoration, Modified shall be placed in all disturbed areas and includes all materials, labor and equipment required to install Topsoil Surface (Furnished or Salvaged); Fertilizer, Chemical Nutrient, Class A; Seeding Mixture TUF; Mulch and Mulch Anchoring; Mulch Blanket and High Velocity Mulch Blanket will not be paid for separately but shall be included in the contract unit price bid for **Slope Restoration, Modified**.



City of Kalamazoo Standard Specifications for Water Main and Service Installation, 2021

VanderSalm Court
Water Main Replacement

Bid Reference #: 91360-010.0

September 2026

CITY OF KALAMAZOO
DEPARTMENT OF
PUBLIC SERVICES

WATER RESOURCES DIVISION

PUBLIC SERVICES DEPARTMENT
WATER RESOURCES DIVISION
415 STOCKBRIDGE AVE.
KALAMAZOO, MICHIGAN 49001-2898
PHONE 269-337-8601
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Standard Specifications for
Water Main and Service Installation
2021



WATER MAIN AND WATER SERVICES

PART 1 GENERAL

1.01 SCOPE

A. This Section includes furnishing and installing water main systems.

B. Reconnection of proposed water main and/or water service connections to existing water main and/or water service constructions shall be in conformance with requirements of this Section.

C. This Section shall include furnishing, excavating, installing, testing, disinfecting, and backfilling all required water main pipe, water service pipes, water main appurtenances, water service, and other work incidental to the water main and/or water service installation unless specifically included under other Items.

D. This work shall also consist of providing as-constructed plans of the completed work.

1.02 SUBMITTALS

A. Submittals shall be the responsibility of the Contractor:

1. Shop Drawings for Review:

a. Manufacturer's Shop Drawings indicating physical dimensions, and joint details for each size, type, and class of pipe, fittings and specials furnished for the project.

2. Information for the Record:

a. Manufacturer's certification indicating that the pipe and joints meet specifications for each production run for each size, type, and class of pipe furnished. The Engineer may request test results to verify certification. Certification documents shall be according to the Source Quality Control of this Section.

b. Manufacturer's installation instructions.

c. The laboratory shall submit test certifications of pipe ordered tested under "Field Quality Control," of this Section.

3. Engineer may request additional Shop Drawings or Information for the Record as required.

4. Requests for approved equals must be submitted to the Engineer for review a minimum of two (2) weeks prior to bid.

1.03 AS CONSTRUCTED RECORD

A. During construction the contractor shall be required to keep current a set of "as constructed" drawings. Before final payment shall be made, the contractor shall submit for approval to the City of Kalamazoo the complete set of as constructed drawings. Each set of "as constructed" drawings shall be labeled "As Constructed", dated, and contain at a minimum the following information (additional information may be required by the City of Kalamazoo):

1. Note distance between all fittings (Center to Center of Fittings).
2. Note Hydrant to valve, valve to main distances (Center to Center of Fittings).
3. Note the type of bend used, (# of degrees), and the Direction of Bend: (Up or down), (N-S-E-W).

4. Note lengths and locations of restrained joints.
5. Details and profiles of special field situations that relate to the water distribution system shall be included.
6. Dimensional information locating each water distribution system component to real world features, such as property lines, right-of-way lines, and centerlines of roads.
7. On all cul-de-sacs with no center island, measure bends and hydrants to center of cul-de-sac. On all cul-de-sacs with a center island, measure bends and hydrants to center of the roadway.
8. When fittings/hydrants are installed as proposed, please circle the proposed listing.
9. All hydrants shall be noted as to whether or not drip valve plugs were installed.
10. When installing 12 inch or larger valves, (Butterfly Valves), indicate which side of the main the operating nut was placed, as well as gear box style with number of turns to close.
11. The contractor shall complete the service card information including a sketch of the water service installation with dimensions and location of the curb box.
12. Contractor shall GPS all valves, hydrants, fittings, as well a minimum every 3 lengths of pipe for straight runs. DWG files shall be provided to the Engineer upon completion of the project. GPS accuracy shall be subfoot.
13. **All as-built record drawings shall be completed and turned in to the Engineer within 2 weeks from completion of the installation.**

1.04 CONTRACT WORK

A. Prior to the start of construction, the City of Kalamazoo shall be given the opportunity to provide construction services for any and all portions of the water main construction. The City of Kalamazoo shall submit an estimated cost to perform the work or will issue a bill based on time and material costs. A separate contract with the City of Kalamazoo will be needed for work to be performed by the City of Kalamazoo.

1. City of Kalamazoo shall perform all water main taps in the water system, unless otherwise directed by the Engineer.

B. The City of Kalamazoo Department of Public Services must approve the Contractor who will perform water main installation. A reference list of at least five (5) Type 1 supply water main projects completed by the Contractor shall be submitted in support of the Contractor's qualifications. The Department of Public Services maintains a list of Contractors approved for water main installation and can be contacted to receive a current copy of that list.

C. The Contractor (when hired by the City) or Developer (when the Contractor is hired to perform work by the Developer), shall provide a written statement of warranty (Warranty Bond) for a period of 2 years from the date of **final acceptance** for water main work or **after meter is installed** for water service work**.** Warranty work shall cover any necessary cost to repair water main or appurtenance leaks and water main or appurtenance leak damage at no cost to the City of Kalamazoo. Final acceptance on all water main and appurtenance work shall not occur until all items have been inspected by the Engineer, passed all required testing, as well as receipt and approval of all as built documents. Additionally, final acceptance on a water service will only be given **once the water meter is installed.**

1. Water service or water main warranty work shall be completed either a prequalified contractor under the inspection of the City of Kalamazoo, or by City of Kalamazoo field service crews. All warranty work shall be paid for by the Developer or the Contractor.

D. The Contractor is responsible for field locating all work which has not yet received final acceptance by the City of Kalamazoo. All damage to work that has not received final acceptance is the responsibility of the Contractor.

PART 2 PRODUCTS

All Products shall be supplied new from the manufacturer and certified new from the supplier. No second hand or salvaged material shall be allowed. All products shall be "**Buy American**" unless otherwise specified in this section.

2.01 DUCTILE IRON

A. Ductile Iron (DI) Pipe Specifications:

1. Ductile Iron Pipe shall be manufactured in accordance with American National Standards Institute (ANSI) and American Water Works Association (AWWA) ANSI/AWWA C150/A21.50 and C151/A21.51. Pipe shall be minimum thickness Class 52 pipe. Flanged pipe shall be manufactured in accordance with ANSI/AWWA C 115/A21.15. Pipe through concrete floors or foundations shall be minimum thickness Class 53 pipe.

a. Water pipe must be lined with a standard thickness cement mortar lining sealed with a bituminous seal coat in accordance with ANSI/AWWA C104/A21.4, unless otherwise required. The outside of the pipe must be coated with the standard bituminous seal and each length of pipe must be marked with the following information

1) Metal thickness class.

2) Net weight of the pipe without lining.

3) The nominal size.

4) The manufacturer's identifying symbol.

b. Underground pipe shall be push on or mechanical joints and above ground pipe shall be flanged joints with gaskets meeting the requirements of ANSI/AWWA C111/A21.11. Nitrile or fluoroelastomer gaskets shall must be used as indicated on the plans and in locations of known or suspected soil or groundwater contamination as necessary. Gaskets provided will be specified based on the type of contamination that is encountered. Each joint shall contain serrated silicon bronze electrical continuity wedges as directed by the Engineer or authorized representative. 4 to 6 inch pipe shall use 2 wedges, 8 to 12 inch pipe shall use 3 wedges, and 16 inch and above shall use 4 wedges.

c. Pipe used in conjunction with Horizontal Directional Drilling operations shall be Flex-Ring or TR FLEX joints.

B. Restrained Joints

1. Restrained joints shall meet the requirements of ANSI/AWWA C111/A21.11, and AWWA/ANSI C110/A21.10 or ANSI/AWWA C153/A21.53.

2. Mechanical restrained joints shall be EBAA Iron Megalug series 1100, Romac Romagrip, Ford Series 1400, or approved equal.

a. Restraint devices for nominal pipe sizes 4 inch through 54 inch shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10.

b. The devices shall have a working pressure rating of 350 psi for 4 to 16 inch, 250 psi for 18 to 48 inch and 200 psi for the 54 inch size. Ratings are for water pressure and must include a minimum safety factor of 2 to 1 in all sizes.

c. Gland body, wedges and wedge actuating components shall be cast from grade 65-45-12 ductile iron material in accordance with ASTM A536.

d. Ductile iron gripping wedges shall be heat treated within a range of 370 to 470 BHN.

e. Three (3) test bars shall be incrementally poured per production shift as per Underwriter's Laboratory (U.L.) specifications and ASTM A536. Testing for tensile, yield and elongation shall be done in accordance with ASTM E8.

f. Chemical and nodularity tests shall be performed as recommended by the Ductile Iron Society, on a per ladle basis.

g. All components shall be manufacture and assembled in the United States.

h. Coating for restraint devices shall consist of the following:

1) All wedge assemblies and related parts shall be processed through a phosphate wash, rinse and drying operation prior to coating application. The coating shall consist of a minimum of two coats of liquid thermoset epoxy coating with heat cure to follow each coat.

2) All casting bodies shall be surface pretreated with a phosphate wash, rinse and sealer before drying. The coating shall be electrostatically applied and heat cured. The coating shall be a polyester based powder to provide corrosion, impact and UV resistance.

3) The coating system shall be MEGA-BOND by EBAA Iron, Inc. or approved equal.

3. Push on restrained joint shall be field locking gasket or Flex Ring style as manufactured by US Pipe, McWane, American USA, or approved equal. Field locking or Flex Ring gasket shall match appropriately to the manufacturer of the pipe used.

4. Use of threaded rods or thrust blocks as a restrained joint shall not be permitted, unless approved by the Engineer.

5. Restrained flange adapters shall be EBAA Iron Megaflange series 2100 or approved equal.

a. Restrained flange adapters shall be made of ductile iron conforming to ASTM A536 and have flange bolt circles that are compatible with ANSI/AWWA C110/A21.10 (125#/Class 150 Bolt Pattern).

b. Restraint for flange adapter shall consist of plurality of individual actuated gripping wedges to maximize restraint capability. Torque limiting actuating screws shall be used to insure proper initial set of gripping wedges.

c. The flange adapters shall be capable of deflection during assembly or permit lengths of pipe to be field cut to allow a minimum of 0.6 inch gap between the end of the pipe and the mating flange without affecting the integrity of the seal.

d. All internal surfaces of the gasket ring (wetted parts) shall be lined with a minimum of 15 mils of fusion bonded epoxy conforming to the applicable requirements of ANSI/AWWA C213. The coating shall meet ANSI/NSF-61. Exterior surfaces of the gasket ring shall be coated with a minimum of 6 mils of fusion bonded epoxy conforming to the applicable requirements of ANSI/AWWA C116/A21.16.

e. Restraint Ring coated with MEGA-Bond Restraint Coating System.

C. Ductile Iron Pipe Fittings

1. Fittings, plugs, and gaskets must meet the requirements of ANSI/AWWA C111/A21.11, and AWWA/ANSI C110/A21.10 or ANSI/AWWA C153/A21.53. Cement mortar linings for fittings must meet the requirements of ANSI/AWWA C104/A21.4.

2. Mechanical joints shall be EBAA Iron Megalug series 1100, Romac Romagrip, or approved equal.

3. Restrained flange adapters shall be EBAA Iron Megaflange series 2100 or approved equal.

2.02 Ductile Iron Valves

A. All underground valves in sizes from 4 inches to 10 inches shall be reduced wall, resilient-seated gate vales for water supply service meeting the requirements of AWWA C 515. Valves shall be American Flow Control Series 2500, Clow model 2638, or EJ Flowmaster Series resilient seated gate valve, Mechanical joint with rubber gaskets (per AWWA/ANSI C 111/A21.11), ductile iron body, stainless steel stem, mechanical joint restraint, and ¾ inch tee head bolts. Valves shall open right (clockwise) and be equipped with standard AWWA operating nut. Nut shall be color coded red. Valves shall have a working pressure rating of 250 psi or greater.

1. In lieu of a mechanical joint restraint, American Flow Control Series 2500 valves may be equipped with ALPHA joints.

B. All underground valves 12 inches and larger shall be rubber-seated butterfly valves meeting the requirements of AWWA C 504. Valves shall be Pratt Groundhog Butterfly Valves, by Henry Pratt Company, Clow, M&H, or Kennedy model 4500, mechanical joint with rubber gaskets (per AWWA/ANSI C 111/A21.11), ductile iron body, mechanical joint restraint, and ¾ inch tee head bolts. Valves shall open right (clockwise) and be equipped with standard AWWA operating nut. Nut shall be color coded red. Valves shall have a working pressure rating of 250 psi or greater.

C. All above ground or in pits/vaults valves between 3 inches and 10 inches shall be rubber seated gate valves meeting the requirements of AWWA C515. Valves shall be American Flow Control Series 2500 Resilient Wedge Gate Valve, Clow model 2638, EJ Flowmaster Series, or approved equal with flanged joint with rubber gaskets (per AWWA/ANSI C 111/A21.11), ductile iron body, stainless steel bolts, nuts and washers, stainless steel stem, and be equipped with a hand wheel to operate. Valves shall have a working pressure rating of 150 psi or greater.

D. All above ground or in pits/vaults valves 12 inches and larger shall be rubber seated butterfly valves meeting the requirements of AWWA C504. Valves shall be by Henry Pratt Company, Clow, M&H, or Kennedy, flanged joint with rubber gaskets (per AWWA/ANSI C 111/A21.11), ductile iron body, and ¾ inch stainless steel bolts, washers and nuts. Valves shall open right (clockwise) and be equipped with standard wheel to operate. Valves shall have a working pressure rating of 150 psi or greater.

E. All underground valves in sizes from 4 inches to 16 inches used in combination with a tapping saddle shall be reduced wall, resilient-seated gate valves for water supply service meeting the requirements of AWWA C 515. Valves shall be American Flow Control Series 2500, Clow model 2638, EJ Flowmaster Series with one flanged and one mechanical joint ends with rubber gaskets (per AWWA/ANSI C 111/A21.11), ductile iron body, stainless steel stem, mechanical joint restraint, and ¾ inch tee head bolts or approved equal. Valves shall open right (clockwise) and be equipped with standard AWWA operating nut. Nut shall be color coded red. Valves shall have a working pressure rating of 250 psi or greater.

F. All valves used in conjunction with a fire service line shall be Mueller R-2361-6 Outside Screw and Yoke (O.S.&Y.) with sample tap or approved equal. The stem shall be type 304 stainless steel. Sample tap shall have a 4 ½ inch brass nipple, brass ball valve, and brass plug meeting NSF/ANSI Standard 61 requirements. Sample tap shall be ½ inch for 4 inch and smaller valves and ¾ inch for valves larger than 4 inch.

G. All valves installed using the insertion style method shall be an all stainless steel body Resilient Wedge Gate Valve designed for permanent use in potable water systems. The design will allow the valve to be installed into an existing pressurized pipeline while maintaining constant pressure and service without system shutdown. No restraining devices, restraining fasteners, or transition gaskets shall be required for the installation or operation of the valve. Valves in sizes 4 inches to 12 inches shall be Hydra-Stop Insta-Valve 250 or approved equal. 16 inch valves shall be Hydra-stop Insta-Valve Plus 250 or approved equal.

2.03 HYDRANTS

A. All fire hydrants shall be American Flow Control or EJ and shall meet the requirements of AWWA C502. Hydrants shall be provided as complete units including hydrant, hydrant marker, pipe, pipe fittings and valve meeting section 2.01, 2.03 and 2.04 requirements. Hydrants shall be supplied for a bury depth of 5.5 feet. The hydrant barrel shall be painted safety yellow by the manufacturer. Hydrant caps and operating nut shall be painted John Deere green by the manufacturer.

1. American Flow Control hydrants shall be 5 ¼ inch Waterous Pacer Traffic Model WB67-250. Hydrants shall be supplied with a 16 inch upper standpipe length. The Hydrant will come equipped with a bronze upper valve washer. In lieu of a mechanical joint restraint, hydrants may be equipped with ALPHA joints.

2. EJ hydrants shall be WaterMaster Model 5BR250 with snow barrel.

B. Hydrants shall come equipped with a Carrol Drain. Drain piping shall be made of type 304 stainless steel. External port shall have removable cap for flushing hydrant. Carrol Drain assembly shall be constructed so that it is removable when replacement of assembly is necessary.

C. Hydrants shall have two 2 ½ inch national standard hose connections, 7.5 threads per inch, OD of threads 3 1/16 inch and one 5 inch integral “STORZ” type nozzle connection. Hose nozzle cap nut, weather shield hydrant operating nut, Storz nozzle cap nut, and Carrol Drain cap nut shall be square 15/16 inch at bottom of nut tapered to 13/16 inch at top (Waterous reference #19). The hydrant mechanism shall be on a non-rising stem opening clockwise. Chains shall not be supplied with the hydrant caps.

D. Hydrants shall be equipped drip valve, tapped for plug. The drip valve system shall be bronze. Draining system shall be positively activated by the main operating rod, meaning the drip valve will open when the hydrant is closed. Hydrant shall be provided with plug removed.

E. Hydrants shall have a 6 inch shoe with mechanical joint connections in conformance to ANSI/AWWA C115/21.11.

2.04 FIRE HYDRANT MARKER

A. The fire hydrant sign shall be installed on a galvanized 2 pound sign post.

B. The fire hydrant sign shall be aluminum 8 inch x 18 inch (MDOT type III-A) with hydrant symbol and down arrow of a reflective material.

C. Fire hydrant mounted marker whips shall be 4 feet x 3/8 inch solid pultrusion fiberglass shaft, with seven (7) 6 inch bands of E.G. reflective sheeting of alternating lime green and red color.

Marker shall have a single solid stainless steel spring with aluminum threaded insert, and use Zinc coated bolt & mounting hardware.

2.05 TAPPING SLEEVES

A. Tapping sleeves for size on size taps or 12 inch and larger sleeves:

1. Model shall be American Flow Control series 2800-C, Tyler Union, Smith-Blair series 665, Romac style SST III, Ford style FTSS, Ford MJTS, or approved equal.

2. Ductile Iron Tapping Sleeves.

a. Sleeves shall be of construction meeting ASTM A536. Side flange seals shall be O-ring type of round cross-sectional shape.

b. All sleeves to include the end joint accessories and split glands necessary to assemble sleeve to pipe.

c. Sleeve shall be coated with asphaltic varnish in compliance with NSF-61.

3. Stainless Steel Tapping Sleeves.

a. Sleeves shall be 18-8 type 304 Stainless Steel in accordance with AWWA C223.

b. Bolts, nuts, and washers shall be 18-8 Type 304 Stainless Steel. Nuts shall be heavy hex, and coated to prevent galling.

B. Tapping sleeves smaller than 12 inch which are not size on size:

1. Model shall be Smith-Blair series 665, Romac style SST III, Ford style FTSS, or approved equal.

2. Sleeves shall be 18-8 type 304 Stainless Steel in accordance with AWWA C223.

3. Bolts, nuts, and washers shall be 18-8 Type 304 Stainless Steel. Nuts shall be heavy hex, and coated to prevent galling.

C. Line Stop Tapping Sleeves and appurtenances:

1. Model shall be Hydra-Stop HSF 250 Patriot or approved equal

2. Body shall be type 304 Stainless Steel in accordance with AWWA C223.

3. Blind Flange shall be Epoxy Coated Carbon Steel or type 304 Stainless Steel.

4. Bolts, Nuts and Washers shall be type 304 Stainless Steel.

5. Completion Plug shall be HSF 250 Push and Pin Style, made of reinforced composite polymer.

6. Completion Plug O-ring shall be BUNA-N Rubber

7. Completion Plug Pins shall be SAE Grade 8, Zinc coated to prevent corrosion

8. Completion Pin Plug shall be type 304 Stainless Steel, coated to prevent galling.

9. Flange O-Ring shall be BUNA-N Rubber.

D. All gaskets shall be Nitrile in compliance with NSF-61.

E. No special tools shall be required other than standard socket wrench.

F. Flange end pilot dimensions to be in compliance with MSS-Sp-60.

2.06 AIR RELEASE VALVES

A. Air Release Valves – All air release valves shall be manufactured per ANSI/AWWA C512-04. Cla-Val Series 36 Combination Air Valves, or approved equal. The valves shall be of the size listed in the plans.

1. The combination air valve shall combine the operating features of both an air and vacuum valve and an air release valve in one housing. The air and vacuum valve portion shall automatically exhaust large quantities of air during the filling of the pipeline and automatically allow air to reenter the pipeline when the internal pressure of the pipeline approaches a negative value due to column separation, draining of the pipeline, or other emergency. The air release valve portion shall automatically release small amounts of air from the pipeline while it is under pressure.

2. The inlet and outlet of the valve shall have the same cross section area. The float shall be guided by a stainless steel guide shaft and seat drip tight against a synthetic rubber seal. 4 inch and larger valves shall have dual guided shafts of hexagonal cross section and a protective discharge hood.

3. The float shall be of all stainless steel construction and capable of withstanding maximum system surge pressure without failure. The body and cover shall be concentrically located and of ductile iron and the valve internal parts shall be stainless steel or Buna-N rubber.

4. All 1 inch and 2 inch valves shall be NPT. All valves 4 inch and larger shall be flanged.

B. Vent piping shall be 2 inch diameter, with copper piping below grade and galvanized piping above grade.

C. Air vent screens shall be black PVC, with NPT threaded to match the size of the connection pipe. Screen shall be one-piece 304 Stainless, mesh size 100. Silver reflective tape shall be placed on the vent pipe.

D. An air release valve sign shall be installed on a galvanized 2 pound sign post.

E. The valve sign shall be aluminum 8 inch x 18 inch (MDOT type III-A) with valve symbol and down arrow of a reflective material.

2.07 REPAIR SLEEVES

A. All repair sleeves shall be certified NSF/ANSI 61-G and 372, and be in accordance with AWWA C230. Sleeves without service tap shall be Smith – Blair model 226, PowerSeal model 3121, or approved equal. Sleeves with service tap shall be Smith – Blair model 238, PowerSeal model 3131, or approved equal.

B. Sleeves shall use Type 304 Stainless Steel hardware in accordance with ASTM A193/A194. Sleeves shall have conductivity feature.

C. The repair sleeves shall be of the full circle type designed to repair a fully broken (completely separated) pipe and shall be rated for a working pressure of not less than 150 psi. Repair sleeves 12 inches or under in size will have a single joint.

D. The length of the sleeves shall not be less than 7 ½ inches. Sleeves shall have no less than three (3) guide bolts of the minimum specified length. Sleeves of longer length shall have an additional guide bolt for every two (2) inches of additional band length.

E. Each sleeve shall consist of a sealing gasket, a non-magnetic stainless steel band with contact buttons protruding through specially prepared gaskets, clamp lugs, bolts and nuts.

F. No welding will be permitted in the manufacture of stainless steel repair sleeves except for the addition of the tap to repair sleeve.

G. The lugs shall not be deformed in the process of attachments to the band during assembly or during removal in the field.

H. The gasket shall be natural rubber, nitrile or approved equal and shall be of the tapered overlap design to give a pressure tight fit on the pipe surface to form a leak tight, permanent seal when the repair sleeve is installed. The gasket shall have a grid pattern to conform pipe surface irregularities.

I. The gasket shall have a stainless steel bridge plate flush mounted and securely bonded into the gasket during the molding of the gasket.

2.08 POLYETHYLENE ENCASEMENT

A. Polyethylene encasement must be manufactured using 8 mil thick virgin polyethylene in accordance with ANSI/AWWA C105/A21.10. Provide the tube size recommended by the manufacturer to protect the pipe and fitting sizes. Provide adhesive tape for the polyethylene tube as recommended by the manufacturer. Tape for repairing damage to the polyethylene must have a life expectancy equal to or greater than the life expectancy of the polyethylene.

2.09 STEEL BLOW-OFF PIPE

A. Steel pipe shall be hot dipped galvanized meeting the requirements of ASTM A53.

2.10 WATER SERVICES AND APPURTENANCES

A. Copper Service Lines

1. Copper pipe shall be used for service lines which are ¾ inch, 1 ¼ inch and 2-inch. All copper services shall conform to AWWA C800. Water service pipe shall be copper meeting the requirements of ASTM B88, type K.

2. All appurtenances on copper service lines shall be flare copper connections. Other connections may be used in lieu of flare copper connections if approved by the Engineer prior to installation.

B. All water service appurtenances shall meet the requirements of AWWA C800 and be from The Ford Meter Box Company, Inc., A.Y. McDonald Mfg. Co., or as approved by the Engineer. All water service appurtenances for 2 inch and smaller are as follows:

1. ¾ inch services:

a. Corporation Stop ¾ inch – FB600-3-NL or AY McDonald 74701B NL (3/4 inch)

b. Service Saddle – Smith-Blair 311(4 to 12 inch water main), Smith-Blair 313 (16 to 24 inch water main), Romac 101U(4 to 12 inch water main), Romac 202SSU (16 to 24 inch water main), Ford F101(4 to 12 inch water main), or Ford F202(16 to 24 inch water main).

c. Curb Stop (for use when reducing a 1 ¼ inch street service to ¾ inch yard service) – Ford B21-555-NL, C18-35-NL, and C28-33-NL

d. Curb Stop (when using ¾ inch street service) – Ford B22-333-NL or AY McDonald 76100 NL (¾ inch)

e. Brass Fittings – All brass fittings such as tees, elbows, caps, nipples and similar items shall be manufactured in the U.S.A.

f. Couplings – Ford C22-33-NL or AY McDonald 74758 NL (¾ inch)

2. 1 ¼ inch services:

a. Corporation Stop – Ford FB600-45-NL or AY McDonald 74701B NL (1 x 1 ¼ inch)

b. Service Saddle – Smith-Blair 311(4 to 12 inch water main), Smith-Blair 313 (16 to 24 inch water main), Romac 101U(4 to 12 inch water main), Romac 202SSU (16 to 24 inch water main), Ford F101(4 to 12 inch water main), or Ford F202(16 to 24 inch water main).

c. Curb Stop – Ford B22-555-NL or AY McDonald 76100 NL (1 ¼ inch)

d. Brass Fittings – All brass fittings such as tees, elbows, caps, nipples and similar items shall be manufactured in the U.S.A.

e. Couplings – Ford C22-55-NL or AY McDonald 74758 NL (1 ¼ inch)

3. 2 inch services:

a. Tapping Valve – Ford B11-777-NL

b. Service Saddle – Smith-Blair 313, Romac 202S, or Ford F202

c. Brass Fittings – All brass fittings such as tees, elbows, caps, nipples and similar items shall be manufactured in the U.S.A.

d. Couplings – Ford C44-77-NL

4. Water meters – All water meters shall be Neptune Water Meters. They shall be supplied and installed by the City of Kalamazoo.

C. All water service appurtenances larger than 2 inch shall be in accordance with section 2.01.

D. All multiple meter settings with more than two meters excluding the fire meter shall use a fabricated meter manifold. Fabricated manifold shall be manufactured as follows:

1. Water manifold shall be made using 304 Schedule 40 Stainless Steel pipe.

2. Inlet and outlets shall be threaded or welded flange. End cap shall be welded flange with a blind flange for future additions.

E. Conduit used as sleeves shall be schedule 40 PVC or approved by Engineer.

2.11 METER SETTINGS

A. Interior meter settings shall use components from the following manufactures.

1. 1 inch meter – Ford KV23-454W-NL Angle Valve, Ford C38-44-2-625-NL, Brass Nipple, Apollo 94ALF-105-01A Ball Valve or approved equal

2. 1½ inch and 2 inch meter – Ford FV13-777W-NL Angle Valve, Ford CF35-66NL (1 ½ inch), Ford CF 35-77-NL (2 inch), Brass Nipple, Watts LFFBV-3C Ball valve or approved equal.

3. 3 inch and larger- rubber seated gate valves meeting the requirements of AWWA C515. Valves shall be American Series 2500 Resilient Wedge Gate Valve with hand wheel by American or equal flanged joint with rubber gaskets (per AWWA/ANSI C 111/A21.11), and be equipped with a hand wheel to operate, Hymax 874-56-03008812 (3 inch), 874-56-04010812 (4 inch), 874-56-06016312 (6 inch), or 874-56-08021712 (8 inch) Flange Adaptor, and flange to plain end ductile or type 304 stainless steel spool piece.

B. Exterior meter settings shall use components from the following manufactures.

1. 5/8 inch meter – Ford V81-22-33-NL

2. ¾ inch meter – Ford V83-22-33-NL

3. 1 inch meter – Ford V84-22-55-NL Copper setter

4. 1 ½ inch and 2 inch meter – Watts LFFBV-3C Ball Valve or approved equal. Ford CF-77-1-937-NL Meter Flange, Ford C28-77-NL Coupler, and Brass Nipple.

5. 3 inch and larger – All above ground or in pits/vaults valves 3 inches and larger shall be rubber seated gate valves meeting the requirements of AWWA C515. Valves shall be American Series 2500 Resilient Wedge Gate Valve with hand wheel by American or equal flanged joint with rubber gaskets (per AWWA/ANSI C111/A21.11), and be equipped with a hand wheel to operate, Hymax 874-56-03008812 (3 inch), 874-56-04010812 (4 inch), 874-56-06016312 (6 inch), or 874-56-08021712 (8 inch) Flange Adaptor, and flange to plain end ductile or type 304 stainless steel spool piece.

2.12 FIRE SERVICE APPURTENANCES

A. All fire service appurtenances shall meet the requirements of AWWA/ANSI C110/A21.10, AWWA C115, and be from the following manufacturers.

1. Double Check Valve Detector Assembly – Zurn Wilkins Model 350DA or 350ADA with meter setting, AMES Colt LFC300 with meter setting, or approved equal. The City of Kalamazoo will supply the 5/8 inch water meter.

2. Reduced Pressure Zone Assembly – When using a RPZ in lieu of double check valve for a backflow device, a Zurn Wilkins Model 375DA or 375ADA with meter setting, AMES Colt LFC500 with meter setting, or approved equal shall be required. The City of Kalamazoo will supply the 5/8 inch water meter.

2.13 METER BOXES AND VAULTS

A. All Meter Boxes, Meter Vaults and components shall be from the following manufactures.

1. Box – Hancor MP NL1 24 0008 - 24 inch x 48 inch or ADS24X48MP 24 inchx48 inch white corrugated meter pit or Engineer approved equal.

2. Vault – Precast concrete meter vault shall have a 3 inch minimum wall thickness and size shall be depended on number of meters and meter size. The wall shall have steps that are equally spaced 12 inches apart. Meter vault shop drawings shall be submitted to the Engineer and approved for each installation.

3. Meter Pit Cover – Vestal 32-497, 32-055, 32-104, and 32-046 or approved equal.

4. Meter Vault Cover – Ford MC-24HH-MB-T

2.14 VALVE BOXES AND VAULTS

A. Curb Stop Boxes for 1 ¼ inch Service – Bingham & Taylor Fig. No. 4901-B, 94-F with 2 ½" New Style Flush Fit Cover or approved equal. Cover shall be inscribed with the word "water".

1. Curb Stop Box extensions shall be cast iron and manufactured by Bingham & Taylor, capable of being mounted directly to the curb stop box.

B. Gate Valve Box or 2 inch Service Box – the valve box shall be of adjustable length screw type. The valve box shall be a malleable iron casting conforming to subsection 908.03 of the 2012 Michigan Department of Transportation *Standard Specifications for Construction*. This valve box shall either be a two or three piece screw type and the cover shall be inscribed with the word "water." Valve box 8550 Series (two piece) or 8560 Series (three piece) manufactured by EJ, 4905 size no. 22 manufactured by Bingham & Taylor, or approved equal.

1. Gate Valve Box extensions shall be cast iron and manufactured by EJ or Bingham & Taylor, capable of being mounted directly to the gate valve box.

C. Valve Vaults for Insta-Valves – Valve vaults used in conjunction with Insta-Valves shall be constructed with materials as detailed in WA-8-A of the City of Kalamazoo Standard Plans.

They shall be of the diameter specified and in accordance with subsection 823.02 of the Michigan Department of Transportation *Standard Specifications for Construction* for Gate Wells.

D. Valve Vaults for Air Release Valves – Valve vaults used in conjunction with Air Release Valves shall be constructed with materials as detailed in the latest WA-4-Series or WA-5-Series of the City of Kalamazoo Standard Plans. They shall be of the diameter specified and in accordance with subsection 823.02 of the Michigan Department of Transportation *Standard Specifications for Construction* for Gate Wells.

2.15 BACKFILL MATERIALS

A. Use materials meeting the requirements of section 902 of the 2012 Michigan Department of Transportation *Standard Specifications for Construction.*

2.16 BELL JOINT LEAK CLAMP

A. Bell Joint Leak Clamps shall be Smith-Blair Model 274, Ford Meter Box FBC or MJSC style, or approved equal.

1. The bell spigot ring, section connector, and range spacer shall be ductile iron 80-55-06 in accordance with ASTM 536. Fusion bonded epoxy finish shall meet application methods per AWWA C213. Spigot ring design shall be interlocking to allow ease of installation without interrupting the flow of the pipe. The bolt head pocket shall be integral for one wrench installation.

2. Gasket shall be Nitrile Buna-N per ASTM D2000, and certified to NSF/ANSI 61-G & 372.

3. Restraint Rods and Nuts shall be Type 304 Stainless Steel. Restraint Rod shall have rolled threads, and Nut shall be fluoropolymer coated to prevent galling.

B. Bell encapsulating couplings shall be Ford Meter Box MJBE style.

1. The coupling shall be designed to fully encapsulate the pipe bell. The coupling shall be of split mechanical joint design with independent end seal and side seal gaskets.

2. All welded components shall be constructed with ASTM A 36 carbon steel.

3. The end seal and side seal gaskets shall be virgin NBR formulated for water service. The gaskets shall not require field trimming, cutting or modification.

4. The end seal compression ring shall be manufactured with ductile iron per ASTM A 526 Grade 65-45-12 or ASTM A 36 carbon steel.

5. The coupling shall be coated to an average of 12 mills thickness with a fusion-bonded epoxy that is NSF 61 listed and meeting application methods of AWWA C213.

2.17 COUPLINGS

A. Wide range couplings shall be Romac Alpha or approved equal.

1. All cast components shall be ductile iron, meeting or exceeding ASTM A 536, grade 65-45-12

2. Grippers shall be ductile iron, meeting or exceeding ASTM A 536, grade 65-45-12.

3. Gaskets shall be SBR compounded for water service per ASTM D2000 and meet NSF61 classification.

4. Bolts and nuts shall be 304 stainless steel.

5. Body shall be epoxy coated, and NSF61 Certified.

2.18 STRUCTURE CASTINGS

A. All 24 inch structure covers shall be a malleable iron casting conforming to subsection 908.03 of the 2012 Michigan Department of Transportation *Standard Specifications for Construction.* The structure cover shall be series 1040 manufactured by EJ, inscribed with the word "Water".

2.19 STEEL CASING PIPE AND APPURTENANCES

A. Steel casing pipe shall meet the requirements in accordance with subsection 909.05.D of the 2012 Michigan Department of Transportation *Standard Specifications for Construction* with the exceptions listed below:

1. For steel casing pipe jacked under a railroad, replace in its entirety the entry for 30 inch nominal size listed in Table 909-18 with the following:

Nominal OD and Wall Thickness in Inches Jacked in Place Steel Pipe

Nominal Size	Nominal Outside Diameter	Wall Thickness
30	30.000	0.406(a)
a. Coated or cathodically protected (0.469 inch minimum if uncoated and unprotected)		

2. Steel casing must have a minimum yield strength of 35,000 pounds per square inch (psi) and be in accordance with ASTM A53, Type E or S, Grade A or B and be designed for Cooper E80 loading requirements. In all cases, the allowable jacking strength capacity of the casing pipe shall be capable of withstanding the maximum jacking forces imposed by the operation.

B. Stainless steel band spacer shall be Advance Products & Systems model SSIM or approved equal. The bands shall be constructed of circular stainless steel bands, which bolt together forming a shell around the carrier pipe. The spacers shall be designed with runners to support the carrier within the casing and maintain a minimum clearance of 1.00 inches between the casing inside diameter (ID) and the spacer outside diameter (OD). The spacers shall contain four modular runners – two on each half. Stainless steel bolts, nuts and washers shall be supplied with the casing spacers.

The band shall be manufacture of 8 inch wide 14-guage T-304 stainless steel. Abrasion resistant runners, having a minimum length of 7 inches and a minimum width of 1 inch, shall be attached to each band to minimize friction between the casing pipe and the carrier pipe as it is installed. Runner material shall be of glass filled polymer with compression strength of 33,000 psi, flexural strength of 40,000 psi, and tensile strength of 27,000 psi. The ends of thall runners shall be beveled to facilitate installation over rough weld beads or the welded ends of misaligned or deformed casing pipe.

Interior surfaces of the circular stainless steel band shall be lined with PVC, or EPDM alternate, having a minimum thickness of .090 inches with a harness of Durometer "A" 85-90.

Recommended position of the spacers is one placed not more than one foot from each end of the casing and pipe joint. Subsequent spacers shall be placed every 6-8 feet apart thereafter.

C. Casing end seal shall be Advance Products & Systems model AC or approved equal. Pull-on casing end seals shall be manufactured of 1/8 inch thick neoprene rubber assuring excellent chemical resistance and resiliency. End seals must be effectively used in the temperature range of -20 degrees to 190 degrees Fahrenheit. End seals shall include ½ inch wide T304 stainless steel bandings with 100% nonmagnetic worm gear mechanism. End seals shall be seamless, have vulcanized edges, and can be pulled on at the time of construction.

PART 3 EXECUTION

3.01 CONSTRUCTION

A. The plans show the locations of existing utilities in accordance with available data. If the work requires precise information on the location of existing utilities, the Contractor will expose utilities shown on the plans to determine the actual locations.

Do not disturb or cut into existing in-service water mains. If the operation of valves in existing water mains is required, notify the City of Kalamazoo a minimum of 3 working days in advance. Coordinate scheduling of water main connections with the City of Kalamazoo. Secure the Engineer's or authorized representative's approval of the schedule before beginning the work.

The City of Kalamazoo will open or close in service valves and provide on-site inspections for all water main and water service installations. The City of Kalamazoo will perform this work for an estimated time and material charge. The cost of opening and closing valves and on-site inspection will need a separate contract with the City of Kalamazoo prior to start of work. This does not apply to work being contracted by the City of Kalamazoo.

Minimize the out of service time for existing water mains. Make connections at night, on Sundays, or on holidays, as conditions require or as approved by the City of Kalamazoo. Minimize interference with the water supply if abandoning existing water mains and incorporating new water mains into the water system**.**

No trees or permanent structures shall be placed within 10 feet of the centerline of the water main or service line.

3.02 TRENCH EXCAVATION

A. Excavate water main trenches to the lines and grades shown on the plans in accordance with modifications approved by the Engineer, or authorized representative, or to meet or bypass existing utility structures. Excavate trenches to the depths shown on the plans to provide 5 feet of cover from top of water main to the final grade. Excavate trenches to the widths shown on Michigan Department of Transportation Standard Plan R-83 Series.

B. Excavate the bottom of the trench to the required grade to allow 6 inches of bedding for the pipe. Do not block under the pipe.

C. Maintain trenches for water mains free of ground or surface water by pumping or as otherwise approved by the Engineer or authorized representative

D. Install, and later remove, temporary timber bracing, as required to prevent movement or damage to new or existing water mains or adjacent utilities.

E. During backfilling, carefully remove supports for sheeted and braced excavations to prevent earth banks or adjacent streets from collapsing.

F. The Contractor may leave sheeting and bracing in place during backfilling and remove after completing backfilling operations. The Contractor may leave sheeting and bracing in place, if approved by the Engineer and the Contractor cuts it off 5 feet below the ground surface.

3.03 DISPOSAL

A. Dispose of waste material as specified in section 205 of the 2012 Michigan Department of Transportation *Standard Specifications for Construction.*

3.04 LAYING OF THE PIPE

A. Install the pipe joint restraint system in accordance with the manufacturer's recommendations, or as directed by the Engineer. Assemble the pipe in the trench. If deflections at joints are required by changes in grade, alignment, or to plumb valve stems, ensure deflections of bell and spigot joints and mechanical fitting joints do not exceed three-quarters of the maximum deflection recommended by the joint manufacturer or that allowed by AWWA C600, whichever is less. Do not store or leave tools or other objects in the pipe.

B. Provide restrained joints as indicated on the plans. No tie rods or thrust blocks shall be allowed unless approved by the Engineer or authorized representative.

C. Proper actuation of the gripping wedges of the mechanical joint restraint shall be ensured with torque limiting twist off nuts.

D. The Contractor shall provide a written statement of warranty (Warranty Bond) for a period of 2 years from the date of **final acceptance (after meter is installed).** Warranty work shall cover any necessary cost to repair water main or appurtenance leaks and water main or appurtenance leak damage at no cost to the City of Kalamazoo. Final acceptance will only be given **once the water service meter is installed.**

E. Pipe shall be laid with bell ends facing the direction of laying, unless otherwise directed by the Engineer or authorized representative. When pipe is laid on a grade of 10 percent or greater, the laying shall start at the bottom and proceed upward with the bell ends of the pipe upgrade.

F. Install silicon bronze wedges between all push-on joint pipes to allow for underground location and thawing of pipeline. 4 to 6 inch pipe shall use 2 wedges, 8 to 12 inch pipe shall use 3 wedges, and 16 inch and above shall use 4 wedges at each pipe joint.

G. Pipe shall be restrained in accordance with Table 3.1.

Table 3.1 Pipe Thrust Restraint Table								
NON-POLYWRAPPED PIPE								
Pipe Size (Inches)	**90° Bend**	**45° Bend**	**22.5° Bend**	**11.25° Bend**	**Tee***	**Reducer (One Size)**	**Reducer (Two Sizes)**	**Dead End**
4	44	18	9	5	42	-	-	42
6	62	26	13	7	59	31	-	59
8	82	34	17	9	78	33	56	78
10	100	42	20	10	94	32	58	94
12	119	50	24	12	110	33	59	110
16	157	65	32	16	143	61	85	143
20	195	81	39	20	173	61	109	173
24	233	97	47	23	204	61	111	204
30	288	120	58	29	246	86	134	246
POLYWRAPPED PIPE								
Pipe Size (Inches)	**90° Bend**	**45° Bend**	**22.5° Bend**	**11.25° Bend**	**Tee***	**Reducer (One Size)**	**Reducer (Two Sizes)**	**Dead End**
4	62	26	13	7	60	-	-	60
6	88	37	18	9	84	44	-	84
8	117	49	24	12	111	47	80	111
10	142	59	29	14	133	45	82	133
12	170	71	34	17	158	47	84	158
16	224	93	45	23	203	87	121	203
20	278	116	56	28	247	87	155	247
24	332	138	66	33	291	87	159	291
30	411	171	82	41	351	123	191	351
* Length of restraint for branch; use the size of the branch Consult Engineer for scenarios not included in table.								

3.05 INSTALLATION OF PIPE INVOLVING HORIZONTAL DIRECTIONAL DRILLING

A. Horizontal direction drilling (HDD) is a method of trenchless construction using a surface launched steerable drill tool controlled from a mobile drilling frame, and includes a field power unit, drilling fluid mixing system, and mobile spoils extraction system. The work generally consists of three phases:

1. Drilling a pilot hole from the surface or pit at a staring point to an exit pit at the surface beyond the obstacle or area that is to be avoided.

2. Reaming the pilot hole to make it large enough for the pipeline to be installed.

3. Pipeline is pulled into place. During the pipe pulling operation, drilling fluid (a bentonite, water, and polymer solution) is injected to stabilize the hole, remove cuttings, and lubricate the pipe.

B. Coordination

1. Drilling operations shall not interfere with, interrupt or endanger surface features or surface activities.

2. When rock stratum, boulders, underground obstructions, or other soil conditions that impede the progress of drilling operation are encountered, the Contractor and Engineer shall review the situation and jointly determine the feasibility of continuing drilling operations, making adjustments or switching to an alternative construction method.

3. The contractor shall familiarize themselves with the geologic characterization of the soil stratum at the proposed drilling path. The Contractor shall be responsible for informing the Engineer of any changes that are required in the directional drilling procedure due to geologic conditions.

4. Launching and recovery pits shall be as small as practical. Dewatering of pits and excavations shall be done in accordance with the City of Kalamazoo Standard Specifications. When groundwater is encountered, the Contractor shall provide a dewatering system of sufficient capacity to keep any excavation free from water until the backfill operation is in progress. Dewatering shall be performed in a manner that removal of soil particles is held to a minimum. Water from the dewatering system shall be desilted before discharge. Methods of dewatering and desilting, including all costs shall be the Contractor's responsibility and are included in the Horizontal Directional Drilling Water Main pay item.

5. Utilities shown on the plans are approximate. In areas where there is a potential conflict, the Contractor shall dig up and verify the locations and elevations of the utilities at no additional expense to the City. The Contractor shall assume full responsibility for the protection fall utilities, structures and their foundations which may be affected by the work.

6. Before beginning the drilling process, the Engineer shall stake the proposed drill path.

C. Drill Path Survey

1. The Drill path shall be walked in the presence of the Engineer and the Contractor with the guidance system that shall be used for each segment of drill path. The contractor shall locate and record any surface and subsurface magnetic variations or abnormalities and all points of interference, as well as verifying all utility locations and corresponding utility maps. Should any discrepancies arise between utility maps, field locations and guidance system findings, the Contractor shall clarify all discrepancies prior to beginning drilling operations. The drill path survey shall be performed no earlier than two days prior to commencing drilling operations. Provide the Engineer 48-hour notice of drill path survey.

D. Equipment

1. The drilling equipment shall be capable of placing the pipe within the planned line and grade without inverted slopes.

2. The drilling equipment shall be capable of pulling product pipe from either the downstream or upstream pit locations. The equipment must be adequately sized for the application.

3. The guide system shall have the capability of measuring inclination, roll and azimuth. The guidance system shall have an independent means to ensure the accuracy of the installation. The Contractor shall demonstrate a viable method to eliminate accumulated error due to the inclinometer (pitch or accelerometer). The guidance

system shall be capable of generating a plot of borehole survey for the purpose of a record drawing. The guidance system shall meet the following specifications:

Inclination:	Accuracy	+0.05
	Range	+90
	Repeatability	+0.02
Roll:	Accuracy	+0.05
	Range	+90
Azimuth	Accuracy	+0.05
	Range	+90

4. Equipment setup requirements at the launch and recover locations shall be determined by the Contractor in accordance with the Plans and shall be submitted to the Engineer prior to commencement of drilling operations.

E. Pilot Hole Drilling

1. The entry angle of the pilot hole and the drilling process shall maintain a curvature that does not exceed the allowable bending radii of the carrier pipe per the manufacturer's recommendations.

F. The contractor shall follow the pipeline alignment as shown on the Plans, within the specification requirements. The location and depth of the drill head in relation to the profile and centerline of the alignment shall be determined at a maximum of ten-foot intervals. Acceptable tolerance shall be 0.5 feet variation from the centerline of the pipe in both vertical and horizontal directions (1-foot tolerance window).

G. In the event of difficulties at any time during drilling operation requiring the complete withdrawal from the tunnel, the Contractor shall either be allowed to withdraw and abandon the tunnel and begin a second attempt at a different location. The alternate locations shall be approved by the Engineer before the Contractor withdraws.

H. Access pits shall be at the beginning and end segments shown on the Plans. Intermittent pits shall be approved by the Engineer prior to proceeding with drilling operations. No intermittent access pits shall be allowed in Railroad Right of Ways.

I. Installing the Carrier Pipe:

1. After the pilot hole is completed, the Contractor shall install a swivel to the reamer and commence pullback operations.

2. Reaming diameter shall not exceed 1.5 times the diameter of the carrier pipe being installed.

3. The carrier pipe being pulled into the tunnel shall be protected and supported so that it moves freely and is not damaged by stones and debris on the ground during installation.

4. Pullback forces shall not exceed the allowable forces for the carrier pipe.

J. The Contractor shall allow sufficient lengths of carrier pipe to extend past the termination point to allow connections to adjacent pipe sections, tees, or fittings. Pulled pipe shall be allowed 24 hours of stabilization prior to making tie-ins. The length of extra carrier pipe shall be at the Contractor's discretion.

K. Field Inspection

1. All pipe sections, specials, and jointing materials shall be carefully examined for defects and no piece shall be laid that is known to be defective. Any defective piece discovered installed shall be removed and replace with a sound one in a manner satisfactory to the Engineer at the Contractor's expense.

2. Defective material shall be marked with an "X" in pink paint and shall be removed from the job site.

L. Drilling Fluid Containment and Disposal Requirements

1. The contractor shall contain, handle, and dispose of drilling fluids in accordance with the following requirements:

1. All drilling fluid and fluid additives shall be disclosed, and Material Safety Data Sheets (MSDS) shall be provided to the permit agency and the Engineer upon request.

2. Excess drilling fluid shall be confined in a containment pit at the entry and exit location until recycled or removed from the site.

3. Precautions shall be taken to ensure that drilling fluid does not enter the roadways, streams, municipal storm or sanitary sewer lines, and/or any other drainage system or body of water.

4. When installing below railroads, vents shall be installed on either side of the railroad tracks to direct any excess drilling fluid to a containment area and to prevent unintended surfacing of drilling fluid within the Railroad Right of Way.

5. Unintended surfacing of drilling fluid shall be contained at the point of discharge and recycled or removed from the site.

6. Drilling fluids that are not recycled and reused shall be removed from the site and disposed at an approved disposal site.

7. Drilling fluids shall be completely removed from the construction site prior to backfilling or restoring the site.

3.06 ABANDONING WATER MAINS

A. Remove and dispose of abandoned pipe, gate boxes, or other appurtenances, as necessary for placement of a new water main at no additional cost to the City of Kalamazoo. Remove portions of gate boxes to at least 3 feet below the pavement surface under the road, and to at least 12 inches below the planned grade outside the road. If the Engineer determines abandoned mains may remain in place, cap the end of pipe with cap and megalug or as directed by the Engineer or authorized representative. If shown on the plans or directed by the Engineer or authorized representative, fill abandoned water mains with non-structural flowable fill.

3.07 VALVES

A. Prior to installation, all valves shall be fully operated open and close to verify its functionality and number of turns. Set and join valves to the water mains as required for cleaning, laying, and jointing the required type of pipe, as shown on the plans. Install valves as required by the contract, or as approved by the Engineer. Place the valve stems plumb. Install valves to not bear on the pipe. Install anchor coupling with valves installed on tees or crosses, with swivel gland located on the valve side of the anchor coupling.

B. When installing 12 inch and larger valves (Butterfly Valves), the operating nut shall be located on the side of the valve furthest from the centerline of the roadway, unless otherwise directed by the Engineer.

3.08 LIVE TAPS TO IN SERVICE WATER MAINS

A. Prior to tapping of the main contractor shall disinfect all pipe, appurtenances, tapping machine with chlorinated water.

B. Contractor shall install all necessary tapping appurtenances according to manufacturer's recommendation.

C. Contractor shall use equipment which allows the tapping machine to rinse out metal shavings and tap water main per manufacturer's recommendations. No tap 4 inches or larger shall be allowed within 4 feet from any joint, fitting, or exiting tap regardless of location of tap. 1 ¼ inch taps located within 10 feet of previous tap shall be offset 15 degrees.

D. Once tapping is complete Contractor shall disinfect all exposed water main and appurtenances with chlorinated water.

3.09 VALVE BOXES.

A. Provide valve boxes that do not transmit shock or stress to the valve. Place valve boxes plumb over the operating nut of the valve, with the box cover flush with the pavement, or as approved by the Engineer or authorized representative. Provide firm support for valve boxes.

B. Valve boxes shall be installed, centered and plumbed over the operating nut of the gate valve. The area around the valve box shall be back-filled with Granular Material Class II placed in layers not to exceed 12 inches, and thoroughly compacted to the required density. The Contractor shall take due care to prevent the box from shifting during backfilling operations. The tops of the valve boxes shall be flush with the established pavement or ground surface.

3.10 ADJUSTING OR RECONSTRUCTING WATER SHUT OFFS OR VALVE BOXES

A. Adjust and reconstruct water shutoffs or valve boxes to the final grade or as approved by the Engineer or authorized representative. Replace shutoff or gate box materials damaged during adjustment or reconstruction, as determined by the Engineer, or authorized representative, at no additional cost to the City of Kalamazoo.

3.11 WATER SERVICES

A. Water Services shall not be connected to the water main until approved by the Engineer or authorized representative.

1. The standard size for all new services shall be 1 ¼ inch. The property owner/developer may request a larger size if needed.

2. ¾ inch service materials may only be used when performing repairs or partial replacements of an existing ¾ inch service, or when replacing the yard service of a ¾ inch service. When replacing a complete street side service of a ¾ inch service, a new 1 ¼ inch tap will be completed, new 1 ¼ inch street service line installed, and reduced down at the curb shut off per section 2.10.

B. Tap water main per section 3.08.

C. When more than two meters excluding the fire meter are required to be set on a single service line, a fabricated meter manifold shall be installed.

D. Water Services 2 inch and Smaller

1. Construct services from the distribution main to the water meter. Lay services in a straight line perpendicular to the water main unless approved by the Engineer or authorized representative. Construct service with a continuous piece of copper from the corporation stop to the curb stop and curb stop to the water meter unless

approved by the Engineer or authorized representative. Services over 300 feet will require an exterior meter setting (meter pit).

