Wolf River Development Company
Chartered Entity of the
Menominee Indian Tribe of Wisconsin

REQUEST FOR PROPOSALS
For
Construction of a Water and Sewer Distribution System Extension at Pine Meadows Road Cul-de-Sac for the Dreamcatcher Housing Initiative

Located in Keshena, WI

For The
Wolf River Development Company

PROJECT ID # 25-08

Due: October 29th, 2025, at 2:00pm

Wolf River Development Company's non-profit entity, Dream Catcher Housing Initiative, is requesting proposals from qualified contractors for the construction of a Water and Sewer Distribution System Extension at Pine Meadows Road.

TABLE OF CONTENTS

I. REQUEST FOR PROPOSALS SOLICITATION NOTICE

Wolf River Development Company (WRDC)
P.O. Box 460
W2828 Go Around Road
Keshena, WI 54135

The Wolf River Development Company (WRDC), through its nonprofit entity, the Dreamcatcher Housing Initiative, is seeking proposals from qualified bidders for the construction of a water and sewer distribution system extension at Pine Meadows Road Cul-de-Sac for three (3) new single family homes per the attached plans and specifications.

The project is located at **Pine Meadows Road, Keshena, WI, 54135 on the Menominee Indian Reservation**.

The project includes all labor, materials, equipment, and services required for the complete construction of the sewer and water extension per the attached **Plan. See Exhibit J.**

Proposals should be prepared and submitted as outlined in this Request for Proposals to:

Wolf River Development Company
ATTN: Kimberly Latender, Development Manager
W2828 Go Around Road
Keshena, WI 54135
rfp@wolfriverdev.com

Re: WRDC Project: Pine Meadows Utility Extension

The deadline to submit Proposals as indicated on the clock in the Wolf River Development office is:

Date: Wednesday, 10/29/2025 at 2:00 p.m. CST

Any Proposal received after this deadline will be rejected and will not be opened or considered for award. All proposals submitted shall become the property of the WRDC upon submission and shall be made a permanent part of the WRDC's records. Electronic Bids should be no larger than 30 MB.

Major Items of Work:
This is a project issued by the Wolf River Development Company (WRDC), a chartered entity of the Menominee Tribe of Wisconsin. The scope of this project encompasses the extension of a water and sewer distribution system as outlined in the attached plans and specifications, including but not limited to:

A. **Water Sewer System Extension Work:**
Procure and install: PVC pipe for water extension, connection to existing water system, installation of two 8-inch gate valves, installation of one fire hydrant, installation of three water service lines.

B. **Sanitary Sewer Collection System Extension:**
Procure and install: PVC pipe sewer main extension, connection to manhole, core drilling, and reforming of flow channel, installation of one new precast new manhole, installation of three sewer service lines.

Copies of the Request for Proposals or any Proposal documents may be obtained from the Wolf River Development Company located at W2828 Go Around Road, Keshena, WI 54135, or by calling Development Manager, Kimberly Latender (715) 245-2309 or at kim.latender@wolfriverdev.com

II. BIDDERS SUBMITTAL CHECKLIST

1. **Threshold Items.** The following list of items are considered threshold criteria. Failure to submit any of these items as a part of the Proposal will render it as unresponsive, and it will not be evaluated for award.

   - ☐ Completed and Signed Proposal Form
   - ☐ Completed and Signed Addendum(s), if applicable
   - ☐ Proof of Insurance – Liability, workers' compensation and other required coverage
   - ☐ Detailed Cost Estimate – Itemized pricing based on plans and specifications.
   - ☐ Project is within Budget Amount – Itemized pricing based on plans and specifications.

2. **Non-Threshold Items.** The following list of items are considered evaluation items. Failure to submit any of these items as a part of the Proposal will not render it as unresponsive; however, any missing items may have a negative impact on the overall evaluation score.

   - ☐ Company Profile – Experience with similar utility construction plans
   - ☐ Project Team – Key personnel, including project manager and site superintendent
   - ☐ References – at least three recent, comparable projects
   - ☐ Description of Projects of Similar Size and Scope
   - ☐ Previous Experience with WRDC
   - ☐ Native American/Minority Preference Documentation

3. **Checklist.** Please include this checklist with your Proposal.

4. This is not an all-inclusive list of evaluation items. Please see Appendix A – Evaluation Criteria for threshold criteria and evaluation items.

III. GENERAL INSTRUCTIONS TO BIDDERS

Pine Meadows Road Water and Sewer Extension Construction Project

The purpose of this Request for Proposals (RFP) is to solicit sealed Proposals from qualified bidders for the Wolf River Development Company, a chartered business entity of the Menominee Indian Tribe of Wisconsin (MITW), a federally recognized Indian Tribe. The WRDC desires to enter into a contract for the construction of a new water distribution system extension at Pine Meadows Road located in

Keshena, WI for three new single-family homes located at end of cul-de-sac as outlined in this RFP. By submitting a Proposal, Bidders certify that all information provided in response to this RFP is true and accurate. Failure to provide information required by this RFP could result in rejection of the Proposal.

1. Contents of Each Proposal. Each Proposal shall include, ***at a minimum***, the following documentation:

1.01 Bidders Submittal Checklist (see Section II).

1.02 Completed Proposal Forms.

A. All offered values must be expressed in numeric and in a written format breaking down each division into a schedule of values.

B. Any goods or services offered at no charge must be identified as "No charge".

C. Any goods or services not offered must be identified as "Not offered".

D. List of Subcontractors and Vendors (See item 6 below)

E. Projects of Similar Size and Scope. Provide a list and description of projects your Company has completed that are similar in size and scope to this project along with contact information for those Companies and/or Organizations that work was performed for.

F. References: Provide three individuals/organizations that can vouch for the credibility of your firm's work ethic.

1.03 Proof of Insurance for Bidder and all subcontractors (see Section IV).

1.04 Company Overview. Provide a one-to-two-page summary of your Company. The profile of staff should concentrate on:

A. Profile of Owners, Partners, Key Management, Officials, and/or Senior Management to include qualifications needed for this project.

B. Experience: Describe how long your Company has been in business as well as describe past experience relative to this project.

C. Capabilities: Provide information that describes the financial strengths of the Company, access to capital, equipment needed for project, etc. and a narrative on service plan execution.

1.05 Native American / minority preference documentation, if applicable.

A. Proof of legal ownership in responding firm.

B. Proof of owner ('s) Tribal affiliation with enrollment number(s).

C. Proof of employee ('s) Tribal affiliation with enrollment number(s).

D. Proof of Minority Business classification / certification.

1.06 Menominee Hiring Preference (See Item 18 below).

2. Pre-Bid Conference. There will be no pre-bid conference for this project.

3. Examination of Proposal Documents and Site

3.01 It is the responsibility of each Bidder, before submitting a Proposal to

A. Examine the Proposal documents thoroughly;

B. Inspect the site as required by the Proposal documents to become familiar with local conditions that may affect cost, progress, performance, or furnishing of the

work; Review Tribal, Federal and State laws, ordinances or codes and regulations that may affect cost, progress, performance, or furnishing of the work;

C. Study and carefully correlate Bidder's observations with the Proposal documents;
D. Notify WRDC of all conflicts, errors or discrepancies identified by Bidders upon examination of the Proposal documents; and
E. Become familiar with WRDC's permit and site regulations.

3.02 Before submitting a Proposal, each Bidder shall, at Bidder's own expense, make or obtain any additional examinations, investigations, exploration, tests and studies, and obtain any additional information and data which pertain to the physical conditions relating to surface, subsurface, and underground facilities, (whether privately or publicly owned) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the work and which Bidder deems necessary to determine its Proposal for performing and furnishing the work in accordance with the terms and conditions of the contract documents.

3.03 On request in advance, WRDC will provide each Bidder reasonable access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Proposal.

4. Bidder's Representation. Bidder represents it is experienced and qualified to perform the services required by the Proposal documents and is properly staffed, organized and financed to perform such services, and to commence such services immediately.

5. Legal Entity Identification. All proposals shall identify each partnership or joint venture in which Bidder is involved and each other member of each partnership or joint venture. All proposals shall identify each of Bidder's partners and subsidiary, parent or related entities. All proposals shall identify each indemnity agreement with respect to third parties, including arrangements to provide bonding capabilities.

6. Subcontractors, Suppliers, and Others

6.01 Bidder shall submit with the Proposal, a list of all Subcontractors to be used on the project (if applicable). The list shall include each subcontractor, subcontractor's employees and their titles, Tribal affiliation (if applicable), and a description of the work the subcontractor will perform. Subcontractors are required to meet the same insurance requirements as the Bidder. **Bidder must include a copy of subcontractor's proof of insurance with Proposal.**

6.02 The successful Bidder shall be responsible for the project site, regardless of the subcontractor's contractual relationship to the successful Bidder.

6.03 The successful Bidder shall cause to be removed from the project site any subcontractor or employee thereof whom the WRDC, in writing, finds to be incompetent, careless or otherwise objectionable.

6.04 Failure of any subcontractor to complete work described in its subcontract in a satisfactory manner, or without delay, will not excuse the successful Bidder from any delay in the completion of the entire contract except as provided in the applicable clause of the contract.

6.05 In connection with the performance of work under this Proposal, the successful Bidder shall not subcontract with a subcontractor who, at the time of the subcontract award, is listed on the List of Parties Excluded from Federal Procurement or Non-procurement Programs, the Menominee Tribal Debarment List, or the Menominee Tribal Debtors List. It is the successful Bidder's responsibility to verify the subcontractor's/vendor's status on these lists.

A. To verify that subcontractors and/or vendors are not on the federal list, go to the www.sam.gov website.
B. To verify that they are not on the Menominee Tribal Debarment List or the

Menominee Tribal Debtors List contact the WRDC Lending and Tax office at 715-799-5171.

6.06 Any change of subcontractors after award of contract requires prior approval and concurrence of WRDC.

6.07 Any terms and conditions that are applicable to the successful Bidder are also applicable to the subcontractor(s). The successful Bidder is responsible to ensure compliance by all subcontractors.

7. Proposal Forms

7.01 Bidder shall complete and sign the Proposal Form (see Section VI) in its entirety.

7.02 The Bid price of each item as set forth in the Bid Form shall be in numerical and written format.

7.03 Bidder is required to submit one lump sum Bid for all work and provide an individual unit price for each item.

7.04 Bidder is required to include in their proposal any alternate item, complete unit or supplemental prices for each item as called for on Proposal Form (if applicable).

7.05 Bidder is responsible for ensuring Proposal amounts are accurate and without error; inaccuracies may cause the bid to be rejected.

8. Response. In order to be considered for selection, Bidders must submit a ***complete*** response to this RFP. Proposal forms shall be accepted in either hard copies delivered to the WRDC office and electronic copies emailed to instructed contact.

9. Clarity of Proposals. Proposals should be prepared simply, providing a straightforward, concise description of capabilities to satisfy the requirements of this RFP. Emphasis should be placed on completeness and clarity of content. Proposals should be organized in the order in which the requirements are presented in this RFP.

10. Sealed Proposals. Proposals from businesses that are at least 51% owned by Menominee Tribal member(s) shall clearly mark "Menominee Business" on the outside of the business envelope or on the subject line of the email after the Project Title.

11. Where to Send. Firms responding to this request shall submit Proposals to:

Wolf River Development Company
ATTN: Kimberly Latender, Development Manager
W2828 Go Around Road
Keshena, WI 54135
RE: Pine Meadows Water & Sewer Extension
rfp@wolfriverdev.com

12. Deadline to Submit Proposals. Proposals must be received no later than Wednesday, October 29th, 2025, at 2:00 p.m. CST. Bidders are responsible for the effective delivery by the deadline above; any late submission will be rejected.

13. Proposal Opening

13.01 After the official Proposal closing time, the Proposals will be opened and assessed for completion within two business days at the Wolf River Development Company CFO Office.

13.02 Any Proposal conspicuously marked "Menominee Business" will be evaluated first. If any of the Proposals meet the qualifications and criteria as outlined in this RFP, they shall be considered for award.

13.03 Any Proposal envelope not conspicuously marked “Menominee Business” will be evaluated with all other Proposals received.

13.04 If none of the Menominee Businesses meets the criteria or if there are no Menominee Business Proposals received, the remaining Proposals shall then be evaluated by the WRDC Management Team, and a selection matrix and memorandum shall be provided to the WRDC Board of Directors within 10 working days of the closing date.

13.05 WRDC holds the right not to award due to changing organizational goals, without penalty.

14. Proposal Security. All Bidders shall hold their Proposals open and valid for ninety (90) days from the Proposal due date.

15. Interpretations. Any information provided to Bidders is given for information and the convenience of the Bidder only and the accuracy of such information is not guaranteed. The Bidder agrees that such information shall not be used as the basis of a claim against WRDC, nor shall the giving of any such information entitle the Bidder to assert any claim or demand against WRDC. Neither WRDC nor its agents assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Proposal Documents. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

16. Modification and Withdrawal of Proposal. Proposals may be modified or withdrawn by notice to the party receiving Proposals at the place designated for receipt of Proposals any time prior to the deadline of Proposals. A withdrawn Proposal may be resubmitted up to the time designated for the receipt of Proposals provided that it is in full conformance with these Instructions to Bidders.

17. Menominee Hiring Preference. This project is subject to Menominee Tribal Code §25.1-11 “Preference in Contracting" as follows:

17.01 The successful Bidder is required to utilize a Menominee workforce of 20% or greater in the performance of the contracted work including project hours of employment.

A. Contact the Lending & Tax at 715-799-5171 to obtain the names of Indian-owned contractors on or near the Menominee Reservation.

B. Contact Human Resource Department to assist in the hiring of employees needed for the project.

Randall Chevalier, HR Director
Wolf River Development Company
P. O. Box 910
Keshena, WI 54135
715-799-5154
rchevalier@mitw.org

17.02 This requirement may be modified prior to the execution of a contract to reduce or eliminate the 20% requirement if the successful Bidder provides adequate proof that:

A. There are not enough qualified Menominee Businesses or Menominee workers to meet this requirement

B. The successful Bidder will perform the contracted work with no subcontractors and with two or fewer employees.

C. Bidder must provide with the Proposal a written work plan of how the Bidder plans to implement this requirement (see Appendix H for a sample of the work plan).

18. **State and Federal Contract Pricing and Discounts.** The WRDC and its assets are wholly owned by the MITW which is a Federally recognized governmental organization which receives both State and Federal funding and carries out contracts with the United States Department of Interior pursuant to Public Law 93-638. As such, The WRDC is authorized and eligible to receive State and Federal contract pricing and discounts, to include pricing on products and services under contracts with the General Services Administration. It is the responsibility of the Bidder to extend such pricing opportunities to the WRDC and MITW within their Proposal if Applicable.
19. **Right of Investigation.** WRDC and MITW may conduct such investigations, as it deems necessary to assist in the evaluation of any Proposal and to establish the responsibility, qualifications, and financial ability of any Bidder, Subcontractor, employees and other persons and organizations proposed to perform and furnish the goods and or/services.
20. **Effect of Limited Submittal of Proposals.** In the event a single Proposal is received, it will be necessary for the WRDC to conduct a price analysis of the Proposal amount prior to the award of the contract.
21. **Reserved Rights.** The WRDC reserves the right to accept or reject any and all Proposals, retains the right to negotiate any and all parts of the responses received, including cost, scope of work, timelines, and other relevant details and to accept the Proposal most advantageous to, and in the best interest of, the WRDC.
22. **Taxes.** The WRDC is exempt from the payment of federal, state, and local taxes. Taxes must not be included in Proposal prices unless otherwise stated in this RFP. The necessary tax exemption certificates can be found in Appendix D.
23. **Anti-Kickback.** No employee of the WRDC shall accept any bribery, or attempt to bribe, or payment, gratuity, gift of any value, in any form of goods or services, which has been provided to an WRDC employee for personal use or gain, directly or indirectly, which was provided in whole or as part of an offer to sell or acceptance to buy goods or services on behalf of WRDC. Furthermore, no bidder shall make any such offer to an employee or official of the WRDC.
24. **Superseding Effect.** This RFP supersedes all Proposals, oral and written, and all negotiations, conversations or discussions heretofore and between the parties related to the subject matter. Any addendum to this RFP will be done in written form only and issued by the WRDC.
25. **Governing Law.** The laws of the Menominee Indian Tribe of Wisconsin will govern any contractual arrangement entered into between WRDC and the successful Bidder.
26. **Waiver of Sovereign Immunity Prohibited.** The MITW Constitution and Bylaws prohibits it from waiving its sovereign immunity. Any Proposal or contractual arrangement requiring the MITW to waive its sovereign immunity will nullify any award made by WRDC under this RFP.
27. **Questions Regarding this RFP.** General questions regarding this RFP must be submitted in written form to the individual listed below. A written response will be mailed or emailed to the party asking the question(s) as well as to all other parties interested in bidding on the project.

ATTN: Kimberly Latender, Development Manager
Wolf River Development Company
W2828 Go Around Road
P.O. Box 460
Keshena, WI 54135
(T) 715-245-2309
(F) 715-802-4449
Kim.latender@wolfrivedev.com

28. For information regarding existing utility systems and for coordinating inspection of existing system connections, contact the Tribal Utility Dept:

Darryl Pyawasay, Utilities Manager
Menominee Tribal Utilities
N700 Go Around Road
PO Box 250
Keshena, WI 54135
Telephone: (715) 853-4897
dapyawasay@mitw.org

IV. SPECIAL REQUIREMENTS

The following requirements and conditions shall be considered an essential part of the specifications and Proposal for the Construction of the New Distribution System Extension at Pine Meadows Road located in Keshena, WI for three new single-family homes located at end of cul-de-sac as identified herein:

1. General Contract Services

1.01 The project consists of construction of a new water and distribution system extension at Pine Meadows Road.

1.02 The work under this project shall include but not be limited to the furnishing of all tools, labor, equipment, materials, manufactured articles, transportation, and temporary facilities to complete all work identified in the plans and specifications packet.

1.03 All work on this project is subject to the provisions of the RFP, general conditions, supplementary conditions, special conditions, and all other Proposal documents applicable to this project.

1.04 All work on the project will be done in accordance with the latest addition of the State of Wisconsin Commercial Building Codes and National Electrical Code.

1.05 The successful Bidder shall be required to maintain traffic on public roadways at all times during construction. Access to private properties and public buildings shall also be maintained at all times.

1.06 Bidder is not to include materials, brands, or product lines that are discontinued or are known at the time of Proposal submission to be scheduled for discontinuation.

1.07 Incidentals Items: All work, materials, and services not expressly listed as being provided by others or not expressly called for in the contract but are necessary for the completion of the work in good faith, shall be furnished, installed, and performed by the contractor.

2. Warranty. Minimum (1) one-year parts, labor and travel warranty shall be provided.

3. Time Limitations

3.01 Allowable work hours: Monday through Friday 7:00 am to 5:00 pm

3.02 Residential system connection: Between 8:30 am – 4:00 pm

4. Means to provide cross- connection safe guards and metering of water used during construction shall be provided by the contractor.

5. No home shall be without water for more than 4 hours. Advance notice to homeowners shall be given 3 days in advance of outage.

6. All construction equipment shall be washed with bleach prior to mobilizing to site.

7. Insurance and Licensing Requirements. All Bidders and subcontractors must meet the following minimum insurance requirements and provide with submitted Bid proof of coverage on a Certificate of Liability Insurance form as found in Appendix E:

7.01 The insurance company providing coverage must have an A- or better rating in the current A.M. Bests or Standard & Poor's rating guide.

7.02 All certificates of insurance must be signed by an authorized representative of the insurance company.

7.03 Certificate of insurance must name the WRDC as a certificate holder and shall include the Unit of Government responsible for this RFP (Wolf River Development Company) and the project identification number as listed on the title page of this RFP.

7.04 Certificate of insurance must name as an additional insured WRDC, its agents, officers, officials, employees are hereby named as additional insureds, as their interest may appear on a primary and Non-contributory basis on Auto, GL and Umbrella.

7.05 The insured name on the certificate of insurance must match the name of the company, individual, or joint venture submitting the Bid.

7.06 The following are considered threshold items for all bidders and subcontractors:

A. General Liability Coverage:
   (1) General Liability must be an Occurrence Policy
   (2) General Aggregate must apply per project or per location.
   (3) Minimum Acceptable Limits of Liability:
      (a) $1,000,000 Each Occurrence
      (b) $1,000,000 Property Damage
      (c) $5,000 Medical Expense
      (d) $1,000,000 Personal & Advertising Injury
      (e) $2,000,000 General Aggregate
      (f) $2,000,000 Products & Completed Operations
   (4) General Liability must name the WRDC, its agents, officers, officials, and employees as additional insureds.
   (5) General Liability must provide a waiver of subrogation in favor of the WRDC
   (6) General Liability Coverage must be primary and state neither WRDC nor its insurance will be required to contribute to any loss.

B. Automobile Liability
   (1) $1,000,000 Combined Single Limit; or
   (2) $1,000,000 Bodily Injury
   (3) $1,000,000 Property Damage
   (4) Automobile Liability must name the WRDC, its agents, officers, officials, and employees as additional insureds.
   (5) Automobile Liability must provide a waiver of subrogation in favor of the WRDC.

C. Workman's Compensation insurance as required by the State of Wisconsin statutory limits.
   (1) Employers Liability must meet minimum of $500,000 per occurrence. Each accident; $500,000 Disease-each employee; $500,000 Disease-policy limit.
   (2) If any proprietor, partner, executive, officer, member, or employee is excluded from workers compensation, it must be stated on the certificate.
   (3) If the Workers Compensation policy is for certificate purpose only, it must be stated on the certificate.
   (4) The Workers Compensation policy shall be endorsed with a waiver of subrogation in favor of the Entity for all work performed by the Contractor, its employees, agents and subcontractors.

7.07 The following are considered non-threshold items that the successful bidder and all subcontractors must meet upon notice of project award:

A. Umbrella Liability - $5,000,000 Limit
   (1) Umbrella policy must be occurrence policy
   (2) Umbrella policy must state if it is Excess Liability
   (3) Must list the deductible/retention limit

(4) Umbrella requirement may be waived if $2 million aggregate is carried under the General Liability coverage

B. The insurance contract must include following:
   (1) Premises and Operations Liability;
   (2) Blanket Contractual Liability;
   (3) Personal Injury;
   (4) Products & Completed Operations;
   (5) Contractors Errors & Omissions – minimum coverage $250,000;
   (6) The general aggregate must apply separately to this project/location; and Insurance policies must be endorsed to provide thirty-day cancellation notice to certificate holder.

7.08 WRDC reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances. Additional coverages which may be required based on the scope of the project may include but are not limited to:
   A. Explosion, Collapse and Underground Coverage;
   B. Builders Risk Coverage;
   C. Installation Floater;
   D. Contractors Pollution Liability (without Asbestos/Lead/Mold exclusion);
   E. Cyber Liability or IT Professional Liability;
   F. Unmanned Aerial Vehicle (drone) Aviation Liability.

7.09 Claims Made Policies
   A. If any of the required policies provide coverage on a claims-made basis:
   B. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.
   C. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work.
   D. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the contract effective date, the Bidder Consultant must purchase “extended reporting” coverage for a minimum of five (5) years after completion of contract work.

7.10 An updated Certificate of Liability Insurance form that meets the above-mentioned threshold and non-threshold items must be provided for the successful bidder and all subcontractors with the signed contract. Failure to provide updated form(s) for the successful bidder and all subcontractors shall void project award and project shall then be awarded to next responsive and responsible bidder.

7.11 WRDC will not reimburse successful Bidder or subcontractors for cost associated with any insurance coverage due to failure by Bidder or subcontractor to include such costs in the initial Bid amount.

7.12 Successful Bidder shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and successful Bidder shall ensure that the WRDC is an additional insured on insurance required from subcontractors.

7.13 Any deviation from the above described limits and coverage must be approved in writing by the WRDC.

7.14 The insurance policies shall contain a provision that the insurance carrier waives any rights, which it may have to raise as a defense the Tribe’s sovereign immunity from suit, but such waiver shall extend only to claims the amount and nature of which are within the coverage and limits of the policy of insurance. The policy shall contain no provision, either expressed or implied, to authorize or empower, the insurance carrier to waive or otherwise limit the Tribe’s sovereign immunity outside or beyond the coverage and limits of the policy of insurance.

7.15 WRDC reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

Contact Colette White at 715-230-3728 ext.: 1001 with any question relating to insurance requirements. If you wish to verify that your insurance certificate complies **PRIOR** to submitting your Bid, it can be emailed to colette.white@WRDC.com however, the certificate must still accompany the Bid.

7.16 Withholding – WRDC shall withhold 10% of total contract price of this contract for a period of 180 days; and thereafter upon completion and acceptance of work, WRDC shall pay to Contractor the withheld amount, less any sums used to repair Contractors faulty work.

V. GENERAL INSTRUCTIONS TO SUCCESSFUL BIDDER

The following list of requirements and instructions shall be considered an essential part of the contract award and general instructions to the successful Bidder however; this may not be an all-inclusive list of instructions.

1. Right to Negotiate. The WRDC reserves the right to negotiate with the successful Bidder in the addition or deletion of any or all items included in this RFP.

2. Temporary Facilities. The successful Bidder will be required to provide all temporary facilities on the job site (i.e. portable toilets, job trailer, Security Fencing etc.) as applicable to this project.

3. Schedule. Upon the execution of the contract, the successful Bidder is responsible for coordinating with the Wolf River Development Company of a project schedule.

4. Inspection Services. The Project Manager shall make inspections as needed during the course of the project to monitor the work performed by the successful Bidder.

5. Signing of Agreement

5.01 The successful Bidder and WRDC shall enter into an agreement similar to that found in Appendix F for the services, price, and terms covered in this RFP within ten (10) days after the date of the Notice of Award.

5.02 The successful Bidder shall sign, have witnessed, and deliver the required number of counterparts of the agreement and attached documents to WRDC.

5.03 If an alternative agreement is used, under no circumstance, however, shall such agreement require the WRDC to waive its sovereign immunity or to consent to enforcement of any action in any jurisdiction other than the WRDC.

6. Codes and Permits. The successful Bidder shall comply with all Menominee Tribal Codes and shall secure all applicable permits. A permit is required for the successful **Bidder and each of the subcontractors** that are performing any construction, demolition, renovation, and/or landscaping work on the Reservation.

6.01 Menominee Place of Business Permit. Contact Menominee Lending & Tax Office 715-799-5171 or online at www.menominee-nsn.gov under Lending & Tribal Tax Documents.

6.02 Menominee Tribal Construction Permit. Contact Information – Menominee Community Development Department (715) 799–5155 or online at www.menominee-nsn.gov under Community Development Documents.

6.03 Menominee Tribal Code §25.1-11 Menominee Preference in Contracting – Menominee Lending & Tax Office (715) 799–5171

6.04 Menominee Tribal Code §512.1-36 Surface Water Regulations Contact Information – Menominee Environmental Services Department (715) 799-6152.

6.05 Invasive Species Management Plan – Construction best management practices is in accordance with the Menominee County/Tribe Invasive Species Management Plan. For more information on those practices, contact Chris Ascher at the Menominee Environmental Services Department (715) 799-4937

7. Notice to Proceed. Prior to the issuance of a Notice to Proceed, the successful Bidder shall submit to the WRDC the following:

7.01 Any permits as required and indicated in the Notice of Award.

7.02 Certificate of Insurance on file.

8. Submission of Reports.

8.01 Application for payment forms (see Appendix G) are required to be submitted as follows:

A. Weekly construction reports are to be submitted by the successful Bidder and all Sub-Contractors under the contract.

B. Partial Receipt, Waiver and Release of Liens will need to be submitted starting with the second pay request and every pay request thereafter.

C. General Release Indemnity Agreement must be submitted with final invoice.

8.02 To assist the WRDC in complying with the requirements of Tribal Code §25.1-11; the successful Bidder shall complete and submit a Menominee Hiring Preference report (see Appendix I) with each invoice. The successful Bidder must also provide a copy of the report to the Lending & Tax Director. The project manager will verify reports are submitted to the Lending & Tax Office.

8.03 An electronic version of the reports will be provided to the successful Bidder at the pre-construction meeting.

9. Submission of Invoices. All invoices will be required to be submitted to the WRDC Development Manager for processing and be itemized between material and labor.

10. Submission of Statements. Monthly statements of account will be required to be submitted to the WRDC Finance Department for reconciliation.

11. Payment Terms

11.01 The terms of payment shall be Net thirty (30) days upon dated receipt of invoice for goods and services rendered.

11.02 The WRDC will not pay for any materials and/or labor costs in excess of those identified in the Proposal unless the situation warrants a review of the scope of work.

11.03 Excess costs will require prior approval by WRDC and an amendment to the contract before being incurred.

12. Account Management. The successful Bidder must work cooperatively with the WRDC to effectively manage the services and the business relationship, to include initial implementation, account reconciliation, duplicate invoices, delivery coordination, error resolution, etc.

VI. PROPOSAL FORM

The undersigned offer to provide construction of a new water distribution system extension and a sanitary sewer collection system extension service for three knew single family homes located at end of Pine Meadows Cul-de-Sac as outline in this RFP and offers to furnish such related goods and services in accordance with all applicable laws and regulations. Bidder mut provide unit price and total amount of each item. Bidder is responsible to ensure amounts are totaled accurately and without errors as inaccuracies may cause Proposal to be rejected.

A. Schedule of Values: Wisconsin State Specifications for Pine Meadows Utility Extension

Cost-Effective Construction Approach

The design and construction of the water and sewer extension will prioritize cost-effectiveness without compromising quality, safety, or functionality. All decisions will reflect responsible stewardship of project funds and alignment with budgetary goals.

1. Water Distribution System Extension

a. **Procure and install:**

1. 8” inch PVC C900 DR18 Water Extension.
2. Connection to existing water system.
3. Installation of two 8-inch gate valves with boxes.
4. Installation of one fire hydrant with gate valve and box.
5. Installation of three water service lines consisting of 1-inch HDPE CTS DR9 pipe.

2. Sanitary Sewer Collection System Extension

a. Procure and Install

1. 8-inch PVC SDR 35 Sewer Main Extension
2. Connection to existing manhole including core drilling of structure and reforming of flow channel.
3. Installation of one new pre-cast concrete manhole structure.
4. Installation of three sewer service lines consisting of 4-inch PVC SDR 35 Pipe.

Schedule of Values A & B: PROPOSED BID COSTS:

BID SCHEDULE

MENOMINEE INDIAN TRIBE OF WISCONSIN

PINE MEADOWS ROAD WATER AND SEWER EXTENSIONS

SCHEDULE A - WATER DISTRIBUTION SYSTEM EXTENSION

ITEM	DESCRIPTION	EST QTY	UNIT	UNIT PRICE	TOTAL PRICE
1	8-Inch PVC C900 DR18 Water Main	240	Feet		
2	8-Inch Gate Valve and Box	2	Each		
3	1-Inch HDPE CTS DR9 Water Service Line	135	Feet		
4	1-Inch Corp Stop and Saddle	3	Each		
5	1-Inch Curb Stop and Box	3	Each		
6	8.5-Foot Bury Fire Hydrant (Waterous WB67-250) with 6-Inch Valve and Box	1	Each		
7	Connection to Existing System (Water Main)	1	Each		
8	Insulation (2" Thick x 2 Feet Wide)	40	Feet		
9	Insulation (2" Thick x 4 Feet Wide)	75	Feet		
				Total Sch A	**$**

Signature of Offeror — Date

Position and Company

NOTE TO OFFERORS:

The offeror must submit a proposal on ALL items of the schedule as award will be made in aggregate.
The estimated quantities of individual items may be increased or decreased as required to accommodate actual conditions at the site by the Tribe's Representative at the unit bid price.
In no event shall the total value of the work performed exceed the total contract amount without prior written approval of the Tribe.
The contractor shall be paid for actual quantities installed.
The Tribe's 5% tax on construction materials.

