# CONTRACT DOCUMENTS
# &
# TECHNICAL SPECIFICATIONS

## HU 2025-37

## ELM MEADOWS FIRST SUB-DIVSION
## WATER, SEWER AND PAVING PROJECT

# CITY OF HASTINGS

**Proposals Will Be Opened Promptly At**
**1:30 PM, Wednesday, March 5, 2025**

Bid Submitted By: _____

HASTINGS
Nebraska

**ELM MEADOWS FIRST SUB-DIVISION**
**WATER, SEWER AND PAVING PROJECT**
**HU 2025-37**

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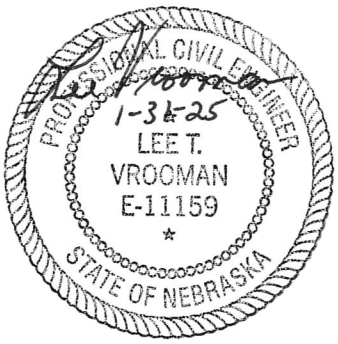
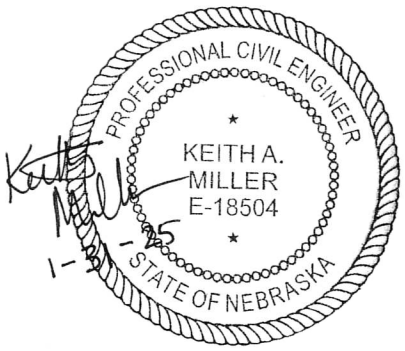
# SEALS AND SIGNATURES

**Owner: City of Hastings**

**Project Name :ELM MEADOWS FIRST SUB-DIVISION WATER, SEWER AND PAVING PROJECT**

**Contract: HU 2025-37**

| | |
|---|---|
|  | The seal and signature to the left applies to:<br>• Coordinating Professional |
|  | The seal and signature to the left applies to the following specification divisions:<br>• Section 3<br>• Section 4 |
|  | The seal and signature to the left applies to the following specification divisions:<br>• Section 5<br>• Section 6 |

*Front Signature Page*

## ADVERTISEMENT FOR BIDS

The City of Hastings, Nebraska, will receive bids for the **Elm Meadows First Subdivision Water, Sewer and Paving Project, HU 2025-37** until 1:30 p.m. at the City of Hastings, 1228 N Denver Ave., Hastings, Nebraska, on Wednesday, March 5, 2025, at which time and place all bids will be publicly opened and read aloud. **Brief description of project: Water, Sewer and Paving for Elm Meadows First Sub-Division in Hastings, Nebraska.** If you plan on bidding and are not already on our approved bidders list for this project, you are REQUIRED to fill out the Plan Holders Submittal Form that is located on the City website: https://www.cityofhastings.org/bids/.

The Contract Documents, including plans and specifications, are on file at the City of Hastings 1228 N Denver Avenue, Hastings, Nebraska 68901. Copies of the plans and specifications in electronic (PDF) format may be obtained by visiting the City of Hastings Website: www.cityofhastings.org/bids. A paper copy is available for $75.00, plus sales tax ($5.25), plus shipping.

Each bid shall be accompanied by a certified check, drawn on a solvent bank in the State of Nebraska, or a bid bond in an amount of not less than five percent (5%) of the total bid of all contract construction costs, made payable to the City Treasurer of the City of Hastings, Nebraska, as security that the bidder to whom the contract may be awarded will enter into a contract to build all the improvements in accordance with this notice and give bond in the sum hereinafter provided for the construction of improvements.

No bid shall be withdrawn after opening of bids without the consent of the City of Hastings, Nebraska, for a period of sixty (60) days after scheduled time of closing bids.

Time is of the essence in this contract. In evaluating bid(s) received, the City will consider the timelines of completion of prior construction contracts, existing workload of bidders and available manpower that bidder commits to the project.

The successful bidder will be required to furnish a Performance Bond in the sum of the full amount of the Contract within ten (10) days of the date of award. No additional time will be allowed the Contractor for providing the Performance Bond.

DATED AT HASTINGS, NEBRASKA, this 11th day of February 2025.

CITY OF HASTINGS, NEBRASKA

_____

Tyler Ficken, City Clerk

Publish:
February 14, 2025
February 21, 2025

Furnish 2 proofs of publication

# IMPORTANT MAILING (OR HAND DELIVERY) INSTRUCTIONS

Please address your return envelope as shown in the example below. All bids must be sealed in a properly marked envelope.

To hand deliver, please drop off between the hours of 8am – noon and 1-5pm Monday through Friday.

Your Return Address

City of Hastings
Attn: Renae Griess
1228 N Denver Avenue
Hastings, NE 68901

**This Information MUST BE typed or written in the lower left hand corner of return envelope**
**OR SIMPLY CUT OUT AND TAPE ON YOUR RETURN ENVELOPE**

✂ ✂ ✂ ✂

**BID DOCUMENTS ENCLOSED**
**ATTN: Renae Griess**
**Contract No: Elm Meadows, Water, Sewer & Paving Project**
**HU 2025-37**
**Bid Opens: Wednesday, March 5, 2025 @ 1:30 PM**

**If returning Fed-X or similar carrier, please enclose the bid in an "inner" envelope which is sealed. Please make sure BOTH envelopes are properly marked on the OUTSIDE OF THE ENVELOPE as shown in the example above.**

One bid per envelope. Bid submittal via email is not allowed. Bids must be checked in to the City of Hastings prior to 1:30 pm deadline.

IF YOU HAVE QUESTIONS OR NEED HELP ON THESE SPECIFICATIONS

PLEASE CONTACT ANY OF THE FOLLOWING:

TECHNICAL QUESTIONS

Lee Vrooman – Director of Engineering
1228 N Denver Ave
Hastings, NE 68901
Ph# 402-462-3657
Email: bidquestions@cityofhastings.org

GENERAL QUESTIONS OR REQUESTS

Renae Griess
Engineering Admin Assistant
Ph# 402-462-3665
Email: bidquestions@cityofhastings.org

# INSTRUCTIONS FOR BIDDERS

1) Contractors must fill in each individual unit quantity blank and totals of each respective unit.

2) Please check to verify that your bid bond accompanies your bid. Bids not accompanied with a bid bond or cashier's check will not be read.

3) In the event of inconsistencies between contract documents, Contractor shall utilize the most restrictive of the alternatives for the purpose of bidding. Contractor shall identify these items for clarification subsequent to award.

4) The Contract, if awarded, will be awarded to the Contractor with the lowest responsible bids for the project. All work will be awarded to one contractor and not split out.

5) **Desired final completion of the project is October 1, 2025.**

6) There are no Liquidated Damages on this project.

7) This contract shall be awarded only to responsible contractors who possess the potential ability to perform successfully under the terms and conditions of the contract. Consideration shall be given to such matters as contract integrity, record of past performance, financial and technical resources or accessibility to other necessary resources.

## EXCEPTIONS

All proposal information, including any unit price fill in sheets or other required information, shall be submitted on the proposal forms hereto attached. Copies of addenda, if any, shall be signed and attached. City of Hastings does NOT accept faxed or emailed bid returns.

Bidders shall inform themselves of all relevant matters, and, if awarded the contract, shall not be allowed any extra compensation by reason of any matter or thing concerning which such Bidder might not have fully informed himself, prior to the bidding.

The Bidder bidding on the Specifications herein, who has exceptions to those called for in the Specifications, must so state in the space provided below and/or attach a letter explaining in detail the exceptions taken to those required in the Specifications. This letter of explanation shall become a part of the bid and shall be attached hereto. Failure by the Bidder to outline his exceptions will require the successful Bidder to comply with these Specifications.

EXCEPTIONS TO SPECIFICATIONS:

_____

_____

_____

_____

_____

The City will not assume obligations resulting from losses or damages until acceptance of the equipment.

If any person contemplating submitting a bid for this contract is in doubt as to the true meaning of any part of the Specifications or other proposed contract documents, he may submit to Purchaser a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addendum duly issued or delivered to each person receiving a set of such documents. The Purchaser will not be responsible for any other explanation or interpretation of the proposed documents.

All addendums must be signed and attached to bid documents.

**PROPOSAL FOR**

# Elm Meadows Sub Division
# Water, Sewer and Paving Project
# Contract No. HU 2025-37

TO: City of Hastings
1228 N. Denver Ave
Hastings, NE 68901

**Bid Opening: March 5, 2025 (Wednesday)**
**SEALED BIDS MUST BE RECEIVED BY 1:30 P.M. AND WILL BE OPENED PROMPTLY AT THAT TIME**

We, the undersigned, being familiar with all parts of these documents, being Notice to Bidders, Bid Proposal Price Sheets, Contract Document Forms, Plans and Specifications, Affidavit, Material List, and all other parts of this document, do herein submit our proposal to furnish, install, and perform all tasks required to complete said project area(s) for the total costs. **THE PAVING AND SEWER PORTION IS SALES TAX EXEMPT THE WATER PORTION IS TAXABLE.**

| SECTION A - Elm Meadows Sub-division - Sanitary Sewer Project | | | | | |
|---|---|---|---|---|---|
| **Item** | **Description** | **Qty** | **Unit** | **Unit Price** | **Total** |
| **1** | Mobilization | 1 | LS | | |
| **2** | 8” PVC Sanitary Sewer Pipe | 327 | LF | | |
| **3** | 4” PVC Sanitary Sewer Service | 631 | LF | | |
| **4** | 8” x 4” Service Tee | 4 | EA | | |
| **5** | 12” x 4” Inserta Tee | 12 | EA | | |
| **6** | 8” PVC Cap | 2 | EA | | |
| **7** | 4” Service Cap | 16 | EA | | |
| **8** | 4” PVC Wye | 16 | EA | | |
| **9** | 4” PVC 45 Bend | 16 | EA | | |
| **10** | 4” PVC Plug | 16 | EA | | |
| **11** | 48” Sanitary Manhole | 1 | EA | | |
| **12** | Reconstruct Manhole | 3 | EA | | |
| | | | **TOTAL** | **$** | |
| | | | | | |
| **In Words** | | | | | |

**PROPOSAL FOR**
# Elm Meadows Sub Division
# Water, Sewer and Paving Project
# Contract No. HU 2025-37

| SECTION B - Elm Meadows Sub-division – Water Main Project | | | | | |
|---|---|---|---|---|---|
| **Item** | **Description** | **Qty** | **Unit** | **Unit Price** | **Total** |
| **1** | Mobilization | 1 | LS | | |
| **2** | 16” D.I. Water Main | 214 | LF | | |
| **3** | 16” x 10” Reducer | 1 | EA | | |
| **4** | 16” M.J. Tee | 2 | EA | | |
| **5** | 16” Plug | 2 | EA | | |
| **6** | 10” D.I. Water Main | 958 | LF | | |
| **7** | 10” M.J. Tee | 6 | EA | | |
| **8** | 10” M.J. Gate Valve | 5 | EA | | |
| **9** | 10” M.J. Plug | 6 | EA | | |
| **10** | 10” x 6” M.J. Tee | 3 | EA | | |
| **11** | 10” M.J. 11.25 Bend | 3 | EA | | |
| **12** | 10” M.J. 22.5 Bend | 2 | EA | | |
| **13** | 10” Foster Adapter | 8 | EA | | |
| **14** | 6” M.J. Gate Valve | 3 | EA | | |
| **15** | 6” 90 SWVL. X SWVL. Hydrant Elbow | 3 | EA | | |
| **16** | 6” X 36” SWVL. X SWVL. Adapter | 3 | EA | | |
| **17** | Fire Hydrant | 3 | EA | | |
| **18** | 1” PE Service Tubing | 378 | LF | | |
| **19** | 1” Corporation Stop | 18 | EA | | |
| **20** | 1” Curb Stop w/Box | 18 | EA | | |
| **21** | Thrust Block | 9 | EA | | |
| **22** | Tracer Wire Riser | 4 | EA | | |
| **23** | Locate & Connect to Existing 16” Valve | 1 | EA | | |
| **24** | Directional Drill | 60 | LF | | |

**PROPOSAL FOR**
# Elm Meadows Sub Division
# Water, Sewer and Paving Project
# Contract No. HU 2025-37

| | | | | | |
|---|---|---|---|---|---|
| **25** | Remove & Replace Concrete Pavement | 8 | SY | | |
| | | | **TOTAL** | **$** | |
| | | | | | |
| | **In Words** | | | | |

| **SECTION C - Elm Meadows Sub-division – Paving Project** | | | | | |
|---|---|---|---|---|---|
| **Item** | **Description** | **Qty** | **Unit** | **Unit Price** | **Total** |
| **1** | Mobilization | 1 | LS | | |
| **2** | Earthwork | 1 | LS | | |
| **3** | Clearing and Grubbing | 1 | LS | | |
| **4** | 6” Concrete Pavement w/Integral Curb | 3991 | SY | | |
| **5** | Subgrade Prep | 3991 | SY | | |
| **6** | 4” Concrete Sidewalk | 418 | SF | | |
| **7** | Concrete Header | 24 | LF | | |
| **8** | Curb Inlet (Type D Mod) | 6 | EA | | |
| **9** | Junction Box | 1 | EA | | |
| **10** | 15” Flared End Section | 2 | EA | | |
| **11** | 24” Flared End Section | 1 | EA | | |
| **12** | 36” Flared End Section | 4 | EA | | |
| **13** | 15” Storm Pipe | 111 | LF | | |
| **14** | 18” Storm Pipe | 232 | LF | | |
| **15** | 24” Storm Pipe | 60 | LF | | |
| **16** | 36” Storm Pipe | 130 | LF | | |
| **17** | Inlet Protection | 10 | EA | | |
| **18** | Linear Erosion Protection | 2000 | LF | | |
| **19** | Erosion Control Mat | 176 | SY | | |

| | | | | | |
|---|---|---|---|---|---|
| **20** | Construction Entrance | 1 | EA | | |
| | | | **TOTAL** | **$** | |
| | | | | | |
| | **In Words** | | | | |

| **SECTION D - Elm Meadows Sub-division – Alternate Paving** | | | | | |
|---|---|---|---|---|---|
| **Item** | **Description** | **Qty** | **Unit** | **Unit Price** | **Total** |
| **1** | Mobilization | 1 | LS | | |
| **2** | Earthwork | 1 | LS | | |
| **3** | 6” Concrete Pavement | 634 | SY | | |
| **4** | 4” Concrete Sidewalk | 1662 | SF | | |
| **5** | Curb Inlet | 1 | EA | | |
| **6** | 18” Storm Pipe | 64 | LF | | |
| | | | **TOTAL** | **$** | |
| | | | | | |
| | **In Words** | | | | |

| **GRAND TOTAL BID SECTIONS A, B, C AND D** | |
|---|---|
| **GRAND TOTAL** | **$** |
| | |
| **In Words** | |

Note: unit prices shall prevail in the case of potential mathematical discrepancies.

**PROPOSAL FOR**
# Elm Meadows Sub Division
# Water, Sewer and Paving Project
# Contract No. HU 2025-37

**THE WATER PROJECT-SECTION B IS SUBJECT TO SALES TAX. The labor portion is not subject to sales tax; however, the material portion is taxed accordingly. See following tax rules and regulation language.**

For purposes of sales/use tax, this project falls under Nebraska Sales and Use Tax Regulation 1-017 for Contractors. By definition, a contractor is "any person who repairs property annexed to, or who annexes property to, real estate, including leased property, by attaching building materials to the annexed property or improvement being built or repaired, or who arranges for annexation of property." Please refer to www.revenue.nebraska.gov/salestax.html for additional information.

For calculating this proposal:

- All contractors are to include sales/use tax on materials in the bidder's prices, if applicable.
- **Option 1 contractors must separately state materials, sales tax, labor, and other charges on all invoices for the project. Any invoices submitted that do not include this required breakdown of the charges will not be accepted for payment. (This requirement does not apply to Option 2 or 3 contractors.)**
- The sales/use tax rate on building materials is 7.0% for projects within Hastings' city limits and 5.5% for projects outside of city limits.
- Contractor labor charges for this proposal are not subject to sales/use tax per the Nebraska Department of Revenue Notice to Contractors effective October 1, 2007.
- In submitting this bid, the bidder certifies that he will comply with all applicable laws, ordinances, and codes of the City of Hastings and the State of Nebraska.
- For this project, Contractor will supply all materials.

What contractor option have you registered with the Nebraska Department of Labor (must select one)? Please refer to https://dol.nebraska.gov for additional information.

Option 1 _____

Option 2 _____

Option 3 _____

Is Nebraska Sales/Use Tax included in the above prices.

Yes _____ No _____

**(ALL COSTS TO INCLUDE CITY AND STATE SALES TAX)**

The undersigned bidder agrees to furnish the required performance bond and to enter into a contract within ten (10) days after acceptance of the Proposal and further agrees to complete all work covered by the foregoing Proposal in accordance with specified requirements.

**Desired Project Completion Date: October 1, 2025**

Exceptions: No ☐ Yes ☐ (If yes, list on ***"Instructions to Bidders"*** page)

**PROPOSAL FOR**
# Elm Meadows Sub Division
# Water, Sewer and Paving Project
# Contract No. HU 2025-37

**Any modification of bid proposal will be considered non-conformance of the bid. All exceptions to the proposal shall be noted as an exception to the bid.**

City of Hastings may at its own discretion delete any project area and / or component prior to award of contract. City of Hastings will award all bid sections to one contractor.

In submitting this proposal, it is further understood that the City of Hastings reserves the right to reject any or all proposals and may waive any informalities and may accept the proposal which best suits its needs. It is further understood that this proposal may not be withdrawn for a period of sixty days (60) days after bids are opened.

**All bid documents, including proposals, bid bonds, subcontractor designation, etc., must be submitted with original signatures. No copies will be accepted.**

***OFFICIAL NAME & ADDRESS***

| | |
|---|---|
| Firm Name | Signature |
| Address | Typed or Printed Name |
| City, State, Zip | Title |
| Phone No. | Date |
| Fax No. | Email Address |

**ALL BIDS MUST BE CHECKED IN TO THE CITY OF HASTINGS PRIOR TO 1:30 PM DEADLINE**

# AGREEMENT

**THIS AGREEMENT**, made and entered into this __ day of _____, 2025, by and between the City of Hastings, Party of the First Part, hereinafter called the "Purchaser" or "City", and _____of (town) _____ in the State of _____, Party of the Second Part, hereinafter called the "Contractor".

**WITNESSETH: THAT,**

**WHEREAS:** The Purchaser has caused the necessary contract documents to be prepared for defining material, equipment, and/or labor to be supplied to the City of Hastings and delivered complete as specified in the accompanying contract documents.

**WHEREAS:** The Purchaser has advertised for bids from Contractors, has received said bids, analyzed same and duly awarded a contract to the "Contractor", "Party of the Second Part", for material, equipment, and/or labor as hereinafter set forth and as stated more in detail in the Proposal and related contract documents to wit; Notice to Bidders, Instructions to Bidders, Specifications; all of which documents are attached hereto and made a part of this Contract.

**NOW, THEREFORE:** It is hereby agreed that for the sum of_____. ($ _____ )

to be paid by the Purchaser, within Thirty (30) days after the acceptance of material, equipment, and/or labor by the Purchaser, to the Contractor, the Contractor agrees to furnish all materials, equipment, and/or labor as required by the accompanying specifications, and the aforesaid contract documents, for **HU 2025-37 Elm Meadows First Sub-Division Water, Sewer and Paving Project.**

All materials, equipment, and/or labor shall be in accordance with the accompanying contract documents and specifications which are as much a part of this Agreement as if repeated verbatim herein.

It is further agreed that the Contractor will start work promptly, furnish the necessary drawings promptly and complete the work in the number of days set forth in the Proposal.

**IN WITNESS WHEREOF:** The Parties of the First and Second Parts have hereto set their hands and seals on the day and year above written.

CITY OF HASTINGS
Party of the First Part

By: _____

Date: _____

ATTEST:

_____
City Clerk

CONTRACTOR
Party of the Second Part

SEAL

_____

By: _____

Title: _____

Date: _____

APPROVED TO FORM:

_____
City Attorney

Note: If executed by one other than President, Partner or the individual Owner, a Power-of-Attorney authorizing execution should accompany this Contract.

## PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, _____,
as principal, and _____,
a corporation organized and existing under the laws of the State of _____,
and duly authorized to transact business in the State of Nebraska, as surety are held and firmly bound unto the CITY OF HASTINGS, NEBRASKA, a municipal corporation organized and existing under the laws of the State of Nebraska, hereinafter referred to as CITY, in the penal sum of _____ Dollars ($_____),
lawful money of the United States, for the payment of which will and truly be made, we the said principal and the said surety do hereby bind ourselves, our heirs, executors, administrators and assigns, jointly and severally, by these presents as follows:

The condition of this obligation is such that, whereas the principal, by an instrument in writing attached hereto and bearing the date of _____, 20____, has agreed with the CITY to do all work necessary and to furnish all labor, materials, supplies, tools and equipment to

_____

_____

_____

as specified thereby and in the specifications, proposals and contract forming the Contract Documents attached thereto and made a part hereof:

NOW THEREFORE, if the principal shall well and truly in good, sufficient and in a workmanlike manner, and to the satisfaction of the CITY perform and complete the work required, and shall defend, indemnify and save harmless the CITY against all damages, claims, demands, expenses and charges of every kind (including claims of patent infringement) arising from any act, omission or neglect of said principal, his agents, servants or employees, with relation to said work, and shall pay all costs, charges, rentals and expenses for labor, materials, supplies and equipment and deliver the said improvement to the CITY completed and ready for operation and free from all encumbrances or claims for labor, materials or otherwise, and shall pay all other expenses lawfully chargeable to the CITY, and this bond shall also be for the use and benefit of all persons who may perform any work or labor or furnish any material in the execution of said Contract and may be

sued on thereby in the name of any such party claiming the benefit hereof, then this obligation shall be void, otherwise the same shall remain in full force and effect. This obligation shall be in full force and effect for the full guarantee period provided in the specifications contained herein.

PROVIDED FURTHER, that said surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any change, extension of time, alteration or addition to terms of the Contract, to the work or to the specifications.

PROVIDED FURTHER, that if the principal of his, their or its subcontractor or subcontractors fail to duly pay for any labor, materials team, hire sustenance, provisions, provender or any other supplies or materials used or consumed by such contractor of his, their or its subcontractors in performance of the work contracted to be done, the surety will pay the same in any amount not exceeding the sum specified in the bond together with interest as provided by law.

IT WITNESS WHEREOF, said principal and surety have hereunto set their hands and seals at _____ this _____ day of _____, 20____,

This Bond is executed in triplicate counterparts.

_____
Principal

(SEAL)

_____
Street Address

_____
Witness

_____
City, State, Zip

_____
Name of Person Executing

ATTEST:

_____
Surety

_____ By: _____
_____ Title: _____

# MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS That we, _____

_____ , hereinafter

called the Principal, and _____

hereinafter called the Surety, are held and firmly bound unto the CITY OF HASTINGS, County of ADAMS, State of NEBRASKA, hereinafter called the Owner in the sum of

_____ Dollars: $ _____

lawful money of the United States of America, to be paid to the CITY OF HASTINGS, NEBRASKA, for the payment whereof the Principal and Surety hold themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has, by means of a written agreement dated _____

20 _____ , entered into a contract with the CITY OF HASTINGS, NEBRASKA, for the

**Elm Meadows First Sub-Division**

**HU 2025-37**

a copy of which contract is by reference made a part hereof.

NOW, THEREFORE, the conditions of this obligation are such that

FIRST: If the Principal shall faithfully perform the contract on his part, and satisfy all claims and demands incurred for the same and shall fully indemnify and save harmless the CITY OF HASTINGS, NEBRASKA, from all cost and damage which said Owner may suffer by reason of failure so to do, and shall fully reimburse and repay said Owner all outlay and expense which said Owner may incur in making good any such default, and shall pay all persons who have contracts directly with the Principal for labor and materials, and

SECOND: The Principal shall protect and hold harmless the CITY OF HASTINGS, NEBRASKA, from any and all suits and actions of every description that may be brought against said Owner on account of injuries to or death of persons or damage to property received or sustained by any person or persons through the negligence of the Principal or his agents; and

THIRD: The Principal shall warrant the work constructed under his contract and keep in good repair at no cost to the Owner for a period of THREE (3) years from date of formal acceptance by said Owner, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

The Principal and Surety or Sureties on this bond hereby agree to pay all persons, firms, or corporations having contracts directly with the Principal or with subcontractors, all just claims due them for labor performed or material furnished in the performance of the contract on account of which this bond is given, when the same are not satisfied out of the portion of the contract price which the public corporation is required to retain until the completion of the public improvement, but the Principal and Surety shall not be liable to said persons, firms, or corporations unless the claims of said claimants against said portion of the contract price shall have been established by law.

Every surety on this bond shall be deemed and held, any contract to the contrary notwithstanding, to consent without notice:

1. To any extension of time to the Contractor in which to perform the contract.
2. To any change in the plans, specifications or contract, when such change does not involve an increase or more than twenty percent (20%) of the total contract price, and shall then be released only as to such excess increase.
3. That no provision of this bond or of any other contract shall be valid which limits to less than five years from time of acceptance of the work the right to sue on this bond for defects in workmanship or material not discovered or known to the obligee at the time such work was accepted.

SIGNED AND SEALED THIS _____ day of _____ 20_____

IN PRESENCE OF:

_____
(Principal)

By _____
(Name) (Title)

Countersigned: _____
(Surety)

_____
Resident Agent By _____
(Attorney-in-fact)

Filed in my office this _____ day of _____ 20_____

_____
(Clerk)

RESET FORM PRINT FORM

NEBRASKA
Good Life. Great Service.
DEPARTMENT OF REVENUE

# Nebraska Resale or Exempt Sale Certificate
## for Sales Tax Exemption

FORM 13

| Name and Mailing Address of Purchaser | Name and Mailing Address of Seller |
|---|---|
| Name | Name |
| Legal Name | |
| Street or Other Mailing Address | Street or Other Mailing Address |
| City State Zip Code | City State Zip Code |

**Check Type of Certificate**

☐ Single Purchase If single purchase is checked, enter the related invoice or purchase order number _____.

☐ Blanket If blanket is checked, this certificate is valid until revoked in writing by the purchaser.

I hereby certify that the purchase, lease, or rental by the above purchaser is exempt from the Nebraska sales tax for the following reason:

**Check One** ☐ Purchase for Resale (Complete Section A.) ☐ Exempt Purchase (Complete Section B.) ☐ Contractor (Complete Section C.)

## Section A—Nebraska Resale Certificate

Description of Property or Service Purchased

I hereby certify that the purchase, lease, or rental of _____ from the seller listed above is exempt from the Nebraska sales tax as a purchase for resale, rental, or lease in the normal course of our business. The property or service will be resold either in the form or condition in which it was purchased, or as an ingredient or component part of other property or service to be resold.

I further certify that we are engaged in business as a: ☐ Wholesaler ☐ Retailer ☐ Manufacturer ☐ Lessor

Description of Product Sold, Leased, or Rented

of _____

My Nebraska Sales Tax ID Number is 01-_____.

If none, state the reason _____,

or Foreign State Sales Tax Number_____ State _____.

## Section B—Nebraska Exempt Sale Certificate

The basis for this exemption is exemption category _____ (See the list of Exemption Categories and corresponding numbers on reverse side).

If exemption category 2 or 5 is claimed, enter the following information:

Description of Property or Service Purchased _____ Intended Use of Property or Service Purchased _____

If exemption category 3 or 4 is claimed, enter your Nebraska Certificate of Exemption State ID number. 05-_____

Do **not** enter your Federal Employer ID Number.

If exemption category 6 is claimed, the seller must enter the following information and sign this form below:

| Description of Items Sold | Date of Seller's Original Purchase | Was tax paid when purchased by seller? ☐ Yes ☐ No | Was item depreciable? ☐ Yes ☐ No |
|---|---|---|---|
| | | | |

## Section C—For Contractors Only

**1. Purchase of building materials or fixtures.**

☐ As an Option 1 or Option 3 contractor, I hereby certify that the purchase of building materials and fixtures from the seller listed above are exempt from Nebraska sales tax. My Nebraska Sales or Use Tax ID Number is: _____.

**2. Purchases made by an Option 2 contractor under a Purchasing Agent Appointment on behalf of**_____ (exempt entity) _____.

☐ As an Option 2 contractor, I hereby certify that the purchase of building materials and fixtures from the seller listed above is exempt from Nebraska sales tax pursuant to the **attached** Purchasing Agent Appointment and Delegation of Authority for Sales and Use Tax, Form 17.

Any purchaser, agent, or other person who completes this certificate for any purchase which is not for resale, lease, or rental in the regular course of the purchaser's business, or is not otherwise exempted from sales and use taxes is subject to a penalty of $100 or ten times the tax, whichever amount is larger, for each instance of presentation and misuse. With regard to a blanket certificate, this penalty applies to each purchase made during the period the blanket certificate is in effect. Under penalties of law, I declare that I am authorized to sign this certificate, and to the best of my knowledge and belief, it is correct and complete.

**sign here** ▶ _____ Authorized Signature _____ Title _____ Date

_____ Authorized Signature Name (please print)

**Do not send this certificate to the Nebraska Department of Revenue. Keep it as part of your records. Sellers cannot accept incomplete certificates.**

**The Department is committed to the fair administration of the Nebraska tax laws. It is unlawful to claim an exemption for purchases of property or services that are subject to tax. Sellers are encouraged to notify the Department of any unlawful use of this form.**

**revenue.nebraska.gov, 800-742-7474 (NE and IA), 402-471-5729**

# Instructions

**Who May Issue a Resale Certificate.** Purchasers are to give the seller a properly completed Form 13, Section A, when making purchases of property or taxable services that will subsequently be resold in the purchaser's normal course of business. The property or services must be resold in the same form or condition as when purchased, or as an ingredient or component part of other property that will be resold.

**Who May Issue an Exempt Sale Certificate.** Form 13, Section B, may be completed and issued by governmental units or organizations that are exempt from paying Nebraska sales and use taxes. See this list in the Nebraska Sales Tax Exemptions Chart. Most nonprofit organizations are **not** exempt from paying sales and use tax. Enter the appropriate number from "Exemption Categories" (listed below) that properly reflects the basis for your exemption.

For additional information about proper issuance and use of this certificate, please review Reg-1-013, Sale for Resale – Resale Certificate, and Reg-1-014, Exempt Sale Certificate.

**Contractors.** Contractors complete Form 13, Section C, part 1 or part 2 based on the option elected on the Contractor Registration Database.

To make tax-exempt purchases of building materials and fixtures, Option 1 or Option 3 contractors must complete Form 13, Section C, Part 1. To make tax-exempt purchases of building materials and fixtures pursuant to a construction project for an exempt governmental unit or an exempt nonprofit organization, Option 2 contractors must complete Form 13, Section C, Part 2. The contractor must also attach a copy of a properly completed Purchasing Agent Appointment and Delegation of Authority for Sales and Use Tax, Form 17, to the Form 13, and both documents must be given to the supplier when purchasing building materials. See the contractor information guides and Reg-1-017, Contractors, for additional information. Also, see the Important Note under "Exemption Categories" number 3.

**When and Where to Issue.** The Form 13 must be given to the seller at the time of the purchase to document why sales tax does not apply to the purchase. The Form 13 must be kept with the seller's records for audit purposes.

**Sales Tax Number.** A purchaser who is engaged in business as a wholesaler or manufacturer is not required to provide an ID number when completing Section A. Out-of-state purchasers may provide their home state sales tax number. Section B does not require a Nebraska ID number when exemption category 1, 2, or 5 is indicated.

**Fully Completed Resale or Exempt Sale Certificate.** A fully completed resale or exempt sale certificate is proof for the retailer that the sale was for resale or is exempt. For a resale certificate to be fully completed, it must include: (1) identification of the purchaser and seller, type of business engaged in by the purchaser; (2) sales tax permit number; (3) signature of an authorized person; and (4) the date of issuance.

For an exempt sale certificate to be fully completed, it must include: (1) identification of purchaser and seller; (2) a statement that the certificate is for a single purchase or is a blanket certificate covering future sales; (3) a statement of the basis for exemption, including the type of activity engaged in by the purchaser; (4) signature of an authorized person; and (5) the date of issuance.

**Penalties.** Any purchaser who gives a Form 13 to a seller for any purchase which is other than for resale, lease, or rental in the **normal** course of the purchaser's business, or is not otherwise exempted from sales and use tax under the Nebraska Revenue Act, is subject to a penalty of $100 or ten times the tax, whichever is greater, for each instance of presentation and misuse. In addition, any purchaser, or their agent, who fraudulently signs a Form 13 may be found guilty of a Class IV misdemeanor.

## Exemption Categories

**(Insert appropriate number from the list below in Section B)**

1. Governmental units, identified in Reg-1-072, United States Government and Federal Corporations; and Reg-1-093, Governmental Units. Governmental units are not assigned exemption numbers.

   Sales to the U.S. government, its agencies, instrumentalities, and corporations wholly owned by the U.S. government are exempt from sales tax. However, sales to institutions chartered or created under federal authority, but which are not directly operated and controlled by the U.S. government for the benefit of the public, generally are taxable.

   Purchases by governmental units that are **not** exempt from Nebraska sales and use taxes include, but are not limited to: governmental units of other states; sanitary and improvement districts; rural water districts; railroad transportation safety districts; and county historical societies.

2. Purchases when the intended use renders it exempt. See Nebraska Sales Tax Exemption Chart.

3. Purchases made by organizations that have been issued a Nebraska Exempt Organization Certificate of Exemption (Certificate of Exemption). Reg-1-090, Nonprofit Organizations; Reg-1-091, Religious Organizations; and Reg-1-092, Educational Institutions, identify these organizations. These organizations are issued a Certificate of Exemption with a state ID number which must be entered in Section B of Form 13.

   **Important Note**: Nonprofit educational institutions must be accredited regionally or nationally and have their primary campus in Nebraska to be exempt from sales and use tax. Also nonprofit organizations providing any of the types of health care or services that qualify to be exempt must be licensed or certified by the Nebraska Department of Health and Human Services (DHHS) to be exempt from sales and use taxes. There is no sales and use tax exemption prior to these entities being accredited, licensed, or certified. They CANNOT issue either a Resale or Exempt Sale Certificate, Form 13, or a Purchasing Agent Appointment, Form 17, to any retailer or contractor relating to purchases of building materials for construction or repair projects performed prior to being accredited, licensed, or certified. After an entity becomes accredited, licensed, or certified upon completion of the construction project, it may submit a Form 4.

   Nonprofit **health care organizations** that hold a Certificate of Exemption are exempt for purchases for use at their facility, or portion of the facility, covered by the license issued under the Nebraska Health Care Facility Licensure Act. Only specific types of health care facilities and activities are exempt. Purchases of items for use at facilities that are not covered under the license, or for any other activities that are not specifically exempt, are taxable. The exemption is not for the entire organization that offers different levels of health care or other activities, but is limited to the specific type of health care that is exempt. Purchases for non-exempt types of health care are taxable.

4. Purchases of motor vehicles, trailers, semitrailers watercraft, and aircraft used predominately as common or contract carrier vehicles; accessories that physically become part of the common or contract carrier vehicle; and repair and replacement parts for these vehicles. The exemption ID number must be entered in Section B of the Form 13. An individual or business that has been issued a common or contract carrier certificate of exemption may only use it to purchase those items described above prior to the expiration date on the certificate. The certificate of exemption expires every 5 years. (See Nebraska Common or Contract Carrier Information Guide).