2. All couplings shall be located as close to the water main as possible, but outside roadway unless approved by the Engineer.

3. The use of thread sealant shall be not be allowed on flare fittings.

4. No splices shall be allowed for 1 ¼ inch or smaller yard services 90 feet and shorter in length.

5. Tap and curb shut off locations shall be no closer than 5 feet to edge of driveways. If a service is required to be abandoned due to improper location, service shall be fully abandoned at the water main tap location and new service installed the developer's expense. Corporation stop shall be shut off, copper piping removed, and copper disc installed on the corporation stop.

6. If finish grade changes from plan grade after installation of service, curb shutoff shall be adjusted to 5 foot bury depth at the developer's expense.

7. When the street service is installed separately from the yard service a copper disk shall be installed on the yard side of the curb valve per the manufactures recommendations as approved by the Engineer or authorized representative.

E. Water Services Greater than 2 inch

1. For services entering a building with no basement, install the stand pipe flange 12 inch from the finished floor elevation and 6 to 12 inches away from any walls. Install the flange pipe so two bolt holes are parallel from each wall (two hole). For services entering a building with a basement or into a concrete vault, install the stand pipe flange 6 to 12 inches off the wall. Install the flange pipe so that two bolt holes are parallel to the floor, normal to the wall. For all services entering a building, the service line shall be located in room located on an outside wall of the building, with enough room to maintain the service.

2. Contractor shall complete installation of service prior to pressure testing and disinfection. The Contractor shall hydrostatic test the complete fire service from the nearest outside valve to first valve (OS&Y) before installing the fire check valve per section 3.22. Service shall be cleaned, flushed and tested per section 3.23. No connection shall be made to these services until after pressure test is complete and consecutive negative bacterial test results have been received in accordance with sections 3.22 and 3.23 of this specification, and the water main approved by the Engineer or authorized representative.

3. No adapter flange or grooved pipe joint shall be used on any portion of the service to be maintained by the City of Kalamazoo, with the exception of the meter side of an OS&Y fire service valve.

4. For service lines with multiple meter settings, a valve the same size as the incoming service line shall be installed prior to the tee or manifold. If one of the meter settings is for a fire service, the valve shall be an OS&Y valve in accordance with section 2.02.F.

F. Construct the service pipe with at least 5 feet of cover, unless Engineer or authorized representative requires additional depth.

G. Make all service connections, and transfers. Maintain and protect, at no additional cost, existing service connections requiring transfer, but not shown on the plans, until reconnection or disposal.

H. If relocating a portion of water service, shut down the water service by method approved by the Engineer or authorized representative.

I. Service lines entry points into the structure shall be sealed with hydraulic cement or mastic putty and oakum to prevent groundwater infiltration. For ductile iron pipe services, link seals should be used as the preferred method.

J. FIRE SERVICES

1. The Contractor shall notify the Engineer or authorized representative a minimum of 3 working days prior to flushing the fire service or testing the fire system capacity.

2. All fire services shall have an OS&Y valve meeting the requirements of 2.02.F installed. The sample tap on the OS&Y Valve shall be installed on the downstream side of the valve.

K. INTERIOR METER SETTINGS (PREFERED)

1. Interior valve and meter inlet connection shall be installed by the Contractor in accordance with the Engineer, or authorized representative's recommendations and final approval.

2. The meter setting shall be located in a heated portion of the building. The meter setting shall not be located in a crawl space, above electrical appliance, or near an electrical panel. A clear and unobstructed access to the meter of not less than 24 inches by 24 inches shall be provided.

   a. 1 ¼ meter settings must be placed in basements. Meter setting shall be placed in the front of the building facing the street or within three feet of the front on the side unless otherwise approved by the Engineer or authorized representative. Water Services shall not be placed under footings. If service enters house under the porch and the porch footing extends below water service, a 2 inch PVC sleeve will be required.

   b. A ½ inch schedule 40 PVC conduit, or larger, shall be installed from the meter setting to the remote reading point. There shall be no more than 75 feet of conduit between pull boxes. There shall be no more than four (4) 90-degree bends between pull boxes. All pull boxes must be installed no more than 96 inches above the floor. Pull boxes shall not be installed in attics or crawl spaces.

3. The City of Kalamazoo will install the meter, readout, readout wire, copper ground wire, outlet meter connection and valve.

L. EXTERIOR METER SETTINGS

1. Exterior meter settings shall be installed by the Contractor according to the Engineer's or authorized representative's recommendations, and in accordance with City of Kalamazoo Standard Plans. Meter settings will be required for services greater than 300 feet, slab on grade, crawl spaces, where minimum 5 foot bury depth cannot be maintained, and other reasons. Contractor shall verify proper meter location with the Engineer prior to construction.

2. Meter boxes or vaults shall not be installed in any street, alley, parking area, driveway, or sidewalk. Major landscaping (shrubs, boulders, etc.) and structures (retaining walls, fences, buildings, etc.) shall not be placed within seven and a half (7.5) feet or trees shall not be planted within ten (10) feet of any meter box or vault, unless otherwise directed by the Engineer.

3. The ground surrounding meter boxes, pits and vaults shall slope away from the lid at a minimum grade of 2%

4. No plumbing or electrical connections will be allowed inside the meter box or vault, unless otherwise directed by the Engineer.

5. All tees, connections, and couplings shall be a minimum of five (5) feet downstream from the meter box or vault wall on the outlet side. Tees and connections shall not be installed between the curb stop and the meter setter or copper horn.

6. Meters shall be installed by the City of Kalamazoo upon inspection and acceptance of the meter setting.

7. Meter boxes shall be used for all 1 inch exterior meter settings. The Contractor shall install meter boxes to horizontal location and to final grade as determined by grade stakes. Meter boxes shall be installed 5 feet outside the right of way in private property. All work shall be in accordance with the current WS-8 of the City of Kalamazoo Standard Plans.

8. For services 1 ¼ inch and smaller, curb shutoffs shall be located in the right of way, centered in the curb lawn area, or as directed by the Engineer.

9. The Contractor shall install meter vaults for 1 ½ inch and larger meter settings.

10. Meters shall be installed by the City of Kalamazoo upon inspection and acceptance of the meter setting.

3.12 WATER MAINS, CUT AND PLUG

A. All work related to water main, cut and plug shall be in accordance with section 3.06.A. If the plans show cutting and plugging water mains, arrange for the City of Kalamazoo to shut down the main. Remove the section of pipe and plug the water main as shown on the plans or as approved by the Engineer or authorized representative. Construct the required restraint as directed by the Engineer or authorized representative.

3.13 FIRE HYDRANTS

A. Set fire hydrants at the locations shown on the plans and in accordance with City of Kalamazoo standard plans and manufacturer's recommendations or as coordinated with the City of Kalamazoo. When installed, the hydrant shall be located on the side of the water main furthest from the centerline of the roadway, unless otherwise directed by the Engineer. Equip the hydrant with auxiliary valves, as shown on the plans. Stand hydrants plumb, with side nozzles parallel to the curb, and with the pumper nozzle normal to the curb, unless otherwise directed by the Engineer. Place the nozzles at the height specified by the City of Kalamazoo.

B. For all gate valves connected adjacent to a tee or hydrant, the anchor between the fitting or hydrant and the valve shall be a 6 inch by 13 inch swivel by solid adapter with swivel gland. The swivel gland shall be located on the hydrant side of the solid adapter.

C. Install a valve box over hydrant valve in accordance with section 3.09.

D. Hydrants shall have a protective cover placed over hydrants prior to backfilling to ensure the hydrant is not damaged. If hydrant is damaged, the contractor shall repair or replace the hydrant at no cost to the City.

E. If site conditions are such that it is not desirable for hydrant drain into the surrounding soil (i.e. when hydrant has less than 10 feet of separation from a sewer, high ground water, impervious or contaminated soils, etc.), hydrant drip valve plug(s) shall be installed by the Contractor onsite. Final determination on drip valve plug installation shall be made by the

Engineer or his representative. As constructed records shall be noted whether or not the drip valve plug was installed.

3.14 FIRE HYDRANT MARKER

A. The sign shall be located between the hydrant and curb and offset from the pumper nozzle, or as directed by the Engineer. The sign shall be placed 3 feet away from the hydrant. The sign shall be single sided or double sided as directed by the Engineer or authorized representative. The sign shall have an installed height to the bottom of the sign of 7 feet above the final grade in areas with sidewalk and 5 feet above the final grade in areas without sidewalk.

B. A fire hydrant mounted whip may be installed in addition to fire hydrant sign if approved by the Engineer. Fire hydrant whip shall be mounted to the fire hydrant opposite the pumper nozzle in accordance with the manufacturer's specifications.

3.15 FIRE HYDRANT REMOVAL

A. If the plans show removal of a fire hydrant, remove the entire hydrant assembly, including the following:

1. Auxiliary gate valve and box, unless otherwise approved by the Engineer or authorized representative.
2. Internal valve assembly;
3. Top bonnet;
4. Standpipe; and
5. Hydrant inlet body, unless otherwise approved by the Engineer.

B. If the City of Kalamazoo approves leaving the auxiliary gate valve and box in place, remove to at least 3 feet below the pavement surface under the road, or at least 12 inches below planned grade outside the road.

C. Stockpile the removed material at a location accessible to the City of Kalamazoo. The City of Kalamazoo will maintain ownership of the hydrant, and will remove the assembly from the project site

3.16 RELOCATING FIRE HYDRANTS

A. If the plans show relocating a hydrant, arrange for the City of Kalamazoo to shut down the hydrant auxiliary valve. Remove the hydrant and reinstall at the required location. Reconnect the hydrant to the water main by shutting down the main, tapping a new hydrant outlet, or using the existing outlet. Install piping as required. If the relocated hydrant does not pass testing the hydrant shall be replaced with new at no cost to the City of Kalamazoo.

3.17 MISCELLANEOUS FITTINGS

A. Install the following at the locations shown on the plans and in accordance with good construction practices and manufactures recommendations:

1. Elbows,
2. Tees,
3. Corporation stops,
4. Blow offs,
5. Pipe adapters,
6. Pipe couplings,

7. Retaining glands, and

8. Other miscellaneous fittings.

3.18 AIR RELEASE VALVES AND VAULTS

A. Construct air release valves and vaults in accordance with the current WA-4-Series and WA-5-Series of the City of Kalamazoo Standard Plans.

B. When installing the air release valves in conjunction with new water main construction, the contractor shall use ductile iron fittings.

C. When installing the air release vaults as a retrofit to existing water main, live taps may be performed as directed by the engineer.

3.19 BACKFILLING AND COMPACTING

A. Backfill and compaction shall be in accordance with Michigan Department of Transportation Standard plan for utility trenches R-83-Series.

B. Backfilling Under Existing Conduits – Where it is necessary to undercut or replace existing utility conduits and/or service lines, the excavation beneath such lines shall be backfilled the entire length with granular bedding material tamped in place in 6-inch layers to the required density. The granular bedding shall extend outward from the spring line of the conduit a distance of 2-feet on either side and thence downward at its natural slope.

C. Backfilling with Excavated Material – Unless otherwise specified or directed, material excavated in connection with the work shall be used for backfilling and other filling purposes, if it meets all requirements given elsewhere in this specification.

D. Backfill Immediately Following Inspection – All trenches and excavations shall be backfilled immediately after pipe is laid therein, unless otherwise directed by the Engineer or authorized representative. Under no circumstances shall water be permitted to rise in un-backfilled trenches after pipe has been placed.

E. Service leads shall not be backfilled until the pipe ends are referenced and the Engineer or authorized representative has measured the pipe for payment.

F. Backfilling around and over structures and pipes shall be carefully done by hand and tamped with suitable tools of approved weight to a point 1-foot above the top of pipe. Selected material or, where specified or ordered by the Engineer, special backfill material shall be used in this area. The material shall be placed in uniform layers not exceeding 6-inch in depth up each side. Each layer shall be placed, then carefully and uniformly tamped to the specified density so as to eliminate the possibility of lateral displacement of pipe or structure.

G. Backfilling by Machinery – After the backfill has been placed and compacted around the boxes and pipe to a height of 1-foot above the top. The remainder of the trench may be backfilled by machine. The backfill material shall be deposited in horizontal layers and each layer shall be thoroughly compacted to the specified density by approved methods before a succeeding layer is placed. In no case will backfill material from a bucket be allowed to fall directly on a structure or pipe and in all cases the bucket must be lowered so that the shock of the falling material will not cause damage.

3.20 COMPACTION REQUIREMENTS

A. Compact each layer to 95% (90% if outside the influence of the roadway) maximum density as tested by the Michigan Department of Transportation Density Testing and Inspection Manual.

3.21 COMPACTION TEST

A. Trenches and excavation around structures shall be backfilled and consolidated in layers, as specified, to the existing ground surface. Compaction tests shall be performed on each layer immediately after compaction.

B. Initial test series for each type of backfill material shall be continued until the method of consolidation employed has proven to attain the required compaction. Any change in the proven method of consolidations will require additional testing and field verification of compaction.

C. Subgrade below pavements, curbs, sidewalks, and structures shall be consolidated as specified. Compaction tests shall be performed to verify specified consolidation.

3.22 HYDROSTATIC TESTING

A. Perform hydrostatic testing of water mains in accordance with AWWA C600.

B. Ensure City of Kalamazoo personnel witness pressure testing. Give the City of Kalamazoo personnel at least 1 full working day notice before testing.

C. Provide the personnel, temporary timber bracing, plugs, test pumps, temporary connections to the Municipal water system, and any other required apparatus. Provide the water for hydrostatic testing if not available from the City of Kalamazoo. Water must be pumped from a measurable source in order to determine testing allowance water.

D. Before applying test pressure, expel air from the pipe in increments of no greater than 1,000 feet. Pressure test each section of water main. If the Contractor chooses not to pressure test against an existing valve, a new valve may be installed at the expense of the Contractor.

E. Pipe shall be pumped with water to a minimum test pressure of 150 pounds per square inch (psi) at the highest point of elevation to begin test. Test shall last for at least 2 hours, with a maximum drop of pressure of 5 psi. If the pressure drop is greater than 5 psi but less than 20 psi, a testing allowance water test shall be performed. Testing allowance water, as measured by the quantity of water pumped into the pipe to attain the pressure at which the test began must not exceed the testing allowance.

F. Testing allowance water is determined using the following formula

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

Where

L= testing allowance water in gallons per hour
S= length of pipe in feet
D= actual pipe diameter in inches, and
P= 150 psi

G. If testing allowance water is above the allowable limit occurs during hydrostatic testing, remove backfill to expose pipe and repair the joints. Repeat testing after repairs are complete. If multiple leaks occur the contractor may be required to reinstall main at Contractors expense.

H. Correct visible leaks regardless of the amount of leakage. Replace faulty pipes, fittings, gate valves, or other accessories disclosed by testing. Repeat the test until the pipes, fittings, gate valves, and other accessories meet the requirements.

3.23 DISINFECTION, FLUSHING, AND BACTERIORLOGICAL TESTING

A. Disinfect the water main in accordance with AWWA C651 and applicable Michigan Department of Environment, Great Lakes, and Energy (EGLE) regulations after successful hydrostatic testing.

B. Disinfect and flush new, and portions of existing, water mains as required by the EGLE.

C. Use blow offs, fire hydrants, or other means as shown on the plans or approved by the Engineer, or authorized representative, to flush water mains in accordance with AWWA C651, with a velocity of at least 3 feet per second. Provide hoses and other equipment and arrange a means of disposing of the water without damaging the work or adjacent property.

D. Use the continuous feed method with chorine added simultaneously with the water. Add chlorine or liquid hypochlorite to meet the requirement of at least 25 milligrams per liter of chlorine. Slowly add the water to the main and allow it to stand for at least 24 hours. At the end of the 24-hour period, ensure the chlorine residual is a minimum of 10 milligrams per liter. If not met, re-chlorinate and flush the water main until a minimum 10 milligrams per liter residual remains after 24 hours.

E. After completing disinfection, initially flush the water mains with water at a velocity of at least 3 feet per second to replace the entire volume of chlorinated water in the pipeline. After initial flushing, perform final flushing until the residual chlorine content meets the standard level for the water distribution system. The City of Kalamazoo may require a waiting period after flushing and before bacteriological sampling.

F. Dispose of chlorinated water in accordance with applicable state and local requirements. If necessary, apply a reducing agent to the water to neutralize the chlorine and create a chlorine residual of no greater than 1 ppm. Dechlorination shall be in accordance with AWWA C655.

G. After flushing, perform bacteriological testing in accordance with AWWA C651 and EGLE requirements. Test chlorine residuals before taking each bacteriological sample. Ensure the chlorine residual is less than 1.5 milligrams per liter before taking a bacteriological sample. The City of Kalamazoo will collect samples from each branch of pipe in the presence of the Engineer, or authorized representative, and contractor personnel. The City of Kalamazoo will be responsible for the transportation of the samples to a State of Michigan approved lab for testing. Two consecutive bacteriologically safe tests at 24-hour intervals for each section of pipe are required. Acceptable tests are negative for bacteria and as otherwise defined by AWWA C651 and EGLE regulations.

H. If a bacteriological test fails, repeat disinfection, flushing, and testing.

I. Pressure and chlorination taps shall be removed within one business day of passing tests, so main can be activated.

3.24 POLYETHYLENE ENCASEMENT

A. Polyethylene encasement will be required for all ductile iron installations when the soil test evaluation is greater than or equal to 10 points based as indicated in AWWA/ANSI C105/A21.5 or as directed by the Engineer. Sampling of the soils is to be completed by the developer or municipality responsible for the installation.

B. Install polyethylene encasement on water mains and fittings installed through concrete floor and foundations and as indicated on the plans in accordance with the manufacturer's installation instructions and AWWA/ANSI C105/A21.10. Appropriately sized polyethylene encasement shall be used so that there are no longitudinal spices. This may require using one or more size larger diameter encasement than the pipe installed.

C. Polyethylene encasement shall be required for all installations when groundwater is detected in the utility trench.

D. Polyethylene encasement shall be required for all directional drilling installations involving ductile iron pipe.

3.25 WATER INFRASTRUCTURE IN STEEL CASING

A. Work shall be performed in accordance with section 401 of the Michigan Department of Transportation *Standard Specifications for Construction* and as detailed herein. In all cases, the Contractor shall submit a work plan detailing the following:

1. Means and methods for bracing and shoring;
2. Methods of maintaining and adjusting line and grade;
3. Drilled/bored diameter;
4. Drill hole stabilization procedures;
5. Size and location of the auger head relative to the casing;
6. Methods of dealing with cobbles/boulders and obstructions;
7. Estimated jacking thrust required;
8. Method of monitoring casing elevation;
9. Thrust block design calculations;
10. Record keeping system to document casing advance and jacking pressures;
11. Grouting procedures;
12. Temporary dewatering measures and;
13. Mitigation procedures if sinkholes or settlement above the pipe occurs or excessive movement of the settlement monitors is observed.

B. Minimum Allowable Depths.

1. The minimum allowable depth of the Horizontal Auger Bore (HAB) installed casing pipe shall be in accordance with Table 3.2

Table 3.2 Minimum Allowable Depths Table

Location	Minimum Depth
Base of Rail	6 Feet
Existing Ground	5 Feet
Roadway	5 Feet
Ditch Flowline	5 Feet

C. Access Pits.

1. Excavate jacking and receiving pits as necessary. Provide and install all sheeting, shoring, bracing and any other earth retention measures in accordance with section 704 of the Michigan Department of Transportation *Standard Specifications for Construction.* Provide site drainage and subsurface dewatering and other items associated with the operation as necessary to facilitate the proposed work.

D. Lead Auger/Overcut Allowance.

1. A full-size auger section shall be used as the lead section of the casing. The auger shall not protrude from the leading edge of the casing. However, if soil conditions halt the movement of the casing, the auger shall be allowed to protrude not more than 1 inch in front of the casing during the boring operation. Overcut is the annular space between the excavated hole and the outside diameter of the casing pipe. The allowable overcut diameter is one inch greater than the casing pipe radius.

E. Watertight joints.

1. Watertight joints are required to ensure the integrity of the road and railroad bed. Casing pipe shall be constructed to prevent water leakage or earth infiltration and must be certified free from any breaks or leaks throughout its entire length.

F. Lubrication Fluids.

1. Lubrication fluids are specifically required for this method regardless of the soil conditions. Any deviations from the use of lubrication shall require prior approval for the Engineer. The Contractor shall install vents on either side of the casing pipe to prevent fracking during installation. These vents shall also be used as relief in case of a water main break. Lubrication fluids, consisting of a mixture of water and bentonite or bentonite/polymer, shall be used in the annular space between the casing being installed and the native soil to stabilize and lubricate the drill hole. Grease will not be allowed for use as lubrication for this purpose.

G. Pipe Locating and Tracking.

1. One of the following tracking, locating, and guidance systems shall be used:

   a. Waterline system.

   b. Mechanical control head.

   c. Electronic (inertial) control head.

   d. Walkover system.

   e. Laser guided tunnel attachment.

   f. Laser guided pilot rod.

2. The Contractor will be responsible for submitting their proposed pipe locating tracking method at the preconstruction meeting for approval.

H. Settlement/Heaving Monitoring.

1. Settlement/Heaving monitoring shall be performed in a manner that will minimize the movement of the ground in front of, above, and surrounding the horizontal auger bore operation; and will minimize subsidence of the surface above and in the vicinity of the boring. The ground shall be supported in a manner to prevent loss of ground and keep the perimeter and face of the boring stable at all times, including during shutdown periods. A survey shall be performed one day prior to initiating this operation at each required monitoring location. A similar survey shall then be performed at each location, on a daily basis, until the permitted activity has been completed. All survey readings shall be recorded to the nearest one-hundredth (0.01) of a foot. Digital photographs of the pavement and rail conditions shall also be taken prior and after the pipe installation. Specific monitoring locations and requirements may also be provided for railway crossings.

I. Ground Water Control.

1. Dewatering shall be conducted whenever there is a high ground water table level to prevent flooding and facilitate the operation. The water table elevation shall be maintained at least 1 foot below the bottom of the casing at all times. When needed, dewatering may be initiated prior to any excavation.

2. Minor water seepage or pockets of saturated soil may be effectively controlled through bailing or pumping. This control shall be accomplished without removing any adjacent soil that could weaken or undermine any access pit, its supports, or other nearby structures.

3. Larger volumes of ground water shall be controlled with one or more well points or with staged deep wells. Well points and staged deep well pumping systems shall be installed and operated without damage to property or structures, and without interference with the right of the public, owners of private property, pedestrians, vehicular traffic, or the work of other contractors. Any pumping methods used for dewatering and control of ground water and seepage shall have properly designated filters to ensure that the adjacent soil is not pumped along the water. Well diameter, well spacing and the pump's pumping rate shall provide adequate draw down of the water level. Wells shall be located to intercept ground water that otherwise would enter the access pit excavation and interfere with the work. Upon removal of a well, the hole shall be filled and grouted.

4. Existing storm sewers shall only be used to discharge water from the dewatering operation in accordance with a permit obtained from the appropriate storm sewer owner. Filters or sediment control devices shall be required to ensure that the existing system is not adversely affected by construction debris or sediment.

J. Casing End Seals/Bulkheads

1. Casing ends shall be enclosed using 1/8 inch thick synthetic rubber casing ends seals in accordance with section 2.19.C of this document. Ensure end seals are water tight and attach securely to the casing pipe and the carrier pipe (water main). Ensure end seals are acceptable to the Engineer.

K. Backfill Requirements.

1. Remove the pits and backfill the excavations as necessary with material meeting the standard specifications as approved by the Engineer.

L. Railroad Specific Requirements.

1. For Steel casing pipe jacked in place under a railroad, the following will apply in accordance with the current AREMA Manual;

   a. When steel casing pipe is used, the joints must be fully closed by welding or mechanical means as approved by the Engineer.

   b. Minimum cover over the casing must be at least 6.0 feet from the bottom of the railroad tie to the top of the casing pipe at its closest point.

   c. Casing pipe must extend beyond the limits of the entire railroad right-of-way.

   d. Jacking construction requirements must be in accordance with the current AREMA Manual, Chapter 1, Part 4.

3.26 INSTALLATION OF LINE STOPS AND INSERTION VALVES

A. Line Stops and Insertion Valves shall be performed in the locations as detailed on the plans or as directed by the Engineer. Prior to installation of the line stop or insertion valve, coordinate the deactivation of the water main so that all customers have been given proper notification

of the shutdown. No work shall be performed without the Engineer or authorized representative present.

B. Excavate and expose the water main. Remove scale from the water main and make sure there are no flaws which would affect the seal with the saddle.

C. Line Stops

1. Install permanent line stop body on the pipeline and perform line stop according to manufacturer's instructions. Upon completion of the work associated with the line stop, reactivate the water main and install permanent blind flange on the line stop body. Ensure that all as built information is recorded and submitted as detailed in section 1.03.

D. Insertion Valves

1. Install Insertion Valve body on the pipeline and perform valve insertion according to manufacturer's instructions. Operate the valve to ensure that it is fully functional.

2. Construct valve vault as detailed in WA-8-A of the City of Kalamazoo Standard Plans. Ensure that all as built information is recorded and submitted as detailed in section 1.03.

3.27 FINAL RESTORATION

A. Contractor shall restore site to preconstruction condition or better, or as detailed on the plans.

B. Final grade shall be 5 feet above competed water main or water service line, unless otherwise approved by the Engineer. If final grade is changed greater than 6 inches from the approved plans, the Developer or Contractor shall raise or lower water main and water services so that they are maintained at 5 feet below final grade. All costs associated with this work shall be paid for by the Developer or Contractor.

PART 4 MEASUREMENT AND PAYMENT

4.01 PAY ITEMS

Measurement a payment may not apply if construction is not being funded with City of Kalamazoo funds. Please review signed construction contract for actual measurement and payment specifications.

Pay Item	**Pay Unit**
Water Main, DI __ inch, Tr Det __	Foot
Water Main, DI __inch, in Casing	Foot
Water Main, DI __inch, HDD	Foot
Gate Valve and Box, __inch,	Each
Butterfly Valve and Box, __ inch	Each
Polyethylene Encasement	Foot
Water Main, __ inch, Cut and Plug	Each
Fire Hydrant	Each
Hydrant, Rem	Each
Hydrant Relocate, Case __	Each
Water Serv	Each
Water Serv, Long	Each
Water Serv, Conflict	Each
Water Serv, Yard	Each
Copper Tubing, Additional Length	Foot
Water Serv, 2 inch	Each
Water Serv, Conflict, 2 inch	Each
Copper Tubing, Additional Length, 2 inch	Foot

Steel Casing Pipe, __inch, Jacked in Place……Foot

4.02 MEASUREMENT OF PAY ITEMS

A. Payment for Water Mains shall be measured based on the sizes and trench details required, along the centerline of the pipe, with no deductions for fittings. The unit price of Water Main, DI, includes the cost of the following:

1. Excavation and backfill;
2. Dewatering operations (trench and/or pipe);
3. Provide temporary water system to maintain service during construction;
4. Hydrostatic testing;
5. Disinfecting and flushing the water main and bacteriological testing;
6. All material, labor and equipment necessary to remedy an unsatisfactory hydrostatic test, including removing and replacing any backfill;
7. Providing and installing fittings, gaskets, bracing or sheeting, blocking and miscellaneous items for installing pipe and reconnecting to the Municipal Water System;
8. Preparing and providing as-constructed plans.

D. The City of Kalamazoo may withhold payment and/or final acceptance until the City of Kalamazoo accepts the as-built plans.

E. The cost of dewatering of trenches, pipe, or both associated with alterations to the Municipal Water System, is included in the unit price for relevant items of work.

F. The cost of excavating, disposing of excess material, and providing, placing, and compacting the backfill, is included in the unit price for related items of work.

G. The cost of removing or abandoning existing water mains, gate valve boxes, and other appurtenances to provide clearance for the proposed water main or roadway, is included in the unit price for relevant items of work.

H. Payment for Gate Valves, Butterfly Valves, and Valve Boxes, shall be as follows**:**

1. The unit prices of **Gate Valve and Box** and **Butterfly Valve and Box**, of the types and sizes required, include the cost of providing and installing the valve and valve box, complete and ready for use.

I. Payment for water services 1 ¼ and smaller shall be as follows:

1. **Water Serv** refers to services between the water main and the curb shut off no greater than 33 feet long. **Water Serv, Long** refers to services between the water main and the curb shut off greater than 33 feet long and up to 66 feet in length. Water Serv, Yard refers to the services between the curb shut off and the water meter setting, up to 25 feet in length. **Copper Tubing, Additional Length** refers to the additional copper tubing and work needed when services between the curb shut off and the water meter setting are over 25 feet in length, and when the length of the service between the center of the road and the curb shut off exceeds 66 feet. **Water Serv, Conflict** refers to relocating only a portion of a water service.

J. Payment for water services 2 inches in size shall be as follows:

1. **Water Serv, 2 inch** refers to the services between the water main and the water meter setting no greater than 58 feet in length. **Water Serv Conflict, 2 inch** refers to relocating only a portion of a 2 inch water service. **Copper Tubing, Additional length, 2 inch** refers to the additional copper tubing and work needed when services exceed 58

feet in length.

K. Services with a diameter larger than 2 inches will be measured and paid for as water mains.

L. The unit prices for **Water Serv**, **Water Serv, Long**, **Water Serv, Yard**, **Copper Tubing, Additional Length**, **Water Serv Conflict**, **Water Serv, 2 inch**, **Water Serv Conflict, 2 inch**, and **Copper Tubing, Additional Length, 2 inch**, include the cost of the following, unless otherwise accounted for in other pay items:

1. Earth excavation;
2. Removing pavement;
3. Replacing pavement;
4. Jacking and boring;
5. Providing and installing type K copper tubing, service saddle, corporation stops, service stops, and service boxes;
6. Disinfecting;
7. Providing, placing, and compacting backfill;
8. Slope Restoration to equal or better conditions; and
9. Miscellaneous material, equipment, or operations.

M. Payment for additional service connections, not shown on the plans, but maintained, protected, and reconnected or disposed of by the Contractor will be paid for as **Water Serv**, or **Water Serv, Long**.

N. The pay item **Water Serv, Conflict** will apply only to portions of water services requiring relocation due to direct conflict with utilities, other items of work, or as otherwise approved by the City of Kalamazoo. Payment for all other relocations requiring replacement of corporation or service stops will be paid for as Water Serv or Water Serv, Long.

O. Payment for **Water Main, __inch, Cut and Plug** includes the cost of cutting the existing water main, providing and placing the required plug, and thrust blocks.

P. Payment for **Fire Hydrant** includes the cost of providing and installing the hydrant, hydrant valve, valve box, and all pieces between the valve and hydrant, including the coarse gravel and concrete base, fire hydrant marker at the locations shown on the plans in a ready-for-use condition unless noted otherwise.

Q. Payment for **Hydrant, Rem** includes the cost of breaking down the auxiliary gate valve, gate box, the hydrant assembly, backfilling, and plugging the opening in the existing main.

R. Payment for **Hydrant, Relocate, Case __** (of the case required), includes the cost of vertically adjusting the relocated hydrant to final grade and the following:

1. Case 1 includes the cost of removing the hydrant, extending the existing hydrant lead from the gate valve, reinstalling the hydrant in a ready-for-use condition, adjusting the existing gate box and hydrant to final grade, and providing and installing sleeves, fittings, and joint restraints.

2. Case 2 includes the cost of removing the existing hydrant, gate valve and box, and reinstalling the hydrant and gate valve in a ready-for-use condition, adjusting the existing gate box and hydrant to final grade, and providing and installing the cutting-in-sleeve, pipe coupling, tee, elbow, and joint restraints.

S. Payment for **Steel Casing Pipe, __inch, Jacked in Place** of the size required will be paid for by the length installed. The unit price for **Steel Casing Pipe, Jacked in Place** includes the cost of excavating the pits, providing and installing sheeting, bracing, and any other safety devices, providing jacking equipment: drainage and dewatering; bulkheading and sealing the casing, providing and installing vents, grouting the annular space between the casing and native soil and any other items associated with the operation.

T. Payment for **Water Main, DI, __inch, in Casing**, of the size required will be paid for by the length installed. The unit price for **Water Main, DI __inch, in Casing** shall include the cost for furnishing and installing the water main and casing spacers inside the casing.

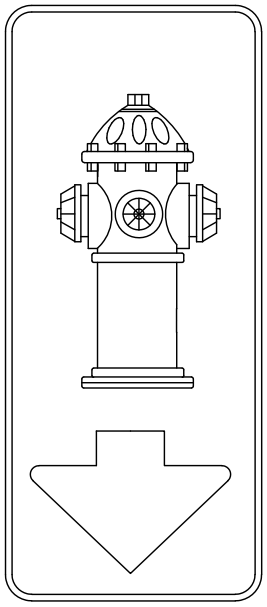
U. Payment for **Water Main, DI, __inch, HDD,** of the size required will be paid for by the length installed. The unit price shall include the cost of all equipment and materials, excavation and backfill, dewatering operations (trench, pit or pipe), temporary water system to maintain service during construction, hydrostatic testing, disinfecting and flushing the water mains, and bacteriological testing, all materials, labor and equipment necessary to remedy and unsatisfactory hydrostatic test, including removing and replacing any backfill, providing and install all, gaskets, bracing or sheeting, blocking and miscellaneous items for installing pipe of the required size and material and reconnecting to the water system as shown on the plans.

END OF SECTION

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WA–1–D

ITEM	QTY.	#	DESCRIPTION
1	1	39887	6" HYDRANT W/CARROLL DRAIN
2	2	70000	CONNECTING PIECE (13")
3	4	33801	6" GASKET (MJ)
4	1	96696	6" GATE VALVE (MJ)
5	1	08550	VALVE BOX BOTTOM
6	1	08520	VALVE BOX TOP SECTION
7	1	08500	VALVE BOX RING CASTING
8	1	08490	VALVE BOX COVER
9	1	91440	6" TEE MJ
10	1	91525	8" X 6" TEE MJ W/MEGALUGS
11	1	91750	10" X 6" TEE MJ W/MEGALUGS
12	1	91825	12" X 6" TEE MJ W/MEGALUGS
13	1	91909	16" X 6" TEE MJ W/MEGALUGS
14	1	91940	20" X 6" TEE MJ W/MEGALUGS



TYPICAL HYDRANT SIGN

NOTE: NO TIE RODS ALLOWED

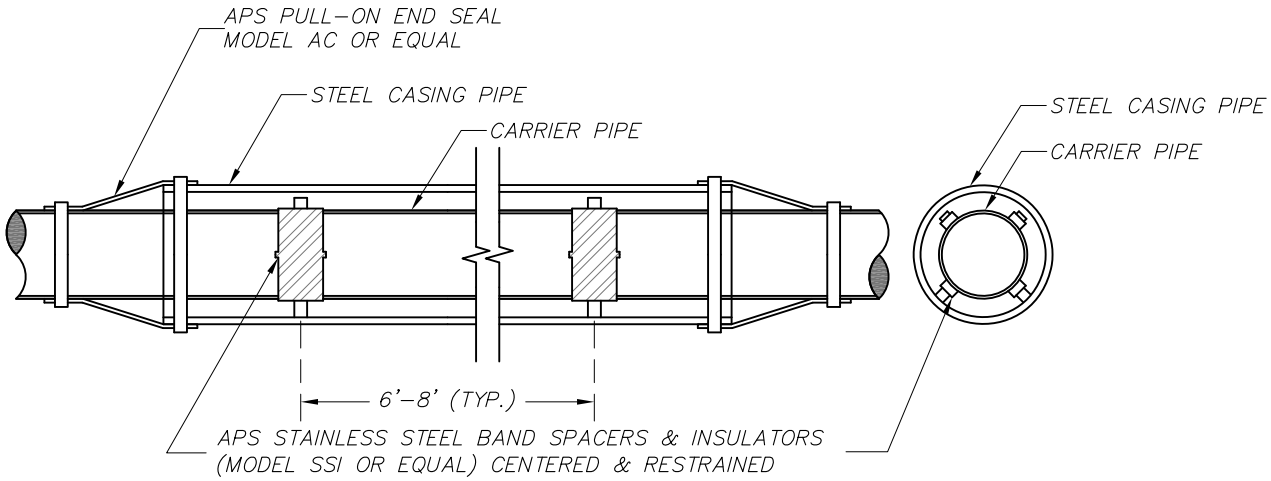
THE CITY OF Kalamazoo

CITY OF KALAMAZOO
Department Of Public Services

TYPICAL FIRE HYDRANT & GATE VALVE DETAIL

		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		

WA–2–A



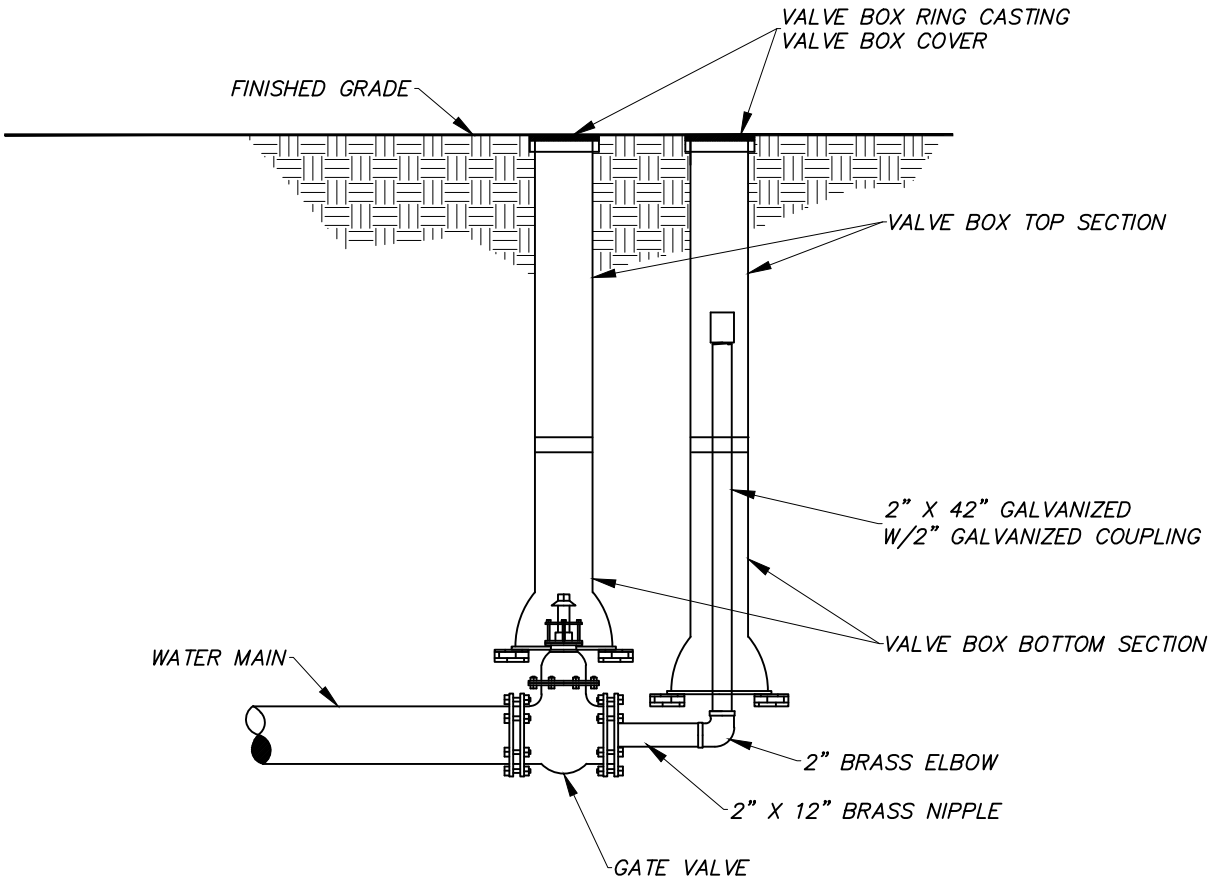
CASING CARRIER PIPE DETAIL

SIZE CASING AND CARRIER PIPES PER PLAN AND SPECIFICATIONS

TYPICAL BAND SPACER POSITIONING:
ONE PLACED NOT MORE THAN 1 FOOT FROM EACH END OF THE CASING AND
PIPE JOINTS WITH SUBSEQUENT SPACERS PLACED EVERY 6–8 FEET THEREAFTER.
FOR 18 FOOT PIPE THERE SHALL BE THREE BAND SPACERS.
FOR 20 FOOT PIPE THERE SHALL BE FOUR BAND SPACERS.

THE CITY OF Kalamazoo	CITY OF KALAMAZOO Department Of Public Services		DATE
	CASING CARRIER PIPE	RECOMMENDED BY	
		APPROVED BY	
		APPROVED BY	
		ACCEPTED BY	

WA–3–C



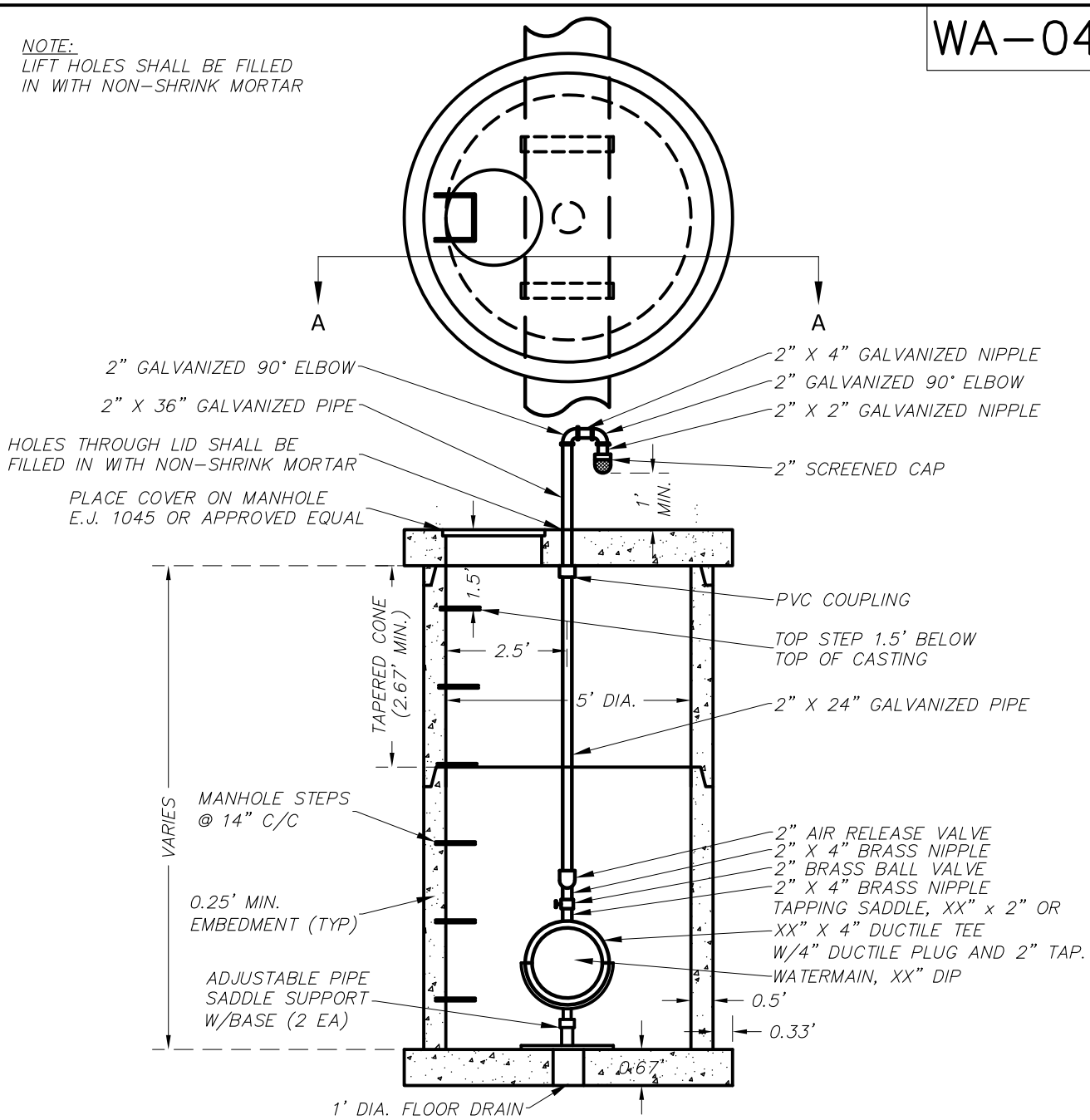
NOT TO SCALE

THE CITY OF Kalamazoo	CITY OF KALAMAZOO Department Of Public Services 2" BLOW OFF CONNECTION	RECOMMENDED BY	DATE
		APPROVED BY	
		APPROVED BY	
		ACCEPTED BY	

J:\CAD STANDARDS\STANDARD DETAILS\WATER\UPDATED DRAWINGS\ACAD DRAWINGS\WA-3-B BLOW OFF CONNECTION 2 INCH.dwg, 8/12/2016 12:01:24 PM

WA–04–B

NOTE:
LIFT HOLES SHALL BE FILLED
IN WITH NON–SHRINK MORTAR



TYPICAL 2" AIR RELEASE MANHOLE

PRECAST REINFORCED CONCRETE SHOWN (OTHER OPTIONS INCLUDE
CONCRETE BLOCK, BRICK OR CAST IN PLACE WALL SECTIONS)

SCHEDULE OF FITTINGS

ITEM DESCRIPTION	QUANTITY
AIR RELEASE VALVE, 2"	1
GALVANIZED PIPE, 2" X 60"	1
GALVANIZED NIPPLE, 2" X 4"	1
GALVANIZED NIPPLE, 2" X 2"	1
GALVANIZED 90° ELBOW, 2"	2
PIPE SUPPORT BASE	2

ITEM DESCRIPTION	QUANTITY
TAPPING SADDLE, XX X 2"	1
BRASS BALL VALVE, 2"	1
BRASS NIPPLE, 2" X 4"	2

THE CITY OF Kalamazoo

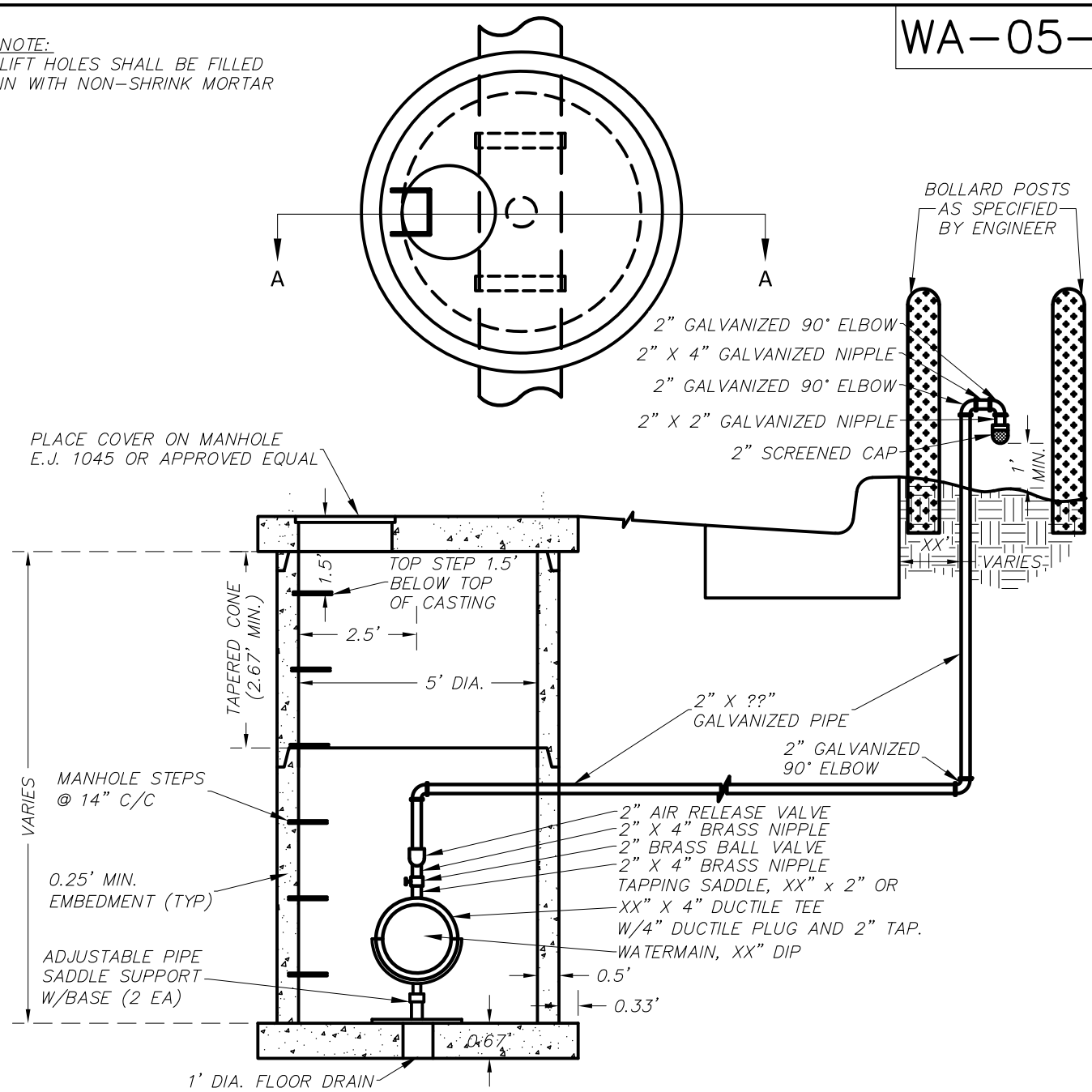
CITY OF KALAMAZOO
Department Of Public Services

AIR RELEASE MANHOLE

	DATE
RECOMMENDED BY	
APPROVED BY	
APPROVED BY	
ACCEPTED BY	

WA–05–C

NOTE:
LIFT HOLES SHALL BE FILLED IN WITH NON–SHRINK MORTAR



TYPICAL 2" AIR RELEASE MANHOLE

PRECAST REINFORCED CONCRETE SHOWN (OTHER OPTIONS INCLUDE CONCRETE BLOCK, BRICK OR CAST IN PLACE WALL SECTIONS)

SCHEDULE OF FITTINGS

ITEM DESCRIPTION	QUANTITY
AIR RELEASE VALVE, 2"	1
GALVANIZED PIPE, 2" X 60"	1
GALVANIZED NIPPLE, 2" X 4"	1
GALVANIZED NIPPLE, 2" X 2"	1
GALVANIZED 90° ELBOW, 2"	2
PIPE SUPPORT BASE	2

ITEM DESCRIPTION	QUANTITY
TAPPING SADDLE, XX X 2"	1
BRASS BALL VALVE, 2"	1
BRASS NIPPLE, 2" X 4"	2

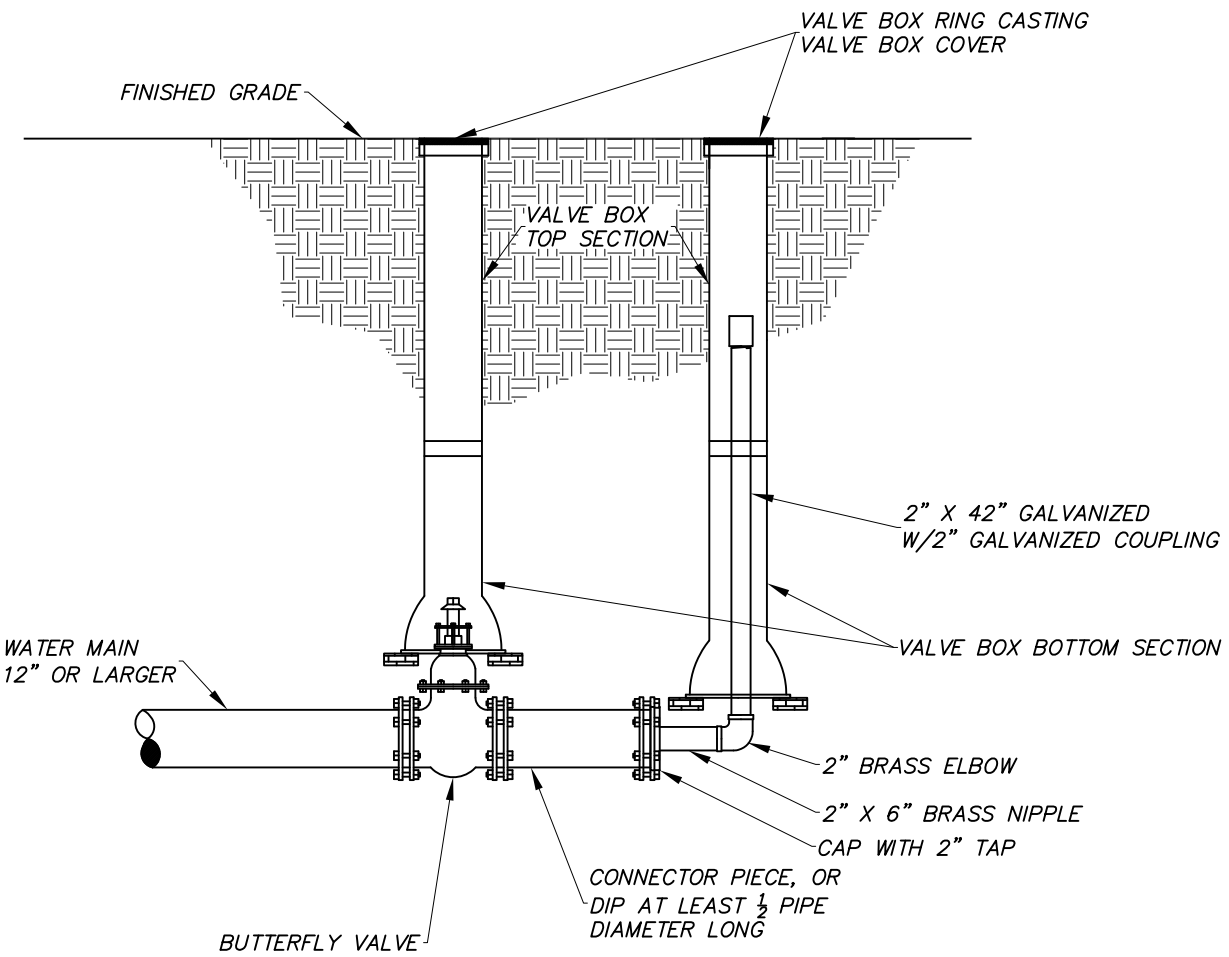
THE CITY OF Kalamazoo

CITY OF KALAMAZOO
Department Of Public Services

AIR RELEASE MANHOLE IN ROADWAY

		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		

WA–6–A



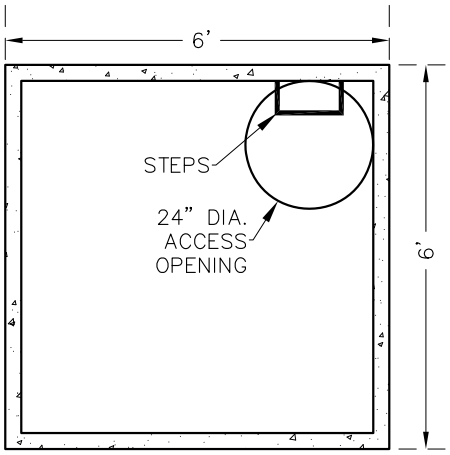
NOT TO SCALE

THE CITY OF Kalamazoo

CITY OF KALAMAZOO
Department Of Public Services

2" BLOW OFF CONNECTION 12" OR LARGER MAIN

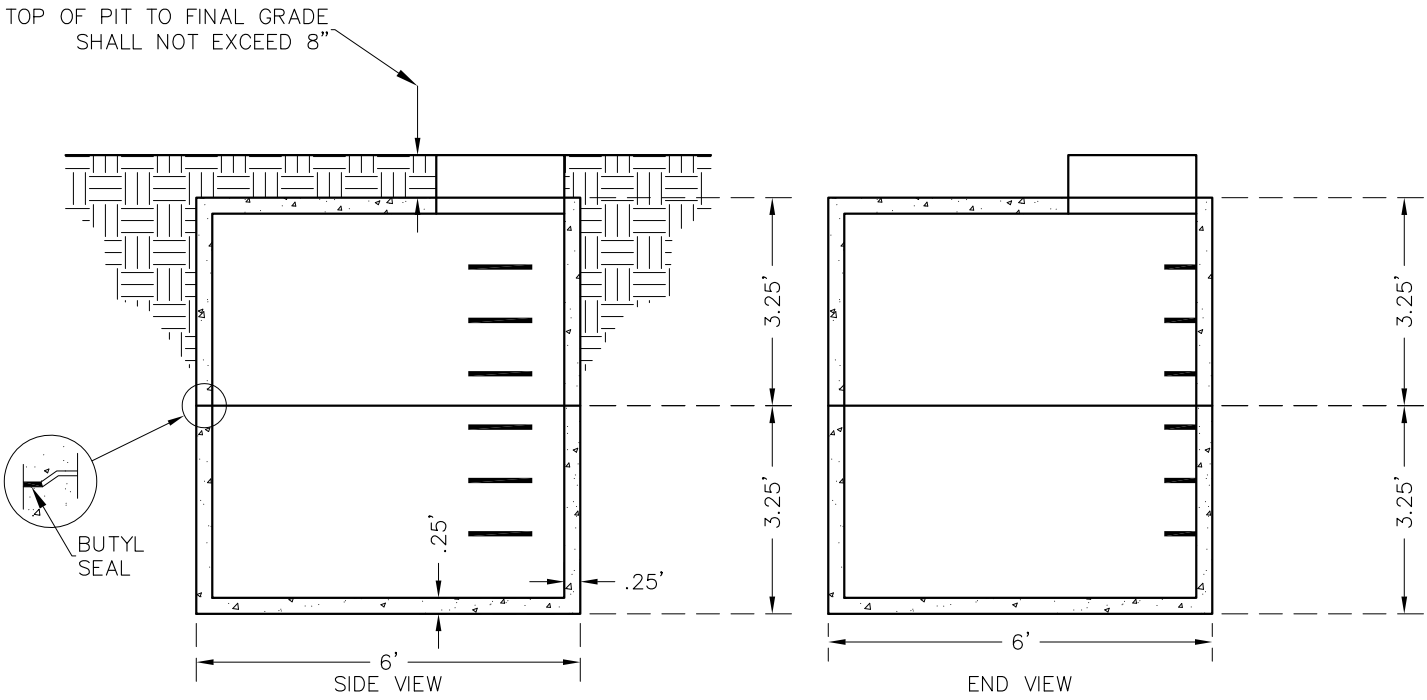
		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		



TOP VIEW

NOTES:

1. METER VAULT DESIGN TO BE SUBMITTED AND APPROVED FOR EACH INDIVIDUAL INSTALLATION. DESIGN SHALL CONFORM TO KALAMAZOO WATER ENGINEERING STANDARDS LATEST REVISION.
2. THE DISTANCE BETWEEN RUNGS, CLEATS AND STEPS SHALL NOT EXCEED 12 INCHES AND SHALL BE UNIFORM THROUGHOUT THE LENGTH OF THE LADDER.
3. PLACEMENT OF CURB BOX CAN VARY FROM A MAXIMUM OF 5 FEET OUTSIDE THE PROPERTY LINE TO A MAXIMUM OF 5 FEET INSIDE THE PROPERTY LINE. PLACEMENT OF THE CURB BOX OUTSIDE THE PROPERTY LINE IS PREFERRED.
4. ACCESS COVER – FORD MC–24–MB–T WITH AN INNER LID, VESTAL 32–055, 32–104, AND 32–046 OR APPROVED EQUAL.