BID SCHEDULE

MENOMINEE INDIAN TRIBE OF WISCONSIN

PINE MEADOWS ROAD WATER AND SEWER EXTENSIONS

SCHEDULE B - SANITARY SEWER COLLECTION SYSTEM EXTENSION

ITEM	DESCRIPTION	EST QTY	UNIT	UNIT PRICE	TOTAL PRICE
1	8-Inch PVC SDR35 Sewer Main	215	Feet		
2	Manhole	1	Each		
3	Sewer Wye	3	Each		
4	4-Inch PVC SDR35 Sewer Service Line	180	Feet		
5	Connection to Existing System (Sewer Manhole)	1	Each		
				Total Sch B	**$**
				Total Schedules A and B	**$**

Signature of Offeror — Date

Position and Company

NOTE TO OFFERORS:

The offeror must submit a proposal on ALL items of the schedule as award will be made in aggregate.
The estimated quantities of individual items may be increased or decreased as required to accommodate actual conditions at the site by the Tribe's Representative at the unit bid price.
In no event shall the total value of the work performed exceed the total contract amount without prior written approval of the Tribe.
The contractor shall be paid for actual quantities installed.
The Tribe's 5% tax on construction materials.

Total Cost of Project:

$ _____ _____

Numeric Value **Written Dollar Value**

1. References. List of references along with contact information.

Name: _____
Email Address: _____
Mailing Address: _____
Phone Number: _____
Fax Number: _____

Name: _____
Email Address: _____
Mailing Address: _____
Phone Number: _____
Fax Number: _____

Name: _____
Email Address: _____
Mailing Address: _____
Phone Number: _____
Fax Number: _____

2. Similar Projects. List of projects similar in scope and size to this project along with the contact information for each company and/or organization listed.

Contact Person: _____
Company/Organization: _____
Address: _____
Phone Number: _____
Fax Number: _____

Project Description:

_____
_____
_____

Contact Person: _____
Company/Organization: _____
Address: _____
Phone Number: _____
Fax Number: _____

Project Description:

_____
_____
_____

Contact Person: _____
Company/Organization: _____
Address: _____
Phone Number: _____
Fax Number: _____

Project Description:

_____
_____
_____

Contact Person: _____
Company/Organization: _____
Address: _____
Phone Number: _____
Fax Number: _____

Project Description:

_____
_____
_____

3. Experience with MITW and or WRDC. List of projects previously completed for the MITW or WRDC (if more space is required, add additional pages as needed). If Bidder has no previous experience with MITW and or WRDC, Bidder must provide with Proposal documents evidence showing capability to provide products and services as required, to include, but not

limited to a list of equipment, employees with positions, and a narrative on service plan execution**.**

Contact Person: _____
Department: _____
Date Completed: _____

Project Description:

_____
_____
_____

Contact Person: _____
Department: _____
Date Completed: _____

Project Description:

_____
_____
_____

4. Subcontractors Information. (If more space is required, submit on additional pages as needed).

Contact Person: _____
Company/Organization: _____
Address: _____
FEIN#: _____
Phone Number: _____

Contact Person: _____
Company/Organization: _____
Address: _____
FEIN#: _____
Phone Number: _____

Contact Person: _____
Company/Organization: _____
Address: _____
FEIN#: _____
Phone Number: _____

5. Owner Information. Provide all the requested information below for any business entities each owner/partner of this Proposal has had with any other business entities and/or partnerships either currently held or has held within the past ten (10) years whether those entities still exist of have been terminated. Insert additional pages with the proposal if necessary**.**

Owner Name	Entity Name	Type of Entity	State of Origin	DUNS#	FEIN#

_____

_____

_____

6. Bidder's Statement and Signature.

I, the undersigned, have read, understand, and am in compliance with the Instructions to Bidders, including the Special Requirements, in preparing a Proposal for the construction of New water distribution system extension at Pine Meadows Road located in Keshena, WI for three new single family homes and all appurtenances for The Dream Catcher Housing Initiative for the Wolf River Development Company. The undersigned understands that any condition to the above requirements submitted contrary to such requirements will render this Proposal unresponsive. The undersigned also certifies that this Proposal shall remain open and valid for 90 days after the due date of Proposals.

_____
Company Name

_____
Address

_____ _____ _____
City State Zip Code +4 (**full 9 digits required**)

_____ _____ _____
Authorized Signature Title Date

_____ _____
Printed Name Telephone Number

_____ _____
Email address FEIN Number

VII. APPENDICES

A. Appendix "A" – Evaluation Criteria

PROJECT: Wolf River Development Company construction services for new water distribution system extension at Pine Meadows for three (3) new residential homes.

BIDDER: _____

1. **THRESHOLD CRITERIA MET.** Proposals that do not meet these threshold criteria will not be evaluated or considered for award.

   Date: Wednesday, October 29th, 2025, at Time: 2:00 p.m.

Completed and Signed Proposal & Deadline Met	☐ YES	☐ NO
Completed and Signed Addendum(s) if applicable	☐ YES	☐ NO
Proof of Insurance included with Proposal (Bidder & Subs)	☐ YES	☐ NO
Detailed Cost Estimate	☐ YES	☐ NO
Proposal within Project Budget Amount	☐ YES	☐ NO

2. **QUALIFICATIONS:** Proposals that do not meet the minimum threshold points of 25 in these categories will be considered unqualified and will not be considered for award.

Description of Qualifications	Threshold Points	Minimum Score	Maximum Score	Evaluator's Score
Company Overview	n/a	0	15	
Experience How long has Company been in Business	5	0	15	
Profile Staff Owners, Partners, Key Management Officials and/or Senior Management	n/a	0	10	
Capabilities Financial strengths, access to capital, equipment, etc.	10	0	20	
References 5 points per reference	5	0	15	
Description of Similar Projects	5	0	15	
Experience with WRDC or Tribe ±3 points per project	0	-15	15	
Adherence to Proposal Instructions	n/a	0	5	
TOTAL POINTS (MAX 110)►	25	-15	110	

3. PROPOSAL PRICE: $_____ **TOTAL POINTS:** _____
Maximum points available (60)

The low Bidder will receive the maximum points. All other Proposals will be compared to the low Proposal (Bid "X" divided by the Low Proposal). For every 1% higher than the low Proposal, 3 points will be deducted from Proposal "X"'s price points.

4. MINORITY PREFERENCE. Maximum Points Available (30) or 15% - not variable

If the Bidder is a Tribal member owned corporation or partnership, the Bidder must provide the following documentation with Proposal.

i. Proof of Tribal Membership
ii. Proof of financial interest or ownership in the entity
iii. List of Native American employees and enrollment numbers
iv. Proof of MBE, WBE certification

A.) Ownership - Tribal Affiliation

Affiliation 4A	Max Score	Evaluator's Score
Enrolled Menominee Tribal Member 51% owned	20	
Other Native American Owned Business	10	
Spouse to enrolled Menominee	10	
Descendant (1&2 Gen.) of enrolled Menominee	5	
Other MBE, WBE, certified business	5	
TOTAL POINTS (MAX 20)►	20	

B.) Employees - Tribal Affiliation (Not claimed in 4A)

Affiliation 4B	Max Score	Evaluator's Score
Enrolled Native American Employees	2 points each	
Native American Subcontractor(s)	2 points each	
TOTAL POINTS (MAX 10)►		

TOTAL POINTS SCORED: _____
MAXIMUM POINTS AVAILABLE: (200)

COMMENTS AND CONSIDERATIONS: _____

_____

_____

_____

Signature of Evaluator: _____

Date of Proposal Evaluation: _____

SUPPLEMENTAL SPECIFICATIONS TO THE STATE OF WISCONSIN RESIDENTIAL BUILDING CODES AND STANDARD SPECIFICATIONS FOR CONSTRUCTION

Dreamcatcher Housing Initiative

GENERAL PROVISIONS

Chs. SPS 320-325; Uniform Dwelling Code

A.) Construction Requirements – General

Submit 3 copies of a preliminary construction schedule at least 7 days before the pre-construction conference.

A preliminary construction schedule is a written narrative with a detailed breakdown of all contract activities for the first 45 days after the notice to proceed is issued. Within 7 days after the pre-construction conference, the preliminary construction schedule will be accepted or rejected. If rejected, submit a revised schedule within 3 days. Do not begin work, except mobilization, traffic control, and facility-type work, without an accepted preliminary construction schedule.

Use either the Bar Chart Method (BCM) or the Critical Path Method (CPM) described below, or Contractor's Method to develop the construction schedule for the total contract work. Preface each construction schedule as follows:

1.) Project name
2.) Contract number
3.) Contractor
4.) Original contract time allowed or completion date
5.) Type of construction schedule (initial or update)
6.) Effective date of the schedule
7.) Percent work complete
8.) Percent time used

Submit 3 copies of the construction schedule within 30 days after the notice to proceed is issued.

Allow 14 days for acceptance or rejection of the construction schedule or a revised schedule. If rejected, submit a revised schedule within seven 7 days. Do not show conflicts with any scheduled activities and order of work requirements in the contract.

Show completion of the work within the contract time.

B.) Bar Chart Method (BCM)

The BCM construction schedule consists of a progress bar chart and a written narrative.

1.) Progress bar chart. The following applies to the initial submission and all updates:
   i. Use a time scale to graphically show the percentage of work scheduled for completion during the contract time.
   ii. Define and relate activities to the contract pay items.
   iii. Show all activities in the order the work will be performed, including submittals, submittal reviews, fabrication, and delivery.
   iv. Show all critical (major) activities that are controlling factors in the

completion of the work.

v. Show the time needed to perform each activity and its relationship in time to other activities.
vi. Show the total expected time to complete all work.
vii. Provide enough space for each activity to permit 2 additional plots parallel to the original time span plot. Use one space for revision of the planned time span, and one for showing actual time span achieved.

2.) Written narrative. Furnish a written narrative of the activities displayed in the progress bar chart.

C.) Critical Path Method (CPM)

The CPM construction schedule consists of a diagram, a tabulated schedule, and a written narrative.

1.) Diagram. Use the "activity-on-arrow" format for the arrow diagrams or the "activity-on-node" format for precedence diagrams. The following applies to the initial submission and all updates:
   i. Use a time scale to graphically show the percent of work scheduled for completion by any given date during the contract time.
   ii. Define and relate activities to the contract pay items.
   iii. Show the sequence and interdependence of all activities including submittals, submittal reviews, fabrication, and deliveries.
   iv. Show all activity nodes, activity descriptions, and durations. Show all network dummies (for arrow diagrams only).
   v. Identify the critical path.
2.) Tabulated Schedule. The following requirements apply to the tabulated schedule:
   i. For arrow diagrams, show activity beginning and ending node numbers.
   ii. For precedence diagrams, list activities and show lead or lag times.
   iii. Show activity durations.
   iv. Show activity descriptions.
   v. Show early start and finish dates.
   vi. Show late start and finish dates.
   vii. Show status (critical or not).
   viii. Show total float.
3.) Written narrative. Furnish a written narrative of the activities displayed in the schedule diagram.

D.) Written Narrative

The following applies to the written narrative:

1.) Estimate starting and completion dates of each activity.
2.) Describe work to be done within each activity including the type and quantity of equipment, labor, and material to be used.
3.) Describe the location on the project where each activity occurs.
4.) Describe planned production rates by pay item quantities (e.g., cubic meters of excavation per day/week).
5.) Describe work days per week, holidays, number of shifts per day, and number of hours per shift.
6.) Estimate any periods during which an activity is idle or partially idle. Show the beginning and end dates for reduced production or idle time.
7.) Describe expected and critical delivery dates for equipment or material that can affect timely completion of the project.
8.) Describe critical completion dates for maintaining the construction schedule.
9.) Identify the vendor, supplier, or subcontractor to perform the activity. State all assumptions made in the scheduling of the subcontractor's or supplier's work.

E.) Schedule Updates

Review the construction schedule to verify finish dates of completed activities, remaining duration of uncompleted activities, and any proposed logic and/or time estimate revisions. Keep the Project Manager informed of the current construction schedule and all logic changes. Submit 3 copies of an updated construction schedule for acceptance at least every 3 weeks or when:

1.) A delay occurs in the completion of a critical (major) activity.
2.) A delay occurs which causes a change in the critical path for CPM schedules or a change in a critical activity for BCM schedules.
3.) The actual prosecution of the work is different from that presented on the current construction schedule.
4.) There is an addition, deletion, or revision of activities caused by a contract modification.
5.) There is a change in the schedule logic.

F.) Acceptance

Construction schedules will be evaluated WRDC Development Manager.

C. Appendix "C" – Construction Use Tax

MENOMINEE NATION

MENOMINEE TRIBAL LEGISLATURE

TRIBAL CODE §200.1-11

USE TAX ON CONSTRUCTION MATERIALS

Article I. Use Tax on Construction Materials

§ 200-1. Definitions.

As used in this article, unless the context requires otherwise, the following terms shall have the meaning indicated:

CONSTRUCTION CONTRACTOR
Includes any person who, on the Menominee Reservation, acts as any general contractor, subcontractor, operative builder or special trade contractor as enumerated in the Standard Industrial Classification Manual (1972 edition as supplemented) prepared by the Office of Management and Budget, Executive Office of the President of the United States, but does not include the Menominee Tribe of Indians or any political subdivision or organization of such Tribe created by or under the jurisdiction of the governing body of such Tribe or any enterprise of such Tribe.

DOING BUSINESS ON THE RESERVATION
Engaging in activity as a construction contractor within the exterior boundaries on the Reservation.

MATERIALS USED IN ANY CONSTRUCTION PROJECT
Materials incorporated into any permanent or temporary structure or consumed at any construction project by any construction contractor while doing business on the Reservation.

PERSON
Any natural person, firm, partnership, corporation, company, or association.

PLACE OF BUSINESS ON THE RESERVATION
Each location on the Reservation where a person engages in activity as a construction contractor.

§ 200-2. Imposition of Tax; exception.

There is hereby imposed upon the privilege of doing business as a construction contractor on the Menominee Reservation (hereinafter called "Reservation") a use tax upon the price paid for all materials used by a construction contractor in any construction project within the exterior boundaries of the Reservation, except that such tax shall not apply.

A.) To materials used in the construction, rehabilitation, remodeling, alteration or repair of:

1.) A private residence owned and occupied (or intended for occupancy) by an individual; or

2.) An outbuilding owned by an individual where such construction, rehabilitation, remodeling, alteration or repair is undertaken at the expense of such individual and not undertaken at the expense of the Menominee Department of Housing.

B.) When the Menominee Indian Tribe or its authorized agents, employees or its officers act as the general contractor for the construction projects within the exterior boundaries on the Menominee Indian Reservation.

§ 200-3. Rate of tax.

A.) The tax imposed in § 200-2 shall be assessed in accordance with the following schedule:

Price Paid for Materials	**Tax**
$0.01 to $0.11	$0.00
$0.12 to $0.30	$0.01
$0.31 to $0.50	$0.02
$0.51 to $0.70	$0.03
$0.71 to $0.90	$0.04
$0.91 to $1.11	$0.05
$1.12 to $1.30	$0.06
$1.31 to $1.50	$0.07
$1.51 to $1.70	$0.08
$1.71 to $1.90	$0.09
$1.91 to $2.11	$0.10

B.) Each Additional dollar of fraction thereof is assessed an increment of tax accord with this schedule.

§ 200-4. Persons subject to tax.

Each construction contractor doing business on the Reservation is subject to the tax imposed in § 200-2.

§ 200-5. Permit for place of Business.

A.) No construction contractor may maintain a place of business on the Reservation unless the Menominee Indian Tribe (hereinafter called the “Tribe”) has issued a permit to such contractor.

B.) Each construction contractor doing business on the Reservation shall make application to the Tribe for a permit for each location where the applicant maintains or intends to maintain a place of business in the Reservation. Such application shall be made in the form prescribed by the Tribe and shall set forth the name under which the applicant transacts or intends to transact business on the Reservation and the applicant’s principal place of business (if different from the location on the Reservation for which the permit application is made). The application shall be signed by the owner or the applicant, if a natural person, or, in the case of an association or partnership, by a member or partner thereof, or, in the case of a corporation, by an executive officer thereof, or by some other person specifically authorized by the corporation to sign the application, to which shall be attached written evidence of the signatory’s authority. Each permit application shall be accompanied by a filing fee of $15.00.

C.) Each applicant for a permit shall post a bond or other adequate security as security for future use tax obligations to the Tribe as a condition for issuance of a permit. Failure of a permit holder to maintain such bond or other adequate security while doing business on the Reservation shall result in revocation of a permit.

D.) The Tribe shall issue a permit to an applicant who files a completed application and pays the prescribed fee, provided that the Tribe may refuse to issue a permit to any applicant who is delinquent in payment of any obligation to the Tribe until such obligation is satisfied.

E.) A permit may not be assigned or transferred and is valid only for use be the person in whose name it is issued and at the location for which issued. A permit shall be conspicuously displayed at all times at the location for which issued. Once issued, a permit shall continue in validity and effectiveness, without payment of additional fees, when used in accordance with the requirements set forth herein, until cancelled or revoked.

§ 200-6. Reporting and remittance of tax; penalty.

A.) No later than the 15th day after the last day of each calendar quarter-year, each construction contractor holding a permit shall provide, in a report form prescribed by the Tribe, a list of and the prices paid for all materials used during the immediately preceding quarter-year in each construction project for which such construction contractor has been issued a permit and shall remit to the Tribe payment of the tax due on such material calculated in accordance with the schedule set out in § 200-3.

B.) Alternate procedure.

1.) In lieu of the reporting and remitting procedures provided in Subsection A, a construction contractor may petition the Tribe for permission to use the following alternate reporting and remitting procedure:

i. List all material and the prices paid for the same that are intended for use in a construction project on the Reservation during the immediately following one, two, three, and four calendar quarters.

ii. Calculate the tax applicable to such material in accordance with the schedule set out in § 200-3

iii. Divided the amount of tax by the number of applicable quarters and remit each quarter's pro rata share of the tax no later the 15th day after the end of such quarter.

2.) Then price of any and all additional materials subsequently purchased during a quarter-year in which this alternate procedure is employed shall be included in the report for the quarter in which used, and the tax applicable to such materials shall be remitted to the Tribe with such report no later than the 15th day after the end of such quarter.

C.) Any construction contractor subject to tax under this article who fails to pay the tax when due shall be assessed a penalty of 1% per month (or fraction thereof) on the amount of

tax due, such penalty to continue to accrue until the full amount due id remitted to the Tribe.

D.) If it is determined subsequent to the receipt of tax proceeds be the Tribe that an amount of tax penalty on interest has been paid which was not due under provisions of the article, whether as a mistake of fact or law, such amount shall be credited against any tax due, or to become due, under this article from the person who made the overpayment, or such amount shall be refunded to such person by the Tribe, provide that a claim for refund shall be filed within three years of the collection of the overpayment or such claim shall be forever barred.

E.) An extension of time, not to exceed 15 days, within which to make a report and remittance requires by this section may be granted by the Tribe upon proper application thereof.

F.) The Tribe shall issue a receipt for each use tax remittance made.

§ 200-7. Enforcement.

A.) Failure of any construction contractor to comply with the reporting and remittance provisions of § 200-6 shall result in revocation by the Tribe of all permits held be such contractor and in the denial of the privilege of doing business on the Reservation.

B.) No construction contractor whose permit has been revoked pursuant to Subsection A of this section shall be eligible to apply for a new permit until such contractor has fully satisfied all delinquent obligations to the Tribe, has filed a new application in conformance with the provisions of § 200-5B, has posted a bond or other security as provided in § 200-5C, and has paid a permit reinstatement fee of $25.

C.) The Tribe is empowered and authorized to deny to any person not a member of the Tribe the privilege of coming within the exterior boundaries of the Reservation, if such person is delinquent n paying any obligation owed to the Tribe.

§ 200-8. Authority of Lending & Tax.

The Lending & Tax Department of the Tribe shall have authority to implement and enforce this article, to collect taxes and penalties due, to issue forms and regulation, and to institute such procedures and proceedings as are necessary to carry out the purpose and provisions of this article.

§ 200-9. Consent to jurisdiction.

A.) All contracts and other agreements which permit or authorize the lawful presence of persons who are not tribal members upon tribal land or individually owned Indian trust land within the exterior boundaries on the Reservation shall henceforth contain the following provision: “The undersigned herby irrevocably stipulates, consents and agrees to the jurisdiction of the Menominee Tribal Court in any action for the purpose of collecting or enforcing any Menominee tribal tax. The failure to pay any overdue tax upon demand shall be just cause for the termination of this agreement.”

B.) No such agreement entered into after the effective date of this article which does not contain the provisions set forth above shall be valid and binding upon the Tribe of enforceable against any person in the Menominee Tribal Court.

§ 200-10. When effective.

This article shall become effective upon enactment and shall be applicable to any construction contractor who does business on the Reservation after June 1. 1983, but shall not apply to any construction project where construction commenced prior to June 1, 1983.

§ 200-11. Waiver.

The Menominee Tribal Legislature may waive the remittance of any tax obligation under this article by motion if the Legislature determines that one of the following conditions exists:

A.) There is no jurisdiction to impose said tax;

B.) Imposition of the tax would unfairly affect Indian contractors because of an inability to enforce the tax equally against both Indian and non-Indian contractors; or

C.) Waiver is in the best interests of the Menominee Indian Tribe.

D. Appendix "D" – Wisconsin Sales and Use Tax Exemption Certificate

WISCONSIN SALES AND USE TAX EXEMPTION CERTIFICATE

Check One ☐ Single Purchase ☐ Continuous

Purchaser's Business Name	Purchaser's Address

The above purchaser, whose signature appears on the reverse side of this form, claims exemption from Wisconsin state, county, baseball or football stadium, local exposition, and premier resort sales or use tax on the purchase, lease, license, or rental of tangible personal property, property under s.77.52(1)(b), items under s.77.52(1)(c), goods under s.77.52(1)(d), or taxable services, as indicated by the box(es) checked below.

I hereby certify that I am engaged in the business of selling, leasing, licensing, or renting: _____

_____
(Description of property, items, goods, or services sold by purchaser.)

General description of property or services purchased (itemize property, items, or goods purchased if "single purchase"):

_____

_____

Seller's Name	Seller's Address

PROPOSED EXEMPT USE

☐ **Resale** (Enter purchaser's seller's permit or use tax certificate number)_____

Manufacturing

☐ Tangible personal property (TPP) or item under s.77.52(1)(b) that is used exclusively and directly by a manufacturer in manufacturing an article of TPP or items or property under s.77.52(1)(b) or (c) that is destined for sale and that becomes an ingredient or component part of the article of TPP or items or property under s.77.52(1)(b) or (c) destined for sale or is consumed or destroyed or loses its identity in manufacturing the article of TPP or items or property under s.77.52(1)(b) or (c) destined for sale.

☐ Machines and specific processing equipment and repair parts or replacements thereof, exclusively and directly used by a manufacturer in manufacturing tangible personal property or items or property under s.77.52(1)(b) or (c) and safety attachments for those machines and equipment.

☐ The repair, service, alteration, fitting, cleaning, painting, coating, towing, installation, and maintenance of machines and specific processing equipment, that the above purchaser would be authorized to purchase without sales or use tax, at the time the service is performed thereon. Tools used to repair exempt machines are not exempt.

☐ Fuel and electricity consumed in manufacturing tangible personal property or items or property under s.77.52(1)(b) or (c) in this state.

Percent of fuel exempt: _____% Percent of electricity exempt: _____%

☐ Portion of the amount of fuel converted to steam for purposes of resale. (Percent of fuel exempt _____%)

Farming (To qualify for this exemption, the purchaser must use item(s) exclusively and directly in the business of farming, including dairy farming, agriculture, horticulture, floriculture, silviculture, or custom farming services.)

☐ Tractors (except lawn and garden tractors), all-terrain vehicles (ATV) and farm machines, including accessories, attachments, and parts, lubricants, nonpowered equipment, and other tangible personal property or items or property under s.77.52(1)(b) or (c) that are used exclusively and directly, or are consumed or lose their identities in the business of farming.

☐ Feed, seeds for planting, plants, fertilizer, soil conditioners, sprays, pesticides, and fungicides.

☐ Baling twine and baling wire.

☐ Breeding and other livestock, poultry, and farm work stock.

☐ Containers for fruits, vegetables, grain, hay, and silage (including containers used to transfer merchandise to customers), and plastic bags, sleeves, and sheeting used to store or cover hay and silage.

☐ Animal waste containers or component parts thereof (may only mark certificate as "Single Purchase").

☐ Animal bedding, medicine for farm livestock, and milk house supplies.

S-211 (R. 11-09) This Form May Be Reproduced Wisconsin Department of Revenue

Federal and Wisconsin Governmental Units

Enter CES No., if applicable

- ☐ The United States and its unincorporated agencies and instrumentalities and any incorporated agency or instrumentality of the United States wholly owned by the United States or by a corporation wholly owned by the United States.
- ☐ Any federally recognized American Indian tribe or band in this state.
- ☐ State of Wisconsin or any agency thereof; Local Exposition District, Professional Baseball Park District, or Professional Football Stadium District.
- ☐ Wisconsin county, city, village, or town, including public inland lake protection and rehabilitation district, municipal public housing authorities, uptown business improvement districts, local cultural arts district, the Wisconsin Aerospace Authority, the Health Insurance Risk-Sharing Plan Authority, the Wisconsin Quality Home Care Authority, the Fox River Navigational System Authority, and any Regional Transit Authority in Wisconsin.
- ☐ Wisconsin public schools, school districts, universities, and technical college districts.
- ☐ County-city hospitals or UW Hospitals and Clinics Authority.
- ☐ Sewerage commission, metropolitan sewerage district, or a joint local water authority.

Other

- ☐ Containers and other packaging, packing, and shipping materials, used to transfer merchandise to customers of the purchaser.
- ☐ Trailers and accessories, attachments, parts, supplies, materials, and service for motor trucks, tractors, and trailers which are used exclusively in common or contract carriage under LC or IC No. _____.
- ☐ Items or services purchased directly by and used by religious, charitable, educational, scientific, or other organizations holding a Wisconsin Certificate of Exempt Status. CES No. _____.
- ☐ Tangible personal property and items, property and goods under s.77.52(1)(b), (c), and (d) to be resold by _____ on my behalf where _____ is registered to collect and remit sales tax to the Department of Revenue on such sales.
- ☐ Tangible personal property, property, items and goods under s.77.52(1)(b), (c), and (d), or services purchased by a Native American with enrollment # _____, who is enrolled with and resides on the _____ Reservation, where buyer will take possession of such property, items, goods, or services.
- ☐ Tangible personal property and items and property under s.77.52(1)(b) and (c) becoming a component of an industrial or municipal waste treatment facility, including replacement parts, chemicals, and supplies used or consumed in operating the facility.
- ☐ Portion of the amount of electricity or natural gas used or consumed in an industrial waste treatment facility. (Percent of electricity or natural gas exempt _____%)
- ☐ Electricity, natural gas, fuel oil, propane, coal, steam, corn, and wood (including wood pellets which are 100% wood) used for fuel for **residential** or **farm** use.

	% of Electricity Exempt	% of Natural Gas Exempt	% of Fuel Exempt
☐ Residential	_____%	_____%	_____%
☐ Farm	_____%	_____%	_____%

Address Delivered: _____

- ☐ Percent of printed advertising material solely for out-of-state use. _____%
- ☐ Catalogs, and the envelopes in which the catalogs are mailed, that are designed to advertise and promote the sale of merchandise or to advertise the services of individual business firms.
- ☐ Other purchases exempted by law. (State items and exemption). _____

_____

_____

_____

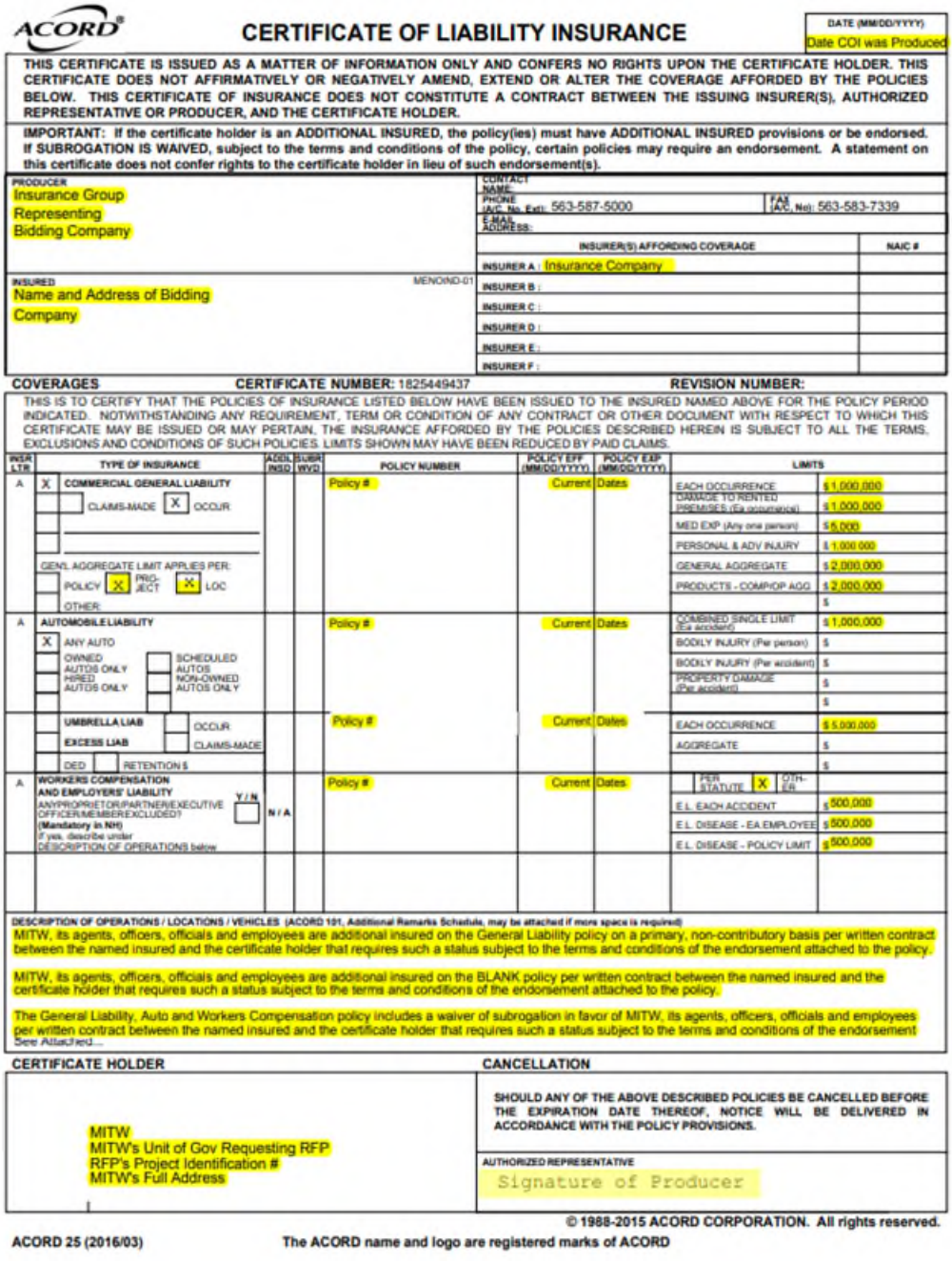
I hereby certify that if the item(s) being purchased are not used in an exempt manner, I will remit use tax on the purchase price at the time of first taxable use. I understand that failure to remit the use tax may result in a future liability that may include tax, interest, and penalty.