5. Purchases of manufacturing machinery and equipment made by a person engaged in the business of manufacturing, including repair and replacement parts or accessories, for use in manufacturing. (See Reg-1-107, Manufacturing Machinery and Equipment Exemption).

6. Occasional sales of used business or farm machinery or equipment productively used by the seller as a depreciable capital asset for more than one year in his or her business. The seller must have previously paid tax on the item being sold. The seller must complete, sign, and give the Exempt Sale Certificate to the purchaser. (See Reg-1-022, Occasional Sales). The Form 13 must be kept with the purchaser's records for audit purposes.

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NEBRASKA
Good Life. Great Service.
DEPARTMENT OF REVENUE

# Purchasing Agent Appointment
## and Delegation of Authority for Sales and Use Tax

FORM
17

## Section A – Purchasing Agent Appointment

| Name and Address of Contractor | Name and Address of Exempt Governmental Unit or Exempt Organization |
|---|---|
| Name | Name |
| Street or Other Mailing Address | Street or Other Mailing Address |
| City State Zip Code | City State Zip Code |

| Name and Location of Project | Appointment Information |
|---|---|
| Name | Effective Date (See instructions) |
| Street Address | Expiration Date |
| City State Zip Code | Nebraska Exemption Number (Exempt Organizations Only) |

Provide the contract name, number, and a description of the project.

The undersigned governmental unit or exempt organization appoints the above-named contractor and the contractor's delegated subcontractors as its agent to purchase and pay for building materials that will be annexed to real estate by them into the tax exempt construction project identified above.

**sign here** Authorized Signature of Exempt Governmental Unit or Exempt Organization | Title | Date

## Section B — Delegation of Contractor's Authority
**A contractor can delegate its authority to its subcontractor.**

| Name and Address of Subcontractor | Delegation Information for the Project Identified in Section A |
|---|---|
| Name | Effective Date |
| Street or Other Mailing Address | Expiration Date |
| City State Zip Code | Portion of Project |

The undersigned contractor hereby delegates authority to the above-named subcontractor to act as the purchasing agent of the named governmental unit or exempt nonprofit organization.

**sign here** Signature of Contractor or Authorized Representative | Title | Date

| Name and Address of Subcontractor | Delegation Information for the Project Identified in Section A |
|---|---|
| Name | Effective Date |
| Street or Other Mailing Address | Expiration Date |
| City State Zip Code | Portion of Project |

The undersigned contractor hereby delegates authority to the above-named subcontractor to act as the purchasing agent of the named governmental unit or exempt nonprofit organization.

**sign here** Signature of Subcontractor or Authorized Representative | Title | Date

| Name and Address of Subcontractor | Delegation Information for the Project Identified in Section A |
|---|---|
| Name | Effective Date |
| Street or Other Mailing Address | Expiration Date |
| City State Zip Code | Portion of Project |

The undersigned contractor hereby delegates authority to the above-named subcontractor to act as the purchasing agent of the named governmental unit or exempt nonprofit organization.

**sign here** Signature of Subcontractor or Authorized Representative | Title | Date

**revenue.nebraska.gov, 800-742-7474 (NE and IA) 402-471-5729**

# SECTION 1
# GENERAL CONDITIONS

## SECTION 1-1 - DEFINITION OF WORDS AND TERMS

Wherever in these specifications or in other contract documents the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

**1.101 Advertisement.** The advertisement for work or materials on which bids are to be received.

**1.102 Award.** The decision of the City to accept the proposal of the lowest responsible bidder for the work, subject to the execution and approval of a satisfactory contract thereof and bond to secure the performance thereof, and to such other conditions as may be specified or otherwise required by law.

**1.103 Bidder.** Any individual, firm, or corporation formally submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

**1.104 Calendar Day.** Every day shown on the calendar, except weekends and holidays included: New Year's Day, Martin Luther King Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving, Friday after Thanksgiving, ½ Day Christmas Eve, and Christmas Day.

**1.105 Change Order.** A written order to the Contractor, signed by the Engineer, ordering a change in the work from that originally shown in the plans and specifications.

**1.106 City.** The word "City" as used in these specifications refers to City of Hastings, Nebraska.

**1.107 Contract.** The written agreement executed between the City and the Contractor, covering the performance of the work and the furnishing of labor and materials, by which the Contractor is bound to perform the work and furnish the labor and materials, and by which the City is obligated to compensate him therefore at the mutually established and accepted rate or price.

The contract shall include the "Notice to Bidders", these specifications, the Contractor's Bond, the general and detailed plans, the Proposal, Special Provisions, and Supplemental Agreements.

**1.108 Contract Item.** An item of work specifically described and for which a price, either unit or lump sum, is provided. It includes the performance of all work and the furnishing of all labor, equipment, and materials described in the text of a specification item included in the contract or described in any subdivision of the text of the supplemental specification or special provision of the contract.

**1.109 Contract Period.** The period from the date specified in the contract for the commencement of work to the date specified for its completion, both dates inclusive.

# SECTION 1- GENERAL CONDITIONS

**1.110 Contractor.** The party of the second part to the contract; the individual, firm, or corporation undertaking the execution of the work under the terms of the contract and acting directly or through his, their, or its agents or authorized employees.

**1.111 Easement (Right-of-Way).** A right acquired by public authority to use or control property for a designated purpose.

**1.112 Engineer.** The Director of Engineering, acting either directly or through an assistant or other representative duly authorized by the Director of Engineering, such assistant or representative acting within the scope of the particular duties assigned him, or of the authority given him.

**1.113 Extra Work.** Work performed by the Contractor in order to complete the contract in an acceptable manner but for which there is no basis of payment provided in the contract.

**1.114 Inspector.** An authorized representative of the Engineer assigned to make detailed inspection of any or all portions of the work performed and materials furnished by the Contractor.

**1.115 Laboratory.** The testing laboratory of the City or any other testing laboratory which may be designated by the Engineer.

**1.116 Maintenance Bond.** Insures the owner of a completed construction project for a specified time period against defects and faults in materials, workmanship and design.

**1.117 Notice to Bidders.** The provisions, requirements, and instructions pertaining to the work to be awarded, manner and time of submitting proposals, quantities of the major items or work required, as prepared for the information of bidders.

**1.118 Performance Bond.** The approved form of security, executed by the Contractor and his surety or sureties, guaranteeing complete execution of the contract and all supplemental agreements pertaining thereto and the payment of all legal debts pertaining to the construction of the project.

**1.119 Plans.** The official plans, profiles, working drawings, and supplemental drawings, or exact reproductions thereof, approved by the Engineer, which show the location, character, dimensions and details of the work to be done, and which are to be considered as a part of the contract supplementary to these specifications.

**1.120 Project.** The specific section of the street together with all appurtenances and construction to be performed thereon under the contract.

**1.121 Proposal.** The offer of the bidder, submitted on the prescribed proposal form, to perform the work and to furnish the labor and materials at the prices quoted by the bidder.

**1.122 Proposal Form.** The approved form on which the City requires formal bids be prepared and submitted.

**1.123 Proposal Guaranty.** The security furnished by the bidder with his proposal for a project, as a guaranty that he will enter into a contract for the work if his proposal is accepted.

**1.124 Right-of-Way.** The land area which is reserved or secured by the City for constructing the work or for obtaining material therefore.

**1.125 Special Provisions.** Special directions, provisions or requirements peculiar to the project under consideration and not otherwise thoroughly or satisfactorily detailed or set forth in the specifications. See Section II Special Provisions.

**1.126 Specifications.** The general term comprising all the directions, provisions, and requirements contained herein, together with such as may be added or adopted as supplemental specifications or special provisions, all of which are necessary for the proper performance of the contract.

**1.127 Subcontractor.** Any individual, firm, or corporation to whom the Contractor, with the written consent of the City, sublets any part of the contract.

**1.128 Superintendent.** The representative of the Contractor, present on the work at all times during progress, authorized to receive and fulfill instructions from the Engineer and capable of superintending the work efficiently.

**1.129 Surety.** The corporate body bound with and for the Contractor for the acceptable performance of the contract and the completion of the work, and for payment of all just claims arising therefrom.

**1.130 Work.** Work shall be understood to mean the furnishing of all labor, materials, equipment, paying all applicable city, state, and federal taxes, and other incidentals necessary or convenient to the successful completion of the project by the Contractor and the carrying out of all the duties and obligations imposed by the contract if applicable.

**1.131 Working Day.** Any day, except Saturdays, Sundays, and City of Hastings holidays. Working days for a project area shall be counted consecutively from project starting date.

**1.132 Completion of the Work and Formal Acceptance by the City.** Whenever the term "completion of the work and formal acceptance by the City" is used, it refers to and means the formal acceptance of the work by the Engineer and the City at the time the Contractor has all work under the contract completed and in place. Release of the final pay estimate shall constitute formal acceptance by the City.

**1.133 Final Acceptance of the Work.** Whenever the term "final acceptance of the work" is used, it refers to and means the time when the Engineer and City finally accept the work after the expiration of the time for which the Contractor guarantees to keep the work in repair.

**1.134 Abbreviations.**

| | |
|---|---|
| A.A.S.H.O. | American Association of State Highway Officials |
| A.S.M.E. | American Society of Mechanical Engineers |
| A.S.T.M. | American Society for Testing Materials |
| A.R.E.A. | American Railway Engineering Association |

# SECTION 1- GENERAL CONDITIONS

| | |
|---|---|
| A.W.S. | American Welding Society |
| D.O.T. | Department of Transportation, Office of Pipeline Safety |
| O.S.H.A. | Occupational Safety and Health Administration |
| A.W.W.A. | American Water Works Association |

## SECTION 1-2 - PROPOSAL REQUIREMENTS AND CONDITIONS

**1.201 Contents of Proposal Forms.** Bidders will be furnished with proposal forms which will state the location and description of the contemplated work and will show the estimate of the various quantities and kinds of work to be performed or materials to be furnished, with a schedule of items for which unit bid prices are asked, and the time in which the work must be completed, and the date, time, and place of opening bids. All special provisions and required provisions will be grouped together and bound with or included through reference in the proposal form.

**1.202 Interpretation of Quantities in Proposal Forms.** The quantities listed in the proposal forms are to be considered as approximate, unless otherwise provided by special provision. It is understood that the quantities of work to be done and materials to be furnished may each be increased, diminished or omitted, as hereinafter provided, without in any way invalidating the unit bid prices, except as provided in Article 1.403.

**1.203 Examination of Plans, Specifications, Special Provisions, and Site of Work.**. The bidder is required to examine carefully the site, and the proposal, plans, specifications, special provisions, and contract form, for the work contemplated, and it will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of these specifications, the special provisions, and contract. It is mutually agreed that the submission of a proposal shall be considered prima facie evidence that the bidder has made such examination.

**1.204 Preparation of Proposal.** Bidders shall submit their proposals on blank forms furnished by the Engineer, with the full name and address and the place of business or residence of the bidder. If the bidder is co-partnership, then the signature shall be by a member of the firm, with the names and addresses of each member; and if a corporation, then by an officer of the corporation in the corporate name and with the corporate name and with the corporate seal attached thereto.

All blank spaces in the form shall be fully filled; numbers shall be stated in legible figures and writing when required; the signature shall be longhand; and the complete form shall be without interlineation, alteration or erasure.

No oral, telegraphic, telephonic, faxes, or electronically mailed proposals or modifications will be considered.

When certain alternative prices, for both increasing and decreasing the cost, are required, as called for in the proposal sheet, it must be understood that all materials and workmanship required shall be the best of their respective kinds; and in all cases, shall correspond with similar

work herein specified and, if accepted, the work shall be done under the general terms of the specifications.

**1.205 Statement of Bidder's Financial Conditions.** Any bidder may be required by the City to submit data to satisfy the City that such bidder is prepared to fulfill the contract if it is awarded to him.

**1.206 Certified Check, Cashier's Check or Bid Bond.** Each bidder must submit with his proposal a certified check, cashier's check or bid bond in the amount of not less than five percent (5%) of the amount bid, drawn to the order to the City of Hastings, Nebraska, guaranteeing the execution of the contract and bond required, within ten (10) days of the notification of award. Any certified check must be issued by a U.S. Commercial Bank.

**1.207 Filing of Proposal.** The proposal and the supporting proposal guaranty for each project shall be filed in separate but attached envelopes, so marked as to indicate their contents. All proposals shall be filed with the City at the place designated in the notice to bidders, prior to the time advertised for the opening of bids.

**1.208 Withdrawal of Proposal.** A bidder will be permitted to withdraw his proposal unopened after it has been submitted, if his request for withdrawal is made in writing and delivered personally by the bidder or his authorized representative prior to the time specified for opening bids.

**1.209 Public Opening of Proposals.** Proposals will be publicly opened and read at the time and place stipulated in the notice to bidders.

**1.210 Material Guaranty.** The bidder may be required to furnish a complete statement of the origin, composition, and manufacture of any or all materials to be used in the construction of the work, together with samples, which samples may be subjected to the tests provided for in these specifications to determine their quality and fitness for the work.

## SECTION 1-3 - AWARD OF CONTRACT

**1.301 Consideration of Proposals.** After the proposals are opened and read, they will be compared on the basis of the summation of the products of the quantities shown in the bid schedule by the unit bid prices. The results of such comparisons will be immediately available to the public.

The right is reserved to reject any and all proposals and to waive technical errors as may be deemed best for the interest of the City.

**1.302 Award of Contract.** In the award of contract, consideration will be given not only to the prices bid but also the mechanical and other equipment available to the bidder, the financial responsibility of the bidder, and his ability and experience in the performance of like or similar contracts.

The award of alternatives proposed will be selected not only of the price but of the quality of the products provided, availability of replacement parts, repair, connection to future or existing systems, longevity, durability, function, and all other engineering and operational consideration.

Award of contracts will be made as promptly as practical after bids have been opened and read. The City reserves the right to delay the award for such time as is needed for the consideration of the bids, and for the receipt of concurrence in recommended contract awards from other governmental agencies whose concurrence may be required.

**1.303 Cancellation of Award.** The City reserves the right to cancel the award of any contract at any time before the execution of the said contract by all parties without any liability against the City.

**1.304 Return of Proposal Guaranty.** Proposal guaranties will be returned to the unsuccessful bidders by mail promptly after the signing of the contract has been made. Return to the successful bidder will be made after the signing of the contract and filing of the contract bond.

**1.305 Maintenance Bond.** The Contractor shall furnish a maintenance bond with a company having the approval of the City in an amount of one hundred percent (100%) of the completed construction project for a specified time period of three (3) years against defects and faults in materials, workmanship, and design.

In the event that Contractor chooses to submit a bond other than the bond from contained in this package, such submission is done at the risk of the bidder. All such substituted bond forms shall contain indemnification both for performance and warranty as set out more fully in these documents

**1.306 Performance Bond.** The Contractor shall furnish a performance bond with a company having the approval of the City in an amount of one hundred percent (100%) of the contract price guaranteeing complete and faithful performance of the contract, payment of all bills of whatever nature which could become a lien against the property.

In the event that Contractor chooses to submit a bond other than the bond from contained in this package, such submission is done at the risk of the bidder. All such substituted bond forms shall contain indemnification both for performance and warranty as set out more fully in these documents.

**1.307 Failure to Execute Contract.** Failure to execute a contract and file an acceptable performance bond, as provided herein, within ten (10) days from date of award shall be just cause for the annulment of the award and the forfeiture of the certified check, bid bond, or cashier's check to the City, not as a penalty but in liquidation of damages sustained.

## SECTION 1-4 - SCOPE OF WORK

**1.401 Intent of Plans and Specifications.** The intent of the plans and specifications is to provide for the construction and completion of every detail of the work described therein. It shall be understood by the Contractor that he will furnish all labor, materials if applicable, tools, transportation, and supplies required for all or any part of the work to make each item complete in accordance with the spirit of the contract. It is understood that the apparent silence of the specifications as to any detail, or the apparent omission of a detailed description concerning any

point, shall be regarded as meaning that only the best general practice is to prevail, and that only materials and workmanship of the best quality are to be used.

For the purpose of design and the preparation of the Engineer's estimate, the City may perform a reasonable amount of exploratory work to gain information relative to surface and subsurface conditions relating to types of soil, moisture content and types and extent of rock strata.

This information, when shown on the plan, represents to the best of the City's knowledge, conditions as of the date the survey was made. The appearance of this information on the plan will not constitute a guarantee that conditions other than those indicated will not be encountered at the time of construction.

The bidder may utilize this information as he sees fit. Any bidder interested in the work is authorized to make whatever additional investigation he considers advisable.

In making such additional investigation, the bidder is directed to the Engineer for information relating to available right-of-way. If there are, at that time, any parcels of land over which the City does not have jurisdiction, right of entry must be secured by the prospective bidder from those authorized to grant such permission.

**1.402 Special Work.** Any conditions not covered by these standard specifications are stated in the special provisions.

**1.403 Increased or Decreased Quantities of Work.** The Engineer reserves the right to alter the quantities of contract items for which there are bid prices. Such increases or decreases in quantities shall be made as he considers necessary or desirable without waiving or invalidating any of the provisions of the contract; provided, that all such alterations shall be ordered in writing and that a supplemental agreement shall be executed with the Contractor for the item or items involved, when such alterations involve an increase or decrease of more than twenty percent (20%) of the total cost of the work of any group of the contract calculated from the original proposal quantities and the contract unit prices. The Contractor shall not start on any alteration requiring a supplemental agreement until the agreement setting forth an equitable adjustment of compensation, satisfactory to both parties, shall have been executed by the Engineer and the Contractor.

**1.404 Changes in Work - Change Order.** The City reserves the right to order the performance of work of a class not contemplated in the proposal but which may be considered necessary to complete satisfactorily the work included in the contract. All change orders must be approved in writing prior to start of work.

a. If applicable unit prices are not contained in the Agreement or if the total net change increases or decreases the total Contract Price more than twenty (20) percent, the City shall, before ordering the Contractor to proceed with desired changes, request an itemized proposal from him covering the work involved in the change after which the procedures shall be as follows:

    1. If the proposal is acceptable, the City will prepare the change order in accordance therewith for acceptance by the Contractor.

2. If the proposal is not acceptable and prompt agreement between the two parties cannot be reached, the City may order the Contractor to proceed with the work on a cost-plus-limited basis. A cost-plus-limited basis is defined as the net cost of the Contractor's labor, materials, and insurance plus fifteen (15) percent of said net cost to cover overhead and profit, the total cost not to exceed a specified limit.

b. Each change order shall include in its final form:

1. A detailed description of the change in the work.

2. The Contractor's proposal (if any) or a conformed copy thereof.

3. A definite statement as to the resulting change in the Contract Price and any impacts on project schedule.

4. The statement that all work involved in the change shall be performed in accordance with Contract requirements except as modified by the change order.

**1.405 Removal and Disposal of Structures and Obstructions.** The Contractor for bridge and culvert work shall remove any existing structure or part of structure that in any way interferes with the new construction. If specific payment for such work has not been provided in the contract, it will be paid for as extra work.

The Contractor shall remove any materials or structures found on the right-of- way which are not to remain in place or which have not been designated for use in the new construction. The removal and disposal of pipe culverts will not be paid for directly, but shall be considered as incidental work, and the cost of such removal and disposal shall be considered to be included in the contract price for other items. Pipe culverts shall be removed by methods that will cause a minimum of damage to the pipe culverts. The removal and disposal of bridges or other masonry or monolithic concrete construction will be paid for. If the contract does not contain an item for such work, it will be paid for as extra work. Whenever City of Hastings requires abandonment of old utility mains or services, the Contractor shall plug or cap all open ends.

**1.406 Rights In and Use of Materials Found on the Right-of-Way.** Unless stated to the contrary in the contract documents, all materials, such as stone, gravel, sand, timber, and structures or parts of structures, found on the right-of-way of the street or on land acquired for the work, are the property of the City or the City of the fee title to the land, and shall not be used or destroyed by the Contractor without special permission from the Engineer. When the Contractor is permitted to use materials found on the right-of-way, any excavations that he makes below the grade elevation shall be backfilled with other suitable materials so that the finished street will conform to the grade shown on the plans. No extra compensation will be allowed for such backfilling.

When rock excavation is encountered, any portion of rock excavation which would otherwise be deposited in waste areas and not be incorporated in the embankments may be processed and used, royalty free, by the Contractor in any other portion of the construction in which material of that quality would be acceptable. No deduction will be made from excavation quantities for rock so used.

**1.407 Right-of-Way.** Right-of-Way for the work will be provided without cost to the Contractor. Right-of-way will be made available to the Contractor on or before the date specified for the commencement of the work, unless a later date for the right-of-way to be made available to the Contractor is designated in the contract documents.

**1.408 Railroad Crossings.** Whenever the work involves construction with which railroad companies are concerned, the performance of the work is contingent upon arrangements with the railroad companies for the proposed construction. No claims will be allowed for loss or damage caused by failure to complete such arrangements. The Contractor is responsible to pay for any railroad required Contractor's fees.

## SECTION 1-5 - CONTROL OF WORK

**1.501 Authority of Engineer.** The Engineer will decide any questions that arise with reference to the intent of the contract documents and compliance therewith. They will resolve all questions relating to materials, work, progress, disputes and mutual rights between contractors, fulfillment of contract and compensation, in accordance with the provisions of these specifications.

**1.502 Plans and Working Drawings.** The approved plans will be supplemented by such working drawings as are necessary to adequately control the work. It is mutually agreed that all authorized alterations affecting the requirements and information given in the approved plans shall be in writing.

Working drawings for any structure shall consist of such detailed plans as may be required of the Contractor for the execution of the work. These are not included in the plans furnished by the Engineer. They shall include shop details, erection plans, masonry, and form work. The Engineer's prior approval of the shop details must be obtained before any fabrication work involving these plans is performed. Erection plans, masonry layout diagrams, and plans for cribs, cofferdams, false work, centering and framework, as well as any other working drawings not previously mentioned, may be required of the Contractor and shall be subject to the Engineer's approval.

**1.503 Alteration of Plans or of Character of Work.** The Engineer shall have the right to make alterations in plans or character of work as may be considered necessary or desirable during the progress of the work to complete satisfactorily the proposed construction. Such alterations shall not be considered as a waiver of any conditions of the contract or invalidate any of the provisions thereof.

**1.504 Coordination of Plans, Specifications, Special Provisions and Supplemental Specifications.** These specifications, the supplemental specifications, the plans, special provisions, and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complimentary and to describe and provide for a complete work.

**1.505 Cooperation of Contractor.** The Contractor will be supply a minimum of two sets of approved plans and contract assemblies, including special provisions, one set of which the contractor shall keep available on the work at all times.

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof, and shall cooperate with the Engineer and other contractors in every way possible.

The Contractor shall at all times have on the work, as his agent, a competent superintendent capable of reading and thoroughly understanding the plans and specifications, knowledgeable in the pertinent industry codes and standards, thoroughly experienced in the type of work being performed, who shall receive instructions from the Engineer or his authorized representatives.

The superintendent shall have full authority to execute the orders or directions of the Engineer without delay, and to promptly supply such materials, equipment, tools, labor and incidentals as may be required. Such superintendent shall be furnished irrespective of the amount of work sublet.

Before starting any work under this Contract, the Contractor shall file with the City a letter signed by an officer of the company (or City, or partner, as the case may be), giving the name, address, and telephone number of the superintendent who is to represent the Contractor in all matters with prosecution of the work and who is to officially receive on behalf of the Contractor, notices or directions issued by the City or its Engineer, and act upon them as required. If, during the life of the Contract, a change in superintendents is made by the Contractor, a new letter shall be filed simultaneously with the change.

**1.506 Surveys.** Lines and elevations shall be established by the Engineer before the work commences, and the Contractor shall obtain lines and elevation from the points so set by the Engineer. The Contractor shall furnish all stakes necessary for lines and elevations and necessary cooperation for the Engineer in setting same.

All property pins, section corners, right of way monuments, permanent bench marks (brass caps), and all other survey monuments disturbed or removed by the Contractor shall be replaced by a licensed Surveyor at the expense of the Contractor. The Contractor shall take all necessary precaution to maintain in good condition all survey monuments.

The Contractor will insure the Engineer or his representative is present to verify the elevation of each sanitary sewer manhole set or tied into. The Contractor will also insure the Engineer or his representative is present to verify the location of all utilities (highways, railroads, drainage, etc.) uncovered, crossed, or otherwise exposed during the completion of the project. The Contractor shall keep the Engineer or his representative abreast of activities so adequate response by the Engineer or his representative can be made without unduly delaying the construction process. A 24 hour notice may be enforced if sufficient time is not allowed by the Engineer or his representative to conduct all necessary field surveys.

See specification 2.015 for additional information.

**1.507 Authority and Duties of Inspector.** The City may appoint inspectors to represent the Engineer in the inspection of all materials used in and all work done under the contract. Such inspection may extend to any part of the work and to the preparation of manufacture of the materials to be used. The Inspector will not be permitted to modify in any way the provisions of the contract documents, nor to delay the work by failing to inspect materials and work with reasonable promptness. An inspector is placed on the work to keep the Engineer informed as to its progress and the manner in which it is being done; also, to call the Contractor's attention to any infringements of the contract documents. The Inspector will not act as foreman or perform other duties for the Contractor, not improperly interfere with the management of the work. He will not be authorized to approve or accept any portion of the work. In case of dispute between the Contractor and Inspector as to quality of materials or the manner of performing the work, the

Inspector shall have authority to reject materials or suspend the work until the question at issue can be decided by the Engineer. Written notice of the suspension of work will be given to the Engineer and the Contractor.

Upon the failure of Contractor or its Subcontractors to comply with any of the requirements of this Contract (but not limited to quality or safety), the City shall have the authority to stop any portion of the work affected by such failure until such failure is remedied. If the City issues a Stop Work Order, the City shall not be liable for any costs or expenses claimed by Contractor arising out of such issuance. The construction schedule shall not be delayed or extended as a result of the City's issuance of a Stop Work Order.

**1.508 Inspection of Work.**

a. The Contractor shall notify the City sufficiently in advance of backfilling or concealing any facilities to permit proper inspection. If any facilities are concealed without approval or consent of the City, the Contractor shall uncover for inspection and recover such facilities, all at his own expense.

b. The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether the work is being performed in conformance with the contract documents. At any time before acceptance of the work, upon request of the Engineer, the Contractor shall remove or uncover such portions of the finished work as the Engineer may direct. After examination has been made, the Contractor shall restore such portions of the work to the standard required by the contract documents.

c. Should it be considered necessary or advisable by the City any time before final acceptance of the entire work to make an examination of work already completed by uncovering the same, the Contractor shall on request promptly furnish all necessary facilities, labor and material. If such work is found to be defective in any important respect, due to fault of the Contractor or his Subcontractors, the Contractor shall defray all expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus fifteen (15) percent of such costs to cover superintendent's, general expenses and profit, shall be allowed the Contractor and he shall in addition, if completion of the work of the entire Contract has been delayed thereby, be granted a suitable extension of time on account of the additional work involved.

**1.509 Removal of Defective Work.** Any defective work shall be removed and replaced at the Contractor's expense. Should the Contractor fail or refuse to remove defective work when so ordered by the Engineer, the Engineer shall have authority to order the Contractor to suspend further operations, and may withhold payment on estimates until such defective work has been removed and replaced in accordance with the plans and specifications. Continued failure or refusal on the part of the Contractor to correct defective work promptly shall be sufficient cause for the City to declare the contract in default, and to proceed to have the work completed in accordance with Article 1.808.

**1.510 Final Inspection.** Upon written notification by the Contractor or his authorized representative that the work is completed, the Engineer shall make a final inspection within 10 days of the completion of all work included in the contract. If the work is found not to be in

accordance with the contract documents, the Engineer shall provide the Contractor with a "Punch List" of the particular defects to be remedied.

Once the Engineer and Contractor determines the work is completed a written Notice by the Engineer shall be given to the Contractor within 10 days of the completion of all work items.

**1.511 Review By City.** The City, its authorized representatives and agents shall at all time have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however, that all instructions and approval with respect to the work will be given to the Contractor only by the City through its authorized representatives or agents.

**1.512 Quality Control.** The contractor shall make every effort to provide control of the workmanship of the project. This shall include but not be limited to the following construction practices.

1. Concrete surfaces of sidewalks, paving, slab on grade and other related concrete work shall be smooth and constructed to the elevations as shown on the plans or as directed by the Engineer. An acceptable construction tolerance shall be agreed upon before work is to begin. The Contractor shall notify the Engineer 72 hours before any work is to begin which will involve concrete finishing.
2. Lines and grades of all pipes, conduits, casing, grading, etc. shall be constructed according to the plans or as directed by the Engineer. An acceptable construction tolerance shall be agreed upon before any pipeline, conduit installation, casing installation, or grading begins.

## SECTION 1-6 - CONTROL OF MATERIALS.

**1.601 Source of Supply and Quality Requirements.** The materials used on the work shall meet all quality requirements of the contract. In order to expedite the inspection and testing of materials, the Contractor shall notify the Engineer of his proposed sources of materials prior to delivery. At the option of the Engineer, approval of the source or approval of materials at the source prior to delivery may be required. If it is found after trial that sources of supply for previously approved materials do not produce specified products or when conditions are such that the use of unfit materials cannot be prevented except by extraordinary inspection methods, the Contractor shall furnish materials from other sources. Before delivery is started and at any time during the process of preparation and use, the materials shall be subject to the approval of the Engineer.

All materials supplied shall be new and undamaged.

**1.602 Storage of Materials.** The Contractor shall be responsible for the care and storage of materials delivered on the work or purchased for use thereon. Any material that has been delivered on the work and has become damaged before actual incorporation in the work may be rejected by the Engineer even though it may previously have been accepted. Stored materials shall be so located as to facilitate thorough inspection.

**1.603 Unacceptable Materials.** All materials not conforming to the requirements of the specifications at the time they are to be used shall be considered as unacceptable and all such materials will be rejected and shall be removed immediately from the site of the work unless

otherwise instructed by the Engineer. No rejected material, the defects of which have been corrected, shall be used until approval has been given.

**1.604 Guarantee.** The Contractor shall guarantee the design, equipment, materials, and workmanship furnished under this Contract to be as specified and to be free from defects during the guarantee period. In addition, the equipment and materials furnished by the Contractor shall be guaranteed to be free from defects in design.

Except as otherwise prescribed by the terms of any special guarantees required by the contract documents, the guarantee period shall begin on the date of formal acceptance by the City and shall end 36 months later.

Upon notification, the Contractor shall promptly make all adjustments, repairs, or replacements which, in the opinion of the Engineer or City, arose out of defects and became necessary during the guarantee period.

The cost of all materials, parts, labor, transportation, supervision, special tools, and supplies required for replacement or repair of parts and for correction of defects shall be paid by the Contractor or by the surety.

This guarantee shall be extended to cover all repairs and replacements furnished under the guarantee, including repair for ditch settlement, and the period of the guarantee for each such repair or replacement shall be 36 months after installation or the end of the project guarantee period, whichever is later, except as otherwise prescribed by the terms of any special guarantees required by the contract documents.

If within 10 days after the City has notified the Contractor of a defect, failure, or abnormality in the work, the Contractor has not started to make the necessary repairs or adjustments, the City is hereby authorized to make the repairs or adjustments or to order the work to be done by a third party, the cost of the work to be paid by the Contractor.

In the event of an emergency where, in the judgment of the City, delay would cause serious loss or damage, repairs or adjustments may be made by the City, or a third party chosen by the City, without advance notice to the Contractor and the cost of the work shall be paid by the Contractor or by the surety.

The acceptance of the installation, or any part of it, shall not act to waive this liability on the part of the Contractor.

**1.605 "Or Equal" Clause.** Whenever, in any section of the contract documents, plans or specifications, any article, materials, or equipment is defined by describing a proprietary product or by using the name of a manufacturer or vendor, the term "or approval equal", if not inserted, shall be implied. The specified article, material, or equipment mentioned shall be understood as indicating the type, function, minimum standard or design, efficiency and quality desired, and shall not be construed in such a manner as to exclude manufacturer's products of comparable quality, design and efficiency. The Engineer shall determine the acceptability of articles, materials or equipment proposed as equals.

**1.606 Shop Drawings.** The Contractor shall submit for review and approval all shop drawings as indicated in these specifications before the beginning of construction. Failure to submit shop drawings shall suspend payment of any materials delivered or installed. This includes delivery of materials in storage. These requirements will be strictly enforced.

## SECTION 1-7 - LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

**1.701 Laws to be Observed.** The Contractor shall keep himself fully informed of, and at all times, shall observe and comply with all federal and state laws, all local bylaws, ordinances, and regulations, and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall protect and indemnify the City and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his employees. It shall be the responsibility of the Contractor to provide all safeguards, safety devices and protective equipment and to take any other needed actions as are reasonably necessary to protect the life and health of employees on the project.

**Work Eligibility Status**. As required under Nebraska LB 403 for any contract entered into after October 1, 2009 the Contractor must register and use a federal immigration verification system, such as the E-Verify Program or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility of a newly hired employee pursuant to the Immigration Reform and Control Act of 1986, to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

**1.702 Fair Labor Standards.** The Contractor agrees to comply with all current applicable State, Federal, and City fair labor standards in the execution of the contract.

**1.703 Permits.** The Contractor shall procure and pay for all permits, licenses and bonds necessary for the execution of his work and/or required for municipal, state and federal regulations and laws.

**1.704 Restoration of Surfaces Opened by Permit.** Upon the presentation of a duly authorized and satisfactory permit from the City, which provides that all necessary repair work will be paid for by the party to whom such permit is issued, the Engineer may authorize the Contractor to allow parties bearing such permits to make openings in the street. The Contractor shall make in an acceptable manner all necessary repairs due to such openings, and such necessary work ordered by the Engineer shall be paid for as provided in these specifications.

**1.705 Safety, Health and Sanitation.** In the performance of his contract, the Contractor shall comply with all applicable federal, state and local laws governing safety, health and sanitation.

a. The Contractor shall exercise proper precaution at all time for the protection of persons and property and shall be responsible for all damages to persons or property either on or off the site, which occur as a result of his prosecution of the work. The safety provisions of applicable laws and building and construction codes and OSHA shall be observed, and the Contractor shall take or cause to be taken such additional safety and health measures as the City may determine to be reasonably necessary. Machinery, equipment and all hazards shall be guarded in accordance with the safety provisions of the "Manual of Accident Prevention

in Construction," published by the Associated General Contractors of America, Inc., to the extend that such provisions are not in conflict with applicable local laws. The Contractor shall comply with the latest edition of Part VI of the Manual on Uniform Traffic Control Devices. The Contractor shall install plastic fence on open holes when directed by the Inspector. The Contractor shall wear hard hats and safety glasses at all times on the construction site.

b. The Contractor shall maintain an accurate record all cases of death, occupational disease, or injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The Contractor shall promptly furnish the City with reports concerning these matters.

c. The Contractor shall indemnify and hold harmless the City and the Engineer and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense 1) is attributed to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and 2) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

In any and all claims against the City or the Engineer or any of their agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this paragraph "c" shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under Workmen's Compensation acts, disability benefit acts or employee benefit acts.

The obligation of the Contractor under this paragraph "c" shall not extend to the liability of the Engineer, his agents or employees arising out of 1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications, or 2) the giving of or failure to give directions or instructions by the Engineer, his agents or employees provided such giving or failure to give is the primary cause of the injury or damage.

The Contractor shall immediately correct any unsafe conditions identified by the City. In the event the Contractor fails to immediately correct such unsafe conditions, the City may either have the unsafe conditions corrected by others at the Contractor's expense, or direct that the work be stopped in the area of the unsafe condition; however, this right to stop/suspend the work shall not give rise to any duty on the part of the City to exercise this right.