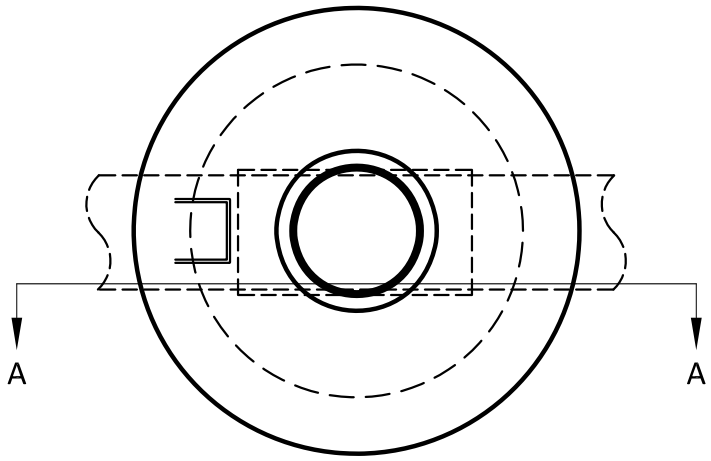


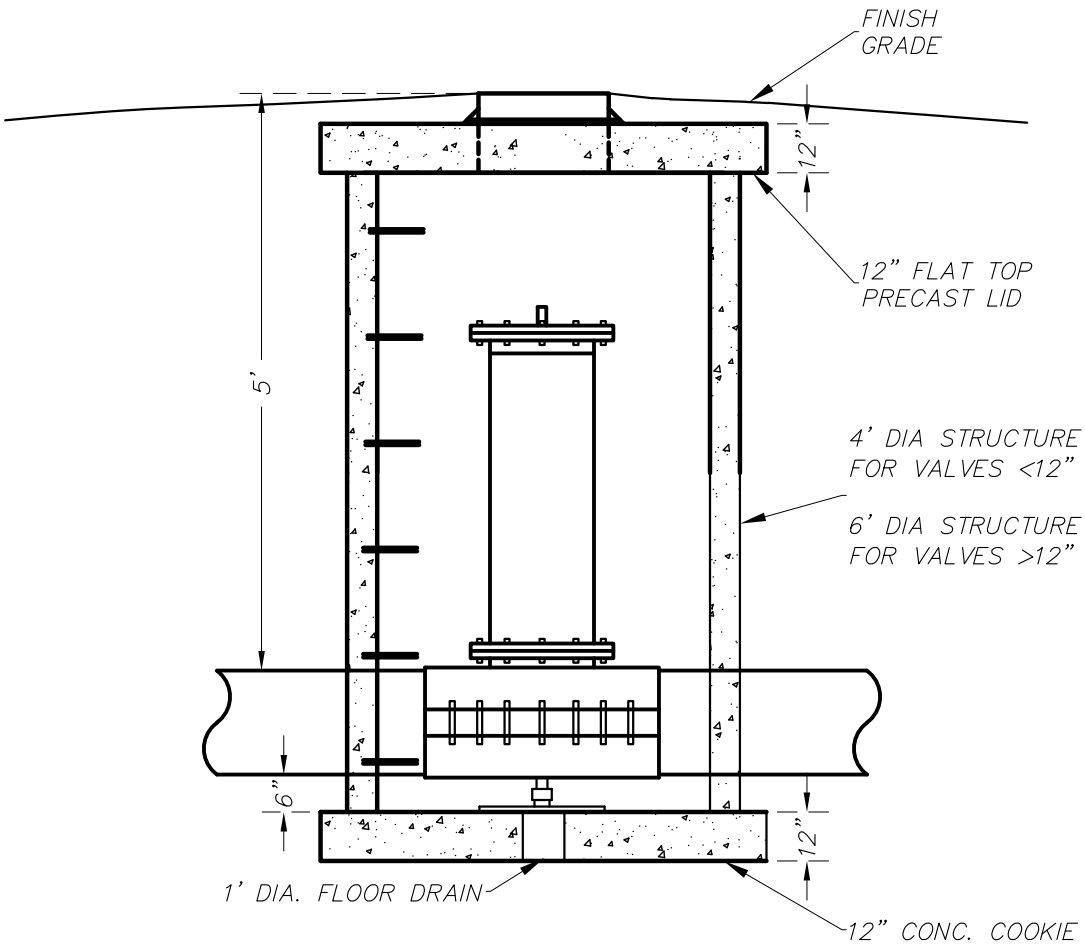
SIDE VIEW

END VIEW

CITY OF KALAMAZOO Department Of Public Services		DATE
STANDARD METER PIT	RECOMMENDED BY	
	APPROVED BY	
	APPROVED BY	
	ACCEPTED BY	

WA–08–A





TYPICAL INSERTA – VALVE

PRECAST REINFORCED CONCRETE SHOWN

THE CITY OF Kalamazoo	CITY OF KALAMAZOO Department Of Public Services **INSERTA–VALVE STRUCTURE**	RECOMMENDED BY _____ DATE APPROVED BY _____ APPROVED BY _____ ACCEPTED BY _____

WS–1–A

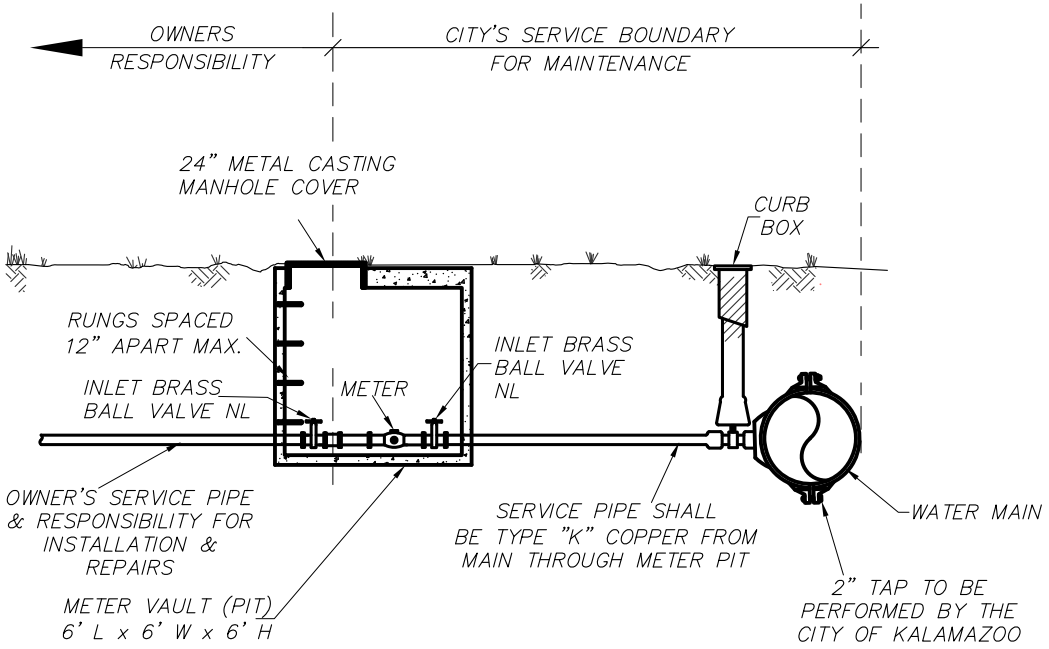
NOTES:

1. METER VAULT (PIT) DESIGN MUST BE SUBMITTED AND APPROVED FOR EACH INDIVIDUAL INSTALLATION. DESIGN SHALL CONFORM TO THE CITY OF KALAMAZOO STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE INSTALLATION LATEST REVISION.

2. THE DISTANCE BETWEEN RUNGS, CLEATS & STEPS SHALL NOT EXCEED 12 INCHES AND SHALL BE UNIFORM THROUGHOUT THE LENGTH OF THE LADDER.

3. CURB BOX WILL BE INSTALLED AT THE WATER MAIN.

4. COVER FOR METER PIT & CURB BOX SHALL BE INSTALLED & MAINTAINED LEVEL WITH THE ADJACENT GROUND.



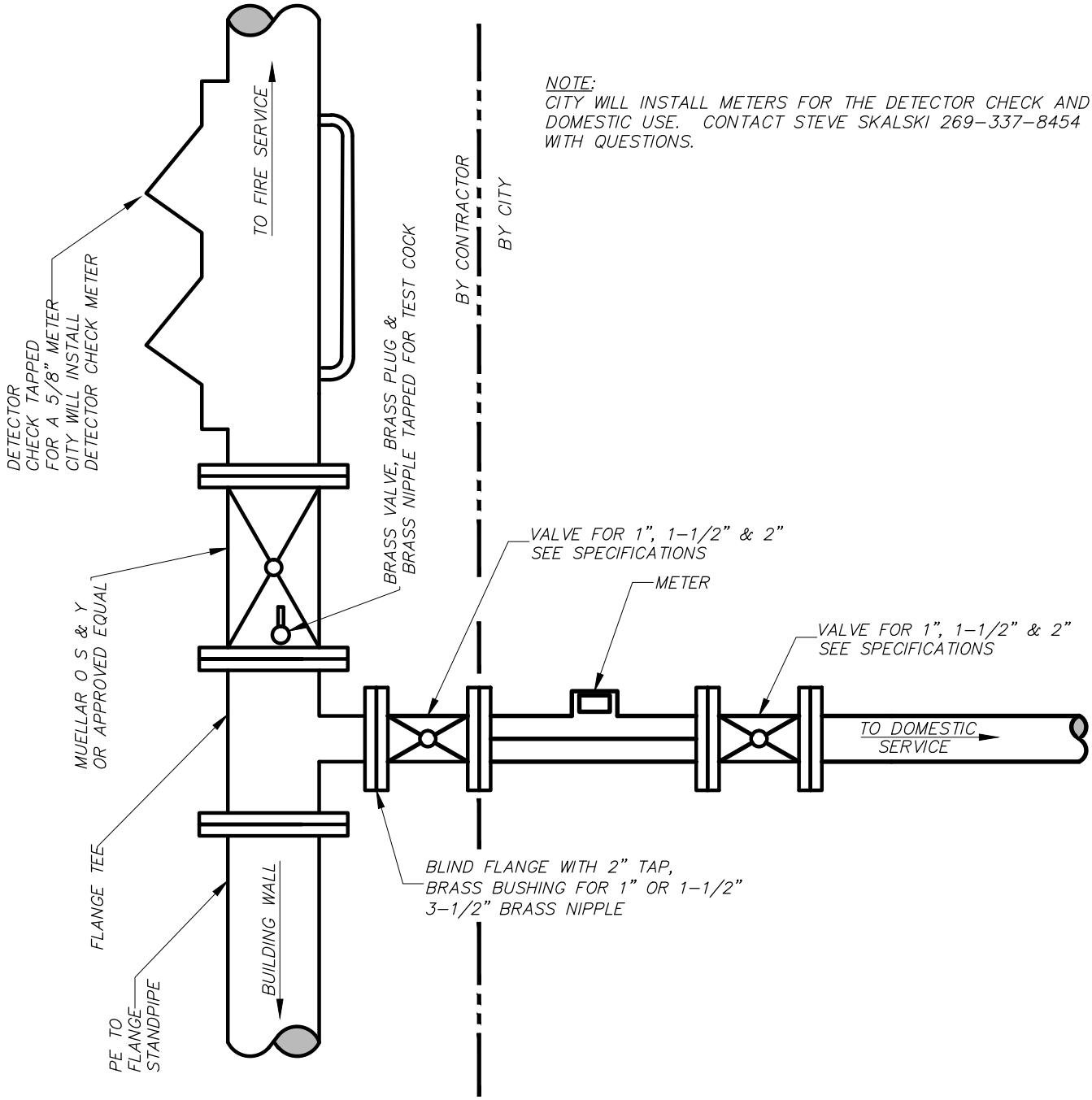
THE CITY OF Kalamazoo

CITY OF KALAMAZOO
Department Of Public Services

2" SERVICE LINE METER VAULT

		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		

WS–3–A



NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269–337–8454 WITH QUESTIONS.

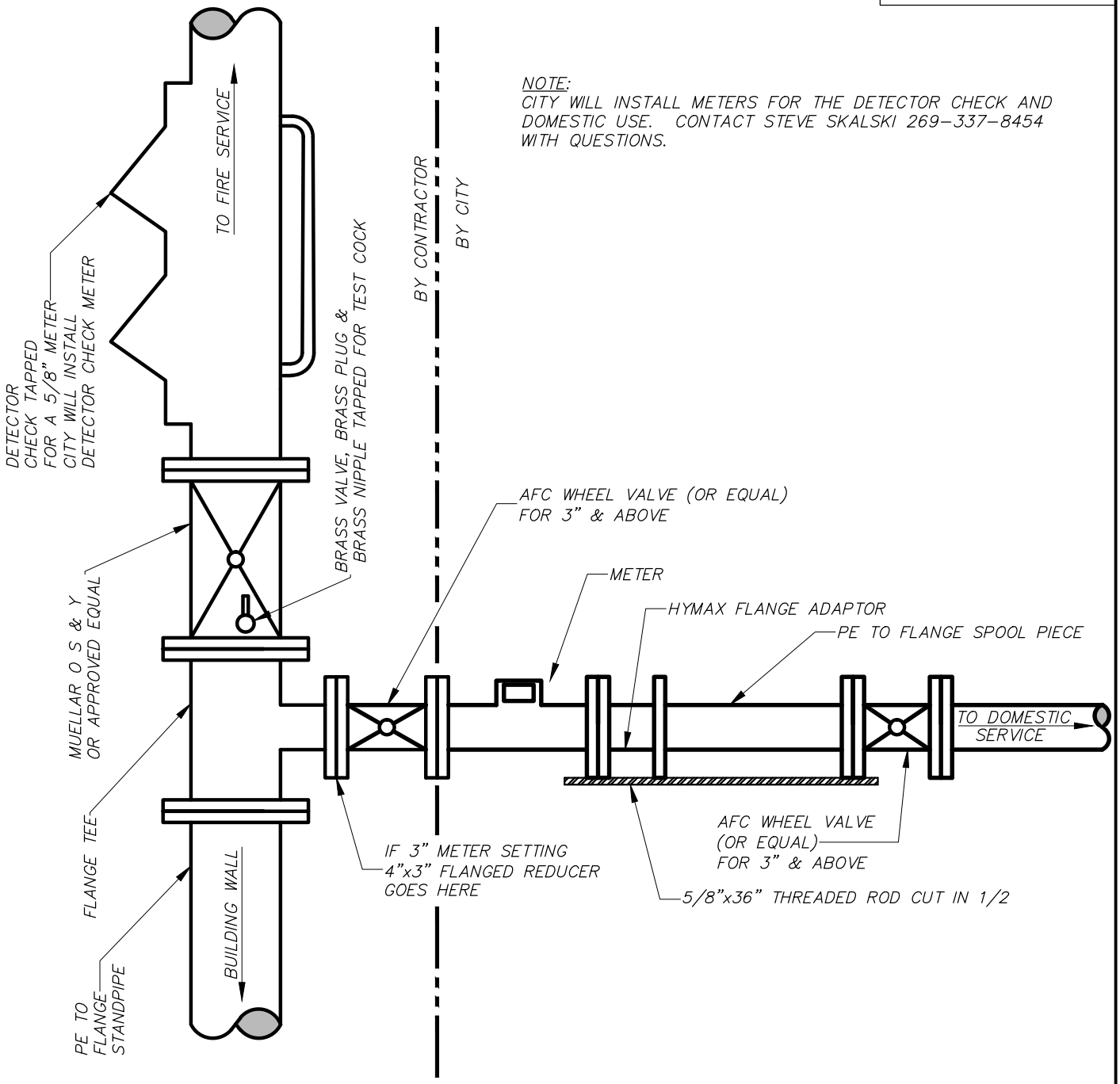
THE CITY OF Kalamazoo

CITY OF KALAMAZOO
Department Of Public Services

TYPICAL FIRE SERVICE DETAIL
1" 1–1/2" 2"

		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		

WS–4–A



NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269–337–8454 WITH QUESTIONS.

THE CITY OF Kalamazoo

CITY OF KALAMAZOO
Department Of Public Services

TYPICAL FIRE SERVICE DETAIL
3" 4" 6"

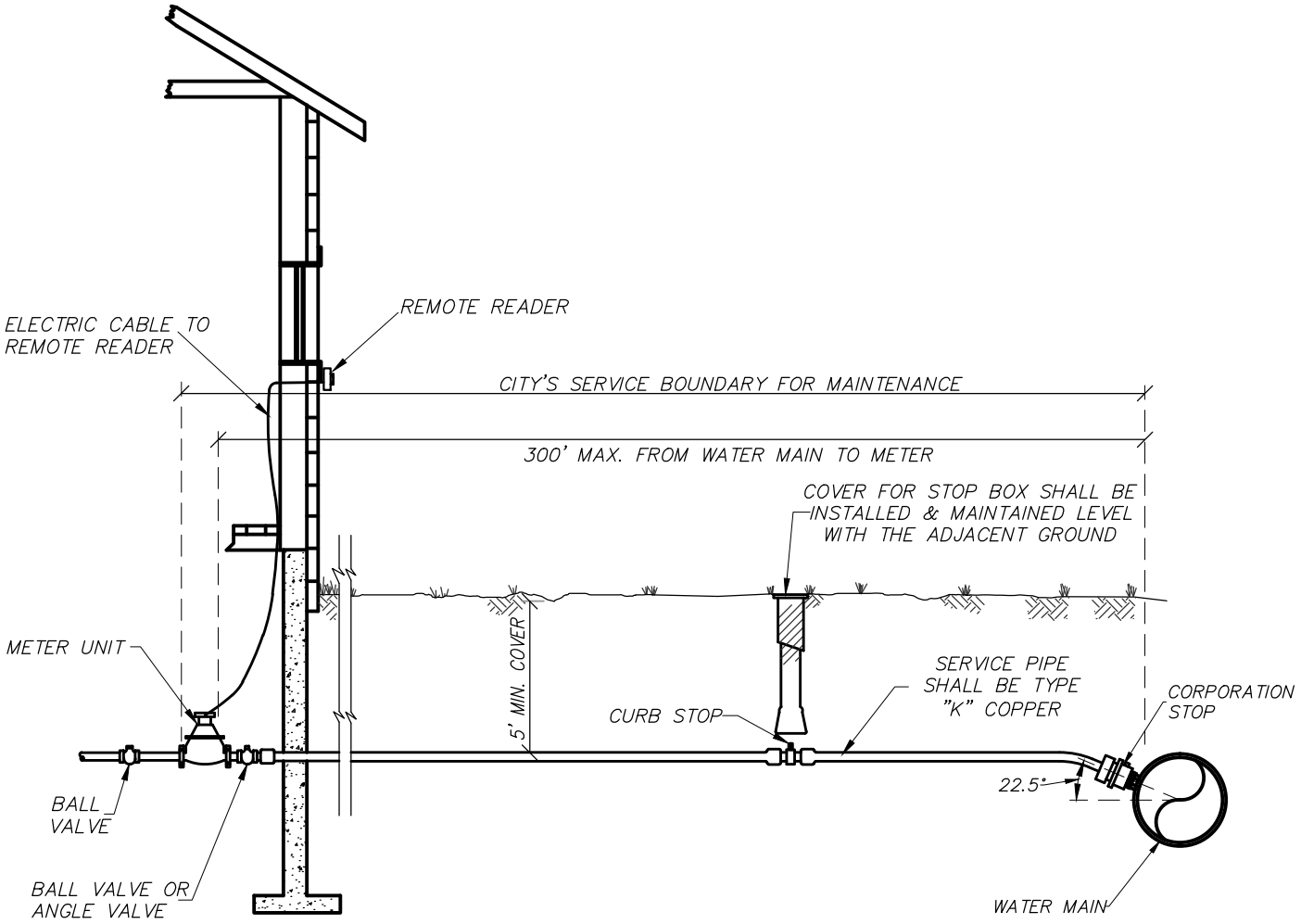
	DATE
RECOMMENDED BY	
APPROVED BY	
APPROVED BY	
ACCEPTED BY	

WS–5–A

NOTES:

1. PLACEMENT OF STOP BOX CAN VARY FROM A MAXIMUM OF 5 FEET OUTSIDE THE PROPERTY LINE TO A MAXIMUM OF 5 FEET INSIDE THE PROPERTY LINE. PLACEMENT OF THE STOP BOX OUTSIDE THE PROPERTY LINE IS PREFERRED.

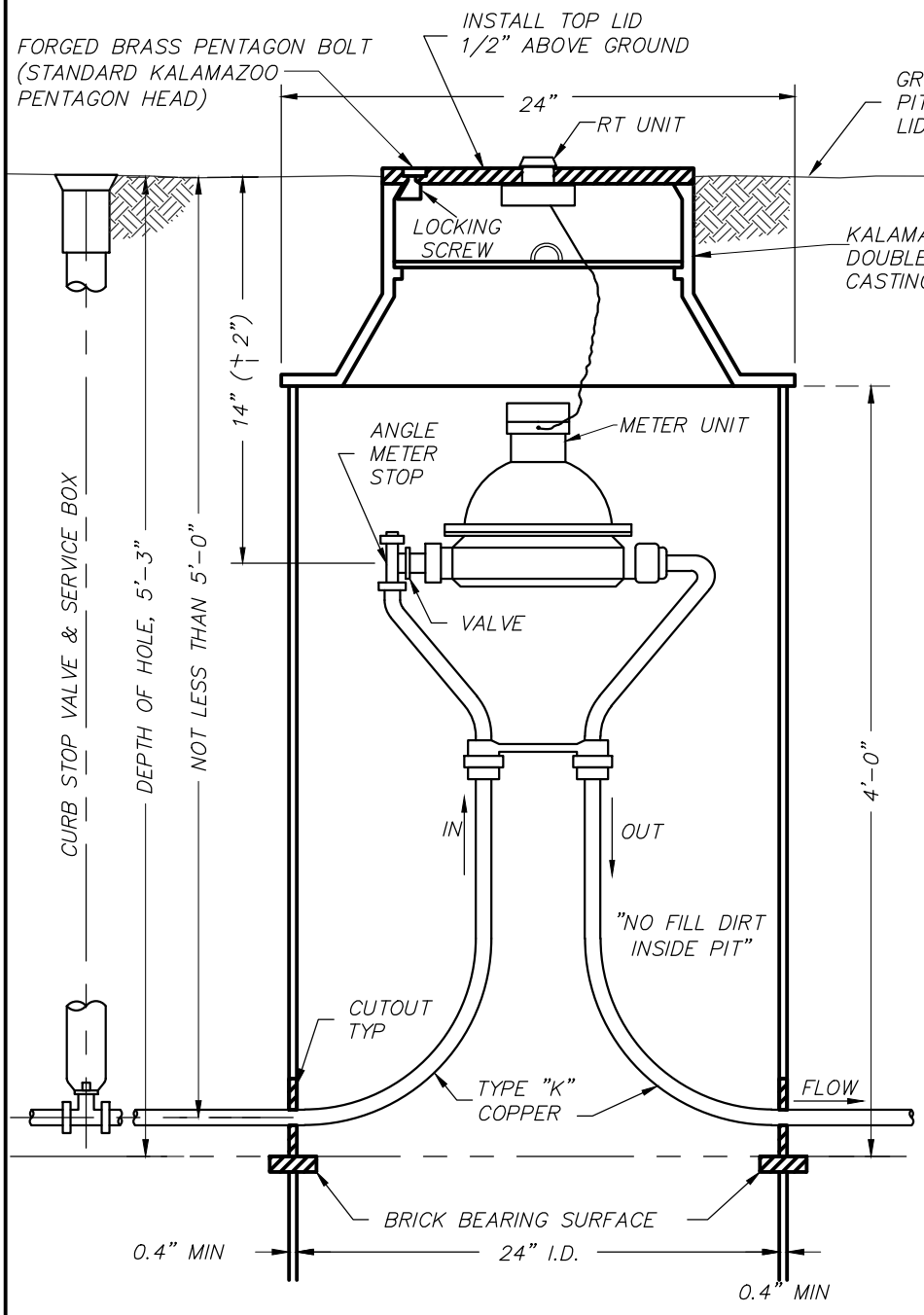
2. CITY WATER WILL REPAIR LEAKS ON SERVICE LINES WHEN NOTIFIED, FROM THE CORPORATION STOP TO METER.



THE CITY OF Kalamazoo	CITY OF KALAMAZOO Department Of Public Services SERVICE LINE, STOP BOX AND INSIDE METER INSTALLATION 1–1/4" SERVICE & 1" METER	RECOMMENDED BY _____ DATE APPROVED BY _____ APPROVED BY _____ ACCEPTED BY _____

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WS-7-A



NOTES:

1. NOT FOR INSTALLATION IN ROADWAYS, DRIVEWAYS OR PARKING AREAS.
2. IF SURFACE IS NOT TO FINAL GRADE AT TIME OF INSTALLATION OF METER, OWNER MUST RAISE OR LOWER PIT WHEN SURFACE IS GRADED.
3. METER SETTING MUST BE INSPECTED BEFORE BACKFILLING.*
4. LOCATION OF METER SHALL BE 5 FEET INSIDE PROPERTY LINE UNLESS OTHERWISE ESTABLISHED BY UTILITY SERVICES.
5. NO CONCRETE FLOOR TO BE LAID IN METER PIT.
6. REFERENCE CITY OF KALAMAZOO PUBLIC SEVICES–WATER CONSTRUCTION SPECIFICATIONS (LATEST EDITION) FOR PRODUCT SPECIFICATIONS.
7. NO SPRINKLER SYSTEM CONNECTIONS SHALL BE MADE IN THE METER PIT. SPRINKLER PIT SHALL BE 5 FT. DOWNSTREAM FROM METER, MEASURED CENTER TO CENTER.
8. NO MAJOR LANDSCAPING OR STRUCTURES SHALL BE LOCATED WITHIN 4 FT. OR METER
9. GRADE CHANGES AFTER METER PIT INSTALLATION SHALL REQUIRE THAT THE OWNER ADJUST METER PIT COVER TO 1/2" ABOVE FINAL GRADE.
10. IF PRESSURE REDUCING VALVE IS REQUIRED BY PLUMBING CODE, IT SHALL BE INSTALLED INSIDE THE BUILDING, IMMEDIATELY FOLLOWING THE MAIN SHUT OFF VALVE.
11. COPPER PIPE SHALL SHOW NO VISIBLE CRIMPING.

* FOR INSPECTION CALL (269) 998–6433 INSPECTOR
* FOR INSPECTION CALL (269) 337–8769 ENGINEER

CITY OF KALAMAZOO
Department Of Public Services

OUTSIDE SETTING FOR 1" METER

		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		

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WS–8–B

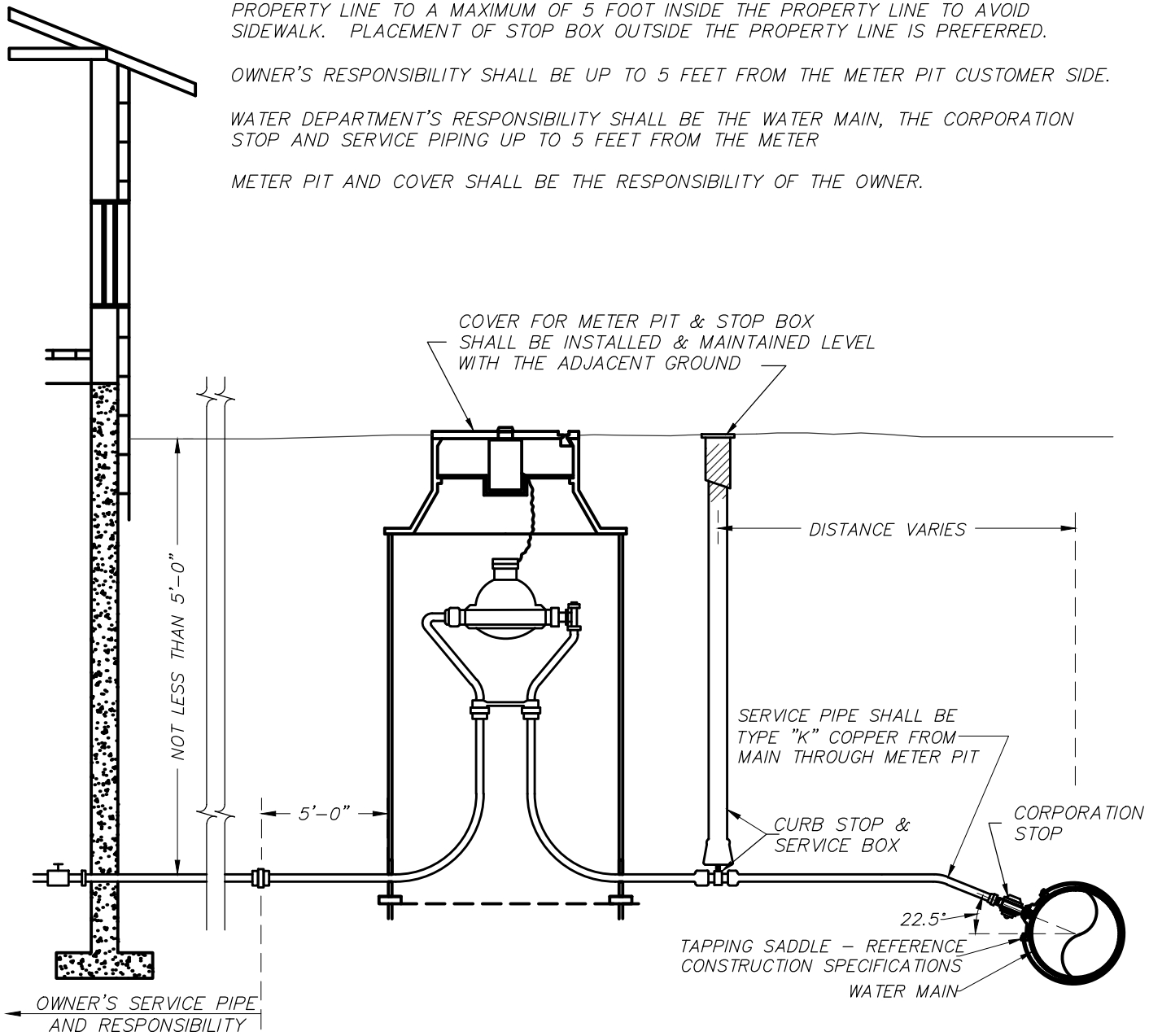
NOTES:

PLACEMENT OF STOP BOX CAN VARY FROM A MAXIMUM OF 5 FOOT OUTSIDE THE PROPERTY LINE TO A MAXIMUM OF 5 FOOT INSIDE THE PROPERTY LINE TO AVOID SIDEWALK. PLACEMENT OF STOP BOX OUTSIDE THE PROPERTY LINE IS PREFERRED.

OWNER'S RESPONSIBILITY SHALL BE UP TO 5 FEET FROM THE METER PIT CUSTOMER SIDE.

WATER DEPARTMENT'S RESPONSIBILITY SHALL BE THE WATER MAIN, THE CORPORATION STOP AND SERVICE PIPING UP TO 5 FEET FROM THE METER

METER PIT AND COVER SHALL BE THE RESPONSIBILITY OF THE OWNER.



THE CITY OF Kalamazoo

CITY OF KALAMAZOO
Department Of Public Services

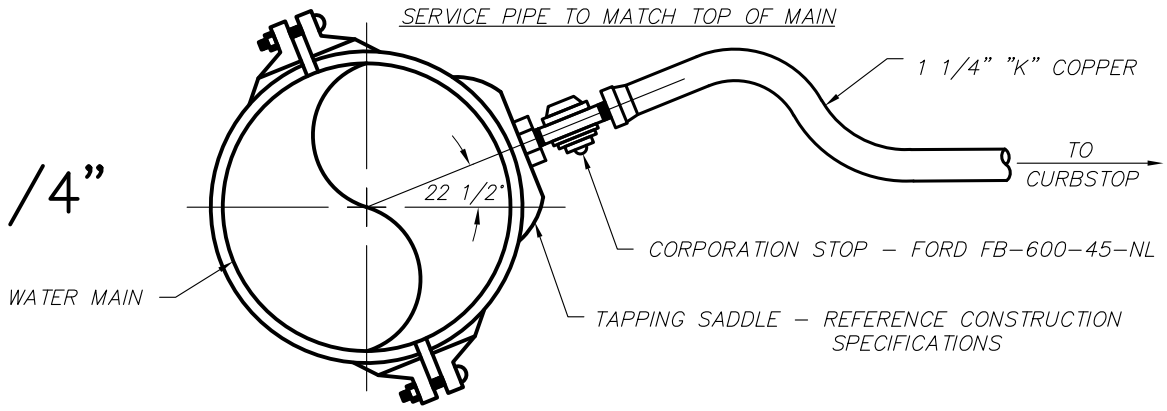
1–1/4" SERVICE LINE, STOP BOX AND OUTSIDE METER INSTALLATION

		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		

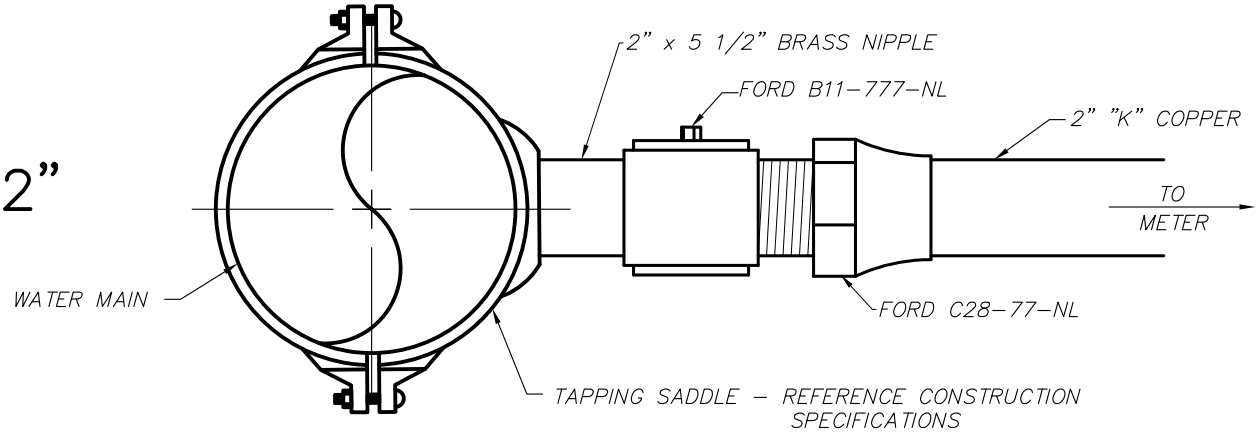
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WS–9–D

1 1/4"



2"



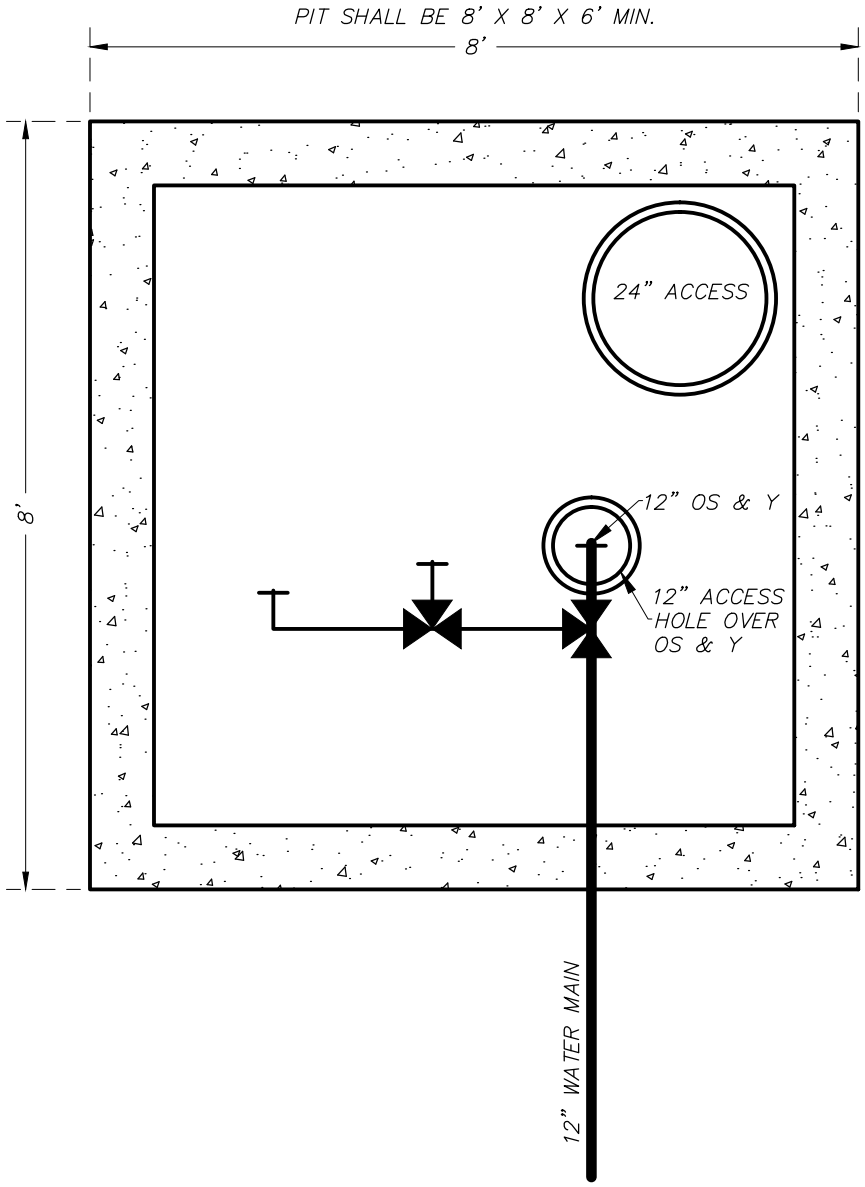
THE CITY OF Kalamazoo

CITY OF KALAMAZOO
Department Of Public Services

WATER SERVICE TAPPING SLEEVE

		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		

WS–10–A



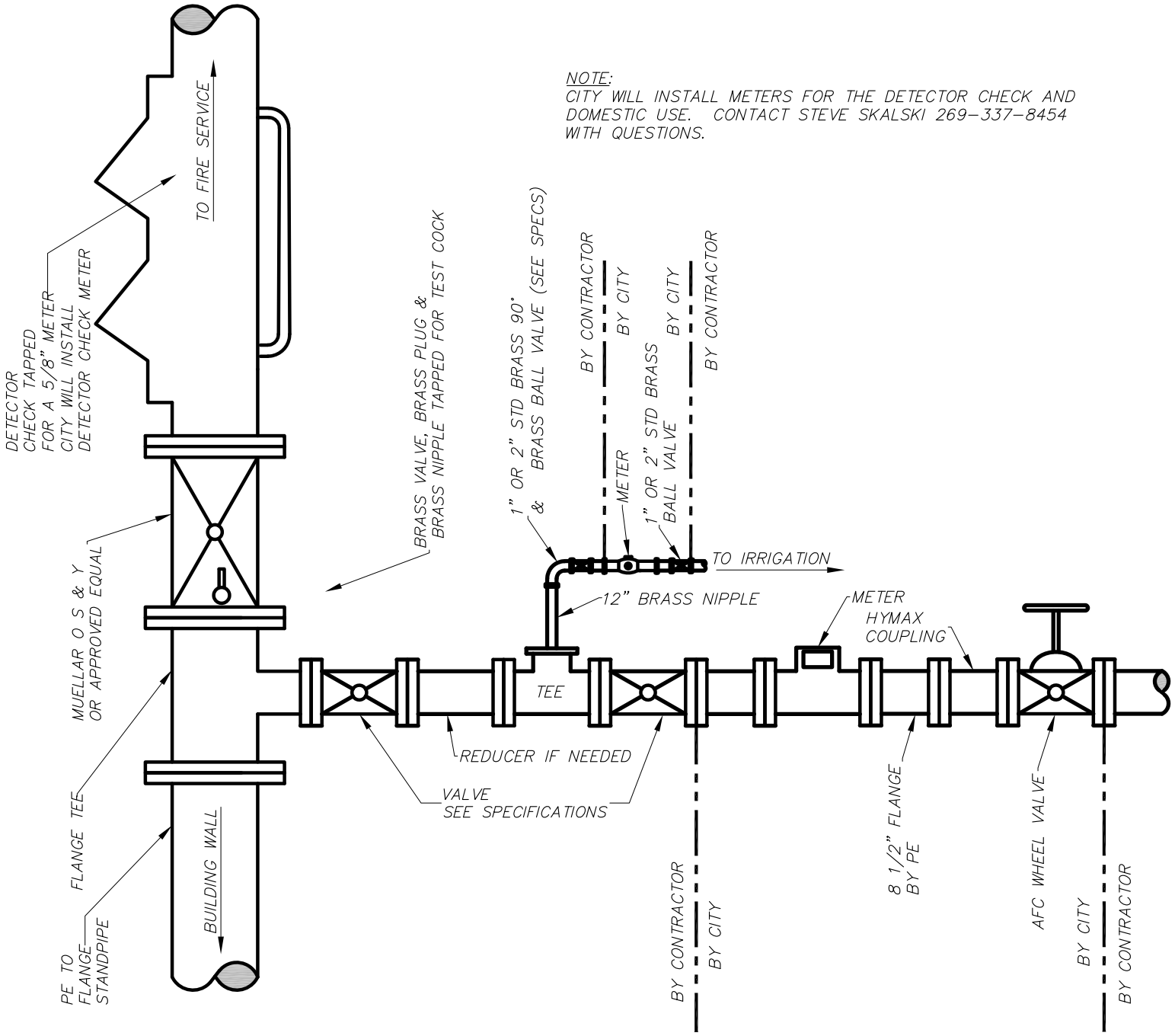
THE CITY OF Kalamazoo

CITY OF KALAMAZOO
Department Of Public Services

12 INCH METER PIT

		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		

WS–11–B



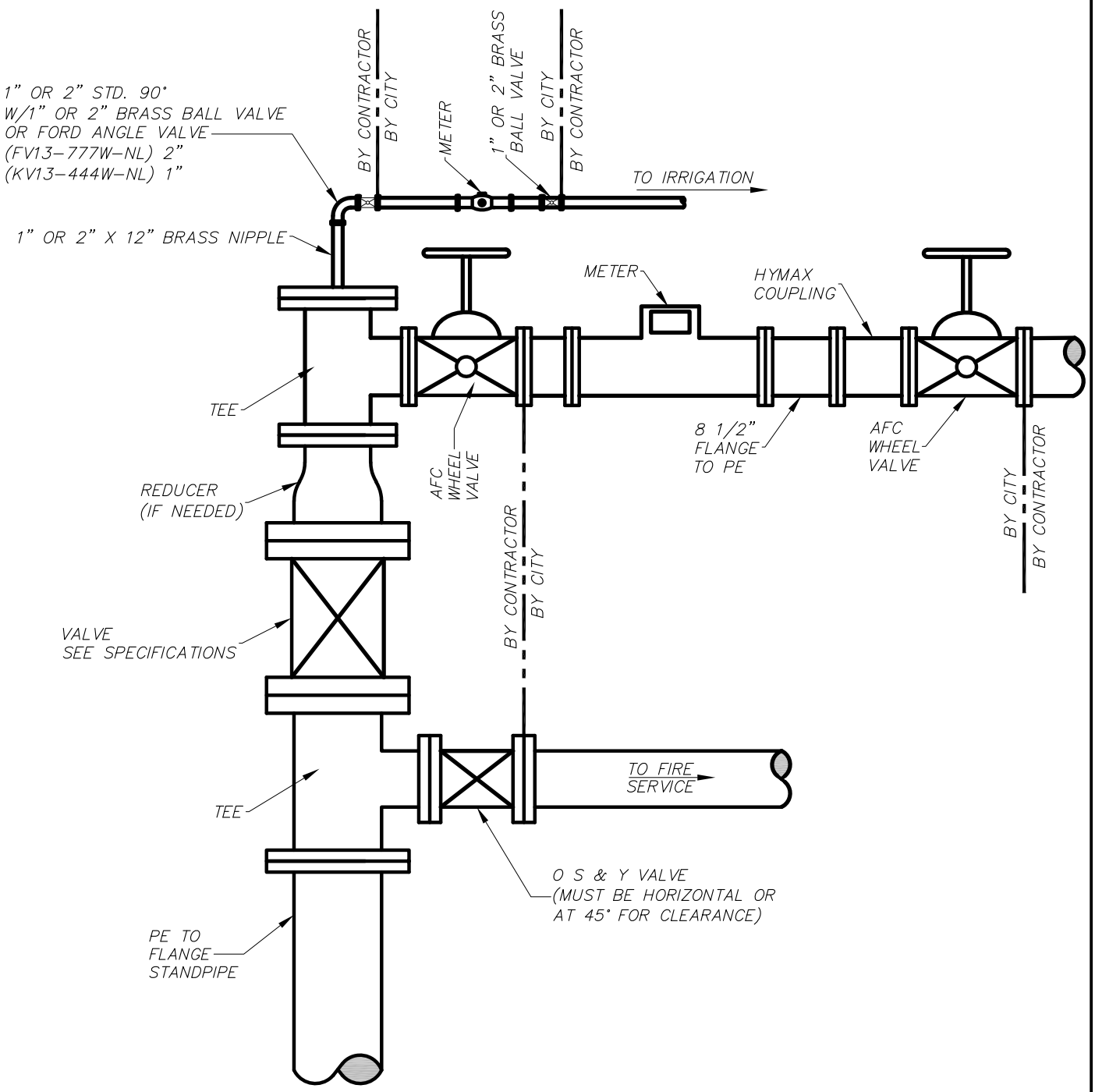
THE CITY OF Kalamazoo

TYPICAL FIRE SERVICE DETAIL, DOMESTIC 3", 4", & 6" & IRRIGATION 1" OR 2" VERTICAL SETTING

		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		

WS–12–A

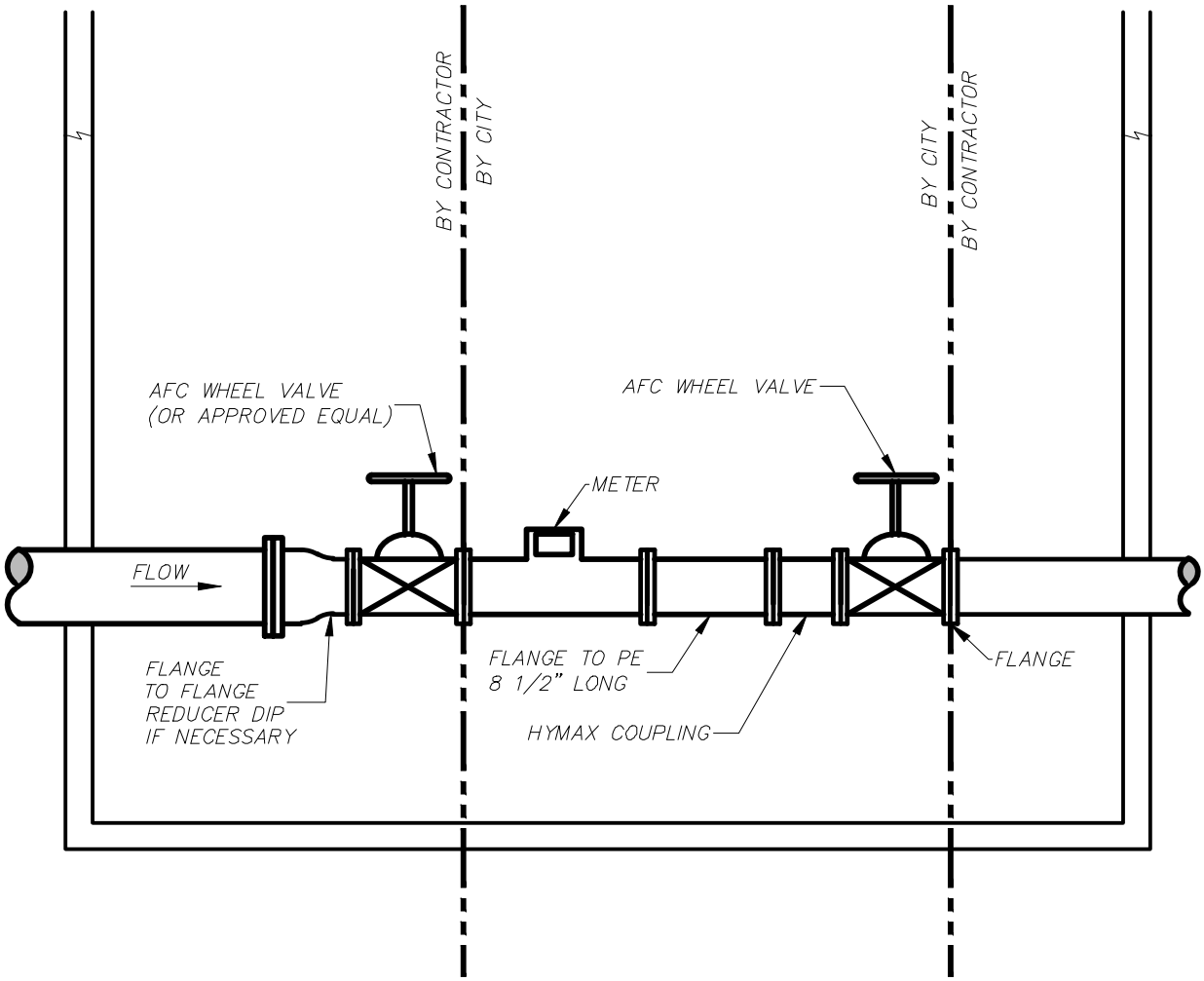
NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269–337–8454 WITH QUESTIONS.