Signature of Purchaser	Print or Type Name	Title	Date

(DETACH AND PRESENT TO SELLER)

-2-

E. Appendix "E" – Certificate of Insurance



ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): Date COI was Produced

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER: Insurance Group Representing Bidding Company

CONTACT NAME:
PHONE (A/C, No, Ext): 563-587-5000 FAX (A/C, No): 563-583-7339
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Insurance Company	
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED: Name and Address of Bidding Company — MENOIND-01

COVERAGES **CERTIFICATE NUMBER:** 1825449437 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			Policy #	Current	Dates	EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
							MED EXP (Any one person)	$ 5,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY X PRO-JECT X LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY			Policy #	Current	Dates	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR			Policy #	Current	Dates	EACH OCCURRENCE	$ 5,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N		N / A	Policy #	Current	Dates	PER STATUTE X OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						E.L. EACH ACCIDENT	$ 500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 500,000
							E.L. DISEASE - POLICY LIMIT	$ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

MITW, its agents, officers, officials and employees are additional insured on the General Liability policy on a primary, non-contributory basis per written contract between the named insured and the certificate holder that requires such a status subject to the terms and conditions of the endorsement attached to the policy.

MITW, its agents, officers, officials and employees are additional insured on the BLANK policy per written contract between the named insured and the certificate holder that requires such a status subject to the terms and conditions of the endorsement attached to the policy.

The General Liability, Auto and Workers Compensation policy includes a waiver of subrogation in favor of MITW, its agents, officers, officials and employees per written contract between the named insured and the certificate holder that requires such a status subject to the terms and conditions of the endorsement
See Attached...

CERTIFICATE HOLDER

MITW
MITW's Unit of Gov Requesting RFP
RFP's Project Identification #
MITW's Full Address

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE: Signature of Producer

ACORD 25 (2016/03) The ACORD name and logo are registered marks of ACORD

AGENCY CUSTOMER ID: MENOIND-01

LOC #:

ACORD

ADDITIONAL REMARKS SCHEDULE

Page 1 of 1

AGENCY	NAMED INSURED
Cottingham & Butler	Menominee Indian Tribe of WI PO Box 910 Keshena WI 54135
POLICY NUMBER	
CARRIER / NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

attached to the policy.

A 30-day notice of cancellation is provided by the insurance company to the certificate holder as outlined by the endorsement attached to the General Liability, Auto, Workers Compensation and Umbrella policies.

ACORD 101 (2008/01)

F. Appendix "F" – Sample Contract

CCN # Add contract control number here

PARTIES:

WOLF RIVER DEVELOPMENT COMPANY (hereinafter referred to as "WRDC")

Located at P.O. Box 460
Keshena, WI 54135

And

ADD NAME OF CONTRACTOR HERE (hereinafter referred to as "Contractor")

Located at: (Add Contractor Address Here)

TERMS AND CONDITIONS

IN CONSIDERATION OF the promises and mutual covenants and agreements contained, the parties agree as to the following:

1.0 DEFINITIONS.

1.1 "Contractor" shall mean the individual, business, organization, or company providing services or goods to the WRDC pursuant to this contract.

1.2 "Main Contract" shall mean this document to which the Service Agreement and other Exhibits or Attachments are attached thereto and incorporated by reference.

1.3 "Service Agreement" shall mean the document incorporated by reference and attached hereto as Exhibit "A", which details the services, goods and/or work to be furnished to the WRDC pursuant to this Contract.

1.4 "WRDC" shall mean the Wolf River Development Company.

2.0 SERVICES TO BE RENDERED BY THE CONTRACTOR.

2.1 Contractor agrees to provide the services goods and/or work detailed and described in the Service Agreement incorporated by reference and attached hereto as Exhibit "A". The *general nature* of the service(s) is/are as follows:

2.2 Contractor understands and agrees that specific terms of the Service Agreement shall control over inconsistent general terms and conditions of the Main Contract.

2.3 Contractor agrees to furnish all labor, materials, equipment, supplies, services, tools, machinery, and other facilities of every kind and description required for the prompt and efficient execution of the following described duties, services and/or goods, unless otherwise specified in the Service Agreement.

2.4 Contract shall perform the work described herein at the following location: W2818 Go Around Road, Keshena, WI, unless other specified in the Service Agreement.

2.5 All of the equipment and materials furnished under this contract will be new and the work will be of good quality.

3.0 TERM OF CONTRACT. Contractor shall begin work on _____ and complete all work on or before _____, unless otherwise specified in the Service Agreement.

4.0 COMPENSATION TO BE PAID BY THE WRDC.

4.1 The Contractor shall submit all documentation of work completed to the WRDC upon the 25 day of each month and WRDC shall pay the amount due upon the following next Wolf River Development Company Finance Department check disbursal date, unless otherwise specified in the Service Agreement. The term "documentation" shall mean weekly pay reports, construction schedule, costs breakdown, invoices, and all other itemized information relating to completed performance. Total amount paid by the WRDC shall not exceed_____, unless otherwise specified in the Service Agreement.

4.2 No payment shall be made for work, which, in the judgment of the WRDC, has not been completed in a manner satisfactory to the WRDC. Additional work performed by Contractor without a written amendment will not entitle Contractor to an increase in the Contract Price or an extension of the Contract Period of Performance.

5.0 SUPERSEDING EFFECT. This Contract supersedes all prior oral or written agreements, if any, between the parties and constitutes the entire agreement between the parties with respect to the work to be performed by the Contractor and the compensation to be paid by the WRDC.

6.0 ADDITIONAL TERMS AND CONDITIONS. In addition to the Service Agreement attached as Exhibit "A", the following Exhibits attached and referenced hereto shall contain additional terms and conditions that shall apply to this contract:

7.0 INDEPENDENT CONTRACTOR.

7.1 The Contractor shall, in all matters relating to this Contract, be acting as an independent contractor. The Contractor, his employees and subcontractors are not employees of the WRDC under the meaning or application of any Federal or State Unemployment Insurance Laws, or other Social Security Law or any Workmen's Compensation Law, Industrial Law or otherwise. The Contractor shall assume and pay all liabilities and perform all obligations imposed by any such laws with respect to the performance of this Contract. The Contractor shall not have

any right, power, or authority to create any obligation, express or implied on behalf of WRDC and shall not have any authority to represent itself as an agent of WRDC.

7.2 Contractor assumes all liability for personal injury, to employees of Contractor, agents of Contractor, the general public or damage to the environment, including possible groundwater contamination occurring during the performance of Contractor's services.

8.0 INDEMNITY TO TRIBE. The Contractor shall save and hold Tribe and WRDC harmless from and against all suits or claims that may be based upon any alleged injury to or death of any persons or damage to property that may occur, or that may be alleged to have occurred in the course of the performance of this Contract, whether such claims shall be made by an employee of the Contractor, or by any other person. The Contractor shall, at its own cost and expense, pay all costs incurred by the WRDC in connection therewith. If any judgment shall be rendered against Tribe or WRDC in any such action, the Contractor shall satisfy and discharge the same without cost or expense to the Tribe or WRDC. However, this indemnity shall not apply to claims, actions, or suits resulting from the Tribe or WRDC's negligence.

9.0 LIQUIDATED DAMAGES. If the Contractor fails to complete the work within the time specified in this Contract or any extension thereof, the actual damages incurred by the WRDC as a result of the delay will be difficult or impossible to determine. Therefore, in lieu of actual damages, the Contractor shall pay or the WRDC shall retain from payments due or to become due as fixed, agreed, and liquidated damages the amount of _____ for each calendar day of delay. The Contractor shall not be charged with liquidated damages when the delay arises out of causes beyond the control and without the fault or negligence of the Contractor. In the event of an excusable delay, the WRDC shall ascertain the facts and the extent of the delay and shall extend the time performance of the Contract when in the judgment of the WRDC the findings justify an extension.

10.0 PERFORMANCE OF CONTRACT. This Contract shall be performed by Contractor, in a manner satisfactory and acceptable to the WRDC, who shall be the sole judge of quality of performance.

11.0 SECURITY & OTHER PROVISIONS. Please check where applicable.

11.1 ☐ **Performance Bond** – Contractor shall furnish to WRDC a performance bond in a form acceptable to WRDC to insure completion of the work to be performed under this contract.

11.2 ☐ **Letter of Credit** – Contractor shall furnish to WRDC an irrevocable letter of credit in favor of WRDC in a form acceptable to WRDC in an amount equal to the contract price.

11.3 ☐ **Withholding** – WRDC shall withhold 10% of total contract price listed of this contract for a period of 180 days; and thereafter upon completion and acceptance of work, WRDC shall pay to Contractor the withheld amount, less any sums used to repair Contractor's faulty work, unless otherwise specified in the Service Agreement.

11.4 ☐ **Payment Bond** – Contractor shall furnish to WRDC a payment bond in a form acceptable to WRDC to insure payment of subcontractors under this Contract. The sum of the payment bond shall be 100% of the total contract price, unless otherwise specified in the Service Agreement.

11.5 ☐ **Indian Preference** – The work to be performed under this contract is on a project subject to section 7(b) of the Indian Self-Determination and Education Assistance Act (25USC450e(b)) (Indian Act), which requires that to the greatest extent feasible: a) preference and opportunities for training and employment will be given to Indians, and b) preferences in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned economic enterprises. The parties to this contract shall comply with the provisions of section 7(b) of the Indian Act. In connection with this contract, the contractor shall, to the greatest extent feasible, give preference in the award of any subcontractors to Indian organizations and Indian-owned economic enterprises, and preferences and opportunities for training and employment of Indians. The contractor shall include this section 7(b) clause in every subcontract in connection with this project, and shall, at the direction of the recipient, take appropriate action pursuant to the subcontract upon a finding by the recipient or agency that the subcontractor has violated the section 7(b) clause of the Indian Act.

11.6 ☐ **Davis-Bacon and Related Wage Provisions Act** – Contractor shall comply with all applicable provisions of the Davis-Bacon and Related Wage Provisions Acts.

11.7 ☐ **Not Applicable**

11.8 ☐ **Other (specify):**

12.0 WARRANTIES BY CONTRACTOR.

12.1 Contractor warrants that it holds all permits needed to comply with this contract and agrees to maintain the same and to comply fully with all state, federal, tribal, and local laws, regulations and ordinances applicable to the servicing provided by Contractor under this agreement. All construction performed under this Contract shall be in compliance with the State of Wisconsin Standard Specifications For Highway and Structure Construction 2022 Edition.

12.2 Contractor warrants that it operates in compliance with Menominee Tribal Code §200.1-11 (Use Tax), No. 82-22 (MTE Materials), and §625.1-261 (Zoning).

12.3 Contractor shall maintain for the duration of this agreement such insurance as shall adequately protect Contractor, his employees and agents and the WRDC, its employees and agents, from claims under Worker Compensation Acts. In addition, public liability and builder risk insurance will be required against risks of damages

for personal injury, including death, or for damage to property, both real and personal, which may arise from operations under this agreement whether such operations be by Contractor or by anyone directly or indirectly employed by him. Contractor shall deliver to WRDC, at the time of the signing of this agreement, evidence in the form of a Certificate of Insurance that it is complying with the provisions of this Article.

12.4 Contractor warrants that the work performed under this Contract conforms to the Contract requirements and is free from defects in equipment, material, design, or workmanship performed by the Contractor or any of its subcontractors. The warranty shall remain in effect for one (1) year commencing on the date of final acceptance of the work, unless otherwise provided for in the Service Agreement.

12.5 If, within the warranty period described, any defect appears, then WRDC shall have the right to take the following actions:

12.5.1 Correct or replace such defective items or work with similar items and recover the total cost incurred by WRDC, from Contractor.

12.5.2 Require Contractor to correct or replace the defective items or work.

12.6 In addition to other rights and remedies listed above, all subcontractors', manufacturers', and suppliers' warranties express or implied, respecting any work and materials shall, at the direction of WRDC, be enforced by Contractor for the benefit of WRDC. In such case, if Contractor's warranty has expired, any action directed by WRDC to enforce a subcontractor's, manufacturers or supplier's warranty shall be at the expense of WRDC.

12.7 The aforesaid warranties shall survive acceptance and payment and shall not be deemed to be the exclusive rights of WRDC but shall be in addition to the other rights of Tribe under law and the terms of this Contract.

12.8 Require Contractor to correct or replace the defective items or work.

13.0 FOSSILS AND ANTIQUITIES

13.1 All fossils, coins, articles of value or antiquity, structures and other remains or things of geological, paleontological, or archeological interest discovered by employees of the Contractor or employees of the Contractor or employees of its subcontractors are deemed to be the property of the Tribe. Contractor shall take all reasonable precautions to prevent its employees or employees of its subcontractors from removing or damaging any said items, and shall immediately upon discovery thereof and before removal, advise Tribe of such discovery and follow Tribe's orders as to the disposition thereof.

13.2 Contractor shall advise applicable personnel, in writing, of Contractor's obligations under this clause and include a clause to this effect in all subcontracts.

14.0 UNDERGROUND CABLES.

14.1 Contractor shall contact Digger's Hotline and Private Line Locators to ascertain the whereabouts of any buried utility lines, cables, etc. prior to the start of any construction involving the exploration, drilling, grading, screening, scalping, or excavation of earth, and any road construction.

14.2 Contractor shall be responsible for the costs of repairing or replacing any underground cables which are damaged as a result of any operations under this agreement whether such operations be by Contractor or any employee or subcontractor of Contractor.

15.0 EXCUSABLE DELAYS. Contractor shall not be liable for damages, including liquidated damages, if any, for delays in performance due to cause beyond the control and without the fault or negligence of the Contractor or any subcontractor.

16.0 CLEANING UP. Contractor shall at all times, keep the work areas free from accumulations of waste material or rubbish. Prior to completion of the work, Contractor shall remove any rubbish from and about the premises, and all tools and equipment not property of the WRDC or Tribe. Upon completion, Contractor shall leave the work and premises in a "broom clean" neat condition satisfactory to WRDC.

17.0 HEATING. The Contractor shall provide and pay for all heating necessary for the proper completion of work.

18.0 DOCUMENTS INCORPORATED BY REFERENCE. In addition to documents attached pursuant to section 2.1, the following documents are hereby incorporated by reference:

19.0 ASSIGNMENT AND SUBCONTRACTING. This Contract or any payments hereunder shall not be assigned without the prior written consent of the WRDC. The Contractor shall not subcontract any substantial portion of the work hereunder without the prior written consent of WRDC.

20.0 TIME OF THE ESSENCE. Time is of the essence of this Contract.

21.0 CONSENT TO JURISDICTION. The undersigned hereby irrevocably stipulates, consents, and agrees to the jurisdiction of the Menominee Tribal Court in any action for the purpose of collecting or enforcing any Menominee Tribal tax. The failure to pay any overdue tax upon demand shall be just cause for the termination of this agreement.

22.0 EFFECT OF INVALIDITY OF ANY SECTION. It is understood and agreed by the parties hereto that if any part, term, or provision of this Contract is by the Courts held to be illegal or in conflict with any laws of the state of tribe where made, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular part, term, or provision held to be invalid.

23.0 SOVEREIGN IMMUNITY. The Menominee Indian Tribe does not waive its Sovereign Immunity

24.0 GOVERNING LAW. It is mutually understood and agreed that this Contract shall be governed by the laws of the Menominee Indian Tribe as to substance, interpretation, and performance.

25.0 TERMINATION PRIOR TO END OF ANY TERM. Although it is the express intention of the parties that this Contract shall be in effect for the duration specified, it is mutually agreed that the WRDC may terminate this contract in advance of the end of the term for unsatisfactory performance by the Contractor or the Death of the Contractor. In the case of early termination, the WRDC reserves the right to seek all legal remedies it may have.

In Witness Whereof, *the parties hereto have executed this Contract which shall be effective as of the date last signed.*

WOLF RIVER DEVELOPMENT COMPANY

_____ _____

Crystal Chevalier, WRDC CEO **Date**
Authorized Agent

_____ _____

Authorized Agent of Contractor **Date**

EXHIBIT "A"

Service Agreement

CCN # _____

WOLF RIVER DEVELOPMENT COMPANY (hereinafter referred to as "WRDC")

Located at: P.O. Box 460
Keshena, WI 54135

And

ADD NAME OF CONTRACTOR HERE (hereinafter referred to as "Contractor")

Located at: (Add Contractor Address Here)

Service Agreement Terms and Conditions

1. Legal Effect of this Service Agreement
   - 1.1 The terms and conditions contained within this Service Agreement, are in addition to the general terms and conditions of the main contract to which this Exhibit is reference in and attached thereto.
   - 1.2 The terms and conditions contained within this Service Agreement in conjunctions with the general terms and conditions of the main contract and other exhibits attached and referenced are the entire terms of the contract.
   - 1.3 Specific terms contained within this service agreement modify inconsistent general terms of the main contract.
   - 1.4 Specific terms contained within this service agreement modify inconsistent specific terms of the main contract only is such was clearly the intent of the contracting parties.

2. Work or Services to be Completed by Contractor:

3. Total Cost to be paid to Contractor by WRDC:

4. Payment Schedule:

5. Other Terms Applicable to this Contract (in addition to term or condition contained in main contract and Exhibits):

Initials of WRDC's Authorized Agent: _____

Initials of Contractor's Authorized Agent: _____

G. Appendix "G" – Application for Payment

FINAL PAYMENT

GENERAL RELEASE AND INDEMNITY AGREEMENT

KNOW ALL MEN BY THESE PRESENT:

That _____, with an office located at _____, in consideration of the payment of $_____ representing the final payment under the contract dated , between the undersigned and the Wolf River Development Company (the "WRDC") covering the design, architect, engineering, and administer construction management services at (or for)the WRDC, does hereby certify and warrant that it has been fully paid on account of said contract and does further certify and warrant that it has fully paid and satisfied all claims for work, labor, materials, supplies, equipment, and all other items used or furnished by the undersigned or its subcontractor or material men in the performance of said contract.

The undersigned, in consideration of the final payment being made by the WRDC pursuant to such contract, does hereby release and forever discharge the WRDC or Tribe from any right of lien it may have against the WRDC under said contract and the undersigned here by agrees to defend, indemnify, and hold harmless the WRDC and Tribe from and against all claims, demands, and abilities arising out of labor performed or material and equipment supplied by the undersigned or by its subcontractors or suppliers in connection with the performance of said contract.

In addition, the undersigned agrees to reimburse the WRDC for any excess payments made by it to the undersigned, which may be discovered as a result of the WRDC's audit of the aforementioned contract.

IN WITNESS WHEREOF, the undersigned has caused this Release and Indemnity to be executed by its duly authorized officer this ____ day of _____, 20___

COUNTYOF)

) SS.

STATE OF WISCONSIN)

_____, being duly sworn, does depose and say that he/she has read the above information and knows the contents thereof, and that the same is true to the best of his/her knowledge and belief.

Dated this _____day of _____, 20_____

_____

Authorized Representative

SUBSCRIBED AND SWORN TO before me this

____ day of _____, 20_____

_____

NOTARY PUBLIC,
State of Wisconsin

My Commission Expires: _____

Pine Meadows Road Water and Sewer Extension Construction Project

PARTIAL RECEIPT, WAIVER, AND RELEASE OF LIENS

The undersigned hereby acknowledges receipt, payment, and satisfaction in full for all labor, services, and materials furnished or supplied up to and including the date _____, hereof relating to use, to be used, or contributing to the construction, addition, or development of the work of improvements concerning that certain real property, commonly referred to as

The undersigned hereby expressly waives, releases, and discharges the real property described above, the owner thereof, the interim lender, and the permanent lender, of and for any and all claims for mechanics' liens and rights to any such claim which the undersigned has or may have for labor, services, or materials or otherwise in connection with said work of improvements and every part thereof up to and including the date hereof and does hereby waive and release any and all rights that the undersigned now has or may have to levy or place any mechanics' lien, attachment lien, judgment lien, or execution lien on or against the real property described above for any existing indebtedness of the owner of said real property to the undersigned.

In the event the undersigned does not receive actual payment for the labor, materials, or services which is the subject hereof, the signing of this waiver shall not constitute a release of any lien rights for said labor, materials, or services.

DATE: **AMOUNT:**

INVOICE:

COUNTYOF)

) SS.

STATE OF WISCONSIN)

_____, being duly sworn, does depose and say that he/she has read the above information and knows the contents thereof, and that the same is true to the best of his/her knowledge and belief.

Dated this _____ day of_____, 20_____

_____
Authorized Representative

SUBSCRIBED AND SWORN TO before me this

____ day of _____, 20_____

_____
NOTARY PUBLIC,
State of Wisconsin

My Commission Expires: _____

PAYMENT SCHEDULE

1.) WRDC shall pay to Contractor a sum not to exceed $_____ for work performed under this contract. Said sum shall be paid in the following manner:

a.) Contractor shall submit a monthly invoice on the "Application for Payment" form attached within exhibits in bid documents. Contractor shall submit with each application for payment a "Partial Receipt, Waiver and Release of Liens" and "Weekly Payroll Report".

b.) Contractor shall not be paid for any work which, in the opinion of the WRDC, is not complete.

c.) WRDC shall pay Contractor upon receipt of Contractor's properly filled out "Application for Payment", Partial Receipt, Waiver and Release of Liens" and "Weekly Payroll Reports", provided that the WRDC is satisfied with the progress and quality of the work.

d.) Final payment to Contractor shall not be made until WRDC accepts Contractor's work and receives a "Final Payment General Release and Indemnity" agreement.

H. Appendix "H" – Menominee Hiring Preference Work Plan

Menominee Hiring Preference Work Plan

Project/ ID Number _____ Exempt YES / NO

Company/Business Name: _____

Business Contact Information: _____

Contact Name Contact Telephone

Menominee Employee/Subcontractor	Enrollment Number	Expected Wage	Labor Hours	Total	Percentage
				Total > 20%	

If claiming exemption, circle why:

1. There are not enough qualified Menominee Businesses or Menominee members to meet this requirement.
2. Contractor will perform the Contract with no subcontractors and with two or fewer employees.

Please Note the following:

1. Please attach copies of enrollment cards with Work Plan
2. If submitting a different Work Plan, it must contain this information

I. Appendix "I" – Menominee Hiring Preference Report

Menominee Indian Tribe of Wisconsin

Name of Contractor/Vendor:	% Menominee Workforce	Project ID Number:	Date:
Provide explanation if 20% of total project hours NOT completed by a Menominee Contractor/Vendor/Sub-Contractor:			

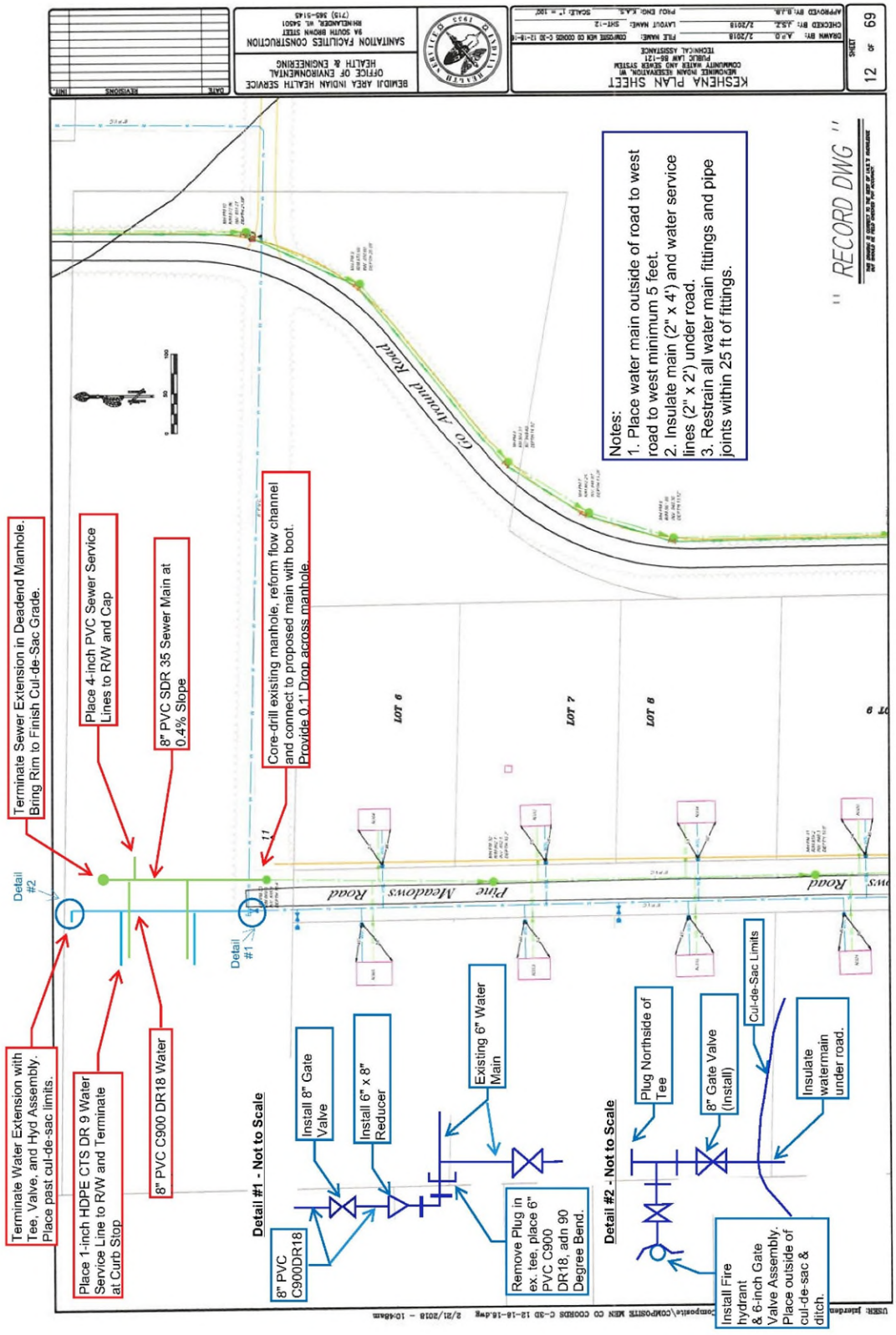
	Division of Work	Project Hours			% of Project Hours			Tribal Companies Involved
		Tribal	Other	Total	Tribal	Other	% of Total	
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
	Totals	0.00	0.00					

Companies listed in proposal but not used on project:	Reason:

Printed Name	Signature	Date

This form must be completed and submitted with final pay request/invoice

J. Appendix "J" – Drawing



K. Division 1 – General Requirements

L. Division 2 – Site Consturction

TABLE OF CONTENTS

MENOMINEE INDIAN TRIBE OF WISCONSIN
PINE MEADOWS ROAD WATER AND SEWER EXTENSIONS

SUMMARY OF WORK

PART 1 - GENERAL

1.01 SUMMARY

A. The work to be performed under this contract shall consist of furnishing the following to perform the work outlined in these specifications and as indicated by Project Drawings:

1. tools
2. equipment
3. materials
4. labor
5. supplies
6. manufactured articles
7. all transportation to complete the work
8. temporary facilities

B. Location of Work: Pine Meadows Road, Keshena, Menominee Indian Reservation, Wisconsin

C. Incidentals Items: All work, materials, and services not expressly listed as being provided by others or not expressly called for in the contract but are necessary for the completion of the work in good faith, shall be furnished, installed, and performed by the contractor.

1.02 SUMMARY OF WORK TO BE DONE BY CONTRACTOR

New water distribution system extension at Pine Meadows Road located in Keshena, WI for three new single-family homes located at end of cul-de-sac.

A. Water Distribution System Extension

1. Procure and install:
   a. 8-Inch PVC C900 DR18 Water Main Extension
   b. Connection to existing water system
   c. Installation of two 8-inch gate valves with boxes
   d. Installation of one fire hydrant with gate valve and box
   e. Installation of three water service lines consisting of 1-inch HDPE CTS DR9 pipe

B. Sanitary Sewer Collection System Extension

1. Procure and install:

a. 8-Inch PVC SDR 35 Sewer Main Extension
b. Connection to existing manhole including core drilling of structure and reforming of flow channel
c. Installation of one new pre-cast concrete manhole structure
d. Installation of three sewer service lines consisting of 4-inch PVC SDR 35 pipe

1.03 ADDITIONAL INFORMATION

A. For information regarding the project, contact the Development Manager:

Kimberly Latender
Project Manager
Wolf River Development Company
W2828 Go Around Road, Keshena, AWI 54135
Keshena, WI 54135
Telephone: 715-245-2309
Email: kim.latender@wolfriverdev.com

B. For information regarding existing utility system and for coordinating inspection of existing system connections, contact the Tribal Utility Dept:

Darryl Pyawasay
Utilities Manager
Menominee Tribal Utilities
N700 Go Around Road
PO Box 250
Keshena, WI 54135
Telephone: (715) 853-4897
dapyawasay@mitw.org

C. Comply with all Tribal regulations related to the completion of the work including the acquisition of necessary permits and the payment of Tribal taxes.

1.04 SPECIAL REQIREMENTS

A. Time Limitations

1. Allowable work hours: Monday through Friday 7:000 AM – 5:00 PM

2. Residential system connection: Between 8:30 AM – 4:00 PM

B. Means to provide cross-connection safe guards and metering of water used during construction shall be provided by the contractor.

C. No home shall be without water for more than 4 hours. Advance notice to homeowners shall be given 3 days in advance of outage.

D. All construction equipment shall be washed with bleach prior to mobilizing to site.

1.05 SAFETY

A. Follow OSHA safety guidelines at all times

B. Examples of required safety practices include, but are not limited to

1. Hard hats worn on job site.

2. Trench shoring and/or other practices required to ensure safety to workers in trenches.

3. Barricades, covers, or other adequate methods of preventing passerby access to unattended excavations.

4. Traffic control.

END OF SECTION

SECTION 01270
PRICE AND PAYMENT

PART 1 - GENERAL

1.01 SUMMARY

A. Work covered by this section includes method of measurement and basis of payment for all divisions included.

B. Payment for the various items of the Bid Schedules, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, materials, labor, supplies, manufactured articles, transportation, and temporary facilities required to complete the work in accordance with contract documents including incidentals.

C. Respective prices and payment shall constitute full compensation for all work completed including incidentals.

D. All items not expressly listed as being provided by others that are necessary for the completion of work shall be furnished and installed by the Contractor.

E. No separate payment shall be made for mobilization and demobilization of equipment.

1.02 ESTIMATED QUANTITIES

A. All quantities stipulated in the bid schedule or other contract documents are approximate and are to be used: (1) as a basis for estimating the probable cost of the work and (2) for the purpose of comparing the bids submitted.