The Contractor waives the right to bring claim for damages against the City or Engineer for the correction of unsafe conditions or work stoppages in connection with the Contractor's Safety, Health, and Accident Prevention Program or such program of another contractor. If such a claim against the City or Engineer is brought by a third party, the Contractor shall indemnify and defend

the City or Engineer against such claim. The Contractor shall submit to City of Hastings a current copy of the company safety manual before starting work.

**1.706 Claims for Labor and Materials.** The Contractor shall indemnify and save harmless the City from all claims for labor and materials furnished under this contract. When requested by the City, the Contractor shall submit satisfactory evidence that all persons, items, or corporation who have done work or furnished materials under this contract, for which the City may have become liable under the laws of the State, have been fully paid or satisfactorily secured. In case such evidence is not furnished or is not satisfactory, an amount will be retained from money due the Contractor which, in additional to any other sums that may be retained, will be sufficient, in the opinion of the City, to meet all claims of the persons, firms, and corporations as aforesaid. Such sum shall be retained until the liabilities as aforesaid are fully discharged or satisfactorily secured.

**1.707 Contractor's Insurance Coverage.** The Contractor shall not commence work under this Contract until Contractor has obtained all the insurance required under this article. Furthermore, the Contractor shall not allow any sub-contractor to commence work under this Contract until the sub-contractor has obtained the same insurance as is required of the Contractor. The sub-contractor alone shall be responsible for the sufficiency of its own insurance program.

**Certificates of Insurance.** Certificates of Insurance acceptable to the City shall be filed with the City prior to commencement of the work. These Certificates shall contain a provision that coverages afforded under the policies will not be canceled, or materially altered, until at least 30 days prior written notice has been given to the City. All insurance carried shall conform to the relevant provisions of the respective Project Documents and be with insurance companies which are rated "A, X" or better by Best's Insurance Guide, or other insurance companies of recognized responsibility satisfactory to the City.

**Additional Insureds.** Insurance coverages furnished under this Contract, with the exception of Workers' Compensation and Employer's Liability, shall include the City of Hastings and their partners, directors, officers, agents, and employees as Additional Insureds on a primary and noncontributory basis, and shall include Products and completed operations with respect to the activities of the Contractor and shall be maintained for the full duration of the project including for a period after completion to include the statute of repose.

Notwithstanding any other provision of these policies, the insurance afforded shall apply separately to each insured, with respect to any claim, suit, or judgment made or brought by or for any other insured, as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount or amounts for which the insurer would have been liable had only one insured been named.

The City shall not by reason of their inclusion under these policies incur liability to the insurance carrier for payment of premium for these policies.

**Waiver Of Subrogation.** The Contractor and their sub-contractor shall require their insurance carriers, with respect to all insurance policies, to waive all rights of subrogation against the City their partners, directors, officers, agents, and employees.

**Workers' Compensation And Employer's Liability Insurance.** The Contractor shall procure, and shall maintain during the life of this Contract, Workers' Compensation Insurance as required by workers' compensation laws of the State of Nebraska and also of the state in which the sub-contractor is domiciled.

The Contractor shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a workers' compensation law. The Employer's Liability Insurance shall contain the following limits of liability:

| | |
|---|---|
| Bodily Injury by Accident | $500,000 each accident |
| Bodily Injury by Disease | $500,000 each employee |
| Bodily Injury by Disease | $500,000 policy limit |

**General Liability Insurance.** This insurance shall be written per project on an "occurrence" policy form, including coverage for premises/operations, products/completed operations, broad form property damage, blanket contractual liability, independent contractor's and personal injury, with no exclusions for explosion, sudden and accidental pollution or an absolute or total pollution exclusion, collapse and underground perils. The commercial general liability policy shall also include a severability of interest clause and a cross liability clause in the event more than one entity is "named insured" under the liability policy. If applicable, this policy shall also be endorsed to include railroad protective with limits no less than replacement cost of the value of any real property covered under any rail agreement entered into by the City. If work is being done near a railroad track, the 50' railroad right of way exclusion must be deleted.

Limits of Insurance shall be as follows:

| | |
|---|---|
| Each Occurrence Limit | $1,000,000 |
| Products/Completed Operations | $2,000,000 |
| General Aggregate Limit | $2,000,000 |
| Personal and Advertising Injury | $1,000,000 |

**Pollution Liability – (If Applicable).**

Limits of at least: $1,000,000 per occurrence; $1,000,000 aggregate

If Contractor or its Sub-subcontractor's work includes but not limited to remediating, handling, processing or disposing of hazardous material including but not limited to asbestos containing materials, silica, lead, PCBs, contaminated soil, etc, coverage shall be provided for bodily injury, property damage and clean-up costs resulting for pollution conditions.

**Riggers Liability – (If applicable).** Should work involve the moving, lifting, lowering, rigging or hoisting of property or equipment Contractor shall carry Rigger's Liability Insurance to insure against physical loss or damage to the property or equipment on a Replacement Cost Basis

**Automobile Liability Insurance.** This insurance shall be written under a Business Auto Policy and shall protect the Contractor and Additional Insureds against claims arising from injuries to

members of the public or damage to property of others arising from the use of automobiles whether such automobiles are owned, non-owned, or hired. Automobile insurance shall include Motor Carrier Endorsement Act MCS 90 and transportation pollution coverage if applicable. If work is being done near a railroad track, the 50' railroad right of way exclusion must be deleted.

Limit of Liability $1,000,000 each accident

**Umbrella Liability Policy.** This insurance shall protect the Contractor and the Additional Insureds against all claims in excess of the limits provided under the employer's liability, automobile liability, and general liability policies. The liability limits of the umbrella liability policy shall be not less than $5,000,000 per occurrence. This policy shall be an "occurrence" type policy. However, City reserves the right to require higher limits with respect to each project.

**Professional Liability** (Applicable for contractors providing or is responsible for providing design/engineering/surveying services/or consulting services):

Limits of at least: $1,000,000 per occurrence; $1,000,000 aggregate

Policy shall provide for a retroactive date prior to the starting date of services for which this agreement applies. Policy shall not exclude bodily injury, property damage, or pollution liability. Coverage shall remain in force for a minimum of 3 years following substantial completion of construction through either policy renewal or the purchase of an Extended Reporting Provision. Contractor agrees to waive its rights of recovery. Subcontractor's insurer shall endorse the policy to waive subrogation against Owner and their respective agents, officers, directors and employees.

**Transportation Insurance.** Contractor shall purchase inland marine coverage at the expense of Contractor on all equipment and materials, where City has an insurable interest. Insurance shall protect for Contractor and City from physical loss of equipment while loading, unloading, in transit to jobsite, and until equipment or materials have been installed or received by City.

**Proof of Carriage of Insurance.** Satisfactory certificates of insurance shall be filed with the City prior to starting any construction work on this contract. The certificates shall state that thirty (30) days written notice shall be given to the City before any policy covered thereby is changed or canceled.

**Indemnification.** To the fullest extent permitted by laws and regulations, the Contractor shall defend, indemnify, and hold harmless the City, their officers, directors, partners, consultants, agents, and employees from and against all claims, damages, losses, and expenses, direct, indirect, or consequential (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising out of or resulting from the performance of the work by the Contractor, any sub-contractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work, or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by law and regulations regardless of the negligence of any such party.

In any and all claims against the City, or of any of their officers, directors, partners, consultants, agents, or employees by any employee of the Contractor, any sub-contractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, this indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any such sub-contractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts, nor shall this indemnification obligation be limited in any way by any limitation on the amount or type of insurance coverage provided by the City, the Contractor, or any of their sub-contractors.

**Property Insurance A.K.A. Builder's Risk.** Unless otherwise provided, the CONTRACTOR shall purchase and maintain property insurance, a.k.a. builder's risk insurance, on the building construction project in amount thereto for entire work at site on a replacement cost basis. Such property insurance shall be maintained, unless otherwise provided in contract documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final acceptance of work by OWNERS. Insurance shall include interests of OWNERS, CONTRACTOR, SUBCONTRACTOR, and sub-subcontractors in work. This property insurance covering work will have deductible for each occurrence, which will be responsibility of CONTRACTOR.

Before an exposure to loss may occur, the CONTRACTOR will provide a copy of the property insurance policy or evidence of property insurance, upon request that includes all property insurance coverages. The CONTRACTOR will not cancel or allow such policy to expire without written notice to the other.

Waivers of Subrogation: OWNER and CONTRACTOR and all SUBCONTRACTORS waive all rights against
(1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) OWNER'S or CONTRACTOR'S consultants, separate contractors, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other perils to extent covered by property insurance obtained, or other property insurance applicable to work, except such rights as they have to proceeds of such insurance held by OWNER and/or CONTRACTOR as fiduciary. OWNER and/or CONTRACTOR, as appropriate, shall require of OWNER'S and/or CONTRACTOR'S consultants, separate contractors, if any, and subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. Policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay insurance premium directly or indirectly and whether or not person or entity had an insurable interest in property damaged.

**1.708 Contractor's Responsibility for Utility Property and Services.** At points where the Contractor's operations are adjacent to properties of railway, telephone and power companies, or are adjacent to other property, to which damage might result, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

The Contractor shall cooperate with any of the City's underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, and that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.

In the event of interruption to water or utility services as a result of accidental breakage, or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority. He shall cooperate with the said authority in the restoration of service as promptly as possible.

In no case shall interruption to water service be allowed to exist outside of working hours. Fire hydrants shall be kept accessible to the Fire Department at all times and no materials shall be kept or stockpiled within fifteen (15) feet of any fire hydrant.

The Contractor must cooperate with the utility companies and schedule his work in such a manner as to protect the existing utility facilities until the facilities are abandoned or replacement facilities are completed. In instances where partial grading is necessary before a utility can install its facilities, the Contractor shall consult with the utility and plan the work so that reasonable time can be allowed the utility for completing its work.

Contractor shall exercise particular care at all times to avoid damage to any of City of Hastings system or other facilities and equipment located at or near the scene of any part of the work, especially such facilities as may be in operation. Any costs for potholing prior to boring are considered subsidiary to the bid.

Contractor specifically acknowledges that it shall be responsible and liable to City of Hastings for all injury or damage to any such existing and operating facilities, including loss of gas or product and all repairs necessitated by any act or omission, resulting in such damages, on the part of the Contractor, his agents or employees, or any subcontractor or subcontractor's agents of employees.

Contractor shall also exercise particular care at all times to avoid damage to underground structures and lines, and specifically recognizes that it shall be held responsible for any injury or damage to unmarked or unidentified underground structures or pipelines, done by Contractor's personnel, or any subcontractor's personnel in connection with performance of the work hereunder.

Please note before beginning any excavation, the Contractor shall be responsible for contacting Diggers Hotline at 1-800-331-5666 or call 811.

**1.709 <u>No Waiver of Legal Rights.</u>** The City shall not be precluded or estopped by any measurement, estimate, or certificate made either before or after the completion and acceptance of the work and payment therefore, from showing the true amount and character of the work performed and materials furnished by the Contractor, nor from showing that nay such measurement, estimate, or certificate is untrue or is incorrectly made, nor that the work or materials do not, in fact, conform to the contract. The City shall not be precluded or estopped, notwithstanding any such measurement, estimate or certificate and payment in accordance therewith, from recovering from the Contractor or his sureties, or both, such damage as it may sustain by reason of his failure to comply with the terms of the contract. Neither the acceptance by the City, nor any representative of the City, nor any payment for

or acceptance of the whole or any part of the work, not any extension of time, nor any possession taken by the City, shall operate as a waiver of any portion of the contract or of any power herein reserved, or of any right to damages. A waiver of any breach of the contract shall not be held to be a waiver of any other or subsequent breach.

**1.710 Warranty of Title.** No material, supplies or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale, lease-purchase or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The Contractor shall warrant good title to all materials, supplies, and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed, or placed thereon, by him to the City free from any claims, liens or charges. Neither the Contractor nor any person, firm or corporation furnishing any material or labor for any work covered by this Contract shall have any right to a lien upon any improvement or appurtenance thereon.

Nothing contained in this paragraph, however, shall defect or impair the right of persons furnishing materials or labor under any law permitting such persons to look to funds due the Contractor in the hands of the City. The provisions of this paragraph shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

**1.711 Jurisdiction.** Any action in court against the Contractor or sureties on his bond, because of damages to property or individual by said Contractor, or his workmen, or because of the violation of any provision of the specifications, or on account of the failure of the Contractor to fully comply with this provision, shall be brought in the District Court of the State of Nebraska in and for Adams County.

**1.712 Care of Work.**

a. The Contractor shall be responsible for all damages to person or property that occur as a result of his fault or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance, whether or not the same has been covered in whole or in part by payments made by the City.

b. The Contractor shall provide sufficient competent watchmen, both day and night, including Saturdays, Sundays, and holidays, from the time the work is commenced until final completion and acceptance.

c. In an emergency affecting the safety of life, limb or property, including adjoining property, the Contractor, without special instructions or authorization from the City, is authorized to act at his discretion to prevent such threatened loss or injury and he shall so act. He shall likewise act if instructed to do so by the City. Any compensation claimed by the Contractor on account of such emergency work will be determined by the City as provided in Section 1.404 hereof.

d. The Contractor shall avoid damage as a result of his operations to existing sidewalks, streets, curbs, pavements, utilities (except those which are to be replaced or removed),

adjoining property, etc., and he shall at his own expense completely repair any damage thereto caused by his operations.

e. The Contractor shall shore up, brace, underpin, secure, and protect as may be necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be in any way affected by the excavations or connected with the demolition and/or site clearance of the work embraced in this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property City, public & private utility companies, or other party before the commencement of any work. The Contractor shall indemnify and save harmless the City from any damages on account of settlements or the loss of lateral support of adjoining property and from all loss or expense and from all damages for which the City may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.

## SECTION 1-8 - EXECUTION AND PROGRESS

**1.801 Subletting or Assigning or Contract.** The Contractor will not be permitted to sublet, assign, sell, transfer or otherwise dispose of the contract or any portion thereof, or his right, title, or interest therein; or to either legally or equitably assign any of the money payable under his contract, or his claim thereto, without the written consent of his surety and the Engineer. The Contractor will not be relieved of any responsibility through any of the above actions.

a. The Contractor shall be as fully responsible to the City for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

b. Nothing contained in the Contract shall create any contractual relation between any subcontractors and the City.

**1.802 Execution of Work.** The proposal for each project will show the project period. The progress of the work shall be at a rate sufficient to complete the project within the project period. If it appears that the rate of progress is such that the project will not be completed within the project period, or if the work is not being executed in a satisfactory and workmanlike manner, the City may order the Contractor to take such steps as it considers necessary to complete the project within the period of time specified, or execute the work in a satisfactory manner.

**1.803 Limitation of Operations.** The Contractor shall conduct the work at all times in such a manner and in such sequence as will insure the least interference with traffic. He shall have due regard to the location of detours and to the provisions for handling traffic. He shall not open up work to the prejudice of work already started, and the Engineer may require the Contractor to finish a section on which work is in progress before work is started on any additional section. The Contractor shall so conduct his operations and maintain the work in such condition that adequate drainage shall be in effect at all times.

**1.804 Methods and Equipment.** The methods, equipment and appliances used shall produce a satisfactory quality of work, and shall be adequate to maintain the schedule of progress specified. Equipment used on any portion of the project shall be such that no injury to the roadway, adjacent property, or other streets will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the construction are not prescribed in the contract, the Contractor is free to use any methods or equipment that he demonstrates, to the satisfaction of the Engineer, will accomplish the contract work in conformity with the requirements of the contract.

**1.805 Temporary Suspension of Work.** Work shall be suspended wholly or in part when, in the opinion of the Engineer, weather or other conditions are unfavorable to its satisfactory prosecution. Work shall also be suspended at the direction of the Engineer pending settlement or disputes arising out of failure of the Contractor to comply with the provisions of the contract. Written notice of suspension of work shall be given by the Engineer. When the conditions causing suspension no longer exist, such written notice shall be given to the Contractor by the Engineer. Promptly after such written notice, the Contractor shall resume prosecution of the work as provided in Article 1.802.

**1.806 Liquidated Damages.** Time is an essential element of the contract, and it is important that the work be pressed vigorously to completion.

For each working day that any work shall remain uncompleted either after the end of each project period or at the end of the contract completion date, the amount per working day specified in the proposal form will be assessed, not as a penalty but as predetermined and agreed liquidated damages. The City and Contractor specifically agree that the per working day amount to be assessed as liquidated damages is fair and reasonable and not excessive. The parties further agree that said per working day amount accurately reflect the anticipated loss and inconvenience to the public and lost revenue to or use by the City due to the project not being completed by the end of the project period or the end of the contract completion date. The City will prepare and forward to the Contractor an invoice for such liquidated damages. The final payment will be withheld by the City until the invoice is paid by the Contractor.

Due account shall be taken of any adjustment of the project period or the contract completion date granted under Article 1.807.

The assessment of liquidated damages for failure to complete the work either within each project period or the contract completion date shall not constitute a waiver of the City's right to collect for any additional damages which the City may sustain by failure of the Contractor to carry out the terms of its contract.

**1.807 Extension of Project Period or Contract Completion Date.** An extension of the project period or contract completion date may be granted only in writing by the City for any of the following reasons:

1. Additional work resulting from a modification of the plans for the project.
2. Delays caused by the City.
3. Other reasons beyond the control of the Contractor, which in the City's judgment would justify such extension.

No extension of project period or contract completion date will be allowed for variations between contract quantities and actual quantities which cannot be predetermined and which amount to less than twenty percent (20%) of the contract quantities unless approved by the Engineer.

**1.808 Abrogation.** If the Contractor abandons the work under this contract, sublets it or assigns it without the consent of the city, or if he fails to give his personal attention to it, or if it is the Engineer's opinion that he has unnecessarily or unreasonably delays or neglected the work or any part of it, written notice to that effect is to be given to the Contractor by the Engineer. After such notice, no materials or equipment shall be removed from the work. If, within five (5) days thereafter, the Contractor does not take steps which, in the judgment of the Engineer, will insure the satisfactory completion of the work, then the City may declare this contract null and void and the security forfeited and may notify the Contractor in written to discontinue the work or any part of it; thereupon ceases the Contractor's right or possession of the ground and of all materials and equipment thereon. The City then, at its option, may enter upon and take possession of the work with all material, supplies, and equipment remaining thereon and by contract or otherwise, as the City may determine, may complete the work or the part of it designated, and charge the expense thereof to the Contractor using any materials or equipment found on the site. The expense so charged, together with all damages incurred, will be deducted from any funds due to become due under this contract, and should the unexpended balance of these funds be insufficient, the excess shall be at the cost of the Contractor and the sureties on the Contractor's bond. Neither completion of a part of the work not the extension for any reason of the time of the completion of the work is to be considered a waiver of this right to abrogate the contract for abandonment, delay or unsatisfactory work.

**1.809 Termination of Contractor's Responsibility.** The contract shall be considered completed when the work has been accepted in writing by the City. Such acceptance shall release the Contractor from all further obligation with respect thereto, except as to conditions and requirements set forth in his bond.

**1.810 Assignment or Novation.** The Contractor shall not assign or transfer, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under this Contract without the written consent of the City, provided, however, that assignments to banks, trust companies, or other financial institutions may be made without the consent of the City. No assignment or novation of this Contract shall be valid unless the assignment or novation expressly provides that the assignment of any of the Contractor's rights or benefits under the Contract is subject to a prior lien for labor performed, services rendered, and materials, tools, and equipment supplied for the performance of the work under this Contract in favor of all persons, firms or corporations rendering such labor or services or supplying such materials, tools, or equipment.

**1.811 Disputes.**

a. All disputes arising under this Contract or its interpretation, whether involving law or fact or both, or extra work, and all claims for alleged breach of Contract shall within ten (10) days of commencement of the dispute be presented by the Contractor to the City for decision. All papers pertaining to claims shall be filed in quadruplicate. Such notice need not detail the amount of the claim but shall state the facts surrounding the claim in sufficient detail to identify the claim, together with its character and scope. In the meantime, the Contractor shall proceed with the work as directed. Any claim not presented within the time limit specified in this paragraph shall be deemed to have been waived, except if the claim is of a continuing character and notice of the claim is not given within ten (10) days of its commencement, the claim will be considered only for a period commencing ten (10) days prior to the receipt by the City of notice thereof.

b. The Contractor shall submit in detail his claim and his proof thereof. Each decision by the governing body of the City will be in writing and will be mailed to the Contractor by registered or certified mail, return receipt requested, directed to his last known address.

c. If the Contractor does not agree with any decision of the City, he shall in no case allow the dispute to delay the work but shall notify the City promptly that he is proceeding with the work under protest and he may then accept the matter in question from the final release.

## SECTION 1-9 - MEASUREMENT AND PAYMENT

**1.901 Payments.** The City, at its discretion, may include in such monthly estimates payments for materials that will eventually be incorporated in the project, provided that such materials are suitably stored on the site of the project at the time of preparing estimates for payment. Such payment is to be based upon the estimated value thereof as ascertained by the Engineer. Such material when so paid for by the City shall not be removed from the project without consent of the City and, in case of default on the part of the Contractor, the City may use or cause to be used by others these materials in construction of the project.

The City will retain five percent (5%) of the total contract amount for all work completed including change orders.

Payment of the retainage will be made within forty-five (45) days after project is substantially complete, provided the Contractor submits a Letter of Credit for 125% of the uncompleted work. Substantial completion will include water mains passing biological testing and placed into service. Sewer mains shall pass pressure testing and be televised with receipt of the inspection report.

The bid proposal price sheets include any and all work for each project. Any requirement shown in the drawings, but not listed separately in the proposal price sheets, are considered subsidiary to the work. This includes but is not limited to abandonments of existing utilities and any potholing required for utility locates prior to boring.

**1.902 Payments Withheld.** The City may withhold or, on account of subsequently discovered evidence, nullify the whole or a part of any certificate to such extent as may be necessary to protect itself from loss on account of:

1. Defective work not remedied.
2. Claims filed or reasonable evidence indicating probable filing of claims.
3. Failure of the Contractor to make payments properly to subcontractors for material or labor.
4. A reasonable doubt that the contract can be completed for the balance then unpaid.
5. Damage to another Contractor.

6. Damage to public or private property.

When the above grounds are removed, payment shall be made for amounts withheld because of them.

**1.903 Acceptance, Final Payment, and Release of Liability.** If final inspection reveals that all details of the work have been completed to his satisfaction, the Engineer shall tentatively accept the work, in writing, relieving the Contractor of further responsibility for the care and maintenance of the completed work and, provided that all equipment and materials have been removed from the right-of- way, shall also relieve the Contractor of further public liability. As soon as possible after tentative acceptance of the work, the Engineer shall measure the completed work and compute the quantities of work for which payment is to be made. Before final settlement is made, the City shall be satisfied with the completed work. When the Engineer is satisfied that all items of the work have been found to be consistent with the terms of the contract and specifications, a final estimate, including the retained percentage due the Contractor, shall be released for payment. Release of the final estimate shall constitute formal acceptance of the work. Acceptance by the Contractor of the final payment shall constitute release of the City and each of its officers and agents from any additional claim or liability hereunder for any act or negligence of the City or of any other person.

All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

**1.904 Payment for Extra Work.** The Contractor will receive and accept payment for work performed under this contract as follows:

a. Work Performed as Stipulated in the Contract. For all items of work performed which are covered by definite unit prices or lump sum amounts specified in the contract, the Contractor shall receive and accept compensation at the rate specified in the contract.

b. Extra Work. Extra work ordered by the Engineer, of a quality or class not covered by the contract, will be paid for at an agreed price. For extra work ordered by the Engineer and performed on an agreed price basis, the Engineer and the Contractor shall enter into a written agreement before such work is undertaken. This agreement shall describe the extra work that is to be done and shall specify the agreed price or prices therefore.

**END OF SECTION**

# SECTION 2
# SPECIAL PROVISIONS

## SECTION 2-0 - GENERAL

**2.001 General Provisions.** The general conditions are general in scope and may refer to conditions not encountered on the work covered by this contract. Any provisions of the General Provisions which pertains to a nonexistent condition and is not applicable to the work to be performed hereunder, or which conflicts with any provision of the Special Provisions shall have no meaning to the contract and shall be disregarded.

**2.002 Purchasing Agent Appointment and Exempt Sales Certificate.** The Contractor performing the work under this contract will be issued a "Purchasing Agent Appointment" and "Exempt Sales Certificate" signed by the authorized representative of the Owner. It is to be used by the Contractor when purchasing tangible personal property to be actually incorporated into the contract work.

**2.003 Maintenance of Traffic.** The Contractor shall conduct their work so as to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct or close roads, driveways and walks, whether public or private, the Contractor shall, at their own expense, provide and maintain suitable and safe bridges, detours, or other temporary expedients for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them. Such maintenance of travel will not be required when the Contractor has obtained permission from the owner or tenant or private property, or from the authority having jurisdiction over public property involved, to obstruct traffic at the designed area.

**2.004 Provisions for Traffic Control and/or Barricading.** The Contractor shall provide barricades and maintain a means of traffic control applicable to work site conditions. The means of traffic control and barricade(s) type(s) shall be approved by City of Hastings inspector and by appropriate agency on which work is occurring, being either or combination of city, county, or state right-of-way.

The Contractor shall provide all approved barricades with lights and furnish flagmen as required. Contractor shall provide daily maintenance on all barricades, flashers, etc., during course of construction. A person will be designated by Contractor that is in their employment to be responsible for daily maintenance and shall be available 24 hours a day, seven days a week and will have a telephone number given to City of Hastings and appropriate governing agency on whose right-of-way project is taking place.

Traffic Control shall be considered subsidiary to the project and no direct payment shall be paid for this work.

**2.005 Street Closing.** In the event it is deemed necessary for the Contractor to close any streets during the execution of work, the Contractor shall notify the owner of such street closing 48 hours in advance, prior to any street closing due to open cut street crossing, and shall notify all vital departments to include police, fire, ambulance, sheriff, street, and engineering Departments.

**2.006 Dust Control.** The Contractor shall be required to keep dusty conditions, caused by construction, from being a source of complaint by adjacent property owners by watering down haul routes or by other methods approved by the Engineer.

**2.007 Removal of Trees, Hedges, Shrubs, and/or Fences.** The Contractor shall sufficiently plan ahead to notify property owner(s) of any obstacles in the way of proposed construction that will have to be removed prior to construction by property owners if they desire to save such.

Clearing and removal of items will be shown on plans and completed by Contractor. The payment for removal of said items will be on proposal sheet, however, any tree with a diameter of 6" or less, all shrubs and bushes will be considered subsidiary to work and no additional compensation will be paid. The Contractor shall not remove any trees in the project area without prior approval of City of Hastings.

The Contractor will be required to reimburse the public for any damage to trees which is not authorized by City of Hastings.

**2.008 Shutdown, Valve Operation.** Shutdowns will be made only by City of Hastings Utilities Department personnel. In the event that an emergency condition warrants, the Contractor shall take direct action to make shutdown but must notify City of Hastings Utilities Department immediately and remain on worksite to demonstrate what has taken place to City of Hastings Utilities Department personnel.

All shutdowns, unless emergency, will be scheduled in advance and shall be the responsibility of the Contractor to notify residences and/or businesses effected and give estimated time of return of service.

**2.009 Water.** The Owner will provide access to the Contractor of any and all water necessary to construct the proposed project. The water will be furnished from the fire hydrant nearest the project. It will be the responsibility of the Contractor to contact Hastings Utilities before use of any fire hydrant. Hastings Utilities will, upon deposit from the Contractor, furnish and install a meter, check valve and shut-off for the Contractor's use. The Contractor shall furnish all other necessary hose adaptors, hose and other equipment for the distribution and transportation of the water and shall be responsible for water usage fees.

**2.010 Maintenance of Surface Drainage and Storm Sewers.** During the course of construction, the Contractor shall conduct operations in a manner that will not pond or divert surface drainage onto private property and shall maintain the existing surface drainage patterns until such time that the storm sewer system is operable. In addition, the Contractor shall provide temporary works construction which must be approved by the Engineer and shall remain in place until such time that the storm sewer system is operable. The work required for maintenance of surface drainage and storm sewers will not be paid for directly but shall be considered subsidiary to the bid items of the contract.

**2.011 Testing.** All materials will be inspected, tested and accepted by the Engineer before incorporated in the work. Any work in which untested and unaccepted materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk and may be considered as unacceptable and unauthorized and will not be paid for. Unless otherwise designated, tests in accordance with the most recent cited standard method of AASHO or ASTM, whichever are current on the date of advertisement, will be at the expense of the Contractor. All testing (concrete and subgrade) will be taken by the Engineer or a qualified representative of the Owner. The cost of concrete tests (compressive cylinder breaks) will be the responsibility of the Owner. All materials being used are subject to inspection, test or rejection at any time prior to incorporation into the work. Copies of such tests will be furnished to the Contractor at their request.

**2.012 Concrete Mix Type.** Cement and aggregates not on the latest edition of the Nebraska Department of Transportation's "Approved Product List" shall not be used without permission from the City Engineer. All Portland Cement Concrete (PCC) shall be NDOT approved Type 1P, 1S or 1T. The constituents of PCC and their mixing, handling, and proportioning shall conform to ASTM C94. Concrete not meeting the 28 day required strength shall be removed and replaced at no extra cost to the City. The Engineer may evaluate the concrete's expected use and may allow it to remain in place at 50% pay.

(a) Concrete mix for PCC pavement, driveways and structural concrete shall be State of Nebraska 47B as specified in Section 1002 of the 2017 State of Nebraska specifications.

(b) Concrete mix for sidewalks shall be State of Nebraska Type 47-B as specified in Section 1002 of the 2017 State of Nebraska Specifications.

(c) Recent and certified mill tests of P.C.C. shall be furnished to the City Engineer. Different brands of cement, or the same brand from different mills, shall not be mixed during storage. Neither shall they be used alternately in any one concrete placement without permission from the City Engineer. Contractors supplying concrete shall notify the City Engineer when changing to different cement.

(d) Cement or Fly Ash shall be protected from damage due to moisture. Cement or Fly Ash so damaged will be rejected. Cement or Fly Ash shall not be in storage at the concrete plant longer than ninety (90) days without retesting for quality testing by an approved testing facility.

(e) Contractor shall submit a Concrete Mix Design identifying the location of the ready mix or central mix plant, cement manufacturer, type of inter-ground and blended cement, type of admixtures, aggregate gradation, aggregate pit and quarry location.

(f) Contractor shall submit concrete batch tickets showing batch weights, aggregate moisture (shall be tested daily and moisture probes are allowed), admixtures used, water, and mix design calculations. A copy of the batch ticket shall be provided upon delivery of concrete.

(g) Aggregate and concrete quality are subject to approval of the Department. Aggregate shall be free of coatings that will inhibit bond and free from injurious quantities of loam, alkali, organic matter, thin or laminated pieces, paper, wood, chert, or other deleterious substances as determined by the Engineer. The use of aggregate obtained from any reclaiming or recycling process shall not be allowed without permission from the City Engineer. Aggregate from different sources shall not be mixed or stored in the same pile, nor used alternately in the same project or mixed without permission from the City Engineer.

(h) An engineer approved water-reducing admixture shall be used in all fly ash modified concrete mixes at the dosage rate recommended by the manufacturer. The water-cement ratio of all fly ash modified concrete shall not exceed the limit for the various classes of concrete as shown in Table 1002.02.

(i) All concrete shall have a minimum compressive strength of 3,500 psi at 28 days unless otherwise noted in the plans and specifications. The 7-day compressive strength should be 70% of the 28-day compressive strength.

**2.013 Landfill Fees.** The Contractor will be responsible for securing their own disposal site or paying any associated fees for disposal at the Landfill.

**2.014 Working Hours.** Normal working hours will be considered to be from 8:00 a.m. to 5:00 p.m., Monday through Friday (holidays excepted: New Year's Day, Martin Luther King Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving, Friday after Thanksgiving, ½ day Christmas Eve, and Christmas Day). Any Contractor desiring other working hours must take exception to specifications for consideration by City of Hastings. Any exception must be approved or negotiated to mutual acceptance by Contractor and City of Hastings, final acceptance will be granted in writing.

**2.015 Removal and Replacement of Property Stakes.** If it is necessary to remove any property corners or markers during construction operations, the Contractor shall notify the Engineer so that the Engineer can establish reference ties. Any markers removed without notice to the Engineer shall be replaced at the Contractor's expense in accordance with the proper land surveying techniques.

**2.016 Removal of Existing Materials.** Contractor shall remove all called for materials with care as not to ruin or damage material for further use. Any material required to be removed for reuse and has been damaged by careless and negligent action on part of Contractor, shall constitute cause for replacement or payment by Contractor. Inspection of said material for reuse shall be made at sole discretion of City of Hastings inspector. Any gas services which are removed by Contractor shall be foamed shut by Contractor.

**2.017 Existing Sprinkler Systems.** Contractor shall be responsible for the repair of existing lawn sprinkler components disturbed by the construction activities. The property owner shall be responsible to show, if possible, the location of the underground line and size as well as sprinkler

head location. Temporary plugging of line may be incurred by Contractor to keep certain areas operational of sprinkler system. Where sprinklers systems are listed as bid items, they shall be replaced in like kind, including all connectors. All sprinkler lines that will be disturbed during construction, shall be cut and protected as needed.

**2.018 Appearance of Construction Area and Storage Site.** Contractor will be required to keep the construction area in a neat and orderly fashion that would be considered reasonable in regard to work being completed.

Where sidewalks, driveways, etc., exist, Contractor shall keep them free from debris and will be swept off at the end of the construction day. Storage site will be kept in a neat and orderly manner.

No dirt will be allowed to be piled in the street overnight. Dirt piles on the terrace (or alternate locations) must meet all storm water management requirements.

Where Contractor will have a storage site for materials, equipment, etc., on property owned by City, it shall be kept in a neat and orderly manner, free from debris, accumulation of unused materials, etc. Any area used for storage, etc., shall be properly served from the public by temporary fencing if not within a fenced area.

Debris from job site must be removed same day as taken from street, yard, etc. Piling up of these materials, (i.e., concrete, brush, trees, tree limbs) will not be allowed on site.

**2.019 Construction Progress Meetings.** Construction progress meetings will be held at a predetermined time each week, time to be chosen at the preconstruction conference. City of Hastings will have in attendance Director of Engineering and Project Engineer and Inspector. Contractor shall have Project Superintendent and job foreman present.

**2.020 Final Cleaning Up.** Upon completion of the work and before acceptance and final payment, the Contractor shall clean the street, borrow pits and all ground occupied by him in connection with the work of all rubbish, excess materials, false work, temporary structures, and equipment; all parts of the work shall be left in a neat and presentable condition.

**2.021 Preconstruction Conference.** A preconstruction conference will be held at City of Hastings offices with the contractor owner, superintendent, and job foreman prior to construction and all other city, county, state, and other necessary agencies will be notified of this meeting also.

Contractor shall submit to City a detailed construction progress schedule with major milestones prior to preconstruction meeting.