THE CITY OF Kalamazoo	CITY OF KALAMAZOO Department Of Public Services TYPICAL FIRE SERVICE DETAIL HORIZONTAL SETTING W/3", 4", OR 6" DOMESTIC & 1" OR 2" IRRIGATION	RECOMMENDED BY	DATE
		APPROVED BY	
		APPROVED BY	
		ACCEPTED BY	

WS–13–B

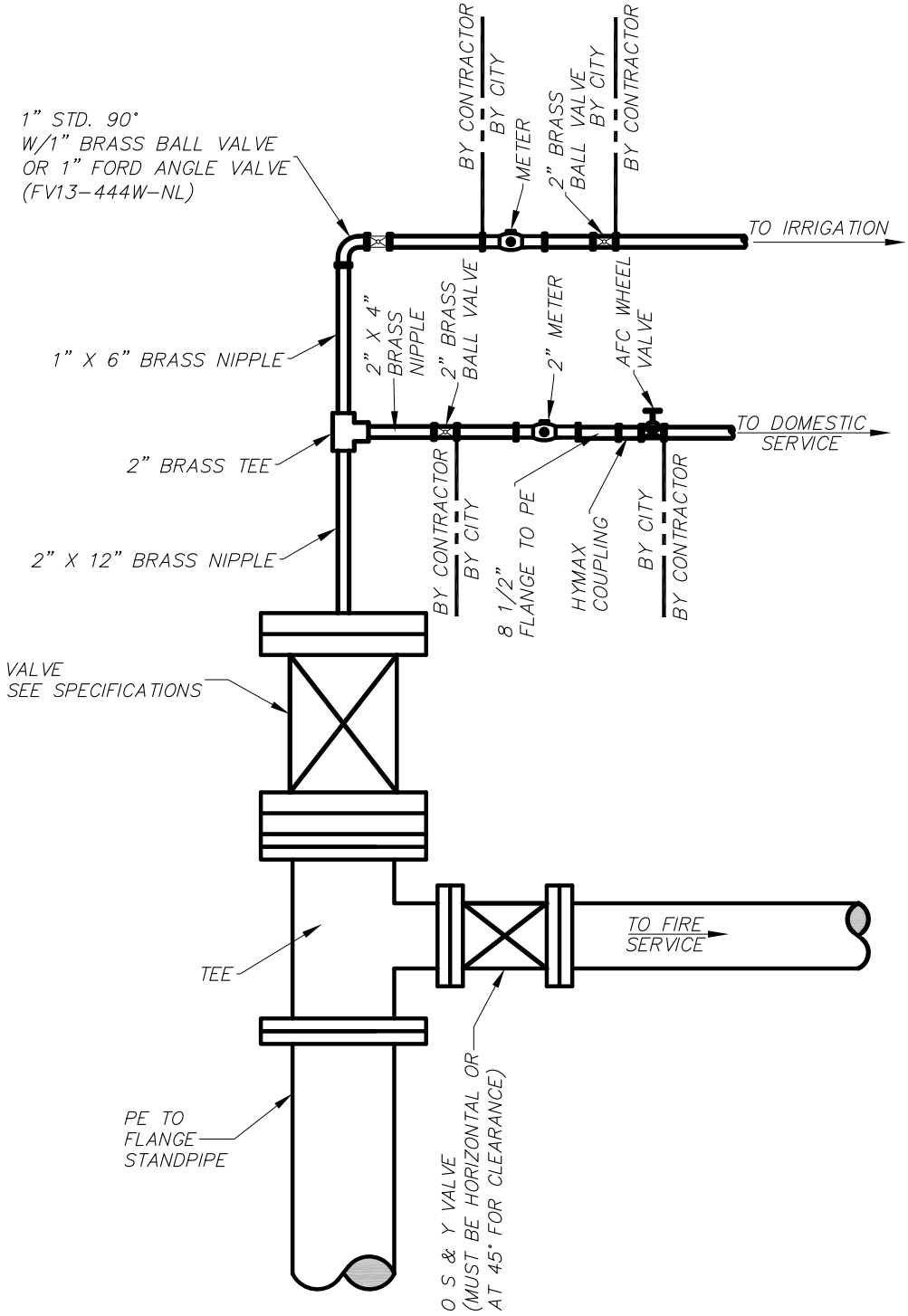
NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269–337–8454 WITH QUESTIONS.



THE CITY OF Kalamazoo	CITY OF KALAMAZOO Department Of Public Services PIT METER SETTING DETAIL FOR 3", 4", 6" & 8"	RECOMMENDED BY	DATE
		APPROVED BY	
		APPROVED BY	
		ACCEPTED BY	

WS–14–A

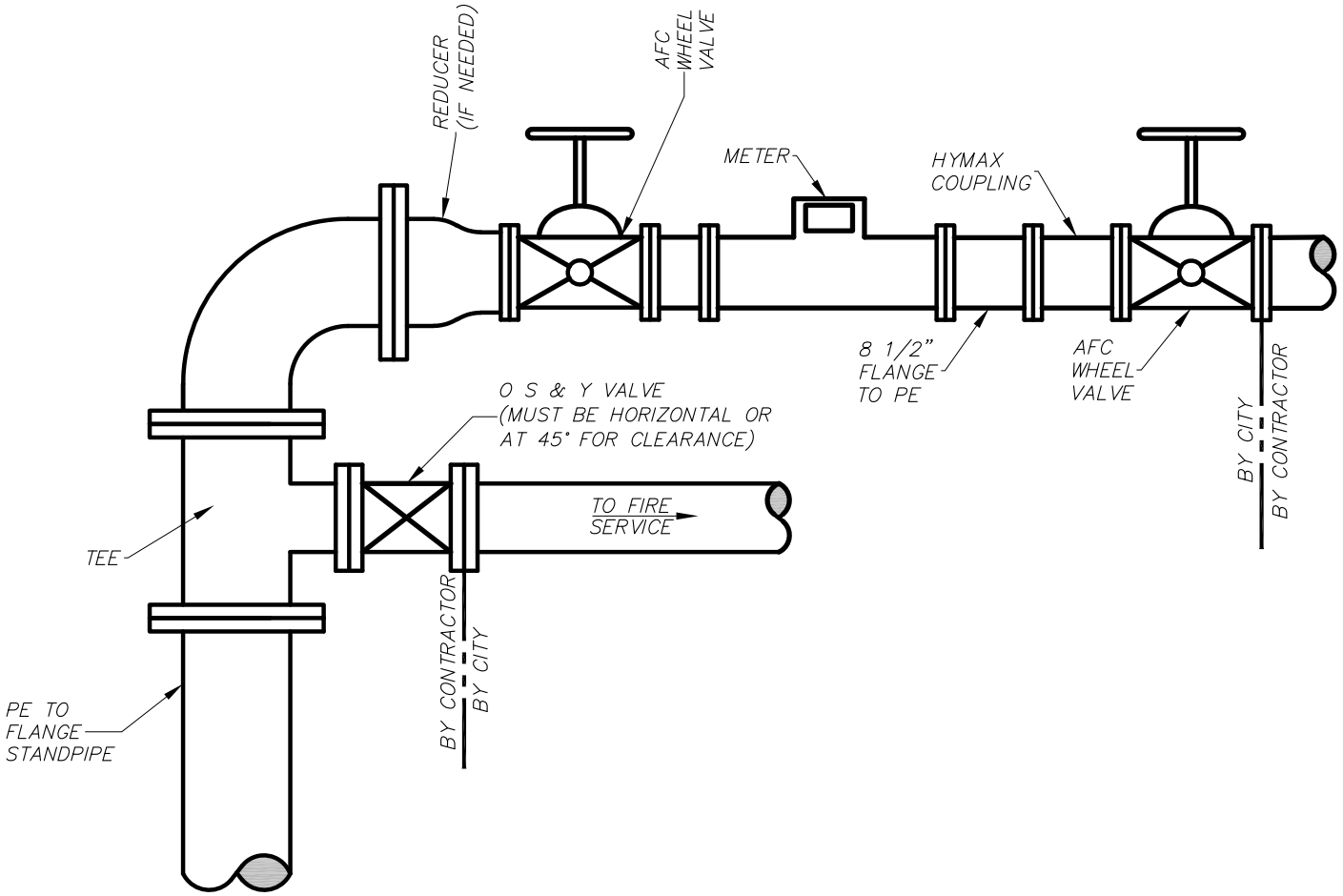
NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269–337–8454 WITH QUESTIONS.



THE CITY OF Kalamazoo	CITY OF KALAMAZOO Department Of Public Services TYPICAL FIRE SERVICE DETAIL HORIZONTAL SETTING 2" DOMESTIC 1" IRRIGATION	RECOMMENDED BY	DATE
		APPROVED BY	
		APPROVED BY	
		ACCEPTED BY	

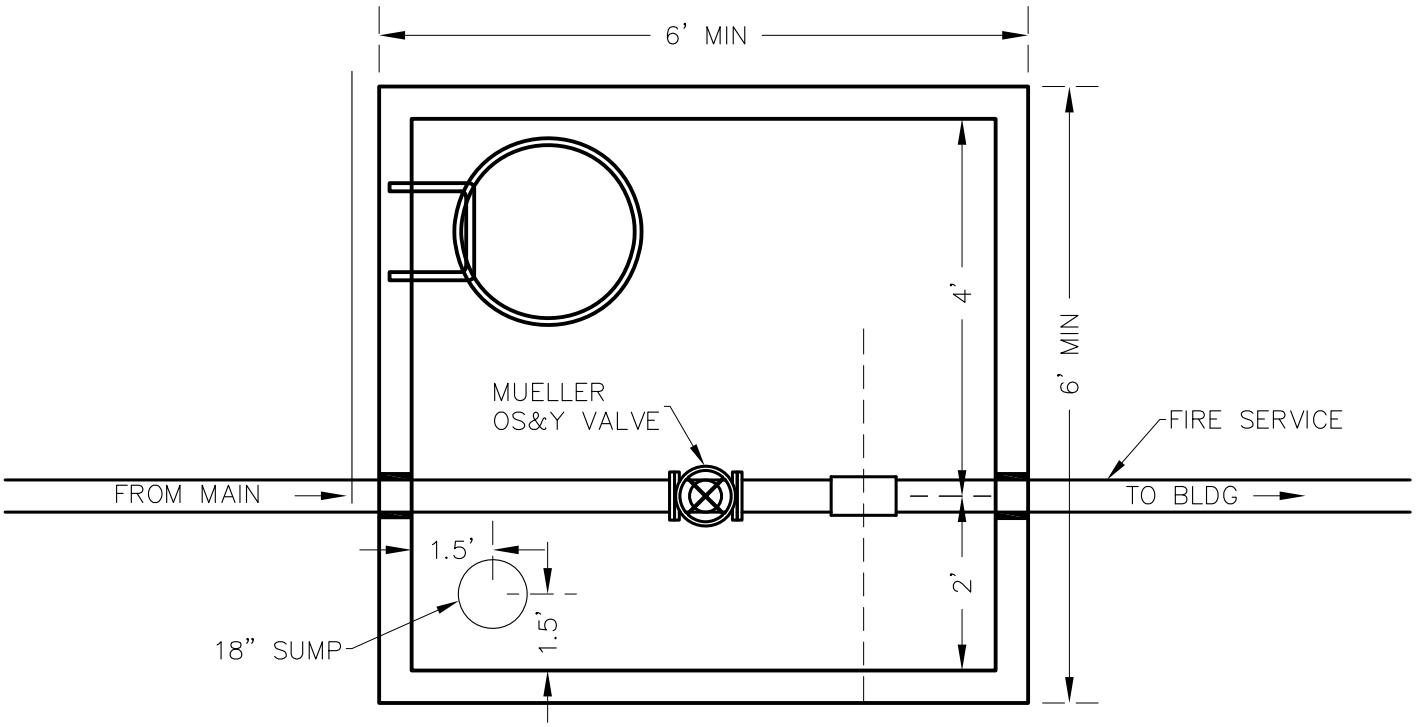
WS–15–A

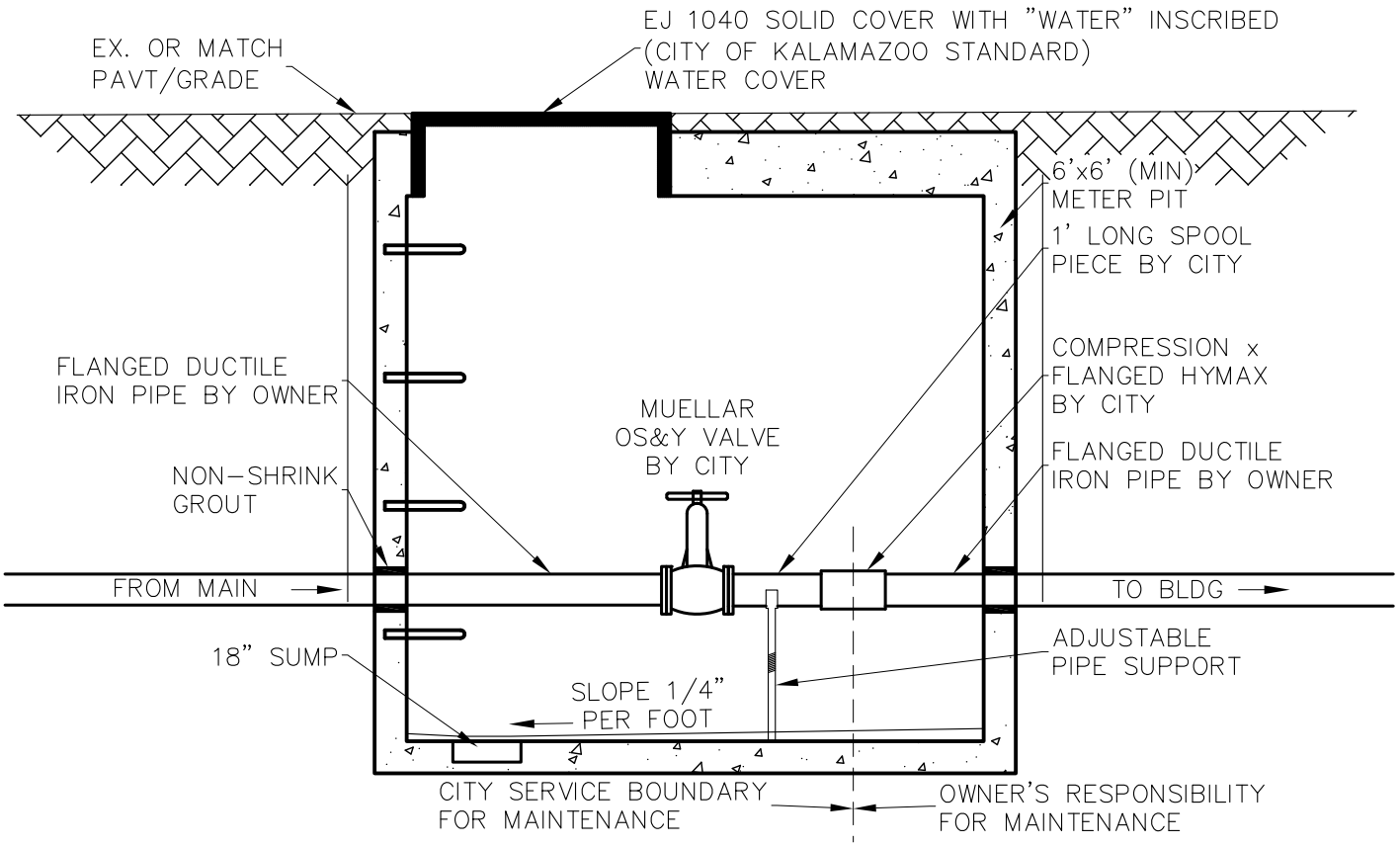
NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269–337–8454 WITH QUESTIONS.



THE CITY OF Kalamazoo	CITY OF KALAMAZOO Department Of Public Services TYPICAL FIRE SERVICE DETAIL HORIZONTAL SETTING W/3", 4", OR 6" DOMESTIC	RECOMMENDED BY APPROVED BY APPROVED BY ACCEPTED BY	DATE

WS–16–A





THE CITY OF Kalamazoo

CITY OF KALAMAZOO
Department Of Public Services

FIRE SERVICE IN PIT DETAIL

		DATE
RECOMMENDED BY		
APPROVED BY		
APPROVED BY		
ACCEPTED BY		

PERMITS/REPORTS

NPDES Permit
SME Report

VanderSalm Court
Water Main Replacement

Bid Reference #: 91360-010.0

September 2026

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
Authorized by Part 31, Water Resources Protection, of the
Natural Resources and Environmental Protection Act, 1994 PA 451, as Amended

CERTIFICATE OF COVERAGE (COC)

Under General Permit No. MIG080000
Groundwater Cleanup Wastewater General Permit

COC NO.:	MIG081302
DESIGNATED NAME:	Kalamazoo DPS - Burdick St Water Main GWCU
PERMITTEE:	City of Kalamazoo
ADDRESS:	415 East Stockbridge Avenue Kalamazoo, MI 49001

This COC authorizes the permittee to discharge treated construction dewatering water from the Kalamazoo DPS – Burdick Street Water Main facility located at 415 East Stockbridge Avenue, Kalamazoo, Michigan 49001, in Kalamazoo County. Consistent with the criteria and requirements established in General Permit No. MIG080000, the permittee is authorized to discharge the following:

2.16 MGD of treated construction dewatering water from Monitoring Point 001A through a storm sewer and Outfall 001. Outfall 001 discharges to Axtell Creek at Latitude 42.281099, Longitude -85.58019.

Sections of the General Permit applicable to this facility include: the cover pages, Part I.A.1., Part I.A.5., and Part I.A.17. through Part II. inclusive.

References in the General Permit to the Department shall be defined as the Kalamazoo District Supervisor of the Water Resources Division. The Kalamazoo District Office is located at 7953 Adobe Road, Kalamazoo, MI 49009-5025; Telephone: 269-567-3500; Fax: 269-567-9440.

Any person who is aggrieved by this COC may file a sworn petition with the Michigan Administrative Hearing System within the Department of Licensing and Regulatory Affairs, c/o the Michigan Department of Environment, Great Lakes, and Energy setting forth the conditions of the COC that are being challenged and specifying the grounds for the challenge. The Michigan Administrative Hearing System may reject any petition filed more than 60 days after issuance as being untimely.

The issuance of this COC does not authorize violation of any federal, state, or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other Department of Environment, Great Lakes, and Energy permits, or approvals from other units of government as may be required by law.

This COC is based on an application received on June 20, 2025, and completed on August 6, 2025. The permittee is subject to the conditions specified in General Permit No. MIG080000, issued October 30, 2024, expiring April 1, 2030. This COC may be modified, terminated, reissued, or revoked as allowed for in General Permit No. MIG080000.

This COC and the authorization to discharge shall expire at midnight on **April 1, 2030**. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application that contains such information, forms, and fees as are required by the Department by **October 1, 2029**.

This COC takes effect on October 1, 2025.

Issued September 30, 2025.

Original signed by Tarek Buckmaster
Tarek Buckmaster, Supervisor
Industrial Permits Unit
Permits Section
Water Resources Division

NPDES APPLICATION PACKAGE

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24G0124 HoltGeneralFormat FINAL 08 13 24 1125 (9 pages)
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National Pollutant Discharge Elimination System (NPDES) Industrial/Commercial Application Form

version 3.7

(Submission #: HQA-W1G7-7TQCV, version 3)

Details

Submission ID HQA-W1G7-7TQCV
Status Complete

Fees

Fee	$75.00
Payments/Adjustments	($75.00)
Balance Due	$0.00 (Paid)

NOTE ***(CREATED)***
Correction Request: 7-18-2025

Thank you for your application. Please provide clarification and/or corrections to the noted items. Please provide this information by August 1, 2025, if possible. Further processing of your application will be placed on hold until we receive the information and your application is considered complete. Please let me know if you have questions concerning this Correction Request or about how to revise the submission in MiEnviro.
Created on 7/11/2025 4:18 PM by **Hannah Schroeder-Larkins**

Form Input

Applicant Information

Applicant Information

Enter name of legal entity:

Organization Name
City of Kalamazoo

Phone Type	Number	Extension
Mobile	269-337-8000	

Email
jungd@kalamazoocity.org

Fax
NONE PROVIDED

Enter address of legal entity:

415 E Stockbridge Ave
Kalamazoo, MI 49001
United States

Facility Information

Facility/Site Name (Read Only)
Kalamazoo DPS - Burdick St Water Main GWCU

Facility Name 1 - Company Name
City of Kalamazoo

Facility Name 2 - Division Name
Department of Public Services - Water Resources Division

Facility Name 3 - Plant Name
Burdick St Water Main

Which of the following best describes this facility?
Local Government/District

Facility Location
42.27793800000000,-85.57789800000001

415 East Stockbridge Avenue, Kalamazoo, MI

Site/Facility Location Address

415 East Stockbridge Avenue
Kalamazoo, MI 49001

NAICS (North American Industry Classification System) code:
237110

SIC (Standard Industrial Classification) code:
1623

Is this facility a primary industry? Refer to Table 1 of the Appendix to make this determination.
No, this facility is not a primary industry.

Enter the name of the Local Unit of Government (LUG) in which the facility is located:
Kalamazoo

Provide an e-mail address for an appropriate LUG contact, such as a clerk, who can be notified about the public notice period:
cokcityclerk@kalamazoocity.org

CORRECTION REQUEST *(APPROVED)*
LUG Contact

The clerk for the City of Kalamazoo is Scott Borling. Please update the email address to cokcityclerk@kalamazoocity.org.
Created on 7/14/2025 11:20 AM by **Hannah Schroeder-Larkins**

Does the facility have an EGLE-certified operator at the appropriate level?
YES

Contacts (1 of 3)

Additional Instructions for completing this portion of the application are provided in the Appendix.

Appendix to the Permit Application

CONTACTS

At a minimum the following contact types are required:

Annual Permit Billing Contact
Application Contact
Facility Contact
DMR Contact
Certified Operator

- If a single person has multiple roles, please enter that person's information once and assign them multiple roles.
- To add additional contacts, use the "Add New" button at the bottom of this page, or select "Duplicate" to copy the contact informa and edit a portion of the contact fields.

Contact
DMR Contact
Application Contact

Required Contact Types:

At minimum the following contact types must be provided:

Annual Permit Billing Contact; Application Contact; Facility Contact; DMR Contact; Certified Operator

Contact Information

Prefix
NONE PROVIDED

First Name	Last Name
Jeffrey	Lanier

Title
Project Director

Organization Name
SME

Phone Type	Number	Extension
Mobile	5864053521	

Email
Jeff.Lanier@sme-usa.com

Fax
NONE PROVIDED

Address
15825 Leone Drive
Macomb, MI 48042
United States

Contacts (2 of 3)

Additional Instructions for completing this portion of the application are provided in the Appendix.

Appendix to the Permit Application

CONTACTS

At a minimum the following contact types are required:

Annual Permit Billing Contact
Application Contact
Facility Contact
DMR Contact
Certified Operator

- If a single person has multiple roles, please enter that person's information once and assign them multiple roles.
- To add additional contacts, use the "Add New" button at the bottom of this page, or select "Duplicate" to copy the contact informa and edit a portion of the contact fields.

Contact
Annual Permit Billing Contact
Facility Contact
Application Contact
DMR Contact
Off-Season Contact
Certified Operator
Storm Water Operator

Required Contact Types:

At minimum the following contact types must be provided:

Annual Permit Billing Contact; Application Contact; Facility Contact; DMR Contact; Certified Operator

Contact Information

Prefix
NONE PROVIDED

First Name	Last Name
Eric	Sajtar

Title
Civil Engineer

Organization Name
City of Kalamazoo

Phone Type	Number	Extension
Business	269-337-8533	

Email
sajtare@kalamazoocity.org

Fax
NONE PROVIDED

Address
415 East Stockbridge Avenue
Kalamazoo, MI 49001
United States

Certification Number(s)
C-14989, I-10281, W 6491

Certification Classification(s)
A-1j, A-1i, A-2b, A-2d, B-3b

Contacts (3 of 3)

Additional Instructions for completing this portion of the application are provided in the Appendix.

Appendix to the Permit Application

CONTACTS

At a minimum the following contact types are required:

Annual Permit Billing Contact
Application Contact
Facility Contact
DMR Contact
Certified Operator

- If a single person has multiple roles, please enter that person's information once and assign them multiple roles.
- To add additional contacts, use the "Add New" button at the bottom of this page, or select "Duplicate" to copy the contact informa and edit a portion of the contact fields.

Contact
Application Contact
Other: Project Engineer

Required Contact Types:

At minimum the following contact types must be provided:

Annual Permit Billing Contact; Application Contact; Facility Contact; DMR Contact; Certified Operator

Contact Information

Prefix
NONE PROVIDED

First Name	Last Name
Alex	Phelan

Title
Project Manager

Organization Name
Hurley and Stewart

Phone Type	Number	Extension
Mobile	269-757-6259	

Email
aphelan@hurleystewart.com

Fax
NONE PROVIDED

Address
2800 South 11th Street
Kalamazoo, MI 49009
United States

Antidegradation

Will this discharge represent an increased loading of pollutants to the surface waters of the state?
YES

Is the increased loading of pollutants exempt from Antidegradation Demonstration?
YES -- Select the exemption(s) that applies from the Exemptions List below

Reasons for exemption from antidegradation demonstration (Select all that apply):
A) A short-term (weeks to months) or temporary lowering of water quality
H) Discharges authorized by Certificates of Coverage (COC) and Notices of Coverage

CORRECTION REQUEST *(APPROVED)*
Antidegradation

As the discharge can be authorized under a Certificate of Coverage, please also indicate Item H Discharges authorized by a Certificate of Coverage or Notice of Coverage as an exemption.
Created on 7/14/2025 11:21 AM by **Hannah Schroeder-Larkins**

Additional Information

Other Environmental Permits

Provide the information requested in the table for any other federal, state, or local environmental permits in effect or applied for at the time of submittal of this Application, including, but not limited to, permits issued under any of the following programs: Air Pollution Control, Hazardous Waste Management, Wetlands Protection, Soil Erosion and Sedimentation Control, and other NPDES permits.

Other Environmental Permits (Hit 'Add Row' for each environmental permit)

Issuing Agency:	Permit or COC Number:	Permit type:
NONE PROVIDED	*NONE PROVIDED*	*NONE PROVIDED*

WATER FLOW DIAGRAM

Figure No. 1_Discharge Points _093008.01_AUG012025.pdf - 08/01/2025 04:46 PM
Treatment_Process_Layout_Example.pdf - 08/01/2025 04:47 PM

Comment

NONE PROVIDED

CORRECTION REQUEST *(APPROVED)*

Water Flow Diagram

Please provide a flow diagram showing the wastewater flow through the facility (from intake through discharge), including all processes and treatment units used for wastewater treatment or storage.
Created on 7/14/2025 11:27 AM by **Hannah Schroeder-Larkins**

1 COMMENT

JoBeth Peterson (jobeth.peterson@sme-usa.com) (8/1/2025 4:48 PM)
The attached treatment process is similar to what we expect for the project, but the final design will be complete once the dewatering contractor is confirmed.

�Surface waters of the state� means all the following: The Great Lakes and their connecting waters, all inland lakes, rivers, streams, impoundments, open drains, wetlands, and other surface bodies of water within the confines of the state but does not include drainage ways and ponds used solely for wastewater conveyance, treatment, or control. A storm sewer is not a surface water of the state.

NARRATIVE

093008.01_08012025_Project_Narrative.pdf - 08/01/2025 05:42 PM
Treatment_Process_Layout_Example.pdf - 08/01/2025 05:43 PM

Comment

NONE PROVIDED

CORRECTION REQUEST *(APPROVED)*

Narrative

Based on the information provided, GAC treatment will be required prior to discharge. Please provide additional information on the GAC treatment system. Additionally, please provide a brief history on the contamination in the area.
Created on 7/14/2025 11:29 AM by **Hannah Schroeder-Larkins**

1 COMMENT

JoBeth Peterson (jobeth.peterson@sme-usa.com) (8/1/2025 5:45 PM)
The attached treatment process is similar to what we expect for the project, but the final design will be complete once the dewatering contractor is confirmed. The source of the contamination is unknown.

MAP OF FACILITY AND DISCHARGE LOCATION

Figure No. 1_Discharge Points _093008.01_AUG012025.pdf - 08/01/2025 04:49 PM

Comment

NONE PROVIDED

CORRECTION REQUEST *(APPROVED)*

Discharge Points

Based on the map provided, it appears that there are 6 discharge points along the storm sewer where construction dewatering wastewater will be discharged. Can you confirm that this is correct? Additionally, please provide additional information on the receiving water, Axtell Creek. Is this a natural waterbody or a county drain?
Created on 7/18/2025 2:39 PM by **Hannah Schroeder-Larkins**

2 COMMENTS

JoBeth Peterson (jobeth.peterson@sme-usa.com) (8/1/2025 5:01 PM)
Axtell Creek is a natural waterbody, not a county drain. It discharges into Portage Creek.

JoBeth Peterson (jobeth.peterson@sme-usa.com) (8/1/2025 5:01 PM)
There are 9 potential discharge points. The plan is to use one catch basin at a time as the constructions moves along Burdick St.

Laboratory Services (1 of 1)

Laboratory:Metiri

To add additional laboratories, please use the ﷺAdd New Sectionﷺ button at the bottom of this page, or select ﷺDuplicate Sectionﷺ to copy the laboratory information and edit a portion of the fields.

Laboratory Name
Metiri

Lab Type
Contract Laboratory

Laboratory Street Address
1914 Holloway Dr
Holt, MI 48842

Laboratory Phone
517-699-0345

Laboratory Email
NONE PROVIDED

Analyses Performed
VOCs, PNAs, PCBs, Metals, PFOS, PFOA, Ammonia, SGT-HEM, CN, CBOD, TSS, pH

Water Source and Discharge Type

1. WATER SUPPLY INFORMATION

Identify all water sources entering the facility and treatment systems, and provide average flows. The volume may be estimated from water supply meter readings, pump capacities, etc. Provide the name of the source where appropriate (e.g., Grand River, Lake Michigan, City of Millpond, etc.).

Water Supply Type	Name and Location of Source	Average Volume or Flow Rate	Units
Other: Dewatering Wells	Water Main construction at South Burdick Street near the intersection of East Crosstown Parkway	1500	Other: GPM

2. WATER DISCHARGE INFORMATION

Select all wastewater types discharged from this facility.
Other: Dewatering for construction
Groundwater Cleanup

CORRECTION REQUEST *(APPROVED)*
Water Discharge Information

Please also select "groundwater cleanup wastewater" as this will generate an additional set of questions that will need to be answered.
Created on 7/14/2025 11:33 AM by **Hannah Schroeder-Larkins**

Identify water discharged by the facility and treatment systems, and provide average flows. If water is first used for one purpose and then is subsequently used for another purpose, indicate the type and amount of the last use. For example, if the water is initially used for noncontact cooling water and then for process water, indicate the amount of process water. The amount of water from sources should approximate the amount of water usage. If the amounts are different,

provide an explanation.

Discharge Type	Average Flow Rate	Units
Other: Dewatering	1500	Other: GPM

Briefly explain why the combined water from all sources does not equal the total approximate water usage, if applicable.
NONE PROVIDED

3. PRELIMINARY COOLING WATER QUESTIONS

Does the facility use water for cooling purposes?
NO

4. WHOLE EFFLUENT TOXICITY (WET) TESTS.

Have any acute or chronic WET tests been conducted on any discharge(s) or receiving water(s) in relation to this facility's discharge within the last three (3) years? This includes WET tests conducted for water treatment additive approval.
NO

Is the groundwater contaminated with petroleum compounds characterized by benzene, ethylbenzene, toluene, and xylenes (BTEX)?
YES

CORRECTION REQUEST *(APPROVED)*
Groundwater Cleanup Questions

Please answer "yes" to this question, as there is known petroleum contamination in the groundwater at sites in the area surrounding the dewatering project.
Created on 8/6/2025 3:20 PM by **Hannah Schroeder-Larkins**

Is the groundwater contaminated with kerosene and/or diesel fuel?
NO

What type of groundwater treatment method is this facility using? If more than one treatment method is being used, identify the FINAL treatment method in the sequence:
Multi-Stage Activated Carbon

Is in-situ bioremediation with nutrient addition being used in conjunction with the selected treatment method?
NO

Is chlorine used in the operation and maintenance of the treatment system and subsequently discharged?
NO

Analytical Data Required for Certain Wastewater Types

Attach Required Analytical Results or Estimates for Groundwater Cleanup Discharges
Copy of A21804 report QC COC CN.pdf - 08/01/2025 05:50 PM
24G0124 HoltGeneralFormat FINAL 08 13 24 1125.pdf - 08/01/2025 05:50 PM
Comment
NONE PROVIDED

Outfall Information and Effluent Characteristics (1 of 1)

Outfall:001 Receiving water:Axtell Creek

1. OUTFALL INFORMATION

Enter the outfall number (e.g., 001):
001

Outfall Description
Storm Sewer

Enter the name of the receiving water:
Axtell Creek

Outfall
42.281547,-85.578535

2. TYPE OF WASTEWATER DISCHARGED THROUGH THIS OUTFALL

Type(s) of Wastewater Discharged (check all that apply to this outfall):
Other (see Table 8 ◆ Other Common Types of Wastewater, in the Appendix)
Groundwater Cleanup

CORRECTION REQUEST *(APPROVED)*
Types of Wastewater Discharged

Please also select "groundwater cleanup wastewater".
Created on 7/14/2025 11:34 AM by **Hannah Schroeder-Larkins**

3. FLOW

DEFINITIONS: A facility is considered to have a SEASONAL discharge if wastewater is treated AND STORED throughout a portion of the year and then discharged over a specified period or periods of days, weeks, or months. Batch process discharges are not seasonal discharges. Any facility that does not discharge seasonally is considered to have a CONTINUOUS discharge. Batch discharges are a type of continuous discharge.

Is the discharge continuous or seasonal?
Continuous

What maximum daily flow rate are you requesting authorization to discharge from this outfall during the next five years? Enter a numeric value only based on the units Million Gallons Per Day. If the requested flow rate is less than 1,000 gallons per day, please enter a minimum of "0.001".
2.16

How often is there a discharge from this outfall (on average)?

Hours per day:	Days per year:
24	60

Does this outfall have batch discharges?
NO

4. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE

The information requested below is used to determine the applicable federal regulations for this facility. For each industrial process at the facility, provide the name, the SIC or the NAICS code, and a brief description of the process. As part of each description, identify a reasonable measure of the facility's actual long-term daily production and average number of production days per year. In many cases, this is the average daily or average annual production rate from the last five years. Some federal regulations require that certain industries report different information, depending on the type of process. The Summary of Information to Be Reported by Industry Type, pages 10-11 of the Appendix, includes an abbreviated list of industrial categories and their specific Application requirements. If the industrial process does not have specific Application requirements and recent long-term production rates are not an appropriate measure of future production, report the expected annual production rate for the next five (5) years, or for the life of the permit.
Appendix to the Permit Application

PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE

Name of the process contributing to the discharge	SIC or NAICS code:	Describe the process and provide measures of production:
Water Main Construction	1623	Dewatering to lower groundwater table for construction

5. EFFLUENT CHARACTERISTICS - CONVENTIONAL POLLUTANTS

Please confirm that you have read the statements above.
I CONFIRM

Effluent Characteristics - Conventional Pollutants

Conventional Pollutants	HOW ARE RESULTS PROVIDED?	Waiver Information	Provide Rationale Here to Support Waiver Request
Biochemical Oxygen Demand - five day (BOD5)	NONE	I request a waiver for this parameter based on the following rationale:	CBOD5 data is provided in lab report.
Chemical Oxygen Demand (COD)	NONE	I request a waiver for this parameter based on the following rationale:	CBOD5 data is provided. Source of water is groundwater from dewatering. No significant amount of organic material is anticipated.
Total Organic Carbon (TOC)	NONE	I request a waiver for this parameter based on the following rationale:	Source of water is groundwater from dewatering. No significant amount of organic material is anticipated.
Ammonia Nitrogen (as N)	LAB REPORT		
Total Suspended Solids	LAB REPORT		
Temperature, Summer	LAB REPORT		
Temperature, Winter	NONE	I request a waiver for this parameter based on the following rationale:	Water main work is anticipated in the spring/summer. Source of water is groundwater from dewatering.
pH	LAB REPORT		
Total Dissolved Solids	NONE	Waiver request not required.	
Total Phosphorus (as P)	NONE	Waiver request not required.	
Fecal Coliform Bacteria	NONE	Waiver request not required.	
Escherichia coli	NONE	Waiver request not required.	
Total Residual Chlorine	NONE	Waiver request not required.	
Dissolved Oxygen	NONE	Waiver request not required.	
Oil & Grease	NONE	Waiver request not required.	

CORRECTION REQUEST *(APPROVED)*
Conventional Pollutants

Results for Oil & Grease were not included in the attached lab report. Please either upload these results or request a waiver.
Created on 7/14/2025 11:35 AM by **Hannah Schroeder-Larkins**

Please attach lab reports for conventional pollutants here.
24G0124 HoltGeneralFormat FINAL 08 13 24 1125.pdf - 03/14/2025 12:37 PM
Copy of A21804 report QC COC CN.pdf - 03/14/2025 12:37 PM
Comment
The attached lab reports are for one sample collected from a temporary well and the water was not treated prior to collection. Please refer to the project narrative for the location of collected sample.

6. EFFLUENT CHARACTERISTICS - TOXIC POLLUTANTS

Instructions: Carefully review each of the toxic pollutant groups below and respond as appropriate. For guidance concerning test procedures, see Part II.B.2. of your NPDES permit.

Tables 1 – 6, referenced below, are located in the Appendix.

Do you have analytical results of this type to report?
NO

Do you have analytical results of this type to report?
NO

Do you have analytical results of this type to report?
NO

ADDITIONAL TOXIC AND OTHER POLLUTANT INFORMATION

All existing industries, regardless of discharge type, are required to provide the results of at least one analysis for any chemical listed in Table 4 known or believed to be present in the facility's effluent, and a measured or estimated effluent concentration for any chemical listed in Table 5 known or believed to be present in the facility's effluent. In addition, submit the results of any effluent analysis performed within the last three years for any chemical listed in Tables 4 and 5.

Do you have analytical results of this type to report?
NO

Water Treatment Additives

Water Treatment Additives (WTAs)

Approvals to use WTAs are authorized by the Michigan Department of Environment, Great Lakes, and Energy under separate correspondence. Issuance of a permit/COC does not authorize the use of water treatment additives. Written approval from the Department must be obtained prior to using water treatment additives at the facility.

Water treatment additives (WTAs) include any material that is added to water used at the facility or to wastewater generated by the facility to condition or treat the water. Examples of WTAs include biocides, flocculants, water conditioners, pH adjusting agents, etc.

Are any WTAs added to water used at the facility or to wastewater generated by the facility?
NO

PFAS

"Surface waters of the state" means all of the following: The Great Lakes and their connecting waters, all inland lakes, rivers, streams, impoundments, open drains, wetlands, and other surface bodies of water within the confines of the state but does not include drainage ways and ponds used solely for wastewater conveyance, treatment, or control.

1. Is this facility known to have PFOS and/or PFOA present in wastewater discharged to surface waters of the state?
YES

2. Is this facility a landfill for solid or hazardous waste with a discharge of leachate to a surface water of the state?
NO

3. Is this facility a metal finisher that discharges wastewater associated with this activity to a surface water of the state?
NO

4. Is the discharge from the remediation of a contaminated site to a surface water of the state?
YES

CORRECTION REQUEST *(APPROVED)*
PFAS Questions

Please also select "yes" to question 4, as this is a groundwater cleanup site.
Created on 7/14/2025 11:37 AM by **Hannah Schroeder-Larkins**

4a.---------Is the remediation site an active or closed solid waste landfill?
NO

4b.----------Were any of the following performed at the facility being remediated: Hexavalent chrome plating; chromate conversion coating; leather tanning; paper/cardboard/paperboard manufacturing; paint formulation/manufacturing; AFFF use, training, and/or storage; or chemical manufacturing?
NO

4c.----------Is the source of contamination currently unknown?
YES

5. Does the facility manufacture paper, corrugated paper, cardboard, paperboard, or packaging paper (coated or uncoated), and discharge wastewater associated with this activity to a surface water of the state?
NO

6. Does the facility conduct car washing as all or part of its operations and discharge car wash wastewater to a surface water of the state?
NO

7. Is this facility a commercial industrial laundry that discharges wastewater associated with this activity to a surface water of the state?
NO

8. Is this facility a chemical manufacturer with a discharge of wastewater associated with this activity to a surface water of the state?
NO

9. Has Aqueous Film-Forming Foam (AFFF) ever been used at the facility for training or testing, or to respond to a fire emergency? Has AFFF ever been stored at this facility? If yes to either, please select "YES."
NO

10. Does this facility manufacture, formulate, or mix paints/pigments and discharge wastewater from these operations to a surface water of the state?
NO

11. Does this facility have a discharge from a leather or hide tanning/finishing operation to a surface water of the state?
NO

12. Does this facility perform carpet and/or upholstery cleaning and discharge wastewater from these operations to a surface water of the state?
NO

13. Is the facility a carpet, rug, or textile manufacturer that discharges wastewater associated with this activity to a surface water of the state?
NO

14. Is this facility a centralized waste treater? Centralized Waste Treaters treat or recover metal-bearing, oily, and organic wastes, wastewater, or used material received from off site, and are regulated under 40 CFR Part 437.
NO

15. Does this facility apply a stain-, dirt-, water-, or fire-resistant coating and/or protectant, and discharge wastewater associated with this activity to a surface water of the state?
NO

One or more responses within this section require the submittal of PFAS sample results, and a space to attach these is provided below.

Consult the General PFAS Sampling Guidance and Wastewater PFAS Sampling Guidance available to ensure that appropriate sample collection, handling, and analytical methods are used. Consult the PFAS Minimum Laboratory Analyte List at the link below to identify the 28 analytes you are required to sample.

PFAS ANALYTICAL RESULTS
24G0124 HoltGeneralFormat FINAL 08 13 24 1125.pdf - 03/14/2025 12:41 PM
Comment
NONE PROVIDED

Storm Water

Please confirm that you have read all terms and their definitions above:
I Confirm

Is the storm water from this facility discharged to a surface water of the state, either directly or through another conveyance such as a municipal separate storm sewer system? IMPORTANT: You may select "NO" here ONLY IF the storm water is discharged to a municipal combined storm sewer system, a municipal wastewater treatment system, or a privately-owned activated sludge treatment system.
YES

The applicant must determine whether this facility is engaged in a regulated “industrial activity” as defined in 40 CFR 122.26(b)(14).

TO MAKE THIS DETERMINATION, carefully review the Primary Activities & Standard Industrial Classification (SIC) Codes document.

Please confirm that you have reviewed the document referenced above.
I Confirm

Is this facility engaged in a regulated “industrial activity” according to the document referenced above?
NO

Other Information

Under Michigan law, EGLE has 180 days from receipt of a complete application in which to completely process the application. That said, if you need your permit expedited, please indicate the desired permit effective date below and we will make every effort to accommodate your request. Keep in mind that the more quickly and accurately you respond to requests from EGLE for information needed to complete your application, including requests to correct or clarify your application, the more likely it is that EGLE will be able to accommodate your request to expedite your permit. My desired permit effective date is:
NONE PROVIDED

Comments (As needed)
NONE PROVIDED

Additional Documents (As needed)
NONE PROVIDED
Comment
NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
8/1/2025 5:50 PM	24G0124 HoltGeneralFormat FINAL 08 13 24 1125.pdf	Attachment	JoBeth Peterson
8/1/2025 5:50 PM	Copy of A21804 report QC COC CN.pdf	Attachment	JoBeth Peterson
8/1/2025 5:43 PM	Treatment_Process_Layout_Example.pdf	Attachment	JoBeth Peterson
8/1/2025 5:42 PM	093008.01_08012025_Project_Narrative.pdf	Attachment	JoBeth Peterson
8/1/2025 4:49 PM	Figure No. 1_Discharge Points _093008.01_AUG012025.pdf	Attachment	JoBeth Peterson
8/1/2025 4:47 PM	Treatment_Process_Layout_Example.pdf	Attachment	JoBeth Peterson
8/1/2025 4:46 PM	Figure No. 1_Discharge Points _093008.01_AUG012025.pdf	Attachment	JoBeth Peterson
3/14/2025 12:41 PM	24G0124 HoltGeneralFormat FINAL 08 13 24 1125.pdf	Attachment	JoBeth Peterson
3/14/2025 12:37 PM	Copy of A21804 report QC COC CN.pdf	Attachment	JoBeth Peterson
3/14/2025 12:37 PM	24G0124 HoltGeneralFormat FINAL 08 13 24 1125.pdf	Attachment	JoBeth Peterson

Status History

	User	Processing Status
8/6/2025 3:44:42 PM	JoBeth Peterson	Draft
8/6/2025 3:45:57 PM	JoBeth Peterson	Submitting
8/6/2025 3:46:24 PM	JoBeth Peterson	Submitted
8/6/2025 3:46:32 PM	JoBeth Peterson	In Process
10/14/2025 7:37:09 AM	Hannah Schroeder-Larkins	Complete

Revisions

Revision	Revision Date	Revision By
Revision 1	3/5/2025 12:35 PM	JoBeth Peterson
Revision 2	7/22/2025 11:28 AM	JoBeth Peterson
Revision 3	8/6/2025 3:44 PM	JoBeth Peterson

Metiri Group - Holt
1914 Holloway Dr, Holt, MI 48842 - Phone (517) 699-0345 - www.metirigroup.com

August 13, 2024

Aaron Reed
Soil and Materials Engineers, Inc. - Kalamazoo
3301 Tech Circle Drive
Kalamazoo, MI 49008-5611

RE: City of Kalamazoo Dewatering
24G0124

Thank you for selecting Metiri Group - Holt as your analytical laboratory. The samples submitted have been analyzed in accordance with all method and NELAC standards, as applicable. Any exceptions to compliance are noted in the report.

Please note that TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results, or if we may be of further assistance to you, please contact us at (517) 699-0345.

Sincerely,



Jacob Sutherlund
Project Manager
jacob.sutherlund@metirigroup.com
517-273-4922

Table of Contents

Cover Letter	1
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Metiri Group - Holt - 1914 Holloway Dr, Holt, MI 48842

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
24G0124-01	B5	Water	07/22/2024 11:10	07/23/2024

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Metiri Group - Holt - 1914 Holloway Dr, Holt, MI 48842

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

Sample Results

Sample: B5

24G0124-01 (Water)

	Analyte	Result	/Qual	PQL	Units	Date Analyzed	DF	Method	Prep Batch
Per- and Polyfluoroalkyl Substances									
1	PFOA	1.9		0.80	ng/L	08/09/24	1	EPA 537M	BDH0028
2	PFOS	3.0		0.80	ng/L	08/09/24	1	EPA 537M	BDH0028
Extracted Internal Standards (EIS): 13C8-PFOA		*79%*		*40-130*		*08/09/24*	*1*	*EPA 537M*	
Extracted Internal Standards (EIS): 13C8-PFOS		*49%*		*40-130*		*08/09/24*	*1*	*EPA 537M*	

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Soil and Materials Engineers, Inc. - Kalamazoo
3301 Tech Circle Drive
Kalamazoo, MI 49008-5611

Project: City of Kalamazoo Dewatering
Project Number: 093008.00
Project Manager: Aaron Reed
Reported: 08/13/2024 11:25

PREPARATION BATCH SUMMARY

EPA 537M

Laboratory: Metiri Group - Holt
Client:
Batch: BDH0028 Batch Matrix: Water Preparation: 537M

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
B5	24G0124-01RE1	08/01/24 11:16	260.0000	2
Blank	BDH0028-BLK1	08/09/24 09:02	250.0000	2
LCS	BDH0028-BS1	08/09/24 09:02	250.0000	2
LCS Dup	BDH0028-BSD1	08/09/24 09:02	250.0000	2

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

Quality Control

Per- and Polyfluoroalkyl Substances

Analyte	Result/ Qual	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Method: EPA 537M									
Batch: BDH0028 - 537M									
Blank (BDH0028-BLK1)					Prepared & Analyzed: 08/09/24 18:31				
PFOA	ND	0.80	ng/L						
PFOS	ND	0.80	ng/L						
Extracted Internal Standards (EIS): 13C8-PFOA	*14*		*ng/L*	*16.0*		*87*	*40-130*		
Extracted Internal Standards (EIS): 13C8-PFOS	*12*		*ng/L*	*15.3*		*78*	*40-130*		
LCS (BDH0028-BS1)					Prepared & Analyzed: 08/09/24 18:45				
PFOA	17	0.80	ng/L	16.0		104	70-150		
PFOS	15	0.80	ng/L	14.9		98	55-150		
Extracted Internal Standards (EIS): 13C8-PFOA	*14*		*ng/L*	*16.0*		*86*	*40-130*		
Extracted Internal Standards (EIS): 13C8-PFOS	*11*		*ng/L*	*15.3*		*75*	*40-130*		
LCS Dup (BDH0028-BSD1)					Prepared & Analyzed: 08/09/24 18:58				
PFOA	15	0.80	ng/L	16.0		91	70-150	13	30
PFOS	14	0.80	ng/L	14.9		94	55-150	4	30
Extracted Internal Standards (EIS): 13C8-PFOA	*11*		*ng/L*	*16.0*		*69*	*40-130*		
Extracted Internal Standards (EIS): 13C8-PFOS	*9.2*		*ng/L*	*15.3*		*60*	*40-130*		

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
MDL	Method Detection Limit (only displays if reported to the MDL)
ND	Analyte NOT DETECTED at or above the reporting limit.
DF	Dilution Factor
DL	Detection Limit
‡	Parameter not included in NELAC Scope of Analysis.

Soil pH measured in water at degree C

RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.

PQL, Practical Quantitation Limit = Method Reporting Limit (MRL).