B. The Contractor shall be paid for actual quantities installed based on the quantities measured in the field. The actual amounts of work completed and materials furnished may differ from estimated quantities. The Contractor shall make no claim for damages, anticipated profits, or otherwise, on account of differences between the estimated amounts and the actual amount of work performed and materials furnished.

1.03 SURVEY AND MEASUREMENTS

A. All quantity measurements shall be the responsibility of the Contractor and will be verified by the Engineer.

B. All measurements and subsequent payments will be based on completed and accepted work performed in strict accordance with the drawings, specifications, and other contract documents.

PART 2 – BID SCHEDULE ITEMS

2.01 GENERAL

A. Payment shall be full compensation to complete the work items in good faith, including incidental work.

B. In addition to the those things listed under each item, the unit price bid shall be full compensation for all of the following:

1. General

    a. Labor
    b. Materials
    c. Equipment

2. General requirements in Division 01, but not limited to the following.

    a. Submittals
    b. Record drawings

3. Specific requirements in Division 02, including but not limited to the following (unless otherwise expressly defined as a line item in the bid schedule):

    a. Erosion control (and the removal of the silt fence once vegetation has been established)
    b. Cleaning of equipment prior to arriving onsite with bleach solution
    c. Removal and replacement of obstructions such as but not limited to fences and signs unless specifically covered under a different line item.
    d. Locating of existing utilities and determining elevations of existing utilities.
    e. Associated trenching, excavation and backfill including the removal of any nuisance water, bedding, haunching, and compaction.
    f. Disposal of any excess material
    g. Traffic control including flagmen and signage
    h. Rough grading
    i. Finish work/restoration including finish grading, top soiling, erosion control, and landscaping.
    j. Clearing, grubbing, and disposal of items to the Middle Village disposal site.
    k. Hauling of excess soils, if any, to the Middle Village disposal site.
    l. Provision of temporary water service to homes.
    m. Mobilization and demobilization.

2.02 BID ITEMS

A. Schedule A – Water Distribution System Extension

1. 8-Inch PVC C900 DR18 Water Main

    a. Measurement: By the linear foot measured over the centerline of the pipe.

    b. Basis of Payment: Includes pipe and pipe installation, select bedding/backfill, fittings, thrust restraint, flushing and disinfection, pressure testing, appurtenances for flushing and pressure testing if hydrants are not available, warning tape, tracing wire and boxes, and all other appurtenances required to complete the work as specified.

2. 8-Inch Gate Valve and Box

    a. Measurement: By each installed

    b. Basis of Payment: Includes gate valve and box, gate valve box adapter, thrust restraint, concrete support block and all other appurtenances required to complete the work as specified.

3. 1-Inch HDPE CTS DR9 Water Service Line

    a. Measurement: By the linear foot measured over the centerline of the pipe.

    b. Basis of Payment: Includes pipe, all required fittings including transition fittings, tracer wire and boxes, warning tape, disinfection, pressure testing, and all other appurtenances required to complete work as specified.

4. 1-Inch Corp Stop and Saddle

    a. Measurement: By each installed.

    b. Basis of Payment: Includes corp stop, saddle, tapping (dry and live) on main, connection of water service lines, testing, and all other appurtenances required to complete the work as specified.

5. 1-Inch Curb Stop and Box

    a. Measurement: By each installed

b. Basis of Payment: Includes curb stop, box, stationary rod, concrete support block, and all other appurtenances required to complete the work as specified.

6. 8.5-Foot Bury Depth Fire Hydrant (Waterous WB67-250) with 6-Inch Valve and Box

    a. Measurement: By each installed

    b. Basis of Payment: Includes hydrant, fittings, restraints, 6-Inch gate valve, valve box, gate valve adapter, concrete support blocks, hydrant lead, tracer wire, tracer wire box, grounding rod, warning tape, and all other incidentals required to complete work as specified.

7. Connection to Existing System (Water Main)

    a. Measurement: By each connection made.

    b. Basis of Payment: Includes fittings, thrust restraint, flushing and disinfection, pressure testing, appurtenances for flushing and pressure testing if hydrants are not available, warning tape, tracing wire and boxes, installation and associated removal of fittings required to charge/retain pressure in new main and existing main at the same time, and all other appurtenances required to complete the work as specified.

8. Insulation (2” Thick x 2 Feet Wide)

    a. Measurement: By the linear foot

    b. Basis of Payment: Includes insulation and all other appurtenances required to complete the work as specified.

9. Insulation (2” Thick x 4 Feet Wide)

    a. Measurement: By the linear foot

    b. Basis of Payment: Includes insulation and all other appurtenances required to complete the work as specified.

B. Schedule B – Sanitary Sewer Collection System Extension

1. 8-Inch PVC SDR35 Sewer Main

    a. Measurement: By the linear foot measured over the centerline of the pipe.

    b. Basis of Payment: Includes pipe and pipe installation, select bedding/backfill, fittings, flushing, pressure testing, appurtenances for flushing and pressure testing, warning tape, and all other appurtenances required to complete the work as specified.

2. Manhole

    a. Measurement: By each installed

    b. Basis of Payment: Includes manhole structure, steps, adjustment rings, frame/casting, chimney seal, connection to pipe, pipe boots, and all other appurtenances required to complete the work as specified.

3. Sewer Wye

    a. Measurement: By each installed

    b. Basis of Payment: Includes wye, installation, and all other appurtenances required to complete work as specified.

4. 4-Inch PVC SDR35 Sewer Service Line

    a. Measurement: By the linear foot measured over the centerline of the pipe.

    b. Basis of Payment: Includes pipe and pipe installation, select bedding/backfill, fittings, flushing, pressure testing, appurtenances for flushing and pressure testing, tracer wire and box, and all other appurtenances required to complete the work as specified.

5. Connection to Existing System (Sewer Manhole)

    a. Measurement: By each connection made.

    b. Basis of Payment: Includes core drilling of existing manhole, removal of existing flow channel/bench, forming of new flow channel to accept new pipe, new pipe connection boot, connection to new pipe, and all other appurtenances required to complete the work as specified.

PART 3 – EXECUTION (N/A)

END OF SECTION

SECTION 01310
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes the preconstruction conference, construction scheduling and coordination requirements.

1.02 PRE-CONSTRUCTION CONFERENCE

A. Required after award of contract and prior to start of construction.

B. Representatives from the following shall attend.

1. Prime Contractor
2. Subcontractors
3. Engineer and Technical Representative
4. Owner's Representative

C. Engineer will arrange a date that is mutually acceptable to all parties planning to attend.

D. Contractor shall notify subcontractors of time and date of meeting.

1.03 CONSTRUCTION SCHEDULE

A. Present Engineer with a written preliminary construction schedule containing start and completion dates of the major items at the preconstruction meeting.

B. Notify the Engineer seven (7) days in advance of any construction.

C. Communicate major changes to the schedule to the Engineer in writing.

1.04 WORKING HOURS/DAYS

A. Except as required for safety purposes, all work shall be performed during regularly scheduled working hours. The Contractor shall not work on Saturday, Sunday, or a Federal holiday without the Owner and Engineer's consent.

1.05 COORDINATION WITH OTHER CONTRACTORS/UTILITIES

A. Coordinate work with other contractors (i.e. roads, building, etc) in the area as necessary to complete the work specified.

B. Coordinate work with local utilities (i.e. water and sewer, power, telephone). Note: all buried utilities may not be shown on the plans. Contractor's responsibility for having utilities marked prior to construction.

END OF SECTION

SECTION 01330
SUBMITTAL PROCEDURE

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes information on submittal procedures. Materials requiring submittal are listed in the appropriate specification section.

1.02 SUBMITTAL PROCEDURES

A. Submit copies of submittals to the Engineer, unless requested otherwise.

1. Contractor's option:
    i. Two (2) hard copies.
    ii. An electronic copy in pdf format delivered to Engineer via email or other means as approved by the Engineer.

B. Identify each cut sheet or shop drawing with the following information:

1. Contract number.
2. Supplier.
3. Specification section to which the submittal pertains.

C. Submit the following information, as applicable:

1. Manufacturer's cut sheets indicating compliance with references (e.g. applicable ASTM, AWWA standards).
2. Laboratory results, as applicable.
3. Dimensional drawings or shop drawings, as applicable.
4. Other information necessary for the Engineer to determine compliance with the specifications.
5. Clearly identify brand, manufacturer, model number, sizes, and all other information on each cut sheet to identify the exact product being submitted for approval.

D. Identify variations from the contract documents and product or system limitations that may be detrimental to successful performance of the completed work.

E. Revise and resubmit submittals as required and identify all changes made since previous submittal.

F. Distribute copies of reviewed submittals to concerned parties, (i.e. suppliers, sub-contractors).

G. Submit written communication of any inability to comply with the Engineer's comments.

H. Submit information to the Engineer at least three weeks in advance of the work to be performed.

I. Approval of submittals must be provided by the Engineer prior to installation of materials.

END OF SECTION

SECTION 01420
REFERENCES

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes a list of common organizations, associations or appropriate agencies with jurisdiction that have references, standards, laws or regulations cited in these specifications. This list is not all-inclusive. Other agencies (county, local, tribal) with jurisdiction might not be listed here.

B. Use latest revision of all references, standards, laws or regulations.

1.02 LIST OF ORGANIZATIONS, ASSOCIATIONS & AGENCIES

A. National Standards Organizations & Associations

American Association of State Highway and Transportation Officials (AASHTO)
444 North Capital Street NW, Suite 249
Washington DC, 20001
(202) 624-5800
www.aashto.org

American Concrete Institute (ACI)
ACI International
PO Box 9094
Farmington Hills, Michigan 48333-9094
(810) 848-3700
www.aci-int.org

American Society for Testing and Materials (ASTM)
100 bar Harbor Drive
West Conshohocken, Pa 19428-2959
(610) 832-9585
www.astm.org

American Water Works Association AWWA
6666 West Quincy Avenue
Denver, CO 80235
(303) 794-7711
www.awwa.org

National Electric Code (NEC)
National Fire and Protection Association
1 Batterymarch Park
Quincy, MA 02269-9959
1 888 632-2633
www.nec.com

National Electrical Manufacturer's Association
NEMA
1300 North 17th Street
Rosslyn, VA 22209
(703) 841-3200
www.nema.org

Underwriters' Laboratories, Inc. UL
333 Pfingston Road
Northbrook, IL 60062
(847) 272-8800
www.ul.com

National Science Foundation (NSF)
2415 Eisenhower Avenue
Alexandria, VA 22314
(703) 292-5111
www.nsf.gov

B. Federal Agencies

Environmental Protection Agency (EPA)
Region 5
77 West Jackson
Chicago, IL 60604-3507
http://www.epa.gov/r5water/

Occupational Health and Safety Administration
Region 5 (OSHA)
238 South Dearborn Street , Room 3244
Chicago, IL 60604
www.osha.gov

C. State Agencies

Michigan Department of Transportation MIDOT
1601 Lunington Street
PO Box 355
Escanaba, MI 49829
(906) 786-1800
www.mdot.state.mi.us

Michigan Dept. of Consumer & Industry Services
G. Mennen William Bldg.
525 W. Ottawa
P.O. Box 30004
Lansing, MI 48909
(517) 373-1820
www.cis.state.mi.us

Michigan Department of Environment, Great Lakes and Energy (EGLE)
Surface Water Quality Division
Storm Water Program
P.O. Box 30438 Lansing, MI 48909
www.deq.state.mi.us/swq/stormw/stormw.htm

Michigan Department of Environment, Great Lakes and Energy (EGLE)
The Office of Drinking Water and Municipal Assistance
P.O. Box 30241 Lansing, MI 48909-7741
http://www.michigan.gov/deq/0,4561,7-135-3313_51002---,00.html

Minnesota Department of Transportation (MNDOT)
Transportation Building
395 John Ireland Boulevard
St. Paul, MN 55155
1 800 651-3774
www.dot.state.mn.us

Minnesota Pollution Control Agency (MPCA)
Individual Sewage Treatment System Standard
520 Lafayette Road
St Paul, MN 55155
1 800 657-3864
www.pca.state.mn.us

Minnesota Department of Health
717 Delaware Street South East
Minneapolis, MN 55440-9441
(651) 201-5000
www.health.state.mn.us

Wisconsin Department of Natural Resources
Nonpoint Source and Land Management (Section – WR/2)
P.O. Box 7921
Madison, WI 53707-7921
www.dnr.state.wi.us

Wisconsin Department of Safety and Professional Services
201 W. Washington Ave
P.O. Box 2658
Madison, WI 53701-7921
www.dsps.state.wi.us

Wisconsin Department of Transportation
WIDOT
Madison, WI 53707
(608) 266-2615
www.dot.state.wi.us

D. Local Agencies

1. Contractor shall review other local agency requirements to determine applicability with this project.

E. Tribal Organizations

1. See Section 01100 for appropriate tribal contact regarding tribal laws.

PART 2 – PRODUCTS (N/A)

PART 3 – EXECUTION (N/A)

END OF SECTION

SECTION 01430
QUALITY ASSURANCE

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes prerequisites and procedures to assure the quality of construction.

1.02 SUBMITTALS

A. Contractor Name and License Number

1.03 INSTALLER QUALIFICATIONS

A. Work shall be performed under the direction of personnel licensed in the state/reservation where the project is proposed and where licensing of the trade is regulated by the state/reservation including, but not limited to, plumbing, well drilling, septic system installation, HVAC, and electrical work.

1.04 CONTROL OF INSTALLATION

A. Review materials for acceptability when delivered to the site.

B. Store and handle materials to prevent damage.

C. Review materials, services, and workmanship to ensure that work is performed in accordance with the specifications.

D. Comply fully with manufacturers' instructions.

E. Should manufacturers' instructions conflict with contract documents, request clarification from Engineer before proceeding.

F. Correct defective work to the satisfaction of the Project Engineer.

1.05 MANUFACTURER'S FIELD SERVICES

A. Provide reports on observations and documentation of workmanship to the Engineer within 30 days of visit for review where manufacturers' field services are provided.

1.06 WARRANTY

A. Provide a minimum one (1) year warranty for all materials and labor, covering defects in the materials or deficiencies resulting from contractor installation.

B. Provide additional warranties as required under other sections.

END OF SECTION

SECTION 01500
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SUMMARY

A. The work covered by this section includes all temporary facilities and controls needed to complete work under the Contract in a manner that protects public safety and worker safety, that preserves both public and private property and that appropriately involves local governments, emergency and law enforcement.

B. This section also includes provisions for temporary project signage as required by the owner or funding agency.

1.02 RELATED WORK (as applicable)

A. Section 02315 – Excavation, Trenching and Backfill

B. Section 02401 – Directional Drilling

C. Section 02510 – Water Distribution

D. Section 02511 – Water Service

E. Section 02705 – Road Restoration

1.03 REFERENCES

A. Manual on Uniform Traffic Control Devices

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 GENERAL

1. Provide temporary facilities and controls that are necessary to carry out the requirements of the Contract in a manner

    1. That protects public safety and worker safety
    2. That preserves both private and public property
    3. That communicates and cooperates with local authorities and governments.

3.02 TEMPORARY WATER (IF APPLICABLE)

A. If there is an existing building or hydrant on the site from which water can be taken, Contractor may use the available water if authorized by the Owner.

B. If the Owner has water supply mains, but no hydrant is available, Contractor may make a water main tap and create a service line if authorized by the Owner.

C. If the Owner does not have a water supply, make arrangements to obtain water and pay for it at no direct cost to the project.

D. Cross Connection Control: When connecting to the Owner's water supply, provide appropriate backflow prevention devices in accordance with State codes and the Owner's requirements.

3.03 TEMPORARY SANITARY FACILITIES

A. Provide and maintain a chemical toilet approved by the State Department of Health for the use of all workers of all trades.

B. Place temporary facilities in an inconspicuous place and keep clean.

C. Remove temporary sanitary facilities after completion of the project.

3.04 BARRICADES & WARNING DEVICES

A. Notify local police, fire departments and other emergency programs of any proposed barricading or detouring.

B. Erect and maintain barricades, guardrails, lights and signs as necessary for public convenience and safety.

C. Ensure that barricades remain in place during critical hours.

D. Comply with "Occupational Safety and Health Act" and local safety requirements, as they apply.

3.05 TRAFFIC CONTROL

A. Conduct all traffic control operations in accordance with the latest issues of the "Manual On Uniform Traffic Control Devices" (MUTCD).

B. Coordinate and obtain approval for all traffic control from local law enforcement.

C. Signs, Signals and Devices

1. Place warning signs in the region of the work.
2. Warn of types of conditions that may be encountered.
    a. Muddy Roads
    b. Slippery Roads
    c. Flagman
    d. Detour
    e. Slow Moving Traffic
    f. Trucks Entering Roadway
3. Traffic Control Signals: Meet the needs of the local government authority.
4. Traffic Cones and Drums, Flares and Lights:
    a. Meet the needs of the local jurisdictions.
    b. Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.
    c. Ensure that flares, lights, etc. remain in position throughout the night.
5. Flagman:
    a. Meet the needs of the local jurisdictions.
    b. Provide trained and equipped flagmen to regulate traffic when construction operations or traffic encroach on public traffic lanes.

C. Haul Routes:

1. Consult with authority having jurisdiction in establishing public thoroughfares to be used for haul routes and site access.
2. Confine construction traffic to designated haul routes.
3. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

D. Removal of Traffic Control:

1. Remove equipment and devices when no longer required.
2. Repair damage caused by installation.

3.06 ACCESS ROADS

A. Construct and maintain temporary roads accessing public thoroughfares to serve construction area.

B. Provide detours necessary for unimpeded traffic flow.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Permanent access roads and parking areas, if applicable, will be covered in Division 2, Site Work.

3.07 PARKING

A. If the site is large enough, the Contractor may park their own and employees' vehicles on the site without charge after obtaining permission from the Owner.

B. If the site is not large enough, the Contractor shall make parking arrangements.

C. Prevent interference with the flow of local traffic.

D. Prevent interference with emergency vehicle functions.

3.08 ROAD SURFACE MAINTENANCE

A. Remove mud and excavated spoils from the affected roadway at the end of each workday in order to preserve the roadways and maintain safe driving conditions.

B. Contractor is responsible for any costs associated with repairing the roadways that are damaged due to construction equipment.

3.09 WATER CONTROL

A. Grade site to drain.

B. Protect site from puddling or running water.

C. Provide water barriers as required to protect site from soil erosion.

3.10 DUST CONTROL

A. Use measures to minimize dust caused by the project.

B. Avoid dust-creating activities during dry, windy conditions.

3.11 SECURITY

A. The Owner will **not** be responsible for security on the site of work.

B. Each Contractor will be held responsible for loss or injury to persons or property where their work is involved.

C. Provide (if deemed necessary) such watchmen and take such other precautionary measures as deemed necessary to protect facilities during the contract period.

3.12 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris and rubbish. Maintain site in a clean and orderly condition.

B. Remove waste materials, debris, and rubbish from site weekly and dispose off-site.

3.13 REMOVAL OF UTILITIES, FACILITIES & CONTROLS

A. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to inspection.

B. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing facilities used during construction to original condition.

3.14 TEMPORARY FIRST AID FACILITIES

A. Provide temporary first aid facilities for employees in sufficient quantity for the number of workers.

3.15 TEMPORARY FIRE PROTECTION

A. Post fire department telephone numbers at the jobsite.

B. Keep fire extinguishers on the job that are appropriate for the type of work being performed.

3.16 TEMPORARY PROJECT SIGNAGE

A. Construct project signage to the specifications as shown in template.

B. Install project signage at the locations indicated on the plans or as approved by the Engineer.

END OF SECTION

SECTION 01770
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes information on closeout procedures and final cleaning.

1.02 RELATED WORK

A. Section 01780 – Closeout Submittals

1.03 CLOSEOUT PROCEDURES

A. Submit written certification that work is complete in accordance with contract documents and ready for final inspection at least three (3) working days prior to final inspection.

B. Provide warranties and record documents (e.g. as-built drawings) to the Engineer that are required within ten (10) days after date of first beneficial use. Refer to Section 01780.

1.04 FINAL CLEANING

A. Complete final clean-up prior to final inspection.

B. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.05 FINAL INSPECTION

A. A final inspection of the facilities shall be conducted in the presence of the Owner, the Engineer, and the Contractor, at a minimum.

B. Final inspection shall include inspection of all facilities installed under the project.

1.06 PUNCH LIST

A. Any deficiencies noted at the Final Inspection will be communicated to the Contractor through a letter from the Engineer.

B. All deficiencies will need to be completed before full payment is made.

C. Retainage for punch list items shall be based on the estimated cost to retain another contractor to finish the deficient work items.

END OF SECTION

SECTION 01780
CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 SUMMARY

A. This section describes the requirements for closeout submittals including, record drawings, warranty information and general operation and maintenance information.

1.02 RELATED WORK

A. Section 01430 – Quality Assurance
B. Section 01770 – Closeout Procedures

1.03 DELIVERY

A. Provide all closeout submittals meeting these requirements and any specific requirements of each section.

B. Closeout submittals must be received before payment is requested for the work that the drawings describe or illustrate.

C. All closeout submittals must be received in a correct and complete manner before final payment can be made. If material is deficient, the deficiencies will be indicated in punch lists (Section 01770).

1.04 DEFINITIONS

A. Record Drawing: A drawing showing the actual installation of facilities, showing changes from the plans, and showing detail enough that future persons can readily locate all objects.

B. Ties: Measurements from permanent easily located objects to an installed object.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 RECORD DRAWINGS

A. Provide record data in one of the following manners:

1. On a set of project drawings, neatly draw tie measurements and changes.

2. On separate 8½ X 11 sheets (see 01780D – Closeout Submittal Drawings), neatly draw site sketches, structure sketches, etc., indicating the necessary information.

B. Provide three (3) swing tie measurements to all buried utility objects that may need to be located in the future, including, but not limited to:

1. Gate valves
2. Corporation stops
3. Curb stops
4. Water main fittings
5. Couplings to existing water systems.
6. Cleanouts
7. Sewer wyes.
8. Utility crossings.
9. Septic tank manholes and access covers.
10. Corners of drainfields
11. Tracer Wire Boxes

C. Provide offset measurements for buried utilities (e.g. water main) installed parallel to roads.

D. Provide revised elevation data for all items that have elevations shown on the plan drawings, including, but not limited to, the following:

1. Manhole inverts (inlet and outlet)
2. Manhole rims
3. Lift station invert
4. Lift station top
5. Lift station pipe penetrations
6. Float elevations
7. Septic tank elevations
8. Elevations of pipe entering and leaving structures
9. Elevation of sewer service line stub (if terminated at right of way)
10. Other elevations indicated on profiles.

E. Provide installed bid schedule items quantities for individual facilities on 8½ X 11 sheets.

1. Engineer may supply standard forms for use by the Contractor.

3.02 WARRANTIES

A. Submit all warranty information regarding the materials installed.

B. Minimum warranty information is listed in Section 01430.

3.03 OPERATION AND MAINTENANCE INFORMATION

A. Submit all operation and maintenance information as included in the packaging from the manufacturer regarding the materials installed.

B. Additional project specific operation and maintenance requirements are listed in Section 01785 (if applicable).

END OF SECTION

SECTION 02230
CLEARING AND GRUBBING

PART 1 - GENERAL

1.01 SUMMARY

A. This section covers clearing and grubbing within the proposed areas of construction.

1.02 RELATED WORK (as applicable)

A. Section 02315 - Excavation, Trenching, and Backfill

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 CLEARING AND GRUBBING

A. Remove and dispose of all trees, stumps, brush, debris, and all other obstructions as needed to complete construction as specified.

B. If possible within right-of-way and property lines, extend clearing and grubbing a minimum of 10 feet beyond all proposed structures unless otherwise directed by the Engineer.

C. The Contractor shall not burn, bury, and/or leave materials in construction areas.

D. Haul all cleared material to the Middle Village transfer site (approximately 7 miles West/Northwest of Keshena). Sort and dispose of materials in their specified locations (timber, stumps, branches, soil).

END OF SECTION

SECTION 02310
GRADING

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes rough and finished site grading of all areas disturbed during construction.

1.02 RELATED WORK

A. Section 02315 – Excavation, Trenching and Backfill
B. Section 02370 – Temporary Erosion and Sediment Control
C. Section 02920 – Topsoiling, Seeding, Fertilizing and Mulching

PART 2 – PRODUCTS (Not applicable)

PART 3 - EXECUTION

3.01 ROUGH GRADING

A. Grade the area in the vicinity of the excavation to prevent surface water from flowing into the excavation.

B. Maintain existing drainage.

3.02 FINISH GRADING

A. Grade site to true grades as specified on the plans after all structures and piping have been installed.

B. Grade sites for effective drainage away from structures.

C. Dress and trim all slopes.

3.03 EXCESS SOIL SPOILS

A. If soil spoils remain, haul to the Middle Village transfer site (approximately 10.5 miles West/ Northwest of Keshena) and place in appropriate locations.

END OF SECTION

SECTION 02315
EXCAVATION, TRENCHING, AND BACKFILL

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes excavation, trenching and backfill necessary for the construction of the facilities as indicated on the plans including, but not limited to: water mains and service lines, sewer mains and service lines, concrete manholes, septic tanks, and other structures.

1.02 RELATED WORK (as applicable)

A. Section 01720 – Staking and Construction Surveying
B. Section 01780 – Closeout Submittals
C. Section 02310 – Grading
D. Section 02370 – Temporary Erosion And Sediment Control
E. Section 02510 – Water Distribution
F. Section 02511 – Water Service Lines
G. Section 02705 – Road Restoration
H. Section 02920 – Topsoiling, Seeding, Fertilization and Mulching

1.03 REFERENCES

A. Manual on Uniform Traffic Control Devices.

B. ASTM D698 – Test Methods for Moisture Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5 lb. Rammer and 12-in. Drop [Standard Proctor Test].

C. ASTM D2321 – Underground installation of Flexible Thermoplastic Sewer Pipe.

D. ASTM D2487 – Classification of Soils for Engineering Purposes [Unified Soil Classification System].

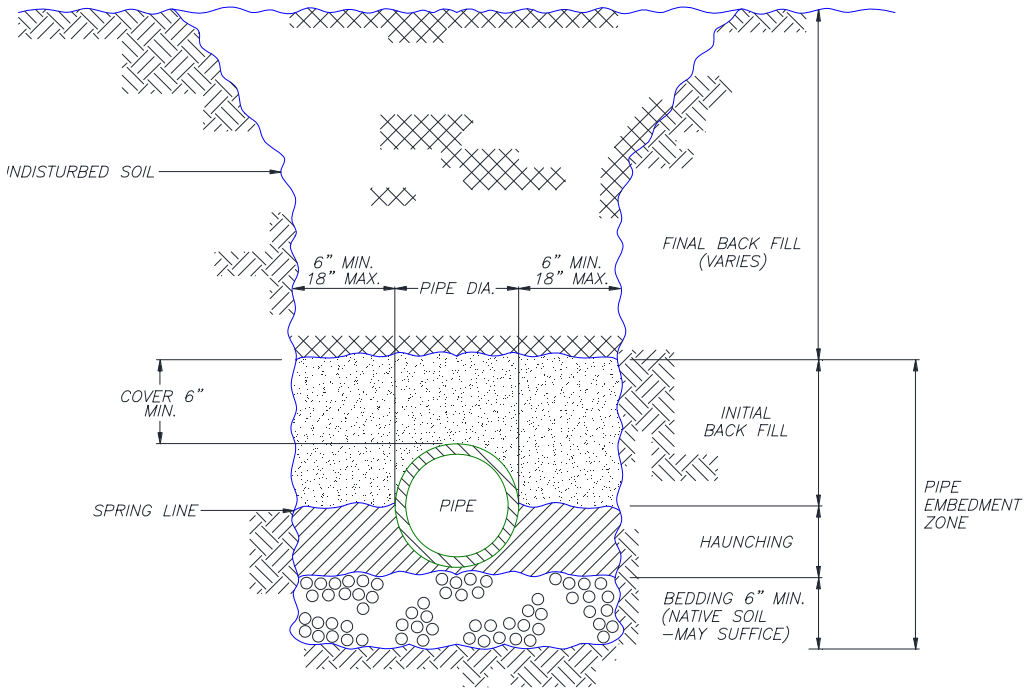
E. OSHA – Occupational Safety and Health Standards 1910 and 1926.

1.04 SUBMITTALS

A. Polystyrene Insulation

1.05 DEFINITIONS

A. Bedding, Haunching and Initial Backfill zones as defined herein and on the standard pipe trench detailed drawing below:



PIPE TRENCH DETAIL

B. Soil Materials as summarized in the table below and defined in ASTM D2321 and ASTM D2487

Description and Comparison of Soil Material Classifications

ASTM D2321		*ASTM D2487*	
Class	*Type*	*USCS Group Symbol*	*Description*
IA	Manufactured aggregates: ¼ to ¾" inch open graded, clean.	* *None*	Closest to "Poorly graded gravel (GP)"
IB	Manufactured aggregates: ¼ to ¾" inch dense graded, clean.	* *None*	Closest to "Poorly graded gravel with sand (GP)"
II	Coarse sands and gravels with maximum particle size of 1 ½ inch, clean.	GW	Well-graded gravels and gravel-sand mixtures; little or no fines.
		GP	Poorly graded gravels and gravel sand mixtures; little or no fines.
		SW	Well-graded sands and gravelly sands; little or no fines.
		SP	Poorly graded sands and gravelly sands; little or no fines
	Coarse sands and gravels with maximum particle size of 1 ½ inch, borderline clean.	GW-GC SP-SM Etc.	Sands and gravels which are borderline between clean and with fines
III	Fine sand and clayey gravels.	GM	Silty gravels, gravel-sand-silt mixtures.
		GC	Clayey gravels, gravel-sand-clay mixtures
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
IV	Fine grained soils (inorganic)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, silts with slight plasticity.
		CL	Inorganic clays of low to medium plasticity, gravely clays, sandy clays, silty clays, lean clays.
		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
		CH	Inorganic clays of high plasticity, fat clays.
V	Organic soils	OL	Organic silts and organic silty clays of low plasticity.
		OH	Organic clays of medium to high plasticity, organic silts.
		PT	Peat and other high organic soils.

* USCS system is limited to naturally occurring soils. Manufactured aggregates not covered.

PART 2 – PRODUCTS

2.01 BEDDING, HAUNCHING AND INITIAL BACKFILL MATERIAL

A. Class Iutilized in accordance with restrictions described in Part 3 - Execution.

2.02 INSULATION

A. Rigid extruded polystyrene insulation board, having a minimum compressive strength of 25 psi.

B. Width:

1. 4-foot for mains 6-inch (nominal diameter) and larger.

2. 2-foot for mains and service lines less than 6-inches (nominal diameter).

C. Thickness: As stipulated on the bid schedule.

2.03 POLYETHYLENE ENCASEMENT

A. Minimum 8 mils thickness.

PART 3 - EXECUTION

3.01 GENERAL

A. Trenching and excavation work shall be done in accordance with proper emphasis on safety as determined by the Contractor to conform to recommended safety standards such as OSHA 1910 and 1926.