A preconstruction conference shall be arranged between the Director of Engineering and the Contractor prior to beginning construction. At this meeting the following items shall be addressed.

a. Work by others. Coordination of work to be performed by subcontractors and other contractors performing work related to this project.

b. Availability of land. The site and use of adjacent land shall be reviewed.

c. Project Engineer. The project engineer will be assigned by the Director of Engineering. The Contractor shall designate a construction foreman that will be responsible for communication with the project engineer.

d. Change orders. Procedures for implementing change orders shall be reviewed.

e. Tests and inspection. As described within these documents the Contractor shall perform all necessary tests and inspections. Any documented results shall be submitted to the project engineer. At all times the project engineer shall be allowed to inspect the work being performed.

f. Safety and protection. The Contractor shall be responsible for all safety and necessary protection of all persons in attendance of the project site. The project engineer and other observers shall adhere to all safety precautions deemed necessary by the Contractor.

g. Final inspection and payment. Final inspection shall be performed by the Director of Engineering and their representatives. When all aspects of this project, as described within these documents have been met, the Contractor may submit for final payment.

h. Site security. The contractor shall erect a construction barrier around the project site. The barrier shall consists of a temporary fence with appropriate warning signs.

i. Shop drawings, submittals. The required list of submittals shall be reviewed.

- Concrete mix design
- Traffic Control Plan
- Water and Sewer material

j. Pipe Cleaning Video: When the project involves water main installation, at the end of the pre-construction conference, an AWWA instructional video on the proper cleaning and installation of water mains shall be watched by the Contractor (Owner); the Contractor's Project Foreman; Project Inspector (HU); Water Department Superintendent (HU); and one representative of HU Engineering. At the end of the video, the participants shall review the requirements for pipe installation and cleaning as noted in the specifications and on the drawings.

**2.022 Customer Relations.** Contractor shall exert all reasonable efforts to maintain good will for the benefit of City of Hastings with the landowners tenants, and lessees along the right-of-way and with the general public. The Contractor will not be allowed to start construction until he has adequate manpower and material to allow the job to progress smoothly and be complete in a reasonable amount of time. City of Hastings will have the authority to remove workers from the job site who exhibit horseplay and foul language to the public.

**2.023 Operations of the Contractor**. The Contractor shall confine operations exclusively to easements and public right-of-way. If the Contractor desires to operate equipment or store materials on private property that does not have a utility easement, he must obtain permission from the property owner. Prior to release of the payment retention by City of Hastings, the Contractor

must restore the private property to original condition. If the landowner is not satisfied with the restoration, City of Hastings will continue to hold the appropriate retention.

The quantities for seeding and sodding in the proposal include only easements and right-of-way. Any seeding and sodding required to restore areas where the Contractor has operated on private property without easements will be the responsibility of the Contractor.

## ‘SECTION 3-0 - SCOPE OF WORK

**3.001** The work covered by this section of the specifications consists of furnishing all labor, plant, equipment, appliances and materials, and performing all operations necessary to construct and complete sanitary sewers and appurtenances in strict accordance with these specifications, the applicable drawings, and subject to the terms and conditions of the contract.

### Section 3-1 - Materials

**3.101 Polyvinyl Chloride Gravity Sewer Pipe and Fittings.** All polyvinyl chloride gravity sewer pipe and fittings shall comply with the requirements and specifications of the latest revision of the following standards:

1. ASTM D-3034 SDR-35 for nominal pipe size 8" (200 mm) through 15" (380 mm). When noted on the drawings, provide SDR26 sewer pipe conforming to ASTM D-3034 for 8" (200 mm) through 15" (380 mm).

2. ASTM F-679 for nominal pipe size 18" (460 mm) through 36" (910 mm).

3. ASTM F-794 pipe stiffness – 46 PSI 4" (100 mm) through 36" (910 mm).

4. ASTM F – 1803 pipe stiffness – 46 PSI 18” (450mm) through 36” (910 mm).

The PVC pipe and fittings shall be joined with integral bell and spigot type rubber gasketed joint. All PVC joints shall comply with the requirements and specifications of the latest revision of ASTM F-477, "elastomeric gaskets for joining plastic pipe". All pipe shall be made of PVC plastic having a cell classification of 12454-C, or 12364-C as defined by ASTM D-1784. The fittings shall be made of P.V.C. plastic having a cell classification of 12454-C, or 12364-C as defined by ASTM D-1784.

Provide manhole and fitting adapters as required for ASTM F-794 and ASTM F-1803 pipe provided. This shall include connection to A-Lok manholes, service saddles, and the sewer pipe configuration.

All PVC sanitary sewer pipe shall be green in color. All PVC sewer pipe used for reclaim water shall be purple in color.

**3.102 Standard Manholes.** Manholes shall be constructed as indicated on the plans. Tops shall be fitted with Class 35 gray cast iron rings and covers weighing not less than 450 pounds (200 Kg) conforming to ASTM A48-87. Manhole steps are not required unless otherwise noted on plans. Drop inlet manholes shall be constructed where indicated on the plans.

Manholes of precast sections conforming to ASTM C478 specifications shall be used. Precast concrete sections for manholes shall be installed with bituminous joint filler.

Concrete used in the construction of manholes shall utilize an "Az" life factor design. The minimum cover over the inner reinforcing steel (z), measured from the steel surface to the inside of the pipe wall, shall be such that the product of the Alkalinity (A) of the cover concrete, expressed as calcium carbonate equivalent, multiplied by the minimum cover in inches (z) shall

be no less than 0.50. In achieving the design Az factor, the alkalinity content of the components and the thickness of steel cover may both be varied, provided that the minimum provisions of ASTM C76 are met: and provided that the actual inside diameter of the section is not less than the nominal inside diameter (size) of section.

**3.103 Preformed Manhole Base(s).** The Contractor shall install preformed manhole base(s) when directed by the Engineer or as noted on the drawings. The Contractor shall provide a performed manhole base constructed integral with the bottom manhole section. The base shall be a minimum of 5" (125 mm) thick reinforced with #4 diameter bars on 12" (300 mm) centers each way. The preformed manhole base shall be set upon 12 inch (300 mm) thick, 3/4" (19 mm) (nominal) limestone subgrade base (compacted) and trimmed to the appropriate elevation. The manhole base shall be fitted with appropriate sized Alok's as manufactured by A-lok Products, Inc., or approved equal. The invert shall be properly grouted to conform to the flow path required.

**3.104 Manhole Rings and Covers**. Unless shown otherwise in the plans, the rings and covers for manholes shall be a 450 pound (200 Kg) Class 35 gray cast iron machined ring and cover. The ring and cover shall be Deeter No. 1030 or Neenah 12-1703.

**3.105 Grout.** Grout where required shall consist of equal parts of sand and cement with sufficient water to produce the proper consistency.

**3.106 Manhole Steps.** Manhole steps shall be a steel reinforced copolymer polypropylene step utilizing a 1/2" (1.25 cm) diameter grade 60 steel reinforcement and conform to applicable ASTM A48-87. Manhole steps shall meet the requirements of the OSHA standards. Steps shall be model PS1-PF as manufactured by M.A. Industries Inc., or approved equal. All manhole steps shall be place on approximately sixteen inch (16") (406 mm) centers.

**3.107 Sanitary Sewer Services.**

1) 4" (100 mm) service pipe shall be utilized on all service connections unless otherwise specified.

2) Main Size x 4" (100 mm) service tees shall be utilized unless otherwise specified.

3) Sanitary sewer services shall be PVC. PVC sewer pipe and fittings shall be SDR26 ASTM D3034 or Sch 40 PVC for 4" (100 mm) and 6" (150 mm) sizes. Provide SDR35 ASTM D3034 or heavier for 8" (200 mm) pipe. All PVC fittings shall comply with applicable specifications as stated in Section 3.102. All joints shall be gasproof, watertight, and rootproof. All PVC sewer service pipe and fittings shall be surrounded with a six inch (6") (150 mm) gravel bedding as specified in Section 3.206. See section 3.103 for ductile iron. When required provide ductile iron main and fittings.

4) All sewer services shall be constructed and installed by the Contractor as indicated on the drawings. Any work to be done on the customer side of the property line, except for connecting to existing services, shall be done by a licensed plumber. All service line work to be completed between the main and the property line may be done without the services of a licensed plumber. This work shall be deemed to be done by a sewer main Contractor. All service line work to be done by a sewer main Contractor shall be limited to the work as

indicated on the drawings and within these contract documents, or as directed by the Engineer.

**3.108 Submittals.** The Contractor shall provide to the Engineer the following submittals, shop drawings, certifications and other related documents for review and approval:

1) Provide catalog cuts showing weights, dimension and sizes of all pipe materials, fittings, glands, bolts, adaptors, etc. to be utilized on this project.
2) Provide catalog cuts showing weights, dimensions and sizes of all manholes, manhole steps, ring and cover to be utilized on this project.
4) Provide sieve analysis of all bedding materials.
5) Provide catalog cuts of sealants used to seal profile pipe with approved manufacturer procedures.
6) See specification 1.606 for additional details.

## SECTION 3-2 - CONSTRUCTION METHODS

**3.201 Excavation**. The ditch shall be excavated along the lines designated by the Engineer and to the depth given by him. The Contractor shall furnish, at his own expense, all planks, stakes, spikes, grade boards, and twine that may be required. The Engineer shall have the right to limit the amount of trench that may be opened in advance of the line of work. Should the trench be excavated to a greater depth than that given by the Engineer, the Contractor shall refill to grade, at his own expense, with good, well-tamped material. The width of the trench shall be approximately one (1) foot (300 mm) greater in the clear than the external diameter of the pipe to be laid therein. Trenches, where required, shall be properly sheeted and braced. The bottom of the trench under each pipe shall be shaped to receive the bottom quadrant of the pipe barrel. Bell holes shall be excavated so that, after placement, only the barrel of the pipe receives bearing pressure from the trench bottom.

Whenever wet or unstable soil that is incapable of properly supporting the pipe as determined by the Engineer, is encountered in the trench bottom, such soil shall be removed to the depth and length determined by the Engineer, and the trench backfilled to grade with sand, gravel or other suitable material.

All grading in the vicinity of trench excavation shall be controlled to prevent surface water from flowing into the trench. Any water accumulating in the trench shall be removed by pumping or other approved method. Material excavated from the trenches shall be stacked in an orderly manner a sufficient distance back from edge of trenches to avoid overloading and prevent slides or cave-ins. Materials unsuitable for backfilling shall be wasted by the Contractor as directed by the Engineer.

A minimum of one (1) foot (300 mm) of topsoil (unless otherwise noted on the plans) shall be removed in any and all area covered by vegetation. This topsoil shall be stockpiled separately from the material removed from the remainder of the trench. After the pipe is installed and the trench backfilled to an elevation one (1) foot (300 mm) (unless otherwise noted on the plans) below grade, the topsoil shall be replaced and compacted as previously described.

Excavation will not be classified. Whatever material is encountered shall be excavated to the proper grades and, if in any locations such material is not sufficient to provide a uniform, even bed for the pipe, the trench shall be excavated at least three (3) inches (76 mm) deeper than the grade at the bottom of the pipe and the space thus excavated shall be refilled with earth or sand and thoroughly compacted. Before any excavation is begun, the Contractor shall contact Diggers Hotline at 1-800-331-5666.

**3.202 Protection of Existing Utilities.** The accuracy of location of existing underground utilities as shown on the plans is not guaranteed. It shall be the duty of the Contractor to locate these utilities in advance of excavation and to protect same from damage after uncovering. No house service lines are shown on the plans. The Contractor shall contact the owners of the utilities for assistance in locating these service lines. Any expense incurred by reason of damaged or broken lines shall be the responsibility of the Contractor.

The Contractor shall not begin any excavation until the utility locate is completed. Diggers Hotline can be found online or by phone at 811 or 800-331-5666.

**3.203 Tunneling.** Tunneling, when necessary, shall be done under the supervision of the Engineer. Jacking or boring may be permitted where indicated in the plans. Before proceeding with boring or jacking, the Contractor shall submit to the Engineer for his approval a plan sketch showing the frame, bracing, pit details, etc. Whenever a steel casing is required, joints shall be welded with full strength welds. The Contractor shall maintain proper joint alignment and use full penetration welds.

**3.204 Pipe Laying and Jointing.** The placement and embedment of the sewer pipe shall comply with the appropriate specifications as noted below:

1) All polyvinyl chloride sewer pipe shall comply with the latest revision of ASTM D-2321.

The installation of all sewer pipes shall also comply with the following:

Pipe shall be protected at all times against impact shocks and free fall. Laying of pipe in finished trenches shall be commenced at the lowest point, with the spigot ends on bell-and-spigot pipe and tongue ends on tongue-and- groove pipe pointing in the direction of the flow. Pipe shall be set firmly to line and grade, and preparatory to making pipe joints, all surfaces of the pipe to be jointed shall be cleaned and dried. Joints shall be made tight to meet requirements of tests specified in Section 3.209, 3.210, 3.211, and 3.213.

Sewer trenches shall be kept free from water by a method approved by the Engineer. The Contractor shall not pump sewage into a street or pump to a storm sewer unless authorized by the Engineer. Sanitary sewage must be returned to the sanitary sewer by means of pipe and hoses unless it is impossible to do so. Then disposal must be approved by the Engineer

When spiral or longitudinal closed profile pipe is provided, the Contractor shall seal the ends of all cuts of the closed profile pipe with a manufactured approved sealant and adhere to manufacturer's written procedures for sealing the open space. The closed profile pipe shall be installed in all manholes in such a manner the cut ends of the pipe are permanently sealed. In addition, the Contractor shall permanently seal all closed profile openings at a location 2' - 3' outside of the manhole. Any time a cut pipe is utilized, the ends shall be sealed and a second seal placed 2' - 4' away from the cut end.

**3.205 Manhole Installation.** All manholes shall be constructed as indicated on the drawings. The contractor shall insure that all elevations, as noted on the plans, are strictly adhered to. Any deviation of elevations shall be brought to the immediate attention of the Engineer or his representative. All manholes shall be installed straight and plum. All pick openings and pipe entrances shall be fully grouted and finished in a workman like manner.

**3.206 Pipe Bedding.** All sewer main shall be installed using bedding detail III or IV as noted on special plan detail sheets. The space between the pipe and sides of the excavation shall be filled and compacted with granular bedding as specified. The bedding material shall extend as a minimum 12 inches (300 mm) above the top of all PVC and VCP sewer mains before the trench box is moved. A bench shall be constructed to allow the trench box to set above the top of the sewer main.

If other construction practice is desired, it shall be submitted in writing to the Engineer for review and approval. In the event a different construction practice is desired, the procedure shall be reviewed with respect to trench width, soil loads, and live loads such as H-20 traffic loading.

VCP sewer pipe shall adhere to bedding detail III as per ASTM C-12 with appropriate maximum depth of installation.

PVC sewer pipe shall adhere to bedding detail III and have a minimum modulus of soil reaction (E') of 100 PSI or greater, and have a maximum depth for deflections of 5% or less, and comply with applicable requirements set forth in Unibell Recommended Standard UNI-B-5 latest revision.

DIP shall adhere to bedding detail IV with appropriate pressure class and associated maximum depth of installation, and comply with latest revision of AWWA C150/A21.50 and applicable sections of AWWA C600-87.

The granular bedding shall have the following gradation:

| Sieve Size | Minimum % Retained on Sieve | Range |
|---|---|---|
| 1.0 inch | -0- | |
| No. 4 | 34% | ± 5% |
| No. 10 | 63% | ± 10% |
| No. 30 | 88% | ± 5% |
| No. 200 | 98.5% | ± 1.5% |

Note: Granular bedding is similar to NDOR Type ABX sand and gravel aggregate

The granular bedding shall be placed around all VCP and compacted to a minimum of 90% optimum proctor density for depths of 4 feet to 30 feet. Trench width shall adhere to 118 MCP technical bulletin (118 Sheet 2 of 2).

The granular bedding for PVC pipe shall be compacted to a maximum of 80% optimum proctor density for depth 4 feet to 16 feet and 90% optimum proctor density for depths 17 feet to 30 feet.

The granular bedding for DIP shall be compacted to 80% of optimum proctor density for depths up to 30 feet.

Trench width shall be kept to a minimum and as noted within these specifications or as noted in the drawings.

If in the event the bedding material cannot be properly compacted, then the Contractor shall provide a coarse aggregate bedding complying with the following gradation.

| Sieve Size | Minimum % Retained on Sieve | Range |
|---|---|---|
| 1 1/2 inch | -0- | |
| 3/4 inch | 20% | ± 5% |
| 3/8 inch | 47% | ± 10% |
| No. 10 | 80% | ± 10% |
| No. 200 | 95% | ± 5% |

Note: Coarse aggregate bedding is similar to a NDOR crushed rock base course material.

**3.207 Trench Backfilling**. Trench backfill shall conform to following:

1) All sewer pipe shall be bedded as noted above. Bedding process shall be accomplished by introducing backfill material in layers not to exceed 6 inches in depth and compacted.

2) Upon bedding of pipe, fill may be introduced suitable to the type of method that will be used for compaction, i.e., compactor, hydraulic vibrator, etc. Lift thickness will be determined in field by inspector and job foreman with a maximum loose lift thickness of 12 inches. Once backfill has reached a depth of 5' below final grade all backfill will be tamped with a motorized vibratory sheepsfoot, to provide a consistent compacted trench.

3) Compaction tests to be taken 7' to 8' below top of trench or beginning 2-3' to 4' above top of pipe, which ever is deeper, then taken in 2' to 3' increments, with final test taken 1' below surface at final grade. Tests to be taken at 50 to 100 lineal foot (15 M to 30 M) of trench, to be determined on job site. Tests to be taken around manholes on all four sides 4' to 5' out from manholes at same depths as tests taken in trench. Contractor will be required to make excavation for tests.

4) Test results for compaction shall meet or exceed following:

   a. 95% standard proctor density for terraces.

   b. 98% standard proctor density for driveways, sidewalks, and streets.

   c. Assumption that moisture content (±) 3% of optimum failure of test to reach these minimum results will require recompaction by Contractor.

5) No unsuitable material will be allowed in backfilling, i.e., rock, saturated soils, excessively dry soils, concrete, grasses, etc. Contractor will be required to remove such material from

the job site and replace with adequate amounts of approved material. The Contractor shall supply suitable backfill material from an approved borrow site acceptable to the Engineer at the unit price in the proposal.

Any backfill found unstable because of plastic soils will have to be replaced by the Contractor with suitable material. No additional compensation will be granted.

6) Water settling will not be permitted.

7) The select bedding material shall be granular fill as noted in specification 3.206.

8) If proper compaction requires additional soil to be brought to the site by the Contractor, all expenses for this additional soil shall be considered subsidiary to the pipe installation.

9) The Contractor shall hand tamp around all manholes with hand tampers or pad tampers "Jumping Jacks" to insure proper compaction.

10) In the event settlement of any backfill associated with the project is encountered, the Engineer shall notify the Contractor in writing to repair all defects, including settlement and associated street repair, if it is discovered within the three (3) year maintenance period. No extra monies will be paid for repairs caused by settlement of the backfill.

**3.208 Trench Wall Support.** All trenches shall be braced or sheeted as to local soil conditions dictate and in full observation of OSHA, as well as local, State of Nebraska, and other Federal requirements. There shall be sufficient tamped cover over pipe to protect in removal of shoring material. Any excavation greater than 20' in depth shall be designed by a professional engineer per OSHA 29 CFR, Part 1926, Subpart P.

A full depth trench box shall be used for all sewer main installations. At the Contractor's discretion, wood or steel shoring can be used. All wood or steel shoring shall be cut off at the top of the sewer main and the lower section left in place.

**3.209 Exfiltration Test.** Exfiltration test of the sewer lines shall be conducted upon completion of a section of wastewater line in accordance with ASTM F1417 and by the following method as directed by the Engineer:

After a manhole to manhole section of wastewater line has been backfilled and cleaned, pneumatic plugs shall be placed in the line at each manhole and inflated to 25 psig. Low pressure air shall be introduced into this sealed line until the internal air pressure reaches 4 psig greater than the average back pressure of any ground water that may be over the pipe. At least two minutes shall be allowed for the air pressure to stabilize.

After the stabilization period (3.5 psig minimum pressure in the pipe), tathe air hose from the control panel to the air supply shall be disconnected. The portion of line being tested shall be termed "Acceptable" if the time required in minutes for the pressure to decrease from 3.5 psig to 2.5 psig (greater than the average back pressure of any ground water that may be over the pipe) shall not be less than the time shown for the given diameters in the following tables:

**ASTM C828**

| Vitrified Clay Pipe Diameter in Inches | Minutes |
|---|---|
| 8 (200 mm) | 4.0 |
| 10 (250 mm) | 5.0 |
| 12 (300 mm) | 5.5 |
| 15 (380 mm) | 7.5 |
| 18 (450 mm) | 8.5 |
| 21 (530 mm) | 10.0 |
| 24 (600 mm) | 11.5 |
| 27 (690 mm) | 13.5 |
| 30 (750 mm) | 15.0 |
| 33 (840 mm) | 16.5 |
| 36 (900 mm) | 18.0 |
| 42 (1070 mm) | 21.0 |

**ASTM F1417 TABLE 1**

PVC Pipe Diameter in Inches

| Pipe Diameter Inches | Minimum Time, Minutes:Seconds | Length for Minimum Time, Ft. | Time for Longer Length:Seconds |
|---|---|---|---|
| 8 | 7:34 | 298 | 1.520 L |
| 10 | 9:26 | 239 | 2.374 L |
| 12 | 11:20 | 199 | 3.418 L |
| 15 | 14:10 | 159 | 5.342 L |
| 18 | 17:00 | 133 | 7.692 L |
| 21 | 19:50 | 114 | 10.470 L |
| 24 | 22:40 | 99 | 13.674 L |
| 27 | 25:30 | 88 | 17.306 L |
| 30 | 28:20 | 80 | 21.366 L |
| 33 | 31:10 | 72 | 25.852 L |
| 36 | 34:00 | 66 | 30.768 L |

The following alternative method of exfiltration may be used with prior approval of the Engineer:

Plug the lower end of a section of wastewater line and fill with water. Let the water stand for approximately four hours and then fill the line again. After the line has reached its maximum absorption, refill to the original depth; after one hour, record the new level of water in the manhole and convert to gallons; and then subtract the actual manhole loss previously determined for one hour to set actual line loss. Pipe leakage allowance shall be 100 gallons per inch diameter per mile per day (1 liter per mm diameter per Meter per day).

**3.210 Testing.** Upon completion of sewers, each pipe line and manhole will be lamped, checked for flow and freedom from accumulated earth or debris, and checked for the general requirements of the specifications. The Contractor shall furnish such tools, hose and other equipment necessary for making such tests, and shall be present during the inspection to note any deficiencies that may exist. Before final acceptance, all sewers shall be clean, shall comply with the specifications and all contract documents and shall be acceptable to the Engineer and

municipal authorities. City of Hastings Engineering Inspector or representative is to be present to witness all testing.

**3.211 Television Inspection – Sanitary Sewer Lines.** Television (TV) inspection recorded digitally on DVD media shall be required on completion of all sewer main lines. The TV inspection shall include on screen measurement along the pipe being inspected – starting with zero at the first manhole of any run of pipe being inspected. In addition to the DVD, a written report shall be provided noting defects, service connection(s), sags, and other anomalies. The written report shall also denote the time, date, starting manhole number and station, direction of camera travel, and ending manhole number and station.

The Contractor shall provide a DVD and written report of the inspection. Video (VHS) will not be permitted.

Contractor shall furnish the name of firm proposed to do the television (TV) inspection on the subcontractor designation sheet. One copy of the DVD shall be given to City of Hastings for their files. Cost of TV inspection and DVD will be subsidiary to bid. Contractor will not be paid retention until television inspection is received.

**3.212 Separation from Water Mains.**

Horizontal Separation. Whenever possible, sewers should be laid at least ten (10) feet (3 M), horizontally), from any existing or proposed water main. Following should be true if conditions prevent a lateral separation of ten (10) feet (3 M) to a water main if:

1) It is laid in a separate trench.
2) It is laid in the same trench with the water mains located at one side on a bench of undisturbed earth.
3) In either case the elevation of the crown of the sewer is at least eighteen (18) inches (450 mm) below the invert of the water main.

Vertical Separation. Whenever sewers must cross under water mains, the sewer shall be laid at such an elevation that the top of the sewer is at least eighteen (18) inches (450 mm) below the bottom of the water main. When the elevation of the sewer cannot be buried to meet the above requirement, the water main shall be relocated to provide this separation or reconstructed with slip-on or mechanical-joint cast iron pipe, for a distance of ten (10) feet (3 M) on each side of the sewer. One full length of water main should be centered over the sewer so that both joint will be as far from the sewer as possible.

Special Conditions. When it is impossible to obtain proper horizontal and vertical separation as stipulated above, the water main should be constructed of slip-on or mechanical-joint cast iron pipe, and the sewer constructed of mechanical-joint cast-iron and both services should be pressure tested to assure water-tightness.

**3.213 Deflection Testing.** Deflection tests shall be performed on all flexible pipe (i.e., P.V.C.). The test shall be conducted after the final backfill has been in place at least 30 days to permit stabilization of the soil-pipe system. No pipe shall exceed a deflection of five percent (5%). If

deflection exceeds five percent (5%), replacement or correction shall be accomplished as approved by the Engineer. A rigid ball or mandrel shall be used for the deflection test. It shall have a diameter not less than ninety-five percent (95%) of the nominal inside diameter of the pipe. The pipe shall be measured in compliance with ASTM D 2122, "Standard Test Method of Determining Dimension of Thermoplastic Pipe and Fittings". The test shall be performed without mechanical pulling devices.

**3.214 Pipe Plug.** The Contractor shall utilize a water tight mechanical plug or cap of appropriate size to secure the open end of the pipe from debris entering into the pipe. This shall be strictly enforced at the end of each day, during any breaks lasting more than 30 minutes or unscheduled stoppage which the pipe may be left unattended for more than 30 minutes. Buckets, duct tape and other methods will not be allowed.

## SECTION 3-3 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT

**3.301 Sewer Pipe in Place.** Sewer pipe shall be measured and paid for at the contract unit price for lineal foot for various sizes, including excavation and backfill complete in place. Sewer pipe shall be measured for payment after installation of the sewer, through all line manholes, through the walls of structures and existing manholes, and shall include the portion of all wyes considered as main line sewer. Such payment shall be full compensation for all labor, plant, equipment and materials necessary for a complete and accepted project, including removal of all debris, and final cleanup of the job.

**3.302 Fittings and Tees.** Fittings and tees shall be paid for at the contract unit price for various size fittings and tees. Measurement for payment shall include that portion of the tee from the barrel of the main line sewer to the end of the fitting or tee. A l" X 4" (0.25 cm x 1 cm) lumber sufficient in length to reach the ground surface shall be placed vertically at the end of each tee or service termination.

**3.303 Manholes.** Manholes shall be paid for at the contract unit price bid per manhole, for a depth of five (5) feet (1.5 M), which payment shall include base, stubouts and ring with cover. Additional payment shall be made for manholes more than give (5) feet (1.5 M) in depth, measured from flow line to top of cover, at the contract unit price for each vertical foot or fraction thereof in excess of five (5) feet (1.5 M).

**3.306 Sales Tax Exemption.** City will furnish sales tax exemption to successful bidder.

**END OF SECTION**

## SECTION 4 - WATER MAIN SPECIFICATIONS

## SECTION 4-0- SCOPE OF WORK

The work covered by this section of the specifications consists of furnishing all labor, plant, equipment, appliances and materials, and performing all operations necessary to construct and complete water mains and appurtenances in strict accordance with these specifications, the applicable drawings, and subject to the terms and conditions of the contract.

### Section 4-1 - Materials

**4.101 Water Mains.** All water mains shall be constructed of ductile iron meeting the requirements as specified in these contract documents unless otherwise noted on the drawings.

**4.101(a) Ductile Iron Pressure Class Pipe.** DIP pipe shall comply with the latest revision of ANSI/AWWA C151/A21.51-96 with the exception that the wall thickness shall comply with 350 PSI (2400 kPa) pressure class pipe for sizes 3 thru 24 inch (76 mm thru 600 mm) unless stated otherwise on the plan drawing. Whenever the plans or specifications call for the installation of polyethylene encasement, provide low density polyethylene film in accordance with the latest revision of ANSI/AWWA C105.

**4.101(b) Ductile Iron Pipe Shall Be:**

1) Interior Lining: Cement-mortar lining per ANSI A21.4-16 (AWWA C104), no asphaltic sealer.

2) Outside coating: AWWA C151/A21.51 Minimum of 1 mil thickness (0.025 mm) of bituminous coating (paragraph 51.8.1).

3) a. Push on joint, ANSI A21.11 (AWWA C111).

   b. Alternate pipe joint: Mechanical joint ANSI A211.11 (AWWA C111).

   c. As required: Restrained joint pipe for special use will be called out on plans and proposal sheet. Shall have joints as called for and pipe shall be to ANSI A21.51 (AWWA C151) ANSI A21.4 (AWWA C104). See Section 4.103 for pipe restraining.

4) In accordance with AWWA C151/A21.51-96 Section 5.1.1.2 provide Affidavit of Compliance.

5) Whenever the plans or specifications call for the installation of polyethylene encasement, provide low density polyethylene film in accordance with the latest revision of ANSI/AWWA C105.

**4.101(c) Polyvinyl Chloride Water Main (PVC).** Polyvinyl chloride water main shall conform to the latest revision of polyvinyl chloride (PVC) pressure pipe 4 inch thru 12 inch cast iron O.D. (100 mm thru 300 mm) for water distribution ANSI/AWWA C900 latest revision. Molecularly oriented PVC (PVCO) pipe must conform to the standards of ANSI/AWWA C909, latest revision for 6 inch through 12 inch pipe cast iron O.D. (100 mm thru 300 mm). All PVC and PVCO pipe shall be pressure Class 305 unless otherwise stated on the plans. PVC water mains 16 inch through 48 inch cast iron O.D.

(400 mm through 1220 mm) shall conform to the latest revision of AWWA C900. All AWWA C900 water mains shall have a minimum DR as noted on the proposal or the drawings.

**Polyvinyl Chloride Pipe Shall Be:**

1) For all PVC and PVCO pipe provided for potable water service, comply with standard AWWA C900-16. Provide NSF61 certification for each class, type, and size of PVC or PVCO to be provided.

2) Provide all PVC and PVCO pipe provided shall comply with AWWA C-900 DR-14; **or** 305 PSI pressure class of AWWA C-909 Molecularly Orientated Polyvinyl Chloride Pressure Pipe.

3) Provide required quality control certification documentation as noted above in accordance with AWWA C-900 Section 5.2, or AWWA C-909 Section 5, or AWWA C-905 Section 5.2.

4) All PVC and PVCO pipe provided for potable water service shall be blue in color. All PVC and PVCO pressure pipe used for reclaim water shall be purple in color.

5) In accordance with AWWA C-900 Section 6.3 or AWWA C-909 Section 6.3, or AWWA C-905 Section 6.3, provide Affidavit of Compliance.

**4.101(d) <u>High Density Polyethylene Water Mains</u>**. All Polyethylene (PE) (HDPE – High Density Polyethylene Pipe) water mains shall have a Ductile Iron pipe size (DIPS). Unless otherwise stated in the specifications or plans the HDPE water main shall have a minimum DR-11. Provide minimum pressure class rating of 200 psi for DR-11 HDPE pipe as per ANSI/AWWA C906 Table 5. The cell classification shall be PE 4710 HDPE according to ASTM D3350. The construction and fabrication of the HDPE water main shall comply with the appropriate standards as set forth in the latest edition of ANSI/AWWA C906.

1) Provide Affidavit of Compliance of all HDPE as per ANSI/AWWA C906 Section 6.3.

2) Pipe and fittings to be marked in accordance to C906-15 Section 6.1. All HDPE pipe shall be color coded with a blue strip to indicate it is used for potable water.

3) Provide FM Fitting MJ adapter kit for all connections to Cast Iron or Ductile Fittings and valves.

4) All fusion welds shall be in accordance with manufactures recommendations. All fusion welds shall be completed by properly trained personnel approved by the manufacturer.

5) Flanged and Mechanical Joint adapters to confirm to ASTM D3261. Markings for molded or machined flanged adapters of MJ adapters shall be per ASTM D3261. Fabricated (including machined) flange adapters shall be per ASTM F2206.

6) When new HDPE pipe is to be fused with existing HDPE piping, the purchaser of the new HDPE pipe shall inform the manufacturer of the cell classification of the existing HDPE pipe as per ASTM D3350, and obtain from the manufacturer a list of the validated fusion parameters that may be used to join the purchased piping to the existing piping. The manufacturers shall be consulted to determine the appropriate fusion procedures.

7) Polyethylene fusion fittings may be molded, thermoformed from pipe sections, or fabricated by heat fusion joining polyethylene components prepared from pipe, molded fittings, thermoformed pipe, or polyethylene sheet or block.

8) Butt Fusion Fittings shall be made of HDPE material with a minimum material designation code of PE4710 and with minimum cell classification of PE345464C. Butt Fusion Fittings shall meet the requirements of ASTM D3261. Molded and fabricated fittings shall have a pressure rating equal to the pipe unless otherwise specified on the plans. All fittings shall meet the requirements of ANSI/AWWA C906. Marking for molded fittings shall comply with the requirements of ASTM D3261. Fabricated fittings shall be marked in accordance with ASTM F2206.

9) Electrofusion Fittings shall be made of HDPE material with a minimum material designation code of PE4710 and with a minimum cell classification of PE345464C. Electrofusion Fittings shall have a manufacturing standard of ASTM F1055. Markings shall be according to ASTM F1055.

**4.102 Compact Ductile Fittings.** All fittings for pipe sizes 4" thru 24" (100 mm thru 600 mm) shall be Ductile Iron Pressure Class 350 psi (2400 kPa) and shall conform to ANSI A21.53.94 (AWWA C153) current revised edition of said standards as minimum specifications. All fittings for pipe sizes 30" thru 48" (260 mm thru 1200 mm) shall be Ductile Iron Pressure Class 250 and shall conform to ANSI A21.10.93 (AWWA C110) current revised editions of said standards as minimum specifications.

Ductile Iron Fittings Shall Be:

1) Interior Lining: Cement-mortar lined, ANSI A21.4.90 (AWWA C104) without coal tar sealer.
2) Mechanical joint, ANSI A21.11.90 (AWWA C111).
3) Testing, ANSI A21.10.93 (AWWA C110) or ANSI A21.53.94 (AWWA C153).
4) Fitting to be cast marked DI or Ductile with pressure rating and size and type fitting.

**4.103(a) DIP Restrained Joint Pipe.** Restrained joint pipe is required in all horizontal directional drilled installations. Restraining method shall be achieved with locking joint such as "TR Flex" by U.S. Pipe or equal.

Restraining gaskets such as "fast-grip" gaskets by American pipe or approved equal to restrain push on joint pipe can be used when called out on plans.

When the proposal or drawings require retaining glands, the Contractor shall provide Megalug Series 1100 Mechanical Joint Restraint or equal.

**4.103 (b) Restrained Joint Couplings.** When noted on the drawings, the Contractor shall erect and install restrained joint coupling(s). The restrained joint coupling shall be a Griffin Bolt-Lok restrained joint, or American MJ coupled restrained joint.

The restrained joint coupling shall provide a positive longitudinal connection between fittings or fittings and restrained joint pipe as applicable. The Contractor shall install applicable thrust blocks as noted on the drawings in addition to the restrained joint coupling.