Accreditation Number(s):
MI001292024-1

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Metiri Group - Holt - 1914 Holloway Dr, Holt, MI 48842

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

WORK ORDER

24G0124

Printed: 08/13/2024 11:25 am

Project: **City of Kalamazoo Dewatering**
Project Number: **093008.00**
Project Manager: **Jacob Sutherlund**
PO Number:

Report To:

Soil and Materials Engineers, Inc. - Kalamazoo
Aaron Reed
3301 Tech Circle Drive
Kalamazoo, MI 49008-5611
Phone: 2693233555
Fax: 2693233553

Invoice To:

Soil and Materials Engineers, Inc. - Kalamazoo
Aaron Reed
3301 Tech Circle Drive
Kalamazoo, MI 49008-5611
Phone: 2693233555
Fax: 2693233553

Date Received: 07/23/2024 04:11 PM
Date Due: 08/01/2024 (7.00 day TAT)

Logged In By: Tristen Rhines
Received By: Kelly Williams

Analysis		Comments
24G0124-01 B5 [Water] Sampled 7/22/2024 11:10:00AM		
537M-MI	PFOA/PFOS only	PFOA/PFOS only

24G0124 **Sample Receipt Log**

Default Cooler

Samples Received at: **1.3°C**

Were Custody Seals present and signed?	No	Container/preservative correct for test requested?	Yes
Received on Ice and within proper temp?	Yes	Sufficient amount sent for tests requested?	Yes
Were all Air Hg and PCB tubes received at ambient?	No	Required containers sealed in separate bags?	No
Were all TO-15 samples received at ambient?	No	Were all samples inspected and sampled correctly?	Yes
Was a chain of custody received?	Yes	Were bubbles absent in volatile samples?	No
COCs complete/signed in the appropriate places?	Yes	Sufficient remaining holding time for analyses?	Yes
Were all samples listed on COC received?	Yes	If Applicable pH documented for necessary samples?	No
Did all samples/container labels agree with COCs?	Yes	If applicable, was the chlorine test negative?	No
Did all containers arrive in good condition?	Yes	If applicable, samples free of oxidizers?	No
Containers Intact	Yes	Thermometer # : 10003954 used?	Yes

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

9/9

24G0124 Holt General Format FINAL 08 13 24 1125

Fibertec environmental services

Analytical Laboratory

1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

Geoprobe

11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody # 225537
PAGE ___ of ___

Client Name: SME
Contact Person: AARON REED
Project Name/ Number: CITY OF KZOO DEWATERING / 093008.00
Email distribution list: AARON.REED@SME-USA.COM
Quote# SME 021824-CITY OF KALAMAZOO DEWATERING
Purchase Order#

Date	Time	Sample #	Client Sample Descriptor	MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS	HOLD SAMPLE
7/22/24	11:10		B5	GW	15		

Matrix Code: S Soil; A Air; O Oil; P Wipe; GW Ground Water; SW Surface Water; WW Waste Water; X Other: Specify

Deliverables: Level 2; Level 3; Level 4; EDD

Remarks: SEE QUOTE

Received By Lab
JUL 23 2024
Initials: KW

Comments:

Sampled/Relinquished By: ANTHONY HOSBEIN	Date/ Time 7/22/24 1315	Received By: SME COLD STORAGE
Relinquished By: SME COLD STORAGE	Date/ Time 7-23-24 11:14	Received By:
Relinquished By:	Date/ Time 7-23-24 16:11	Received By Laboratory: 11e:20

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

___1 bus. day ___2 bus. days ___3 bus. days ___4 bus. days

X 5-7 bus. days (standard) Other (specify time/date requirement):

LAB USE ONLY 24G0124

Fibertec project number: A21804

Temperature upon receipt at Lab: 1.3°C

Received On Ice

Please see back for terms and conditions

Fibertec environmental services
A METIRI GROUP COMPANY

Wednesday, August 7, 2024

Fibertec Project Number:	A21804
Project Identification:	City Of Kzoo Dewatering/093008.00 /093008.00
Submittal Date:	07/23/2024

Mr. Aaron Reed
Soil and Materials Engineers, Inc. - Kalamazoo
3301 Tech Circle Drive
Kalamazoo, MI 49008-5611

Dear Mr. Reed,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

The data associated for the PFAS analysis was performed by Metiri Holt in report 24G0124. This report will be sent in a separate email once completed.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Katherine Jones at 9:36 AM, Aug 07, 2024

For Robert J. Morelli
Director of Laboratory Operations

Enclosures

Fibertec environmental services

A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A21804
Laboratory Sample Number: A21804-001

Order: A21804
Date: 08/07/24

Client Identification:	**Soil and Materials Engineers, Inc. - Kalamazoo**	Sample Description:	**B5**	Chain of Custody:	**225537**
Client Project Name:	**City Of Kzoo Dewatering/093008.00**	Sample No:		Collect Date:	**07/22/24**
Client Project No:	**093008.00**	Sample Matrix:	**Ground Water**	Collect Time:	**11:10**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Total **Aliquot ID: A21804-001G** **Matrix: Ground Water**
Method: ASTM D7511-12 **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Cyanide, Total	**8.3**		µg/L	5.0	1.0	07/29/24	PW24G29A	07/29/24	WQ24G29A	MJS

Silica Gel Treated - Hexane Extractable Material **Aliquot ID: A21804-001D** **Matrix: Ground Water**
Method: EPA 1664B **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. SGT-HEM	U	F-J-	mg/L	2.0	1.0	NA	NA	07/30/24	WH24G30A	AVC

Trace Elements by ICP/MS, Total Recoverable **Aliquot ID: A21804-001E** **Matrix: Ground Water**
Method: EPA 3005A (Total Recoverable)/EPA 6020B **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Cadmium	U		µg/L	1.0	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS
2. Chromium	U		µg/L	10	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS
3. Copper	U		µg/L	4.0	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS
4. Lead	**8.9**		µg/L	3.0	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS
5. Nickel	U		µg/L	20	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS
6. Zinc	U		µg/L	50	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS

Mercury by CVAAS, Dissolved **Aliquot ID: A21804-001E** **Matrix: Ground Water**
Method: EPA 7470A **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Mercury	U		µg/L	0.20	1.0	07/25/24	PM24G25A	07/25/24	M724G25A	AVC

Polychlorinated Biphenyls (PCBs) **Aliquot ID: A21804-001** **Matrix: Ground Water**
Method: EPA 3510C/EPA 8082A **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT

Fibertec environmental services

A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A21804
Laboratory Sample Number: A21804-001

Order: A21804
Date: 08/07/24

Client Identification:	**Soil and Materials Engineers, Inc. - Kalamazoo**	Sample Description:	**B5**	Chain of Custody:	**225537**
Client Project Name:	**City Of Kzoo Dewatering/093008.00**	Sample No:		Collect Date:	**07/22/24**
Client Project No:	**093008.00**	Sample Matrix:	**Ground Water**	Collect Time:	**11:10**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs) **Aliquot ID: A21804-001** **Matrix: Ground Water**
Method: EPA 3510C/EPA 8082A **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
5. Aroclor-1248	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A21804-001H** **Matrix: Ground Water**
Method: EPA 5030C/EPA 8260D **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Benzene	U		µg/L	1.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC
2. Ethylbenzene	U		µg/L	1.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC
3. Toluene	U		µg/L	1.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC
4. m&p-Xylene	U		µg/L	2.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC
5. o-Xylene	U		µg/L	1.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC
‡ 6. Xylenes	U		µg/L	3.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC

pH, electrometric, Measured at the Reported Temperature **Aliquot ID: A21804-001** **Matrix: Ground Water**
Method: EPA 9040C **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. pH	**7.55**	H	pH Units	-1.00	1.0	NA	NA	07/29/24 11:07	WD24G29A	JWS
‡ 2. Temperature	**20.6**		°C	0.0	1.0	NA	NA	07/29/24 11:07	WD24G29A	JWS

Residue, Non-Filterable (TSS) **Aliquot ID: A21804-001A** **Matrix: Ground Water**
Method: SM 2540 D-2015 **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Total Suspended Solids	**540**		mg/L	50	20	NA	NA	07/29/24	WH24G29A	MJS

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Analytical Laboratory Report
Laboratory Project Number: A21804
Laboratory Sample Number: A21804-001

Order: A21804
Date: 08/07/24

Client Identification:	**Soil and Materials Engineers, Inc. - Kalamazoo**	Sample Description:	**B5**	Chain of Custody:	**225537**
Client Project Name:	**City Of Kzoo Dewatering/093008.00**	Sample No:		Collect Date:	**07/22/24**
Client Project No:	**093008.00**	Sample Matrix:	**Ground Water**	Collect Time:	**11:10**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer) **Aliquot ID: A21804-001F** **Matrix: Ground Water**
Method: SM 4500-NH3 G-2011 **Description: B5**

						Preparation		Analysis		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	**6900**		µg/L	10	1.0	07/25/24	PW24G25B	07/25/24	WU24G25C	ARC

Carbonaceous Biochemical Oxygen Demand, 5 Day (CBOD5) **Aliquot ID: A21804-001B** **Matrix: Ground Water**
Method: SM 5210 B-2016 **Description: B5**

						Preparation		Analysis		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
1. CBOD	U		mg/L	6.0	3.0	07/24/24 10:24	WZ24G24A	07/29/24 14:15	WZ24G24A	MJS

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Analytical Laboratory Report
Laboratory Project Number: A21804

Order: A21804
Date: 08/07/24

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits

Exception Summary:

F- : Recovery from the spiked aliquot exceeds the lower control limit (matrix spike or matrix spike duplicate).
H : Hold time exceeded.
J- : The result is an estimated quantity, but the result may be biased low.

Analysis Locations:

All analyses performed in Holt.

NELAP ACCREDITED TNI LABORATORY

Accreditation Number(s):

MI001292024-1 (UT)

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Quality Control Report
Laboratory Project Number: A21804

Order ID: A21804
Page: 1 of 7
Date: 08/07/24

PM24G25A: Method Blank (MB) — EPA 7470A

Run Time: PM24G25A.MB 07/25/2024 12:48 [M724G25A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Mercury	U		0.20

PM24G25A: Laboratory Control Sample (LCS) — EPA 7470A

Run Time: PM24G25A.LCS: 07/25/2024 12:50 [M724G25A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.250	0.264	106	85-115	

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Quality Control Report
Laboratory Project Number: A21804

Order ID: A21804
Page: 2 of 7
Date: 08/07/24

PS24G25F: Method Blank (MB) — EPA 8082A

Run Time: PS24G25F.MB 07/25/2024 17:29 [SO24G25A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Aroclor-1016	U		0.20
Aroclor-1260	U		0.20
Decachlorobiphenyl-PCB(S)	*67*		*14-124*
2,4,5,6-Tetrachloro-m-xylene-PCB(S)	*76*		*26-136*

PS24G25F: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) — EPA 8082A

Run Time: PS24G25F.LCS: 07/25/2024 17:46 [SO24G25A] PS24G25F.LCSD: 07/25/2024 18:04 [SO24G25A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%	%	
Aroclor-1016	2.00	1.95	97	60-120		2.00	1.99	99		2	20	
Aroclor-1260	2.00	2.16	108	60-120		2.00	2.17	108		0	20	
Decachlorobiphenyl-PCB(S)			*71*	*14-124*				*71*				
2,4,5,6-Tetrachloro-m-xylene-PCB(S)			*81*	*26-136*				*70*				

Fibertec environmental services
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Quality Control Report
Laboratory Project Number: A21804

Order ID: A21804
Page: 3 of 7
Date: 08/07/24

PT24G31D: Method Blank (MB) — EPA 6020B

Run Time: PT24G31D.MB 07/31/2024 13:56 [T424G31E]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Cadmium	U		1.0
Chromium	U		10
Copper	U		4.0
Lead	U		3.0
Nickel	U		20

PT24G31D: Method Blank (MB) — EPA 6020B

Run Time: PT24G31D.MB 08/01/2024 14:01 [T424H01C]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Zinc	U		50

PT24G31D: Laboratory Control Sample (LCS) — EPA 6020B

Run Time: PT24G31D.LCS: 08/01/2024 11:12 [T424H01C]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cadmium	100	107	107	85-115	
Chromium	200	217	109	85-115	
Copper	200	216	108	85-115	
Lead	200	215	108	85-115	
Nickel	200	215	108	85-115	
Zinc	500	547	109	85-115	

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Quality Control Report
Laboratory Project Number: A21804

Order ID: A21804
Page: 4 of 7
Date: 08/07/24

PW24G25B: Method Blank (MB)

SM 4500-NH3 G-2011

Run Time: PW24G25B.MB 07/25/2024 14:04 [WU24G25C]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Ammonia-N	U		10

PW24G25B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

SM 4500-NH3 G-2011

Run Time: PW24G25B.LCS: 07/25/2024 14:06 [WU24G25C] PW24G25B.LCSD: 07/25/2024 14:09 [WU24G25C]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%	%	
Ammonia-N	5000	5020	100	90-110		5000	5030	101		1	20	

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Quality Control Report
Laboratory Project Number: A21804

Order ID: A21804
Page: 5 of 7
Date: 08/07/24

PW24G29A: Method Blank (MB)

ASTM D7511-12

Run Time: PW24G29A.MB 07/29/2024 12:03 [WQ24G29A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Cyanide, Total	U		5.0

PW24G29A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

ASTM D7511-12

Run Time: PW24G29A.LCS: 07/29/2024 12:05 [WQ24G29A] PW24G29A.LCSD: 07/29/2024 12:06 [WQ24G29A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%	%	
Cyanide, Total	99.9	90.7	91	84-116		99.9	92.3	92		1	12	

Fibertec environmental services
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Quality Control Report
Laboratory Project Number: A21804

Order ID: A21804
Page: 6 of 7
Date: 08/07/24

VM24G29C: Method Blank (MB) — EPA 8260D

Run Time: VM24G29C.MB 07/30/2024 01:49 [VM24G29C]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Benzene	U		1.0
Ethylbenzene	U		1.0
Toluene	U		1.0
m&p-Xylene	U		2.0
o-Xylene	U		1.0
4-Bromofluorobenzene(S)	*101*		*80-120*
Dibromofluoromethane(S)	*98*		*80-120*
1,2-Dichloroethane-d4(S)	*103*		*80-120*
Toluene-d8(S)	*98*		*80-120*

VM24G29C: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) — EPA 8260D

Run Time: VM24G29C.LCS: 07/30/2024 00:29 [VM24G29C] VM24G29C.LCSD: 07/30/2024 00:56 [VM24G29C]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%	%	
Benzene	50.0	46.5	93	80-120		50.0	47.1	94		1	20	
Ethylbenzene	50.0	43.8	88	80-120		50.0	44.9	90		2	20	
Toluene	50.0	43.0	86	80-120		50.0	44.6	89		3	20	
m&p-Xylene	100	86.6	87	75-130		100	88.4	88		1	20	
o-Xylene	50.0	42.6	85	80-120		50.0	43.1	86		1	20	
4-Bromofluorobenzene(S)			*98*	*80-120*				*98*				
Dibromofluoromethane(S)			*99*	*80-120*				*99*				
1,2-Dichloroethane-d4(S)			*103*	*80-120*				*108*				
Toluene-d8(S)			*99*	*80-120*				*99*				

Fibertec environmental services
A METIRI GROUP COMPANY

Quality Control Report
Laboratory Project Number: A21804

Order ID: A21804
Page: 7 of 7
Date: 08/07/24

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
***:** Value reported is outside QC limits

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:

By Katherine Jones at 9:38 AM, Aug 07, 2024

Copy of A21804 report QC COC CN

Fibertec environmental services

Analytical Laboratory
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

Geoprobe
11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody # 13/14

225537

PAGE ___ of ___

Client Name: SME
Contact Person: AARON REED
Project Name/ Number: CITY OF KZOO DEWATERING / 093008.00
Email distribution list: AARON.REED@SME-USA.COM
Quote# SME 021824 - CITY OF KALAMAZOO DEWATERING
Purchase Order#

Date	Time	Sample #	Client Sample Descriptor	MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS	HOLD SAMPLE
7/22/24	11:10		BS	GW	15		

Matrix Code			
S	Soil	GW	Ground Water
A	Air	SW	Surface Water
O	Oil	WW	Waste Water
P	Wipe	X	Other: Specify

Deliverables	
	Level 2
	Level 3
	Level 4
	EDD

Remarks: SEE QUOTE

Received By Lab
JUL 23 2024
Initials: KW

Comments:

Sampled/Relinquished By: ANTHONY HOSBEIN	Date/ Time 7/22/24 1315	Received By: SME COLD STORAGE
Relinquished By: SME COLD STORAGE	Date/ Time 7-23-24 11:14	Received By:
Relinquished By:	Date/ Time 7-23-24 16:11	Received By Laboratory: 11e:20

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

_____1 bus. day _____2 bus. days _____3 bus. days _____4 bus. days

X 5-7 bus. days (standard) Other (specify time/date requirement): _____

LAB USE ONLY 24G0124

Fibertec project number: A21804

Temperature upon receipt at Lab: 1.3°C

Received On Ice

Please see back for terms and conditions

Fibertec environmental services

Case Narrative

Client: Soil and Materials Engineers, Inc.
Project Name: City of Kzoo Dewatering/093008.00

One water sample was collected on July 22, 2024 and received by Fibertec, Inc. on July 23, 2024. The shipping cooler temperature was within specifications (0 – 6 °C), and the sample containers arrived without any visible signs of tampering or breakage. Containers were checked for correct pH, where appropriate.

The data associated for the PFAS analysis was performed by Metiri Holt in report 24G0124. This report will be sent in a separate email once completed.

Exceptions are noted below.

Cross Reference

Lab ID #	Client ID #	Matrix	Requested Tests
A21804-001	B5	Water	Total Cyanide, SGT-HEM, Trace Metals, PCBs, VOCs, pH, TSS, Ammonia, CBOD

Exceptions

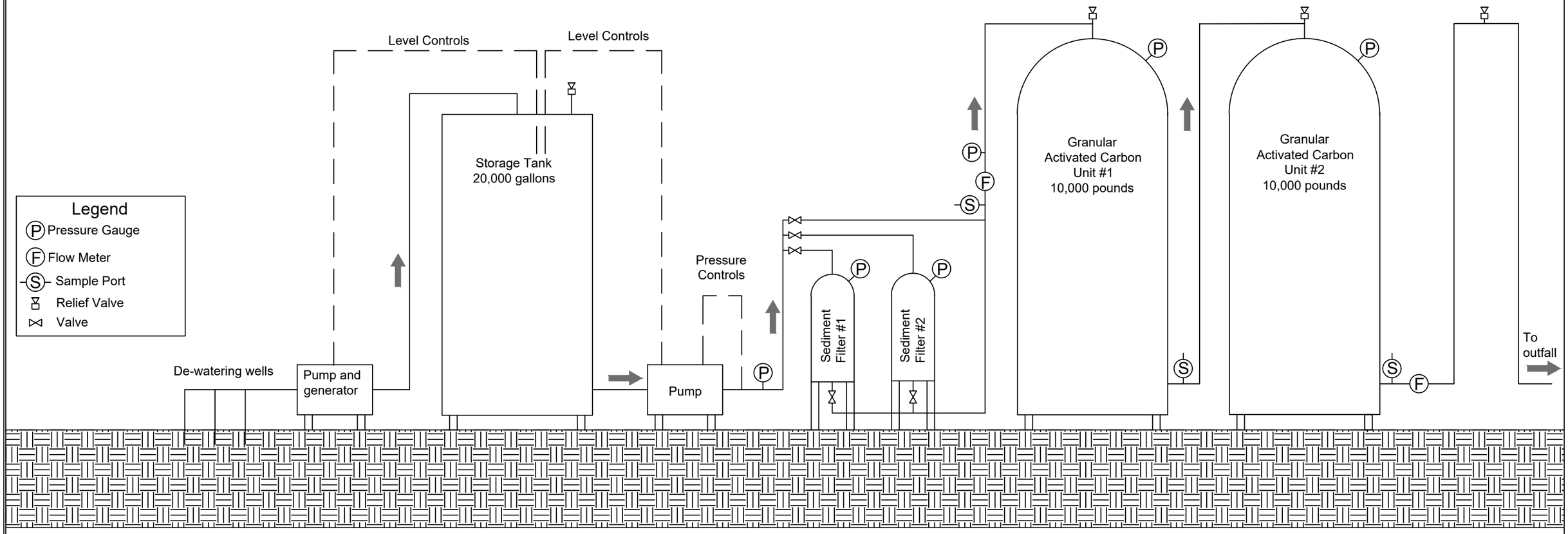
Silica Gel Treated Method: EPA 1664B
Sample -001 was qualified for SGT-HEM as the spiked sample recovery was low for the Matrix Spike (26.5% recovery) with criteria being 64-132%. The Laboratory Control Sample was acceptable at 71.5%. Results may be biased low.

Sample -001 was qualified as potential biased low due the initial pH being ≥2, which is above method criteria.

pH Method: EPA 9040C
Sample -001 was qualified as having estimated results for pH due to exceeding the hold time (time from sampling to analysis should be within 15 minutes).

No further exceptions were observed.

1914 Holloway Drive Holt, Michigan 48842 Telephone: (517) 699-0345 Facsimile: (517) 699-0388
11766 E. Grand River Brighton, Michigan 48116 Telephone: (810) 220-3300 Facsimile: (810) 220-3311
8660 S. Mackinaw Trail Cadillac, Michigan 49601 Telephone: (231) 775-8368 Facsimile: (231) 775-8584



DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

Figure 4
Treatment Process
Flow Diagram

Drawn: DLL
Checked: SB

Docusign Envelope ID: 2B9782A9-2180-4602-98D9-EB3C2FF38298

TO: EGLE

FROM: SME on behalf of the City of Kalamazoo

DATE: August 1, 2025

PROJECT: Burdick Street and Vandersalm Court Water Main Replacement
SME Project No. 093008.01

SUBJECT: Project Narrative
NPDES Permit Application

LOCATION: Intersection of East Crosstown Parkway and South Burdick Street and Vandersalm Court, Kalamazoo, Michigan

---

PROJECT DESCRIPTION

The City of Kalamazoo (City) is planning to construct a new water main and various service leads along South Burdick Street between the cross streets of Lovell Street and West Emerson Street in Kalamazoo, Michigan and along Vandersalm Court between the South Burdick Street/East Crosstown intersection and South Rose Street. In addition, upgrades are proposed to an existing sanitary sewer along South Burdick Street between Lovell Street and Vine Street. The proposed water main will consist of both 16-inch diameter and 24-inch diameter ductile iron pipe (DIP) that has a general invert elevation of about 6 feet to 13 feet below existing grades. The proposed gravity sanitary sewer will consist of a 12-inch diameter pipe that has an invert elevation of about 9 feet to 10 feet below existing grades.

The proposed water main and sanitary sewers will be constructed primarily using the open-cut method and using temporary earth retention measures, as needed. At the intersection of East Crosstown Parkway and South Burdick Street, the proposed water main will extend below two parallel storm culverts that connect with a collection chamber that spans across the intersection. It is our understanding the two culverts have an invert elevation of about 6 feet below existing grades. At this crossing location, the design team is proposing the water main be installed using the horizonal auger bore (HAB) trenchless installation method as shown in Image 1.

To complete the crossing using HAB installation methods, the shown receiving and launch pits will need to be dewatered, as well as the area between the two pits along the water main alignment. A similar dewatering project in Kalamazoo was recently permitted under a groundwater model that an estimated total flow of up to 1,500 gallons per minute (gpm). This model/pump rate appears to be appropriate for future dewatering wells within this area to achieve the groundwater drawdown needed to complete the construction of the pits and the HAB crossing. The City sanitary sewer in the area does not have this flow capacity, and therefore, this NPDES permit application is submitted.

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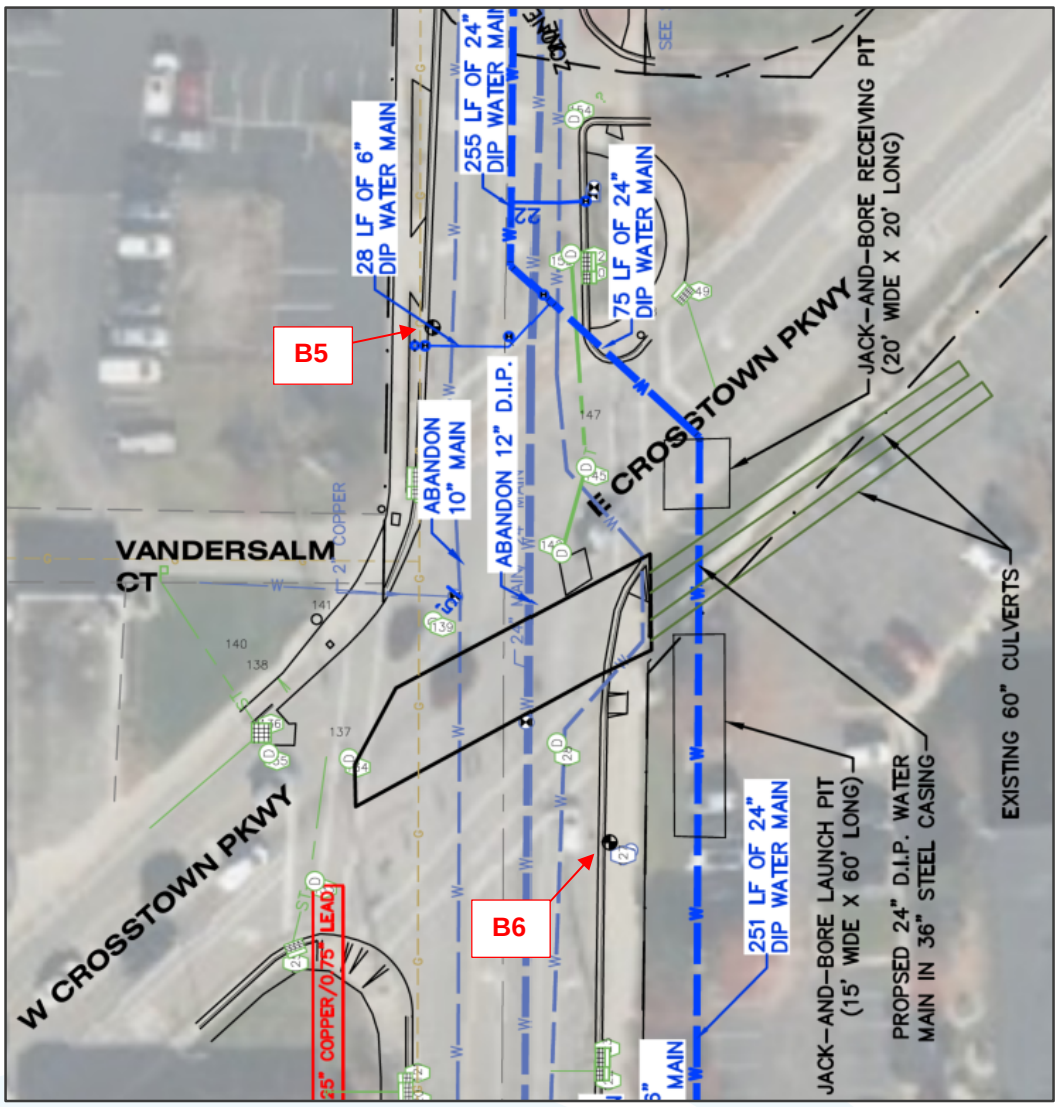


IMAGE 1: Proposed water main crossing below twin culvert at the intersection of East Crosstown Parkway and Burdick Street.

ENVIRONMENTAL ASSESSMENT – GROUNDWATER

SME completed two borings, B5 and B6 as shown in Image 1, in the area of the intersection for the purposes of completing a geotechnical evaluation for the project. At boring B5, SME collected groundwater samples to evaluate potential impact prior to discharging groundwater offsite (e.g., storm sewer). The sample was tested for volatile organic compounds (VOCs); Polychlorinated Biphenyls (PCBs); Metals; cyanide, total suspended solids, pH, Carbonaceous Biochemical Oxygen Demand, 5 Day (CBOD5); Ammonia; Per- and Polyfluoroalkyl Substances (PFOA and PFOS).

The groundwater sample analyzed from B-5 contained concentrations of cyanide, lead ammonia, and PFOS exceeding laboratory reporting limits. The source of the contamination is currently unknown.

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DEWATERING PLAN

For the Burdick Street intersection, construction groundwater will be pumped at both north and south pits and along water main alignment between the pits using multiple dewatering wells. These dewatering wells will be manifolded to a pump at the ground surface. The pump with generator at the ground surface extracts groundwater from the dewatering wells and pumps into a water storage container. Similarly, the groundwater from water main installation along Vandersalm Court and Burdick Street as shown in the areas identified on the attached Figure No. 1 will be pumped from the work area using either pumps or dewatering wells to a water storage container.

The water from the storage container will be pumped through sediment filters capable of treating the entire flow. Higher micron filter bags will be utilized during startup and lower micron filter bags will be utilized once the initial surge of sediment flow ceased. The sediment filters may be bypassed if there is no visible sediment in the extracted groundwater and during weekend and overnight dewatering operations.

If required by EGLE, the groundwater from the sediment filters will flow through granular activated carbon units rated for the entire flow rate. The carbon units are anticipated to provide a minimum of 10 minutes of retention (contact) time.

The treated water from the Burdick Street intersection will be discharged to the storm sewer catch basin located east of the dewatered area on the south side of East Crosstown Parkway. The water from the storm sewer discharges into the Axtell Creek culvert which travels east to discharge into Axtell Creek.

The treated water from the Vandersalm Court work area will be discharged to the storm sewer catch basin located on South Rose Street. The water from the storm sewer discharges into the basin to the west, which travels east to discharge into Axtell Creek.

The Discharge Point figure attached to the permit application identifies the treated water discharge flow path to surface waters. A totalizing flow meter will be installed on the treatment system discharge line to monitor the discharge flow. When determining the maximum daily flow rate for the permit application, it is assumed that the project will be dewatering for approximately 24 hours a day.

PREPARED BY:

JoBeth L. Peterson
Sr. Staff Specialist

REVIEWED BY:

Jeffrey R. Lanier, PE
Project Director

Attachments: Analytical Results
Figure 1 – Discharge Points Diagram

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Metiri Group - Holt
1914 Holloway Dr, Holt, MI 48842 - Phone (517) 699-0345 - www.metirigroup.com

August 13, 2024

Aaron Reed
Soil and Materials Engineers, Inc. - Kalamazoo
3301 Tech Circle Drive
Kalamazoo, MI 49008-5611

RE: City of Kalamazoo Dewatering
24G0124

Thank you for selecting Metiri Group - Holt as your analytical laboratory. The samples submitted have been analyzed in accordance with all method and NELAC standards, as applicable. Any exceptions to compliance are noted in the report.

Please note that TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results, or if we may be of further assistance to you, please contact us at (517) 699-0345.

Sincerely,



Jacob Sutherlund
Project Manager
jacob.sutherlund@metirigroup.com
517-273-4922

Docusign Envelope ID: 2B9782A9-2180-4602-98D9-EB3C2FF38298

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Docusign Envelope ID: 2B9782A9-2180-4602-98D9-EB3C2FF38298

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
24G0124-01	B5	Water	07/22/2024 11:10	07/23/2024

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Metiri Group - Holt - 1914 Holloway Dr, Holt, MI 48842

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

Sample Results

Sample: B5

24G0124-01 (Water)

	Analyte	Result	/Qual	PQL	Units	Date Analyzed	DF	Method	Prep Batch
Per- and Polyfluoroalkyl Substances									
1	PFOA	1.9		0.80	ng/L	08/09/24	1	EPA 537M	BDH0028
2	PFOS	3.0		0.80	ng/L	08/09/24	1	EPA 537M	BDH0028
Extracted Internal Standards (EIS): 13C8-PFOA		*79%*		*40-130*		*08/09/24*	*1*	*EPA 537M*	
Extracted Internal Standards (EIS): 13C8-PFOS		*49%*		*40-130*		*08/09/24*	*1*	*EPA 537M*	

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

PREPARATION BATCH SUMMARY

EPA 537M

Laboratory: Metiri Group - Holt

Client:

Batch: BDH0028 Batch Matrix: Water Preparation: 537M

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
B5	24G0124-01RE1	08/01/24 11:16	260.0000	2
Blank	BDH0028-BLK1	08/09/24 09:02	250.0000	2
LCS	BDH0028-BS1	08/09/24 09:02	250.0000	2
LCS Dup	BDH0028-BSD1	08/09/24 09:02	250.0000	2

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

Quality Control

Per- and Polyfluoroalkyl Substances

Analyte	Result/ Qual	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Method: EPA 537M									
Batch: BDH0028 - 537M									
Blank (BDH0028-BLK1)				Prepared & Analyzed: 08/09/24 18:31					
PFOA	ND	0.80	ng/L						
PFOS	ND	0.80	ng/L						
Extracted Internal Standards (EIS): 13C8-PFOA	*14*		*ng/L*	*16.0*		*87*	*40-130*		
Extracted Internal Standards (EIS): 13C8-PFOS	*12*		*ng/L*	*15.3*		*78*	*40-130*		
LCS (BDH0028-BS1)				Prepared & Analyzed: 08/09/24 18:45					
PFOA	17	0.80	ng/L	16.0		104	70-150		
PFOS	15	0.80	ng/L	14.9		98	55-150		
Extracted Internal Standards (EIS): 13C8-PFOA	*14*		*ng/L*	*16.0*		*86*	*40-130*		
Extracted Internal Standards (EIS): 13C8-PFOS	*11*		*ng/L*	*15.3*		*75*	*40-130*		
LCS Dup (BDH0028-BSD1)				Prepared & Analyzed: 08/09/24 18:58					
PFOA	15	0.80	ng/L	16.0		91	70-150	13	30
PFOS	14	0.80	ng/L	14.9		94	55-150	4	30
Extracted Internal Standards (EIS): 13C8-PFOA	*11*		*ng/L*	*16.0*		*69*	*40-130*		
Extracted Internal Standards (EIS): 13C8-PFOS	*9.2*		*ng/L*	*15.3*		*60*	*40-130*		

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
MDL	Method Detection Limit (only displays if reported to the MDL)
ND	Analyte NOT DETECTED at or above the reporting limit.
DF	Dilution Factor
DL	Detection Limit
‡	Parameter not included in NELAC Scope of Analysis.

Soil pH measured in water at degree C

RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.

PQL, Practical Quantitation Limit = Method Reporting Limit (MRL).

Accreditation Number(s):
MI001292024-1

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Metiri Group - Holt - 1914 Holloway Dr, Holt, MI 48842

Soil and Materials Engineers, Inc. - Kalamazoo	Project: City of Kalamazoo Dewatering	
3301 Tech Circle Drive	Project Number: 093008.00	
Kalamazoo, MI 49008-5611	Project Manager: Aaron Reed	Reported: 08/13/2024 11:25

WORK ORDER

24G0124

Printed: 08/13/2024 11:25 am

Project: **City of Kalamazoo Dewatering**
Project Number: **093008.00**
Project Manager: **Jacob Sutherlund**
PO Number:

Report To:
Soil and Materials Engineers, Inc. - Kalamazoo
Aaron Reed
3301 Tech Circle Drive
Kalamazoo, MI 49008-5611
Phone: 2693233555
Fax: 2693233553

Invoice To:
Soil and Materials Engineers, Inc. - Kalamazoo
Aaron Reed
3301 Tech Circle Drive
Kalamazoo, MI 49008-5611
Phone: 2693233555
Fax: 2693233553

Date Received: 07/23/2024 04:11 PM
Date Due: 08/01/2024 (7.00 day TAT)

Logged In By: Tristen Rhines
Received By: Kelly Williams

Analysis		Comments
24G0124-01 B5 [Water] Sampled 7/22/2024 11:10:00AM		
537M-MI	PFOA/PFOS only	PFOA/PFOS only

24G0124 **Sample Receipt Log**

Default Cooler

Samples Received at: **1.3°C**

Were Custody Seals present and signed?	No	Container/preservative correct for test requested?	Yes
Received on Ice and within proper temp?	Yes	Sufficient amount sent for tests requested?	Yes
Were all Air Hg and PCB tubes received at ambient?	No	Required containers sealed in separate bags?	No
Were all TO-15 samples received at ambient?	No	Were all samples inspected and sampled correctly?	Yes
Was a chain of custody received?	Yes	Were bubbles absent in volatile samples?	No
COCs complete/signed in the appropriate places?	Yes	Sufficient remaining holding time for analyses?	Yes
Were all samples listed on COC received?	Yes	If Applicable pH documented for necessary samples?	No
Did all samples/container labels agree with COCs?	Yes	If applicable, was the chlorine test negative?	No
Did all containers arrive in good condition?	Yes	If applicable, samples free of oxidizers?	No
Containers Intact	Yes	Thermometer # : 10003954 used?	Yes

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Fibertec environmental services

Analytical Laboratory
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

Geoprobe
11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

12/27

Chain of Custody # 225537

PAGE ___ of ___

Client Name: SME

Contact Person: AARON REED

Project Name/ Number: CITY OF KZOO DEWATERING / 093008.00

Email distribution list: AARON.REED@SME-USA.COM

Quote# SME 021824-CITY OF KALAMAZOO DEWATERING

Purchase Order#

Date	Time	Sample #	Client Sample Descriptor	MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS	HOLD SAMPLE
7/22/24	11:10		B5	GW	15		

Matrix Code: S Soil; A Air; O Oil; P Wipe; GW Ground Water; SW Surface Water; WW Waste Water; X Other: Specify

Deliverables: Level 2; Level 3; Level 4; EDD

Remarks: SEE QUOTE

Received By Lab
JUL 23 2024
Initials: KW

Comments:

Sampled/Relinquished By: ANTHONY HOSBEIN	Date/ Time 7/22/24 1315	Received By: SME COLD STORAGE
Relinquished By: SME COLD STORAGE	Date/ Time 7-23-24 11:14	Received By:
Relinquished By:	Date/ Time 7-23-24 16:11	Received By Laboratory: 11e:20

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

_____1 bus. day _____2 bus. days _____3 bus. days _____4 bus. days

X 5-7 bus. days (standard) Other (specify time/date requirement): _____

LAB USE ONLY 2460124

Fibertec project number: A21804

Temperature upon receipt at Lab: 1.3°C

Received On Ice

Please see back for terms and conditions

093008.01_08012025_Project_Narrative

Docusign Envelope ID: 2B9782A9-2180-4602-98D9-EB3C2FF38298

Fibertec environmental services

A METIRI GROUP COMPANY

Wednesday, August 7, 2024

Fibertec Project Number:	A21804
Project Identification:	City Of Kzoo Dewatering/093008.00 /093008.00
Submittal Date:	07/23/2024

Mr. Aaron Reed
Soil and Materials Engineers, Inc. - Kalamazoo
3301 Tech Circle Drive
Kalamazoo, MI 49008-5611

Dear Mr. Reed,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

The data associated for the PFAS analysis was performed by Metiri Holt in report 24G0124. This report will be sent in a separate email once completed.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Katherine Jones at 9:36 AM, Aug 07, 2024

For Robert J. Morelli
Director of Laboratory Operations

Enclosures

Fibertec environmental services
A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A21804
Laboratory Sample Number: A21804-001

Order: A21804
Date: 08/07/24

Client Identification:	**Soil and Materials Engineers, Inc. - Kalamazoo**	Sample Description:	**B5**	Chain of Custody:	**225537**
Client Project Name:	**City Of Kzoo Dewatering/093008.00**	Sample No:		Collect Date:	**07/22/24**
Client Project No:	**093008.00**	Sample Matrix:	**Ground Water**	Collect Time:	**11:10**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Cyanide, Total **Aliquot ID: A21804-001G** **Matrix: Ground Water**
Method: ASTM D7511-12 **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Cyanide, Total	**8.3**		µg/L	5.0	1.0	07/29/24	PW24G29A	07/29/24	WQ24G29A	MJS

Silica Gel Treated - Hexane Extractable Material **Aliquot ID: A21804-001D** **Matrix: Ground Water**
Method: EPA 1664B **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. SGT-HEM	U	F-J-	mg/L	2.0	1.0	NA	NA	07/30/24	WH24G30A	AVC

Trace Elements by ICP/MS, Total Recoverable **Aliquot ID: A21804-001E** **Matrix: Ground Water**
Method: EPA 3005A (Total Recoverable)/EPA 6020B **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Cadmium	U		µg/L	1.0	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS
2. Chromium	U		µg/L	10	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS
3. Copper	U		µg/L	4.0	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS
4. Lead	**8.9**		µg/L	3.0	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS
5. Nickel	U		µg/L	20	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS
6. Zinc	U		µg/L	50	10	07/31/24	PT24G31D	07/31/24	T424G31E	JJS

Mercury by CVAAS, Dissolved **Aliquot ID: A21804-001E** **Matrix: Ground Water**
Method: EPA 7470A **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Mercury	U		µg/L	0.20	1.0	07/25/24	PM24G25A	07/25/24	M724G25A	AVC

Polychlorinated Biphenyls (PCBs) **Aliquot ID: A21804-001** **Matrix: Ground Water**
Method: EPA 3510C/EPA 8082A **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Aroclor-1016	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
2. Aroclor-1221	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
3. Aroclor-1232	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
4. Aroclor-1242	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT

Fibertec environmental services
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Analytical Laboratory Report
Laboratory Project Number: A21804
Laboratory Sample Number: A21804-001

Order: A21804
Date: 08/07/24

Client Identification:	**Soil and Materials Engineers, Inc. - Kalamazoo**	Sample Description:	**B5**	Chain of Custody:	**225537**
Client Project Name:	**City Of Kzoo Dewatering/093008.00**	Sample No:		Collect Date:	**07/22/24**
Client Project No:	**093008.00**	Sample Matrix:	**Ground Water**	Collect Time:	**11:10**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polychlorinated Biphenyls (PCBs) **Aliquot ID: A21804-001** **Matrix: Ground Water**
Method: EPA 3510C/EPA 8082A **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
5. Aroclor-1248	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
6. Aroclor-1254	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
7. Aroclor-1260	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
‡ 8. Aroclor-1262	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT
‡ 9. Aroclor-1268	U		µg/L	0.20	1.0	07/25/24	PS24G25F	08/01/24 13:26	SO24H01A	TKT

Volatile Organic Compounds (VOCs) by GC/MS **Aliquot ID: A21804-001H** **Matrix: Ground Water**
Method: EPA 5030C/EPA 8260D **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Benzene	U		µg/L	1.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC
2. Ethylbenzene	U		µg/L	1.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC
3. Toluene	U		µg/L	1.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC
4. m&p-Xylene	U		µg/L	2.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC
5. o-Xylene	U		µg/L	1.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC
‡ 6. Xylenes	U		µg/L	3.0	1.0	07/29/24	VM24G29C	07/30/24 02:15	VM24G29C	BRC

pH, electrometric, Measured at the Reported Temperature **Aliquot ID: A21804-001** **Matrix: Ground Water**
Method: EPA 9040C **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. pH	**7.55**	H	pH Units	-1.00	1.0	NA	NA	07/29/24 11:07	WD24G29A	JWS
‡ 2. Temperature	**20.6**		°C	0.0	1.0	NA	NA	07/29/24 11:07	WD24G29A	JWS

Residue, Non-Filterable (TSS) **Aliquot ID: A21804-001A** **Matrix: Ground Water**
Method: SM 2540 D-2015 **Description: B5**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Total Suspended Solids	**540**		mg/L	50	20	NA	NA	07/29/24	WH24G29A	MJS

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Analytical Laboratory Report
Laboratory Project Number: A21804
Laboratory Sample Number: A21804-001

Order: A21804
Date: 08/07/24

Client Identification:	**Soil and Materials Engineers, Inc. - Kalamazoo**	Sample Description:	**B5**	Chain of Custody:	**225537**
Client Project Name:	**City Of Kzoo Dewatering/093008.00**	Sample No:		Collect Date:	**07/22/24**
Client Project No:	**093008.00**	Sample Matrix:	**Ground Water**	Collect Time:	**11:10**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Nitrogen, Ammonia (Auto Analyzer) **Aliquot ID: A21804-001F** **Matrix: Ground Water**
Method: SM 4500-NH3 G-2011 **Description: B5**

						Preparation		Analysis		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
1. Ammonia-N	**6900**		µg/L	10	1.0	07/25/24	PW24G25B	07/25/24	WU24G25C	ARC

Carbonaceous Biochemical Oxygen Demand, 5 Day (CBOD5) **Aliquot ID: A21804-001B** **Matrix: Ground Water**
Method: SM 5210 B-2016 **Description: B5**

						Preparation		Analysis		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
1. CBOD	U		mg/L	6.0	3.0	07/24/24 10:24	WZ24G24A	07/29/24 14:15	WZ24G24A	MJS

Docusign Envelope ID: 2B9782A9-2180-4602-98D9-EB3C2FF38298

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Analytical Laboratory Report
Laboratory Project Number: A21804

Order: A21804
Date: 08/07/24

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits

Exception Summary:

F- : Recovery from the spiked aliquot exceeds the lower control limit (matrix spike or matrix spike duplicate).
H : Hold time exceeded.
J- : The result is an estimated quantity, but the result may be biased low.

Analysis Locations:

All analyses performed in Holt.

NELAP ACCREDITED TNI LABORATORY

Accreditation Number(s):

MI001292024-1 (UT)

1914 Holloway Drive *Holt, MI 48842* *T: (517) 699-0345* *F: (517) 699-0388*
11766 E Grand River *Brighton, MI 48116* *T: (810) 220-3300* *F: (810) 220-3311*
8660 S Mackinaw Trail *Cadillac, MI 49601* *T: (231) 775-8368* *F: (231) 775-8584*
lab@fibertec.us

Fibertec environmental services
A METIRI GROUP COMPANY

Quality Control Report
Laboratory Project Number: A21804

Order ID: A21804
Page: 1 of 7
Date: 08/07/24

PM24G25A: Method Blank (MB) — EPA 7470A

Run Time: PM24G25A.MB 07/25/2024 12:48 [M724G25A]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Mercury	U		0.20

PM24G25A: Laboratory Control Sample (LCS) — EPA 7470A

Run Time: PM24G25A.LCS: 07/25/2024 12:50 [M724G25A]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.250	0.264	106	85-115	

Fibertec environmental services
A METIRI GROUP COMPANY

Quality Control Report
Laboratory Project Number: A21804

Order ID: A21804
Page: 2 of 7
Date: 08/07/24

PS24G25F: Method Blank (MB) — EPA 8082A

Run Time: PS24G25F.MB 07/25/2024 17:29 [SO24G25A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Aroclor-1016	U		0.20
Aroclor-1260	U		0.20
Decachlorobiphenyl-PCB(S)	*67*		*14-124*
2,4,5,6-Tetrachloro-m-xylene-PCB(S)	*76*		*26-136*

PS24G25F: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) — EPA 8082A

Run Time: PS24G25F.LCS: 07/25/2024 17:46 [SO24G25A] PS24G25F.LCSD: 07/25/2024 18:04 [SO24G25A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%	%	
Aroclor-1016	2.00	1.95	97	60-120		2.00	1.99	99		2	20	
Aroclor-1260	2.00	2.16	108	60-120		2.00	2.17	108		0	20	
Decachlorobiphenyl-PCB(S)			*71*	*14-124*				*71*				
2,4,5,6-Tetrachloro-m-xylene-PCB(S)			*81*	*26-136*				*70*				

Docusign Envelope ID: 2B9782A9-2180-4602-98D9-EB3C2FF38298

Fibertec environmental services
A METIRI GROUP COMPANY

Quality Control Report
Laboratory Project Number: A21804

Order ID: A21804
Page: 3 of 7
Date: 08/07/24

PT24G31D: Method Blank (MB) — EPA 6020B

Run Time: PT24G31D.MB 07/31/2024 13:56 [T424G31E]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Cadmium	U		1.0
Chromium	U		10
Copper	U		4.0
Lead	U		3.0
Nickel	U		20

PT24G31D: Method Blank (MB) — EPA 6020B

Run Time: PT24G31D.MB 08/01/2024 14:01 [T424H01C]

Analyte	MB Result µg/L	MB Qualifier	MB RDL µg/L
Zinc	U		50

PT24G31D: Laboratory Control Sample (LCS) — EPA 6020B

Run Time: PT24G31D.LCS: 08/01/2024 11:12 [T424H01C]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cadmium	100	107	107	85-115	
Chromium	200	217	109	85-115	
Copper	200	216	108	85-115	
Lead	200	215	108	85-115	
Nickel	200	215	108	85-115	
Zinc	500	547	109	85-115	

Fibertec environmental services
A METIRI GROUP COMPANY

Quality Control Report

Laboratory Project Number: A21804

Order ID: A21804
Page: 4 of 7
Date: 08/07/24

PW24G25B: Method Blank (MB)

SM 4500-NH3 G-2011

Run Time: PW24G25B.MB 07/25/2024 14:04 [WU24G25C]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Ammonia-N	U		10

PW24G25B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

SM 4500-NH3 G-2011

Run Time: PW24G25B.LCS: 07/25/2024 14:06 [WU24G25C] PW24G25B.LCSD: 07/25/2024 14:09 [WU24G25C]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%	%	
Ammonia-N	5000	5020	100	90-110		5000	5030	101		1	20	

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Quality Control Report
Laboratory Project Number: A21804

PW24G29A: Method Blank (MB)

ASTM D7511-12

Run Time: PW24G29A.MB 07/29/2024 12:03 [WQ24G29A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Cyanide, Total	U		5.0

PW24G29A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

ASTM D7511-12

Run Time: PW24G29A.LCS: 07/29/2024 12:05 [WQ24G29A] PW24G29A.LCSD: 07/29/2024 12:06 [WQ24G29A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%	%	
Cyanide, Total	99.9	90.7	91	84-116		99.9	92.3	92		1	12	

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Quality Control Report
Laboratory Project Number: A21804

VM24G29C: Method Blank (MB) — EPA 8260D

Run Time: VM24G29C.MB 07/30/2024 01:49 [VM24G29C]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Benzene	U		1.0
Ethylbenzene	U		1.0
Toluene	U		1.0
m&p-Xylene	U		2.0
o-Xylene	U		1.0
4-Bromofluorobenzene(S)	*101*		*80-120*
Dibromofluoromethane(S)	*98*		*80-120*
1,2-Dichloroethane-d4(S)	*103*		*80-120*
Toluene-d8(S)	*98*		*80-120*

VM24G29C: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) — EPA 8260D

Run Time: VM24G29C.LCS: 07/30/2024 00:29 [VM24G29C] VM24G29C.LCSD: 07/30/2024 00:56 [VM24G29C]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%	%	
Benzene	50.0	46.5	93	80-120		50.0	47.1	94		1	20	
Ethylbenzene	50.0	43.8	88	80-120		50.0	44.9	90		2	20	
Toluene	50.0	43.0	86	80-120		50.0	44.6	89		3	20	
m&p-Xylene	100	86.6	87	75-130		100	88.4	88		1	20	
o-Xylene	50.0	42.6	85	80-120		50.0	43.1	86		1	20	
4-Bromofluorobenzene(S)			*98*	*80-120*				*98*				
Dibromofluoromethane(S)			*99*	*80-120*				*99*				
1,2-Dichloroethane-d4(S)			*103*	*80-120*				*108*				
Toluene-d8(S)			*99*	*80-120*				*99*				

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Quality Control Report
Laboratory Project Number: A21804

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
***:** Value reported is outside QC limits

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:

By Katherine Jones at 9:38 AM, Aug 07, 2024

1914 Holloway Drive *Holt, MI 48842* *T: (517) 699-0345* *F: (517) 699-0388*
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Fibertec environmental services

Analytical Laboratory
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Geoprobe
11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Client Name: SME
Contact Person: AARON REED
Project Name/ Number: CITY OF K200 DEWATERING / 093008.00
Email distribution list: AARON.REED@SME-USA.COM
Quote# SME 021824-CITY OF KALAMAZOO DEWATERING
Purchase Order#

Date	Time	Sample #	Client Sample Descriptor	MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS	HOLD SAMPLE
7/22/24	11:10		B5	GW	15		

Matrix Code

S	Soil	GW	Ground Water
A	Air	SW	Surface Water
O	Oil	WW	Waste Water
P	Wipe	X	Other: Specify

Deliverables
- Level 2
- Level 3
- Level 4
- EDD

Remarks: SEE QUOTE

Received By Lab
JUL 23 2024
Initials: KW

Comments:

Sampled/Relinquished By: ANTHONY HOSBEIN	Date/ Time 7/22/24 1315	Received By: SME COLD STORAGE
Relinquished By: SME COLD STORAGE	Date/ Time 7-23-24 11:14	Received By:
Relinquished By:	Date/ Time 7-23-24 16:11	Received By Laboratory: 11:20

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

_____1 bus. day _____2 bus. days _____3 bus. days _____4 bus. days

X 5-7 bus. days (standard) Other (specify time/date requirement): _____

LAB USE ONLY 24G0124

Fibertec project number: A21804

Temperature upon receipt at Lab: 1.3°C

Received On Ice

Please see back for terms and conditions

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Fibertec environmental services

Case Narrative

Client: Soil and Materials Engineers, Inc.
Project Name: City of Kzoo Dewatering/093008.00

One water sample was collected on July 22, 2024 and received by Fibertec, Inc. on July 23, 2024. The shipping cooler temperature was within specifications (0 – 6 °C), and the sample containers arrived without any visible signs of tampering or breakage. Containers were checked for correct pH, where appropriate.

The data associated for the PFAS analysis was performed by Metiri Holt in report 24G0124. This report will be sent in a separate email once completed.

Exceptions are noted below.

Cross Reference

Lab ID #	Client ID #	Matrix	Requested Tests
A21804-001	B5	Water	Total Cyanide, SGT-HEM, Trace Metals, PCBs, VOCs, pH, TSS, Ammonia, CBOD

Exceptions

Silica Gel Treated Method: EPA 1664B
Sample -001 was qualified for SGT-HEM as the spiked sample recovery was low for the Matrix Spike (26.5% recovery) with criteria being 64-132%. The Laboratory Control Sample was acceptable at 71.5%. Results may be biased low.