B. Obtain all permits from appropriate road agency for construction within road right of way.

C. Repair damage resulting from settlement, slides, cave-ins, water pressure, and other causes.

D. Provide adequate signs, barricades, fences and amber lights and take all necessary precautions to protect the work and the safety of the public in all construction areas.

1. Placement of construction signs and barricades shall conform to the “Manual on Uniform Traffic Control Devices.”

2. Protect barricades and obstructions at night by amber signal lights that burn from sunset to sunrise. Barricades shall also be of substantial construction, painted white or with reflective paint to increase their visibility at night.

3. Perform work without obstruction to traffic or inconvenience to the general public and the residents in the vicinity of the work.

E. Road Crossing

1. Comply with all construction and material requirements of roadway authorities having jurisdiction.

2. Maintain one lane of traffic open at all times.

3. Refer to Section 02705 – Road Restoration for backfill and restoration requirements.

3.02 EXCAVATION

A. Remove trees and stumps from excavation and site.

B. Remove and stockpile existing topsoil.

C. Install facilities as staked unless otherwise approved by Engineer.

D. Maintain surface drainage away from trenching or excavation.

E. Remove unsuitable foundation materials from excavation as shown on the plans or as authorized by the Engineer.

F. Maintain a minimum 1-foot clearance between outer surface of structure being installed and wall of excavation.

G. Rock encountered shall be classified, excavated and measured in accordance with Section 02316 – Rock Excavation

3.03 TRENCHING

A. Bottom width: No less than 12 inches or more than 36 inches wider than the outside diameter of the pipe.

B. Depth: Provide minimum cover as specified, or depths shown on plans.

3.04 BEDDING

A. If existing soil cannot provide uniform, stable bearing support, over-excavate 6 inches below bottom of pipe or structure and provide bedding material.

B. Utilize Class I materials as appropriate for bedding as listed in Table below.

Use of Soils and Aggregate for Bedding

	Class IA	*Class IB*	*Class II*
General	Excellent pipe support. Excellent drainage.	Excellent pipe support. Good drainage. Minimizes migration of adjacent material.	Good pipe support. Fair drainage.
	Class IA	*Class IB*	*Class II*
Compaction	Not required	Not required	Required 90% of Standard Proctor.
Wet Conditions (below current or future water table). Rock Cuts	Acceptable. Must use same material for Haunching.	Acceptable. Must use same material for Haunching.	Acceptable. Clean groups only suitable for drainage blanket.
Dry Conditions	Acceptable	Acceptable	Acceptable

3.05 HAUNCHING AND INITIAL BACKFILL

A. General

1. Provide complete and uniform bearing and support for the pipe, including allowance for bell holes, or structure.
2. Work material under and around the pipe to ensure full pipe support.
3. Prevent movement of the pipe during placement of material.
4. Avoid contact between the pipe and mechanical compaction equipment.

B. Utilize Class I materials as appropriate for haunching and initial backfill as listed in Table below. No frozen materials or frozen clods.

Use of Soils and Aggregate for Haunching and Initial Backfill

	Class IA	*Class IB*	*Class II*
General	Excellent pipe support. Excellent drainage. Install to a minimum of 6” above the pipe crown.	Excellent pipe support. Good drainage. Minimizes migration of adjacent material. Install to a minimum of 6” above the pipe crown.	Good pipe support. Fair drainage. Install and compact to a minimum of 6” above the pipe crown.
Compaction	Not required	Not required	Required 85% of Standard Proctor. 6 inch maximum lifts.
Wet Conditions (below current or future water table). Rock Cuts	Acceptable. Must use same material for Bedding. Extend Haunching to the top crown of the pipe.	Acceptable. Must use same material for Bedding. Extend Haunching to the top crown of the pipe.	Acceptable. Clean groups only suitable for drainage.
Dry Conditions	Acceptable	Acceptable	Acceptable

3.06 FINAL BACKFILL

A. Backfill remainder of excavation with native material, free from large clods, large stones, organic material or frost chunks unless otherwise specified below.

B. Backfill within roadways, driveways, and shoulders.

1. Conform to Section 02705 – Road Restoration for backfill requirements under roadways, driveways, and shoulders.

C. Backfill around structures.

1. Backfill and compact around manholes, valve boxes, and other appurtenances in 12-inch lifts.

a. Compact with a mechanical tamper to a density not less than 90% of the maximum dry density, determined by ASTM D 698.
b. Compaction around structures in roadways, driveways, and shoulders shall conform to Section 02705.

2. Backfill around septic tanks in 18-inch lifts.

a. Compact in a manner that will not produce undue strain on the tank.

b. Compaction may be accomplished with the use of water, provided the material is thoroughly wetted from the bottom up, and the tank is filled with water to prevent floating.

D. Backfill of trenches and other locations not listed above.

1. Compact in 18-inch lifts to a density not less than the density of the surrounding undisturbed soil.

2. Provide 3 feet minimum of backfill over the pipe before wheel loading the trench.

3. Provide 4 feet minimum cover over the top of the pipe before utilization of hydrohammer compaction equipment.

4. Compact in smaller lifts if the required compaction cannot be obtained.

5. Lifts may be increased at the discretion of the Project Engineer if required compaction can be obtained.

E. Repair any trenches improperly backfilled or where settlement occurs, then refill and compact.

F. Restore surface to the required grade and compaction. Conform to Section 02310 – Grading for rough grading, finish grading and site surface drainage.

G. Remove all surplus backfill materials to a location approved by the Engineer.

3.07 FROST PROTECTION

A. Place insulation in areas where water main, sewer service lines or water service lines cross a road, driveway, traveled path, as indicated on the plans or as directed by the Engineer.

B. Center insulation over the main with no more than 6 inches of compacted fill between the pipe and the insulation. Grade fill so insulation lays flat.

C. Maintain a straight alignment of insulation.

D. Extend insulation a minimum of 5 feet on each side of the crossing.

E. Lap insulation by 6 inches or stagger by 6 inches if composed of two layers.

F. Minimum thickness for the first lift of backfill over the insulation is 8 inches.

1. Do not operate construction equipment directly on insulation. Do not compact first lift with backhoe-mounted compactor, or any other large compaction equipment.

2. Compact remaining backfill using normal construction practices.

3.08 POLYETHYLENE ENCASEMENT

A. All metallic mainline pipe, fittings, and appurtenances installed in aggressive soils shall be wrapped with polyethylene in accordance with ANSI/AWWA C105/A21.5.

B. The wrap shall extend 2-feet beyond all metallic fittings/appurtenances and cover the entire length of metallic pipe. All rips or punctures shall be repaired with tape or by rewrapping that area with polyethylene film.

C. After assembling the pipe joint, the polyethylene shall be overlapped approximately 1-foot and at all joints sealed with approved adhesive tape. Additional taping shall be used at 3-foot intervals along the pipe. All copper service connections shall be wrapped for a distance of 3-feet from the center line of the

main. Before installing the polyethylene wrap, the exterior of the pipe shall be free of foreign material.

3.09 REMOVAL OF NUISANCE WATER

A. Remove nuisance water entering the trenches. Nuisance water that can be removed through the use of sump or trash pumps is not considered dewatering.

B. Keep trenches free from water until the facilities are in place, sealed against the entrance of water, and backfill has been placed and compacted above the water level.

3.10 LOCATE EXISTING UTILITIES

A. Field locate all existing underground utilities.

1. Utilize state “dig-safe” or “one-call” hotlines.

2. Contact all other utility owners not covered by the state “dig safe” hotlines.

3.11 UTILITY CONFLICTS

A. Protect existing utilities from damage during excavation and backfilling operations.

B. Provide temporary support for existing water, gas, telephone, power, or other utility services that cross the trench until backfilling of trench is complete

1. Compact backfill to 95% of Standard Proctor Density under disturbed utilities.

2. Repair or replace any damaged existing utilities, at no additional cost to the project.

C. Water and sewer main crossing and parallel installation

1. Maintain a 10 foot horizontal separation (O.D. to O.D.) for parallel mains.

2. Upon approval by the Engineer, water and sewer mains may be installed closer than 10 feet, provided all of the following conditions;

a. Vertical separation is 18 inches (O.D. to O.D.)
b. Water main is above the sewer main.
c. Separate trenches are maintained.

3. Maintain a minimum 18-inch vertical separation (O.D. to O.D.) for crossing mains.

    a. Lay pipe with joints equidistant from the point of crossing.

4. If it is impossible to meet any of the above separation distances and deviations, one of the following methods shall be adhered to.

    a. Sewer main shall be constructed to water main pressure pipe standards, and successfully pass a 150-psi pressure test prior to backfilling.

    b. Either the water main or the sewer main may be encased in a watertight carrier pipe that extends 10 feet on both sides of the crossing. The carrier pipe shall be of materials approved by the regulatory agency for use in water main construction.

D. Water and sewer service crossing and parallel installation.

1. Maintain a 30-inch horizontal separation from water and sewer services.

2. Maintain a 12-inch vertical separation for crossing water and sewer services.

3. Water service line splices or joints will not be permitted within 10 feet of a sewer line crossing.

3.12 MOVING FENCES AND MINOR STRUCTURES

A. Remove and reset culverts, drainage pipes or other minor structures that fall within the alignment of the new construction, to their original location and grade.

B. Visit the project site and determine actual conditions with regard to the existence of old car bodies, abandoned houses, fences, driveways, trees, stumps, brush, sidewalks, approaches, and other miscellaneous obstacles to construction.

1. Unless specifically referenced in a bid item, no separate payment will be made for the removal or replacement of these items.

3.13 RECORDS

A. Conform to as-built requirements in Section 01780 – Closeout Submittals.

END OF SECTION

SECTION 02370
TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes temporary erosion and siltation control measures accomplished through the use of silt fences, hay bales, erosion mats and other erosion control devices or methods.

1.02 RELATED WORK (as applicable)

A. Section 02310 – Grading

B. Section 02315 – Excavation, Trenching and Backfill

C. Section 02920 – Topsoiling, Seeding, Fertilizing and Mulching

1.03 REFERENCES

A. Wisconsin Department of Natural Resources – Best Management Practices Handbook

B. Environmental Protection Agency - 1987 Congressional Amendments, Clean Water Act, Section 402.

1.04 SUBMITTALS

A. Method of Erosion Control

B. Silt Fence and Appurtenances

C. Erosion Mats and Appurtenances

1.05 QUALITY ASSURANCE

A. Erosion control materials, methods and practices shall conform to the applicable state agency handbooks of Best Management Practices, or tribal laws established for the purpose of erosion control on construction sites.

B. Obtain and pay for permits and inspections in accordance with the provisions of all local government agencies having jurisdiction. No additional claim for compensation will be allowed because of the Contractor's failure to obtain or pay for such permits and inspections.

PART 2 - PRODUCTS

2.01 SILT FENCING

A. Applicability

1. Heavy Duty: General use during site grading to protect critical areas and bodies of water.
2. Standard: Light-duty applications to protect temporary construction or to supplement the other types of silt fence.
3. Machine-slice: For most applications.

B. Geotextile properties:

Description	Heavy Duty	Standard	Machine Slice
Type	Woven	Woven	Monofilament
Width	48 inches	36 inches	36 inches
Grab Tensile Strength (ASTM D 4632)	100 lb Min	100 lb Min	130 lb Min
Apparent Opening Size (ASTM D 4751)	20-70 Sieve	20-70 Sieve	30-40 Sieve
UV Stability (ASTM D 4355 500 hr)	70% Min	70% Min	70% Min
Top-fastening Component	Overlap around woven wire backing	Sewn-In cord	

* From Minnesota BMP

C. Net Backing

Description	Heavy Duty	Standard	Machine Slice
Material	Woven wire	N/A	N/A
Min. Weight	14-1/2 gauge		
Min. Mesh Opening	2 inches		
Max Mesh Opening	6 inches		
Min. Width	30 inches		
Tensile Strength (ASTM D 4595)	100 lb/ft		
UV Stability (ASTM D 4355 500 hr)	70% Min		

* From Minnesota BMP

D. Post properties:

Description	Heavy Duty	Standard	Machine Slice
Material	Metal	Wood	Metal
Min. Size	1.25 lb/ft	1.5 inch x 1.5 inch	1.25 lb/ft
Min. Length	5 feet	4 feet	5 feet
Min. Embedment	2 feet	1.5 feet	2 feet
Max. Spacing	8 feet	8 feet	6 feet
Type of Post Fasteners	U-shaped clips. No. 16 gauge wire	Gun staples 0.5 inch long	Plastic zip ties (50lb tensile strength)
Min. Fasteners per Post	3	5	3

* From Minnesota BMP

E. All seams shall be heat sealed or sewn

2.02 EROSION BALES

A. Applicability: Can be used in locations where silt fencing is used.

B. Rectangular clean hay bales or straw bale.

C. Posts: Wood or steel, 2” x 2” x 54” minimum.

2.03 EROSION CONTROL MATS

A. Biodegradable or photodegradable erosion control mat equal to American Excelsior Curlex II with a minimum 4-foot mat width.

2.04 OTHER

A. Other materials proposed by the Contractor shall conform to standards published by the applicable state agency handbooks of Best Management Practices (BMP’s).

PART 3 – EXECUTION

3.01 GENERAL

A. Coordinate temporary and permanent erosion control measures to assure economical, effective and continuous erosion control.

B. Keep construction areas small.

C. Divert drainage away from construction areas.

D. Perform construction in and adjacent to rivers, streams, lakes or other waterways in such a manner as to avoid washing, sloughing or deposition of material into waterways which will result in undue or avoidable contamination, pollution or siltation of such waterways.

E. Inspect and maintain erosion control materials to ensure its continued effectiveness.

1. Remove sediment material captured by erosion control systems before systems fails.
2. Inspect and repair erosion control systems within 48 hours of rain event.

F. Remove erosion control only after the area has stabilized and vegetation has developed to the extent that further erosion is unlikely.

G. Submit a plan for erosion control measures that are in compliance with State BMPs and/or Federal EPA requirements, if the area to be disturbed is greater than one (1) acre total.

3.02 TEMPORARY EROSION CONTROL

A. Use temporary erosion control measures to protect ditches and drainage ways as shown on the detailed drawings and as directed by the Engineer.

B. Silt fencing (in lieu of or in combination with erosion bales)

1. Install silt fence in accordance with manufacturer's recommendations.
2. Construct the silt fence as shown on the plans and/or install on the contour of the slope.
3. Place silt fences in an arc or horseshoe shape with the ends pointing up towards the slope.
4. Maximum drainage area = ¼ acre per 100 feet of fence
5. Installation limitations:

Slope Steepness	Maximum Slope Length
2:1 (50%)	15 feet
3:1 (33%)	15 feet
4:1 (25%)	15 feet
5:1 (20%)	25 feet
10:1 (10%)	50 feet
20:1 (5%)	75 feet

6. Compact the soil immediately next to the silt fence fabric.
7. Clean silt fence when sediment reaches 1/3 height of the silt fence.

C. Erosion Bales

1. Install hay bales as shown on the plans and/or install on the contour of the slope.
2. Installation limitations:

Slope Steepness	Maximum Slope Length
2:1 (50%)	15 feet
3:1 (33%)	15 feet
4:1 (25%)	15 feet
5:1 (20%)	25 feet
10:1 (10%)	50 feet
20:1 (5%)	75 feet

3. Install hay bales in 4-inch deep trench.
4. Place bales at right angles to the direction of flow.

5. Securely anchor each bale with stakes as shown on the plans.
6. Compact soil on the upslope side of the hay bales.
7. Fill gaps between bales with straw.
8. Clean sediment away from bale when sediment reaches 1/2 height of the hay bale.
9. Replace damaged, destroyed or rotted bales immediately.
10. Bales may be used for mulching material if they meet the specifications of Section 02920.

D. Erosion Control Mats

1. Where indicated on the plans, by the Project Engineer, or on slopes greater than 5%, use a wood fiber mat in lieu of mulch.
2. Install in accordance with manufacturer's recommendations
3. Roll matting strips in the direction of the flow.
4. Spread mat evenly, smoothly, and in a natural position without stretching and with all parts touching the soil.

END OF SECTION

SECTION 02510
WATER DISTRIBUTION

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes the installation of water mains, valves, hydrants and other appurtenant structures for community water systems.

1.02 RELATED WORK (AS APPLICABLE)

A. Section 02315 – Excavation, Trenching and Backfill

B. Section 02401 – Directional Drilling

C. Section 02511 – Water Service Lines

1.03 REFERENCES

A. ANSI/AWWA C104/A21.4 – Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water

B. ANSI/AWWA C110/A21.10 – Ductile Iron and Gray Iron Fittings, 3 Inch Through 48 Inch, for Water and Other Liquids

C. ANSI/AWWA C111/A21.11 – Rubber-Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings

D. ANSI/AWWA C150/A21.50 – Thickness Design of Ductile Iron Pipe

E. ANSI/AWWA C151/A21.51 – Ductile Iron Pipe, Centrifugally Cast, for Water or Other Liquids

F. ANSI/AWWA C153/A21.53 – Ductile Iron Compact Fittings, 3 Inch Through 16 Inch, for Water and Other Liquids

G. ANSI/AWWA C502 – Dry Barrel Fire Hydrants

H. ANSI/AWWA C509 – Resilient Seat Gate Valves for Water and Sewerage Systems

I. ANSI/AWWA C515 – Reduced Wall, Resilient Seated Gate Valve for Water Supply Service

J. ANSI/AWWA C600 – Installation of Ductile Iron Water Main and Their Appurtenances

K. ANSI/AWWA C605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water

L. ANSI/AWWA C651 – Disinfecting Water Mains

M. ANSI/AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 Inch Through 60 Inch

N. ANSI/AWWA C906 – Polyethylene (PE) Pressure Pipe and Fittings, 4 Inch Through 65 Inch, for Waterworks

O. NSF/ANSI 14 – Certification of Plastic Piping Products

P. NSF/ANSI 61 – Drinking Water System Components – Health Effects

Q. NSF/ANSI 372 – Drinking Water System Components – Lead Content

R. ASTM A 240 – Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

S. ASTM D 3139 – Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals

T. ASTM F 477 – Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

U. Plastics Pipe Institute, Incorporated – Handbook of Polyethylene Pipe

V. Standard Methods for Examination of Water and Wastewater

1.04 SUBMITTALS

A. Water main and fittings

B. Thrust restraint products

C. Gate valves and boxes with valve adaptor

D. Water main tapping sleeve

E. Fire hydrants

F. Warning tape

G. Tracing wire, box, and splice materials

H. Method of disinfection

I. Water testing lab

J. Method of connection to existing distribution system

1.05 ACCEPTANCE

A. Work covered by this section will not be accepted until the backfilling and testing connected with the work has been completed satisfactorily.

B. Any section of water main that is found defective in material, alignment, or joints before acceptance shall be corrected to the satisfaction of the Engineer.

PART 2 – PRODUCTS

2.01 WATER DISTRIBUTION PIPE AND FITTINGS

A. Certification for potable-water service:

1. Minnesota and Wisconsin: Conform to NSF/ANSI 61

2. Michigan: Conform to NSF/ANSI 61 and NSF/ANSI 14

B. Pipe size, material, and pressure rating as indicated on the bid schedule.

C. Ductile Iron Pipe

1. Conform to AWWA C151 with a thickness design in accordance with AWWA C150.

2. Pipe ends to have welded copper straps or other approved method to maintain electrical continuity throughout the length of the installed sections.

D. Polyvinyl Chloride Pipe - C900

1. Pipe: Conform to AWWA C900 (pressure class)

2. Joints: Conform to ASTM D 3139 with elastomeric seals (gaskets) conforming to ASTM F477

E. High Density Polyethylene

1. Pipe: AWWA C906 or PE4710, DIPS dimensions

2. Joints:

a. Butt Fused
b. Ductile iron mechanical coupling with internal stainless steel stiffener.

F. Fittings

1. Conform to AWWA C110 and AWWA C111 for ductile and gray iron fittings.

2. Conform to AWWA C153 for ductile iron compact fittings.

G. PE to PVC and ductile iron

1. GF Central Plastics MJ Adapter (DIPS) DR 11 or equal as approved by the Engineer

   a. MJ ductile iron sleeve equal to Tyler Union C153 sleeve.
   b. Anchoring retaining glands equal to EBAA Iron Series 1100 MEGALUGS for ductile iron pipe and EBAA Iron, Inc. Series 2000 PV MEGALUG for PVC to PE pipe.

2. Mueller AquaGrip coupling or equal as approved by the Engineer.

   a. Use and location of AquaGrip couplings shall be on a case-by-case basis.
   b. Use shall be limited to locations where installation of MJ adapter is considered not practical.

3. Mechanical joint sleeve with stainless steel stiffener and restraining gland.

   a. Cascade HDPE stainless steel stiffener or equal as approved by the Engineer.
   b. MJ ductile iron sleeve equal to Tyler Union C153 sleeve.
   c. Anchoring retaining glands equal to EBAA Iron Series 1100 MEGALUGS for ductile iron pipe and EBAA Iron, Inc. Series 2000 PV MEGALUG for PVC to PE pipe.

H. Thrust Restraint

1. Special Anchoring Retainer Glands:

   a. Ductile iron: Equal to EBAA Iron, Inc. Series 1100 MEGALUG.
   b. PVC: Equal to EBAA Iron, Inc. Series 2000 PV MEGALUG.
   c. PE: EBAA Iron, Inc. Series 2000 PV MEGALUG or approved equal.

2. Joint Restraint:

a. Ductile iron: Equal to Gripper Gasket (shall only be used for pipe-to-pipe joint end restraint)
b. PVC: Equal to EBAA Iron, Inc. MEGALUG series 1900 for pipe end to pipe end joint restraint.

3. Joint Restraint Rodding:

a. 3/4 inch mild steel threaded rods
b. Tie bolts
c. Duc lugs

2.02 GATE VALVES

A. Meet or exceed AWWA C509 or C515.

B. Constructed with a non-rising stem (NRS) and a 2-inch square stem-operating nut, opening counter-clockwise.

C. Supply valves with mechanical or “push-on” joints.

D. Provide valves equal to: Mueller A–2361-20 or Waterous (American Flow Control) Series 2500.

2.03 GATE VALVE ADAPTOR

A. Shall be ¼-inch steel with a UV polyurethane protective coating and a ¾-inch rubber gasket attached to the Gate Valve Adaptor.

B. Provide adaptor equal to: Adaptor Inc. Gate Valve Adaptor.

2.04 VALVE BOXES

A. Provide 3 piece, screw type, adjustable cast iron valve boxes equal to Tyler model 6860-F.

B. Provide locking cover with:

1. Brass cotter pin or brass rod as a keeper

2. “WATER” plainly marked

C. Valve box shall be for a minimum of 8 feet of pipe cover

2.05 LIVE-TAPPING SLEEVE

A. Tapping Sleeve

1. Shell and lugs shall be stainless steel, ASTM A240, Type 304 and 304L.

2. Test plug shall be ¾” NPT Type 304 stainless steel with threads coated to prevent galling.

3. Bolts shall be 5/8” UNC rolled thread, stainless steel ASTM A194 Type 304.

4. Nuts shall be heavy hex stainless steel ASTM A194 Type 304, coated to prevent galling.

5. Washers shall be stainless steel ASTM A240 Type 304 and plastic lubricated.

6. Gaskets shall be SBR ASTM D2000 MAA610.

7. Outlet shall be stainless steel mechanical joint, ASTM A240 Type 304.

8. Shall have a minimum working pressure of 200 psi.

9. Shall be NSF/ANSI 61 certified.

10. Shall be equal to Romac Industries Inc Stainless Steel Tapping Sleeve (SST).

2.06 FIRE HYDRANTS

A. Conform to AWWA C502.

B. Supply fire hydrants equipped with the following:

1. An arrow cast on the hydrant showing the direction of opening as counter clockwise.

2. Two National Standard 2 ½-inch hose nozzles and one 4 ½-inch pumper nozzle.

3. Traffic flange

4. Weep holes to allow the hydrant to drain.

5. Minimum 4 ¼-inch hydrant valve opening capable of opening against water pressure.

6. Minimum hydrant length of 8 ½ feet, as measured from the ground line to the bottom of the trench carrying the connection pipe or as indicated on the plans.

C. When a hydrant manufacturer and model is specified in the bid schedule, that exact unit must be supplied in order to maintain compatibility with the existing hydrants on the system. Provide hydrants equal to Waterous Pacer (AFC) WB 67-250 Traffic Model.

D. Provide heavy-duty red and white striped 5-foot x 3/8-inch diameter spring-equipped fiberglass hydrant marker with top-mounted flag and mounting tab shall be supplied for each hydrant that is installed.

2.07 WARNING TAPE

A. Supply warning tape that is a minimum of 2 inches wide, blue or striped blue, and have printing that warns of a water line below.

2.08 TRACER WIRE AND BOX

A. Wire: Provide #10 AWG jacketed solid copper wire with 30 mil HDPE coating rated for direct bury or #12 AWG extra-high-strength copper-clad steel tracing wire, insulated with 45 mil HDPE, equal to Copperhead #12 (EHS-CCS) tracing Wire, or Trace Safe #19 AWG, tin coated CU, SOL, 300V, with Blue 32 mil HDPE jacket, wove UOM:FT, manufactured by NEPTCO or equal

B. Grounding Rod: drive in magnesium grounding rod (minimum of 1.5 lbs.) with a minimum of 20ft of #12 HDPE insulated copper clad steel wire. PRO-TRACE approved equal.

C. Box:

1. At hydrant: Cobra copperhead access point wire with ground rod.

2. Non-hydrant location: Rhino TriView Ultimate Locate Post or approved equal.

D. Splice Kit: DryCon direct bury lug wire connector or approved equal.

2.09 WATER TESTING LAB

A. Use a state certified lab.

PART 3 – EXECUTION

3.01 WATER MAIN INSTALLATION

A. Engineer to provide stakes in accordance with Section 01720.

B. Install water mains and appurtenances in the locations and of the sizes and materials shown on the drawings and bid schedule.

C. Refer to Section 02315 for excavation, trenching, bedding, and backfill requirements and for minimum separation distances.

D. Install pipe with a minimum bury depth of 8 feet, measured from finished grade, unless otherwise noted on the plans.

E. PVC pipe shall be installed in accordance with manufacturer's recommendations.

F. Bending/deflection of PVC pipe shall not exceed manufacturer's recommendations.

G. PE Pipe Installation

1. HDPE Pipe Cold Bending:

    a. 50-feet if not near a fitting or joint.
    b. 100-feet if near a fitting or joint.
    c. Make necessary provisions to ensure that localized curvature is within the tolerances over the length of curve.
    d. For tighter curve requirements, use prefabricated HDPE fittings of the same DR and OD as the pipe.

2. Butt Fused Joints: Butt-fuse all HDPE joints, except as otherwise indicated.

    a. Strictly follow manufacturer's recommendations.
    b. Ensure that HDPE pipes are of the same grade and dimensions.
    c. Do not remove bead unless determined necessary. If bead is removed do not remove below pipe outside diameter.

H. PE to PVC or DI Transition

1. For new pipe connections to existing pipe, refer to plans for restraint requirements.

2. Restrain new PVC or DI within 50 feet of any PVC to PE or DI connection.

a. Alt: HDPE Butt Fused wall Anchor encased in concrete (4’ x 4’ x 8” min) near transition of PVC in locations approved by engineer.

3. MJ adapter and mechanical joint sleeve shall be installed in accordance with manufacturer recommendations.
    a. Install back-up ring and butt-fuse HDPE MJ Adapter fitting to end of PE pipe.
    b. Install mechanical joint sleeve on HDPE MJ adapter.
    c. Slide retaining gland onto PVC pipe and install PVC pipe in mechanical joint sleeve.

4. AquaGrip coupling shall be installed in accordance with manufacturer recommendations.

    a. Install AquaGrip coupling onto PE and PVC pipe. The pipe ends should be installed into the coupling as noted by the manufacturer.

        1. 3”-4” sizes: 3-3/4” from pipe end
        2. 6”-12” pipe: 6-1/4” from pipe end

    b. Tighten the bolts evenly working around the coupling. Contractor shall make sure the coupling ends are draw together evenly.
    c. For use with PVC and PE pipe, continue to tighten the bolts until the end parts contact each other on the coupling. If using ductile iron pipe, torque the bolts to 70-90 ft/lbs.

5. Mechanical joint sleeve and stainless steel stiffener for HDPE pipe shall be installed in accordance with manufacturer recommendations.

    a. Install stainless steel stiffener in end of PE pipe.
    b. Slide retaining gland onto PE pipe and install mechanical joint sleeve.
    c. Slide retaining gland onto PVC pipe and install PVC pipe in mechanical joint sleeve.

I. Install thrust restraint on all fittings and appurtenances including in-line valves and hydrant tees. Restrain all pipe joints within 25 feet. Contractor’s option:

1. Special Anchoring Retainer Glands:

    a. Install in accordance with manufacturer’s recommendations.
    b. Engineer may specify additional restraint be used for pipe sections near critical fittings.
    c. ASTM D2241 (SDR 26) must use transition gasket and install per manufacturer’s recommendations.

2. Joint Restraint

a. Ductile Iron: Install Gripper Gasket or equal in accordance with manufacturer's recommendations (shall only be used for pipe-to-pipe joint end restraint).

3. Joint Restraint Rodding:

a. Rod from hydrant tees to ears on the hydrant base elbow.
b. Rod from fitting to fitting.
c. Install tie bolts to connect tie rods, if required.
d. Install duc lugs where required to increase the width of the rodding.

3.02 TRACING WIRE INSTALLATION

A. Install with all PVC or PE pipe.

B. Wrap or tape tracing wire a minimum of three times around each pipe length or attach to pipe a minimum of three times per pipe length.

C. Make all splices with an underground, waterproof splice kit.

D. Provide riser boxes at hydrant locations and at maximum intervals of 500 feet between hydrants at Engineer-approved locations.

1. Install tracing wire between each tracing wire box in each direction of pipe.

2. Bring tracing wire a minimum of 18 inches above ground surface directly behind each hydrant or at Engineer approved location.

3. Install tracing wire at all points of connections to existing systems.

E. Tracer wire installation shall be performed in such a manner that allows proper access for connection of line tracing equipment and proper locating of wire without loss or deterioration of low frequency (512Hz) signal.

F. Grounding rod shall be buried at the same elevation as the utility.

3.03 WARNING TAPE INSTALLATION

A. Install warning tape in water main trench 2 feet below grade maintaining the same depth throughout.

3.04 GATE VALVE INSTALLATION

A. Refer to Section 02315 for excavation and backfill requirements.

B. Install valves at locations indicated on the plans.

C. Install suitable thrust restraints on all valves.

D. Support gate valves on a solid concrete block as shown on the plans.

E. Set valves plumb and provide with a valve box and gate valve adaptor.

F. Install the valve box upon the valve with the use of a gate valve adaptor.

G. Center the valve box over the valve with the box cover:

    1. Flush with finished grade elevation.

    2. Flush with the surfaced street.

    3. 3 inches below the level of an unimproved street.

3.05 HYDRANT INSTALLATION

A. Refer to Section 02315 for excavation and backfill requirements.

B. Install hydrant and auxiliary gate valve at the location indicated on the plans.

C. Connect auxiliary gate valve to tee using a 3-foot section of 6-inch C900 water main pipe unless noted otherwise on plans.