**4.104 Resilient Seated Gate Valves, Cut in Sleeves.** All gate valves 4" and larger up to and including thirty inch (30") (260 mm) shall be ductile iron body resilient seated gate valves conforming to AWWA C509, C515, AWWA C111 and ANSI A21.11 specifications and current revisions. All gate valves shall be suitable for mechanical joint connection to ductile iron pipe complete with bolts, glands, and required gaskets. All gate valves shall have a 2" square (50 mm) operating nut and non-rising stem and O-ring type seals. All resilient seated gate valves shall be Mueller Model A-2360-20, M and H Style 3067, Flow Control Series 2500, Clow Model 2638 or 2639 valve or approved equal. When beveled gearing is required, provide valves with a bevel gear assembly to allow the gate to move in a horizontal direction. Cut in sleeves for use with gate valves where required shall be mechanical joint and have stop screw incorporated in body, and shall be Mueller No. H840, H841, or approved equal. For installation requiring a 4", 6", or 8" (100 mm, 150 mm, or 200 mm) cut-in valve, the Contractor shall utilize Mueller C-2360-44 cut-in valves or approved equal. The Contractor shall utilize duck tipped gaskets or plain tipped gaskets as required to complete the field installation. All exposed bonnet and packing bolts shall be ASTM F593 Type 304 Stainless Steel. Gate Valves shall be no more than one year older than the date delivered to the project, or the supplier must show that the valves were stored inside and shall show no signs of wear or damage from storage. All manufacturer tags, bar codes, and SQR tags must remain on the product and must not be removed by the contractor or supplier. City of Hastings Inspector will take pictures and /or remove tags during installation.

**4.105 Buried Service Butterfly Valves.** Butterfly Valves are not used.

**4.106 Valve Boxes.** All buried valves shall be provided with Buffalo type cast iron valve boxes or alternate as specified.. Valve boxes shall have a screw type extension sleeve and be designed for the size of valve on which it is to be used and for the depth of cover as required. Covers shall have the word "WATER" cast thereon. Valve boxes shall be Mueller No. H10360, Tyler Series 6850 Type 664-S, 666, 668 as required, or approved equal.

**4.106(a) High Density Polyethylene (HDPE) Valve Boxes.** Whenever the drawings or proposal request installation high density polyethylene (HDPE) valve boxes, the Contractor shall provide and install American Flow Control Trench Adapter Valve Box or equal. The valve body shall be constructed of high density polyethylene material complete with a steel stem extension tube. The unit shall be fitted with an extension stem tested to 1000 pounds of torque. The lid shall be made of gray cast iron with the word “WATER” imprinted end to top of the lid. Provide HDPE boxes of appropriate depth and size as per manufacturer's recommendations.

Adjustment in valve box height shall be considered subsidiary to the valve installation.

**4.107 Solid Ductile Iron Sleeves.** Contractor shall furnish couplings for connecting ductile iron to ductile iron pipe or ductile iron to cast iron pipe, or ductile iron to PVC pipe. The inside diameter of the coupling shall be suitable for connecting the ends of either PVC, ductile, or cast iron pipe as required. All solid ductile iron sleeves shall comply with the requirements of 4.102. Provide only long solid sleeves unless otherwise directed by the Engineer. Solid ductile iron sleeves will not be called out on the drawings; however, Contractor shall provide solid sleeves as field conditions warrant and as approved by the Engineer.

**4.107(a) Mechanical Joint Connections.** When called for on the drawings or proposal, the Contractor shall provide Foster adaptors or equal for water main size 4" through 24". Provide a ductile iron fitting meeting material and pressure requirement of the current revision of AWWA C110 and as defined by Section 4.102 of these specifications.

Provide tee bolt kits for all applications.

**4.108 Fire Hydrants.**

Fire hydrants shall be Mueller No. A-423 and comply with Dry-Barrell Fire Hydrants ANSI/AWWA standard C-502 and latest revisions. Main valve opening shall be 5-l/4", and inlet shall be mechanical joint for 6" (150 mm) cast iron or ductile iron pipe. Hose connections shall be two - two and one half inch (2-1/2") (65mm), and one - four and one half inch (4-1/2") (115 mm) pumper connection. All threads shall be national standard conforming to NFPA standard for fire hose connections. Unit shall have standard 1-1/2" (40 mm) pentagonal operating nut and shall open counterclockwise. Unit shall be traffic type hydrants with ground break away flange system. Seals shall be O-ring. Fire hydrants shall be painted silver enamel paint as designated by Federal Standard 595A. The prime coat shall conform to Federal Spec. TT-C-4946, or equal. The final coat shall conform to Federal Spec. TT-V-51.

In accordance with ANSI/AWWA C-502 Section 5.1.3 the hydrostatic test shall be conducted at 300 PSI (2100 kPa) for a minimum of 60 seconds with no leakage.

In accordance with ANSI/AWWA C-502 Section 5.3 the supplier shall deliver all hydrants to the City of Hastings for pressure testing at its North Denver Station facilities at an agreed time and during normal business hours. The supplier shall provide 72 hour notice before testing is required.

In Accordance with ANSI/AWWA C-502 Section 6.3provide Affidavit of Compliance.

All fire hydrants shall be furnished with all connecting bolts, nuts, glands, gaskets, etc., required for immediate installation. Units shall be Mueller No. A-423, American Darling B-84-B-5, Kennedy K81-D or approved equal. All fire hydrants will be 6'-0" (1.8m) bury unless noted differently on plans. To achieve proper hydrant installation, utilize hydrant extensions or Gradelok swing arm fittings when necessary.

All exposed bolts and nuts that are typically buried shall be stainless steel 304 or equal.

Fire hydrants shall be no more than one year older than the date delivered to the project, or the supplier must show that the fire hydrants were stored inside and shall show no signs or wear or damage from storage. All manufacturer tags, bar codes and SQR tags must remain on the product

and must not be removed by the contractor or the supplier. City of Hastings Inspector will take pictures and/or remove tags during installation.

## 4.109 Water Services and Service Line Connections.

1) Plastic water service lines. Plastic water service lines of not more than 2 inches (50 mm) in diameter may be used for residences in lieu of copper service lines, subject to the following:

   a. Plastic tubing used for water service lines shall meet AWWA C901 Polyethylene pipe, SDR-9 PE3408 ASTM D2737, Pressure Class 200 PSI (1400 kPa) or AWWA C904-06 PEX pipe, SDR-9 ASTM F876 (PEX 1006) Pressure Class 200 PSI (1400 kPa). It shall be O.D. based on sizes 3/4 inch (20 mm) thru 2" (50 mm) conforming to the outside diameter of copper tubing.

   b. Fittings for plastic water service lines used for plastic water piping shall be of brass pack joints and shall conform to AWWA Standard ASTM B62-Index 115-85-5-5. No plastic fittings or brass flared will be allowed.

   c. Installation of plastic water service lines shall have a tracer wire attached to the water main tracer wire with connector supplied by City of Hastings, installed by Contractor subsidiary to bid. The wire shall be taped to the service prior to backfilling.

   d. Grounding of electric services when plastic water services are installed: In the event existing metal water line was the source of grounding is abandoned, supplemental electrodes shall be provided. One shall be a rod or pipe electrode as specified in NEC 250.53, and the others shall be as mandated in NEC 250.52.

   e. For replacement services the interior metal piping system shall remain bonded to the service equipment. If there is not a ground rod already in use, an 8 foot rod (2.4 m) shall be driven and connected to the service equipment. The grounding electrode system shall comply with NEC 250.50.

   f. The city electrical inspector shall approve the installation after being satisfied that there is appropriate grounding.

   g. The owner shall pay an additional fee in accordance with the prevailing council fee resolution, for having the plumbing and electrical inspectors make the foregoing inspections.

2) Polyvinyl Chloride Water Service Lines. For installation of 4", 6", and 8" (100 mm, 150 mm, and 200 mm) diameter service lines, the Contractor may use polyvinyl chloride pipe (PVC) or molecularly oriented PVC (PCVO) as specified here within. The PVC pipe shall comply with specification 4.101.

   a. All PVC water service pipe shall have a minimum pressure class of 200. All pipe connections shall be bell and socket or by mechanical joint when connecting PVC to cast iron/ductile iron pipe and fittings.

   b. All fittings and transitions shall conform to specification 4.102 of this document.

c. All taps to PVC pipe of auxiliary service lines of two inches in diameter or smaller shall utilize tapping saddles.

d. Installation of plastic water service lines shall have a tracer wire attached to the water main tracer wire with connector supplied by City of Hastings, installed by Contractor subsidiary to bid. The wire shall be taped to the service prior to backfilling.

e. Grounding of electric services shall be in accordance to specification 4.109 Water Services; paragraphs 1(d) and 1(e) of this document.

f. All water services lines of 8" or greater shall conform to specification 4-1 other related and applicable specifications as noted within these documents.

3) Corporation Stops. Corporation stops shall be furnished and installed by the contractor. The corporation stop to meet AWWA C800 standard and NSF61 certified. All corporation stops to be key style with AWWA/CC taper thread by flare fitting with the 1" and smaller to include a copper swivel type elbow with AWWA/CC female thread by CTS pack joint. All 1.5" and larger to include a straight copper coupling with AWWA/CC female thread by CTS pack joint. Acceptable manufacturer is FORD METER BOX or approved equal. The contractor will make the tap, in the event the contractor cannot properly make the 1.5 inch and larger taps, the City of Hastings will make the tap for them.

   All taps require a service saddle to be installed unless otherwise noted on the plans. The Contractor shall provide the service saddle and properly fasten the saddle to the main. The service saddle must be constructed of high strength ductile iron per ASTM A536 with fusion-bonded epoxy coating equal to a Ford FC202. The saddle must have a double wide band and 1/2" UNC threaded studs constructed of type 304 stainless steel. Provide saddles with EPDM rubber gaskets per ASTM D2000. Saddles must be ANSI/NSF Standard 61 for use in drinking water applications and must conform to AWWA C800.

   All HDPE water main taps require an Electrofusion fitting, Transition Saddle (Corp Saddle). The Contractor shall provide the transition saddle and shall properly fasten the saddle to the main. Electrofusion Transition Saddle shall have a manufacturing standard of ASTM F1055. The Contractor shall provide Electrofusion Transition Saddle equal to Georg Fischer Central Plastics Company with brass 360 alloy outlet materials, and stainless 304 compression ring, and CC Threads or approved equal.

4) Curb Stop and Box. This item shall consist of one (1) curb stop and one (1) curb box. Curb stops shall be Mueller No. H-15155 or Ford B44 Series, unless otherwise specified, and shall be of the same nominal size as the service line to which they are connected. Curb stops shall be of heavy cast bronze construction and shall be Minneapolis pattern type. Curb boxes shall be extension type, cast iron, adjustable for length, and have Minneapolis pattern base. Lids shall have the word "WATER" cast in them and shall have a provision for being securely held in place.

5) All water services shall be constructed and installed by the Contractor at a minimum depth of 5'-0" or as by City code and as indicated on the drawings. Any work to be done on the customer side of the curb stop, except for connecting the service line to the curb stop, shall be done by a licensed plumber. All service line work to be completed between the main and curb stop may be done without the services of a licensed plumber. This work shall be

deemed to be done by a water main contractor. All service line work to be done by a water main contractor shall be limited to the work as indicated on the drawings and within these contract documents or as directed by the Engineer.

A licensed plumber shall secure and obtain a plumbing permit for any water service work on private property. All plumbing permits shall be obtained before any work begins.

**4.110 Thrust Block.** All thrust blocks shall be installed in accordance with the drawings. The class of concrete to be used for thrust blocks around fittings shall be Nebraska Department of Roads Class "47B" or Type "ABX". All thrust blocks shall be cast in place and shall be considered subsidiary to the unit price of water main in the contract. All concrete shall have minimum 28 day strength of 3000 PSI.

| THRUST BLOCK DIMENSION | | | | |
|---|---|---|---|---|
| Pipe Size Inch | A Feet | B Feet | C Feet | D Inch |
| 4 (100 mm) | 1 (0.3 M) | 1 (0.3 M) | 1 (0.3 M) | 3 (75 mm) |
| 6 (150 mm) | 1.5 (0.45 M) | 1.5 (0.45 M) | 1 (0.3 M) | 6 (150 mm) |
| 8 (200 mm) | 2 (0.6 M) | 2 (0.6 M) | 1 (0.3 M) | 6 (150 mm) |
| 10 (250 mm) | 2.5 (0.75 M) | 2.5 (0.75 M) | 2 (0.6 M) | 9 (225 mm) |
| 12 (300 mm) | 3 (0.9 M) | 3 (0.9 M) | 2 (0.6 M) | 9 (225 mm) |
| 14 (350 mm) | 3 (0.9 M) | 3 (0.9 M) | 2.5 (0.75 M) | 12 (300 mm) |
| 16 (400 mm) | 4. (1.2 M) | 3 (0.9 M) | 2.5 (0.75 M) | 12 (300 mm) |
| 18 (450 mm) | 4 (1.2 M) | 4 (1.2 M) | 2.5 (0.75 M) | 12 (300 mm) |
| 20 (500 mm) | 4 (1.2 M) | 4 (1.2 M) | 3 (0.9 M) | 16 (400 mm) |
| 24 (600 mm) | 4.5 (1.4 M) | 4.5 (1.4 M) | 3 (0.9 M) | 16 (400 mm) |
| 30 (750 mm) | 4.5 (1.4 M) | 5. (1.5 M) | 3.5 (1.0 M) | 18 (450 mm) |
| 36 (900 mm) | 5 (1.5 M) | 5 (1.5 M) | 3.5 (1.0 M) | 18 (450 mm) |
| 42 (1050 mm) | 5.5 (1.7 M) | 5.5 (1.7 M) | 4 (1.2 M) | 24 (600 mm) |
| 48 (1200 mm) | 6 (1.8 M) | 6 (1.8 M) | 4 (1.2 M) | 24 (600 mm) |

**4.111 Machine Tap.** City of Hastings will furnish and install all machine taps. Contractor shall provide all excavation and backfill. Minimum excavation at each tapping point will be 4 ft. wide (1.2 M) and 6 ft. (1.8 M) long and shall be sufficiently below the main at point of tap in the installation of bolted sleeve. City of Hastings Water Department Personnel shall make determination in field as to tap location and give specific requirements. In the event that the uncovered water main is at a joint, etc., excavation will be relocated as directed by Water Department Personnel.

**4.112 Steel Encasement.** Smooth wall casing pipe shall be of welded steel construction and shall be new material with a minimum yield point of 35,000 psi (241,000 Kpa). The pipe shall have a minimum wall thickness of "0.250" (6 mm) or as indicated on the drawings. The casing pipe shall be clean and coated on the outside with two coats of coal tar paint, Koppers, "Bitumastic Super Service Black"; Valspar, "High-Build Bituminous Coating 35-5-10"; or Tnemec, "46-449 Heavy Duty Black".

**4.113 Casing Chocks.** The Contractor shall use casing chocks. Casing chocks shall be of the type that bolt onto the carrier pipe. The chock shall be 8" (200 mm) in length. The chocks shall be as manufactured by Pipeline Seal and Insulation Inc., Model C8G-2, Advance Products and System Model SI-8" (200 mm) long with 1" (25 mm) or 2" (150 mm) wide runners, or approved equal.

**4.114 Casing End Seal.** All steel encasement pipes shall be closed at each end with a standard pull on S-shaped seal as manufactured by Pipeline Seal and Insulator, Inc. (PSI), Model S, Advance Model AC End Seals, or approved equal.

**4.115 Manholes.** Manholes shall be constructed as indicated on the plans. Manhole ring and cover shall be constructed of Class 35 gray cast iron weighing not less than 450 pounds conforming to ASTM A48-87 and satisfactory to the Engineer. The manhole ring and cover shall be Deeter No. 1030 or Neenah R-1703. Manhole steps are not required unless otherwise noted on plans.

Manholes of precast sections conforming to ASTM C478 specifications shall be used. Precast concrete sections for manholes shall be installed with bituminous joint filler.

**4.116 Submittals.** The Contractor shall provide to the Engineer the following submittals, shop drawings, certifications and other related documents for review and approval:

a. Provide catalog cuts showing weights, dimensions, and sizes of all pipe materials, fittings, glands, bolts, adapters, etc. to be utilized on this project.

b. Provide catalog cuts of all fire hydrants, gate valves, butterfly valves, fittings, manholes, valve boxes, grounding mechanisms, tracer wire, corporation valves, curb stop, curb stop boxes to be utilized on this project.

c. Provide catalog cuts showing weight, dimensions and sizes of all casings, casing chocks, and casing ends seals to be utilized on this project.

d. See specification 1.606 for additional details.

**4.117 Tracer Wire Locating Station:** Furnished by City of Hastings. Installed by Contractor subsidiary to bid.

## SECTION 4-2 - CONSTRUCTION METHODS

**4.201 Excavation.** The Contractor shall perform all excavation of whatever substances are encountered to the depth shown on the drawings, or to provide a minimum cover of five (5) feet

(1.5 M) over the top of the pipe. The Engineer shall have the right to limit the amount of trench that may be opened in advance of the line of work, along with the duration in which the excavation is open. All excavated materials not required for backfill shall be removed from the project by the Contractor. Banks of trenches shall be kept as nearly vertical as practicable and, where required, shall be properly sheeted and braced. Trenches shall be of sufficient width to provide working space for proper laying and embedment.

The bottom of the trenches shall be accurately graded to provide uniform bearing and support for each section of pipe on undisturbed soil at every point along its entire length, except for portions of the pipe sections where it is necessary to excavate for bell holes.

Whenever wet or unstable soil that is incapable of properly supporting the pipe, as determined by the Engineer, is encountered in the trench bottom, such soil shall be removed to the depth and length determined by the Engineer, and the trench backfilled to grade with sand, gravel or other suitable material.

All grading in the vicinity of trench excavation shall be controlled to prevent surface water from flowing into the trench. Any water accumulating in the trench shall be removed by pumping or other approved method. Material excavated from the trenches shall be stacked in an orderly manner a sufficient distance back from edge of trenches to avoid overloading and preventing slides or cave-ins. Material unsuitable for backfilling shall be wasted by the Contractor as directed by the Engineer. Any unauthorized excavation below grade shall be backfilled at the Contractor's expense with good, well-tamped material.

A minimum of one foot (1') (300 mm) of topsoil (unless otherwise noted on the plans) shall be removed in any and all areas covered by vegetation. This topsoil shall be stockpiled separately from the material removed from the remainder of the trench. After the pipe is installed and the trench backfilled to an elevation one foot (1') (300 mm), (unless otherwise noted on the plans) below grade, the topsoil shall be replaced and compacted as previously described.

Excavation will not be classified. Whatever material is encountered shall be excavated to the proper grades and if, in any locations, such material is not sufficient to provide a uniform, even bed for the pipe, the trench shall be excavated at least six inches (6") (150 mm) deeper than the grade at the bottom of the pipe and the space thus excavated shall be refilled with earth or sand and thoroughly compacted.

### 4.202 Horizontal Directional Drill (HDD).

Directional drilling to be completed by an experienced Contractor. The contractor shall submit a work plan prior to beginning work which outlines the procedure and schedule to be used while construction is in progress. The work plan must include specific equipment to be used, list of supervisory, technical, and general personnel to be utilized during the project. Any permits required but not limited to erosion & sediment control plan, traffic control plan and trench shoring plan to be submitted.

HDD shall utilize a guidance system along with drilling fluid (mud) system. The drilling fluid system shall include a self-contained drilling fluid mixing system adequately sized. The drilling fluids to be mixed thoroughly and be absent of any clumps or clods. No hazardous additives may be used. Used drilling fluid and spilled fluid to be contained and disposed of properly.

The drill path is to be accurately surveyed with entry and exit stakes placed in appropriate locations. The minimum cover required over water main piping is five (5) feet. Additional bury depth may be required as indicated on the plans. In the event the pipe is to be field installed after locating of existing utilities, the contractor must submit a bore plan profile which includes all existing utilities.

Pilot hole shall be drilled to not exceed the maximum allowed pipe deflection. Upon successful completion of the pilot, the bore will be reamed to a minimum of 25% greater than the outside diameter of the pipe to be installed. The contractor will pull the pipe to be installed back through the bore hole utilizing a swivel to prevent torsional stresses occurring in the pipe. A final bore log must be submitted to the engineer.

**4.203 Protection of Existing Utilities.** The accuracy of location of existing underground utilities as shown on the plans is not guaranteed. It shall be the duty of the Contractor to locate these utilities in advance of excavation, and to protect same from damage after uncovering. House service lines are shown on the plans. The Contractor shall contact the owners of the utilities for assistance in locating these service lines. Any expense incurred by reason of damaged or broken lines shall be the responsibility of the Contractor.

The Contractor shall not begin any excavation until he has contacted Diggers Hotline at 811.

4**.204 Tunneling.** Tunneling, when necessary, shall be done under the supervision of the Engineer. Jacking or boring may be permitted where indicated in the plans. Before proceeding with boring or jacking, the Contractor shall submit to the Engineer for his approval a plan sketch showing the frame, bracing, pit details, etc. Whenever a steel casing is required, joints shall be welded with full strength welds. The Contractor shall maintain proper joint alignment and use full penetration welds.

**4.205 Pipe Cutting.** Cutting of the pipe shall be kept to a minimum and shall be done in a neat and workmanlike manner without damage to the pipe. Unless otherwise authorized by the Engineer, cutting shall be done by means of an approved type of mechanical cutter. Hydraulic cutters shall be used when practicable.

**4.206 Installation of Water Mains.**

**4.206(a) Installation of DIP Water Mains.** The installation of ductile iron water main shall be in accordance with the latest revision of AWWA C600. All DIP (Class 52 and Pressure Class) water main installation shall also be in accordance with the following:

1) Pipe and accessories shall be handled in such manner as to insure delivery to the work in a sound, undamaged condition.
2) While suspended in a sling and before lowering into the trench, all pipe shall be inspected for defects. Defective, damaged or unsound pipe will be rejected. Deflections from a straight line or grade, as required by vertical or horizontal curves, shall not exceed manufacturer's recommendations and approval by the Engineer.
3) Mechanical joints shall be installed under the provisions of the recommendations of the joint manufacturer.
4) Fittings at bends or dead ends shall be firmly blocked against the vertical face of the trench to prevent fittings from being blown off the lines when under pressure. Blocking shall

conform to the plan for concrete blocking for fittings. Where pipe ends are left for future connections, they shall be valved, plugged or capped as shown on the plans. Where connections are made between new work and existing mains, the connections shall be made by using fittings as required.

5) All DIP where noted on the drawings shall have a tracer wire buried beside the invert of the pipe as shown on the drawings. A tracer wire locating station will be supplied to the Contractor by HU. The tracer wire furnished by HU will be a 12 or 14 AWG solid, Protrace HF-CCS PE30 or equal 30 Mil (0.8 mm) HMW-HDPE coated copper wire. The color will be blue. The wire shall be continuous and unspliced from tracer wire locating station to tracer wire locating station. The tracer wire shall be electrically intrinsic with reference to the water distribution system.

   All DIP water main or water service lines of 4" (100 mm) diameter or greater shall have warning tape buried 12" (300 mm) to 24" (600 mm) above the top of the pipe. The warning tape will be inscribed with the message "CAUTION BURIED WATER LINE". The warning tape will be a minimum of 3" (75 mm) in width. The warning tape will be a minimum 4 mils (0.1 mm) in thickness. The warning tape will be blue in color and furnished to Contractor by HU. Installation of tracer wire and warning tape will be subsidiary to bid.

6) The use of pipe gasket lube shall be limited to Blue Lube manufactured by Whitlam Plumb-Pro or equal. The use of yellow gasket grease is not permitted or allowed to be stored on site. Pipe gasket lube shall be NSF Standard 14 and 61 certified for potable use. Care shall be taken to limit the amount of pipe gasket lube applied as this will aid in cleanup of the water main and assemblies.

**4.206(b) Installation of PVC Water Main.** The installation of polyvinyl chloride (PVC) water main shall be in accordance with the latest revision of AWWA C605.

All PVC water main installation shall also be in accordance with the following:

1) Pipe and accessories shall be handled in such a manner as to insure delivery to the work in a sound undamaged condition. All PVC pipe stored on site and expected to be stored for more than 3 months, shall be covered with tarpaulins to protect the pipe from ultra violet light damage as required by AWWA C-605 Section 2.3.1.

2) Prior to the pipe being placed in the trench and while suspended in a sling, all pipe shall be inspected for defects. Defective, damaged, scratched, bleached, cut, scarred, or unsound will be rejected. Deflections from a straight line or grade, as required by vertical or horizontal curves, shall not exceed manufacturer's recommendations and approval by the Engineer.

3) Mechanical joints shall be installed under provisions of the recommendations of the joint manufacturer.

4) Fittings at bends or dead ends shall be firmly blocked against the vertical face of the trench to prevent fittings from being blown off the lines when under pressure. Blocking shall

conform to the plan for concrete blocking for fittings. Where pipe ends are left for future connections, they shall be valve, plugged or capped as shown on the plans. Where connections are made between new work and existing mains, the connections shall be made by using fittings as required.

5) All PVC where noted on the drawings shall have a tracer wire buried beside the invert of the pipe as shown on the drawings. A tracer wire locating station will be supplied to the Contractor by HU. The tracer wire furnished by HU will be a 12 or 14 AWG solid, Protrace HF-CCS PE30 or equal 30 Mil (0.8 mm) HMW-HDPE coated copper wire. The color will be blue. The wire shall be continuous and unspliced from tracer wire locating station to tracer wire locating station. The tracer wire shall be electrically intrinsic with reference to the water distribution system.

   All PVC water main or water service lines of 4" (100 mm) diameter or greater shall have warning tape buried 12" (300 mm) to 24" (600 mm) above the top of the pipe. The warning tape will be inscribed with the message "CAUTION BURIED WATER LINE". The warning tape will be a minimum of 3" (75 mm) in width. The warning tape will be a minimum 4 mils (0.1 mm) in thickness. The warning tape will be blue in color and furnished to Contractor by HU. Installation of tracer wire and warning tape will be subsidiary to bid.

7) The use of pipe gasket lube shall be limited to Blue Lube manufactured by Whitlam Plumb-Pro or equal. The use of yellow gasket grease is not permitted or allowed to be stored on site. Pipe gasket lube shall be NSF Standard 14 and 61 certified for potable use. Care shall be taken to limit the amount of pipe gasket lube applied as this will aid in cleanup of the water main and assemblies.

**4.206(c) <u>Installation of HDPE Water Mains</u>**. The installation of HDPE water mains shall be in accordance to the following:

1) The pipe and accessories shall be handled in a manner to insure the work is sound undamaged condition.

2) All HDPE pipe shall be stored shall be covered with tarpaulins to protect the pipe.

3) All HDPE where noted on the drawings shall have a tracer wire buried beside the invert of the pipe as shown on the drawings. A tracer wire locating station will be supplied to the contractor by HU. The tracer wire furnished by HU will be a 12 or 14 AWG solid, Protrace HF-CCS PE30 or equal Gauge, 30 mil (0.8 mm) HMW-HDPE coated copper wire. The color will be blue. The wire shall be continuous and unspliced from tracer wire locating station to tracer wire locating station. The tracer wire shall be electrically intrinsic with reference to the water distribution system. Installation of the tracer wire will be subsidiary to the bid.

4) All HDPE water main or 4” (100 mm) or greater shall have a warning tape buried 12” (300 mm) to 24” (600 mm) above the top of pipe. The warning tape will be inscribed with the message “CAUTION BURIED WATER LINE”. The warning tape will be a minimum of 3” (75 mm) in width. The warning tape will be a minimum of 4 mils (0.1 mm) in thickness. The warning tape will be blue in color and furnished to Contractor by HU. Installation of the warning tape will be subsidiary to the bid.

5) Prior to the pipe being placed in the trench and while suspended in a sling, all pipe shall be inspected for defects. Defective, damaged, scratched, bleached, cut, scarred, or unsound will be rejected. Deflections from a straight line or grade, as required by vertical or horizontal curves, shall not exceed manufacturer's recommendations and approval by the Engineer.

6) Joining methods:

**a)** Butt Fusion: HDPE pipe joined by the butt fusion shall be done in accordance with ASTM F2620 or PPI TR-33. All fusion joints shall be made in compliance with the pipe or fitting manufacturer's recommendations. Fusion joints shall be made by qualified fusion technicians per PPI TN-42. Qualification of the fusion technician shall be demonstrated by evidence of fusion training within the past year on the equipment to be utilized on the project. Provide copy of Butt Fusion procedure to Engineer 10 days prior to construction for review and approval.

**b)** Saddle fusion: HDPE pipe joined by Saddle fusion shall be in accordance with ASTM F2620, TR-41 or the fitting manufacturer's recommendations and PPI TR-41. Saddle fusion shall be used to fused branch saddles, taping tees, and other HDPE constructs onto the wall of the main pipe. Saddle fusion joints shall be made by qualified fusion technician. Qualification of the fusion technician shall be demonstrated by evidence of fusion training within the past year on the equipment to be utilized on the project. Provide copy of Saddle Fusion procedure to Engineer 10 days prior to construction for review and approval.**c)** Electrofusion: HDPE pipe joined by Electrofusion shall be done in accordance with the manufacturers recommended procedure. Other sources of electrofusion joining information are ASTM F1290 and PPI TN-34. The process of electrofusion requires an electric source, a transformer, commonly called and electrofusion box. The electrofusion box must be capable of reading and storing the input parameters and the fusion results for later download to an electronic record file. Qualification of the fusion technician shall be demonstrated by evidence of electrofusion training within the past year on the equipment to be utilized for this project. Provide copy of Electrofusion procedure to Engineer 10 days prior to construction for review and approval.

**d)** Mechanical coupling that wrap around the pipe and act as saddles shall be recommended by the manufacturer as being designed for use with HDPE pipe. Mechanical connection of HDPE to auxiliary equipment such as valves, pumps, and fittings shall use mechanical joint adapters and other devices in conformance with the PPI Handbook of Polyethylene Pipe, Chapter 9 and AWWA Manual of Practice M55, Chapter 6.

**e)** Joint construction records are the critical parameters of each fusion joint. As required by the manufacturer this data shall be recorded either manually or by an electronic data logging device. All fusion joint data shall be included in the Fusion Technician's joint report and provided to the Engineer for review.

**7)** Buried HDPE pipe and fittings shall be installed in accordance with ASTM D2321 or ASTM D22774 for pressure systems, AWWA Manual practice M55 Chapter 7 and as specified within these specifications for the placement of Water Main.

**4.207 Service Interruptions.** When it becomes necessary, for the purpose of making connections or for any other reason, to shut off or turn on water in any existing mains, it is the sole responsibility of the Contractor to notify the City Water Department, through the Resident Engineer, as to when and for how long service will be interrupted, and also to notify all water users well in advance to that they might prepare themselves for the period during which service might be interrupted. Valves shall not be opened or closed by anyone other than City Water Department personnel.

**4.208 Fire Hydrants and Valve Boxes.** All fire hydrants, valves, and valves boxes shall be installed in the lines as shown on the drawing and as directed by the Engineer. All apparatuses shall be set plum. Valve boxes shall be centered directly over the valves. Earth fill shall be carefully hand tamped around all valve boxes and fire hydrants. Valves boxes shall have the interiors cleaned of all foreign matter before installation.

All valve boxes shall be installed to permit without restriction valve wrenches. All fire hydrants shall be installed in accordance with the latest revision of AWWA Manual M17, "Installation, Field Testing and Maintenance of Fire Hydrants", and no more than 1/4" per two (2) vertical feet out of plumb in any direction. The engineer shall measure the plumbness of all fire hydrants installed. Any fire hydrant not installed correctly and plumbed shall be straightened and any additional extensions of the barrel to raise it to grade shall be provided without additional reimbursement. Review of the plumbness test by the Engineer shall be requested by the Contractor prior to beginning of the project. If a review is not requested, the Engineer may assume the Contractor fully understands the requirements for proper hydrant installation.

**4.209 Cleaning, Disinfection, Flushing and Pressure Testing of Water Mains**

Procedures for the disinfection of the water mains shall be in accordance with the latest revision of AWWA C651. Specifically each segment of completed water main to be disinfected shall not exceed a length greater than 1,000 LF unless otherwise approved by the Engineer.

All costs associated with disinfection, flushing and pressure testing of the water mains and appurtenances shall be considered subsidiary to the main installation.

To aid in the cleaning and disinfection of the water main the contractor shall comply with the following:

1. All water main materials shall be shipped in plastic wrap or provided removal plugs to limit contamination during shipping. Water main pipe shall be shipped with a tarp or cover to protect the pipe end (windward end) during transport.
2. Onsite storage of water main materials shall be placed on skids or blocks to limit contamination while in storage. Provide minimum of 4 inches elevation above the ground line and not located in areas that may become flooded.

3. Tarps or plastic wrap shall be provided to secure the open end of the pipe and water materials from contamination during site storage. Contractor shall limit site storage to amounts that can be installed in a timely manner to limit contamination.
4. Each section of pipe, all fittings and other water main assemblies shall be thoroughly inspected for presence of dirt, oil film(s), and debris prior to installation. Contractor shall remove and clean all visible contamination.
5. During installation the open end of the water main or assembly shall be fitted with a plug to limit contamination. This shall be used at all times. For periods where construction will be delayed for more than 1 hour a tight fitting plug shall be installed that will prevent water intrusion at a pressure of at least 10 feet of hydraulic head.
6. A suggested process for cleaning the water main pipe prior to installation is to power wash the inside of the pipe from each end of the pipe then swab each pipe with a soft foam or soft sponge pig soaked with chlorinated water, swab once from each end using a bull float pole to push the pig through. Then power wash the inside of each pipe one more time. Bag each end of the pipe with a heavy plastic garbage bag and seal with duct tape. After the pressure testing is completed, the pigging process shall consist of running the vinyl covered pig with bristles through the water main at least 4 times, then running the vinyl covered pig without bristles through at least 2 times, then running the non-vinyl covered hard foam pig through at least two times or at such time as the water is clear. New pigs shall be used with each water section thereof. Once the pigging process is completed the water main shall then be chlorinated. City of Hastings will supply two sets of pigs for the first two times of pigging on each section of main being cleaned. Length of each section of main to be determined by the engineer.
7. Use of granular chlorine or chlorine tabs will not be permitted.
8. As noted on the drawings a pig launching assembly shall be installed. Foam and / or polyethylene bristle pigs shall be provided by City of Hastings to aid in cleaning. Contractor shall provide at no cost the installation of the cleaning pigs. City of Hastings will provide pigs for the first two times of pigging on each section of main being cleaned. Any pigging after the first two times will be the contractors expense including City of Hastings Water Department labor and truck charges. Additional pigs will be purchased through the City of Hastings Warehouse at contractors expensive including all overhead costs.
9. A written plan for providing cleaning, disinfection and sampling shall be provided to the engineer for approval before main installation begins. A walk thru of the project prior to main installation shall be conducted with the contractor foreman to review disinfection procedures.

**Flush Water Disposal**

The contractor shall provide all piping, hoses, ditches and other conveyance devices to properly dispose of the water from the water mains. The following procedures shall be used:

1. Flush water containing chlorine in excess of 1 mg/l shall be directed to the sanitary sewer at rates that do not exceed the capacity of the receiving sanitary sewer. In the event a sanitary sewer is not available to the contractor, City of Hastings Sewer Department shall provide assistance in removing the chlorine., Plan and procedures for de-chlorination shall be approved by the engineer prior to commencing work.
2. Waters containing 1 mg/l or less of free residual chlorine to be flushed from the main shall be directed to appropriate storm sewers, ditches or other drainage ways. Disposal of flushed water shall be the responsibility of the contractor. Erosion caused by flushing activities shall be repaired by the contractor. Repair of right of ways and private property shall be completed to the satisfaction of the property owner or controlling authority.