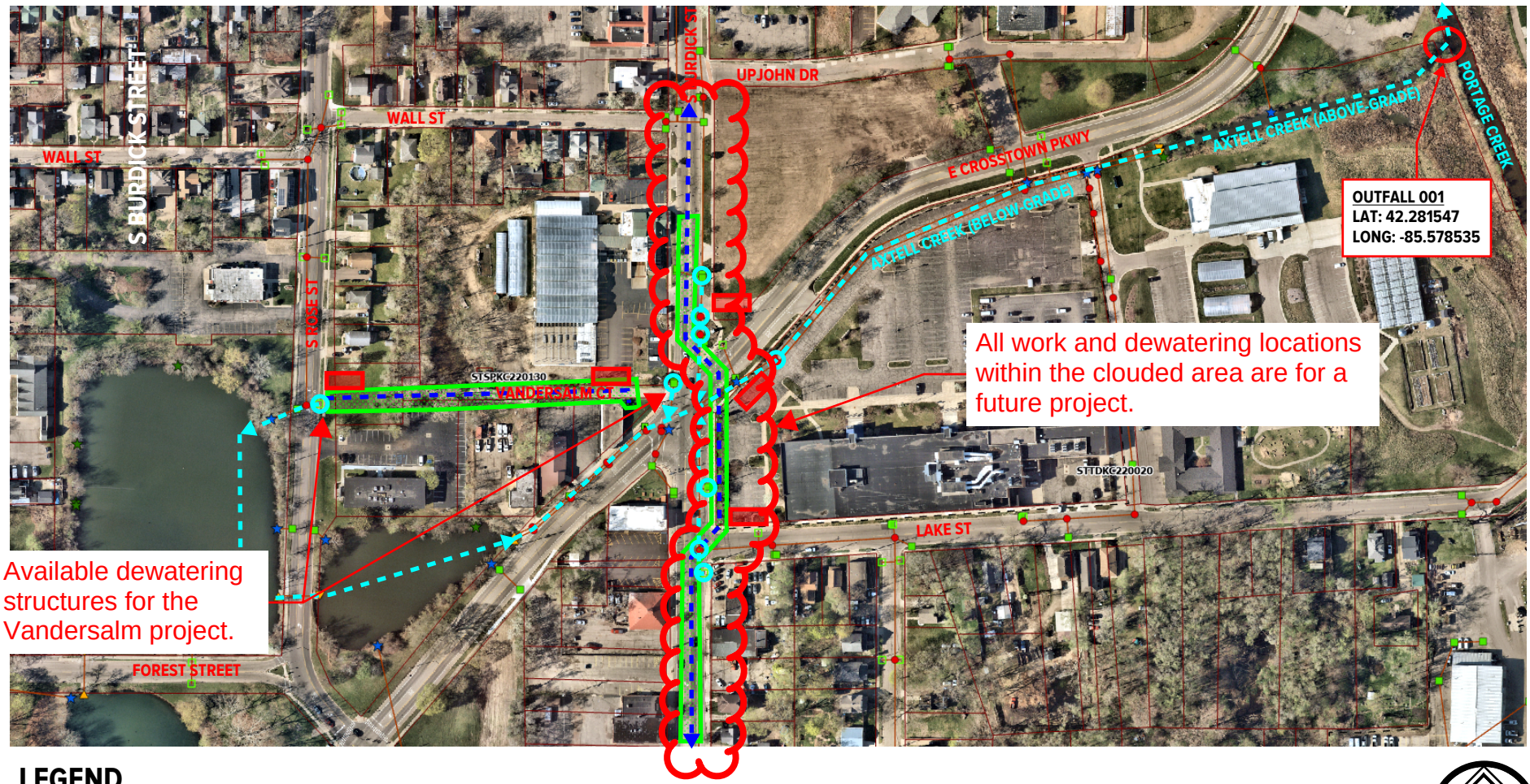
Sample -001 was qualified as potential biased low due the initial pH being ≥2, which is above method criteria.

pH Method: EPA 9040C
Sample -001 was qualified as having estimated results for pH due to exceeding the hold time (time from sampling to analysis should be within 15 minutes).

No further exceptions were observed.

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11766 E. Grand River Brighton, Michigan 48116 Telephone: (810) 220-3300 Facsimile: (810) 220-3311
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LEGEND

- PROPOSED WATER MAIN
- DIRECTION OF STORM WATER DISCHARGE FLOW
- DISCHARGE POINTS (MANHOLES/STORM GRATES
- APPROXIMATE TREATMENT TRAIN LOCATION (IF REQUIRED)
- APPROXIMATE AREA TO DEWATER FOR WATER MAIN INSTALLATION

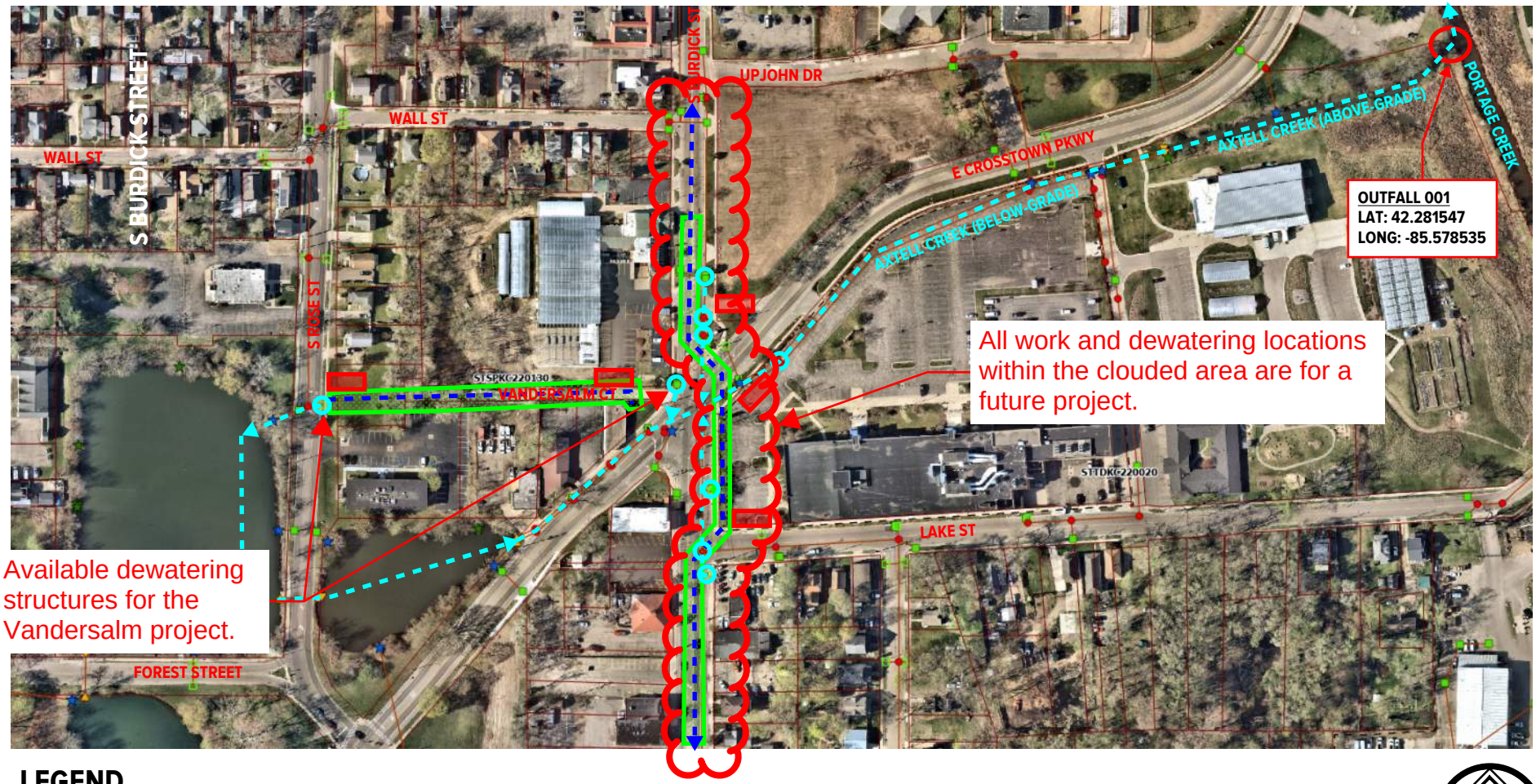
NORTH

No.	Revision Date	Date:	6/19/2025
	8/1/2025	Drawn By:	AJR
		Designed By:	AJR
		Scale:	NTS
		Project:	093008.01

DISCHARGE POINTS
BURDICK STREET IMPROVEMENTS NPDES PERMIT
KALAMAZOO, MICHIGAN

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Figure No. 1



LEGEND

- PROPOSED WATER MAIN
- DIRECTION OF STORM WATER DISCHARGE FLOW
- DISCHARGE POINTS (MANHOLES/STORM GRATES
- APPROXIMATE TREATMENT TRAIN LOCATION (IF REQUIRED)
- APPROXIMATE AREA TO DEWATER FOR WATER MAIN INSTALLATION

NORTH

No.	Revision Date	Date:	6/19/2025
	8/1/2025	Drawn By:	AJR
		Designed By:	AJR
		Scale:	NTS
		Project:	093008.01

DISCHARGE POINTS
BURDICK STREET IMPROVEMENTS NPDES PERMIT
KALAMAZOO, MICHIGAN

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Figure No. 1

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GEOTECHNICAL EVALUATION REPORT

BURDICK STREET IMPROVEMENTS
KALAMAZOO, MICHIGAN

SME Project Number: 093008.00
December 5, 2024

SME

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3301 Tech Circle Drive
Kalamazoo, MI 49008-5611

T (269) 323-3555

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December 5, 2024

Mr. Alex Phelan
Hurley & Stewart
2800 South 11th Street
Kalamazoo, Michigan 49009

Via E-mail: aphelan@hurleystewart.com

RE: Geotechnical Evaluation Services
Burdick Street Improvements
Kalamazoo, Michigan
SME Project No. 093008.00

Dear Mr. Phelan:

We have completed our geotechnical evaluation for the subject project. This report presents the results of our observations and analyses and our geotechnical recommendations based on the information disclosed by the borings. This report also presents a brief discussion on construction considerations based on our observations of the subsurface conditions and on our understanding of the proposed improvements.

We appreciate the opportunity to be of service. If you have questions or require additional information, please contact me.

Sincerely,

SME

Aaron J. Reed, PE
Senior Consultant

Enclosure: SME Geotechnical Evaluation Report, Dated December 5, 2024

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APPENDIX B
IMPORTANT INFORMATION ABOUT THIS GEOTECHNICAL-ENGINEERING REPORT
GENERAL COMMENTS
LABORATORY TESTING PROCEDURES

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1. INTRODUCTION

This report presents the results of the geotechnical evaluation performed by SME for Burdick Street Improvements projects located in Kalamazoo, Michigan. This evaluation was conducted in general accordance with the scope of services outlined in SME Proposal No. P01584.23, dated June 21, 2024. Hurley & Stewart (H&S) authorized SME's services for this evaluation. However, the following changes were made to our field exploration scope:

- Borings B5 and B6 were extended 17.5 feet and 10 feet, respectively, beyond the planned boring depth due to the presence of organic soils at the proposed termination depth.
- Boring B8 was terminated 2 feet below the existing ground (pavement) surface due to the presence of Portland cement concrete (PCC), discussed later in this report.

To assist with our evaluation and the preparation of this report, SME reviewed the 30 percent plan set dated June 6, 2024, Sheets 1 through 40, and prepared by H&S for the "City of Kalamazoo Water Main & Sanitary Sewer Replacement – Burdick Street – Reed to Lovell" project.

1.1 SITE CONDITIONS AND PROJECT DESCRIPTION

The project consists of constructing a new water main and various service leads along South Burdick Street between the cross streets of Lovell Street and West Emerson Street in Kalamazoo, Michigan. In addition, upgrades are proposed to an existing sanitary sewer along South Burdick Street between Lovell Street and Vine Street. The limits of the project are depicted on the Location Map insets on the Boring Location Diagrams (Figure Nos. 1 through 5) included in Appendix A.

The proposed water main will consist of both 16-inch diameter and 24-inch diameter ductile iron pipe (DIP) that has a general invert elevation of about 6 feet to 7 feet below existing grades. The proposed gravity sanitary sewer will consist of a 12-inch diameter pipe that has an invert elevation of about 9 feet to 10 feet below existing grades. The proposed water main will be lower at the locations listed in Table 1 below in order pass below various pieces of existing infrastructure.

TABLE 1: LOWERED SECTIONS OF WATER MAIN

APPROXIMATE STATION	APPROXIMATE INVERT DEPTH, FEET (FT)
7+65	9 FT
13+20	12-1/2 FT
15+05	9 FT
16+30	10 FT
19+55	11-1/2 FT
21+55	9 FT(1)
24+05	9 FT
33+55	11 FT
40+95	8 FT
47+15	11 FT
49+45	10 FT
51+25	11-1/2 FT
52+80	9-1/2 FT

NOTE:
1. The listed invert depth estimated based on the provided invert depth of the culvert pipes described below.

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The proposed water main and sanitary sewers will be constructed primarily using the open-cut method and using temporary earth retention measures, as needed. At approximate Station 21+55, the proposed water main will extend below two parallel storm culverts that connect with a collection chamber that spans across South Burdick Street at the intersection of South Burdick Street and Crosstown Parkway. It is our understanding the two culverts have an invert elevation of about 6 feet below existing grades. At this crossing location, the design team is proposing the water main be installed using the horizonal auger bore (HAB) trenchless installation method.

2. EVALUATION PROCEDURES

2.1 FIELD EXPLORATION

SME completed eight borings (B1 through B8) at the site on July 22 and 23, 2024. The borings extended from 10 feet to 37.5 feet below the existing ground surface. SME and H&S jointly determined the planned number, locations, and depth of the borings. SME retained a subcontractor to provide temporary traffic control to facilitate completion of the borings. SME staked the boring locations by referencing existing site features. The approximate as-drilled locations of the borings are depicted on Figure Nos. 1 through 5. SME located the as-drilled boring locations using a GPS unit with a horizontal and vertical accuracy of 1 foot.

The borings were drilled using a rotary-type drill rig and were advanced using continuous-flight, hollow-stem augers. The borings included soil sampling based upon the Split-Barrel Sampling procedure. Recovered split-barrel samples were sealed in glass jars by the driller. Groundwater observations were recorded during and immediately after completion of each boring. The boreholes were backfilled with auger cuttings after completion, with the exception of borings B5 and B6, which were backfilled with a combination of cement-bentonite grout and auger cuttings. Therefore, long-term groundwater levels were not obtained from the borings. The surface of the boreholes in existing pavement areas were capped with either asphalt cold patch or Quikrete after backfilling.

Soil samples recovered from the field exploration were returned to the SME laboratory for further observation and testing.

2.2 LABORATORY TESTING

The laboratory testing program consisted of performing visual soil classification on recovered samples in general accordance with ASTM D-2488. Moisture content and hand penetrometer tests were performed on portions of recovered cohesive samples. Moisture content tests were also performed on recovered portions of samples that appeared organic in nature. The Laboratory Testing Procedures in Appendix B provides descriptions of the laboratory tests. Based on the laboratory testing, we described the soils and assigned a Unified Soil Classification System (USCS) group symbol to each of the soil strata encountered.

Upon completion of the laboratory testing, boring logs were prepared that include information on materials encountered, the soil descriptions, penetration resistances, pertinent field observations made during the drilling operations, and the results of the laboratory tests. The boring logs also include the existing approximate ground surface elevations as measured by SME, and the approximate Station location based on the referenced plans prepared by H&S. Explanations of symbols and terms used on the boring logs are provided on the Boring Log Terminology sheet included in Appendix A. The boring logs are included in Appendix A.

The Standard Penetration Test (SPT) resistances (N-values) plotted on the boring logs represent a modified N-value based on the correlation between the recorded SPT value and the measured hammer efficiency of the testing equipment (also shown on the boring logs). Specifically, the plotted N-values have been normalized to a 60 percent hammer efficiency (N_{60}).

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Soil samples are normally retained in our laboratory for 60 days and are then disposed of, unless instructed otherwise.

3. SUBSURFACE CONDITIONS

3.1 SOIL CONDITIONS

The soil profile described below, and included on the boring logs, is a generalized description of the conditions encountered. The stratification depths shown on the boring logs are intended to indicate a zone of transition from one soil type to another. They are not intended to show exact depths of change from one soil type to another. The soil descriptions are based on visual classification of the soils encountered. Soil conditions may vary between or away from the boring locations. Please refer to the boring logs for the soil conditions at the specific boring locations.

To help depict the subsurface conditions along the project alignment, we developed Subsurface Profile A-A' (Figure No. 6) which is included in Appendix A. The profile was developed based on looking west along South Burdick Street, so north is to the right and south is to the left when looking at the figure. The lithologic symbols from the borings are plotted for each boring, along with N-values with depth and symbols that depict groundwater (where encountered).

SURFICIAL MATERIALS

Borings performed with the existing pavement of South Burdick Street (B1, B3, B4, B5, B7, and B8) encountered asphalt pavement ranging in thickness from 3 inches to 8 inches. At borings B1, B3, and B8, Portland cement concrete (PCC) was encountered below the asphalt pavement and was about 6 inches thick (at borings B1 and B3), or was penetrated 18 inches to the explored depth of boring B8. During drilling, the SME drillers discussed the location of boring B8 with an on-site Consumers Energy representative who stated an old railroad bed used to be in this area. SME could not confirm this by reviewing historical aerial images dating back to 1946. At boring B4, the asphalt pavement was underlain by about 4-inches of brick. Boring B6 was performed in a sidewalk area and encountered about 3.5 inches of PCC at the surface. Boring B2 was performed in a grass area within the road right-of-way and encountered about 3 inches of topsoil.

Thickness measurements of surficial materials, such as pavement and topsoil thicknesses, should be considered approximate since mixing of these materials with the underlying subgrade can occur while advancing the augers, and it is difficult to accurately measure thicknesses in small-diameter boreholes. Therefore, if accurate thickness measurements are required for inclusion in bid documents or for quantity estimates, additional evaluations, such as pavement cores in paved areas should be performed.

SAND FILL

Below the surface pavements and topsoil, sand fill was encountered extending to depths ranging from about 3 feet to 9.5 feet below the existing ground surface. The sand fill contained variable amounts of silt and/or clay and was classified as "SP", "SP-SM", and "SC" according to the USCS. The sand fill was generally encountered in a very loose to medium dense condition, although the shallow sand fill at borings B4 and B5 was encountered in a dense condition.

It is sometimes difficult to distinguish between fill and natural soils based on samples and cuttings from small-diameter boreholes, especially when portions of the fill do not contain man-made materials, debris, topsoil, or organic layers, and when the fill appears similar in composition to the local natural soils. Therefore, the delineation of fill described above and on the appended boring logs should be considered approximate only. A more comprehensive evaluation of the extent and composition of the fill could be made by reviewing former site topography plans, aerial photographs, and other historic site records, and by observing test pit excavations.

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ORGANIC SOILS

Underlying the sand fill at borings B5 and B6, about 1.5 feet to 3 feet of peat, underlain by organic silt (also called “marl”) extending to depths of 33.5 feet and 24.5 feet, respectively, was encountered. Moisture contents within the peat ranged from about 117 to 160 percent, while moisture contents within the organic silts ranged from about 47 to 105 percent. A stratum of very loose natural sand was encountered between the peat and organic silt at boring B5 between depths of about 11 feet and 13.5 feet below the existing ground surface.

NATURAL SANDS

Natural sands were encountered below the sand fill at borings B1, B2, B3, B4, and B7, and below the organic soils at borings B5 and B6, and extended to the explored depths of these borings. The natural sands were generally encountered in a loose to dense condition. A stratum of stiff to very stiff natural clay was encountered between the organic silt and underlying natural sands at boring B5 between depths of about 33.5 feet and 37 feet below the existing ground surface.

3.2 GROUNDWATER CONDITIONS

A summary of the groundwater observed at the boring locations is listed in Table 2 below.

TABLE 2: GROUNDWATER OBSERVATIONS

BORING	OBSERVED DURING DRILLING, DEPTH | (ELEVATION)	OBSERVED UPON COMPLETION OF DRILLING, DEPTH | (ELEVATION)
B1	Not observed above termination elevation of 772 FT (depth of 15 feet)	
B2	Not observed above termination elevation of 767 FT (depth of 15 feet)	
B3	Not observed above termination elevation of 761 FT (depth of 15 feet)	
B4	Not observed above termination elevation of 763 FT (depth of 10 feet)	
B5	3.5 FT | (757.5 FT)	3 FT | (758 FT)
B6	2 FT | (759 FT)	Note 1
B7	8.5 FT | (755.5)	Note 2
B8	Boring terminated at a depth of 2 FT in PCC	

NOTES:
1. The borehole was backfilled by tremie method. Therefore, an accurate groundwater level measurement was not obtained after completion of drilling activities.
2. Groundwater was not observed above the borehole cave-in depth upon auger removal.

Hydrostatic groundwater levels should be expected to fluctuate throughout the year, based on variations in precipitation, evaporation, run-off, the water level in Portage Creek and ponds along Crosstown Parkway, and other factors. The groundwater levels reported on the boring logs and presented in this section represent conditions at the time the readings were taken. The groundwater levels at the time of construction may vary from those conditions noted on the logs.

4. ANALYSIS AND RECOMMENDATIONS

4.1 OPEN-CUT INSTALLATIONS

The open-cut installation method is planned for the proposed water and sewer mains outlined in Section 1.1.

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4.1.1 GENERAL EXCAVATION CONSIDERATIONS

For open-cut trench installation methods, it is typically difficult to maintain stable excavations through loose, sandy soils unless the side slopes can be adequately sloped. This is especially the case where groundwater seepage is encountered. We recommend excavation sidewalls be adequately sloped back, benched, and/or braced to prevent sloughing and caving of sidewalls. In cases where instability occurs in temporary slopes, it may be necessary to flatten slopes beyond what is required by MI-OSHA in order to provide a stable excavation. Do not place stockpiled soils and/or operate construction equipment near excavations without accounting for (by either shallow slopes or adequate bracing) the increased load along the edges of the excavations that could result in instability of the excavation slope.

Due to the anticipated lateral constraints of working within the existing roadway, utilization of open-cut, sloped, and/or benched excavations may not be feasible at all locations. Where lateral resistance is necessary to maintain a relatively narrow, vertical excavation/trench to limit the impact on adjacent improvements, a temporary earth retention system (TERS) comprised of internally-braced steel sheeting or appropriately sized steel trench boxes can be used to support the relatively shallow utility excavations. Other types of earth retention may be necessary for deeper excavations.

Manufacturer information for trench boxes proposed for use must be checked to verify they are suitable for the specific excavations planned. The design of internally-braced sheeting or other types of TERS required during construction for open-cut installation should be performed by an experienced registered professional engineer and installed by a contractor experienced with this type of construction. Appropriate measures for providing temporary support of existing utilities, pavements, and other improvements will be required where the alignment excavations cross or are in close proximity to existing utilities or structures. Depending on the specific situations, monitoring of existing utilities during construction to identify any movements resulting from the proposed construction activities should be considered.

4.1.2 TEMPORARY GROUNDWATER CONTROL

Groundwater was encountered between about elevations 755 feet and 759 feet at borings B5, B6, and B7. Based on the referenced plan sheets, the proposed water main is to be constructed at invert elevations below 760 feet between about Stations 4+25 and 25+25. Within this area, the water main will be constructed at an invert below elevation 755 feet between about Stations 18+50 and 24+25. Based on the soil and groundwater conditions observed at the boring locations, and on the anticipated depths of excavation, groundwater seepage or accumulations should be expected within excavations between about Stations 18+50 and 24+25, and possibly outside that area between about Stations 4+25 and 25+25. Therefore, temporary dewatering measures will be necessary for the project to maintain a relatively dry excavation for water main construction.

The type of dewatering system will depend on the specific soil conditions and the required depth of excavation below (or near to) the groundwater level. We anticipate dewatering using conventional sump pit and pumping methods will typically be able to control groundwater seepage on a local basis for excavations extending no more than about 1 foot to 2 feet below the encountered groundwater levels. Where sands are exposed in excavation sidewalls or the bottom of excavations, the volume of groundwater seepage will be higher, and multiple, closely-spaced sumps may be required to control accumulations. Groundwater seepage rates could also be controlled (i.e., reduced) by using sheeting as a TERS. Where excavations extend more than about 1 foot to 2 feet below the encountered groundwater levels in sands, more aggressive dewatering techniques, such as dewatering wells or wellpoints, will be required to control accumulations. The groundwater should be temporarily lowered to a minimum of 1-foot below the bottom of the excavation for construction of the water main. It should be noted that, even after dewatering, the subgrade soils near the bottom of the excavation will probably still be wet and sensitive to disturbance. In such cases, a layer of crushed stone may need to be placed over the wet subgrade to protect the subgrade, or to form a stable working platform on which to place pipe bedding materials.

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The design of temporary dewatering measures are typically the responsibility of the contractor. We would be pleased to assist you in the development of a performance based specification for this portion of the project.

The proposed sanitary sewer is expected to be located about 9 feet to 10 feet below existing grades between Lovell and Vine Streets. Borings B1 through B3 were located within this portion of the project alignment, and groundwater was below the explored depth (15 feet) of these three borings. Therefore, we anticipate heavy groundwater seepage will not be encountered in excavations for installation of sanitary sewer that remain above a depth of about 10 feet within this portion of the alignment. Seepage that is encountered from perched sources or stormwater runoff above this depth within this portion of the alignment should be able to be controlled using normal sump pit and pumping procedures.

4.1.3 DISCUSSION ON THE PRESENCE OF ORGANIC SOILS

The intersection of South Burdick Street and Crosstown Parkway site is located within a relatively low-lying area within downtown Kalamazoo. As indicated above, organic soils were encountered at borings B5 and B6. Specifically, the organic soils at these boring locations extended to depths ranging from about 33.5 feet to 24.5 feet below the existing ground surface. Similar soil deposits are present along Crosstown Parkway both east and west of South Burdick Street.

Organic soils, such as organic silt and peat, are compressible, meaning they will compress over time, resulting in settlement at the ground surface. The amount of compression or settlement that will be experienced over time is dependent on the thickness of the organic deposit, the compressibility of the material, and the amount of additional stress or load (if any) placed on the organic soils (e.g., due to the construction of overlying improvements or placement of new fill). Organic soils with higher moisture contents are more compressible than similar organic soils with lower moisture contents, and peat tends to be more compressible than organic silts. Because organic soils will continue to compress or settle slowly over time, they can be problematic if left in-place below structures and other improvements due to excessive total and differential settlements that might be experienced over time. For critical utilities that convey fluids by gravity, settlement over time could lead to reduced or compromised hydraulic efficiency (due to changes in the slopes of the pipes), and failures could occur at pipe joints if differential settlements occur over a relatively short distance.

The organic soils encountered within borings B5 and B6 extend relatively far below the anticipated invert levels for the water main. Specifically, the organic soils at these boring locations extended to depths ranging from about 33.5 feet to 24.5 feet below the existing ground surface. Therefore, undercutting to remove the organic soils below new water main infrastructure is not considered feasible in this area of the project. It is likely many of the existing utilities in this area are supported over the existing organic soils without a deep foundation (pile) system for support since undercutting to remove the organic soils was considered impractical when these utilities were installed, and pile support for a utility is not a usual practice and is typically implemented in rare, but unique circumstances. If the vertical pressures on the underlying organic soils are not increased by the proposed improvements, then we anticipate the settlements will be limited to the long-term secondary compression of the organics, which tend to be relatively small, and tend to occur over a very long time frame. Based on our review of the soil information obtained from the borings and the provided project information, we estimate the long-term (about 20 to 30 years) settlements of the proposed water main associated with secondary compression could range from about 1 inch to 2 inches if the water main were to be constructed directly over the existing organic soils, as long as site grades are not raised.

The risks related to the future additional settlement of utilities can be mitigated through various means. The overburden pressure (and long-term settlement) can be reduced by excavation of some of the soils below the water main and replacing with a lightweight fill material. Expanded polystyrene (EPS) is a common “geo-foam” material for this purpose, but there are other options available, such as lightweight aggregates. If the City of Kalamazoo cannot accept the increased risks of supporting the proposed water main over organic soils and accounting for the estimated long-term settlements, then these elements should be supported on deep foundations (piles), or the use of lightweight fill material should be considered.

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4.1.4 PIPE SUPPORT

It is our understanding the proposed water main and sanitary sewer pipe are to be supported on existing subgrades. Based on the conditions encountered at borings B1 through B7, primarily sand fill or natural sands, are anticipated within excavations, with the exception of the areas of organic soils discussed above.

Where organic soils extend below the new water main, and where these organic soils cannot be practically undercut and replaced with engineered fill, long-term settlements will occur as described in Section 4.1.3. At a minimum, we recommend existing subgrades be overcut by 2 feet and an MDOT nonwoven stabilization fabric be placed at the base of the excavation to create a more stable subgrade on which to construct the proposed water main within these areas. We recommend the overcut extend at least 2 feet beyond the outside edges of proposed water main pipe. We recommend MDOT 6A crushed aggregate be placed on top of the stabilization fabric and be used to backfill up to the bottom of the bedding material used below the bottom of the pipe. The underlying stabilization fabric should either be wrapped around the MDOT 6A or a separate layer of non-woven fabric be placed over the top of the 6A to prevent the migration of finer particles of the bedding material into the void space of the underlying aggregate. Regardless of the above recommendations, the water main should be expected to settle some over time and including some flexibility into the design of the water main in this area, such as the use of flexible pipe or joint materials, can reduce maintenance and extend the life of the utility.

Outside the areas of organic soils, we anticipate mostly suitable pipe support conditions consisting of sands in at least a loose condition will be encountered at the anticipated pipe invert depths. Stabilization of the bottoms of excavations could be necessary at locations where wet sands are encountered, or at locations that become disturbed due to seepage or for other reasons. Undercut excavations to remove unsuitable soils should be properly oversized beneath utility pipes. Wet or disturbed soils must be undercut to encounter stable conditions, and the undercut soils must be replaced with a layer of crushed aggregate or crushed concrete to provide a stable working surface. The required thickness of this stabilization layer will depend on the severity of the groundwater conditions and depth of weak or unsuitable soils. A non-woven geotextile fabric or a dense-graded aggregate should be placed over the stabilization layer to mitigate the potential for overlying sand fill to migrate into the voids of the underlying aggregate. We recommend an SME representative be onsite during construction to further assess subsurface conditions and to provide field recommendations for stabilization, as needed.

Outside the areas of organic soils, we recommend bedding the new water and sewer mains with an approved granular material meeting the requirements of the appropriate municipal agency and designer. The placement and compaction of the bedding material should also conform to the requirements of the appropriate municipal agency and acceptable buried pipe design practices.

4.2. HORIZONTAL AUGER BORE INSTALLATIONS

Our comments and geotechnical recommendations related to the proposed HAB water main installation below the two parallel storm culverts described in Section 1.1 are presented below. This report does not provide an engineering design, and the means and methods to be used for the proposed crossing are the responsibility of the HAB contractor.

4.2.1 PIT EXCAVATIONS

Bore (launching) and receiving pit excavations will be required on either side of the trenchless crossing location. Proposed pit excavation locations had not been provided to us at the time of this report. We anticipate both the launching and receiving pits will need to include a TERS to confine these pits to a relatively small area. We recommend these pits and the earth retention system, including length, width, and depth, be shown on the project plan sheets.

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As outlined in Section 4.1.1 and in the paragraph above, a TERS will likely be required at the pit locations due to the lateral constraints of working within the existing roadway. Earthwork and the excavation for pits should comply with applicable agency requirements, which should be verified prior to the development of the final project plans. Groundwater seepage into the pit excavations should be expected based on the conditions encountered at borings B5 and B6. The HAB contractors typically design the necessary earth retention and dewatering systems for their construction operations, as the means and methods used may vary from contractor to contractor.

4.2.2 TRENCHLESS INSTALLATION METHOD CONSIDERATIONS

At the crossing, the proposed water main is anticipated to have an invert elevation of about 9 feet below existing grades, or situated at about elevation 752 feet. Based on the soils encountered at borings B5 and B6, we anticipate the soils encountered within the alignment of the HAB will alternate between very loose sand fill and organic soils (peat). Groundwater is anticipated to be present about 7 feet to 8 feet above the invert of the HAB alignment. These two conditions make the HAB installation method relatively risky because of the strong potential for damaging existing infrastructure located above or near the proposed alignment. These soils could pose a risk to the long term support of the casing pipe, as previously discussed in Section 4.1.3 unless designed to bridge between two structures located on either side of the crossing. In addition, it may be difficult to adequately dewater the crossing location to the recommended 2 feet below the bottom of the casing pipe with the presence of organic soils near the anticipated invert of the crossing. If wet sand conditions are encountered during boring operations, it will also be difficult to prevent soil from "running" down the bore pipe that would likely cause settlement of the overlying soils that could potentially damage the roadway and overlying or adjacent utilities.

Based on the risks outlined above, we recommend that construction of the crossing not be performed using traditional HAB methods. For the traditional HAB installation method, soils are typically removed from the bore pipe via an auger that is located inside the bore pipe. The lead of the auger can be placed at varying distances from leading edge of the bore pipe based on the soil conditions along the alignment. As the bore pipe is pushed along the alignment from the launching pit, the augers remove soil from within the pipe. Alternatively, Pipe Ramming consists of removing the auger and the bore machine and advancing the casing pipe using a pneumatic ram (hammer) for the entire run. The front of the casing cuts through the soil, leaving soil on the inside of the pipe. After the pipe is in place between the pits, the soils can then be removed from inside the pipe, typically using a sealed plug and compressed air. With Pipe Ramming, the risk of soils caving into the pipe during installation is mitigated since the soils inside the pipe are not removed until the entire length of pipe is in place, and a jacking pit with a reaction frame is not required to install the pipe. However, at this location there is a risk the vibrations from the pneumatic hammer could cause the overlying very loose sand fill to settle. Therefore, we propose a combination of the two methods (HAB and Pipe Ramming) be performed as outlined in the paragraphs below.

We recommend consideration be given to installing the proposed casing pipe using a HAB machine without the augers. The proposed HAB crossing alignment is anticipated to be relatively short, less than 20 feet. Therefore, the risk of the casing pipe deviating from the proposed alignment due to the presence of weak soils is relatively low. In addition, the short distance and existing weak soils should make it relatively easy to advance the casing pipe using only the jacking force of the HAB machine. Once the casing pipe is in place, the soils can be removed via the augers of the bore machine.

This proposed installation method is not a typical HAB procedure. As a result, problems could occur. We recommend the City of Kalamazoo utilize an HAB contractor familiar with boring through similar soil and groundwater conditions. We recommend additional monitoring be performed during construction to ensure the integrity of the roadway be maintained. This could include more monitoring points and more frequent readings, and contingency plans that can be quickly implemented in the event an issue materializes. One contingency plan could include the ability to grout and abandoned the crossing. Specific threshold limits for movement should be set and action (or remedial) plans developed for each alert level encountered during installation.

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The contractor must confirm the locations and elevations of existing utilities before proceeding with the work and the contractor must monitor the existing utilities during HAB crossing operations. We recommend the use of soft excavation methods (e.g., hydro-excavation), possibly in conjunction with ground penetrating radar (GPR), to determine the specific location and the amount of ground cover over each utility within the influence of the proposed crossing. Pre-construction and post-construction condition evaluations of the existing utilities that could be affected by the HAB operations should be performed.

Obstructions, such as boulders, cobbles, or man-made structures, could affect HAB operations and could require the use of a larger casing diameter to accommodate removal of the obstructions, should they be encountered. Collapse of overlying soils can result from encountering obstructions, which must be removed during the pushing of the casing into place. The project team should consider how such events would be handled contractually and contractors should be instructed that they must be prepared to handle encountered obstructions without causing subsidence or damage to the roadway or existing utilities.

We recommend the HAB contractor submit the following information to identify the steps being taken to reduce the risk of surface settlements and damage to the existing utilities and infrastructure:

1. A plan identifying proposed drill limits and pit excavations planned to install the water main.
2. A written description of the proposed boring operations, including documentation of the type of equipment, anticipated boring procedures, including the types of additional materials used to complete the bore, such as drilling fluid and pipe lubrication, welding procedures to be used, and a contingency plan to remove obstructions (e.g., cobbles and boulders).
3. A list of back-up equipment that will be available during construction to allow the bore process to proceed uninterrupted in the event of equipment failure.
4. Contact information for a flowable fill/grouting contractor and GPR consultant and that will be on-call for emergency response to pavement distress and surface settlements that might result from the boring operations.
5. A plan identifying the locations, sizes, and elevations of all utilities within the area of work prior to beginning drilling operations.
6. A proposed plan to complete the entire casing pipe installation process (i.e., from the launching pit to the receiving pit) in a continuous operation. Note, the casing should only be advanced by pushing with the bore machine and not through the use of pneumatic, impact, or vibratory methods.
7. A monitoring plan to monitor elevations and site conditions during HAB crossing operations and during installation and removal of the launching and receiving pits and associated TERS, if required.
8. A plan to verify the pre-construction and post-construction conditions of existing underground utilities and adjacent infrastructure.

A more detailed analysis of pipe installation by HAB methods is beyond the scope of this evaluation. The selected contractor should provide detailed HAB means and methods as part of their project bid.

4.3 ENGINEERED FILL REQUIREMENTS

Utility trench and excavation backfill should be an approved material, free of frozen soils, organics, over-sized materials greater than 3 inches, or other deleterious materials. Backfill should be spread in level layers not exceeding the depth that can be adequately compacted by the compaction equipment being used, and generally not exceeding 9 inches in loose thickness. Backfill and bedding materials should

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meet the requirements of the MDOT *Standard Specifications for Construction* or the requirements of the appropriate governing agency in roadway areas. Fill placed in structural areas for the supporting facilities should be compacted to a minimum of 95 percent of the maximum dry density determined in accordance with the Modified Proctor test. In non-structural areas, fill may be compacted in lifts to a degree where it is stable under construction equipment.

Sand fill should be compacted with a smooth drum vibratory roller or vibratory plate compactors, including either walk-behind types, or plate compactors mounted on a backhoe or excavator (i.e., hoe-pacs). Lifts of fill should not exceed the thickness that can be completely compacted to the specified density by the equipment being used for compaction.

The on-site soils can be considered for reuse as site engineered fill, provided the material meets the requirements in the previous paragraph and the soils are at a suitable moisture content for proper compaction. Clayey and silty soils will likely require moisture conditioning (e.g., aeration and drying) to achieve suitable moisture levels for proper compaction when used as engineered fill. Moisture conditioning of these soils will likely not be feasible during seasonally colder times of the year or during periods of frequent precipitation and may not be feasible if the stockpiled material is confined to a small area. Moisture conditioning of clays and silts will require a suitable open area when these soils can be spread, aerated, and dried.

The upper fill consisting of clayey sands (with a USCS group symbol of “SC”) will be difficult to compact in confined areas, such as in utility trenches or other relatively confined excavations, where smaller, walk-behind type compaction equipment is used. Clayey and silty soils should not be used as engineered fill where drainage is required and should only be used as engineered fill in open areas where compaction is achieved with large equipment and where moisture conditioning is feasible. In utility trenches where compaction is required and primarily by smaller plate compaction equipment, an approved granular material, such as MDOT Class II sand, should be used as backfill. Thinner lifts will be required to achieve suitable compaction of the backfill in areas where smaller, walk-behind type compactors are used. Based on the boring information, the cleaner sands with USCS designations of “SP” should meet MDOT Class II sand gradational requirements, provided clay and/or silt seams/layers are segregated from the more suitable soils. SME should verify the suitability of on-site soil proposed for reuse by performing analyses of identified soils during construction.

Coarse crushed aggregate used to backfill undercuts or to stabilize subgrades should consist of a well graded, crushed natural aggregate or crushed concrete ranging from 1 inch to 3 inches in size with no more than 7 percent by weight passing the No. 200 sieve. In cases where granular engineered fill will be placed over the crushed aggregate, the surface of the coarse crushed material should be choked with a layer of at least 6 inches of MDOT 21AA dense-graded aggregate or a suitable non-woven geotextile to reduce the risk of migration of the sand into the coarser crushed material, potentially resulting in localized settlement.

4.4 GENERAL COMMENTS AND CONSTRUCTION CONSIDERATIONS

This report was prepared in accordance with generally accepted geotechnical engineering practices to assist with the review of the proposed water and sewer main installation using open cut and HAB installation methods. If the scope of the project changes from that stated in this report, or if the assumptions stated herein are incorrect, then SME should review the revised information and confirm or revise the conclusions and recommendations of this report.

Our recommendations are based on information developed from small diameter borings and limited sampling. Variations in soil and groundwater conditions commonly occur between or away from sampling locations. The nature and extent of the variations may not become evident until the time of construction. SME should be retained to verify the subsurface conditions encountered during construction are

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consistent with the anticipated subsurface conditions indicated by the borings. SME can also assist during the construction process by reviewing contractor submittals, observing subsurface conditions, documenting the open-cut and HAB activities and any resulting concerns, and monitoring settlements during construction.

The design team should perform a desktop review to verify information available that may indicate the locations of abandoned and/or active utilities and other below-grade obstructions in the project area. The contractor(s) should be provided the locations of existing utilities and below-grade obstructions in the area before installing sheeting, dewatering, or excavating. Contractors should be prepared to brace excavations located near utilities, as required. Shoring and bracing should be designed by a qualified professional engineer, and installed by a contractor experienced with applicable type of construction.

Pre-condition and post-condition site surveys should be considered in areas that have a potential of being affected by the proposed construction. Vibration monitoring can be considered to verify vibration levels during critical construction activities that may potentially damage existing structures or cause distress to occupants. Contact SME for additional information regarding condition surveys or vibration monitoring.

The contractor should remove ponded surface water and prevent run-off from reaching utility trench or pit excavations and areas of prepared subgrade. We recommend the contractor establish positive surface drainage at the onset of construction to mitigate the potential for subgrade disturbance. If subgrade disturbance is observed, then construction traffic should be restricted to dedicated areas that are stabilized, as needed, using crushed aggregates, geotechnical fabrics for separation, and/or geogrids for further stabilization.

The need for moisture conditioning (i.e., aerating and drying) existing soils, and the success of moisture conditioning, will be dependent on the weather conditions at the time of construction. During cold and wet periods of the year, the subgrade soils may become saturated and disturbed, which precludes sufficient drying of the soils so they can be compacted in accordance with project requirements. If these conditions occur, it will be necessary for the contractor to import greater quantities of suitable structural fill to use on the site while at the same time, require exporting of excavated wet soils from the site, assuming on-site disposal of unsuitable soils will not be feasible. The potential effects of soil moisture conditions during the anticipated construction season should be considered when developing the project earthwork budget.

The contractor must provide a safely sloped excavation or an adequately constructed and braced shoring system in accordance with federal, state, and local safety regulations for individuals working in an excavation that may expose them to the danger of moving ground. If material is stored or heavy equipment is operated near an excavation, appropriate shoring must be used to resist the extra pressure due to the superimposed loads.

This report has been prepared solely for the use of our client and only for the purposes stated in the report. Any use or reliance on this report by others without SME's express written consent will be at the sole risk of the user. SME is not responsible for the misinterpretation of our geotechnical data and recommendations by others.

5. SIGNATURES

PREPARED BY:



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REVIEWED BY:



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Principal Consultant

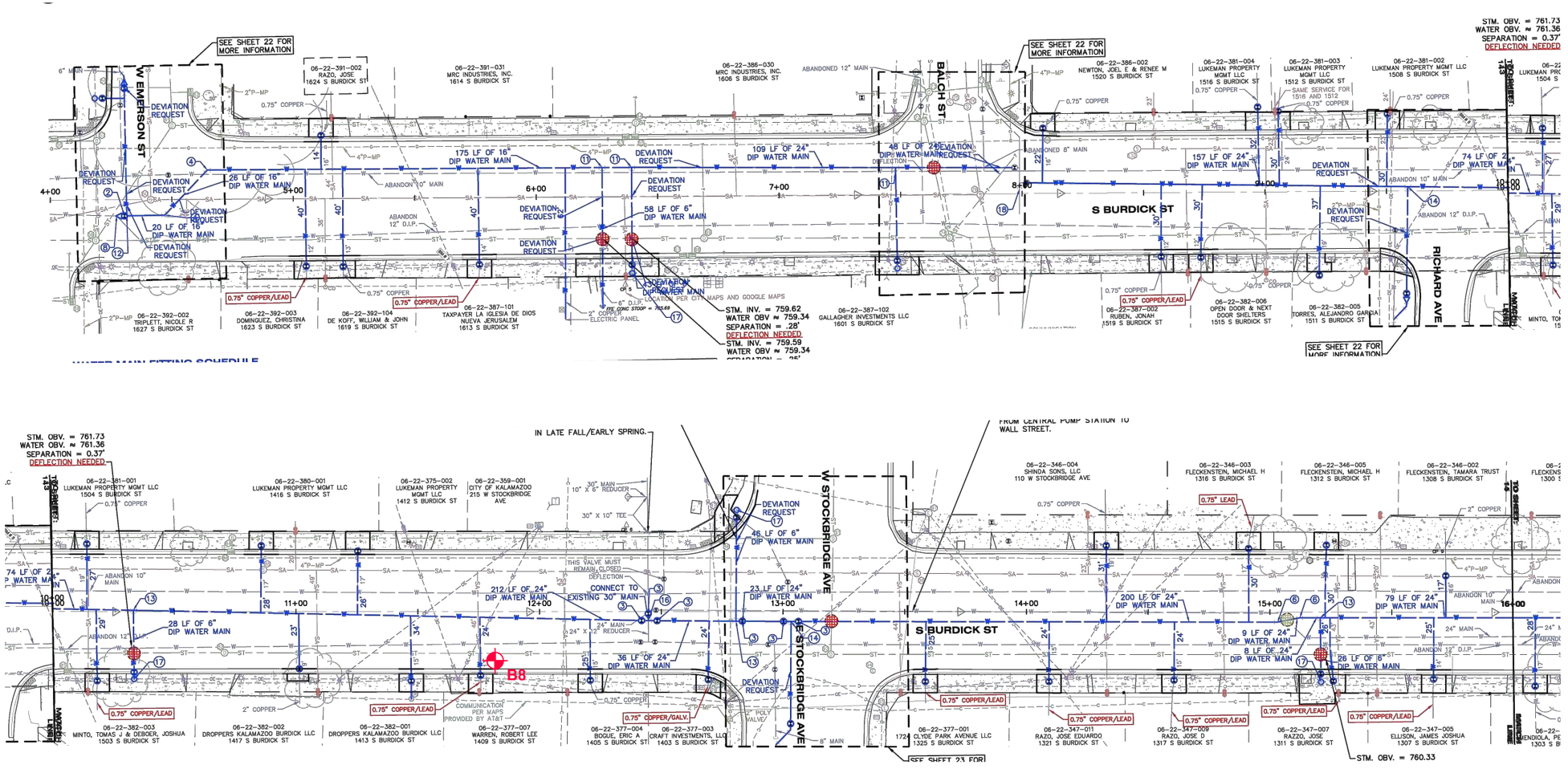
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APPENDIX A

BORING LOCATION DIAGRAMS (FIGURE NOS. 1 THROUGH 5)
BORING LOG TERMINOLOGY
BORING LOGS (B1 THROUGH B8)
SUBSURFACE PROFILE A-A' (FIGURE NO. 6)

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LOCATION MAP

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GRAPHIC SCALE: 1" = 50'

LEGEND

APPROXIMATE BORING LOCATION

NOTE:

1. BASE DRAWING INFORMATION TAKEN FROM A PDF FILE OF A DRAWING SET PREPARED BY HURLEY & STEWART FOR THE "CITY OF KALAMAZOO WATER MAIN & SANITARY SEWER REPLACEMENT - BURDICK STREET - REED TO LOVELL" PROJECT, SHEETS 13 THROUGH 21, DATED JUNE 6, 2024, AND LABELED 30%.