D. Connect hydrant to auxiliary gate valve using a 3-foot section of 6-inch C900 water main pipe.

E. Install suitable thrust restraint on tee, valve, and hydrant.

F. Set hydrant on a solid concrete block and restrain as shown on the plans.

G. Set hydrant with the traffic flange at an elevation of 1 to 3 inches above finished grade.

H. Stand hydrant plumb with the pumper nozzle toward the street.

I. Install suitable thrust restraint at the base of each hydrant as shown on the plans or detailed in these specifications.

    1. Do not obstruct proper operation of weep hole(s).

J. Place Class 1A or Class 1B aggregate, a minimum of 18 cubic feet per hydrant, from 18 inches below to 6 inches above the weep hole opening.

    1. Cover aggregate in geotextile.

2. Refer to Section 02315 – Excavation, Trenching & Backfill for gradation specifications.

K. Install hydrant markers on one of the bolts located on the side opposite of the flush nozzle of each hydrant.

3.06 PRESSURE AND LEAKAGE TESTING – PVC, PE and DI

A. Whenever practical, before backfill is fully placed or joints fully covered, test pipe for leaks in the presence of an IHS representative.

B. Furnish necessary material, equipment, and labor for testing including, but not limited to: water, pump, water storage vessel, piping, pressure gauge, valve, hydrant, and corporation stop.

1. Pressure gauge shall be liquid filled with 5 psi or less increments.

C. Test duration: 2 hours (PVC and DI), 1 hour (PE)

1. This time duration for PE is in addition to the required pipe expansion period.

D. Maximum length of test section: 1/2 mile (2,640-feet).

E. Testing Procedure

1. Slowly fill test section with water and expel air from mains.

2. Install corporation stops at high points to facilitate removal of air, if necessary.

a. Remove corporation stops and plug prior to pressure testing.

3. Verify all hydrant lead valves and main valves within the test section are open.

4. Place test section under constant pressure.

a. 1.5 times working pressure or 150 psi, whichever is greater.
b. Do not exceed 115% of pipe pressure rating at the lowest point in the test section.

5. If testing PE pipe, maintain test pressure for four (4) hours prior to test by adding water to allow for pipe expansion.

6. Begin testing: If pressure drops more than five (5) psi during the test, immediately re-pressurize the line to the original test pressure and continue test.

    a. Record amount of water required to re-pressurize the line.

7. At the end of the test, re-pressurize the line to the original test pressure.

    a. Record amount of water required to re-pressurize the line.

8. Add total amount of water required to re-pressurize the line during and at the end of the test and compare with the allowable leakage as calculated below.

    a. If leakage is greater than allowable leakage, test fails.

F. Allowable Leakage Determination – gallons per hour

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

L = Allowable Leakage (gph)
S = Total Length of Pipe Tested (ft)
D = Nominal Diameter of Pipe (in)
P = Test Pressure (psi)

Allowable Leakage Table values calculated using the preceding equation from ANSI/AWWA C600-10 effective November 1, 2010.

Allowable Leakage/1000 *feet*, L *gph*				
Pipe Diameter, D	P = 100 *psi*	P = 150 *psi*	P = 200 *psi*	P = 250 *psi*
4-*inch*	0.27	0.33	0.38	0.43
6-*inch*	0.41	0.50	0.57	0.74
8-*inch*	0.54	0.74	0.76	0.85
10-*inch*	0.68	0.83	0.96	1.07
12-*inch*	0.81	0.99	1.15	1.28

G. If PE test fails, a period of eight (8) hours must pass before attempting next test.

H. Repair, at no cost to owner, any section of the line that fails this test.

1. Retest all repaired sections of line, at no cost to owner, until pressure test is successfully completed.

3.07 TESTING OF TRACING WIRE

A. Test tracing wire for proper functioning using a conductive/inductive type locator in the presence of the Engineer.

B. Repair and retest, at no extra cost to the owner, any section of tracing wire that does not function properly.

3.08 DISINFECTION OF WATER MAIN AND FITTINGS

A. Disinfection shall conform to AWWA C651.

B. Obtain water at the site for disinfection.

C. Flushing chlorinated water in accordance with AWWA C651.

1. Waste flushed disinfection water in an environmentally safe manner. The method used is subject to the approval of the Engineer.

D. After disinfecting and flushing but before the water main is placed in service, collect and test water samples for bacteriological quality.

1. Sample in accordance with the Standard Methods for Examination of Water and Wastewater.

2. Take two consecutive tests, 24 hours apart.

3. Collect one sample from the new water main and one from each branch line near the end.

a. Additional samples may be required on extremely long mains.

4. Take samples to a state certified testing lab.

5. Permanent sampling taps may be required at the direction of the Engineer.

E. If initial disinfection fails to produce satisfactory bacteriological results, rechlorinate the mains and branch lines, flush and take new samples until satisfactory results are obtained.

1. Do not place main in service until the Engineer has received safe bacteriological results.

3.09 CONNECTIONS TO EXISTING DISTRIBUTION SYSTEMS

A. Shutoff of mains will not be permitted overnight, over weekends, or on federal holidays.

B. Coordinate system tie-in with the owner and/or operator of the existing utility a minimum of three working days before any connection is made.

C. Notify residents affected by the water shutoff of the time and day of shutoff a minimum of two working days in advance.

D. Start work when all the materials, equipment and labor are on site.

E. Clean all connection components with a chlorine solution prior to installation.

F. Once work on the connection has commenced, it shall proceed continuously without interruption, and as rapidly as possible until completed.

G. Visually inspect any joints not pressure tested for leakage.

1. Test under system pressure prior to backfilling

2. Test in the presence of the IHS representative.

3. Repair and retest any joint with leakage until no leakage is visible at no cost to the owner.

3.10 LIVE-TAPPED CONNECTIONS TO EXISTING DISTRIBUTION SYSTEMS

A. Install tapping sleeve onto the existing main in accordance with the manufacturer's recommendations. Install gate valve directly on tapping sleeve flange.

B. Maintain a minimum distance of 5 feet from existing water main joints.

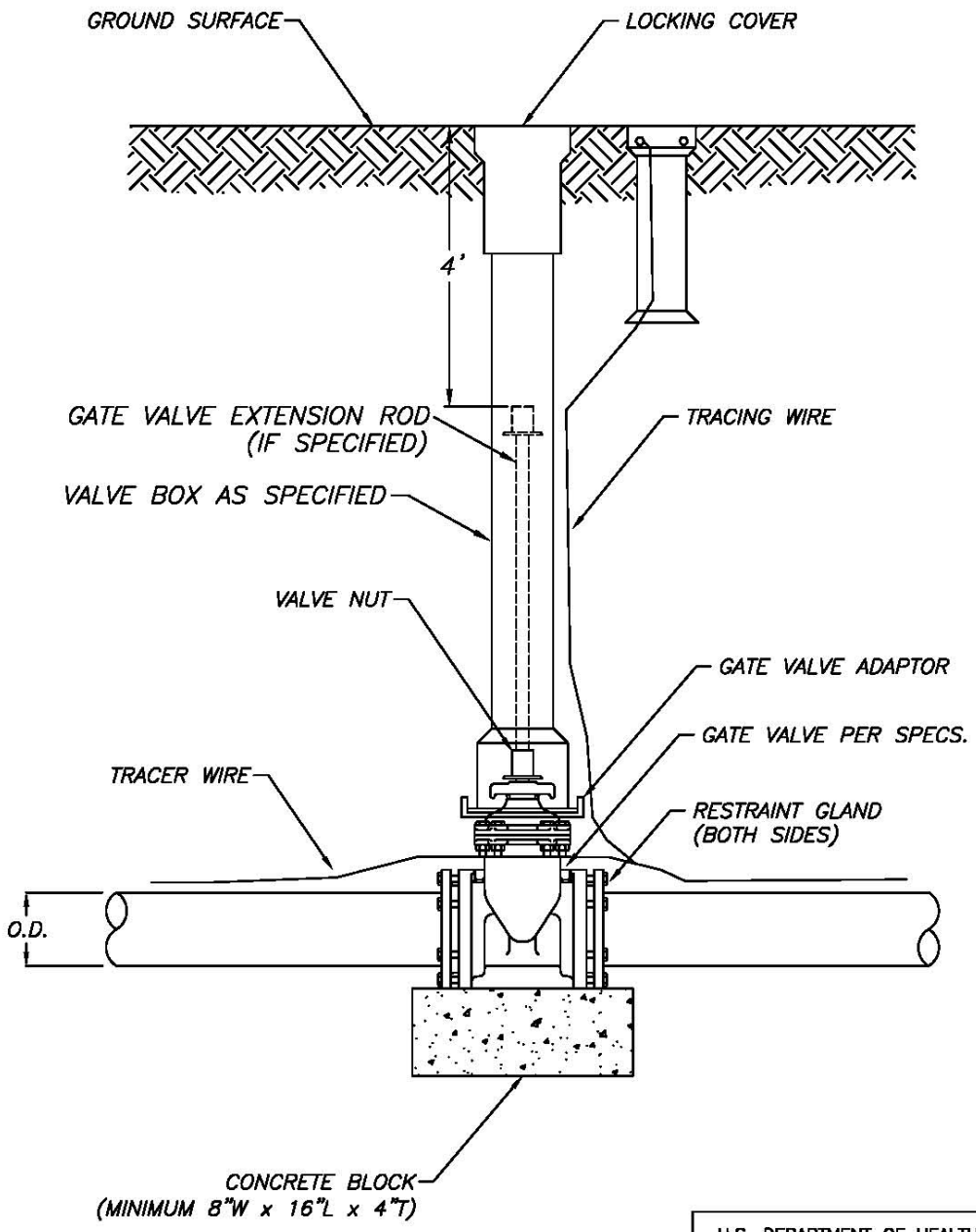
C. Live tap the existing main, allowing it to stay in operation during the connection process. Ensure cut biscuit is completely removed from the main.

D. Remove tapping equipment and close gate valve on tapping sleeve flange.

E. Connect new water main to valve and restrain.

F. Prior to bury of connection, allow Owner's representative to inspect the sleeve for leaks around the existing water main under system pressure. If leaks are found, fix and retest at no cost to Owner.

END OF SECTION



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

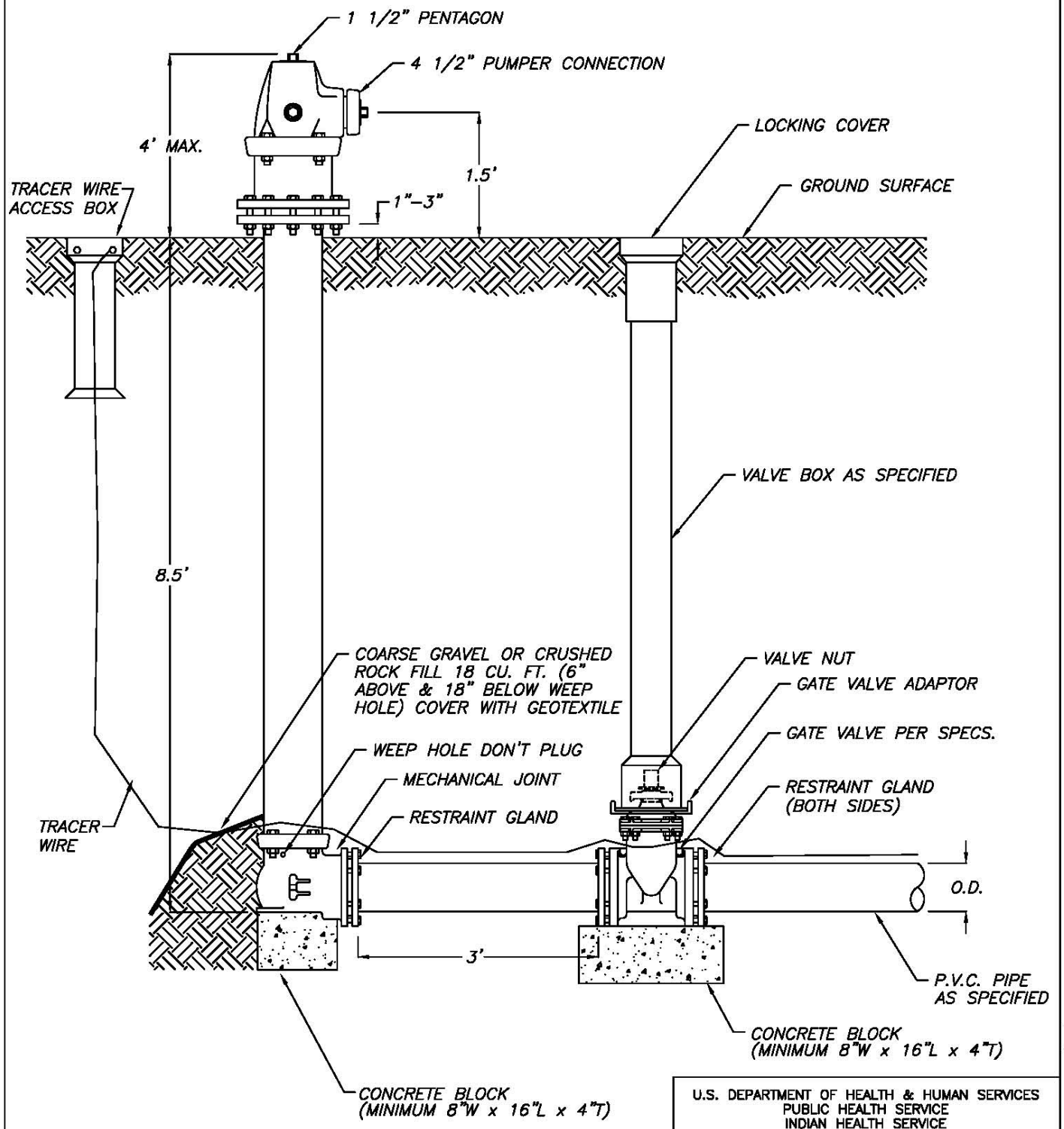
TITLE:

TYPICAL GATE VALVE W/BOX

FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121

DRAWN BY: P.M.	CHK'D BY: B.M.W.	DRAWING NO.
REV. DATE: 03-31-11	REV. DATE: 03-31-11	02510-1
		1 OF 2

I:\ACAD12\DETAILS\CSI-SPECS\2011\02510-1 03/31/11



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

TITLE:

TYPICAL HYDRANT & VALVE INSTALLATION

FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121

DRAWN BY:	CHK'D BY:	DRAWING NO.
P.M.	B.M.W.	02510-2
REV. DATE: 03-31-11	REV. DATE: 03-31-11	2 OF 2

I:\ACAD12\DETAILS\CSI-SPECS\2011\02510-2 03/31/11

SECTION 02511
WATER SERVICE LINES

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes the installation of water service lines complete with saddles, corporation stops, curb stops, curb boxes, and other appurtenances for community water systems.

B. Contractor shall not connect to any existing lead service lines. Contractor shall notify the Project Engineer and Tribal Representative of the location of the lead service line. Any additional work required will be authorized in writing by the Project Engineer and the Owner.

1.02 RELATED WORK (as applicable)

A. Section 01780 – Closeout Submittals

B. Section 02315 – Excavation, Trenching and Backfill

C. Section 02401 – Directional Drilling

D. Section 02510 – Water Distribution

1.03 REFERENCES

A. AWWA C901 – Polyethylene (PE) Pressure Pipe and Tubing, 1/2 Inch through 3 Inch, For Water Service.

B. ASTM D2241 – Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)

C. ASTM B 88 – Standard Specification for Seamless Copper Water Tube.

D. ASTM F876 – Standard Specification for Crosslinked Polyethylene (PEX) Tubing

E. ASTM F877 – Standard Specification for Crosslinked Polyethylene (PEX) Hot- and Cold- Water Distribution Systems

F. NSF/ANSI 61 – Drinking Water System Components – Health Effects

G. NSF/ANSI 372 – Drinking Water System Components – Lead Content

1.04 SUBMITTALS

A. Water Service Line

B. Fittings

C. Corporation Stops

D. Saddles, Tees or Tapped Couplings

E. Curb Stops and Boxes with Stationary Rod

F. Tracing Wire, Box, and Splice Materials

1.05 ACCEPTANCE

A. Work covered by this section will not be accepted until satisfactory backfilling and testing is complete.

PART 2 - PRODUCTS

2.01 WATER SERVICE LINE AND APPURTENANCES

A. Certification for potable-water service:

1. Minnesota and Wisconsin: Conform to NSF/ANSI 61

B. Polyethylene Pipe

1. CTS size pipe with a minimum pressure rating of 160 psi. Pipe shall conform to AWWA C901.

2. CTS size pipe: DR 9.

3. High density, ultra high molecular weight polyethylene pipe compound PE-3406, 3408, 3608, or 4710, suitable for use with potable water.

4. Stainless steel stiffeners on compression couplings made for DR 9 pipe.

5. Equal to Performance Pipe Driscoplex 5100 Ultra-Line water service pipe or Excel.

C. Saddles

1. PVC ASTM D2241 SDR 26 Pipe: Stainless steel double bolt saddle clamps equal to Cascade style CSC2 or Ford style FS202.

1. PVC C900 Pipe: Stainless steel single bolt saddle clamps equal to Ford style FS101 or Smith-Blair 315 or 371.

2. PE Pipe: Stainless steel service saddle with spring washers equal to ROMAC 306-H.

3. Threading shall match corporation stops.

E. Corporation Stops

1. Brass, meeting NSF 61 and NSF 372, with compression connection such as pack joint, unless otherwise specified.

2. Connections shall be nonflare for all pipe types. Threading shall match saddles.

3. CTS PE pipe and copper service line: A.Y. McDonald 74704 – 22, Ford FB1000-4, or Mueller P-15028.

4. IPS PE Service line: A.Y. McDonald 74704 – 22, Ford FB1001-4, Mueller P– 15028, or equal.

F. Curb Stops

1. Brass, meeting NSF 61 and NSF 372, with compression connection such as pack joint, unless otherwise specified.

2. Connections shall be nonflare for all pipe types.

3. Minneapolis pattern curb stops.

4. CTS PE service line and copper service line: Mueller No. P – 15155N, Ford B44 – 444M, A.Y. McDonald 76104 – 22, or equal.

G. Curb Boxes with Stationary Rod

1. Cast iron Minneapolis pattern, 8 feet in length with stationary rod.

2. 1-inch service line: Mueller H – 10302, Ford EM2 style or equal.

3. Curb box lids: Mueller No. 89376, A.Y. McDonald 5607L or equal.

2.02 TRANSITION FITTINGS

A. Shall be compressive connections

B. Equal to A.Y. McDonald Ranger Fitting

2.03 TRACER WIRE AND BOX

A. Wire: Provide #10 AWG jacketed solid copper wire, with 30 mil HDPE coating rated for direct bury, #12 AWG extra-high-strength copper-clad steel tracing wire, insulated with 45 mil HDPE, equal to Copperhead #12 (EHS-CCS) Tracing Wire., or Trace Safe #19 AWG, tin coated CU, SOL, 300V, with Blue 32 mil HDPE jacket, wove UOM:FT, manufactured by NEPTCO or equal.

B. Box: Tracer wire access box with ABS stand and cast iron top and lockable lid. Valvco Tracer Wire Access Box, SnakePit Roadway Box, or equal.

C. Splice Kit: DryCon direct bury lug wire connector or approved equal.

PART 3 - EXECUTION

3.01 WATER SERVICE LINE AND APPURTENANCES

A. Install water service line of the size and material indicated on the Bid Schedule.

B. Install at the locations shown on the drawings or as directed by the Engineer.

C. Refer to Section 02315 for excavation, trenching, backfilling, compaction, separation distance, and insulation requirements.

D. Install service line:

1. From the main to 10ft before each house connection. Notify engineer immediately if existing service line is lead or of poor quality requiring further replacement.

2. With a minimum bury depth of 8 feet

3. Splices are not allowed in the service line without the written permission of the Engineer.

4. Use compression couplings for all connections.

E. Install saddle at each corporation stop tapping location per manufacturer’s instructions.

1. All connections shall be live tapped through the corporation stop with an approved tapping machine, unless specified below.

2. Dry taps are allowed only during new water main installation, before main disinfection and pressure testing.

3. All tapping locations shall be a minimum 5 feet from joints.

F. Curb stops and boxes with stationary rod

1. Set curb stops on a solid concrete block 4 inches thick by 8 inches wide by 16 inches long placed on undisturbed earth.

2. Install stationary rod on curb stop.

3. Set the top of curb boxes flush with finished grade elevation.

4. Support curb box during the backfilling operation to prevent movement and maintain a vertical position.

G. Install tracing wire with all pipe.

1. Wrap or tape tracing wire to pipe a minimum of every 20 feet.

2. Make any splices with an underground, waterproof splice kit.

3. Bring tracing wire up along outside of curb stop box and terminate in tracer wire box.

4. Termination of the tracing wire:

a. Near home: Terminate in tracing wire box within 3 feet of the home.
b. At service line corp stop: Terminate and wrap around corp stop (do not connect to water main wire).

3.02 UTILITY CONFLICTS

A. Refer to Section 02315.

3.03 TESTING

A. Turn on each corporation stop and apply main pressure to the service line in the presence of the IHS representative before backfilling.

1. Option: If a new water main is pressure tested, test the water service lines at the same time and pressure as the water main. Provisions shall be made to prevent pressurizing of interior plumbing.

B. Fittings at curb stop and transition fittings to existing service line shall be visually tested under system pressure.

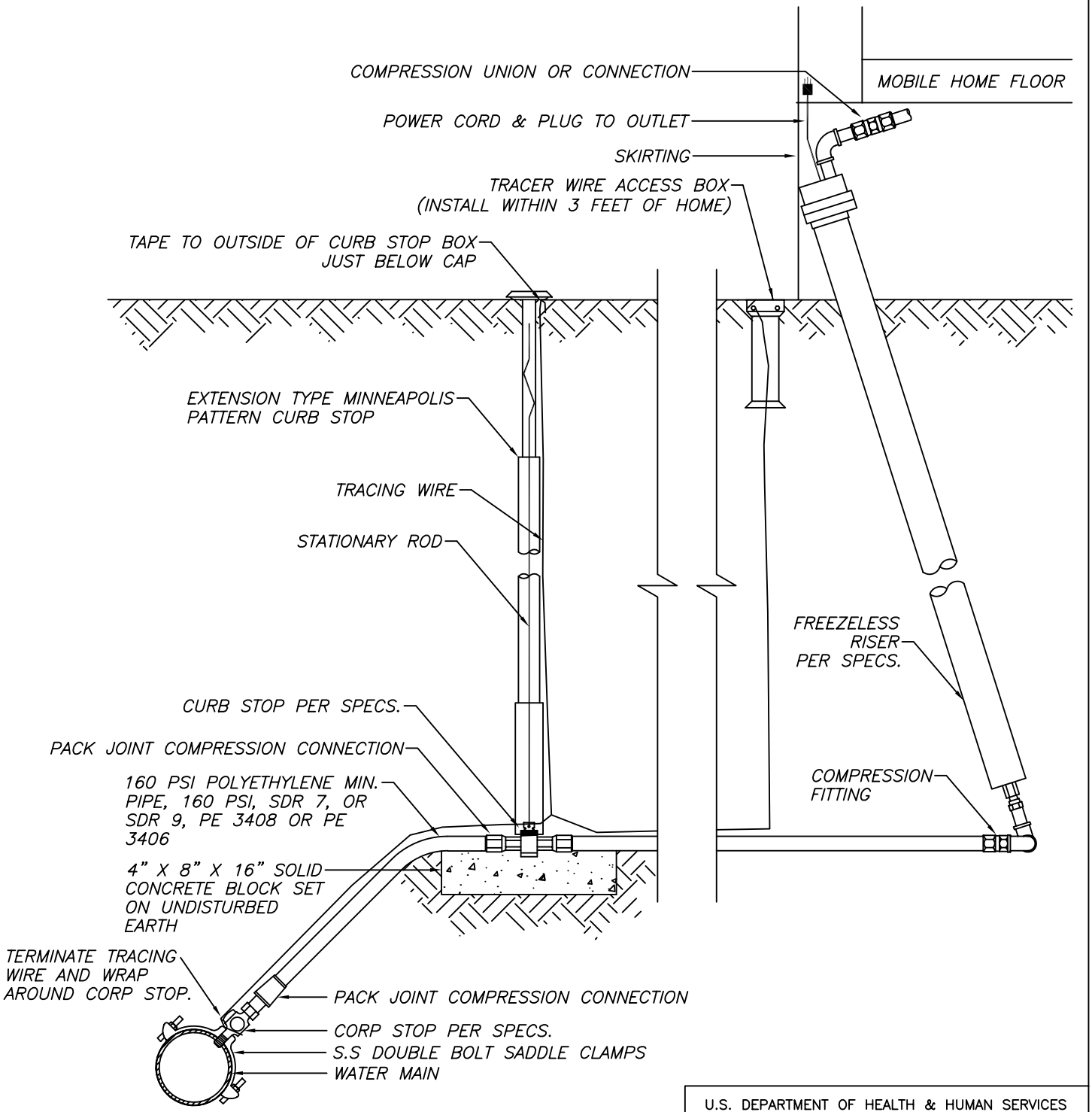
C. Repair all visible leaks and retest the line until test is successfully completed at no cost to the owner.

D. Test tracing wire for proper functioning using a conductive/inductive type locator in the presence of the Engineer and/or Owner Representative. Repair and retest, at no additional cost to owner, any section of tracing wire that does not function properly.

3.04 AS-BUILTS

A. Provide as-built information on each system in accordance with Section 01780. Use standard forms (if supplied) by the Engineer.

END OF SECTION



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

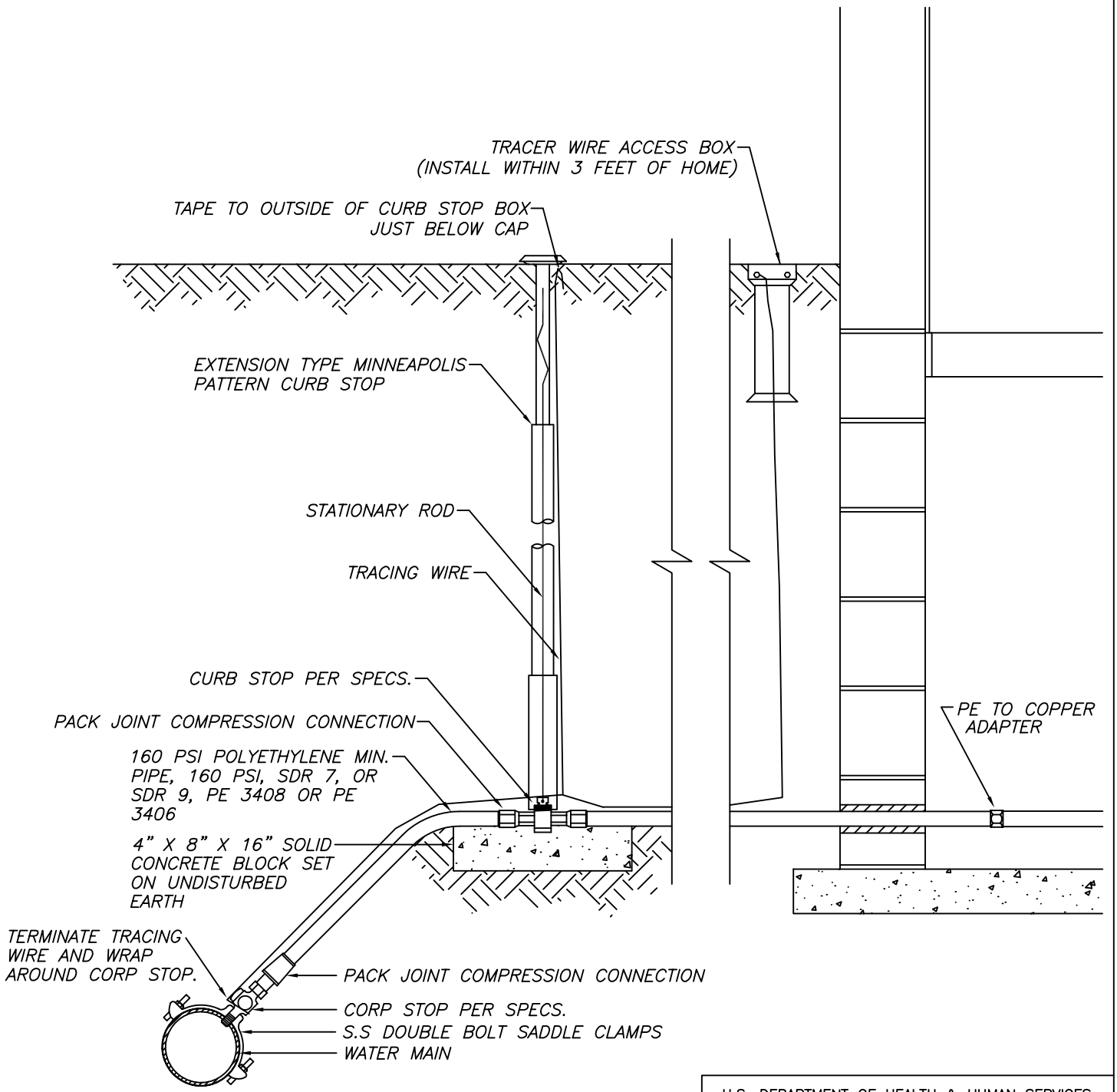
TITLE:

WATER SERVICE CONNECTION FOR HOMES WITHOUT BASEMENTS

FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121

DRAWN BY:	CHK'D BY:	DRAWING NO.
P.M.	N.C.K.	02511-1
REV. DATE: 03-06-12	REV. DATE: 03-06-12	1 OF 4

I:\ACAD12\DETAILS\CSI-SPECS\2012\02511-1 03/06/12



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

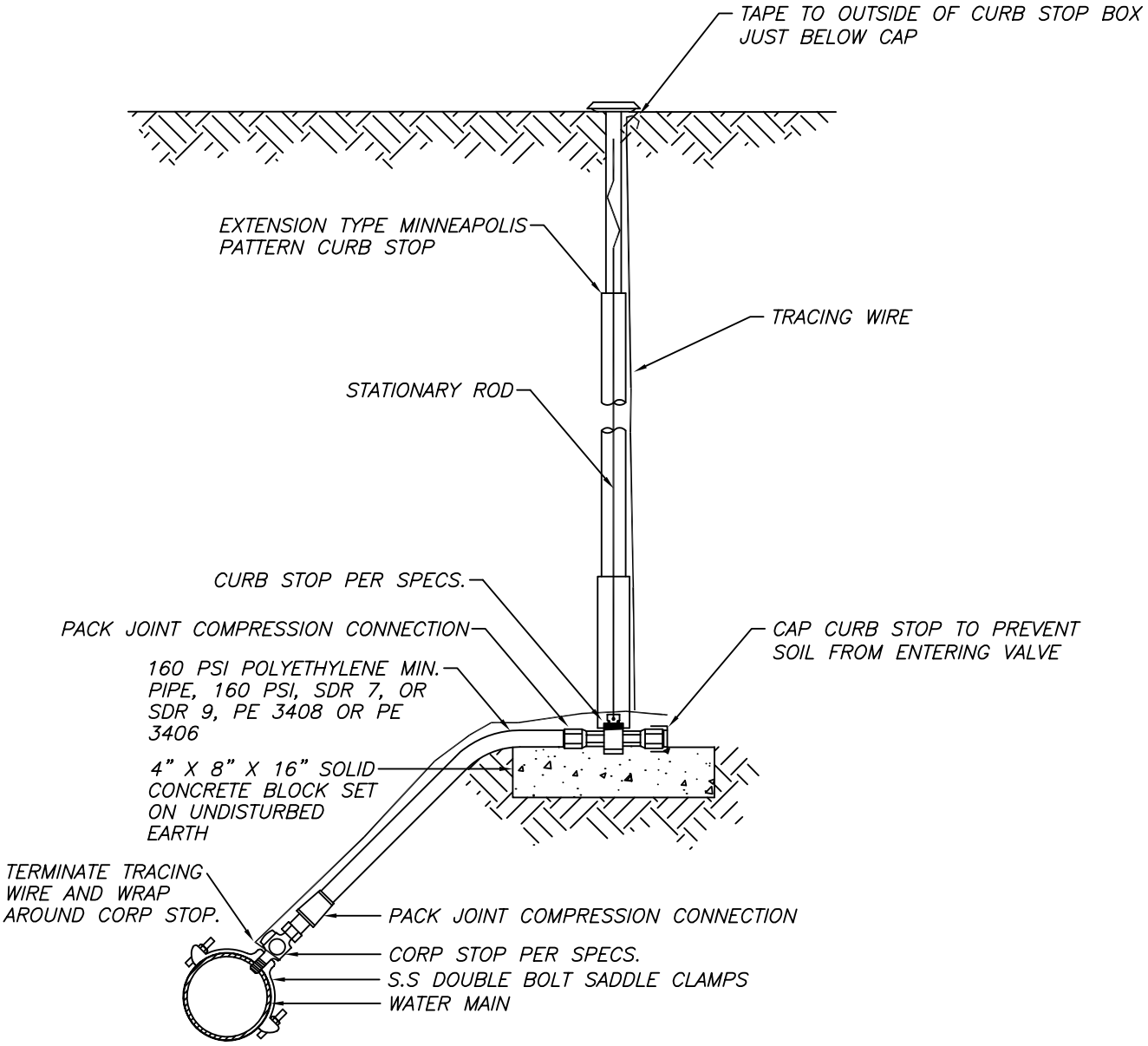
TITLE:

WATER SERVICE CONNECTION FOR HOMES WITH BASEMENTS

FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121

DRAWN BY:	CHK'D BY:	DRAWING NO.
P.M.	N.C.K.	02511-2
REV. DATE: 03-06-12	REV. DATE: 03-06-12	2 OF 4

I:\ACAD12\DETAILS\CSI-SPECS\2012\02511-2 03/06/12



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

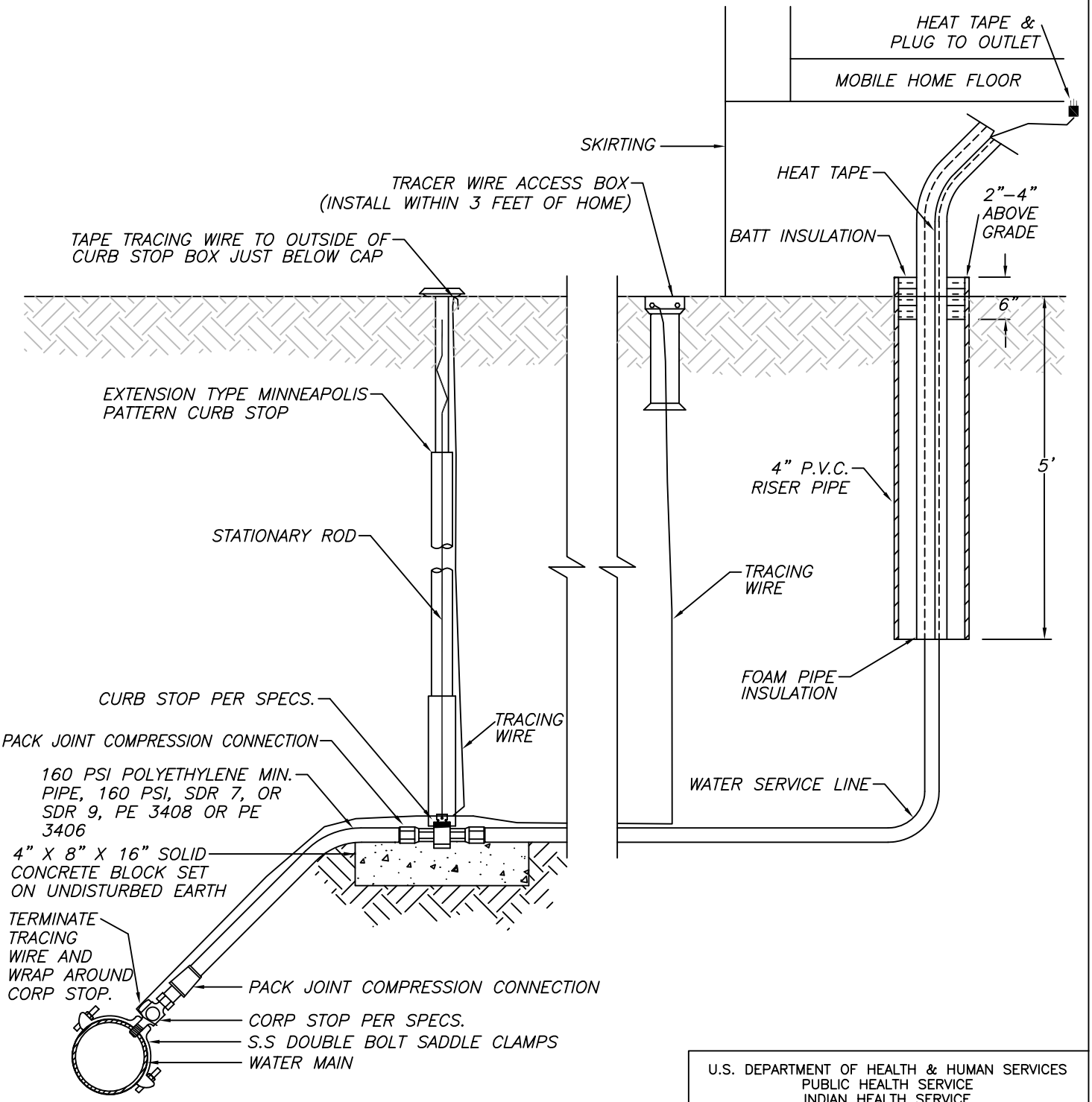
TITLE:

WATER SERVICE CONNECTION MAIN TO PROPERTY LINE

FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121

DRAWN BY:	CHK'D BY:	DRAWING NO.
P.M.	N.C.K.	02511-3
REV. DATE: 03-06-12	REV. DATE: 03-06-12	3 OF 4

I:\ACAD12\DETAILS\CSI-SPECS\2012\02511-3 03/06/12



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

TITLE:

WATER SERVICE CONNECTION FOR HOMES WITHOUT BASEMENTS

FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86–121

DRAWN BY:	CHK'D BY:	DRAWING NO.
P.M.	N.C.K.	02511-4
REV. DATE: 03–06–12	REV. DATE: 03–06–12	4 OF 4

I:\ACAD12\DETAILS\CSI–SPECS\2012\02511–4 03/06/12

SECTION 02530
SANITARY SEWER

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes the construction of sanitary sewer mains, sewer main cleanouts, sewer line testing, and connection to existing sewage collection systems.

1.02 RELATED WORK (AS APPLICABLE)

A. Section 02310 – Grading

B. Section 02315 – Excavation, Trenching and Backfill

C. Section 02531 – Sewer Service Lines

D. Section 02532 – Sanitary Sewer Manholes

E. Section 03300 – Cast-in-Place Concrete (Non Structural)

1.03 REFERENCES

A. ANSI/AWWA C110 / A21.10 – Ductile-Iron and Gray-Iron Fittings, 3 Inch Through 48 Inch, for Water and Other Liquids

B. ANSI / AWWA C111 / A21.11 – Rubber Gasket Joints for Ductile Iron and Gray-Iron Pressure Pipe and Fittings

C. ANSI / AWWA C151 / A21.51 – Ductile Iron Pipe, Centrifugally Cast, for Water or Other Liquids

D. ANSI / AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 Inch Through 60 Inch

E. ASTM D 1248 – Polyethylene Plastics Molding and Extrusion Materials

F. ASTM D 2122 – Determining Dimensions of Thermoplastic Pipe and Fittings

G. ASTM D 3034 – Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings

H. ASTM D 3212 – Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

I. ASTM F 477 – Elastomeric Seals (Gaskets) for Joining Plastic Pipe

J. ASTM F 1417 – Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air

1.04 SUBMITTALS

A. Sewer Main Pipe

1.05 ACCEPTANCE

A. The Work will not be accepted until satisfactory pipe backfilling, testing, and cleanup is complete.

B. If the Work does not meet the specified requirements of this section and related sections, remove, replace, and retest at no additional cost.

PART 2 – PRODUCTS

2.01 SEWER PIPE MATERIALS

A. Polyvinyl Chloride (PVC) Sewer Pipe

1. Conform to ASTM D 3034 or ANSI/AWWA C900.

2. Pipe Class: SDR35/SDR26 (refer to bid schedule)

3. Bell ended joints conforming to ASTM D 3212

4. Elastomeric gaskets conforming to ASTM F 477

5. Each length of pipe shall be clearly marked with the following:

a. Manufacturer
b. Nominal Pipe Size
c. PVC Cell Classification
d. Type PSM PVC Sewer Pipe
e. ASTM Designation
f. Pipe Class

B. Ductile Iron Sewer Pipe

1. Conform to AWWA C151.

2. Pipe Thickness Class: 50

3. Exterior Coating: asphaltic coating, 1 mil thick, minimum

4. Rubber gasket, push on joints conforming to ASTM C111

5. Interior Lining: Polyethylene meeting ASTM D 1248, fusion bonded

6. Each length of pipe shall be clearly marked with the following:

    a. Manufacturer
    b. Nominal Pipe Size
    c. ASTM Designation
    d. Pipe Class

2.02 SEWER APPURTENANCES

A. Manholes: Refer to Section 02531.

B. Sewer Main Cleanouts

1. Riser Pipe:

    a. Conform to ASTM D 3034 or ANSI/AWWA C900
    b. Pipe Class: SDR35/SDR26 or C900 PVC (refer to bid schedule)
    c. Elastomeric gasket joints conforming to ASTM D 3212
    d. 6-Inch diameter unless otherwise specified
    e. 6-Inch gasketed air-tight plug

2. Frost Sleeve:

    a. Pipe Class: SDR 35 or Schedule 40 PVC.
    b. Diameter: 2 inches bigger than cleanout diameter
    c. Length: 4 feet or the depth of cleanout riser pipe – whichever is less

3. Concrete Collar: Cast-In-Place - Refer to Section 03300 for concrete requirements

4. Frame and Cover:

    a. Heavy duty slab type
    b. Machined bearing surfaces
    c. Neoprene gasket seal
    d. Lockable with stainless steel cap screws
    e. Neenah R-6461-CH or approved equal

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify that pipe sizes are as indicated on the plans.

B. Verify that all products are in new condition.

C. Inspect pipe and fittings for defects.

D. Remove materials from the site that are defective, damaged, used, unsound, or that otherwise do not meet the specifications.

3.02 UTILITY CONFLICTS

A. Refer to Section 02315.

3.03 SEWER MAIN INSTALLATION

A. Staking: Provided by the Engineer in accordance with Section 01720.

B. Pipe Installation:

1. Adhere to the excavation, trenching and backfill requirements of Section 02315.

2. Install pipe and fittings in accordance with these specifications and the manufacturer's recommendations.

3. Lay pipe of the size and to the line and grade indicated on the drawings.

    a. Ensure that the vertical alignment does not deviate from 0.05% or 0.1 feet (whichever is less) from the design grade as shown on the plans.

4. Install pipe beginning at the lowest elevation and proceed to the highest elevation.

5. Point the spigot end in the direction of flow.

6. Protect pipe interior from soil, trench water and foreign objects.

7. Temporarily plug the exposed end of pipes whenever the trench is left unattended or when trench conditions necessitate.

C. Connection to Existing Manholes: Make connection as directed by the Engineer with the manhole floor reshaped to provide a channel in conformance with Section 02532 – Sanitary Sewer Manholes.

3.04 SEWER MAIN CLEANOUTS

A. Furnish and install at the locations indicated on the plans.

B. Construct as shown on the standard detail drawing.

3.05 SEWER MAIN TESTING

A. General:

1. Furnish all materials, labor and equipment to perform the required tests.

2. Perform all tests in the presence of the Engineer or his/her representative.

3. Repair all sections of sewer not passing the tests, at the discretion of the Engineer, in accordance with Engineer approved methods, at no cost to the Project.

4. Retest any sewer section that has failed a test or a section that has been repaired, at the discretion of the Engineer, in accordance with Engineer approved methods, until tests pass the requirements, at no cost to the Project.

B. Post-Installation CCTV Inspection

1. Following installation of the sewer main, complete a CCTV inspection of the main.

2. CCTV inspection shall be completed by an independent 3rd party company. CCTV completed with contractor's in-house equipment and personnel will not be accepted.

3. Prior to completion of CCTV inspection, contractor shall run clean water through the sewer main in order for vertical alignment issues to be identified by ponding water in the mains.

4. This inspection shall stop at the sewer service wyes and view into the service lateral.

5. Provide separate video files for each manhole-to-manhole section.

6. The starting and ending manhole and distance from the starting manhole shall be identified on the video so that any problem areas can be easily located.

7. Provide an electronic PDF report summarizing the findings of the CCTV inspection.

    a. At a minimum, the report shall include a summary page for each section of main inspected indicating the location of problem areas with a reference to the corresponding time stamp on the video file. The summary page shall also show the measured distance to each wye.

8. Provide videos and reports to the Engineer as soon as possible following the CCTV inspection. Engineer will review the CCTV report and videos and inform the contractor of any sewer main locations that do not meet the specifications.

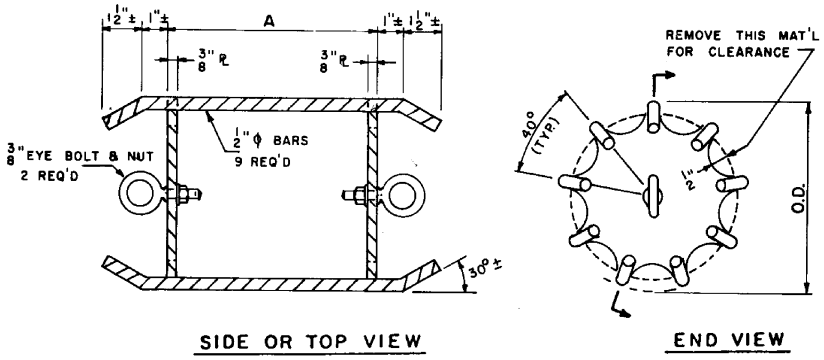
9. Repair any locations found to be out of compliance with specifications at no additional cost to the Owner. Complete additional CCTV inspections of repaired sections and provide video files to Engineer for review.

C. Deflection Test

1. Perform the deflection test on all sewer main.

2. Testing Device:

    a. Use a mandrel, or some other Engineer approved rigid, cylindrical object of proper dimensions.



SDR 35 & 26 Sewer Pipe Dimensions:

Nominal Pipe Size (inches)	Min. Length (A) (inches)	95% Base Diameter SDR-35	92.5% Base Diameter SDR-35	95% Base Diameter SDR-26	92.5% Base Diameter SDR-26

4	4	3.68	3.58	3.61	3.52
6	6	5.45	5.31	5.33	5.19
8	8	7.28	7.09	7.12	6.93
10	10	9.08	8.84	8.87	8.64
12	12	10.79	10.51	10.54	10.27
15	15	13.20	12.86	12.90	12.56

b. Tests Within 30 Days of Installation: Mandrel outside diameter shall be equal to 95% of the sewer main base inside diameter (see table above, ASTM D-3034, SDR 35-26 Pipe Standards).

c. Tests Beyond 30 Days of Installation: Mandrel outside diameter shall be equal to 92.5% of the sewer main base inside diameter (see table above, ASTM D-3034, SDR 35-26 Pipe Standards).

3. To be considered a successful test, the mandrel shall pass through the entire length of sewer main in one smooth continuous pass without additional mechanical force.

D. Air Test

1. All gravity sewers and appurtenances shall successfully pass a low-pressure air test prior to acceptance.

2. Preparation: Clean all sewer pipe before the test.

3. Testing Equipment:

a. Plugs: mechanical or pneumatic type. One shall have an inlet tap for adding air to the sewer line.
b. Air Compressor
c. Main Shutoff Valve
d. Pressure Relief Valve: 9 psig relief
e. Input Pressure Gauge
f. Continuous Monitoring Pressure Gauge: Minimum divisions of 0.10 psi with an accuracy of +/- 0.04 psi.

4. Testing Procedure: Test according to the Time-Pressure Drop Method outlined in ASTM F 1417.
a. Plug all pipe outlets with test plugs capable of holding under the test pressures.
b. Install plugs and brace as necessary to ensure that the plugs will not blow out when the main is under pressure.
c. Inspect sewer main pipe integrity in the area that will not be tested due to the plug, and report any possible defects to the Engineer.

d. Ensure test apparatus and gauges are accessible to Owner's representative without entry into the manhole.
e. Pressurize Pipe:

(1) Introduce air slowly until air pressure reaches 4.0 psig greater than any backpressure resulting from groundwater over the pipe, where the pressure equals:

4.0 psi + (0.43 psi X Depth of Groundwater over Pipe Invert in Feet)

(2) Never exceed a pressure of 9.0 psig.

f. Do not enter manhole once pipe is pressurized.
g. Maintain pressure for at least two (2) minutes.
h. Disconnect air supply after the initial two (2) minutes have passed.
i. Adjust pressure to test pressure.

(1) Decrease air pressure to 3.5 psig greater than any pressure resulting from groundwater over the pipe, where the test pressure equals:

3.5 psi + (0.43 psi X Depth of Groundwater over Pipe Invert in Feet)

j. Determine elapsed time for the pressure to drop 1.0 psig and use Table 1, or determine the elapsed time for the pressure to drop 0.5 psig from the test pressure and use Table 2.

TABLE 1: Minimum Specified Time Required for a 1.0 psig Pressure Drop

Pipe Dia. (in.)	Min. Time (min:sec)	100 Feet	150 Feet	200 Feet	250 Feet	300 Feet	350 Feet	400 Feet	Time for Longer Pipe Lengths (Seconds)
4	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46	.380*L
6	5:40	5:40	5:40	5:40	5:40	5:40	5:40	5:42	.854*L
8	7:34	7:34	7:34	7:34	7:34	7:36	8:52	10:08	1.520*L
10	9:26	9:26	9:26	9:26	9:53	11:52	13:51	15:49	2.374*L
12	11:20	11:20	11:20	11:24	14:15	17:05	19:56	22:47	3.418*L
15	14:10	14:10	14:10	17:48	22:15	26:42	31:09	35:36	5.342*L
18	17:00	17:00	19:13	25:38	32:03	38:27	44:52	51:16	7.692*L

TABLE 2: Minimum Specified Time Required for a 0.5 psig Pressure Drop

Pipe Dia. (in.)	Min. Time (min:sec)	100 Feet	150 Feet	200 Feet	250 Feet	300 Feet	350 Feet	400 Feet	Time for Longer Pipe Lengths (Seconds)
4	1:53	1:53	1:53	1:53	1:53	1:53	1:53	1:53	.190*L
6	2:50	2:50	2:50	2:50	2:50	2:50	2:50	2:51	.427*L
8	3:47	3:47	3:47	3:47	3:47	3:48	4:26	5:04	.760*L
10	4:43	4:43	4:43	4:43	4:57	5:56	6:55	7:54	1.187*L
12	5:40	5:40	5:40	5:42	7:08	8:33	9:58	11:24	1.709*L
15	7:05	7:05	7:05	8:54	11:08	13:21	15:35	17:48	2.671*L
18	8:30	8:30	9:37	12:49	16:01	19:14	22:26	25:38	3.846*L

k. The time interval recorded in the field must be greater than the time listed for the length and pipe diameter being tested and for the pressure drop recorded.
l. If the pressure drop time is less than that in the appropriate table, for the pipe diameter and the length being tested, the test shall be considered failed.
m. No variance in the time allowances shall be granted for the fact that sewer service lines have been installed.

5. In lieu of low-pressure air testing of the sewer system, the Engineer may approve a hydrostatic exfiltration testing procedure to test the lines.

    a. Approval of the procedure, equipment and basis of acceptance for this testing method will be sent in writing by the Engineer prior to the initiation of testing.

END OF SECTION

SECTION 02531
SANITARY SEWER SERVICE LINES

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes sewer service lines, connection to sewer mains (wyes), service cleanouts, and abandonment of existing septic tanks.

1.02 RELATED WORK (as applicable)

A. Section 01780 – Closeout Submittals

B. Section 02310 – Grading

C. Section 02315 – Excavation, Trenching and Backfill

D. Section 02401 – Directional Drilling

E. Section 02530 – Sanitary Sewer

1.03 REFERENCES

A. ASTM D 3034 – Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings

B. ASTM D 3212 – Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

C. ASTM F 477 – Elastomeric Seals (Gaskets) for Joining Plastic Pipe

D. ASTM F1336 – PVC Gasketed Sewer Fittings

1.04 SUBMITTALS

A. Sewer Service Line Pipe and Fittings

B. Sewer Wyes and Saddles

C. Tracing Wire, Box, and Splice Materials

1.05 ACCEPTANCE

A. The work will not be accepted until satisfactory pipe backfilling and clean up is complete.
B. If the work does not meet the specified requirements of this section and related sections, remove, and replace at no additional cost.

PART 2 - PRODUCTS

2.01 POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

A. Conform to ASTM D 3034

B. Pipe Class: SDR 35

C. Bell ended joints conforming to ASTM D 3212

D. Elastomeric gaskets conforming to ASTM F 477

E. 4-inch nominal diameter unless otherwise indicated.

F. Each length of pipe shall be clearly marked with the following:

1. Manufacturer
2. Nominal Pipe Size
3. PVC Cell Classification
4. Type PSM PVC Sewer Pipe
5. ASTM Designation
6. Pipe Class

2.02 SEWER WYES

A. Connection to New Sewers:

1. In-line fittings conforming to ASTM F1336.

B. Connection to Existing Sewers:

1. PVC Sewer Mains:

a. PVC conforming to ASTM 3034, watertight with gasket.
b. Two stainless steel bands and connectors for securing to the main.
c. GPK Products, Fargo, ND, or approved equal.

2. Asbestos-Cement, Concrete, or Vitrified Clay Sewers: Neoprene rubber boot with stainless steel bands for concrete, asbestos-cement or vitrified clay sewer main.

a. Submit other saddle wyes to the Engineer for review and approval.

2.03 CLEANOUTS AND FROST SLEEVES

A. Cleanout:

1. SDR 35 PVC riser pipe conforming to ASTM D 1785.

2. SDR 35 PVC pipe and fittings conforming to ASTM D 3034.

3. Inspection port plug shall be Sch. 40 PVC and threaded if installed above ground. Plug shall be cast iron and threaded if installed below ground.

B. Frost sleeve (WI and MI only):

1. Schedule 40 PVC or SDR 35 PVC

2. Cap: Slip on or threaded

3. Diameter: 2-inches bigger than cleanout diameter or sewer service line diameter

C. Minimum length: from ground surface to elbow

2.04 TRACER WIRE AND BOX

A. Wire: Provide #10 AWG jacketed solid copper wire, with 30 mil HDPE coating rated for direct bury or #12 AWG extra-high-strength copper-clad steel tracing wire, insulated with 45 mil HDPE, equal to Copperhead #12 (EHS-CCS) Tracing Wire, or Trace Safe #19 AWG, tin coated CU, SOL, 300V, with Blue 32 mil HDPE jacket, wove UOM:FT, manufactured by NEPTCO or equal.

B. Box: Tracer wire access box with ABS stand and cast iron top and lockable lid. Valvco Tracer Wire Access Box, SnakePit Roadway Box, Rhino Triview, or equal.

C. Splice Kit: Provide underground waterproof splice materials.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that dimensions and elevations are as indicated on the Drawings.

B. Verify that all products are in new condition.

C. Inspect pipe and fittings for defects.

D. Remove materials from the site that are defective, damaged, used, unsound, or that otherwise do not meet the specifications.

3.02 UTILITY CONFLICTS

A. Refer to Section 02315.

3.03 SEWER SERVICE LINE INSTALLATION

A. Sewer Wyes and Saddles:

1. Connection to New PVC: Furnish and install wyes at the locations indicated by the plans or by the Engineer.

2. Install a solvent weld cap or a plug and leave in place until service line construction begins.

3. Properly reference, record and stake wye locations to permit ready relocation, in accordance with Section 01780, and provide information to the Engineer.

4. Connection to Existing PVC:

a. Install saddle wyes at the locations indicated by the plans or by the Engineer.

b. Repair damage caused during the tapping process at no additional cost.

5. Rotate the branch or wye of the saddle to 45 degrees from horizontal, unless otherwise approved by Engineer.

B. Risers:

1. Extend riser from sanitary wye to an elevation that will allow for a service line to be laid at specified grades.

2. Install riser at an angle equal to or less than 45 degrees measured from horizontal.

3. Risers in Rock Trenches:

a. Install riser pipe in the sewer trench.
b. Install riser pipe approximately vertical.

c. Encase the bottom of riser, wye and 1/8 bend in crushed rock or sand.
d. Extend bedding the full width of the trench as excavated and not less than 18 inches in length from either side of the center of the riser.
e. Place bedding material to a point 12 inches above centerline of the sewer main at the location of the wye.

4. No separate payment will be made for risers.

C. Service Lines:

1. Furnish and install sewer service lines at the locations on the plans or as directed by the Engineer.

a. Connect to the existing home sewer stub out if present underground outside the home.
b. For connecting beneath the home, place pipe hangers at a maximum distance of 4 feet apart for horizontal PVC pipe.
c. Cap sewer service, and stake if no connection is made.
d. Install a frost sleeve for the vertical service line connection beneath the home from 2” above grade to within 6” of the top of the below ground horizontal sewer service line for a mobile home connection.

2. Follow general pipe installations requirements of Section 02315 – Excavation, Trenching and Backfill.

3. Minimum slope for sewer service lines is 1/8-inch per foot (1%).

4. Maximum slope for sewer service lines is ½-inch per foot (4%), unless otherwise specified in the plans.

5. Ninety-degree bends are not allowed between the house and sewer main.

6. Install tracing wire with all pipe.

a. Wrap or tape tracing wire to pipe a minimum of every 20 feet.
b. Make all splices with an underground, waterproof splice kit.
c. Run tracing wire from connection at main and bring tracing wire up along outside of the cleanout, and tape wire to stem of the cleanout just below cap. Fold wire back down over tape leaving approximately 12 inches of extra wire.
d. Terminate the tracing wire in tracing wire box within 3 feet of the home or at the cleanout, as specified by the Engineer.

7. Connection of Sewer Service Lines to Manholes:

a. Connection to manholes not permitted unless otherwise approved by the Engineer.
b. Conform to Section 02532 – Sanitary Sewer Manholes, concerning channel shape and radius.

D. Sewer Service Line Cleanouts:

1. Two-Way Cleanouts: Install at the locations indicated on the drawings or as directed by the Engineer.

2. One-Way Cleanouts:

a. Install one-way cleanouts at a spacing not to exceed 100 feet.
b. Install one-way cleanouts so that the service can be rodded or snaked in the direction of flow.

3. Construct as shown on the standard details.

4. Install a 4-inch sewer wye in the sewer service line and connect risers of the same material from the wye to the ground surface.

a. Attach a schedule 40 PVC adapter and threaded plug to the end of the riser.
b. Install vertically a piece of No. 3 rebar, 1-foot in length, next to each cleanout riser. Bury rebar 6 inches below ground surface.

5. The Engineer may specify that cleanouts be buried 3 to 6 inches below grade and be fit with a threaded cast iron plug.

3.04 TRACER WIRE

A. Install tracing wire with all pipe.

1. Wrap or tape tracing wire to pipe a minimum of every 20 feet.

2. Make any splices with an underground, waterproof splice kit.

B. Bring tracing wire up in tracer wire box near two-way cleanout.

3.05 TESTING

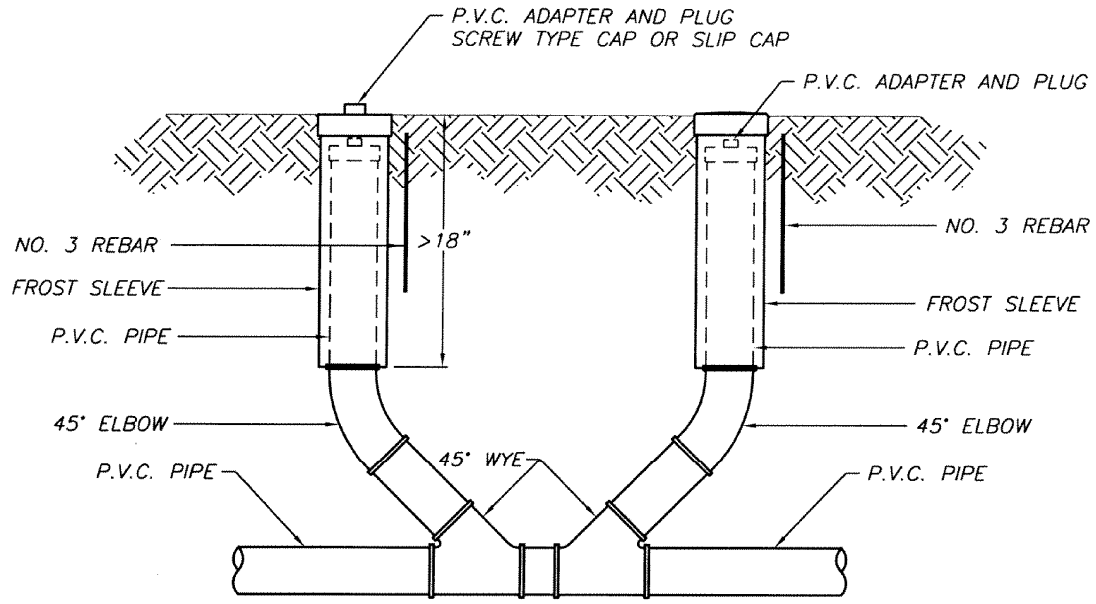
A. Test tracing wire for proper functioning using a conductive/inductive type locator in the presence of the Engineer and/or Owner Representative. Repair and retest, at no additional cost to owner, any section of tracing wire that does not function properly.