**Water Main Disinfection and Flushing**

Water main disinfection and flushing shall be completed in a timely manner. As noted above a written plan shall be prepared and provided to the engineer for approval. The plan shall limit the amount of time water is allowed to be placed in the main prior to disinfection procedures are applied. The following terms and conditions shall be used with respect to disinfection and flushing of water mains:

**Step 1.** Pre-flushing (By HU Forces): Once the water main has been installed and all appropriate control valves placed into service, the water main shall then be flushed with potable water. This shall be done at a minimum velocity of 5 fps or maximum achievable with normal system water pressure. Pre-flushing of the water main shall be conducted for a sufficient period of time until the water is clear and then an additional five (5) pipe volumes of water shall be discharged. See above for flush water disposal requirements. City of Hastings forces shall be responsible for the operation of all Hastings water valves.

**Step 2.** Hydrostatic Pressure Testing (By Contractor): Immediately after pre-flushing of the main (within 1 hour) the water mains shall be hydrostatically tested. Hydrostatic testing shall be in accordance with the latest revision of AWWA C600 Section 4 or AWWA C605 Section 7 as deemed appropriate. Hydrostatic testing shall be performed at a pressure of 140 psi (965 kPa) minimum to 150 psi (1035 kPa) maximum, with an maximum drop in pressure of 2 psi (14 kPa) over a two hour period. All defective materials or improperly installed materials shall be repaired or replaced as deemed appropriate by the engineer. The hydrostatic pressure test shall be repeated after all repairs are completed and until satisfactory results are obtained.

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**Step 3.** Aggressive Main Cleaning (Pigging) (By Contractor): Immediately after hydrostatic testing is satisfactorily completed (within 1 hour) the water mains shall be aggressively pigged using hard foam, vinyl covered pigs with plastic bristles, followed by hard foam vinyl covered pigs without plastic bristles, followed by hard foam pigs without vinyl covering, all supplied by City of Hastings. Every effort shall be made to aggressively clean all sections of the water main. Pigs of appropriate size shall be launched into the water main and pushed through the main using water system pressure. Multiple pigs shall be launched until water flushed with the pig is clear. An additional 2 pigs shall then be launch to insure all debris has been removed. See above for flush water disposal requirements. City of Hastings forces shall be responsible for the operation of all Hastings water valves.

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**Step 4.** Initial Disinfection (By Contractor): Immediately after the water main has been aggressively cleaned (within 1 hour), the water main shall be disinfected with chlorine. Sufficient amounts of chlorine shall be used to provide a minimum of 25 mg/l to a maximum of 100 mg/l of free chlorine residual for a minimum contact time of 24 hours. Chlorine shall be added to each section of main using a continuous-feed method. The contractor shall provide, install, and operate all chlorination equipment. Chlorine material will be supplied by the owner and placement is the responsibility of the contactor. No additional compensation is provided. City of Hastings forces shall be responsible for the operation of all Hastings water valves.

**Step 5.** Flushing (By HU Forces): Once the water main has been disinfected the water main shall be flushed. Flushing of the water main shall be conducted for a sufficient period of time to remove all traces of chlorine. A field chlorine test shall be conducted to confirm all chlorine has been removed. See above for flush water disposal requirements and specifically for waters containing chlorine. Once the chlorine is removed flush an additional five (5) pipe volumes. City of Hastings forces shall be responsible for the operation of all Hastings water valves.

**Step 6.** Bacteriological Sampling (By HU Forces): Once the water main has been flushed of disinfectant samples for coliforms and heterotrophic bacteria (a.k.a. HPC or plate count) shall be collected. The water shall be tested for chlorine residual to insure that all chlorine has been removed. The water samples shall be collected from a service tap. The contractor at his expense shall excavate a location in which City of Hastings Forces will install a 1 inch service saddle and polyethylene water service to allow for sampling. The water main shall not be aggressively flushed during the sample collection. The water main is deemed to be clean once two sets of samples are collected 24 hours apart and show no evidence of coliforms (zero coliforms) or heterotrophic bacteria (a.k.a. HPC or plate count) greater than 500 colony forming units per ml (500 cfu/ml).

All samples will be collected by HU forces and delivered to the testing lab. The Nebraska Health Department in Grand Island, NE or Servi-Tech Labs in Hastings, NE shall be used for the testing of these samples. Coli-Alert procedures shall be used for the testing of coliforms.

During each sampling event coliform and heterotrophic bacteria samples shall be collected at a point where system water enters the project. These samples are collected to insure the water used for cleaning of the mains is potable.

**Step 7.** Re-cleaning of the water main (By Contractor): If the water main after testing and flushing as noted above has not been successfully cleaned, then it shall be re-cleaned beginning with Step 3 as noted above. Selection of the pig type and construction shall be reviewed with the engineer for approval. All water used after initial Step 6 as noted above shall be metered using estimated flow rates as determined by City of Hastings. This water shall be purchased by the contractor at current residential (Urban) water rates. Expense of all retesting of the water main for coliforms and heterotrophic bacteria (a.k.a. HPC or plate count) shall be the responsibility of the contractor.

**Step 8.** Surfactant Cleaning (by Contractor): If deemed necessary by the contractor the water main may be cleaned using a National Sanitation Foundation (NSF) approved surfactant equal to a Johnson Screens NW-400. Application rate of the surfactant shall be as per manufactures recommendation. NW-400 shall be injected at a rate of 1 gallon per 1500 to 2000 gallons of water. Additionally the main shall be provided chlorine at a minimum rate of 25 mg/l and a maximum of 100 mg/l of free available chlorine. The surfactant and chlorine shall be allowed to be in contact

with the pipe interior for a minimum of 24 hours and a maximum of 96 hours. Flushing of the surfactant and chlorine shall be deemed complete when there is not chlorine residual present.

**4.210 Separation from Sanitary Sewer Mains.** There shall be a minimum of eighteen (18) inches (450 mm) clearance between water mains and sanitary sewer mains crossing at approximately ninety degrees (90°). There shall be a minimum of 10' horizontal clearance between water mains and sanitary sewer, manholes and storm sewers measured from outside of pipe to outside of pipe.

**4.211 Trench Backfilling.** Trench backfill shall conform to following:

1) All water mains and services shall be properly bedded with insitu soils unless otherwise directed due to poor soils or soil conditions. The Engineer shall instruct the Contractor in proper operation and fill material if conditions are deemed less than favorable. Insitu soils typically deemed satisfactory are local clay, silt loam, and sandy soils found in the Hastings area.

   Ductile Iron Pipe. All ductile iron pipe shall be bedded as shown on bedding detail II of the plans with insitu soils to top of pipe or twelve inches (12") (300 mm) above top of pipe as noted. The bedding process shall be accomplished by mechanical means and by introducing backfill material layers not to exceed six inches (6") (150 mm) depth. Each lift shall be thoroughly compacted before introducing additional backfill material. Hand tamping will be required whenever streets, driveways, or terraces requiring sodding will be placed above the water main installed. The bedding shall be accomplished using a hand tamper for each six inch (6") (150 mm) lift of soil to the top of the pipe. Other mechanical means such as a rolling vibratory sheeps foot can be utilized for the next twelve inches (12") (300 mm) above the top of pipe. **All hand tamping shall be strictly enforced.**

   Polyvinyl Chloride Pipe. All polyvinyl chloride pipe regardless of location shall be bedded as shown on bedding detail I of the plans with six inches (6") (150 mm) lifts of soil to a point twelve inches (12") (300 mm) above the top of pipe. **All hand tamping shall be strictly enforced.**

   Upon bedding of pipe, fill may be introduced suitable to the type of method that will be used for compaction, i.e., roll compactor, hydraulic vibrator, etc. Lift thickness will be determined in field by inspector and job foreman, with a maximum loose lift thickness of 12" under streets.

3) Compaction test may be taken at random locations and different depths as determined by inspector. Average of two compaction tests will be taken at each 50 lineal foot ) (15 M) of trench and test at an elevation to be determined on job site and dependent on depth of trench. Contractor will be required to make excavation for test.

4) Test results for compaction shall meet or exceed following:

   a. 95% standard proctor density for terraces.

   b. 98% standard proctor density for driveways, sidewalks, streets.

c. Assumption that moisture content (±) 3% of optimum failure of test to reach these minimum results will require re-compaction by Contractor.

5) No unsuitable material will be allowed in backfilling, i.e., rock, saturated soils, concrete, brick, motor, vegetation, debris, grasses, etc. Contractor will be required to remove such from job site and replace with adequate amount of approved material. The Contractor shall supply suitable backfill material from an approved borrow site acceptable to the Engineer at the unit price in the proposal.

   Any area found unstable because of plastic soils will have to be replaced by the Contractor with suitable material

6) Water settling will not be permitted.

7) If proper compaction requires additional soil to be brought to the site by the Contractor, all expenses for this additional soil shall be considered subsidiary to the pipe installation.

8) Contractor shall return ditch elevations to preexisting elevations as shown on the plans. If it is determined after the construction is complete the Contractor has not done so, he will be required to return the ditch to original elevation at his cost.

9) The Contractor shall hand tamp around all fire hydrants, curb stops, and valve boxes with hand tampers or pad tampers ("Jumper Jacks") to insure proper compaction.

   In the event settlement of any backfill associated with the project is encountered, the Engineer shall notify the Contractor in writing to repair all defects, including settlement and associated street repair, if it is discovered within the three (3) year maintenance period. No extra monies will be paid for repairs caused by settlement of the backfill.

**4.212 Trench Wall Support.** All trenches shall be braced or sheeted as to local soil conditions dictate and in full compliance with OSHA, as well as local, State of Nebraska, and other Federal requirements. There shall be sufficient tamped cover over pipe to protect in removal of shoring material.

**4.213 Encasement Pipe.** The encasement pipe for railroad and street crossings shall be installed by tunneling. The encasement pipe shall be installed as shown on the plans. Casing chocks shall be provided as indicated on the drawings. The casing chocks shall be securely fastened to the carrier pipe.

The casing chocks shall be placed approximately 7'-0" (2.1 M) on center with a casing chock placed 3'-0" (0.9 M) from each end of each section of pipe. On a standard 20'- 0" (6.0 M) length of pipe, three casing chocks shall be installed.

Both ends of the encasement pipe shall be closed with a standard pull-on S-shaped seal as manufactured by Pipeline Seal and Insulator Inc., Model S, Advance Model AC End Seal, or approved equal.

After installation of the smooth steel pipe, City of Hastings shall install two 48 pound (21.8 Kg) sacrificial anodes or as determined by the Engineer shall be attached and buried at each end of the encasement. The anodes shall be attached to the outside of the encasement, one on each side.

**4.214 Pipe Plug.** The Contractor shall utilize a water tight mechanical plug or cap of appropriate size to secure the open end of the pipe from debris entering into the pipe. This shall

be strictly enforced at the end of each day, during any breaks lasting more than 30 minutes or unscheduled stoppage which the pipe may be left unattended for more than 30 minutes. Buckets, duct tape and other methods will not be allowed.

## SECTION 4-3 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT

**4.301 Water Main.** Water main shall be measured for payment by measuring the length down the center line of construction of all pipelines installed, with no deduction for fittings or valves. Payment shall be made at the contract unit price per lineal foot for various sizes, including fittings, excavation and backfill, complete in place. The cost of providing and installing location tape shall be considered subsidiary to the water main.

**4.302 Valves and Boxes.** Valves and valve boxes shall be paid for at the contract unit price, complete in place.

**4.303 Hydrants.** Fire hydrants shall be paid for at the contract unit price, complete in place.

**4.304 Manholes.** Manholes shall be paid for at the contract unit price bid per manhole, for a depth of five feet (5') (1.5 M), which payment shall include footings, ring and cover. Additional payment shall be made for manholes more than five feet (5') (1.5 M) in depth, measure from top of footings to top of cover, at the contract price for each vertical foot or fraction thereof in excess of five feet (5') (1.5 M).

**4.305 Fittings.** Fittings such as tees, bends, solid sleeves, MJ to MJ adapters, and reducers including all glands and bolts shall be paid for at the contract unit price, complete in place. If in the event additional fittings are required to be installed, then additional fittings shall be paid for at the unit price per pound of the base weight of the fitting.

All ductile iron fitting weights shall be computed using AWWA C153.D.I. Compact Fittings whenever appropriate. In the event a compact fitting weight is not provided by AWWA C153, then the appropriate ductile iron fitting weight as specified in AWWA C110 shall be used. If in the event special items that are called for on the drawings are not referenced in AWWA C110 or C153, then appropriate manufacturer weights shall be utilized. The fitting weights shall consists of the base weight only; all bolts, gaskets and glands shall be considered subsidiary to the pay item.

The Contractor will be reimbursed for actual installed fitting weights using the manufacturers standard weight schedule.

**4.306 Boring and Encasement.** The construction of encasement pipe shall include boring, excavation, backfill, casing pipe, and cathodic protection. All other items necessary to complete the installation encasement pipe shall be considered subsidiary to the bid item. The amount of encasement installed shall be measured along the center-line of the encasement and shall be paid for at the contract unit price.

**4.307 Hydrant Extension.** Hydrant extensions as required or as directed by Engineer shall be paid for on a per extension basis; such as 3” (75 mm), 6” (150 mm), 9” (225 mm), etc. Payment shall compensate the Contractor for all labor, fabrication, installation, backfilling, excavating, and all other incidental work as specified or directed by Engineer.

**4.308 Valve Box Extension.** Valve box extension shall be considered subsidiary to the installation of the valve and valve box.

**4.309 Extra Depth Excavation and HDD.** When deemed necessary by the Engineer for extra depth greater than 2.0 feet (600 mm) from plan grades, addition compensation shall be provided a per foot depth per linear foot basis. Payment shall include all excavating, backfilling, labor, and other incidental work as specified.

When bury depth is not indicated and rather to be field determined by the contractor, no additional compensations will be made.

No additional compensation will be made when the Contractor varies depth do his operation or failure to control his operation.

**4.310 Tracer Wire.** The tracer wire and locating station is supplied by HU and the cost of installation by the Contractor is subsidiary to bid.

**4.311 Service Connection.** The payment for the installation of a service connection for 3/4" to 2" in diameter shall include all excavations, backfilling, re-sodding, re-seeding, service saddles, connections to tracer wire, corporation valves, purchase of materials, fabrications, and all other incidentals for a complete installation. Payment will be made for each class of work and for each size of service required.

**4.312 Water Service Lines.** The payment for the installation of water service lines for 3/4" to 2" in diameter shall include all excavation, backfilling, re-sodding, re-seeding, service saddles, installation of tracer wire, water service lines, corporation valves, purchase of materials, fabrications, and all other incidentals for a complete installation. Payment will be made for each class of work and for each size of service required.

**4.313 Curb Stop.** The payment for the installation of a curb stop shall include all excavation, backfilling, re-sodding, re-seeding, curb stops, connection to tracer wire, purchase of materials, fabrication, and all other incidentals for a complete installation. Payment will be made for each class of work for each size of curb stop required.

**END OF SECTION**

# SECTION 5
# SPECIFICATIONS FOR
# CONSTRUCTION SITE STORM WATER MANAGEMENT AND CONTROL

## SECTION 5-0 - SCOPE OF WORK

The work covered by this section of the specifications consists of furnishing all labor, plant, equipment, appliances and materials, and performing all operations necessary to manage and control storm water runoff as per Nebraska NPDES General Permit for Storm Water Discharge from Construction Sites Number NER100000.

### Section 5-1 – Applicability

**5.101 General Storm Water Pollution Prevention Policy.** The contractor shall be responsible for storm water management of the construction site. This shall include proper storage, handling and disposal of hazardous material. This shall also include proper handling of petroleum products. All hazardous, fuels, oils, and greases shall be properly stored, handled and disposed in accordance with relevant Material Safety Data, Federal, State and Local regulations. The dumping on the ground or storage of waste fuels and / or motor oil in open containers shall be prohibited. If oils or fuels are dumped on the ground the contractor shall remove all contaminated soils and properly dispose in accordance with state and local regulations within 24 hours. If the contractor fails to keep the construction site free of waste and spills Hastings Utilities shall withhold two times the monies as deemed appropriate by the engineer for the clean up and disposal by outside services.

1) When hazardous chemicals, fuels, oils and or greases are stored on site the contractor shall provide, when requested by the engineer, appropriate Material Safety Data Sheets for these materials.

2) The contractor shall operate and manage his operation in an environmentally safe manner and shall also have a strong no dumping policy. If a spill of hazardous chemicals, fuels, oils and / or greases occurred in reportable quantities as deemed by Federal and State regulations the contractor shall notify the appropriate Federal and State authorities and in addition Local Emergency Management at 402-461-2361.

3) It is suggested but not required that the contractor develop a written policy addressing safety procedures for the containment and proper disposal of all spills including employee training.

# SECTION 6
# TECHNICAL SPECIFICATIONS

## SECTION A—CLEARING AND GRUBBING

1. **Description.** The work of clearing and grubbing shall be as described in Section 202 of the 2017 State Specifications.

2. **Construction Methods** used for clearing and grubbing shall be in conformance with Section 202.02.

3. **Method of Measurement and Payment.**

   (a) Clearing and grubbing of trees shall be measured and paid for as described in Section 202.01.

   (b) General clearing and grubbing shall not be measured and paid for directly but shall be paid as a lump sum in accordance with Section 202.01.

## SECTION B—EARTHWORK

1. **Description.** Roadway and site grading including general excavation and embankment construction shall be completed as shown on the plans. The Contractor shall strip and stockpile the existing topsoil for redistribution during final grading over areas to be sodded or seeded. All fills, and areas to receive surfacing shall be prepared and compacted to the minimum densities shown on the plans and specifications.

   Where feasible, any areas in the construction area to be paved to receive borrow should be proofrolled with a loaded dump truck, scraper, or similar rubber-tired equipment weighing at least 15 tons. Proofrolling should also be performed in areas requiring mass excavation after rough finished subgrade elevation is achieved. Proofrolling operations should be observed by the Engineer. Unstable and unsuitable soils which are revealed by proofrolling, and which cannot be adequately densified in place, should be removed under the direction of the Engineer. It may be necessary to perform selective removal of soft, wet soils and/or stabilize existing soft soils in-place.

   The recommendation generally provided during construction for dealing with surficial wet conditions would be to scarify the top 12 inches of soil and allow the soils to dry back to a moisture content suitable for obtaining the required compaction. This work shall be considered subsidiary to Earthwork item if required.

   Structural fill materials have a liquid limit of less than 45, and a plasticity index of less than 25. Silty sand, clayey sand, and poorly graded sand would be suitable for structural fil material as well. Whenever possible, highly plastic silt (MH) or clay (CH) fill soils should not be placed within the upper 4 feet of the final ground elevation. Soils which have a liquid limit greater than 45 and a plasticity index greater than 25 will typically require removal or blending with less plastic materials to result in lower Atterberg limits.

In addition to the plasticity characteristics, the fill soils should also be relatively free of organic materials (less than about two hundredths by weight), other deleterious material and should not contain particle sizes larger than three inches. Imported fill material should be tested prior to placement at the site to verify it complies with the criteria stated in this section of the report. Samples of the proposed imported structural fill should be submitted at least three days prior to placement so the necessary laboratory tests can be performed.

Suitable fill material should be placed in thin lifts (lift thickness depends on type of compaction equipment, but in general, lifts of 8 inches loose measurement is recommended). The soil should be compacted by heavy compaction equipment such as a Caterpillar 815 sheepsfoot roller. Within small excavations, such as in utility trenches (less than 24 inches in width), around manholes or behind retaining walls, we recommend the use of "wacker packers", "Rammax" compactors, or vibrating plate compactors to achieve the specified compaction. Loose lift thickness of 4 inches are recommended in small area fills.

2. **Method of Measurement and Payment.**
Payment for general roadway and site grading including excavation and construction of embankments shall be paid for at the contract unit price bid per lump sum for the pay item "Earthwork".

The quantities as shown on plans shall be considered established quantities, and no additional measurement or compensation will be made. This work shall include all items of work associated with the general roadway and site grading including stripping and stockpiling topsoil, furnishing off site borrow, disposal of excess excavated materials, hauling, placement, compaction, water required to achieve compaction, and final grading (including redistribution of topsoil).

## SECTION C—SUBGRADE PREPARATION/FOUNDATION COURSE

1. **Description.** This work shall consist of the construction of a compacted foundation course in accordance with Section 307 of the 2017 State Specifications.

2. **Subgrade** To prepare the subgrade, the top 12 inches of the subgrade should be scarified and re-compacted to a minimum of 98 percent of the maximum dry density as determined by ASTM D698, Standard Proctor. The moisture content shall be between -1 and +3 percent of optimum content as determined by ASTM D698 Standard Proctor. The final subgrade should be proofrolled immediately prior to placement of the concrete to detect any localized areas of instability. Unstable areas should be reworked to provide a uniform subgrade.

3. **Materials.** All materials shall consist of that required to produce Aggregate Foundation Course (regular) as indicated in Section 307.02.

4. **Construction Methods.** Foundation Course shall be mixed, laid and compacted in accordance with Section 307.03 at locations designated on the plans or as directed by the Engineer.

5. **Measurement and Payment.**

(a) All materials and work required to produce, mix, lay, water and compact Foundation Course (regular) will be measured and paid for on a square yard basis and shall be considered full compensation for producing, furnishing, laying, watering and compacting and all work necessary to complete the item of work.

(b) Subgrade Preparation shall include all necessary materials, soil, labor, equipment, hauling, loading, compaction, water, grading, and all subsidiary items of work for Subgrade Preparation, in accordance with the plans and specifications. The quantity for payment of Subgrade Preparation will be the number of overlying square yards of pavement, including intersections. The areas outside the outside of the pavement edgeswill not be measured for payment but shall be considered subsidiary to "Subgrade Preparation". The pay item is per one (1) square yard.

## SECTION D—NOT USED

## SECTION E—NOT USED

## SECTION F—PORTLAND CEMENT CONCRETE PAVEMENT, CURB WALL, INTEGRAL CURB, CURB AND GUTTER AND SIDEWALK, STRUCTURAL CONCRETE, REINFORCING STEEL

1. **Description.** This work shall consist of that described in Division 600 Concrete Paving; Section 704 Concrete Construction including Retaining Walls and Steps; Section 606 Concrete Curb and Gutter; Section 607 Concrete Sidewalks; and Division 700 Bridges, Culverts, Related Construction of the 2017 State Specifications.

2. **Materials.** All materials used in the performance of the items of work shall comply with Division 600 and Division 1000 for Concrete Paving (47B).

3. **Construction Methods.**

   (a) Concrete Paving shall be mixed, placed and finished as provided in Sections 603.03.

   (b) Concrete Retaining Walls and Steps shall be mixed, formed, placed and finished in accordance with Section 704.

   (c) Concrete Curb and Gutter shall be mixed, placed and finished in accordance with Sections 606.01 through 606.03.

   (d) Concrete Sidewalks and Drives shall be mixed and finished in accordance with Sections 607.01 through 607.03 and Sections 609.01 through 609.03.

   (e) Structural Concrete for box culverts, bridges and dams shall be mixed and furnished in accordance with Section 704.

(f) Reinforcing Steel. Steel bars for concrete reinforcement shall conform to Section 707 of the 2017 State Standard Specifications for Highway Construction and shall be deformed, of Grade 40 or Grade 60 billet or Grade 40 or Grade 60 axle steel as shown in the plans, specifications or Special Provisions.

**4. Method of Measurement and Payment.**

(a) Portland Cement Pavement shall be measured in place and paid for by the square yard at the contract bid price for "P.C.C. Pavement" at the thickness shown in the proposal and on the plans. Such payment shall be considered full compensation for furnishing all materials including, but not limited to, reinforcing steel, dowel bars, joint sealer, special joints, hauling, placing, sawing, finishing and curing said concrete paving and performing all incidental work necessary to complete the item of work.

(b) Integral Curb shall be subsidiary to the unit contract bid price for P.C.C. concrete pavement.

(c) Concrete Curb Wall shall be measured and paid for by the cubic yard in place at the contract bid price for "Concrete Curb Wall" through and including transitions from Concrete Curb Wall to Standard Integral Curb. Said payment will be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(d) Concrete Curb and Gutter shall be measured and paid for by the linear foot for "Concrete Curb and Gutter". Said payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(e) Portland Cement Concrete Sidewalks shall be measured and paid for by the square foot at the contract bid price for "5 Inch P.C.C. Sidewalks". Said payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(f) Portland Cement Concrete Drives shall be measured and paid for by the square yard at the contract bid price for "6 Inch P.C.C. Drives". Said payment will be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(h) Steel reinforcement shall be considered subsidiary to pavement items.

## SECTION G—PAVEMENT, CURB AND GUTTER, SIDEWALK AND DRIVE REMOVAL

**1. Description.** This work shall consist of removing and disposing of Asphaltic Concrete Paving, Concrete Paving, Concrete Curb and Gutter and Concrete Sidewalks and Drives.

2. **Construction Methods.** Limits of paving removals for Asphaltic and Portland Cement Concrete Paving including Curb and Gutter, Sidewalks and Drives, when indicated in the plans or directed by the Engineer, shall be sawed to a depth sufficient to result in a straight and undamaged edge on the remaining pavement.

   Where pipelines are to be installed by open cut in streets on which asphalt or concrete pavement exists, the pavement shall be neatly cut out in a straight line along both edges of the trench. Cutting will be done with a concrete saw or other suitable means acceptable to the Engineer. The paving so cut will be removed, loaded and hauled to a dump approved by the Engineer. Limits of paving removed will be designated by the Engineer.

3. **Method of Measurement and Payment.**

   (a) Removal of all types of roadway paving shall be unclassified and shall be measured and paid for on a square yard basis at the contract bid price for "Pavement Removal". Such payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

   (b) Removal of pavement for drives will be measured and paid for on a square yard basis at the contract bid price for "Driveway Pavement Removal". Such payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

   (c) Removal of concrete curb and gutter shall be measured and paid for on a linear foot basis at the contract bid price for "Curb and Gutter Removal". Such payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

   (d) Removal of concrete sidewalk shall be measured and paid for on a square foot basis at the contract bid price for "Sidewalk Removal". Such payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

   (e) Saw cutting pavement will not be paid for directly but shall be considered subsidiary to the bid items of the contract, unless otherwise so specified in the bidding documents.

## SECTION H—REMOVAL OF EXISTING STRUCTURES

1. **Description.** This work shall consist of that described in Section 203 of the 2017 State Specifications.

2. **Construction Methods** used shall be in conformance with Section 203.02.

3. **Method of Measurement and Payment.**

(a) Removing existing concrete box culverts, dams, retaining walls, storm sewer inlets and catch basins, etc. shall be measured and paid for on a per each basis for each item removed at the contract bid price as specified in the Proposal, which payment shall be considered full compensation for providing all labor and materials necessary to complete the work.

(b) Removal of existing storm sewer shall be measured and paid for on a linear foot basis for the type and size indicated in the proposal and on the plans.

## SECTION I—CULVERT PIPE

1. **Description.** This work shall consist of that described in Section 1037 of the 2017 State Specifications.

2. **Materials** used in the construction shall conform to minimum material requirements shown as follows:

   (a) Reinforced Concrete Pipe shall conform to the requirements of AASHTO M170, M206 C 76 76 ASTM Designation or the latest revision thereof, for Class III Reinforced Concrete storm sewer and culvert pipe.

   The various classes of pipe designated shall meet the following requirements:

   (1) Class III Reinforced Concrete Pipe – D Load 0.01 in crack 1,350 lbs.
   Class III Reinforced Concrete Pipe – D Load Ultimate 2,000 lbs.

   (2) Concrete Proportions – as designated in Section 5.2.1 concrete (ASTM 76 76) with not less than six U.S. standard bags of cement per cubic yard.

   (3) Concrete Strength – 4,000 psi

   (4) Pipe Acceptance – as specified in Section 3.1.1 (ASTM 76 76) three edge bearing test. In addition, the reinforced concrete pipe manufactured under this specification will be required to meet absorption requirements of concrete as indicated in ASTM Specification C 76.

   (5) High-performance polypropylene (PP) storm sewer pipe storm sewer pipe shall be ADS HP Storm Dual Wall Pipe or approved equivalent.

3. **Construction Methods.** All transporting, delivering, placing, excavating, backfilling, and connecting of storm sewer shall conform to the requirements of Section 720 except that backfill material for the lowest 90 degrees shall be sand, placed and compacted to the required density under the direction of the Engineer. Bedding will be required for all reinforced concrete pipe and corrugated metal pipe installed on this project.

4. **Method of Measurement and Payment.**

(a) Excavation backfilling and compaction of trenches for storm sewers shall not be measured and paid for directly but shall be considered subsidiary to the bid items of the contract.

(b) Pipe for storm sewer shall be measured and paid for on the linear foot basis of the contract bid price for the pipe sizes indicated in the plans and specifications as provided in Sections 718, 719, and 720.

(c) Pipe for sanitary sewer shall be measured and paid for on the linear foot basis at the contract bid price for "V.C.P. Sanitary Sewer" for the pipe size indicated in the plans and specifications. Said payment shall be considered full compensation for excavation, disconnecting house services from the existing sewer main, installing the sanitary sewer, wyes and house sewer service lines, plugging service lines at the point of disconnection, backfilling and compacting the trench, performing all incidental work and providing all equipment, labor and materials necessary to complete the item of work.

## SECTION J—CATCH BASINS, MANHOLES, INLETS AND JUNCTION BOXES

**1. Description.** This work shall consist of that described in Sections 916 Catch Basins, Manholes, Inlets and Junction Boxes and 917 Reconstruction of Manholes and Adjusting Manholes to Grade.

**2. Materials.** All materials furnished shall conform to Section 916.02 except steel and gray iron castings shall be the types specified on the plans.

**3. Construction Methods.** Construction will be in accordance with Sections 916.03.

**4. Method of Measurement and Payment.**

(a) Excavation backfill and compaction will not be measured and paid for directly but shall be considered subsidiary to the bid items of the contract.

(b) Manholes and Inlets shall be measured and paid for at the contract bid price per each for the types specified and said payment shall be considered full compensation for furnishing all labor, equipment and materials, including steps and covers, cast iron sanitary sewer, adapter and incidental work necessary to complete the item of work.

(c) Manholes requiring an adjustment of 24 inches or greater to bring said structure to grade shall be measured and paid for at the contract bid price per each for 24 Inch Risers, which payment shall be considered full compensation for furnishing all labor, equipment and materials (including fabrication, steps and covers) necessary to complete the item of work.

(d) The work of Adjusting Manholes and Reconstruction of Manholes from 0 to 24 inches shall be measured and paid for at the contract bid price per each for "Adjusting Sewer Manholes to Grade", which payment will constitute cost of all materials, equipment and labor necessary to complete the item of work.

**SECTION K— NOT USED**

**SECTION L— NOT USED**

**SECTION M—TOPSOIL, SEEDING, MULCHING, FERTILIZING WATERING & EROSION CONTROL**

**1. Curb Inlet Sediment Filter**

The Contractor shall select curb inlet filters from the Nebraska Department of Transportation Approved Products List. The Contractor shall install the sediment filters as per the manufacturer's installation guidelines at all curb inlets until stabilization has been achieved as per the SWPPP. This shall be full compensation for all materials and work necessary to place, install, maintain and remove the curb inlet sediment filters. This work will be measured by "Each" and will be paid for by the bid item "Inlet Protection."

**2. Temporary Erosion Control**

This work shall include installation of silt fence or temporary silt checks around inlets and at the stormwater outlets in accordance with the approved Storm Water Prevention Plan developed by the Contractor and the City. Temporary silt checks shall be on NDOT approved products list for Type "Synthetic" or "Wattle". Temporary erosion control shall be installed according to manufacturer's specifications. The installation of the temporary erosion shall be full compensation for all the labor, equipment, material, excavation, backfill, stakes, maintenance, disposal, and all other incidental items required for this item shall be paid for by "Linear Foot" for the bid item "Linear Erosion Protection".

**3. Erosion control mat**

Erosion control blanket shall be installed as noted in the plans or as directed by the Engineer. The straw erosion control blanket shall be S75 as manufactured by North American Green, or equivalent. The straw erosion control blanket shall be a machine-produced mat with a one hundred (100) percent agricultural straw matrix. The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the blanket. The blanket shall be covered on the top with polypropylene netting having an approximate 0.63 inch by 0.63-inch mesh. Breakdown of the netting within approximately twelve (12) months, depending on geographic location and elevation. The blanket shall be sewn together on 1.50-inch centers with degradable thread. Installation staple patterns shall be clearly marked on the erosion control blanket with environmentally safe paint. The blanket shall be manufactured with a colored line or thread stitched along both outer edges

(approximately two to five inches from the edge) to ensure proper material overlapping.

The erosion control blanket shall have the following properties: density of 0.50 lb./yd.2; the netting, topside 1.5 lb./1000 ft.2, and the thread shall also be degradable.

Installation as per manufactures printed literature.