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Project

BURDICK STREET IMPROVEMENTS

Project Location

KALAMAZOO, MICHIGAN

Sheet Name

BORING LOCATION DIAGRAM

No.	Revision Date

Date 11-21-2024

CADD CRC

Designer AJR

Scale AS NOTED

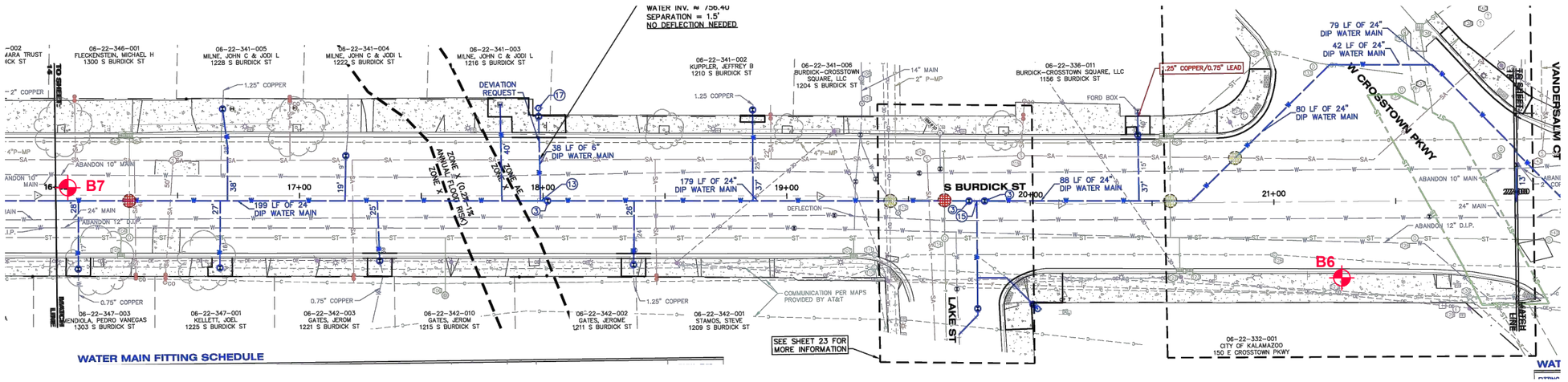
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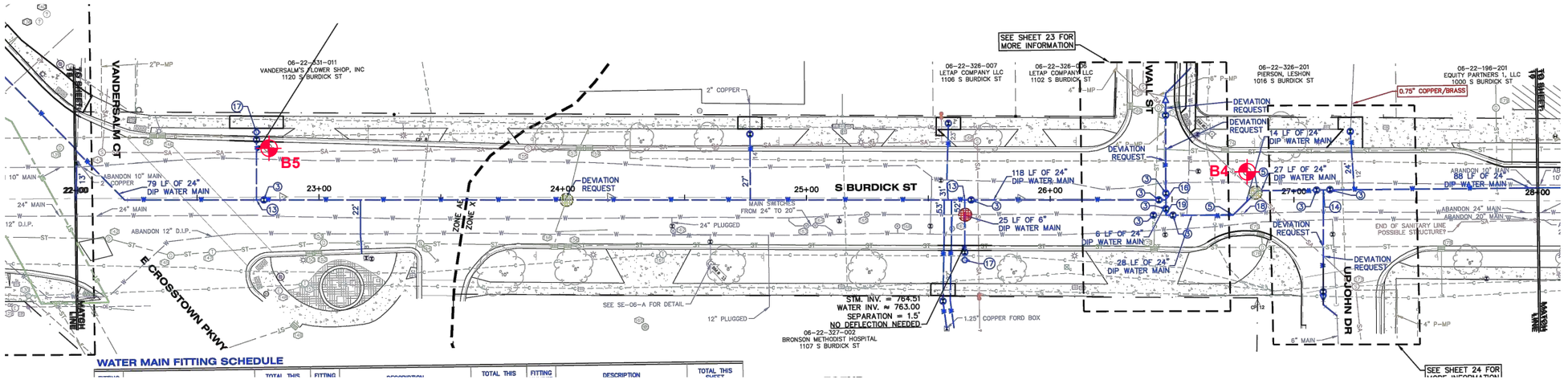
Figure No. 1

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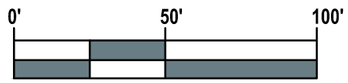


LOCATION MAP

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Project Location

KALAMAZOO, MICHIGAN

Sheet Name

BORING LOCATION DIAGRAM

No.	Revision Date

Date 11-21-2024

CADD CRC

Designer AJR

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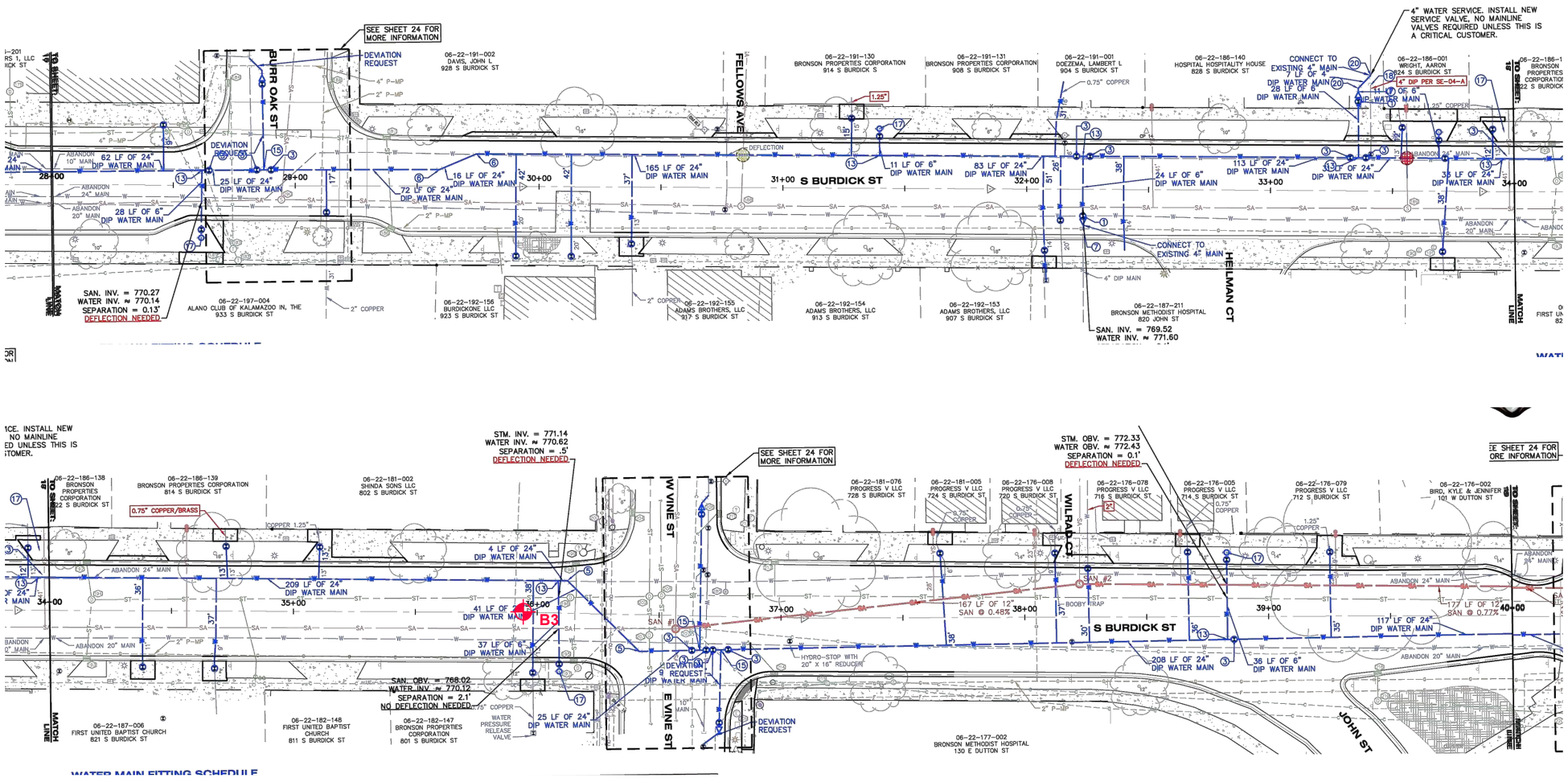
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Figure No. 2

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APPROXIMATE BORING LOCATION

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BURDICK STREET IMPROVEMENTS

Project Location

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Sheet Name

BORING LOCATION DIAGRAM

No.	Revision Date

Date 11-21-2024

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Designer AJR

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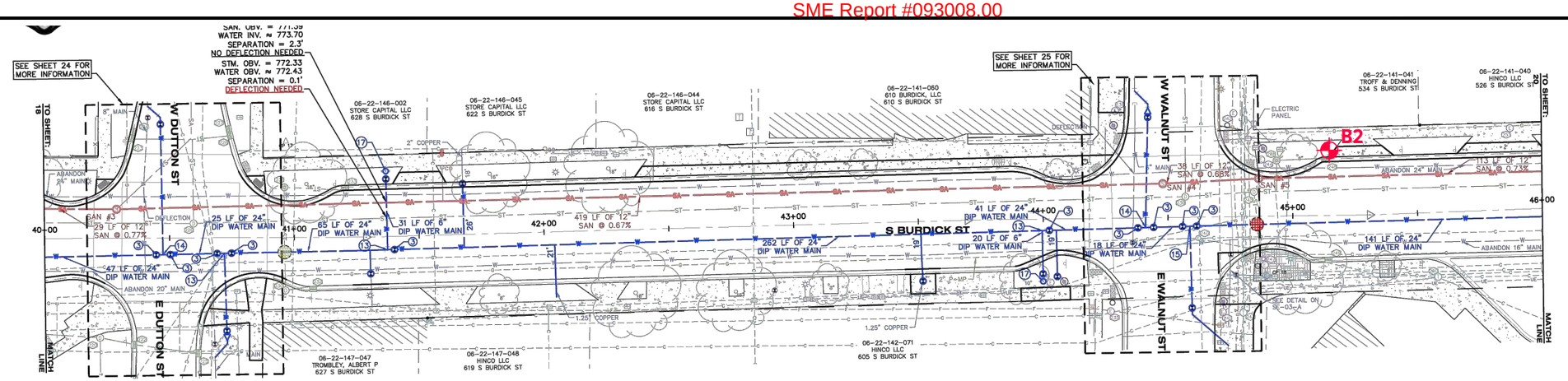
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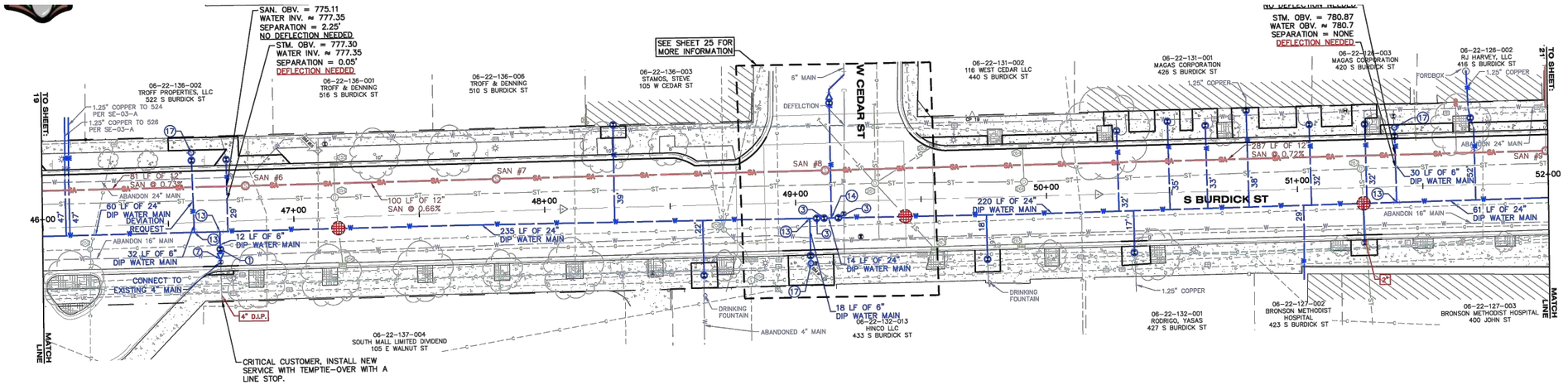
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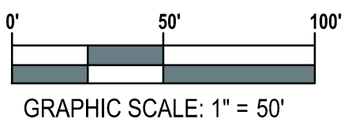




LOCATION MAP

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GRAPHIC SCALE: 1" = 50'

LEGEND

APPROXIMATE BORING LOCATION

NOTE:

1. BASE DRAWING INFORMATION TAKEN FROM A PDF FILE OF A DRAWING SET PREPARED BY HURLEY & STEWART FOR THE "CITY OF KALAMAZOO WATER MAIN & SANITARY SEWER REPLACEMENT - BURDICK STREET - REED TO LOVELL" PROJECT, SHEETS 13 THROUGH 21, DATED JUNE 6, 2024, AND LABELED 30%.

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BURDICK STREET IMPROVEMENTS

Project Location

KALAMAZOO, MICHIGAN

Sheet Name

BORING LOCATION DIAGRAM

No.	Revision Date

Date 11-21-2024

CADD CRC

Designer AJR

Scale AS NOTED

Project 093008.00

Figure No. 4

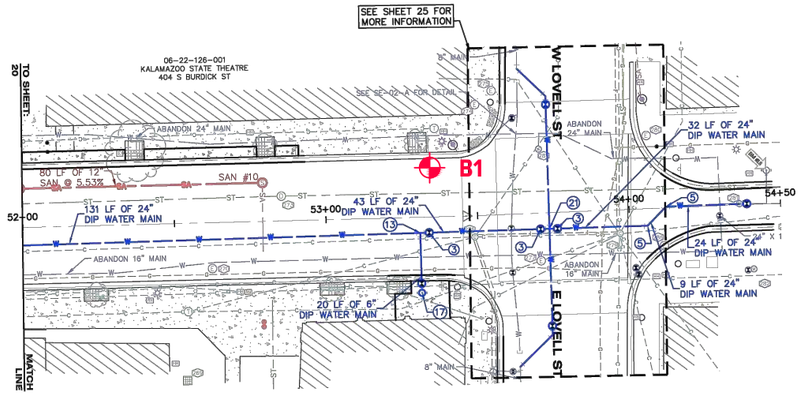
DRAWING NOTE: SCALE DEPICTED IS MEANT FOR 11" X 17" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA

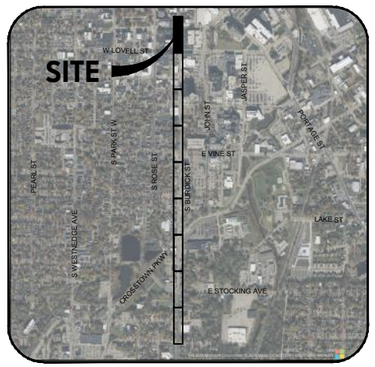
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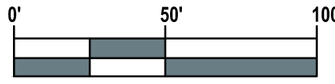


LOCATION MAP

NOT TO SCALE







GRAPHIC SCALE: 1" = 50'

LEGEND

APPROXIMATE BORING LOCATION

NOTE:

1. BASE DRAWING INFORMATION TAKEN FROM A PDF FILE OF A DRAWING SET PREPARED BY HURLEY & STEWART FOR THE "CITY OF KALAMAZOO WATER MAIN & SANITARY SEWER REPLACEMENT - BURDICK STREET - REED TO LOVELL" PROJECT, SHEETS 13 THROUGH 21, DATED JUNE 6, 2024, AND LABELED 30%.

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Project

BURDICK STREET IMPROVEMENTS

Project Location

KALAMAZOO, MICHIGAN

Sheet Name

BORING LOCATION DIAGRAM

No.	Revision Date

Date 11-21-2024

CADD CRC

Designer AJR

Scale AS NOTED

Project 093008.00

Figure No. 5

DRAWING NOTE: SCALE DEPICTED IS MEANT FOR 11" X 17" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA

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BORING LOG TERMINOLOGY

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOIL (more than 50% of material is larger than No. 200 sieve size.)			
GRAVEL More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravel (Less than 5% fines)	GW	Well-graded gravel; gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravel; gravel-sand mixtures, little or no fines
	Gravel with fines (More than 12% fines)	GM	Silty gravel; gravel-sand-silt mixtures
		GC	Clayey gravel; gravel-sand-clay mixtures
SAND 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sand (Less than 5% fines)	SW	Well-graded sand; sand-gravel mixtures, little or no fines
		SP	Poorly graded sand; sand-gravel mixtures, little or no fines
	Sand with fines (More than 12% fines)	SM	Silty sand; sand-silt-gravel mixtures
		SC	Clayey sand; sand–clay-gravel mixtures
FINE-GRAINED SOIL (50% or more of material is smaller than No. 200 sieve size)			
SILT AND CLAY Liquid limit less than 50%		ML	Inorganic silt; sandy silt or gravelly silt with slight plasticity
		CL	Inorganic clay of low plasticity; lean clay, sandy clay, gravelly clay
		OL	Organic silt and organic clay of low plasticity
SILT AND CLAY Liquid limit 50% or greater		MH	Inorganic silt of high plasticity, elastic silt
		CH	Inorganic clay of high plasticity, fat clay
		OH	Organic silt and organic clay of high plasticity
HIGHLY ORGANIC SOIL		PT	Peat and other highly organic soil

OTHER MATERIAL SYMBOLS

Topsoil, Void, Sandstone, Asphalt Concrete, Glacial Till, Siltstone, Aggregate Base, Coal, Limestone, Portland Cement Concrete, Shale, Fill

LABORATORY CLASSIFICATION CRITERIA

GW	$C_U = \frac{D_{60}}{D_{10}}$ greater than 4; $C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or PI less than 4	Above "A" line with PI between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with PI greater than 7	
SW	$C_U = \frac{D_{60}}{D_{10}}$ greater than 6; $C_C = \frac{D_{30}^2}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" line or PI less than 4	Above "A" line with PI between 4 and 7 are borderline cases requiring use of dual symbols
SC	Atterberg limits above "A" line with PI greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent……GW, GP, SW, SP
More than 12 percent……GM, GC, SM, SC
5 to 12 percent……Cases requiring dual symbols

- SP-SM or SW-SM (SAND with Silt or SAND with Silt and Gravel)
- SP-SC or SW-SC (SAND with Clay or SAND with Clay and Gravel)
- GP-GM or GW-GM (GRAVEL with Silt or GRAVEL with Silt and Sand)
- GP-GC or GW-GC (GRAVEL with Clay or GRAVEL with Clay and Sand)

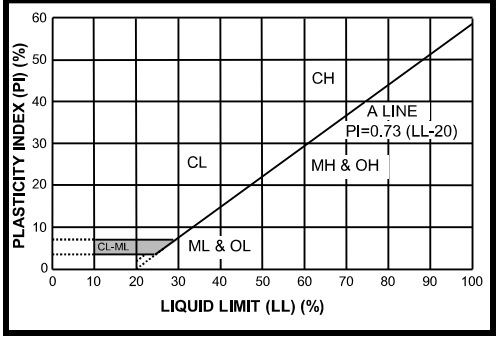
If the fines are CL-ML:

- SC-SM (SILTY CLAYEY SAND or SILTY CLAYEY SAND with Gravel)
- SM-SC (CLAYEY SILTY SAND or CLAYEY SILTY SAND with Gravel)
- GC-GM (SILTY CLAYEY GRAVEL or SILTY CLAYEY GRAVEL with Sand)

PARTICLE SIZES

Boulders	-	Greater than 12 inches
Cobbles	-	3 inches to 12 inches
Gravel- Coarse	-	3/4 inches to 3 inches
Fine	-	No. 4 to 3/4 inches
Sand- Coarse	-	No. 10 to No. 4
Medium	-	No. 40 to No. 10
Fine	-	No. 200 to No. 40
Silt and Clay	-	Less than (0.074 mm)

PLASTICITY CHART



VISUAL MANUAL PROCEDURE

When laboratory tests are not performed to confirm the classification of soils exhibiting borderline classifications, the two possible classifications would be separated with a slash, as follows:

For soils where it is difficult to distinguish if it is a coarse or fine-grained soil:

- SC/CL (CLAYEY SAND to Sandy LEAN CLAY)
- SM/ML (SILTY SAND to SANDY SILT)
- GC/CL (CLAYEY GRAVEL to Gravelly LEAN CLAY)
- GM/ML (SILTY GRAVEL to Gravelly SILT)

For soils where it is difficult to distinguish if it is sand or gravel, poorly or well-graded sand or gravel; silt or clay; or plastic or non-plastic silt or clay:

- SP/GP or SW/GW (SAND with Gravel to GRAVEL with Sand)
- SC/GC (CLAYEY SAND with Gravel to CLAYEY GRAVEL with Sand)
- SM/GM (SILTY SAND with Gravel to SILTY GRAVEL with Sand)
- SW/SP (SAND or SAND with Gravel)
- GP/GW (GRAVEL or GRAVEL with Sand)
- SC/SM (CLAYEY to SILTY SAND)
- GM/GC (SILTY to CLAYEY GRAVEL)
- CL/ML (SILTY CLAY)
- ML/CL (CLAYEY SILT)
- CH/MH (FAT CLAY to ELASTIC SILT)
- CL/CH (LEAN to FAT CLAY)
- MH/ML (ELASTIC SILT to SILT)

DRILLING AND SAMPLING ABBREVIATIONS

2ST	–	Shelby Tube – 2" O.D.
3ST	–	Shelby Tube – 3" O.D.
AS	–	Auger Sample
GS	–	Grab Sample
LS	–	Liner Sample
NR	–	No Recovery
PM	–	Pressuremeter
RC	–	Rock Core diamond bit. NX size, except where noted
SB	–	Split Barrel Sample 1-3/8" I.D., 2" O.D., except where noted
VS	–	Vane Shear
WS	–	Wash Sample

OTHER ABBREVIATIONS

WOH	–	Weight of Hammer
WOR	–	Weight of Rods
SP	–	Soil Probe
PID	–	Photo Ionization Device
FID	–	Flame Ionization Device

DEPOSITIONAL FEATURES

Parting	–	as much as 1/16 inch thick
Seam	–	1/16 inch to 1/2 inch thick
Layer	–	1/2 inch to 12 inches thick
Stratum	–	greater than 12 inches thick
Pocket	–	deposit of limited lateral extent
Lens	–	lenticular deposit
Hardpan/Till	–	an unstratified, consolidated or cemented mixture of clay, silt, sand and/or gravel, the size/shape of the constituents vary widely
Lacustrine	–	soil deposited by lake water
Mottled	–	soil irregularly marked with spots of different colors that vary in number and size
Varved	–	alternating partings or seams of silt and/or clay
Occasional	–	one or less per foot of thickness
Frequent	–	more than one per foot of thickness
Interbedded	–	strata of soil or beds of rock lying between or alternating with other strata of a different nature

DESCRIPTION OF RELATIVE QUANTITIES

The visual-manual procedure uses the following terms to describe the relative quantities of notable foreign materials, gravel, sand or fines:

Trace	–	particles are present but estimated to be less than 5%
Few	–	5 to 10%
Little	–	15 to 25%
Some	–	30 to 45%
Mostly	–	50 to 100%

CLASSIFICATION TERMINOLOGY AND CORRELATIONS

Cohesionless Soils

Relative Density	N_{60} (N-Value) (Blows per foot)
Very Loose	0 to 4
Loose	5 to 10
Medium Dense	11 to 30
Dense	31 to 50
Very Dense	51 to 80
Extremely Dense	Over 81

Cohesive Soils

Consistency	N_{60} (N-Value) (Blows per foot)	Undrained Shear Strength (kips/ft^2)
Very Soft	<2	0.25 or less
Soft	2 - 4	> 0.25 to 0.50
Medium	5 - 8	> 0.50 to 1.0
Stiff	9 - 15	> 1.0 to 2.0
Very Stiff	16 - 30	> 2.0 to 4.0
Hard	> 30	> 4.0 or greater

Standard Penetration 'N-Value' = Blows per foot of a 140-pound hammer falling 30 inches on a 2-inch O.D. split barrel sampler, except where noted. N60 values as reported on boring logs represent raw N-values corrected for hammer efficiency only.

12/5/24 12:05:41 PM

SME

BORING B1

PAGE 1 OF 1

BORING DEPTH: 15 FEET

PROJECT NAME: Burdick Street Improvements **PROJECT NUMBER:** 093008.00

CLIENT: Hurley & Stewart **PROJECT LOCATION:** Kalamazoo, Michigan

DATE STARTED: 7/23/24 **COMPLETED:** 7/23/24 **BORING METHOD:** Hollow-stem Augers

DRILLER: CT **RIG NO.:** 281 CME 45B-Truck **LOGGED BY:** TAG **CHECKED BY:** AJR

STATION: 53+35
ELEVATION: 787± FT

ELEVATION (FEET)	DEPTH (FEET)	PROFILE DESCRIPTION		SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES
787	0					
	0.2	3 Inches of ASPHALT PAVEMENT	786.8			
	0.8	6 Inches of PORTLAND CEMENT CONCRETE	786.2			
785		FILL- Fine to Medium CLAYEY SAND with Gravel- Brown- Moist- Loose (SC)		SB1	18	3 3 4
	3.5		783.5			
		FILL- Fine to Coarse SAND with Silt and Gravel- Brown- Moist- Loose (SP-SM)		SB2	4	2 2 3
5				SB3	4	7 50/2"
780	8.5		778.5			
		Fine to Coarse SAND with Gravel- Brown- Moist- Dense (SP)		SB4	18	12 15 15
10				SB5	18	9 13 15
775				SB6	18	16 16 11
	15.0		772.0			
15		END OF BORING AT 15.0 FEET.				
770						
20						
765						
25						
760						
30						

HAMMER EFFICIENCY: 83%
DATE: 2/8/2024
N_{60} – ○

SB1: 10, 7
SB3: 69+
SB4: 42
SB5: 39
SB6: 37

DRY DENSITY (pcf) – ■
90 100 110 120

MOISTURE & ATTERBERG LIMITS (%)
PL MC LL
10 20 30 40

▽ HAND PENE.
☒ TORVANE SHEAR
● UNC. COMP.
⊡ VANE SHEAR (PK)
× VANE SHEAR (REM)
⊕ TRIAXIAL (UU)
SHEAR STRENGTH (KSF)
1 2 3 4

REMARKS

- Cobbles encountered from 3.5 feet to 15 feet below the existing ground surface.
- Driller reported driving a rock at Sample SB3.

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Auger Cuttings

NOTES:
1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.
2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.
3. Surface capped with asphalt cold patch after backfilling the borehole.

12/5/24 12:05:42 PM

BORING B2

PAGE 1 OF 1

BORING DEPTH: 15 FEET

PROJECT NAME: Burdick Street Improvements **PROJECT NUMBER:** 093008.00

CLIENT: Hurley & Stewart **PROJECT LOCATION:** Kalamazoo, Michigan

DATE STARTED: 7/23/24 **COMPLETED:** 7/23/24 **BORING METHOD:** Hollow-stem Augers

DRILLER: CT **RIG NO.:** 281 CME 45B-Truck **LOGGED BY:** TAG **CHECKED BY:** AJR

STATION: 45+15
ELEVATION: 782± FT

ELEVATION (FEET)	DEPTH (FEET)	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES	HAMMER EFFICIENCY: 83% DATE: 2/8/2024 N_{60}	DRY DENSITY (pcf) / MOISTURE & ATTERBERG LIMITS (%) PL MC LL	SHEAR STRENGTH (KSF) HAND PENE. TORVANE SHEAR UNC. COMP. VANE SHEAR (PK) VANE SHEAR (REM) TRIAXIAL (UU)	REMARKS
782	0	0.3 3 Inches of TOPSOIL 781.7							
780		FILL- Fine to Medium CLAYEY SAND- Brown- Moist- Very Loose (SC)	SB1	18	3 2 1	4			
	3.5	778.5							
		FILL- Fine to Medium SAND with Silt and Gravel- Brown- Moist- Medium Dense (SP-SM)	SB2	18	3 4 4	11			
	5	6.0 776.0							
775		Fine to Coarse SAND with Gravel- Brown- Moist- Medium Dense (SP)	SB3	18	4 6 8	19			
			SB4	18	7 10 5	21			
	10	11.0 771.0							
770		Fine CLAYEY SAND- Brown- Moist- Medium Dense (SC)	SB5	18	4 5 6	15			
	13.5	768.5							
		Fine SAND- Brown- Moist- Loose (SP)	SB6	18	2 2 2	6			
	15	15.0 767.0							
		END OF BORING AT 15.0 FEET.							
765									
	20								
760									
	25								
755									
	30								

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Auger Cuttings

NOTES: 1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.
2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.

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BORING B3

PAGE 1 OF 1

BORING DEPTH: 15 FEET

PROJECT NAME: Burdick Street Improvements **PROJECT NUMBER:** 093008.00

CLIENT: Hurley & Stewart **PROJECT LOCATION:** Kalamazoo, Michigan

DATE STARTED: 7/22/24 **COMPLETED:** 7/22/24 **BORING METHOD:** Hollow-stem Augers

DRILLER: CT **RIG NO.:** 281 CME 45B-Truck **LOGGED BY:** TAG **CHECKED BY:** AJR

STATION: 35+94
ELEVATION: 776± FT

ELEVATION (FEET)	DEPTH (FEET)	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES	REMARKS
775	0	0.3 3 Inches of ASPHALT PAVEMENT 775.7 0.8 6 Inches of PORTLAND CEMENT CONCRETE 775.2 1.1 FILL- SAND and GRAVEL 774.9	SB1	18	2 1 2	
	5	FILL- Fine to Medium CLAYEY SAND with Gravel- Brown- Moist- Very Loose to Loose (SC)	SB2	18	2 2 4	
770			SB3	0	4 3 3	Driller reported driving a rock at Sample SB3. Therefore, there was no recovery at Sample SB3.
		8.5 767.5				
	10	Fine to Medium SAND- Brown- Moist- Loose (SP)	SB4	18	5 4 3	
765		11.0 765.0				
		Fine to Medium SAND with Silt- Brown- Moist- Loose (SP-SM)	SB5	18	3 4 3	
		13.5 762.5				
	15	Fine to Coarse SAND with Gravel- Brown- Moist- Medium Dense (SP) 761.0	SB6	18	3 3 5	
760		END OF BORING AT 15.0 FEET.				
755	20					
750	25					
	30					

HAMMER EFFICIENCY: 83%
DATE: 2/8/2024
N_{60} – ○
10 20 30 40

DRY DENSITY (pcf) – ■
90 100 110 120

MOISTURE & ATTERBERG LIMITS (%)
PL MC LL
10 20 30 40

▽ HAND PENE.
⊠ TORVANE SHEAR
● UNC. COMP.
⊡ VANE SHEAR (PK)
× VANE SHEAR (REM)
⊕ TRIAXIAL (UU)
SHEAR STRENGTH (KSF)
1 2 3 4

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Auger Cuttings

NOTES:
1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.
2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.
3. Surface capped with asphalt cold patch after backfilling the borehole.

12/5/24 12:05:44 PM

BORING B4

PAGE 1 OF 1

BORING DEPTH: 10 FEET

PROJECT NAME: Burdick Street Improvements **PROJECT NUMBER:** 093008.00

CLIENT: Hurley & Stewart **PROJECT LOCATION:** Kalamazoo, Michigan

DATE STARTED: 7/22/24 **COMPLETED:** 7/22/24 **BORING METHOD:** Hollow-stem Augers

DRILLER: CT **RIG NO.:** 281 CME 45B-Truck **LOGGED BY:** TAG **CHECKED BY:** AJR

STATION: 26+81
ELEVATION: 773± FT

ELEVATION (FEET)	DEPTH (FEET)	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES
770	0	0.3 3 Inches of ASPHALT PAVEMENT 772.7			
		0.7 4 Inches of BRICK 772.3			
		1.0 4 Inches of FILL- SAND and GRAVEL 772.0	SB1	18	15 19 11
		3.0 FILL- Fine to Medium SAND- Brown- Moist- Dense (SP) 770.0	SB2	18	5 10 13
765	5	Fine to Coarse SAND with Gravel- Brown- Moist- Dense to Medium Dense (SP)	SB3	18	4 10 9
		10.0 763.0	SB4	8	7 9 12
760	10	END OF BORING AT 10.0 FEET.			
755	15				
750	20				
745	25				
	30				

HAMMER EFFICIENCY: 83%
DATE: 2/8/2024
N_{60} – ○
10 20 30 40
42
32
26
29

DRY DENSITY (pcf) – ■
90 100 110 120

MOISTURE & ATTERBERG LIMITS (%)
PL MC LL
10 20 30 40

▽ HAND PENE.
⊠ TORVANE SHEAR
● UNC. COMP.
⊡ VANE SHEAR (PK)
× VANE SHEAR (REM)
⊕ TRIAXIAL (UU)
SHEAR STRENGTH (KSF)
1 2 3 4

REMARKS

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Auger Cuttings

NOTES:
1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.
2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.
3. Surface capped with asphalt cold patch after backfilling the borehole.

12/5/24 12:05:46 PM

SME

BORING B5

PAGE 1 OF 2

BORING DEPTH: 37.5 FEET

PROJECT NAME: Burdick Street Improvements **PROJECT NUMBER:** 093008.00

CLIENT: Hurley & Stewart **PROJECT LOCATION:** Kalamazoo, Michigan

DATE STARTED: 7/22/24 **COMPLETED:** 7/22/24 **BORING METHOD:** Hollow-stem Augers

DRILLER: CT **RIG NO.:** 281 CME 45B-Truck **LOGGED BY:** TAG **CHECKED BY:** AJR

STATION: 22+80
ELEVATION: 761± FT

ELEVATION (FEET)	DEPTH (FEET)	PROFILE DESCRIPTION		SAMPLE TYPE/NO.	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES
760	0	0.3 4 Inches of ASPHALT PAVEMENT	760.7			
		0.8 6 Inches of FILL- SAND and GRAVEL	760.2	SB1	8	18 13 10
		FILL- Fine to Medium SAND with Silt and Gravel- Brown- Moist- Dense (SP-SM)				
		3.5	757.5	SB2	18	1 0 1
755	5	FILL- Fine to Medium SAND with Silt and Gravel- Brownish Gray- Wet- Very Loose (SP-SM)		SB3	12	1 1 0
		8.5	752.5			
		FILL- Fine to Coarse SAND with Silt and Gravel- Brown- Wet- Very Loose (SP-SM)		SB4	18	2 1 1
		9.5	751.5			
750	10	AMORPHOUS PEAT- Frequent Shell Fragments and Root Fibers- Black (PT)		SB5	6	1 1 1
		11.0	750.0			
		Fine to Medium SAND with Silt- Brown- Wet- Very Loose (SP-SM)				
		13.5	747.5	SB6	18	1 1 1
745	15			SB7	2	0 1 0
				SB8	18	1 0 0
740	20	Sandy ORGANIC SILT- Frequent Shell Fragments- Gray (OH)		SB9	4	2 1 1
				SB10	4	1 1 1
735	25			SB11	18	0 1 1
		28.5	732.5			
		FIBROUS ORGANIC SILT- Gray (OH)		SB12	18	0 1 0
	30					

HAMMER EFFICIENCY: 83%
DATE: 2/8/2024
N_{60} – ○

DRY DENSITY (pcf) – ■
90 100 110 120

MOISTURE & ATTERBERG LIMITS (%)
PL MC LL
10 20 30 40

SHEAR STRENGTH (KSF)
1 2 3 4

▽ HAND PENE.
⊠ TORVANE SHEAR
● UNC. COMP.
⊡ VANE SHEAR (PK)
× VANE SHEAR (REM)
⊕ TRIAXIAL (UU)

REMARKS

GROUNDWATER & BACKFILL INFORMATION

	DEPTH (FT)	ELEV (FT)
▽ **DURING BORING:**	3.5	757.5
▼ **AT END OF BORING:**	3.0	758.0
CAVE-IN OF BOREHOLE AT:	15.0	746.0

BACKFILL METHOD: Note 3

NOTES:
1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.
2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.
3. Above the cave-in depth, the borehole was backfilled with cement-bentonite grout to 3 feet below the ground surface and auger cuttings from 3 feet to just below the ground surface.
4. Surface capped with asphalt cold patch after backfilling the borehole.

(Continued Next Page)

12/5/24 12:05:46 PM

BORING B5

PAGE 2 OF 2

BORING DEPTH: 37.5 FEET

PROJECT NAME: Burdick Street Improvements **PROJECT NUMBER:** 093008.00

CLIENT: Hurley & Stewart **PROJECT LOCATION:** Kalamazoo, Michigan

STATION: 22+80
ELEVATION: 761± FT

ELEVATION (FEET)	DEPTH (FEET)	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES	REMARKS
730	30	FIBROUS ORGANIC SILT- Gray (OH) *(continued)*	SB13	18	1 2 1	
	33.5 / 727.5		SB14	18	2 2 3	
725	35	LEAN CLAY with Sand- Frequent Shells- Gray- Stiff to Very Stiff (CL)	SB15	18	5 10 14	
	37.0 / 724.0					
	37.5 / 723.5	Fine to Medium SAND- Gray- Wet- Dense (SP)				
		END OF BORING AT 37.5 FEET.				
720	40					
715	45					
710	50					
705	55					
700	60					
695	65					
	70					

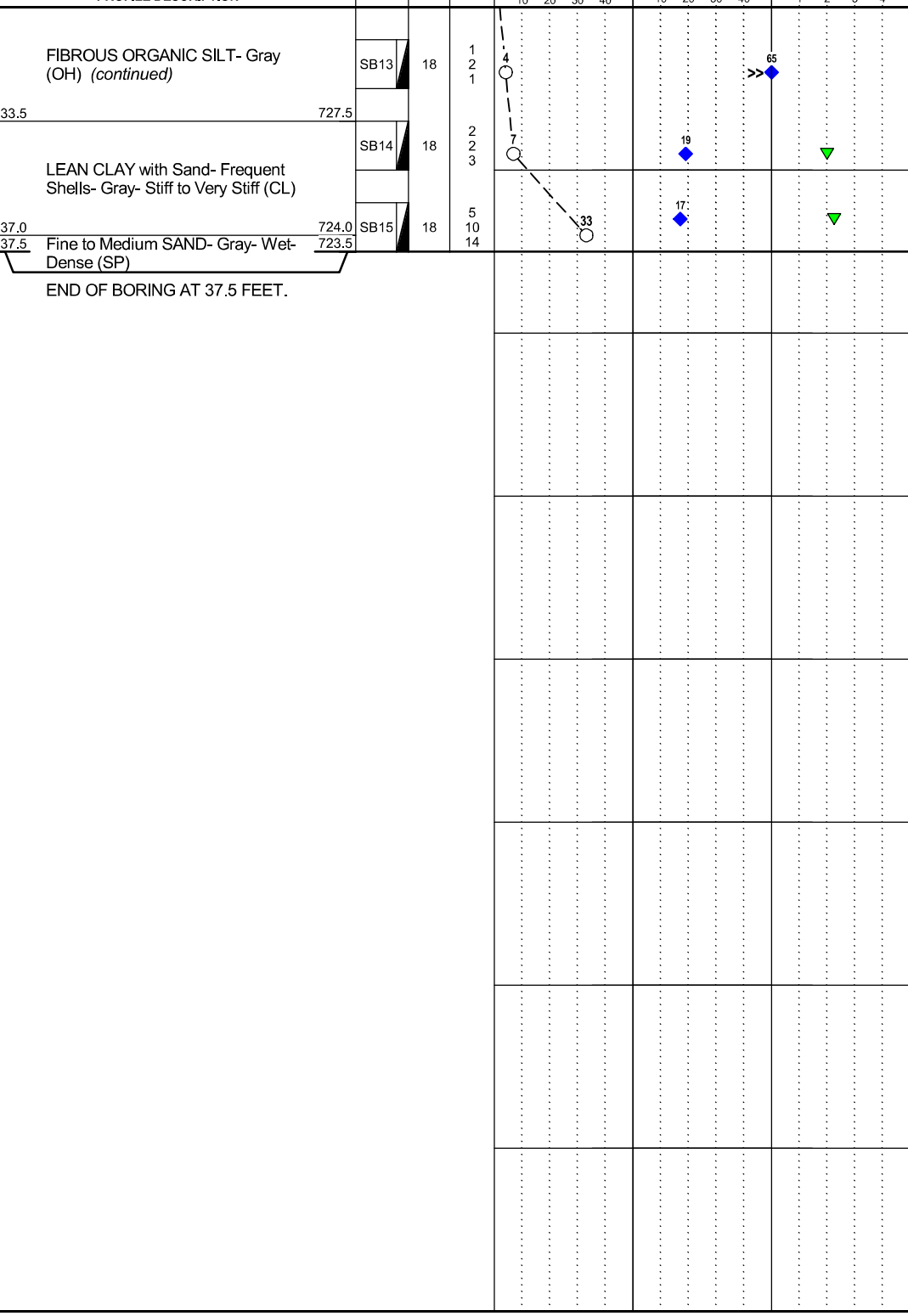
HAMMER EFFICIENCY: 83%
DATE: 2/8/2024
N_{60} – ○
10 20 30 40

DRY DENSITY (pcf) – ■
90 100 110 120

MOISTURE & ATTERBERG LIMITS (%)
PL MC LL
10 20 30 40

SHEAR STRENGTH (KSF)
1 2 3 4

▽ HAND PENE.
⊠ TORVANE SHEAR
● UNC. COMP.
⊡ VANE SHEAR (PK)
× VANE SHEAR (REM)
⊕ TRIAXIAL (UU)



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BORING B6

PAGE 1 OF 1

BORING DEPTH: 30 FEET

PROJECT NAME: Burdick Street Improvements **PROJECT NUMBER:** 093008.00

CLIENT: Hurley & Stewart **PROJECT LOCATION:** Kalamazoo, Michigan

DATE STARTED: 7/22/24 **COMPLETED:** 7/22/24 **BORING METHOD:** Hollow-stem Augers

DRILLER: AK **RIG NO.:** 281 CME 45B-Truck **LOGGED BY:** TAG **CHECKED BY:** AJR

STATION: 21+28
ELEVATION: 761± FT

ELEV (FT)	DEPTH (FT)	PROFILE DESCRIPTION	SAMPLE TYPE/NO.	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES	REMARKS
760	0	0.3 3 1/2 Inches of PORTLAND CEMENT CONCRETE 760.7				
		FILL- Fine to Medium SAND with Silt- Frequent Clayey Sand Seams- Brown- Moist to Wet- Loose (SP-SM)	SB1	18	1 2 3	
	3.5	757.5	SB2	18	1 1 0	When driving sampler from 4.5 feet to 5 feet at Sample SB2, sampler dropped from 4.5 feet to 7.5 feet.
755	5	FILL- Fine to Medium CLAYEY SAND- Brown- Wet- Very Loose (SC)				
	8.5	752.5	SB3	18	0 1 1	
	10	FIBROUS PEAT- Black (PT)				
750	11.5	749.5	SB4	18	1 1 1	
			SB5	18	1 1 0	
	15	Sandy ORGANIC SILT- Frequent Shell Fragments- Gray (OH)	SB6	18	0 0 0	Weight of hammer for Sample SB6 and SB7.
745			SB7	18	0 0 0	
	20					
740	21.0	740.0	SB8	18	0 2 2	
		ORGANIC FIBROUS SILT- Gray (OH)	SB9	18	3 4 2	
	24.5	736.5				
	25					
735		Fine to Coarse SAND- Brown- Wet- Loose to Medium Dense (SP)	SB10	18	3 3 3	
			SB11	18	3 4 6	
	30	30.0 731.0				

END OF BORING AT 30.0 FEET.

HAMMER EFFICIENCY: 83%
DATE: 2/8/2024
N_{60} – ○

DRY DENSITY (pcf) – ■ (90 100 110 120)
MOISTURE & ATTERBERG LIMITS (%) (PL MC LL; 10 20 30 40)

▽ HAND PENE.
⊠ TORVANE SHEAR
● UNC. COMP.
⊡ VANE SHEAR (PK)
× VANE SHEAR (REM)
⊕ TRIAXIAL (UU)
SHEAR STRENGTH (KSF) (1 2 3 4)

GROUNDWATER & BACKFILL INFORMATION

	DEPTH (FT)	ELEV (FT)
▽ DURING BORING:	2.0	759.0
▼ AT END OF BORING:	Note 3	

BACKFILL METHOD: Note 3

NOTES:
1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.
2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.
3. The borehole was backfilled by tremie method with bentonite and cement grout to 5 feet below the ground surface and auger cuttings to the just below the ground surface. Therefore, an accurate groundwater level measurement was not obtained after completion of drilling activities.
4. Surface capped with Quikrete after backfilling the borehole.

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BORING B7

PAGE 1 OF 1

BORING DEPTH: 10 FEET

PROJECT NAME: Burdick Street Improvements **PROJECT NUMBER:** 093008.00

CLIENT: Hurley & Stewart **PROJECT LOCATION:** Kalamazoo, Michigan

DATE STARTED: 7/22/24 **COMPLETED:** 7/22/24 **BORING METHOD:** Hollow-stem Augers

DRILLER: AK **RIG NO.:** 281 CME 45B-Truck **LOGGED BY:** TAG **CHECKED BY:** AJR

STATION: 16+04
ELEVATION: 764± FT

ELEVATION (FEET)	DEPTH (FEET)	PROFILE DESCRIPTION		SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES
	0	0.7 8 Inches of ASPHALT PAVEMENT	763.3			
		1.1 FILL- SAND and GRAVEL	762.9	SB1	18	5 7 11
		FILL- Fine to Medium SAND with Silt- Frequent Clayey Sand Seams- Brown- Moist- Medium Dense (SP-SM)				
		3.5	760.5	SB2	18	3 3 3
760	5	Fine to Medium SAND with Silt- Brown- Moist- Loose to Very Loose (SP-SM)		SB3	18	1 1 2
		8.5	755.5			
755		Fine to Coarse SAND with Silt and Gravel- Brown- Wet- Medium Dense (SP-SM)		SB4	18	2 3 6
	10	10.0	754.0			
		END OF BORING AT 10.0 FEET.				
750	15					
745	20					
740	25					
735	30					

HAMMER EFFICIENCY: 83%
DATE: 2/8/2024
N_{60} – ○
10 20 30 40

DRY DENSITY (pcf) – ■
90 100 110 120

MOISTURE & ATTERBERG LIMITS (%)
PL MC LL
10 20 30 40

▽ HAND PENE.
⊠ TORVANE SHEAR
● UNC. COMP.
⊡ VANE SHEAR (PK)
× VANE SHEAR (REM)
⊕ TRIAXIAL (UU)
SHEAR STRENGTH (KSF)
1 2 3 4

REMARKS

GROUNDWATER & BACKFILL INFORMATION

	DEPTH (FT)	ELEV (FT)
▽ **DURING BORING:**	8.5	755.5
▼ **AT END OF BORING:**	Note 3	
CAVE-IN OF BOREHOLE AT:	8.0	756.0

BACKFILL METHOD: Auger Cuttings

NOTES:
1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.
2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.
3. Groundwater was not observed above borehole cave-in depth upon auger removal.
4. Surface capped with asphalt cold patch after backfilling the borehole.

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BORING B8

PAGE 1 OF 1

BORING DEPTH: 2 FEET

PROJECT NAME: Burdick Street Improvements **PROJECT NUMBER:** 093008.00

CLIENT: Hurley & Stewart **PROJECT LOCATION:** Kalamazoo, Michigan

DATE STARTED: 7/22/24 **COMPLETED:** 7/22/24 **BORING METHOD:** Hollow-stem Augers

DRILLER: AK **RIG NO.:** 281 CME 45B-Truck **LOGGED BY:** TAG **CHECKED BY:** AJR

ELEVATION (FEET)	DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	HAMMER EFFICIENCY: 83% DATE: 2/8/2024 N_{60} – ○ (10 20 30 40)	DRY DENSITY (pcf) – ■ (90 100 110 120) MOISTURE & ATTERBERG LIMITS (%) PL MC LL (10 20 30 40)	HAND PENE. ▽ TORVANE SHEAR ⊠ UNC. COMP. ● VANE SHEAR (PK) ⊡ VANE SHEAR (REM) × TRIAXIAL (UU) ⊕ SHEAR STRENGTH (KSF) (1 2 3 4)	REMARKS
765	0		STATION: 11+81 ELEVATION: 767± FT						
			0.5 6 Inches of ASPHALT PAVEMENT 766.5						
			PORTLAND CEMENT CONCRETE						
			2.0 765.0						
			END OF BORING AT 2.0 FEET.						Boring was terminated at a depth of 2 feet below the ground surface.
760	5								
755	10								
750	15								
745	20								
740	25								
	30								

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Note 3

NOTES:
1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.
2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.
3. Surface capped with ashpalt cold patch after backfilling the borehole.

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FIGURE NO. 6: SUBSURFACE PROFILE A-A'

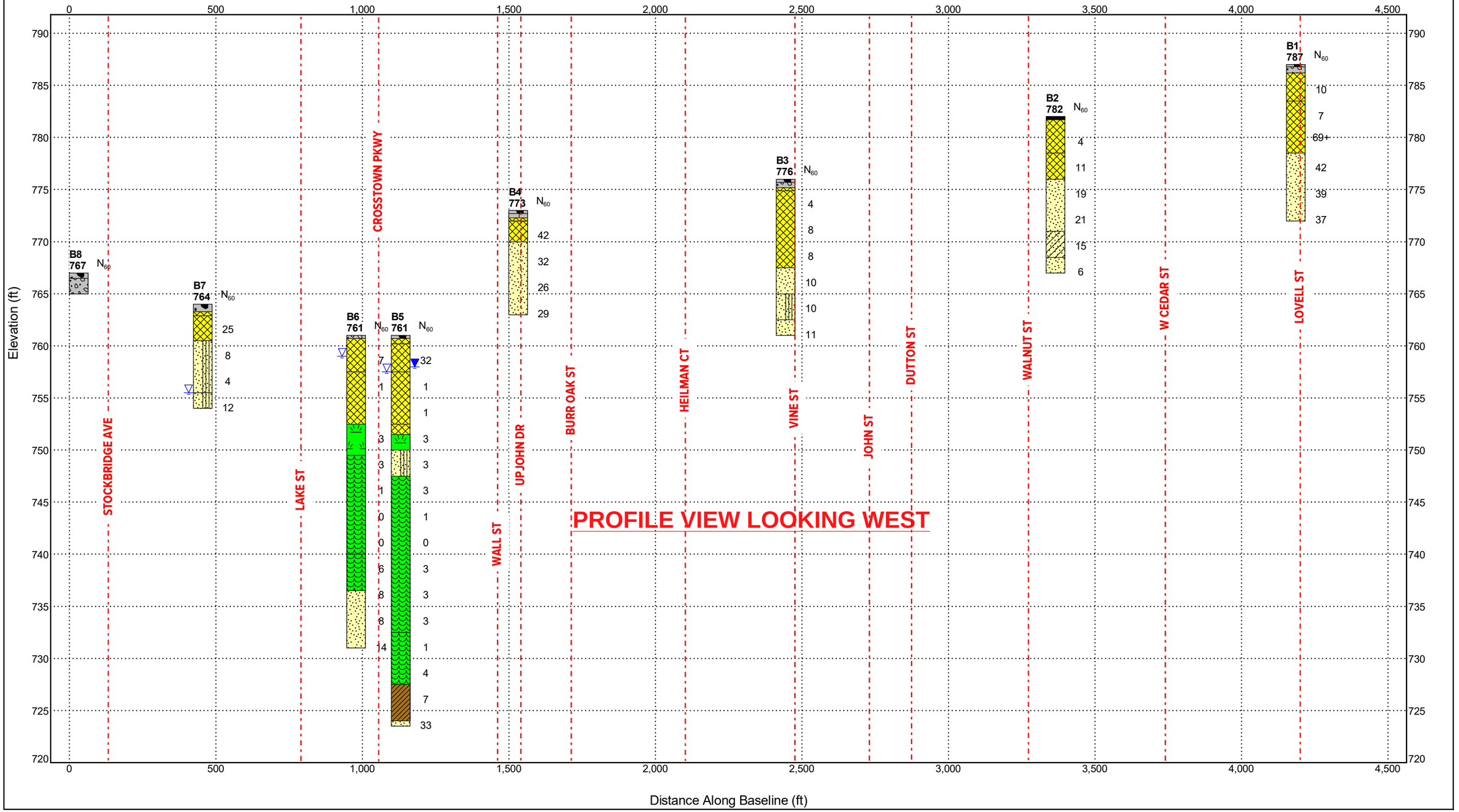
CLIENT Hurley & Stewart

PROJECT NUMBER 093008.00

PROJECT NAME Burdick Street Improvements

PROJECT LOCATION Kalamazoo, Michigan

ASPHALT CONCRETE
Poorly-graded SAND
Poorly-graded SAND with Silt
ORGANIC SILT or ORGANIC CLAY
CONCRETE
TOPSOIL
BRICK
LEAN CLAY
FILL
CLAYEY SAND
PEAT or Highly ORGANIC SOILS



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APPENDIX B

IMPORTANT INFORMATION ABOUT THIS GEOTECHNICAL-ENGINEERING REPORT

GENERAL COMMENTS

LABORATORY TESTING PROCEDURES

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Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

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responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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GENERAL COMMENTS

BASIS OF GEOTECHNICAL REPORT

This report has been prepared in accordance with generally accepted geotechnical engineering practices to assist in the design and/or evaluation of this project. If the project plans, design criteria, and/or other project information referenced in this report and utilized by SME to prepare our recommendations are changed, the conclusions and recommendations contained in this report are not considered valid unless the changes are reviewed, and the conclusions and recommendations of this report are modified or approved in writing.

The discussions and recommendations contained in this report are based on the available project information, described in this report, and the geotechnical data obtained from the field exploration at the locations indicated in the report. Variations in soil and groundwater conditions commonly occur between or away from sampling locations. The nature and extent of the variations may not become evident until the time of construction. If significant variations are observed during construction, SME must be contacted to reevaluate the recommendations of this report.

In the process of obtaining and testing samples and preparing this report, procedures are followed that represent reasonable and accepted practice in the field of geotechnical engineering. Specifically, field logs are prepared during the field exploration that describe field occurrences, sampling locations, and other information. Samples obtained in the field are frequently subjected to additional testing and reclassification in the laboratory and differences may exist between the field logs and the report logs.
The engineer preparing the report reviews the field logs, laboratory classifications, and test data and then prepares the report logs. Our recommendations are based on the contents of the report logs and the information contained therein.

REVIEW OF DESIGN DETAILS, PLANS, AND SPECIFICATIONS

Retain SME to review the design details, project plans, and specifications to verify those documents are consistent with the recommendations contained in this report.

REVIEW OF REPORT INFORMATION WITH PROJECT TEAM

Implementation of our recommendations may affect the design, construction, and performance of the proposed improvements, along with the potential inherent risks involved with the proposed construction. The client and key members of the design team, including SME, should discuss the issues covered in this report so the issues are understood and applied in a manner consistent with the owner's budget, tolerance of risk, and expectations for performance and maintenance.

FIELD VERIFICATION OF GEOTECHNICAL CONDITIONS

SME needs to be retained to continue our services through construction so we may observe and evaluate the actual subsurface conditions relative to the recommendations made in this report, and so we can verify the recommendations of this report are properly implemented during construction. This may avoid misinterpretation of our recommendations by other parties and will allow us to review and modify our recommendations if variations in the site subsurface conditions are encountered.

PROJECT INFORMATION FOR CONTRACTOR

This report and any future addenda or other reports regarding this site needs to be made available to prospective contractors prior to submitting their proposals for their information only and to supply them with facts relative to the subsurface evaluation and laboratory test results. If the selected contractor encounters subsurface conditions during construction, which differ from those presented in this report, the contractor needs to promptly describe the nature and extent of the differing conditions in writing and SME needs to be notified so we can verify those conditions. The construction contract needs to include provisions for dealing with differing conditions, and contingency funds for potential problems during earthwork and foundation construction. We would be pleased to assist with the development of contract provisions based on our experience.

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The contractor needs to be prepared to handle environmental conditions encountered at this site, which may affect the excavation, removal, or disposal of soil; dewatering of excavations; and health and safety of workers. Any Environmental Assessment reports prepared for this site need to be made available for review by bidders and the successful contractor.

THIRD PARTY RELIANCE/REUSE OF THIS REPORT

This report has been prepared solely for the use of our Client for the project specifically described in this report. This report cannot be relied upon by other parties not involved in the project, unless specifically allowed by SME in writing. SME also is not responsible for the interpretation by other parties of the geotechnical data and the recommendations provided herein.

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LABORATORY TESTING PROCEDURES

VISUAL ENGINEERING CLASSIFICATION

Visual classification was performed on recovered samples. The appended General Notes and Unified Soil Classification System (USCS) sheets include a brief summary of the general method used visually classify the soil and assign an appropriate USCS group symbol. The estimated group symbol, according to the USCS, is shown in parentheses following the textural description of the various strata on the boring logs appended to this report. The soil descriptions developed from visual classifications are sometimes modified to reflect the results of laboratory testing.

MOISTURE CONTENT

Moisture content tests were performed by weighing samples from the field at their in-situ moisture condition. These samples were then dried at a constant temperature (approximately 110º C) overnight in an oven. After drying, the samples were weighed to determine the dry weight of the sample and the weight of the water that was expelled during drying. The moisture content of the specimen is expressed as a percent and is the weight of the water compared to the dry weight of the specimen.

HAND PENETROMETER TESTS

In the hand penetrometer test, the unconfined compressive strength of a cohesive soil sample is estimated by measuring the resistance of the sample to the penetration of a small calibrated, spring-loaded cylinder. The maximum capacity of the penetrometer is 4.5 tons per square-foot (tsf). Theoretically, the undrained shear strength of the cohesive sample is one-half the unconfined compressive strength. The undrained shear strength (based on the hand penetrometer test) presented on the boring logs is reported in units of kips per square-foot (ksf).

TORVANE SHEAR TESTS

In the Torvane test, the shear strength of a low strength, cohesive soil sample is estimated by measuring the resistance of the sample to a torque applied through vanes inserted into the sample. The undrained shear strength of the samples is measured from the maximum torque required to shear the sample and is reported in units of kips per square-foot (ksf).

LOSS-ON-IGNITION (ORGANIC CONTENT) TESTS

Loss-on-ignition (LOI) tests are conducted by first weighing the sample and then heating the sample to dry the moisture from the sample (in the same manner as determining the moisture content of the soil). The sample is then re-weighed to determine the dry weight and then heated for 4 hours in a muffle furnace at a high temperature (approximately 440º C). After cooling, the sample is re-weighed to calculate the amount of ash remaining, which in turn is used to determine the amount of organic matter burned from the original dry sample. The organic matter content of the specimen is expressed as a percent compared to the dry weight of the sample.