3.06 AS-BUILTS

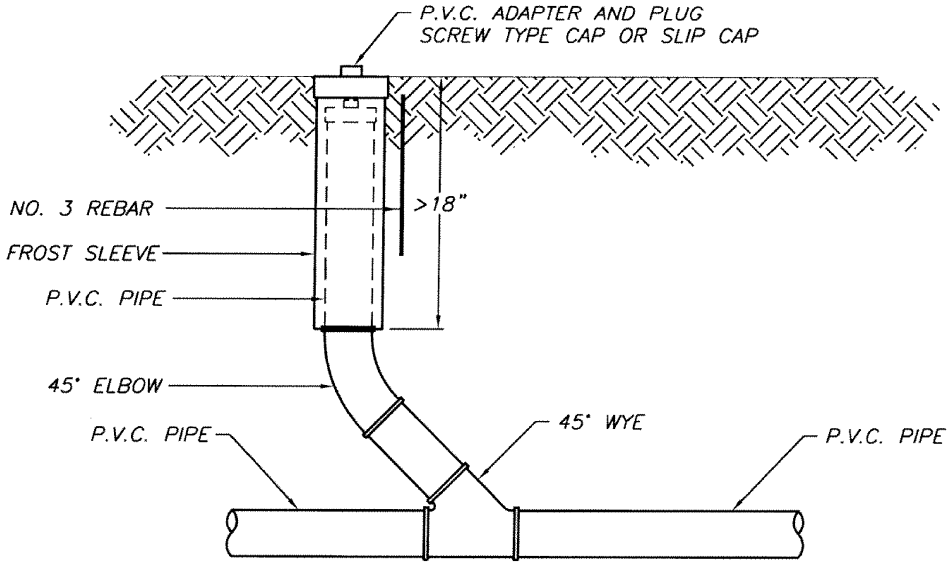
A. Provide as-built information on each system in accordance with Section 01780. Use standard forms (if supplied) by the Engineer.

END OF SECTION

G:\ACAD12\DETAILS\CSI-SPECS\02531-1 04/03/03
U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA
TITLE:
SEWER SERVICE CONNECTION
FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121
DRAWN BY: L.A.F.
CHK'D BY: S.M.H.
REV. DATE: 05/09/00
REV. DATE: 05/09/00
DRAWING NO. 02531-1
1 OF 2
4" P.V.C.
45° ELBOW
DOUBLE STRAP SERVICE SADDLE
SEWER MAIN
45°
PROFILE (SADDLE CONNECTION)
MINIMUM SLOPE 1/8" PER FOOT
45° ELBOW
4" P.V.C.
WYE FITTING
SEWER MAIN
PROFILE (WYE CONNECTION)
4" P.V.C.
45° ELBOW
WYE FITTING
45°
DIRECTION OF FLOW
SEWER MAIN
SEWER MAIN
PLAN (WYE CONNECTION)



TWO-WAY DETAIL



ONE-WAY DETAIL

NOTE:
FROST SLEEVES TO BE INSTALLED
ON WI. & MI. SITES ONLY.

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

TITLE:

SEWER SERVICE CLEANOUT

FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121

DRAWN BY: P.M.	CHK'D BY: S.K.W.	DRAWING NO. 02531-2
DATE: 03/30/07	DATE: 03/30/07	2 OF 2

C:\ACAD12\DETAILS\CSI-SPECS\2007\02531-2 03/30/07

SECTION 02532
SANITARY SEWER MANHOLES

PART 1 - GENERAL

1.01 SUMMARY

A. Work covered by this section includes standard and shallow concrete manholes, standard manholes, drop manholes, adjustment rings, frames and covers for community wastewater collection systems.

1.02 RELATED WORK (as applicable)

A. Section 02310 – Grading

B. Section 02315 – Excavation, Trenching and Backfill

C. Section 02530 – Sanitary Sewer

1.03 REFERENCES

A. ASTM C 443 – Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets

B. ASTM C 478 – Precast Reinforced Concrete Manhole Sections

C. ASTM C 923 – Resilient Connectors Between Reinforced Concrete Manhole Structures and Pipes

D. ASTM C 990 – Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants

E. ASTM C 1244 – Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test

1.04 SUBMITTALS

A. Manhole frame and cover

B. Manhole steps

C. Precast manhole sections

D. Precast manhole base section

E. Joint sealing material

F. Pipe to manhole connections

G. Chimney seals w/manufacturer's instructions (if applicable)

1.05 DEFINITIONS

A. Shallow Manhole: Manholes with a depth from rim to outlet pipe invert equal to 7-feet or less, and with a flat top.

B. Standard Manhole: Manholes with a depth from rim to outlet pipe invert greater than 7-feet, and with a conical top section.

PART 2 - PRODUCTS

2.01 MANHOLES

A. Design and fabricate reinforced concrete manholes to conform to ASTM C 478.

B. Base Section:

1. Precast integral concrete bottom section and base.

2. Channel (or invert) shape:

a. Smooth
b. Semicircular
c. Same diameter as adjoining sewer pipe
d. Ogee shaped, so there is no free drop.

3. Drop:

a. Minimum: 0.10 feet through manholes measured from any invert in to the invert out
b. Maximum: 2 feet through manholes measured from any invert in to the invert out.

4. Changes in Pipe Size or Grade: Make changes in size and grade of channels gradually and evenly.

5. Changes in Direction: Smooth curve of as large a radius as the size of the manhole will permit with the intersection of the lines occurring at the center of the manhole.

6. Benches: Construct the manhole floor, outside of the channel, smooth and slope toward the channel not less than ½-inch per foot.

C. Barrel Sections:

1. Provide 48-Inch inside diameter unless otherwise noted in the plans.

D. Cone Sections:

1. Provide eccentric cone sections.

E. Top Slab Sections:

1. Provide manhole opening eccentrically located to allow positioning over the outlet.

F. Manhole Steps:

1. Cast and anchor steps in concrete sections, aligned to form a continuous ladder.

2. Install steps so they are horizontal, protruding 5-inches, minimum.

3. Material: 1/2-inch steel steps encased in neoprene or polypropylene.

4. Width: 12-inches, minimum.

5. Space rungs 16-inches apart.

6. Maximum spacing from the top of the cone to the first rung shall be 6-inches.

7. Center steps over the manhole outlet.

G. Manhole Adjustment Rings:

1. Concrete rings.

2. HDPE Adjustment Rings

    a. Ladtech or approved equal

H. Sewer Pipe Connection:

1. Watertight gasket precast into the manhole wall conforming to ASTM C 923.

2. Acceptable Products:

a. PSX Seal Gasket (Press-Seal, Fort Wayne, Indiana) or approved equal.
b. A-Lok (Tullytown, Pennsylvania) or approved equal.
c. Kor-N-Seal (Trelleborg, Milford, New Hampshire) or approved equal.

I. Joints:

1. Conform to ASTM C 443.

2. Joint Sealant:

a. Conform to ASTM C 990.
b. Rub'R-Nek (Henry Group, Houston, Texas) or approved equal.
c. ConSeal (Concrete Sealants, Incorporated, New Carlisle, Ohio) or approved equal.

J. Chimney Seals

1. Rubber material with minimum tensile strength of 1500 psi

2. Stainless steel bands and hardware.

3. Equal to Adaptor Inc Internal/External Manhole Seal or approved equal.

2.02 FRAMES AND COVERS

A. Fabricate from cast iron.

1. Clean and smooth.

2. Free from distortion, shrinkage or other defects

B. Combined Weight: 300 pounds, minimum.

C. Conform to detail drawings.

D. Frame:

1. Designed for use with covers without open pickholes

2. Machined, horizontal bearing surfaces

E. Cover:

1. Machined horizontal bearing surfaces

2. Neoprene ring gasket

3. Non-rocking traffic cover

4. Solid cover with concealed pickhole

F. Use Neenah R-1050-W Non-Rock Frame and Neenah R-1550 Non-Rock Lid with Gasket and Concealed Pickholes.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Construct manholes at the locations and elevations shown on the plans or as directed by the Engineer.

B. Refer to section 02315 – Excavation, Trenching and Backfill for excavation and backfill requirements.

C. Bed precast manhole bases in a minimum of 8 inches of crushed stone meeting Class 1A or 1B requirements stated in Section 02315.

D. Install manholes so that the walls are vertically plumb.

E. Construction of Invert:

1. PVC Pipe Invert Channel:

a. Install a full length of pipe through the manhole.
b. Form a concrete bench up to the spring-line of the pipe.
c. Slope the concrete bench toward the channel at a ½ - inch per foot, minimum.
d. Cut the top hemisphere of the pipe off for the entire length of the pipe through the manhole.

2. Formed Concrete Channel:

a. Form a channel that meets the requirements outlined in 2.01B.
b. Ensure that the channel is smooth and free of rough patches.

F. Connection of Sewer Main Pipe:

1. Install sanitary sewer main according to pipe to manhole gasket manufacturer’s recommendations.

2. Outside Drop Construction:

a. Install an outside manhole drop where the invert of the inlet pipe is more than 24-inches higher than the invert of the outlet pipe.
b. Use the same material as was used for the sewer main pipe to construct the drop.
c. Construct according to the detail drawings.

G. Top Slab Section Installation:

1. Install with the opening over the outlet of the manhole.

2. Use on shallow manholes only.

H. Conical Section Installation:

1. Install with the opening over the outlet of the manhole.

2. Install 4-feet of manhole section with cylindrical configuration before installing a conical section.

3. Use on standard manholes.

I. Joint Sealants:

1. Install joint sealants around entire circumference of each manhole joint.

2. Place sealant on the lower horizontal surface of the joint.

3. Ensure that a watertight seal is provided at the joint.

J. Adjustment Rings:

1. Install at least one adjustment ring, and no more than 12-inches of adjustment rings.

2. Concrete Adjustment Rings:

a. Grout concrete adjustment rings in place between each ring and around the interior and exterior.

3. HDPE Adjustment Rings:

a. Place sealant between each adjustment ring in accordance with manufacturer recommendations.

4. Discard all cracked adjustment rings.

K. Frame and Cover:

1. If a road finish grade exists, set manhole frames and covers to the finish grade of the road.

2. If plans indicate rim elevations, set manhole frames and covers to the elevation indicated on the plans and adjust the elevation of the frame and cover to meet field requirements as determined by the Engineer.

L. Chimney Seals:

1. Install in accordance with manufacturer's recommendations in the locations specified by the Engineer.

M. Refer to Section 02310 – Grading for finish grading requirements.

3.02 PRESSURE AND LEAKAGE TESTING

A. Test all manholes using a low pressure vacuum test.

B. Preparation:

1. Plug all lift holes.

2. Temporarily plug all pipes entering the manholes.

3. Brace all plugs to prevent them from being drawn into the manhole.

C. Testing Procedure: Test according to ASTM C 1244.

1. Place test head at the top of the manhole in accordance with manufacturer's recommendations.

2. Pressurize manhole to 4.9 psi (10 inches of mercury).

3. Determine elapsed time for the pressure to drop 0.5 psi (1 inch of mercury) from the test pressure and use the following table to determine acceptability.

Minimum Test Times for Various Manhole Diameters (ASTM C1244)

Depth (ft)	Diameter, in								
	30	33	36	42	**48**	54	60	66	72
	Times, s								
8	11	12	14	17	**20**	23	26	29	33
10	14	15	18	21	**25**	29	33	36	41
12	17	18	21	25	**30**	35	39	43	49
14	20	21	25	30	**35**	41	46	51	57
16	22	24	29	34	**40**	46	52	58	67
18	25	27	32	38	**45**	52	59	65	73
20	28	30	35	42	**50**	53	65	72	81
22	31	33	39	46	**55**	64	72	79	89
24	33	36	42	51	**59**	64	78	87	97
26	36	39	46	55	**64**	75	85	94	105
28	39	42	49	59	**69**	81	91	101	113
30	42	45	53	63	**74**	87	98	108	121

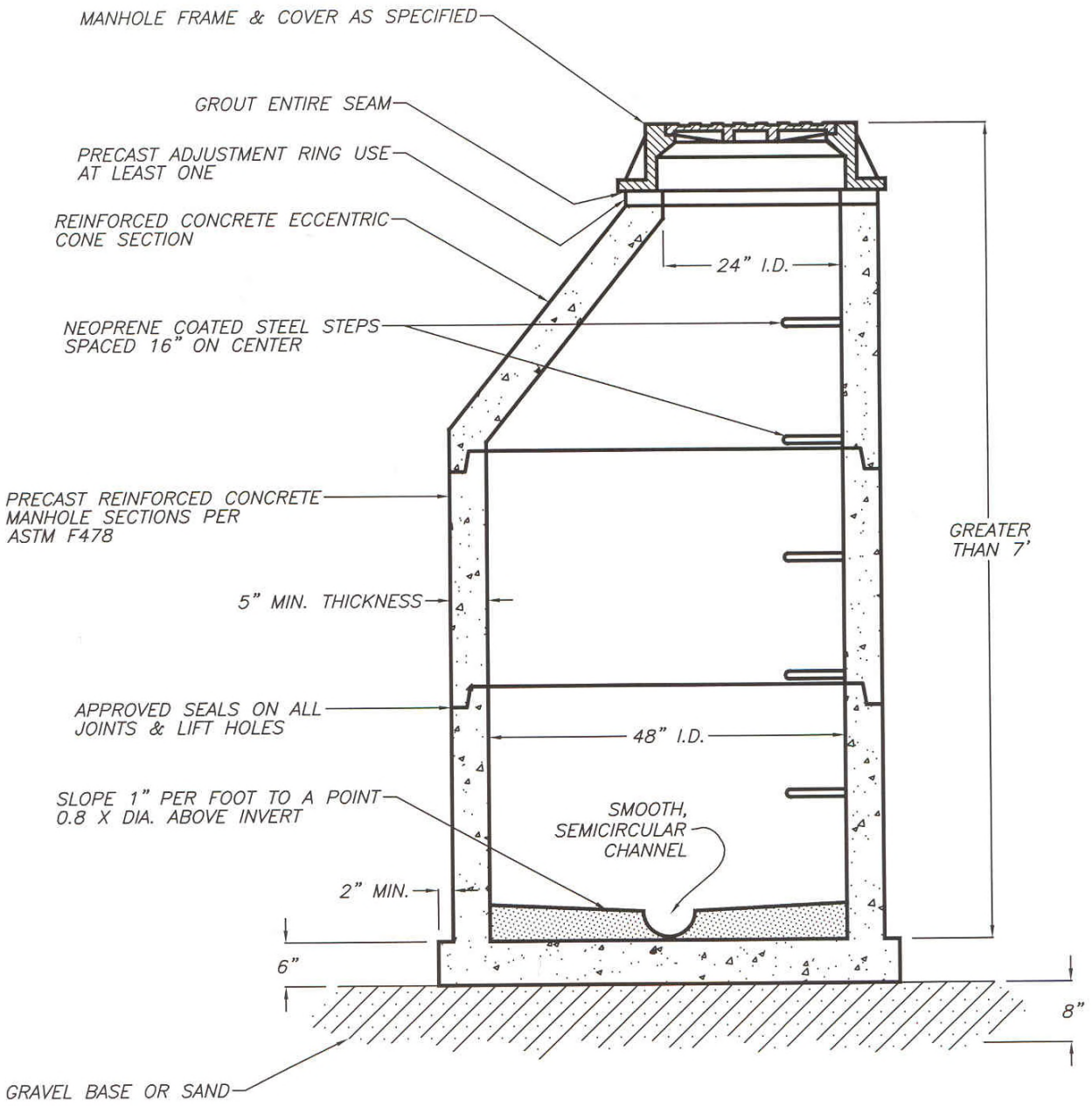
4. The time interval recorded in the field must be greater than the time listed for the length and manhole diameter being tested and for the pressure drop recorded.

5. If the pressure drop time is less than that in the table for the diameter of manhole being tested, the test shall be considered failed.

    a. Repair manhole and retest until the test passes.

D. Repair all leakage or seepage that appears during the warranty period by Engineer approved method.

END OF SECTION



NOTE: STEPS TO BE LOCATED OVER OUTLET.

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

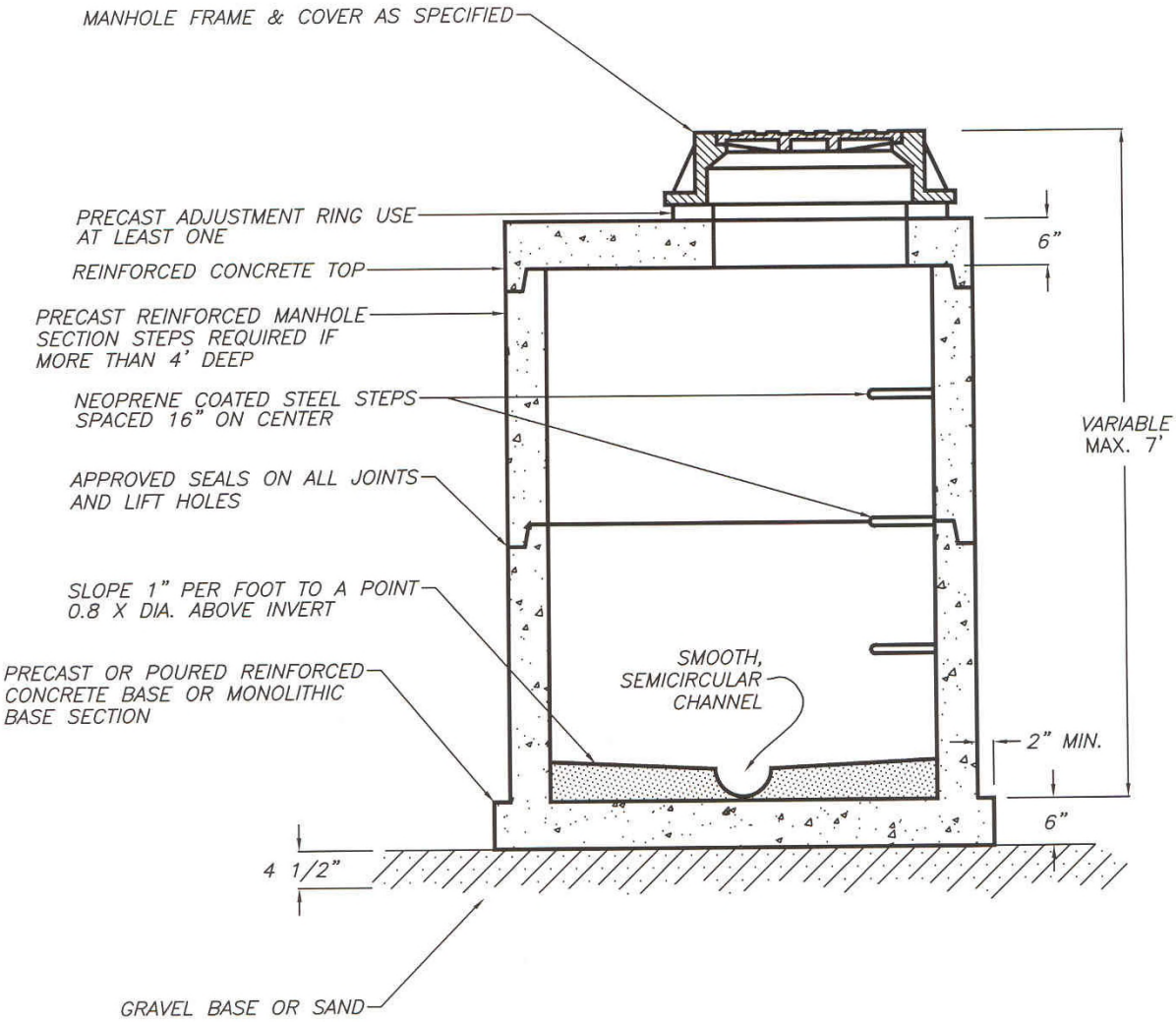
TITLE:

TYPICAL MANHOLE SECTION

FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121

DRAWN BY: L.A.F.	CHK'D BY: S.M.H.	DRAWING NO. 02532-1
REV. DATE: 05/09/00	REV. DATE: 05/09/00	1 OF 4

G:\ACAD12\DETAILS\CSI-SPECS\02532-1 04/04/03



NOTE: STEPS TO BE LOCATED OVER OUTLET.

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

TITLE:

TYPICAL SHALLOW MANHOLE

FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121

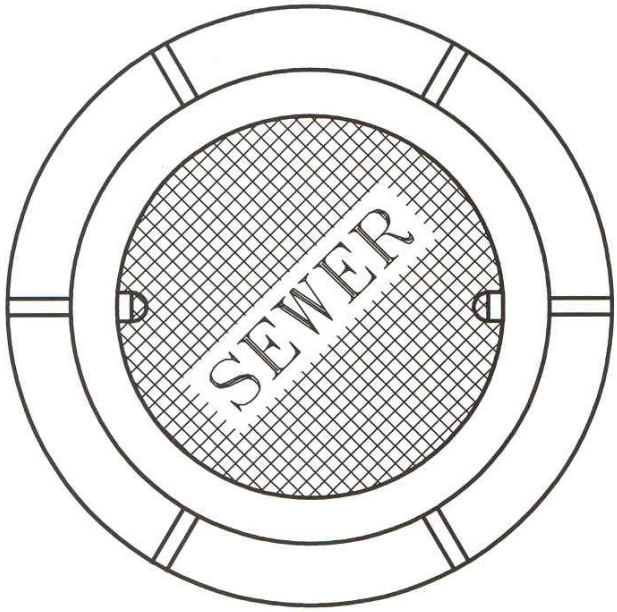
DRAWN BY: L.A.F.	CHK'D BY: S.M.H.	DRAWING NO. 02532-2
REV. DATE: 05/09/00	REV. DATE: 05/09/00	2 OF 4

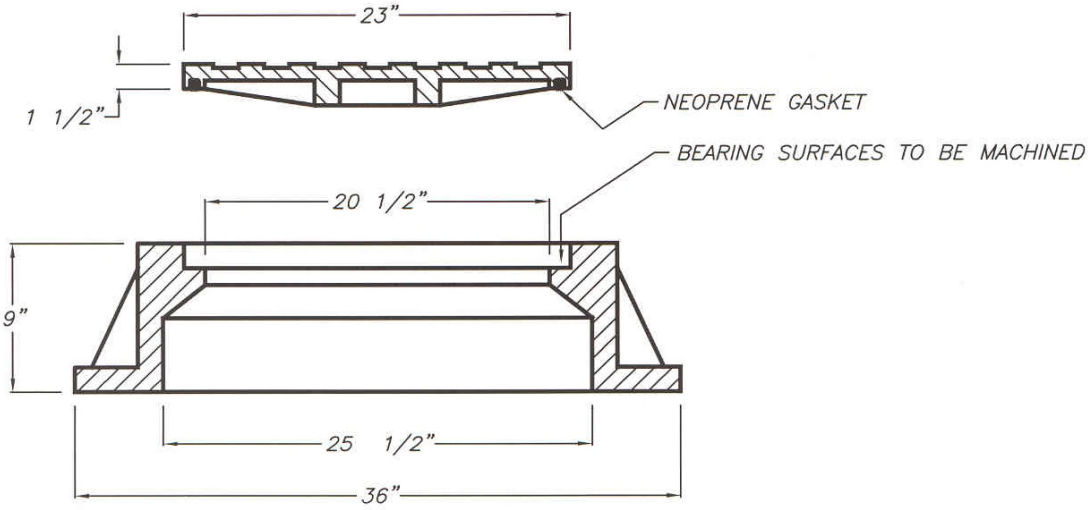
G:\ACAD12\DETAILS\CSI-SPECS\02532-2 04/04/03

NOTE:

1.) FRAME AND COVER WEIGHT MINIMUM 300 LBS.

2.) MANHOLE INFLOW STOPPER OR FILTRATION INSERT





U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

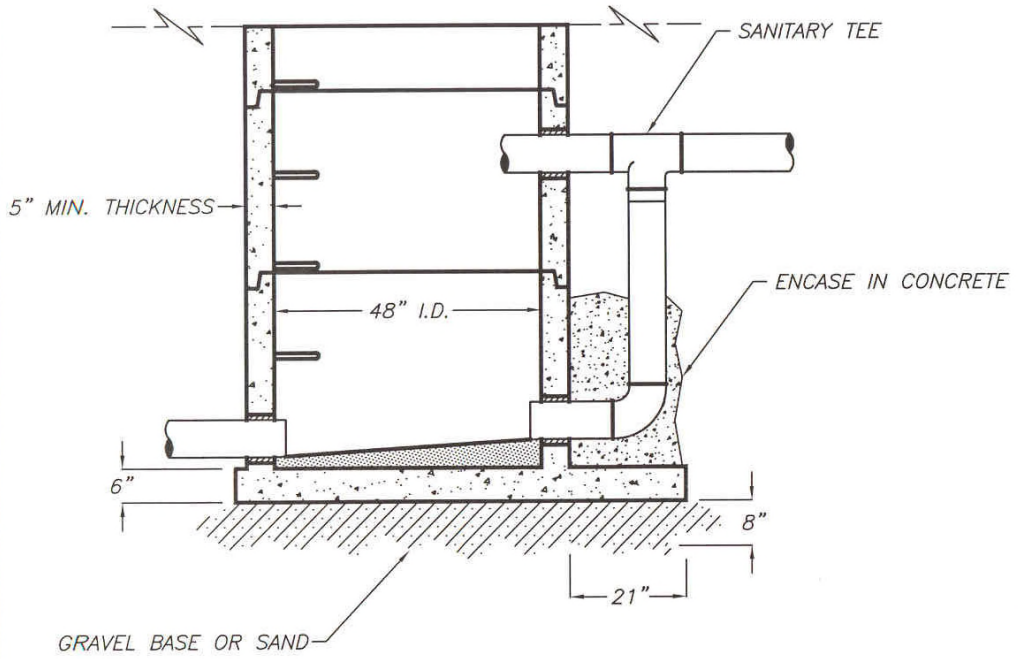
TITLE:

TYPICAL MANHOLE FRAME & COVER

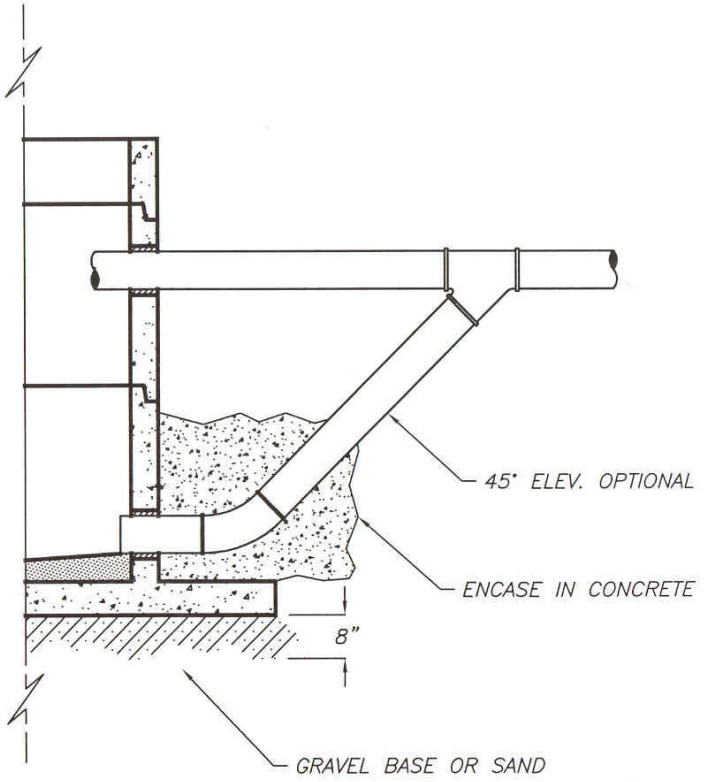
FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121

DRAWN BY:	CHK'D BY:	DRAWING NO.
L.A.F.	S.M.H.	02532-3
REV. DATE: 05/09/00	REV. DATE: 05/09/00	3 OF 4

G:\ACAD12\DETAILS\CSI-SPECS\02532-3 04/04/03



TYPICAL DROP MANHOLE



OPTIONAL DROP MANHOLE

NOTE:

MANHOLE TO HAVE ECCENTRIC CONE SECTION, STEPS, JOINT SEAL, AND FRAME W/COVER SIMILAR TO STANDARD MANHOLE

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH
BEMIDJI AREA OFFICE BEMIDJI, MINNESOTA

TITLE:

TYPICAL DROP MANHOLE

FOR SANITARY FACILITIES CONSTRUCTION
UNDER PUBLIC LAW 86-121

DRAWN BY:	CHK'D BY:	DRAWING NO.
L.A.F.	S.M.H.	02532-4
REV. DATE: 05/09/00	REV. DATE: 05/09/00	4 OF 4

G:\ACAD12\DETAILS\CSI-SPECS\02532-4 03/04/03

SECTION 02920
TOPSOILING, SEEDING, FERTILIZING, AND MULCHING

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes topsoiling, seeding, fertilizing, and mulching areas disturbed by construction activities.

1.02 RELATED WORK (as applicable)

A. Section 02310 – Grading

B. Section 02370 – Temporary Erosion and Sediment Control

1.03 REFERENCES

A. Wisconsin Department of Transportation – Standard Specifications for Road and Bridge Construction.

1.04 SUBMITTALS

A. Topsoil

B. Seed Mixture and Application Rate Data

C. Mulching Material

PART 2 - PRODUCTS

2.01 TOPSOIL

A. Natural loam, sandy loam, silt loam, silty clay loam, or clay loam humus-bearing soils adapted to the sustenance of plant life.

B. Neither excessively acid nor excessively alkaline.

2.02 FERTILIZER

A. Use a 20-10-10 mixture of 20% Nitrogen, 10% Phosphorous, and 10% Potassium.

2.03 SEED MIXTURE

A. Wet Locations – NRCS WI CP2 Wet Mesic Prairie mix, applied at the manufacturer's recommended feed rate or a minimum of 5 lbs/1000 sq ft, whichever is greater.

B. Dry locations – NRCS Mixture WI CP2 Mesic Prairie mix, applied at the manufacturer's recommended feed rate or a minimum of 5 lbs/1000 sq ft, whichever is greater.

2.04 MULCHING MATERIAL

A. Straw or hay

PART 3 - EXECUTION

3.01 TOPSOIL

A. After grading is completed, spread stockpiled topsoil over all disturbed areas, excluding those where another type of finished surface is being provided.

3.02 FERTILIZING

A. Work soil to be seeded until soil is reasonably even and loose.

B. Fertilize all topsoiled areas using 20-10-10 fertilizer at an application rate of 400-600 pounds per acre.

3.03 SEEDING

A. Sow seed using either equipment suited to that purpose or scatter seed uniformly over area with hand seeders when the weather is sufficiently quiet to prevent seeds from blowing away.

B. Sow seeds at 150% of the manufacturer recommended rate.

1. NRCS WI CP2 Wet Mesic Prairie mix: minimum rate of 5 pounds per 1000 square feet area.

2. NRCS Mixture WI CP2 Mesic Prairie mix: minimum rate of 5 pounds per 1000 square feet area.

C. Lightly rake soil to cover the seed with approximately ¼ inch of soil.

3.04 MULCHING

A. Place hay or straw mulching on seeded area loose enough to allow some sunlight to penetrate and air to circulate but thick enough to shade the ground, conserve soil moisture, and prevent/reduce erosion.

B. Do not perform mulching activities during periods of excessively high winds, which would preclude the proper placing of the mulch.

C. Apply straw or hay uniformly over the disturbed area to a loose depth of ½ to 1½ inches using 1½ to 3 tons of mulch per acre.

D. Immediately after spreading, anchor mulch using a mulch tiller consisting of a series of dull flat discs with notched edges or other approved equipment.

E. Anchor mulch to a depth of approximately 1½ to 2½ inches in the soil.

3.05 QUALITY CONTROL

A. All work necessary for topsoiling, fertilizing, seeding and mulching shall be completed to insure adequate re-establishment of vegetation.

B. The Contractor is responsible for re-establishing vegetation.

END OF SECTION