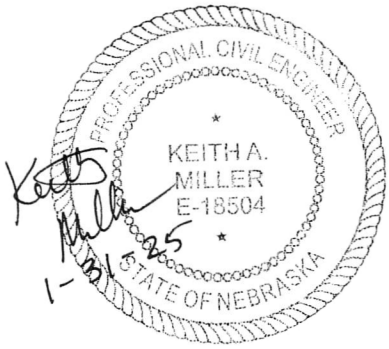
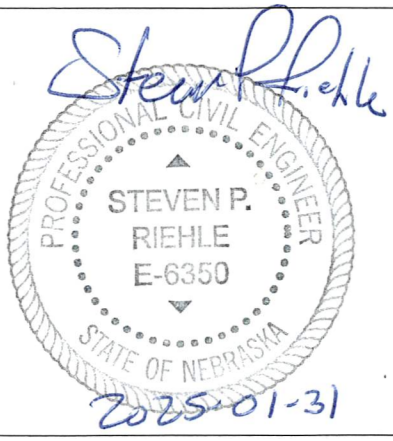
## SECTION N - NOT USED

# SEALS AND SIGNATURES

**Owner: City of Hastings**

**Project Name :ELM MEADOWS FIRST SUB-DIVISION WATER, SEWER AND PAVING PROJECT**

**Contract: HU 2025-37**

| | |
|---|---|
|  | The seal and signature to the left applies to:<br>• Coordinating Professional |
|  | The seal and signature to the left applies to the following specification divisions:<br>• Section 3<br>• Section 4 |
|  | The seal and signature to the left applies to the following specification divisions:<br>• Section 5<br>• Section 6 |

*Back Signature Page*

# ELM MEADOWS FIRST SUBDIVISION
# WATER MAIN EXTENSION DISTRICT 2024-1
# HASTINGS, NEBRASKA
# DWG. NO.:WR-136 W.O. NO.:WA-134

Drinking Water Project
NEBRASKA
Good Life. Great Resources.
DEPT. OF ENVIRONMENT AND ENERGY
APPROVED
Cyril Martinmaas PE

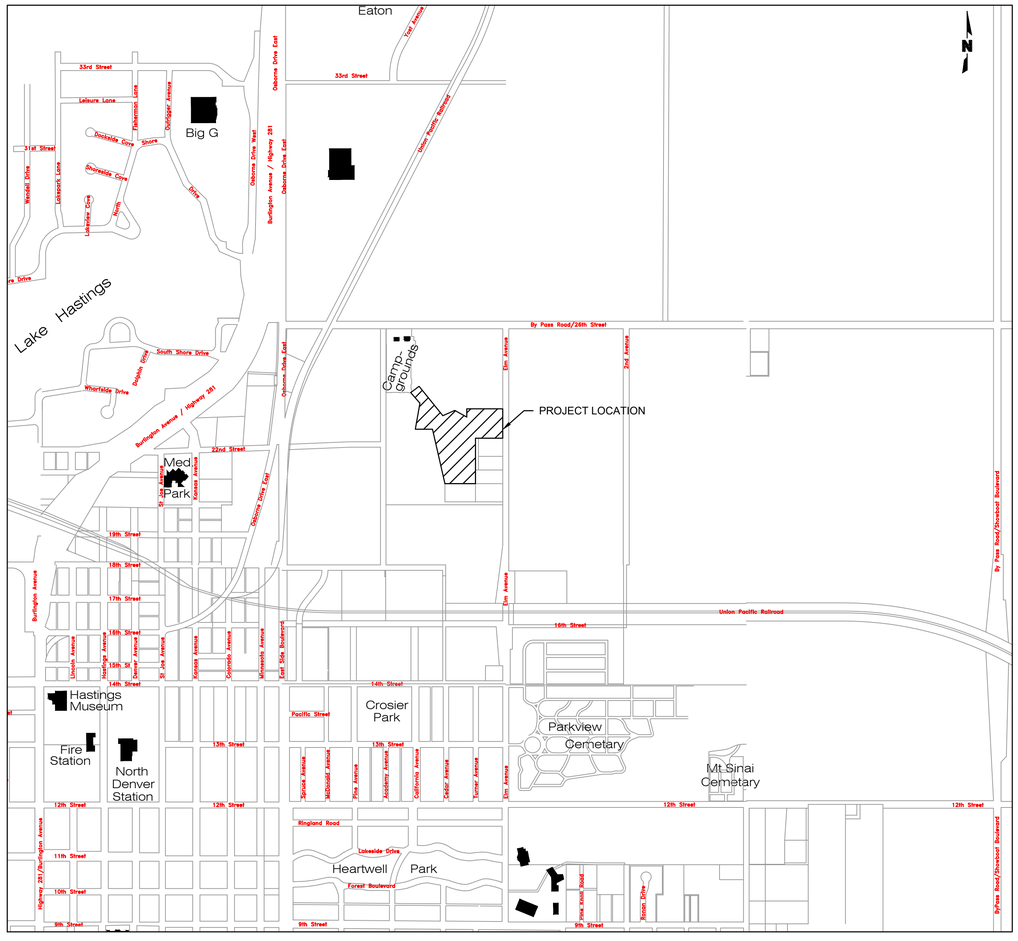
NDEE Project No. W-6-2025
February 4, 2025

## LEGEND

- SD — STORM SEWER PIPE
- SS — SANITARY SEWER MAIN
- G — GAS MAIN
- W — WATER MAIN
- CATV — UNDERGROUND CABLE TV
- P/OH — OVERHEAD POWER
- CHAINLINK FENCE
- POWER POLE
- LTP — LIGHT POLE
- PPP — POWER POLE/LIGHT POLE
- GUY WIRE
- FHT — FIRE HYDRANT
- WV — WATER VALVE
- POST INDICATOR VALVE
- WATER METER PIT
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- GM — GAS METER
- AC — AIR CONDITIONER
- EM — ELECTRIC METER
- TP — TELEPHONE PEDESTAL
- TELEPHONE RISER
- TRANSFORMER
- SPRINKLER CONTROL VALVES
- RD — ROOF DRAIN
- STORM SEWER GRATE INLET
- MB — MAILBOX
- STEEL BOLLARD
- SIGN
- SECTION CORNER
- CONTROL POINT
- BU — BUSH
- TREE

## GENERAL NOTES

1. CONTRACTOR SHALL PRESERVE ALL SURVEY CONTROL AND PROPERTY CORNER MONUMENTS. IF THEY ARE DISTURBED DURING CONSTRUCTION THEY SHALL BE RESET BY A NEBRASKA REGISTERED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
2. THE LOCATION OF ALL AERIAL AND UNDERGROUND UTILITY FACILITIES MAY NOT BE INDICATED ON THESE PLANS. UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT WILL BE LOCATED AND FLAGGED BY THE UTILITIES AT THE REQUEST OF THE CONTRACTOR. NO EXCAVATION WILL BE PERMITTED IN THE AREA OF UNDERGROUND UTILITY FACILITIES UNTIL ALL SUCH FACILITIES HAVE BEEN LOCATED AND IDENTIFIED TO THE SATISFACTION OF ALL PARTIES. THE EXCAVATION MUST BE ACCOMPLISHED WITH EXTREME CARE IN ORDER TO AVOID ANY POSSIBILITY OF DAMAGE TO THE UTILITY FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES. CONTRACTOR SHALL PRESERVE ALL PROPERTY CORNER MONUMENTS OR RE-ESTABLISH THEM IF THEY ARE DISTURBED DURING CONSTRUCTION AT THEIR EXPENSE.
3. BEFORE EXCAVATING, CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS TO LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF NECESSARY BECAUSE OF ACTUAL LOCATIONS OF EXISTING FACILITIES.
4. THE CONTRACTOR SHALL USE EXTREME CAUTION IN THE AREA OF EXISTING MANHOLES, POWER POLES, AND EXISTING UTILITIES, AND SHALL BE RESPONSIBLE FOR DAMAGES. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
5. ALL WATER MAIN WORK SHALL BE IN ACCORDANCE WITH THE CITY OF HASTINGS UTILITIES STANDARD SPECIFICATIONS AND STANDARD DRAWINGS.
6. THE CONTRACTOR SHALL COORDINATE ALL WATER LINE WORK WITH HASTINGS UTILITIES. TYLER WAITE, COORDINATING ENGINEER. 402-831-1393
7. THE UTILITY TRENCHES SHALL BE BACKFILLED, MECHANICALLY TAMPED AND TESTED. BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY UNDER FUTURE PAVED AREAS AND 92% UNDER TURF AREAS.
8. PIPE BEDDING AND ENCASEMENTS SHALL BE SUBSIDIARY TO PIPE INSTALLATION.
9. TRACER WIRE, BURY TAPE AND SACRIFICIAL ANODES SHALL BE PROVIDED BY HASTINGS UTILITIES AND INSTALLED BY THE CONTRACTOR.
10. ALL WATER SERVICES SHALL BE MARKED WITH A TEE POST AND REFLECTOR.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATER MAIN TESTING REQUIRED BY HASTINGS UTILITIES SPECIFICATIONS. OWNER SHALL PROVIDE DENSITY TESTING.
12. CONSTRUCTION STAKING SHALL BE COMPLETED BY THE ENGINEER.
13. PRIOR TO MOVING OFF SITE THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING REQUESTING A FINAL WALK-THROUGH OF THE PROJECT.




| SHEET INDEX | |
|---|---|
| Sheet # | Sheet Title |
| 1 | COVER SHEET |
| 2 | HORIZONTAL & VERTICAL CONTROL |
| 3 | WATER MAIN PLAN & PROFILE STA. 400+00 TO STA. 400+50 |
| 4 | WATER MAIN PLAN & PROFILE STA. 410+00 TO STA. 414+00 |
| 5 | WATER MAIN PLAN & PROFILE STA. 414+00 TO STA. 418+00 |
| 6 - 7 | DETAILS |

**TABLE OF APPROXIMATE QUANTITIES**

| ITEM DESCRIPTION | UNIT | QUANTITY |
|---|---|---|
| MOBILIZATION | L.S. | 1 |
| 16" D.I. WATER MAIN | L.F. | 214 |
| 16"X10" REDUCER | EA. | 1 |
| 16" M.J. TEE | EA. | 2 |
| 16" PLUG | EA. | 2 |
| 10" D.I. WATER MAIN | L.F. | ~~950~~ 958 |
| 10" M.J. TEE | EA. | 6 |
| 10" M.J. GATE VALVE | EA. | 5 |
| 10" M.J. PLUG | EA. | 6 |
| 10"X6" M.J. TEE | EA. | 3 |
| 10" M.J. 11.25 BEND | EA. | 3 |
| 10" M.J. 22.5 BEND | EA. | 2 |
| 10" FOSTER ADAPTER | EA. | 8 |
| 6" M.J. GATE VALVE | EA. | 3 |
| 6" 90 SWVL. X SWVL. HYDRANT ELBOW | EA. | 3 |
| 6"X36" SWVL. X SWVL. ADAPTER | EA. | 3 |
| FIRE HYDRANT | EA. | 3 |
| 1" PE SERVICE TUBING | L.F. | 378 |
| 1" CORPORATION STOP | EA. | 18 |
| 1" CURB STOP W/BOX | EA. | 18 |
| THRUST BLOCK | EA. | 9 |
| TRACER WIRE RISER | EA. | 4 |
| LOCATE & CONNECT TO EXISTING 16" VALVE | EA. | 1 |
| DIRECTIONAL DRILL | L.F. | 60 |
| REMOVE & REPLACE CONCRETE PAVEMENT | S.Y. | 8 |

## APPROVED FOR CONSTRUCTION

Lee Vrooman — 2-11-25

DIRECTOR OF ENGINEERING, CITY OF HASTINGS — DATE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Nebraska COA #CA-0638


PROFESSIONAL CIVIL ENGINEER
MATTHEW M. MOTZ
REG. E-10074
STATE OF NEBRASKA

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 1-30-2025 | ADDENDUM NO. 1 |

REVISIONS

COVER SHEET

ELM MEADOWS FIRST SUBDIVISION
WATER MAIN EXTENSION DISTRICT 2024-1
HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET 1 of 7

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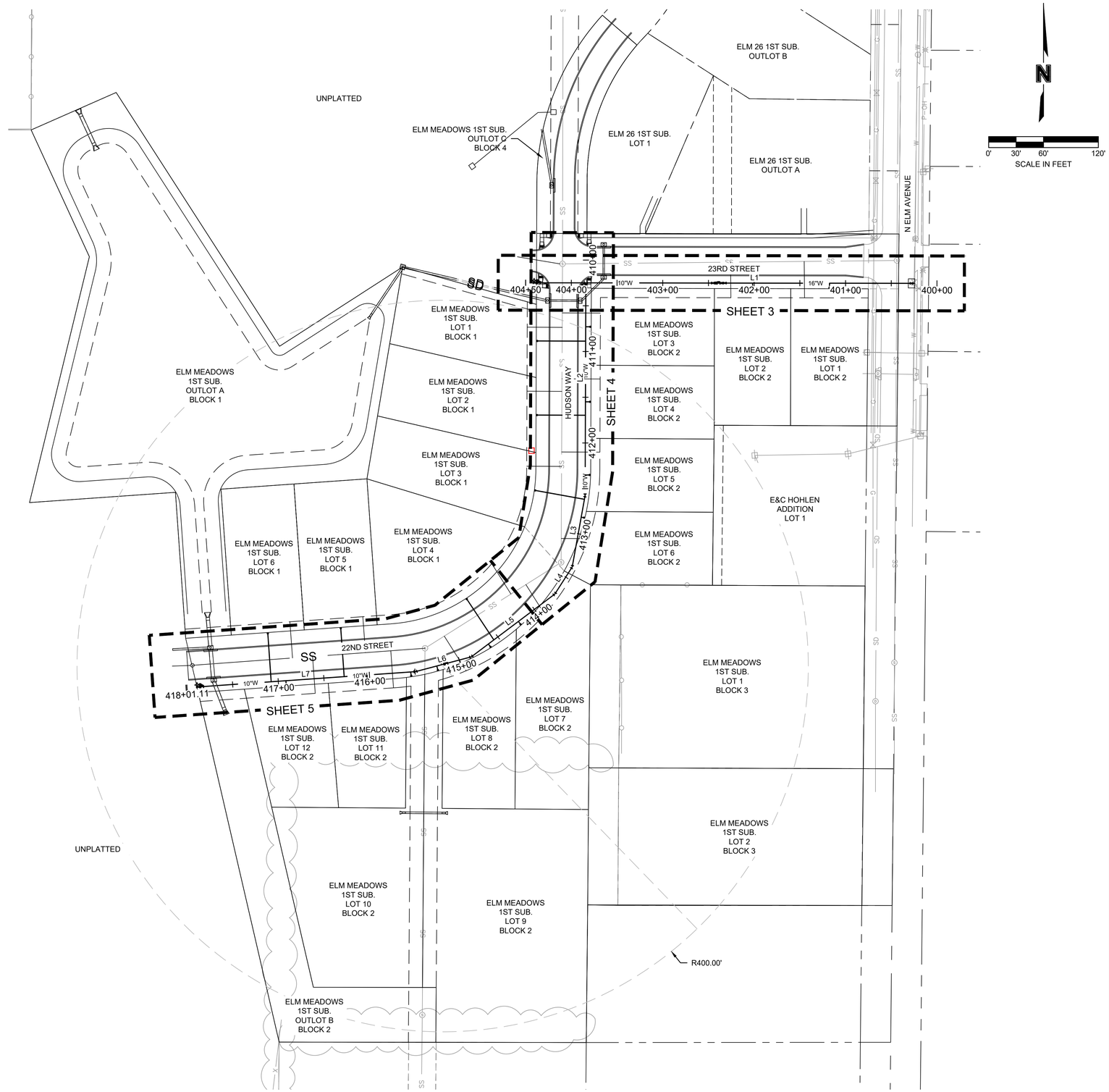
DATE: Jan 30, 2025 6:21pm USER: atarango

| ALIGNMENT LINES | | | | | |
|---|---|---|---|---|---|
| LINE ID # | STATION RANGE | START COORD. | END COORD. | DIRECTION | LENGTH (FT) |
| L1 | 400+00<br>404+50 | N: 111457.76<br>E: 117156.33 | N: 111458.45<br>E: 116706.33 | N89°54'46"W | 450.00 |
| L2 | 410+00<br>412+57.33 | N: 111483.25<br>E: 116772.33 | N: 111225.92<br>E: 116771.43 | S0°12'05"W | 257.33 |
| L3 | 412+57.33<br>413+36.90 | N: 111225.92<br>E: 116771.43 | N: 111147.61<br>E: 116757.31 | S10°13'19"W | 79.57 |
| L4 | 413+36.90<br>413+72.03 | N: 111147.61<br>E: 116757.31 | N: 111118.06<br>E: 116738.32 | S32°43'19"W | 35.13 |
| L5 | 413+72.03<br>414+86.40 | N: 111118.06<br>E: 116738.32 | N: 111049.36<br>E: 116646.88 | S53°04'47"W | 114.37 |
| L6 | 414+86.40<br>415+49.51 | N: 111049.36<br>E: 116646.88 | N: 111033.20<br>E: 116585.87 | S75°09'56"W | 63.11 |
| L7 | 415+49.51<br>418+01.11 | N: 111033.20<br>E: 116585.87 | N: 111015.56<br>E: 116334.89 | S85°58'49"W | 251.60 |





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MATTHEW A. MOTZ
REG. E-10074
1-30-25
STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

HORIZONTAL & VERTICAL CONTROL

ELM MEADOWS FIRST SUBDIVISION
WATER MAIN EXTENSION DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
2 of 7

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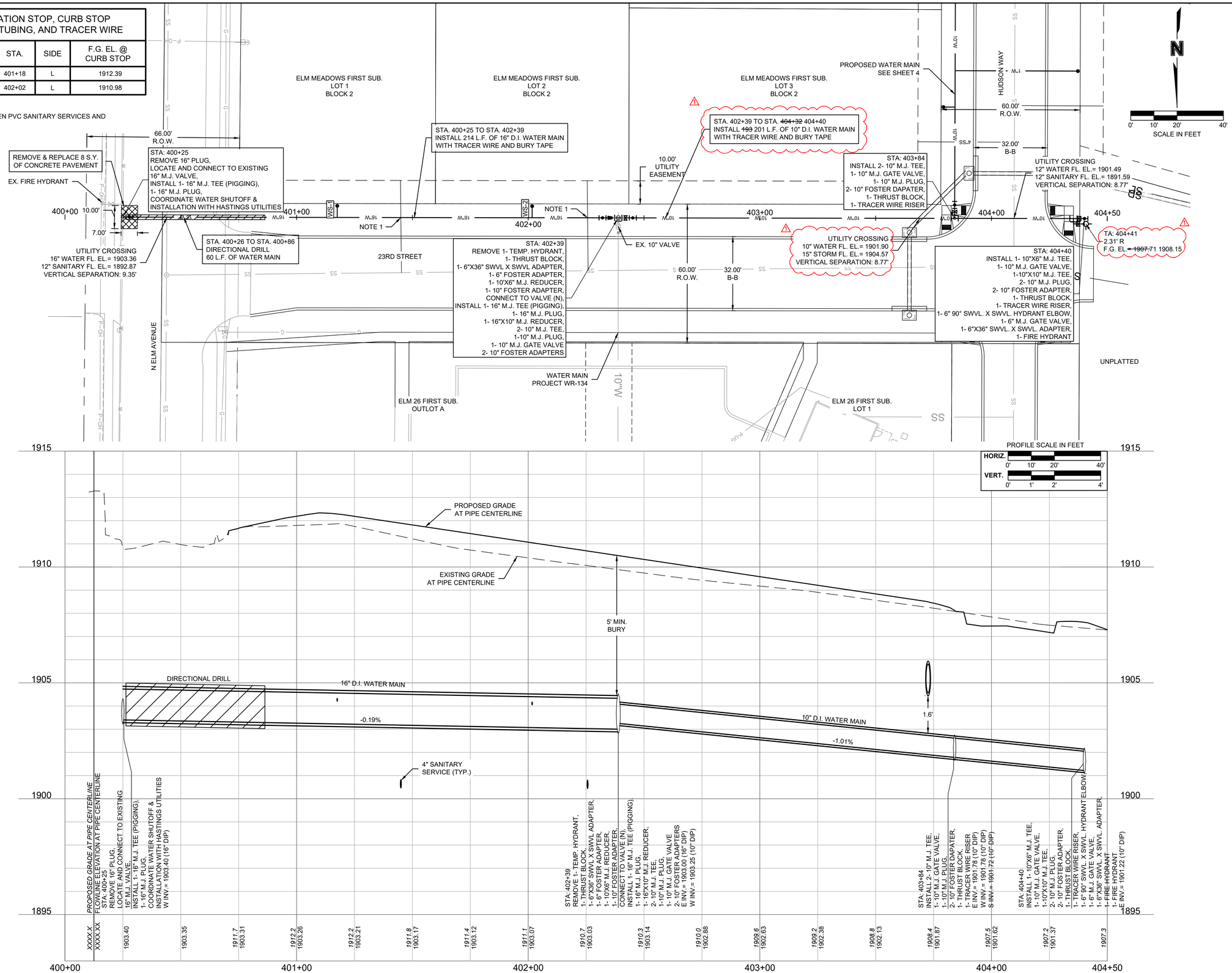
DATE: Jan 30, 2025 6:21pm USER: atarango

| INSTALL 1" CORPORATION STOP, CURB STOP WITH BOX, 1" SERVICE TUBING, AND TRACER WIRE | | | | |
|---|---|---|---|---|
| PIPE ID | 2D LENGTH (LF) | STA. | SIDE | F.G. EL. @ CURB STOP |
| WS-1 | 5.0 | 401+18 | L | 1912.39 |
| WS-2 | 5.0 | 402+02 | L | 1910.98 |

NOTE:

1. 18" VERTICAL SEPARATION BETWEEN PVC SANITARY SERVICES AND WATER MAIN.





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PROFESSIONAL CIVIL ENGINEER
MATTHEW M. ARP
REG. E-10074
12-30-25
STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 1-30-2025 | UPDATED FINISHED GRADE & STORM SEWER CROSSING AT 23RD STREET & HUDSON WAY INTERSECTION |

STA. 400+00 TO STA. 400+50
WATER MAIN PLAN & PROFILE

ELM MEADOWS FIRST SUBDIVISION
WATER MAIN EXTENSION DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
3 of 7

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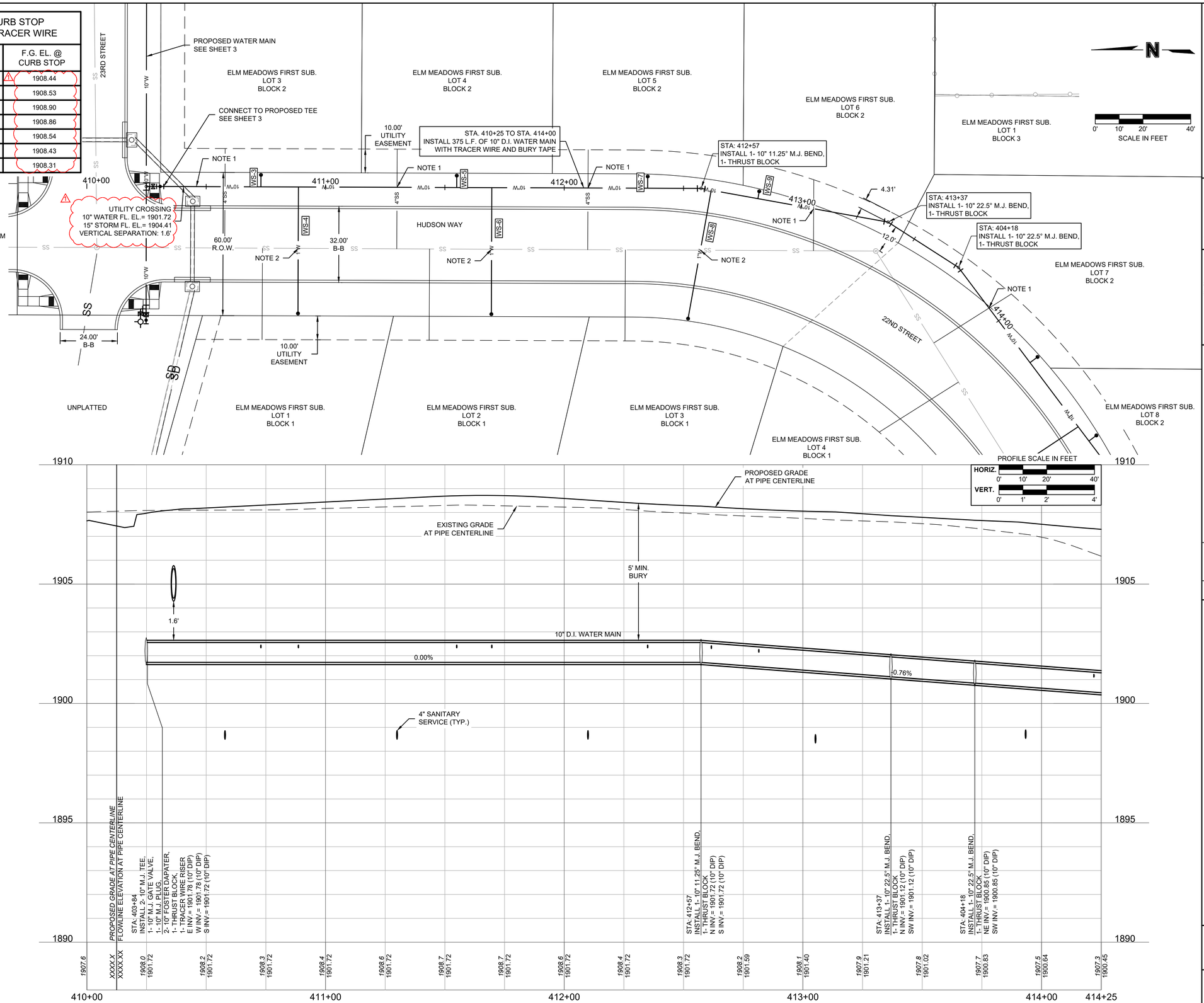
DATE: Jan 30, 2025 6:22pm USER: atarango

| INSTALL 1" CORPORATION STOP, CURB STOP WITH BOX, 1" SERVICE TUBING, AND TRACER WIRE | | | | |
|---|---|---|---|---|
| PIPE ID | 2D LENGTH (LF) | STA. | SIDE | F.G. EL. @ CURB STOP |
| WS-3 | 5.0 | 410+73 | L | ⚠ 1908.44 |
| WS-4 | 53.0 | 410+89 | R | 1908.53 |
| WS-5 | 5.0 | 411+55 | L | 1908.90 |
| WS-6 | 53.0 | 411+70 | R | 1908.86 |
| WS-7 | 4.9 | 412+35 | L | 1908.54 |
| WS-8 | 54.6 | 412+62 | R | 1908.43 |
| WS-9 | 3.1 | 412+82 | L | 1908.31 |

NOTES:

1. 18" VERTICAL SEPARATION BETWEEN PVC SANITARY SERVICES AND WATER MAIN.
2. 18" MINIMUM VERTICAL SEPARATION BETWEEN 1" COPPER WATER SERVICE LINE AND SANITARY MAIN REQUIRED. ROUTE WATER SERVICE SUCH THAT MINIMUM SEPARATION AN 5' BURY REQUIREMENTS ARE MET.





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STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 1-30-2025 | UPDATED FINISHED GRADE & STORM SEWER CROSSING AT 23RD STREET & HUDSON WAY INTERSECTION |

STA. 410+00 TO STA. 414+00
WATER MAIN PLAN & PROFILE

ELM MEADOWS FIRST SUBDIVISION
WATER MAIN EXTENSION DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
4 of 7

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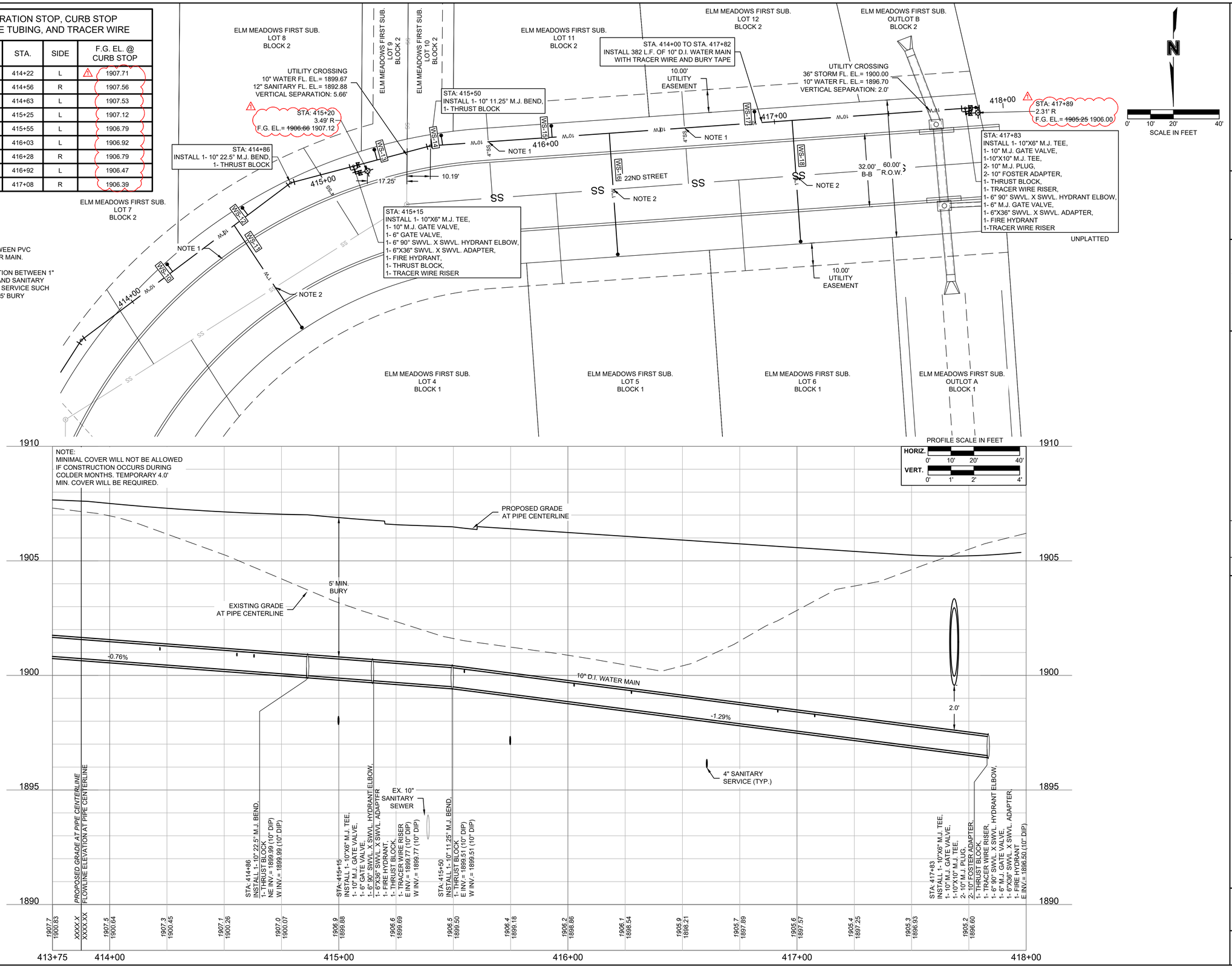
DATE: Jan 30, 2025 6:23pm USER: atarango

| INSTALL 1" CORPORATION STOP, CURB STOP WITH BOX, 1" SERVICE TUBING, AND TRACER WIRE | | | | |
|---|---|---|---|---|
| PIPE ID | 2D LENGTH (LF) | STA. | SIDE | F.G. EL. @ CURB STOP |
| WS-10 | 4.0 | 414+22 | L | ⚠ 1907.71 |
| WS-11 | 53.5 | 414+56 | R | 1907.56 |
| WS-12 | 3.9 | 414+63 | L | 1907.53 |
| * WS-13 | 4.7 | 415+25 | L | 1907.12 |
| * WS-14 | 4.2 | 415+55 | L | 1906.79 |
| WS-15 | 5.0 | 416+03 | L | 1906.92 |
| WS-16 | 53.0 | 416+28 | R | 1906.79 |
| WS-17 | 5.0 | 416+92 | L | 1906.47 |
| WS-18 | 53.0 | 417+08 | R | 1906.39 |

* 1.5" SERVICE

NOTES:

1. 18" VERTICAL SEPARATION BETWEEN PVC SANITARY SERVICES AND WATER MAIN.
2. 18" MINIMUM VERTICAL SEPARATION BETWEEN 1" COPPER WATER SERVICE LINE AND SANITARY MAIN REQUIRED. ROUTE WATER SERVICE SUCH THAT MINIMUM SEPARATION AN 5' BURY REQUIREMENTS ARE MET.




NOTE:
MINIMAL COVER WILL NOT BE ALLOWED IF CONSTRUCTION OCCURS DURING COLDER MONTHS. TEMPORARY 4.0' MIN. COVER WILL BE REQUIRED.





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Nebraska COA #CA-0638


PROFESSIONAL CIVIL ENGINEER
MATTHEW M. REF
E-10074
10-30-25
STATE OF NEBRASKA

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 1-30-2025 | UPDATED FINISHED GRADE |

REVISIONS

STA. 414+00 TO STA. 418+00
WATER MAIN PLAN & PROFILE

ELM MEADOWS FIRST SUBDIVISION
WATER MAIN EXTENSION DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
5 of 7

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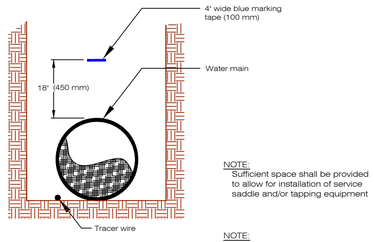
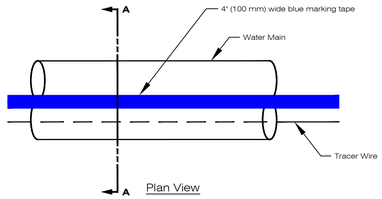
DATE: Jan 30, 2025 6:23pm USER: alarango




Section A-A

NOTE:
Sufficient space shall be provided to allow for installation of service saddle and/or tapping equipment

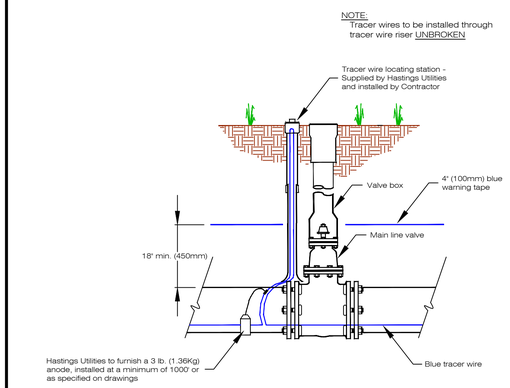
NOTE:
Tracer wire and warning tape to be provided by Hastings Utilities (subsidiary to bid)




Plan View

\\Hudomain\Birch\Water\Prototype\S.P.A.-2 Drawing-1.dwg

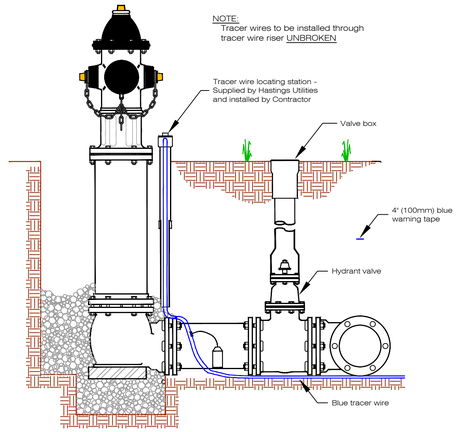
| | | | |
|---|---|---|---|
| DSN: M. Stange | CKD: | **Tracer Wire and Warning Tape Detail** | HASTINGS UTILITIES Hastings, Nebraska | NO: **PLAN 2C** |
| DRN: J. Redding | CKD: | | | |
| REVISED: June '04 | APP: | | | |




Plan View

\\Hudomain\Birch\Water\Prototype\S.P.A.-2 Drawing-1.dwg

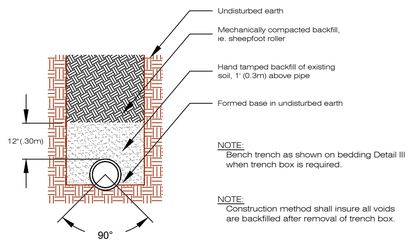
| | | | |
|---|---|---|---|
| DSN: M. Stange | CKD: | **Tracer Wire Riser Detail at Main Line Valve** | HASTINGS UTILITIES Hastings, Nebraska | NO: **PLAN 2D** |
| DRN: J. Redding | CKD: | | | |
| REVISED: June '04 | APP: | | | |




Plan View

\\Hudomain\Birch\Water\Prototype\S.P.A.-2 Drawing-1.dwg

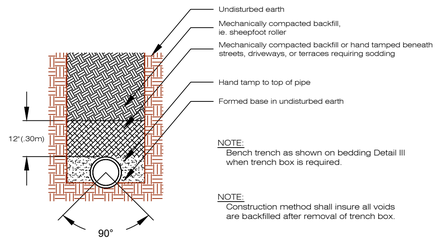
| | | | |
|---|---|---|---|
| DSN: M. Stange | CKD: | **Tracer Wire Riser Detail at Fire Hydrant** | HASTINGS UTILITIES Hastings, Nebraska | NO: **PLAN 2F** |
| DRN: J. Redding | CKD: | | | |
| REVISED: June '04 | APP: | | | |




NOTE:
Bench trench as shown on bedding Detail III when trench box is required.

NOTE:
Construction method shall insure all voids are backfilled after removal of trench box.

**TYPE I BEDDING-PVC & HDPE WATER MAIN**



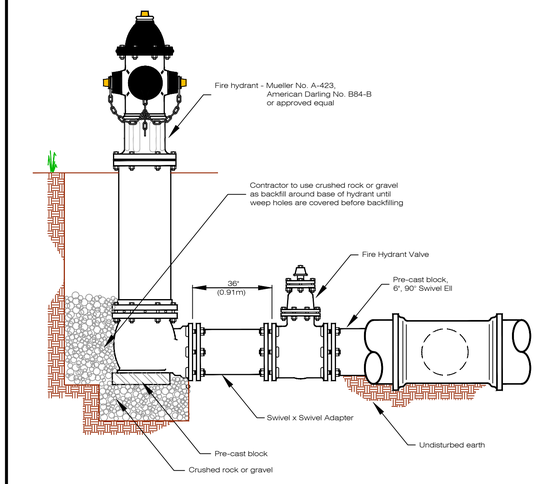

NOTE:
Bench trench as shown on bedding Detail III when trench box is required.