ATTERBERG LIMITS TESTS

Atterberg limits tests consist of two components. The plastic limit of a cohesive sample is determined by rolling the sample into a thread and the plastic limit is the moisture content where a 1/8-inch thread begins to crumble. The liquid limit is determined by placing a ½-inch thick soil pat into the liquid limits cup and using a grooving tool to divide the soil pat in half. The cup is then tapped on the base of the liquid limits device using a crank handle. The number of drops of the cup to close the gap formed by the grooving tool ½ inch is recorded along with the corresponding moisture content of the sample. This procedure is repeated several times at different moisture contents and a graph of moisture content and the corresponding number of blows is plotted. The liquid limit is defined as the moisture content at a nominal 25 drops of the cup. From this test, the plasticity index can be determined by subtracting the plastic limit from the liquid limit.

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DRAWINGS/PLANS

VanderSalm Court
Water Main Replacement

Bid Reference #: 91360-010.0

September 2026

CITY OF KALAMAZOO

VANDERSALM CT WATER MAIN

Kalamazoo County, Michigan
7/30/26

VANDERSALM CT WATER MAIN, ISSUED FOR BID DOCUMENTS, 5/1/26

OWNER

City of Kalamazoo
415 E Stockbridge Ave.
Kalamazoo, MI 49001

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kalamazoo, michigan 49009
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(269) 377-1308, TROY QUAKENBUSH
TQUAKENBUSH@Q3-TECH.COM

CONSUMERS ENERGY, ELECTRIC
2500 EAST CORK STREET
KALAMAZOO, MI 49001
(269) 337-2245, MR. ANDRE TAYLOR
ANDRE.TAYLOR@CMSENERGY.COM

CTS TELECOM,
13800 EAST MICHIGAN AVENUE
GALESBURG, MI 49053
(269) 746-3232, MR. TOM CADY
TCADY@CTSTELECOM.COM

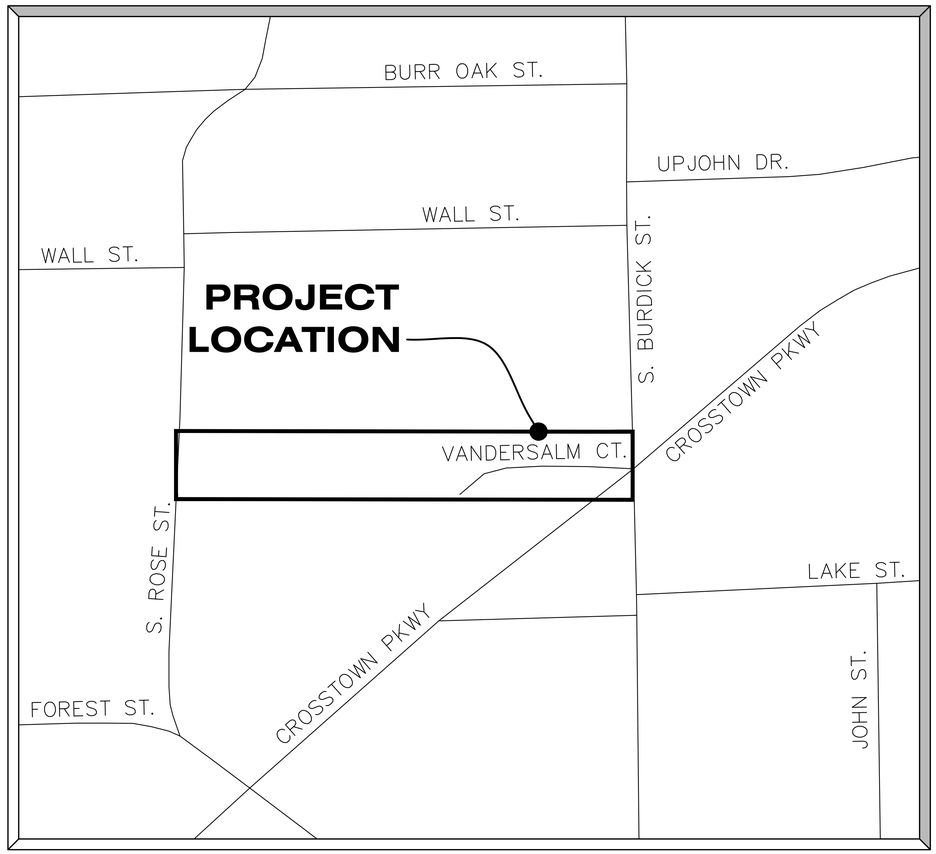
CONSUMERS ENERGY, GAS
2500 EAST CORK STREET
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(26) 337-2366, MR. KYLE OAK
KYLE.OAK@CMSENERGY.COM

CITY OF KALAMAZOO, WATER
415 STOCKBRIDGE AVENUE
KALAMAZOO, MI 49001
(269) 337-8558, DEBBIE JUNG
JUNGD@KALAMAZOOCITY.ORG

AT&T, TELEPHONE
2919 MILLCORK STREET
KALAMAZOO, MI 49001
(269) 384-4475, MR. TODD BERGHUIS
TB1973@ATT.COM

CITY OF KALAMAZOO, SEWER
1415 NORTH HARRISON STREET
KALAMAZOO, MI 49007
(269) 337-8551, MR. RYAN STOUGHTON
STOUGHTONR@KALAMAZOOCITY.ORG

CITY OF KALAMAZOO, FIBER OPTIC
415 STOCKBRIDGE AVENUE
KALAMAZOO, MI 49001
(269) 337-8601, MR. RON RIDENOUR
RIDENOURR@KALAMAZOOCITY.ORG



DRAWING INDEX

SHT #	DESCRIPTION
C-0	TITLE SHEET
C-1	PROJECT NOTES & LEGEND
C-2	REMOVAL PLAN
C-3	CONSTRUCTION PLAN & PROFILE
C-4	RESTORATION PLAN & PROFILE
C-5	SESC PLAN
C-6	DETAILS
C-7	MAINTENANCE OF TRAFFIC PLAN

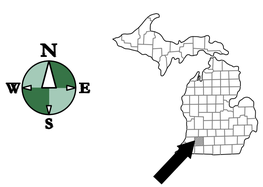
CONTRACT FOR ROAD IMPROVEMENTS

IMPROVEMENTS TO KALAMAZOO WATER MAIN. CONSTRUCTION SERVICES FOR INSTALLATION OF 6" WATER MAIN IN PUBLIC RIGHT-OF-WAY, INSTALLATION AND CONNECTION OF PRIVATE SERVICES, EASEMENT, AND ABANDONMENT OF EXISTING WATER MAIN. PAVEMENT, DRIVEWAY, AND SIDEWALK REPLACEMENTS. ALL WATER MAIN AND SERVICE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF KALAMAZOO STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE INSTALLATION, 2021.

THE CITY OF Kalamazoo

CITY OF KALAMAZOO
VANDERSALM CT
KALAMAZOO, MI 49001

DEBBIE JUNG — SENIOR CIVIL ENGINEER, WATER RESOURCES DIVISION — DATE



STATE OF MICHIGAN
ISAAC JACOB VALK
ENGINEER
6201314841
LICENSED PROFESSIONAL ENGINEER

UNDER THE SUPERVISION OF
ISAAC JACOB VALK, P.E.
MI LICENSE #6201314841

811 Know what's below. Call before you dig.

ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.

FIELD WORK PERFORMED BY:
HURLEY & STEWART, LLC

BID DOCUMENTS
5/1/26

LEGEND

- BM ## BENCH MARK
- SET MONUMENT
- FOUND MONUMENT
- SET CAPPED IRON LIC. # 57885
- FOUND IRON
- SET CHISELED "X"
- FOUND CHISELED "X"
- CONTROL POINT
- P= PLATTED
- D= DESCRIBED
- M= MEASURED
- R= RECORD
- C= CALCULATED
- CURB CATCH BASIN
- SQUARE CATCH BASIN
- ROUND CATCH BASIN
- MANHOLE STORM
- MANHOLE SANITARY
- SANITARY CLEANOUT
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- WELL HEAD
- SPRINKLER CONTROL VALVE
- SPRINKLER HEAD
- BOLLARD
- AC AIR CONDITIONER
- FIRE DEPARTMENT CONNECTION
- DOWN SPOUT
- COMMUNICATION MANHOLE
- FLARED END SECTION
- FLAG FLAG
- COLUMN
- MONITOR WELL
- PB PARK BENCH
- POST INDICATOR VAVLE
- PM PARKING METER
- POST
- SB SOIL BORING
- SPIGOT
- PIPE MARKER COMMUNICATIONS
- PIPE MARKER ELECTRIC
- PIPE MARKER GAS
- YARD DRAIN
- GAS METER
- GAS VALVE
- TELEPHONE MANHOLE
- RISER
- SIGN
- MB MAILBOX
- TRANSFORMER
- YARD LIGHT
- HAND HOLE (ELECTRIC)
- LIGHT POLE
- (UTILITY, GUY, POWER) POLE

- GUY WIRE
- E ELECTRIC MANHOLE
- E ELECTRIC METER
- 720 CONTOUR HIGHLIGHTED
- 719 CONTOUR NORMAL
- OE POWER LINE
- C MISS DIG COMMUNICATION
- UE MISS DIG ELECTRIC
- F MISS DIG FIBEROPTIC
- G MISS DIG GAS
- SA MISS DIG SANITARY SEWER
- ST MISS DIG STORMWATER
- T MISS DIG TELEPHONE
- W MISS DIG WATER
- ? MISS DIG UNKNOWN
- TREE LINE
- X FENCE
- GUARD RAIL
- PAVEMENT
- CONCRETE SURFACE
- DECIDUOUS TREE
- CONIFEROUS TREE
- B BUSH
- 720 PROPOSED CONTOUR HIGHLIGHTED
- 719 PROPOSED CONTOUR NORMAL
- SA PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- C PROPOSED CATV
- OE PROP ELEC (OVERHEAD)
- UE PROP ELEC (UNDERGROUND)
- F PROPOSED FIBEROPTIC CABLE
- G PROPOSED GAS
- T PROPOSED TELEPHONE
- W PROPOSED WATER MAIN
- PROPOSED TREELINE
- X PROPOSED FENCE
- WATER VALVE IN VAULT
- WATER REDUCER
- TELEPHONE PEDESTAL
- TELEPHONE POLE
- +696.32 PROPOSED SPOT GRADE
- +695.25 EXISTING SPOT GRADE
- POST/BOLLARD
- SOIL BORING

NOTE: UNLESS OTHERWISE NOTED, SYMBOLS IN THIS LEGEND ARE SHOWN AS EXISTING. PROPOSED SYMBOLS WILL USE THE CORRESPONDING SYMBOL WITH A THICKER LINE.

PROJECT NOTES

1. VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO ORDERING STRUCTURES AND CONSTRUCTION.
2. COORDINATE ALL TRAFFIC CONTROL WITH CITY OF KALAMAZOO.
3. PAYMENT FOR ALL WORK SHALL BE ACCORDING TO THE PAY ITEMS INDICATED. ANY WORK REQUIRED ON THE DRAWINGS BUT OTHERWISE NOT SPECIFICALLY COVERED BY A PAY ITEM SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
4. PAVEMENT MARKINGS AND SIGNAGE SHALL CONFORM TO THE CURRENT MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND MICHIGAN BARRIER FREE CODE.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS BECOME APPARENT, THESE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION OF ANYTHING AFFECTED SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND CITY OF KALAMAZOO STANDARDS SPECIFICATIONS.
7. FOR PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL CALL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

REMOVAL NOTES

1. REVIEW ALL THE REMOVALS AND PROTECTION WITH OWNER PRIOR TO COMMENCING CONSTRUCTION. INSTALL TEMPORARY SNOW FENCE AROUND ALL TREES REQUIRING PROTECTION. SNOW FENCE SHALL BE PLACED AT EDGE OF DRIP LINE.
2. ALL REMOVALS SHALL BE TAKEN OFF-SITE AND DISPOSED OF. NO STOCKPILE OR BURNING OF DEBRIS IS ALLOWED.
3. COMPLY WITH ALL ASPECTS OF THE SOIL EROSION CONTROL PERMIT AS ISSUED BY CITY OF KALAMAZOO. ALL TEMPORARY CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION.
4. ALL REMOVALS SHALL BE TO THE LIMITS INDICATED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. UNAUTHORIZED REMOVALS AND SUBSEQUENT REPLACEMENT SHALL BE AT THE CONTRACTOR'S EXPENSE.
5. CURB CUTS AND REMOVALS WILL BE DONE TO THE NEAREST EXISTING JOINT.
6. REMOVE, STORE, AND RESET ANY EXISTING SIGNS AS DIRECTED BY THE ENGINEER/CITY.
7. REMOVE ALL TREES TO THE CLEARING LIMITS AS SHOWN. REMOVE ALL EXISTING TREES, STUMPS AND BRUSH FROM THE SITE AS NECESSARY TO CONSTRUCT THE IMPROVEMENTS.

GRADING NOTES

1. ALL SOIL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO MASS GRADING.
2. REMOVE AND REPLACE WITH CONTROLLED FILL ANY AREAS THAT HAVE BEEN SOFTENED BY RAINS, FREEZING, CONSTRUCTION EQUIPMENT, ETC.
3. ALL REQUIRED FILL FOR THIS PROJECT SHALL BE SELECTED EXCAVATED MATERIAL FROM THE SITE APPROVED BY THE ENGINEER OR CLASS II GRANULAR MATERIAL FROM BORROW AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
4. ALL GRANULAR FILL UNDER THE INFLUENCE OF THE ROADWAY AND PROCESSED ROAD GRAVEL SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY UNLESS OTHERWISE NOTED.
5. ALL COMPACTION SHALL BE ACCOMPLISHED BY PLACING THE FILL IN 12" LOOSE LIFTS AND MECHANICALLY COMPACTING EACH LIFT TO AT LEAST THE SPECIFIED MINIMUM DRY DENSITY. FIELD DENSITY TESTS SHOULD BE PERFORMED ON EACH LIFT AS NECESSARY TO ENSURE THAT ADEQUATE MOISTURE CONDITIONS AND COMPACTION ARE BEING ACHIEVED.
6. CONTRACTOR SHALL REMOVE AND STOCKPILE ALL TOPSOIL AND BLACK ORGANIC SOILS ON-SITE TO BE USED IN THE REGRADING OF LANDSCAPE AREAS. THIS MATERIAL IS NOT TO BE USED FOR FILL OR PAVEMENT SUBBASE. REMOVAL OF ANY EXCESS SOIL OFF-SITE SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

UTILITY NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CITY OF KALAMAZOO STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE INSTALLATION, 2021.
2. THE CONTRACTOR SHALL INSTALL PEDESTRIAN FENCE AROUND ALL EXCAVATIONS TO BE LEFT OPEN OVERNIGHT AS REQUIRED.
3. ANY UTILITIES REQUIRING DEWATERING SHALL BE INSTALLED TO THE CITY OF KALAMAZOO STANDARDS. CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING NECESSARY TO CONSTRUCT UTILITIES IN THE DRY.
4. DEWATERING MAY BE REQUIRED TO INSTALL OR REMOVE SOME UTILITIES. REFER TO SPECIFICATIONS FOR SPECIFIC REQUIREMENTS.
5. REMOVE ANY ACCUMULATED SEDIMENT FROM ALL STRUCTURES AND REMOVE SILT SACKS ONCE SITE IS ESTABLISHED.
6. PROVIDE 18" WATER MAIN SEPARATION WHEN CROSSING OTHER UTILITIES. DEFLECT UNDER OTHER UTILITIES W/O USING FITTINGS WHENEVER POSSIBLE.
7. ALL WATER MAIN SHALL BE POLYWRAPPED WITH V-BIO POLYWRAP.
8. RESTRAIN WATER MAIN AS DIRECTED IN ACCORDANCE WITH THE CITY OF KALAMAZOO STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE INSTALLATION, 2021.
9. CONTRACTOR SHALL VERIFY GROUNDWATER DEPTH ALONG THE PROPOSED WATER MAIN ROUTE PRIOR TO CONSTRUCTION.

SESC NOTES

1. ALL WORK WILL COMPLY WITH THE PROVISIONS OF THE SOIL EROSION AND SEDIMENTATION CONTROL ACT (PA 347 OF 1972 AS AMENDED) ADMINISTERED BY THE CITY OF KALAMAZOO.
2. AVOID UNNECESSARY DISTURBING OR REMOVING EXISTING VEGETATED TOPSOIL OR EARTH COVER. THESE AREAS ACT AS SEDIMENT FILTERS.
3. CONTRACTOR ALL SHALL REFER TO MDOT & DTMB SESC MANUAL FOR INSTALLATION SPECIFICATIONS FOR ALL TEMPORARY SESC MEASURES. TEMPORARY SOIL EROSION PROTECTION SHALL REMAIN IN PLACE UNTIL SITE IS ESTABLISHED.
4. INSTALL INLET PROTECTION AT ALL STORM SEWER STRUCTURES DURING CONSTRUCTION.
5. NO SITE WORK SHALL BEGIN UNTIL THE SESC MEASURES ARE IS INSTALLED.
6. THE CONTRACTOR SHALL SERVE AS THE CERTIFIED STORM WATER OPERATOR FOR THE PROJECT AND SHALL PROVIDE COPIES OF ALL INSPECTION REPORTS AND RECOMMENDATIONS TO THE ENGINEER.
7. PROVIDE SILT SACKS IN EACH CATCH BASIN UNTIL SITE IS STABILIZED.
8. CLEAN ADJACENT ROADWAYS AS DIRECTED BY ENGINEER. THIS IS CONSIDERED INCIDENTAL TO THE PROJECT.
9. WATER SITE AS DIRECTED BY ENGINEER TO PREVENT AIR BORNE SEDIMENT TRANSFER. THIS IS CONSIDERED INCIDENTAL TO THE PROJECT.
10. TO PREVENT OFFSITE TRACKING OF SEDIMENT, SWEEP THE ROADWAY AND CURB WEEKLY OR AS DIRECTED BY ENGINEER. IF SWEEPING IS LIKELY TO CREATE EXCESSIVE DUST, WET/DAMPEN SEDIMENTS PRIOR TO SWEEPING.

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www.hurleystewart.com
hurley & stewart
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kalamazoo, michigan 49009
401 hall st. sw, ste. 213
grand rapids, michigan 49503

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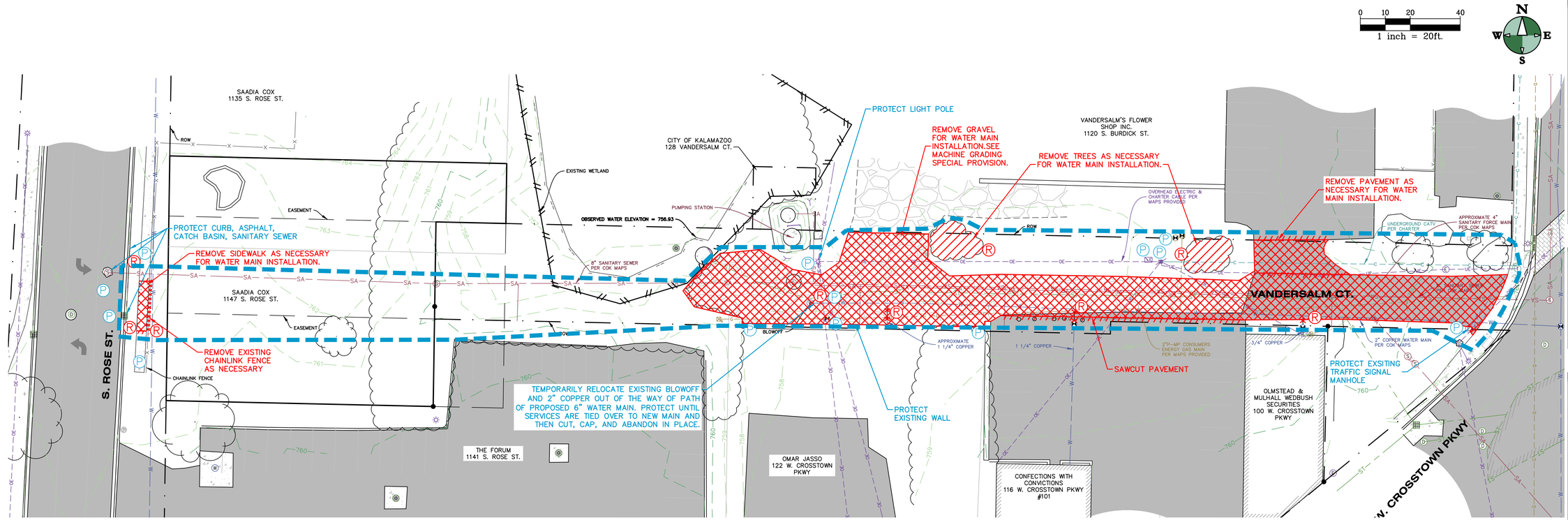
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#2 90% DESIGN SET	12/03/25
#3 EGLE PERMIT SET	2/17/25
#4 BID DOCUMENTS	5/1/26

Job No: 25-071D • PM: LJV • Designer: NJR • QA/QC: 7/30/26

PROJECT NOTES & LEGEND
VANDERSALM CT WATER MAIN
CITY OF KALAMAZOO

Sheet Title:
Project:
Client:

7/30/26
Sheet
C-1



REMOVALS LEGEND

- SAWCUT
- PAVEMENT/SIDEWALK/GRAVEL REMOVAL
- UTILITY LINE REMOVAL
- TREE REMOVAL
- (R) REMOVE
- (P) PROTECT
- (S) SALVAGE
- LIMITS OF CONSTRUCTION

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FIELD WORK PERFORMED BY:
LANDTECH

H:\25-071D (Vandersalm Ct Water Main Replacement)_FINAL DRAWINGS\C-2 Removal Plan.dwg LAST SAVED BY: CJOHNSTON ON 7/30/2026

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REMOVAL PLAN
VANDERSALM CT WATER MAIN
CITY OF KALAMAZOO

Sheet Title:
Project:
Client:

7/30/26

Sheet
C-2

STORM SEWER STRUCTURE SCHEDULE

STR. #	RIM EL.	DIAM.	CASTING	PIPES IN:	PIPES OUT
CB #1	757.19	2'	5105 M1		8" W: 755.60

WATER MAIN FITTING SCHEDULE

FITTING NUMBER	DESCRIPTION	TOTAL THIS SHEET
1	12" X 6" TAPPING SLEEVE AND VALVE	1
2	6" 45° BEND	2
3	FIRE HYDRANT ASSEMBLY W/ VALVE	1

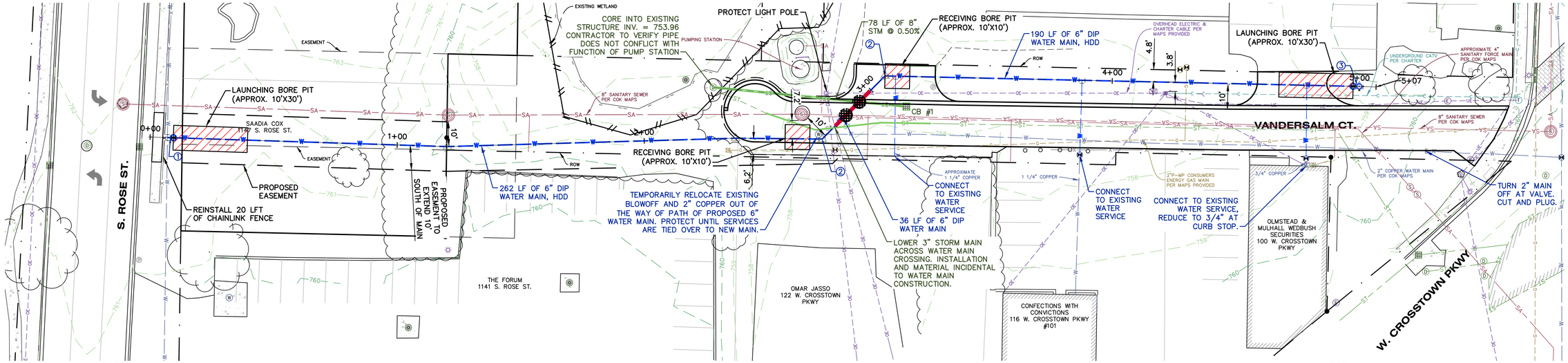
LEGEND

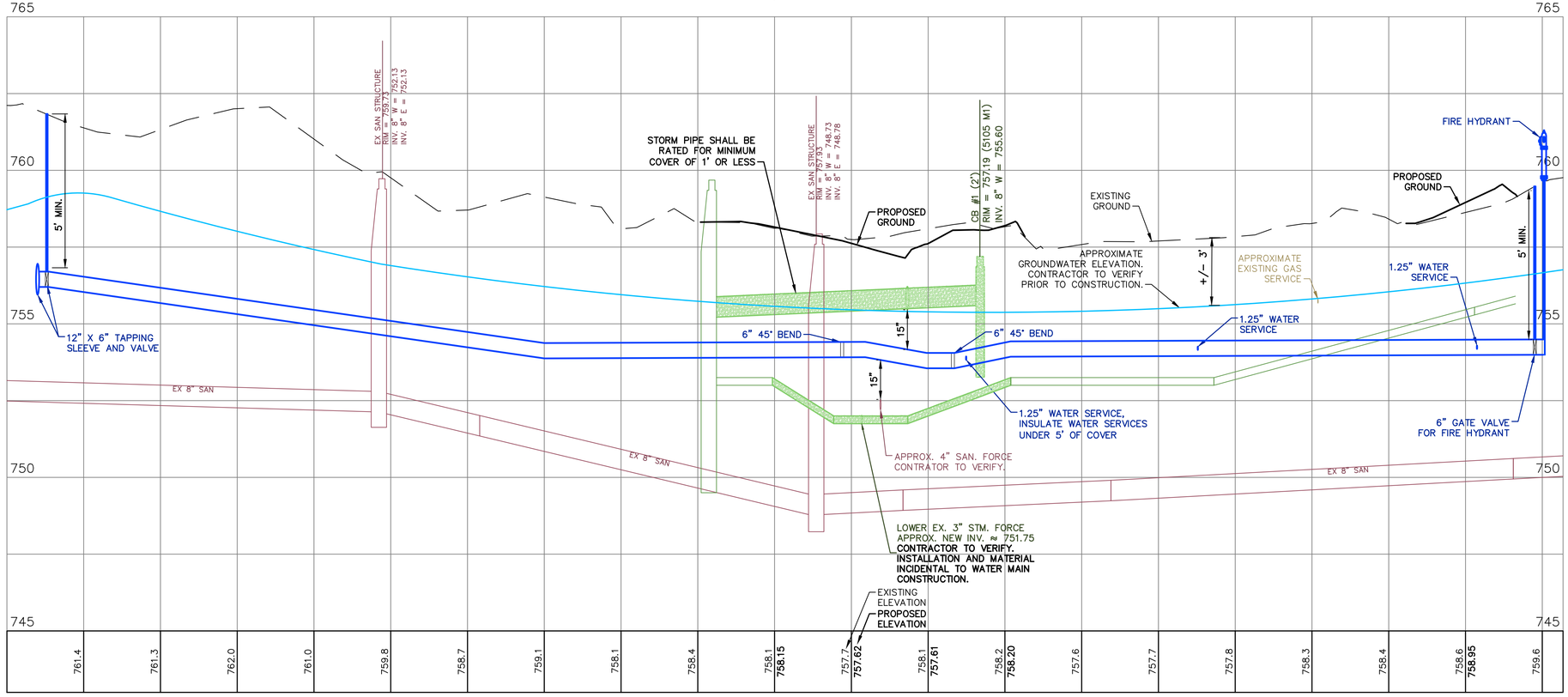
- CENTER FULL STICK OF PIPE TO EXISTING UTILITY WHEN CROSSING OR PASSING (TYP)
- DEFLECT WATER MAIN UNDER/OVER PIPE CONFLICT (SEE DETAIL)
- LOWER WATER MAIN UNDER CONFLICT, MAINTAIN MIN 6" VERT. CLEARANCE

NOTE:
CONTRACTOR RESPONSIBLE FOR VERIFYING FITTINGS. AMOUNTS DO NOT TAKE INTO CONSIDERATION VERTICAL DEFLECTIONS.

0 10 20 40
1 inch = 20ft.

N W E S





WATER MAIN PROFILE

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CONSTRUCTION PLAN & PROFILE
VANDERSALM CT WATER MAIN
CITY OF KALAMAZOO

Sheet Title:
Project:
Client:

7/30/26

Sheet
C-3

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GRADING PLAN LEGEND

- PROPOSED CONTOUR 5-FT
- PROPOSED CONTOUR NORMAL
- EXISTING CONTOUR 5-FT
- EXISTING CONTOUR NORMAL
- PROPOSED SPOT GRADE
- PROPOSED SPOT GRADES: TOP AND BOTTOM OF CURB/WALL
- EXISTING SPOT GRADE
- PROPOSED SURFACE SLOPE
- SOIL BORING
- BENCH MARK

SITE LEGEND

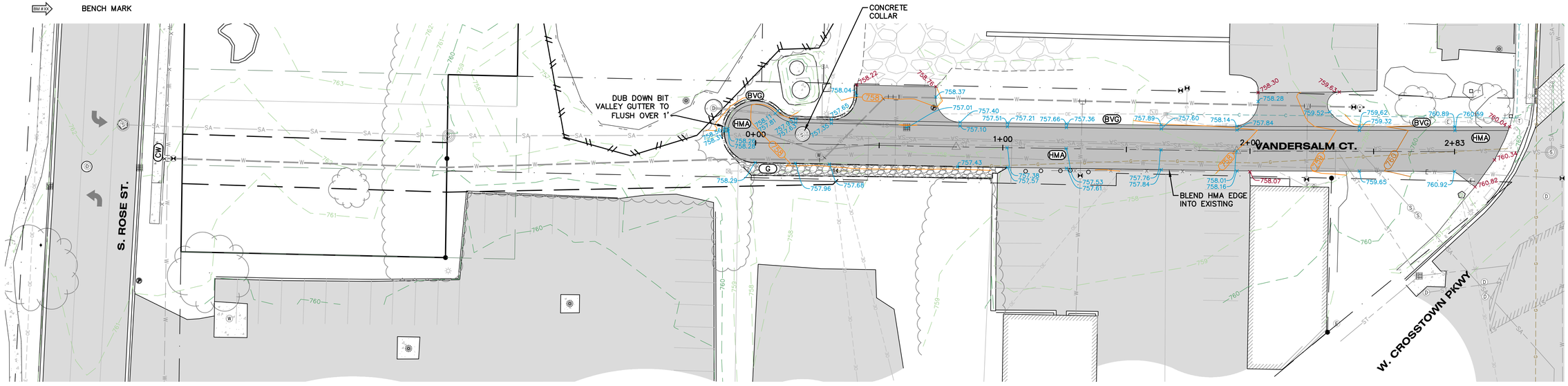
- HMA HMA PAVEMENT
- BVG BIT VALLEY GUTTER
- CW CONCRETE WALK
- G GRAVEL

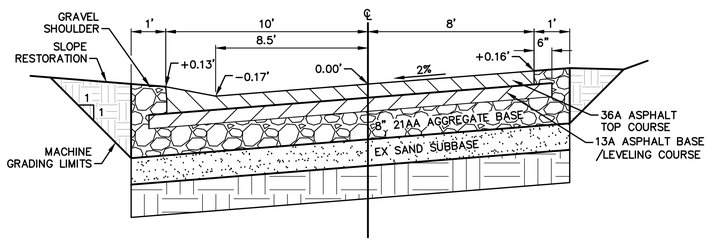
RESTORATION LEGEND

- FULL DEPTH HMA PAVEMENT (SEE DETAIL)
- CONCRETE SIDEWALK (SEE DETAIL)
- GRAVEL SHOULDER (SEE DETAIL)
- EXISTING HMA PAVEMENT TO REMAIN

0 10 20 40
1 inch = 20ft.

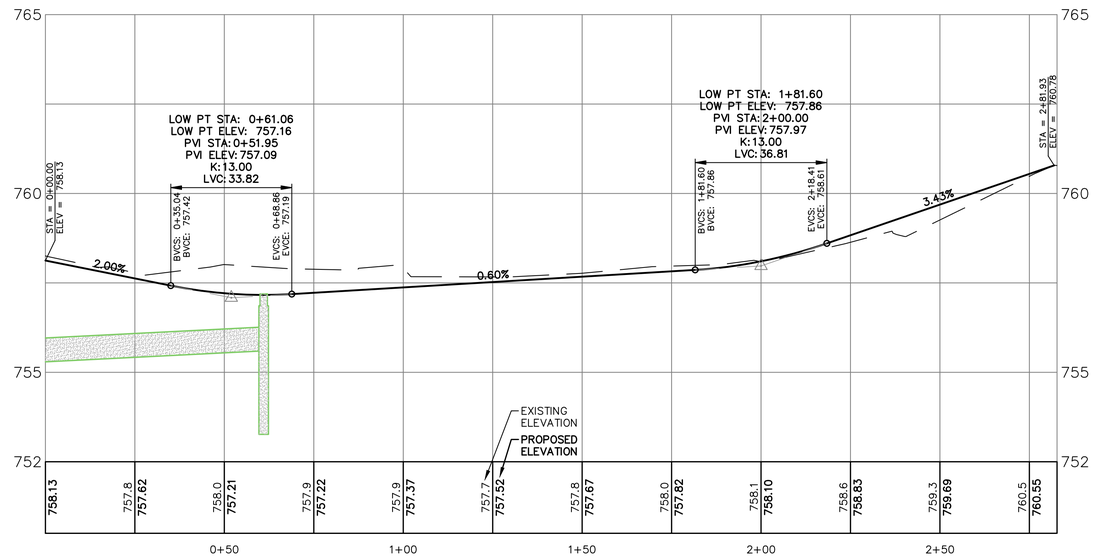
N W E S





TYPICAL VANDERSALM RD CROSS SECTION

NOT TO SCALE



VANDERSALM PROFILE

HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE PER SYD	PERFORMANCE GRADE	REMARKS
36A	HMA, 36A	165 LB	PG 64-28	TOP COURSE
13A	HMA, 13A	220 LB	PG 64-28	BASE/LEVELING COURSE
SS-1H	* BOND COAT, SS-1H	0.10 GAL		FULL COVERAGE

* FOR INFORMATION ONLY

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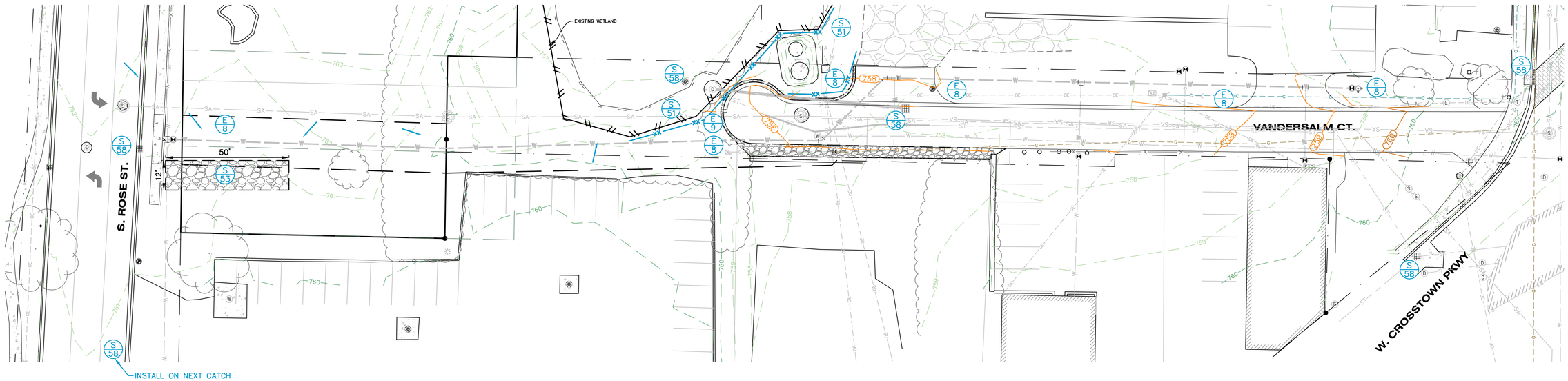
Job No: 25-071D • PM: LJV • Designer: NJR • QA/QC: 7/30/26

RESTORATION PLAN & PROFILE
VANDERSALM CT WATER MAIN
CITY OF KALAMAZOO

Sheet Title:
Project:
Client:

7/30/26

Sheet
C-4

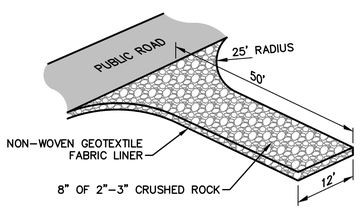


SESC PLAN LEGEND

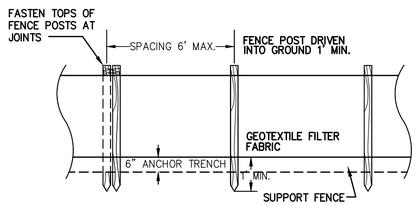
- EXISTING CONTOUR 5-FT
- EXISTING CONTOUR NORMAL
- PROPOSED SILT FENCE
- DRAINAGE DIRECTION
- SOIL BORING
- BENCH MARK
- SOIL EROSION MEASURE
- SEDIMENT CONTROL MEASURE

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

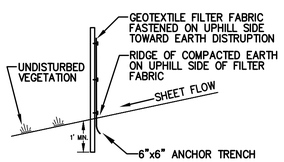
KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
E8	*PERMANENT SEEDING*		*Stabilization method utilized on sites where earth change has been completed (final grading attained).*
E9	*MULCH BLANKETS*		*On exposed slopes, newly seeded areas, new ditch bottoms, or areas subject to erosion.*
S51	*SILT FENCE*		*Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.*
S53	*STABILIZED CONSTRUCTION ACCESS*		*Used at every point where construction traffic enters or leaves a construction site.*
S58	*INLET PROTECTION FABRIC DROP*		*Use at stormwater inlets, especially at construction sites.*



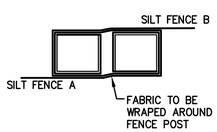
S53 STABILIZED CONSTRUCTION ACCESS
NOT TO SCALE



FRONT VIEW
NOT TO SCALE

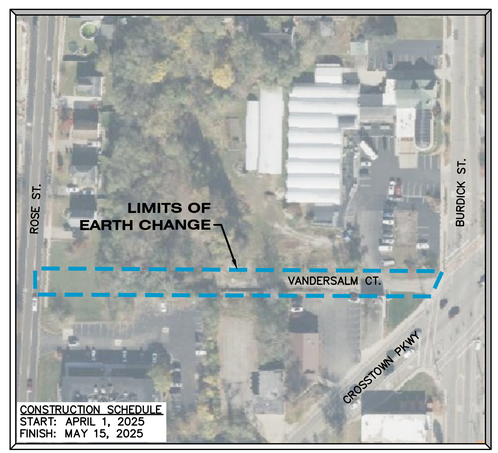


SECTION
NOT TO SCALE



JOINT DETAIL
NOT TO SCALE

SILT FENCE DETAILS



SITE LOCATION MAP
SCALE: 1" = 100'

811 Know what's below. Call before you dig.

ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.

FIELD WORK PERFORMED BY:
LANDTECH

H:\25-071D (Vandersalm Ct Water Main Replacement)_FINAL DRAWINGS\C-5 SESC Plan.dwg LAST SAVED BY: CJOHNSTON ON 5/29/2026

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#2 90% DESIGN SET 12/03/25
#3 EGLE PERMIT SET 2/17/25
#4 BID DOCUMENTS 5/1/26

Job No: 25-071D • PM: LJV • Designer: NJR • QA/QC: 7/30/26

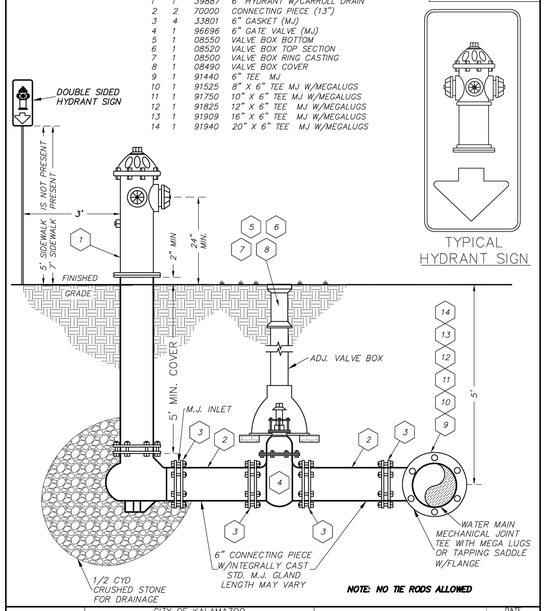
SESC PLAN
VANDERSALM CT WATER MAIN
CITY OF KALAMAZOO

Sheet Title:
Project:
Client:

7/30/26
Sheet
C-5

WA–1–D

ITEM	QTY.	#	DESCRIPTION
1	1	39887	6" HYDRANT W/CARROLL DRAIN
2	2	70000	CONNECTING PIECE (13")
3	4	33801	6" GASKET (MJ)
4	1	96696	6" GATE VALVE (MJ)
5	1	08550	VALVE BOX BOTTOM
6	1	08520	VALVE BOX TOP SECTION
7	1	08500	VALVE BOX RING CASTING
8	1	08490	VALVE BOX COVER
9	1	91440	6" TEE MJ
10	1	91525	8" X 6" TEE MJ W/MEGALUGS
11	1	91750	10" X 6" TEE MJ W/MEGALUGS
12	1	91825	12" X 6" TEE MJ W/MEGALUGS
13	1	91909	16" X 6" TEE MJ W/MEGALUGS
14	1	91940	20" X 6" TEE MJ W/MEGALUGS

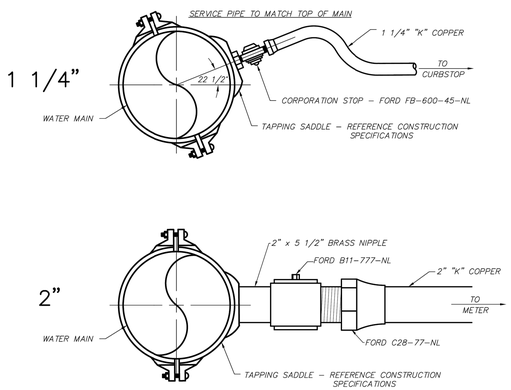


CITY OF KALAMAZOO
Department Of Public Services

TYPICAL FIRE HYDRANT & GATE VALVE DETAIL

	DATE
RECOMMENDED BY	
APPROVED BY	
APPROVED BY	
ACCEPTED BY	

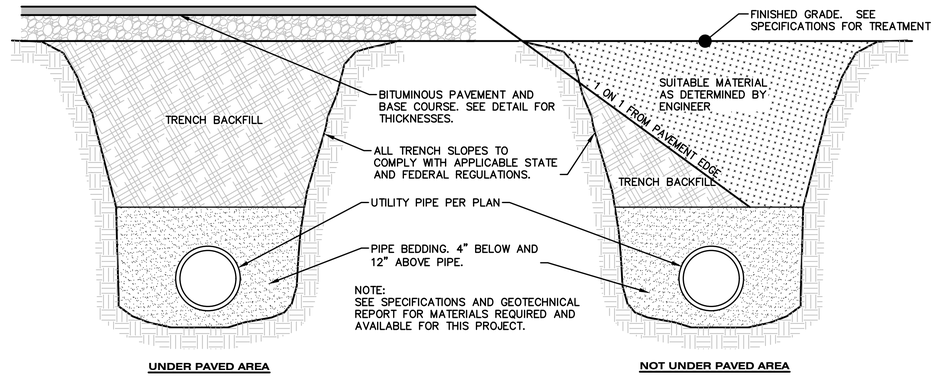
WS–9–D



CITY OF KALAMAZOO
Department Of Public Services

WATER SERVICE TAPPING SLEEVE

	DATE
RECOMMENDED BY	
APPROVED BY	
APPROVED BY	
ACCEPTED BY	

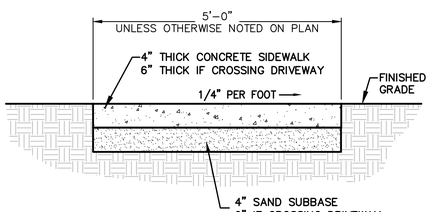


TRENCH DETAILS

NOT TO SCALE

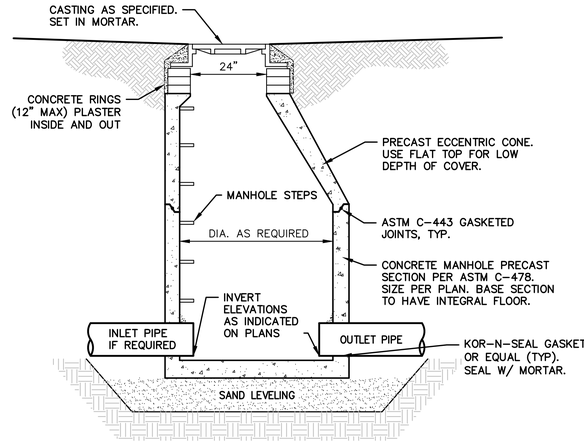
GENERAL NOTES:

- MDOT STANDARD PLANS R–28–J, R–29–I, R–30–G, AND R–44–F SHALL BE FOLLOWED IN CONJUNTION WITH THESE STANDARD PLANS
- ALL SAW CUTTING SHALL BE DONE PERPENDICULAR AND PARALLEL TO THE DIRECTION OF TRAVEL
- SAW CUTTING SHALL PROVIDE A STRAIGHT, CLEAN, EDGE TO ENHANCE BONDING
- ALL CUTS SHALL BE RECTANGULAR AND NEATLY CUT TO AVOID SPALLING OF PAVEMENT
- IN GENERAL ALL ROAD/UTILITY CUTS OF AN AREA GREATER THAN 25SFT (5FTX5FT TYPICAL) SHALL EXTEND THE FULL WIDTH OF THE TRAVEL LANE
- FOR PAVEMENT WITH LOAD TRANSFER DOWEL RODS OR REINFORCEMENT: NEW LOAD TRANSFER DOWELS/REINFORCEMENT SHALL BE PLACED TO MAINTAIN BEARING CAPACITY OF ROADWAY
- CUTS LESS THAN 12" SHALL BE PATCHED WITH PCC. IF GREATER THAN 12", ENSURE CUT IS IN ACCORDANCE WITH STANDARD DETAILS AND MATCHING EXISTING ROADWAY
- BUMPS/CUTS/MILLED AREAS WITH EDGE GREATER THAN 2" DEEP/HIGH MUST BE WEDGED WITH HMA BEFORE OPEN TO TRAFFIC. SEE STANDARD DETAIL.
- MEANDERING SIDEWALK SHALL ONLY BE PLACED IN THE CITY'S ROW OR WHERE AN EASEMENT IS ESTABLISHED
- NEW SIDEWALK CONSTRUCTION SHALL MEET OR EXCEED CURRENT ADA AND ACCESSIBILITY STANDARDS
- REPLACED SIDEWALK SHALL, TO THE EXTENT PRACTICABLE, MEET OR EXCEED ADA AND ACCESSIBILITY STANDARDS
- SIDEWALK, DRIVEWAY OPENINGS & APPROACHES SHALL CONFORM TO MDOT STANDARD PLAN DETAILS R–28–J AND R–29–I
- MARSHALL MIX 13A (BASE/LEVELING) MAY BE SUBSTITUTED FOR SUPERPAVE HMA BASE MIX DESIGNS WITH CITY OF KALAMAZOO APPROVAL IF DEEMED APPROPRIATE BY THE ENGINEER
- ASPHALT BINDER SHALL BE INCLUDED IN THE PAY ITEM FOR HMA
- MDOT PCC P1 MIX DESIGN SHALL BE USED FOR ALL CONCRETE UNLESS OTHERWISE STATED OR DIRECTED BY THE ENGINEER
- OPENING TO TRAFFIC STRENGTHS (2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, TABLE 603–1):
  - <72 HOURS, GRADE P–NC, 300 psi
  - 72 HOURS +, GRADE P1, P1M, 550 psi



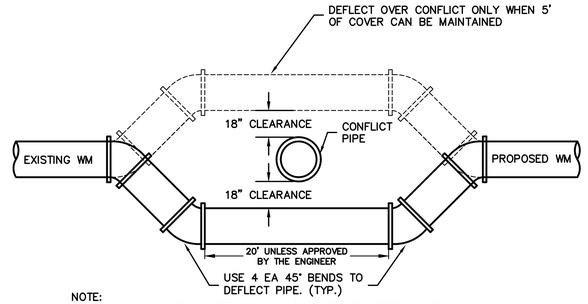
SIDEWALK DETAIL

NOT TO SCALE



STORM MANHOLE DETAIL

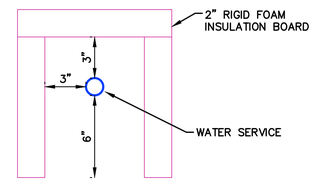
NOT TO SCALE



NOTE:
RESTRAIN ALL JOINTS IN DEFLECTION AREA PER CITY SPECIFICATIONS.

WATER MAIN DEFLECTION DETAIL

NOT TO SCALE



WATER SERVICE INSULATION DETAIL

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#2 90% DESIGN SET	12/03/25
#3 EGLE PERMIT SET	2/17/25
#4 BID DOCUMENTS	5/1/26

Job No: 25-071D • PM: IJV • Designer: NJR • QA/QC: 7/30/26

DETAILS
VANDERSALM CT WATER MAIN
CITY OF KALAMAZOO

Sheet Title:
Project:
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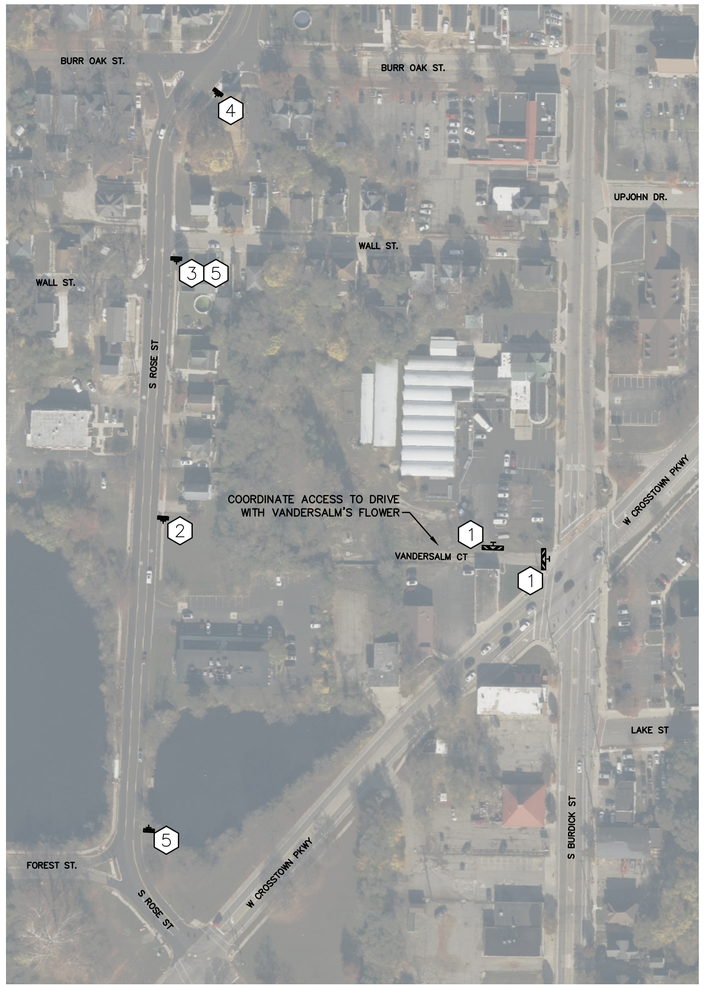
7/30/26
Sheet
C-6

QTY: 4 BARRICADE, HIGH INTENSITY, LIGHTED	1 QTY: 2 SIZE: 48"X30" (10 SFT) TOTAL AREA: 20 SFT	2 QTY: 1 SIZE: 30"X18" (3.75 SFT) TOTAL AREA: 3.75 SFT	3 QTY: 1 SIZE: 24"X12" (2 SFT) TOTAL AREA: 2 SFT
DESIGNATION: TYPE III	ROAD CLOSED DESIGNATION: R11-2	SIDEWALK CLOSED DESIGNATION: R9-9	SIDEWALK CLOSED USE OTHER SIDE DESIGNATION: R9-10 (L OR R)
QTY: 3 PEDESTRIAN BARRICADE			
DESIGNATION: TYPE II			

4 QTY: 1 SIZE: 24"X12" (2 SFT) TOTAL AREA: 2 SFT	5 QTY: 8 SIZE: 48"X48" (16 SFT) TOTAL AREA: 128 SFT	
SIDEWALK CLOSED AHEAD CROSS HERE DESIGNATION: R9-11 (L OR R)	CONSTRUCTION AHEAD DESIGNATION: K-0274	

0 50 100 200
1 inch = 100ft.

N
W E
S



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MAINTENANCE OF TRAFFIC PLAN
VANDERSALM CT WATER MAIN
CITY OF KALAMAZOO

Sheet Title:
Project:
Client:

7/30/26
Sheet
C-7