NOTE:
Construction method shall insure all voids are backfilled after removal of trench box.

**TYPE II BEDDING-DIP WATER MAIN**

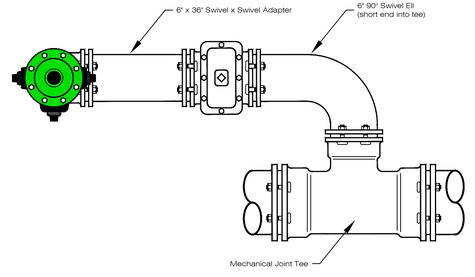
\\Hudomain\Birch\Water\Prototype\S.P.A.-1 Drawing-1.dwg

| | | | |
|---|---|---|---|
| DSN: M. Sidlo | CKD: | **Bedding for PVC, HDPE, & DIP Water Mains** | HASTINGS UTILITIES Hastings, Nebraska | NO: **PLAN 1A** |
| DRN: M. Sidlo | CKD: | | | |
| REVISED: Aug. '19 | APP: | | | |




\\Hudomain\Birch\Water\Prototype\S.P.A.-3 Drawing-1.dwg

| | | | |
|---|---|---|---|
| DSN: M. Sidlo | CKD: | **Hydrant and Valve Detail** | HASTINGS UTILITIES Hastings, Nebraska | NO: **PLAN 3A** |
| DRN: J. Runyan | CKD: | | | |
| REVISED: Jan. '06 | APP: | | | |




Plan View

\\Hudomain\Birch\Water\Prototype\S.P.A.-3 Drawing-1.dwg

| | | | |
|---|---|---|---|
| DSN: M. Sidlo | CKD: | **Hydrant and Valve Detail Plan View** | HASTINGS UTILITIES Hastings, Nebraska | NO: **PLAN 3B** |
| DRN: J. Runyan | CKD: | | | |
| REVISED: Jan. '06 | APP: | | | |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PROFESSIONAL CIVIL ENGINEER
MATTHEW A. STANGE
E-10074
STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

DETAILS

ELM MEADOWS FIRST SUBDIVISION
WATER MAIN EXTENSION DISTRICT 2024-1
HASTINGS, NEBRASKA
2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
6 of 7

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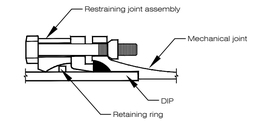
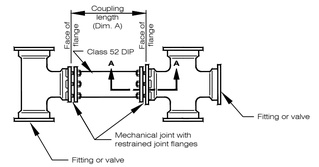
DATE: Jan 30, 2025 6:23pm USER: alarango

NOTES:
1. Use restrained joint couplings when noted on drawings and provide length as noted. If length in not noted, use the following minimum standard coupling lenght - Dimension A.
2. Alternate restraining joint assembly may be used with prior approval by the Engineer or as specified in the Contract and Specifications Book.

| PIPE DIA. | MIN. DIM. A |
|---|---|
| 16" (406mm) | 2'-6" (.76m) |
| 24" (609mm) | 3'-0" (.91m) |
| 30" (762mm) | 3'-0" (.91m) |
| 36" (914mm) | 3'-6" (1.10m) |
| 42" (1066mm) | 3'-6" (1.10m) |
| 48" (1219mm) | 4'-0" (1.20m) |




Section A-A

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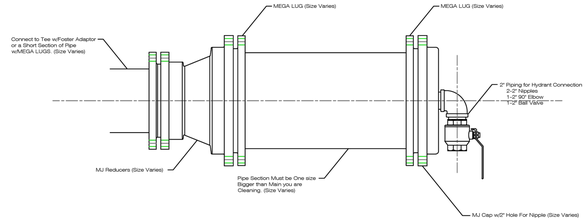
| DSN: M. Sidlo | CKD: |
|---|---|
| DRN: J. Runyan | CHD: |
| REVISED: Jan. '06 | APP: |

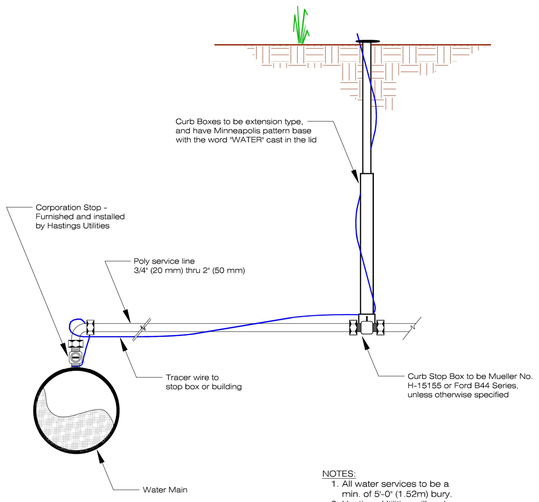
**Restrained Joint Coupling Detail**

HASTINGS UTILITIES
Hastings, Nebraska

NO: **PLAN 3C**




**PIG LAUNCHER DETAIL**




NOTES:
1. All water services to be a min. of 5'-0" (1.52m) bury.
2. Hastings Utilities will make all water service tapes.

\\hdomain\Birch\Water\Prototype\S.P.A.-2 Drawing-1.dwg

| DSN: M. Sidlo | CKD: |
|---|---|
| DRN: M. Sidlo | CHD: |
| REVISED: February '13 | APP: |

**Standard Water Service Detail**

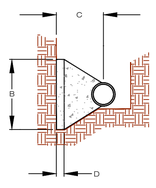
HASTINGS UTILITIES
Hastings, Nebraska

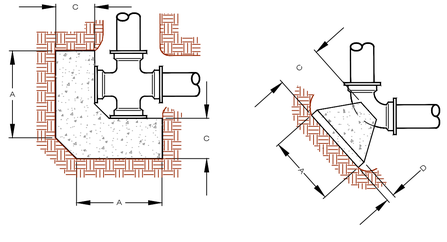
NO: **PLAN 2J**

## THRUST BLOCK DIMENSIONS

| PIPE SIZE INCH (mm) | A FEET (m) | B FEET (m) | C FEET (m) | D INCH (mm) |
|---|---|---|---|---|
| 4 (101mm) | 1.00 (.30m) | 1.00 (.30m) | 1.00 (.30m) | 3 (76mm) |
| 6 (152mm) | 1.50 (.46m) | 1.50 (.46m) | 1.00 (.30m) | 6 (152mm) |
| 8 (203mm) | 2.00 (.61m) | 2.00 (.61m) | 1.00 (.30m) | 6 (152mm) |
| 10 (254mm) | 2.50 (.76m) | 2.50 (.76m) | 2.00 (.61m) | 9 (228mm) |
| 12 (304mm) | 3.00 (.91m) | 3.00 (.91m) | 2.00 (.61m) | 9 (228mm) |
| 14 (355mm) | 3.00 (.91m) | 3.00(.91m) | 2.50 (.76m) | 12 (304mm) |
| 16 (406mm) | 4.00 (1.20m) | 3.00(.91m) | 2.50 (.76m) | 12 (304mm) |
| 18 (457mm) | 4.00 (1.20m) | 4.00 (1.20m) | 2.50 (.76m) | 12 (304mm) |
| 20 (508mm) | 4.00 (1.20m) | 4.00 (1.20m) | 3.00 (.91m) | 16 (406mm) |
| 24 (609mm) | 4.50 (1.40m) | 4.50 (1.40m) | 3.00 (.91m) | 16 (406mm) |
| 30 (762mm) | 4.50 (1.40m) | 5.00 (1.50m) | 3.50 (1.10m) | 18 (457mm) |
| 36 (914mm) | 5.00 (1.50m) | 5.00 (1.50m) | 3.50 (1.10m) | 18 (457mm) |
| 42 (1066mm) | 5.50 (1.70m) | 5.50 (1.70m) | 4.00 (1.20m) | 24 (609mm) |
| 48 (1219mm) | 6.00 (1.80m) | 6.00 (1.80m) | 4.00 (1.20m) | 24 (609mm) |

The class of concrete to be used for thrust blocks around fittings shall be Nebraska Deptment of Roads Class "47B" or Type "ABX". All thrust blocks shall be cast in place and shall be considered subsidiary to the unit price of water main in the contract. All concrete shall have a minimum 28 day strength of 35000 PSI.

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| DSN: M. Sidlo | CKD: |
|---|---|
| DRN: J. Runyan | CHD: |
| REVISED: Jan. '06 | APP: |

**Concrete Thrust Block Details**

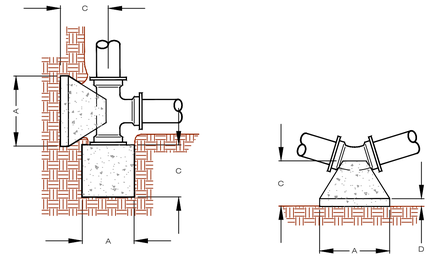
HASTINGS UTILITIES
Hastings, Nebraska

NO: **PLAN 3D**

## THRUST BLOCK DIMENSIONS

| PIPE SIZE INCH (mm) | A FEET (m) | B FEET (m) | C FEET (m) | D INCH (mm) |
|---|---|---|---|---|
| 4 (101mm) | 1.00 (.30m) | 1.00 (.30m) | 1.00 (.30m) | 3 (76mm) |
| 6 (152mm) | 1.50 (.46m) | 1.50 (.46m) | 1.00 (.30m) | 6 (152mm) |
| 8 (203mm) | 2.00 (.61m) | 2.00 (.61m) | 1.00 (.30m) | 6 (152mm) |
| 10 (254mm) | 2.50 (.76m) | 2.50 (.76m) | 2.00 (.61m) | 9 (228mm) |
| 12 (304mm) | 3.00 (.91m) | 3.00 (.91m) | 2.00 (.61m) | 9 (228mm) |
| 14 (355mm) | 3.00 (.91m) | 3.00(.91m) | 2.50 (.76m) | 12 (304mm) |
| 16 (406mm) | 4.00 (1.20m) | 3.00(.91m) | 2.50 (.76m) | 12 (304mm) |
| 18 (457mm) | 4.00 (1.20m) | 4.00 (1.20m) | 2.50 (.76m) | 12 (304mm) |
| 20 (508mm) | 4.00 (1.20m) | 4.00 (1.20m) | 3.00 (.91m) | 16 (406mm) |
| 24 (609mm) | 4.50 (1.40m) | 4.50 (1.40m) | 3.00 (.91m) | 16 (406mm) |
| 30 (762mm) | 4.50 (1.40m) | 5.00 (1.50m) | 3.50 (1.10m) | 18 (457mm) |
| 36 (914mm) | 5.00 (1.50m) | 5.00 (1.50m) | 3.50 (1.10m) | 18 (457mm) |
| 42 (1066mm) | 5.50 (1.70m) | 5.50 (1.70m) | 4.00 (1.20m) | 24 (609mm) |
| 48 (1219mm) | 6.00 (1.80m) | 6.00 (1.80m) | 4.00 (1.20m) | 24 (609mm) |

The class of concrete to be used for thrust blocks around fittings shall be Nebraska Deptment of Roads Class "47B" or Type "ABX". All thrust blocks shall be cast in place and shall be considered subsidiary to the unit price of water main in the contract. All concrete shall have a minimum 28 day strength of 35000 PSI.




\\hdomain\Birch\Water\Prototype\S.P.A.-3 Drawing-1.dwg

| DSN: M. Sidlo | CKD: |
|---|---|
| DRN: J. Runyan | CHD: |
| REVISED: Jan. '06 | APP: |

**Concrete Thrust Block Details**

HASTINGS UTILITIES
Hastings, Nebraska

NO: **PLAN 3E**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Nebraska COA #CA-0638


PROFESSIONAL CIVIL ENGINEER
MATTHEW A. MOTZ
REG. E-10074
2-10-25
STATE OF NEBRASKA

REVISIONS

| REV. NO. | DESCRIPTION | DATE |
|---|---|---|

DETAILS

ELM MEADOWS FIRST SUBDIVISION
WATER MAIN EXTENSION DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
7 of 7

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DATE: Jan 30, 2025 6:23pm USER: alarango

# ELM MEADOWS FIRST SUBDIVISION
# SANITARY SEWER EXTENSION DISTRICT 2024-3
# HASTINGS, NEBRASKA
# DWG NO: SR-100 W.O. NO.:SW-384

Pollution Control Project
NEBRASKA
Good Life. Great Resources.
DEPT. OF ENVIRONMENT AND ENERGY
APPROVED
Cyril Martinmaas PE

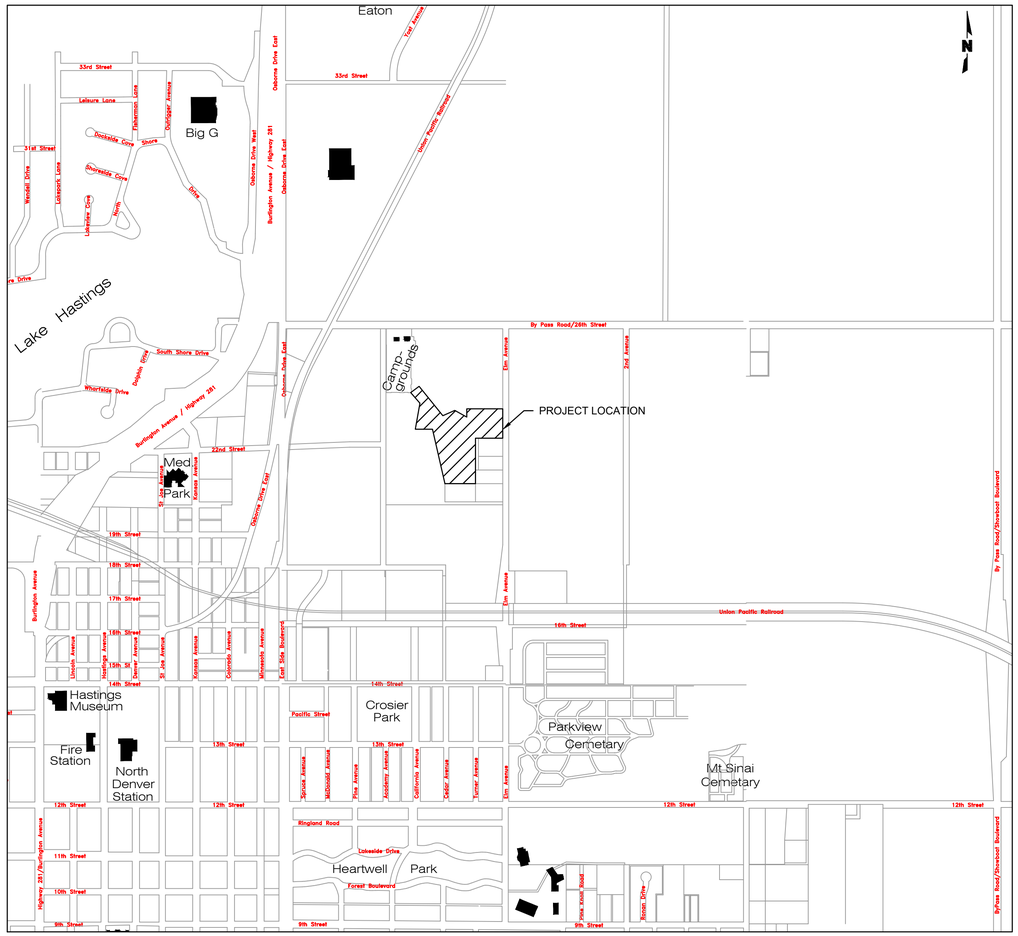
NDEE Project No. 2025-0008
February 4, 2025

## LEGEND

| | |
|---|---|
| SD | STORM SEWER PIPE |
| SS | SANITARY SEWER MAIN |
| G | GAS MAIN |
| W | WATER MAIN |
| CATV | UNDERGROUND CABLE TV |
| P/OH | OVERHEAD POWER |
| | CHAINLINK FENCE |
| | POWER POLE |
| LTP | LIGHT POLE |
| LPPP | POWER POLE/LIGHT POLE |
| | GUY WIRE |
| FHT | FIRE HYDRANT |
| WV | WATER VALVE |
| | POST INDICATOR VALVE |
| | WATER METER PIT |
| | SANITARY SEWER MANHOLE |
| | STORM SEWER MANHOLE |
| GM | GAS METER |
| AC | AIR CONDITIONER |
| EM | ELECTRIC METER |
| TP | TELEPHONE PEDESTAL |
| | TELEPHONE RISER |
| | TRANSFORMER |
| | SPRINKLER CONTROL VALVES |
| RD | ROOF DRAIN |
| | STORM SEWER GRATE INLET |
| MLB | MAILBOX |
| | STEEL BOLLARD |
| | SIGN |
| | SECTION CORNER |
| | CONTROL POINT |
| BU | BUSH |
| | TREE |

## GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE MOST CURRENT CITY OF HASTINGS STANDARD SPECIFICATIONS AND STANDARD DRAWINGS AND SPECIAL PROVISIONS FOR SULFATE RESISTANT CONCRETE. IF SULFATE RESISTANT CONCRETE IS UNAVAILABLE FOR CONCRETE MANHOLES (TYPE I), TYPE II MANHOLES WITH CONSHIELD CAN BE SUBSTITUTED.
2. THE LOCATION OF ALL AERIAL AND UNDERGROUND UTILITY FACILITIES MAY NOT BE INDICATED ON THESE PLANS. UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT WILL BE LOCATED AND FLAGGED BY THE UTILITIES AT THE REQUEST OF THE CONTRACTOR. NO EXCAVATION WILL BE PERMITTED IN THE AREA OF UNDERGROUND UTILITY FACILITIES UNTIL ALL SUCH FACILITIES HAVE BEEN LOCATED AND IDENTIFIED TO THE SATISFACTION OF ALL PARTIES. THE EXCAVATION MUST BE ACCOMPLISHED WITH EXTREME CARE IN ORDER TO AVOID ANY POSSIBILITY OF DAMAGE TO THE UTILITY FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES.
3. CONTRACTOR SHALL PRESERVE ALL PROPERTY CORNER MONUMENTS OR RE-ESTABLISH THEM (BY A NEBRASKA LICENSED SURVEYOR) IF THEY ARE DISTURBED DURING CONSTRUCTION AT THE CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR SHALL OBTAIN AND PAY THE COST OF ALL REQUIRED PERMITS AND FEES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS OF TESTING REQUIRED BY THE CITY OF HASTINGS SPECIFICATIONS INCLUDING TV INSPECTION (DONE BY CITY OF HASTINGS), DEFLECTION TESTS, AIR PRESSURE TESTS, AND EXFILTRATION/INFILTRATION TESTS.
6. THE CONTRACTOR SHALL USE EXTREME CAUTION IN THE AREA OF EXISTING MANHOLES, POWER POLES, AND EXISTING UTILITIES, AND SHALL BE RESPONSIBLE FOR DAMAGES.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL. TRAFFIC CONTROL PLAN SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE MANUAL UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO CITY FOR APPROVAL PRIOR TO IMPLEMENTATION. CONTRACTOR TO NOTIFY CITY PUBLIC WORKS DEPARTMENT A MINIMUM OF 72 HOURS IN ADVANCE OF ANY LANE OR ROAD CLOSURES.
8. THE TRENCHES SHALL BE BACKFILLED, MECHANICALLY TAMPED AND TESTED. OWNER IS RESPONSIBLE FOR ALL COSTS OF TESTING. SEE GRAND ISLAND STANDARD SPECIFICATIONS FOR COMPACTION REQUIREMENTS.
9. THE ENDS OF ALL SERVICES AND MAINS SHALL BE MARKED W/STEEL TEE POSTS.
10. PRIOR TO MOVING OFF SITE THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING REQUESTING A FINAL WALK-THROUGH OF THE PROJECT.
11. MANHOLE RECONSTRUCTION SHALL FOLLOW CITY OF HASTINGS MANHOLE REQUIREMENTS, CONTRACTOR SHALL NOT EXCEED ALLOWABLE BARREL AND/OR RING DEPTHS.




| SHEET INDEX | |
|---|---|
| Sheet # | Sheet Title |
| 1 | COVER SHEET |
| 2 | HORIZONTAL & VERTICAL CONTROL |
| 3 | SANITARY SEWER PLAN & PROFILE STA. 70+00 TO STA. 74+25 |
| 4 | SANITARY SEWER PLAN & PROFILE STA. 8+50 TO STA. 14+00 |
| 5 | SANITARY SEWER PLAN & PROFILE STA. 300+00 TO STA. 303+25 |
| 6 | DETAILS |

| TABLE OF APPROXIMATE QUANTITIES | | |
|---|---|---|
| ITEM DESCRIPTION | UNIT | QUANTITY |
| MOBILIZATION | L.S. | 1 |
| 8" PVC SANITARY SEWER PIPE | L.F. | 327 |
| 4" PVC SANITARY SEWER SERVICE | L.F. | 631 |
| 8"x4" SERVICE TEE | EA. | 4 |
| 12"x4" INSERTA TEE | EA. | 12 |
| 8" PVC CAP | EA. | 2 |
| 4" SERVICE CAP | EA. | 16 |
| 4" PVC WYE | EA. | 16 |
| 4" PVC 45 BEND | EA. | 16 |
| 4" PVC PLUG | EA. | 16 |
| 48" SANITARY MANHOLE | EA. | 1 |
| RECONSTRUCT MANHOLE | EA. | 3 |

## APPROVED FOR CONSTRUCTION

Lee Vrooman — 2-11-25

DIRECTOR OF ENGINEERING, CITY OF HASTINGS — DATE


olsson
201 East 2nd Street
Grand Island, NE 68801
olsson.com
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FAX 308.384.8752
Olsson - Engineering
Nebraska COA #CA-0638


PROFESSIONAL CIVIL ENGINEER — REGISTERED — E-10074 — 1-30-25 — STATE OF NEBRASKA

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 1-30-2025 | ADDENDUM NO. 1 |

REVISIONS

COVER SHEET

ELM MEADOWS FIRST SUBDIVISION
SANITARY SEWER EXTENSION DISTRICT 2024-3

2025

HASTINGS, NEBRASKA

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET 1 of 6

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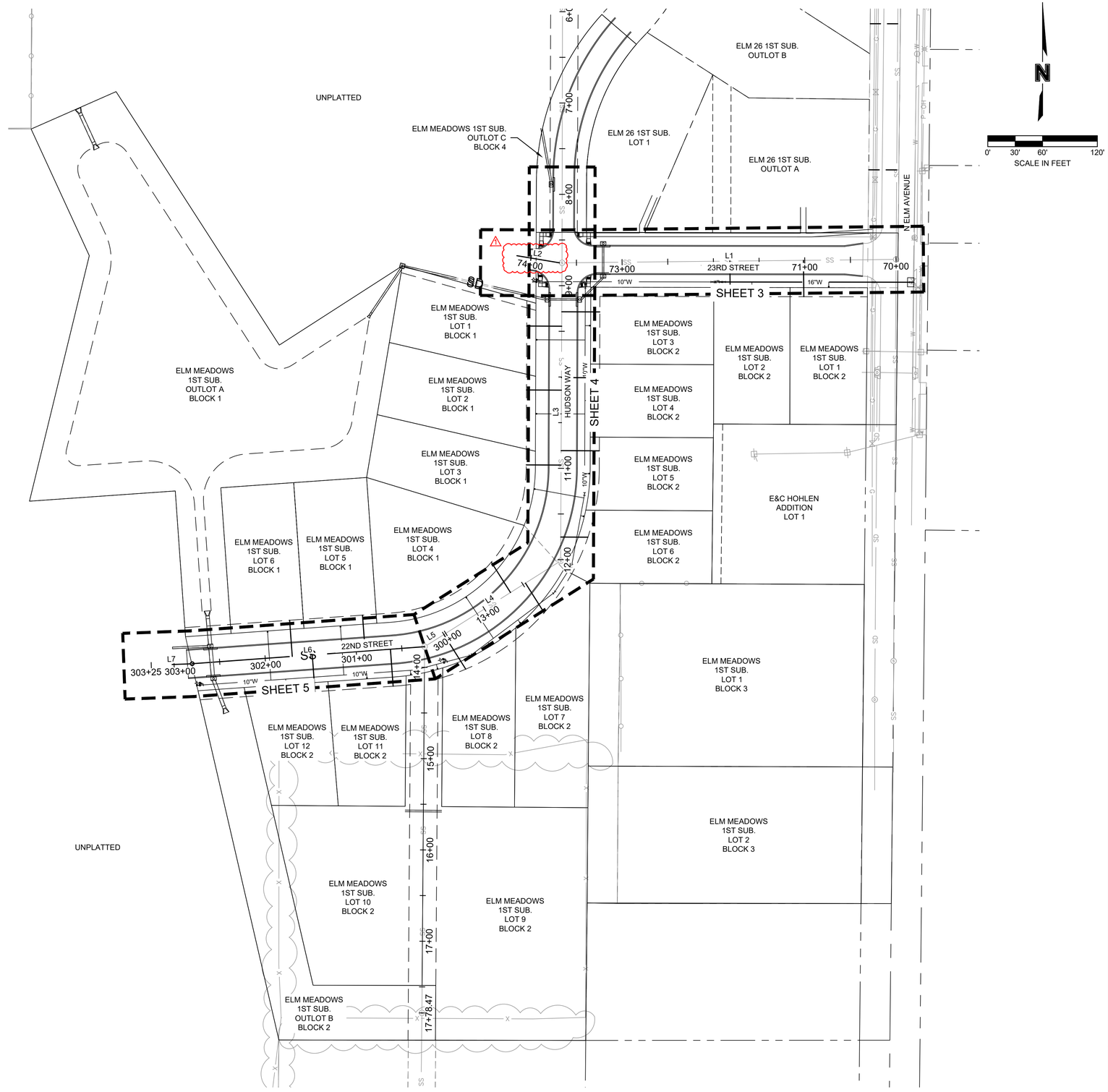
DATE: Jan 30, 2025 6:04pm USER: atarango

| ALIGNMENT LINES | | | | | |
|---|---|---|---|---|---|
| LINE ID # | STATION RANGE | START COORD. | END COORD. | DIRECTION | LENGTH (FT) |
| L1 | 70+00<br>73+65.81 | N: 111482.81<br>E: 117112.48 | N: 111479.06<br>E: 116746.70 | S89°24'46"W | 365.81 |
| L2 | 73+65.81<br>74+25 | N: 111479.06<br>E: 116746.70 | N: 111486.32<br>E: 116688.23 | N80°59'57"W | 59.19 |
| L3 | 8+75<br>12+01.35 | N: 111479.06<br>E: 116746.70 | N: 111152.71<br>E: 116745.18 | S0°15'56"W | 326.35 |
| L4 | 12+01.35<br>13+77.46 | N: 111152.71<br>E: 116745.18 | N: 111058.73<br>E: 116596.25 | S57°44'53"W | 176.11 |
| L5 | 12+01.35<br>13+77.46 | N: 111152.71<br>E: 116745.18 | N: 111058.73<br>E: 116596.25 | S57°44'53"W | 176.11 |
| L6 | 300+25<br>302+80.14 | N: 111058.73<br>E: 116596.25 | N: 111040.11<br>E: 116341.79 | S85°48'49"W | 255.14 |
| L7 | 302+80.14<br>303+25 | N: 111040.11<br>E: 116341.79 | N: 111038.48<br>E: 116296.96 | S87°55'29"W | 44.86 |





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E-10074
1-30-25
STATE OF NEBRASKA

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 1-30-2025 | SANITARY SEWER STUB ALIGNMENT CHANGE |

REVISIONS

HORIZONTAL & VERTICAL CONTROL

ELM MEADOWS FIRST SUBDIVISION
SANITARY SEWER EXTENSION DISTRICT 2024-3

2025

HASTINGS, NEBRASKA

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
2 of 6

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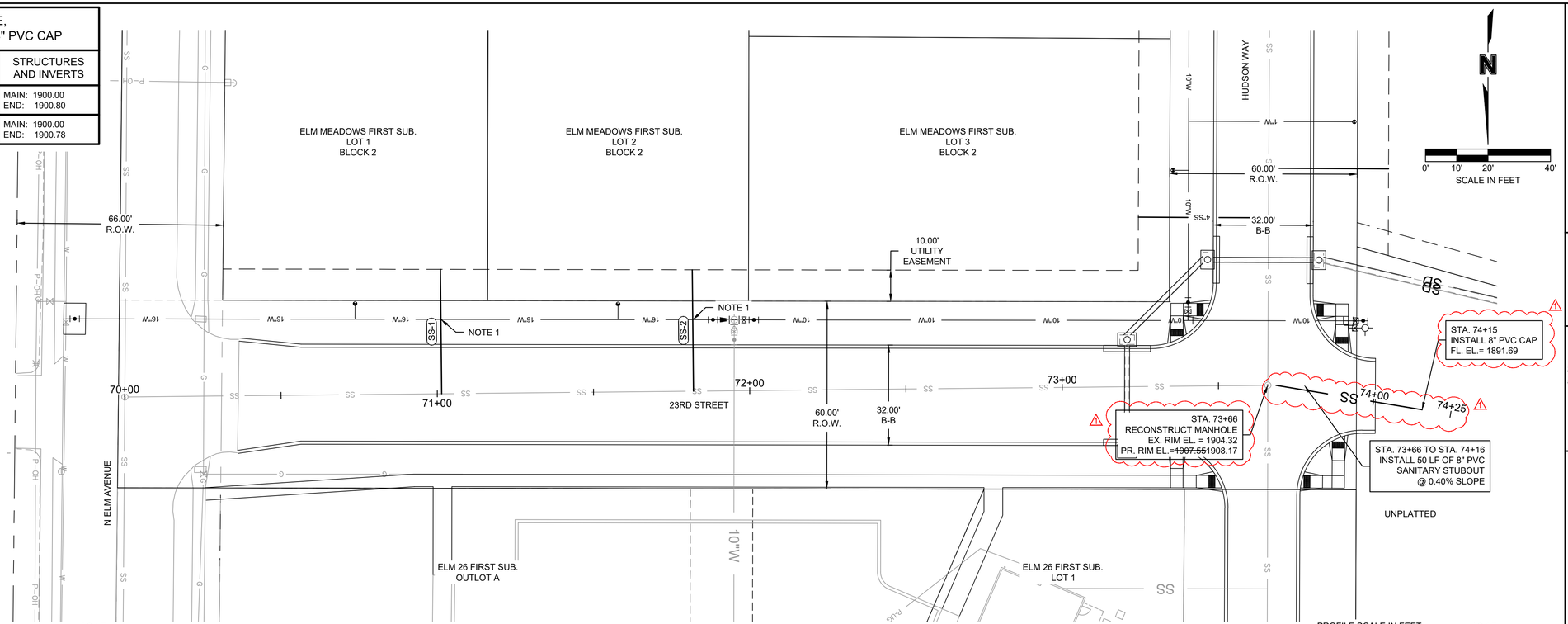
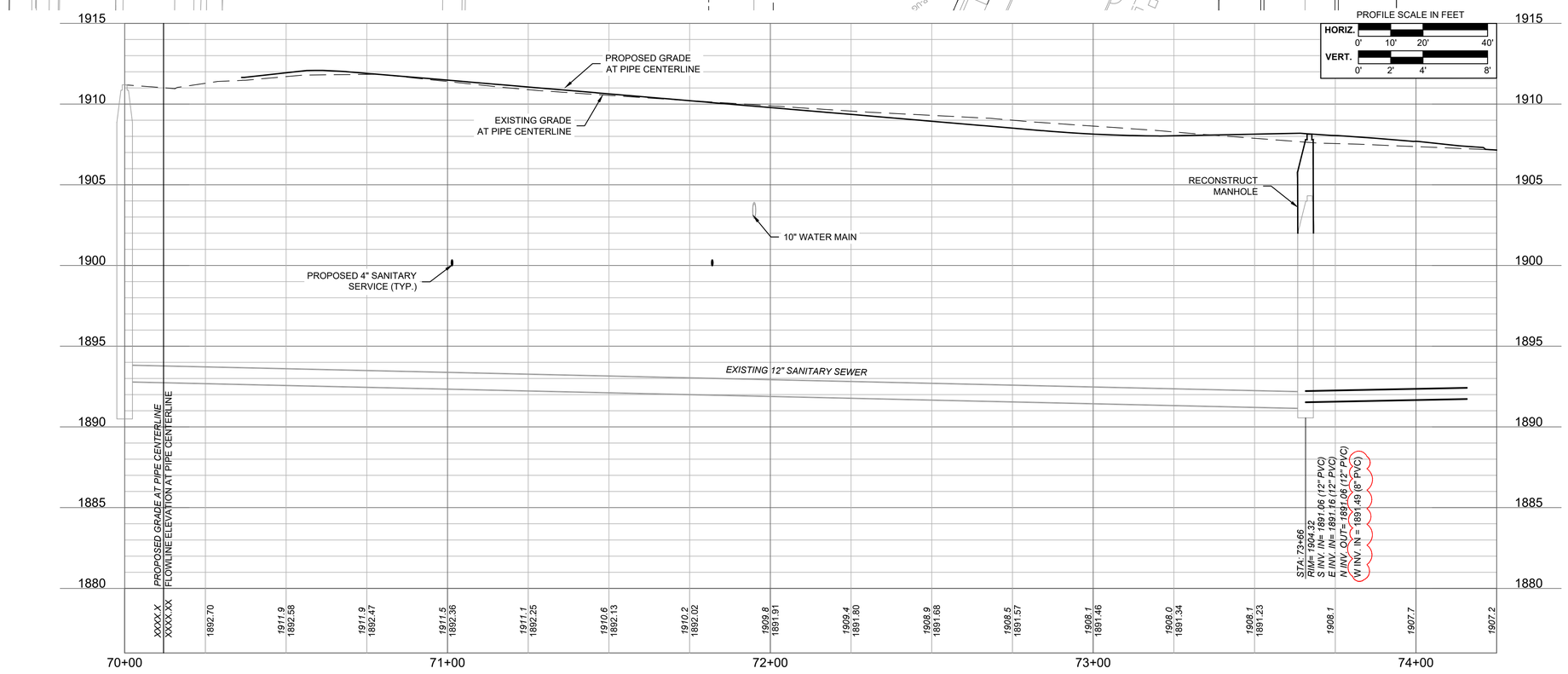
DATE: Jan 30, 2025 6:05pm USER: atarango

| INSTALL 12"X4" INSERTA TEE, 4" SERVICE LINE, 4" CLEANOUT AND 4" PVC CAP | | | | | |
|---|---|---|---|---|---|
| PIPE ID | LENGTH (LF) | STA. | SIDE | SLOPE | STRUCTURES AND INVERTS |
| SS-1 | 40 | 71+01 | L | 2.00% | MAIN: 1900.00<br>END: 1900.80 |
| SS-2 | 39 | 71+82 | L | 2.00% | MAIN: 1900.00<br>END: 1900.78 |

NOTE:

1. 18" VERTICAL SEPARATION BETWEEN PVC SANITARY SERVICES AND WATER MAIN.

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DATE: Jan 31, 2025 9:47am USER: atarango


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PROFESSIONAL CIVIL ENGINEER
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1-30-25
STATE OF NEBRASKA

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 1-30-2025 | UPDATED FINISHED GRADE & SANITARY SEWER ALIGNMENT CHANGE |

REVISIONS

STA. 70+00 TO STA. 74+25
SANITARY SEWER PLAN & PROFILE

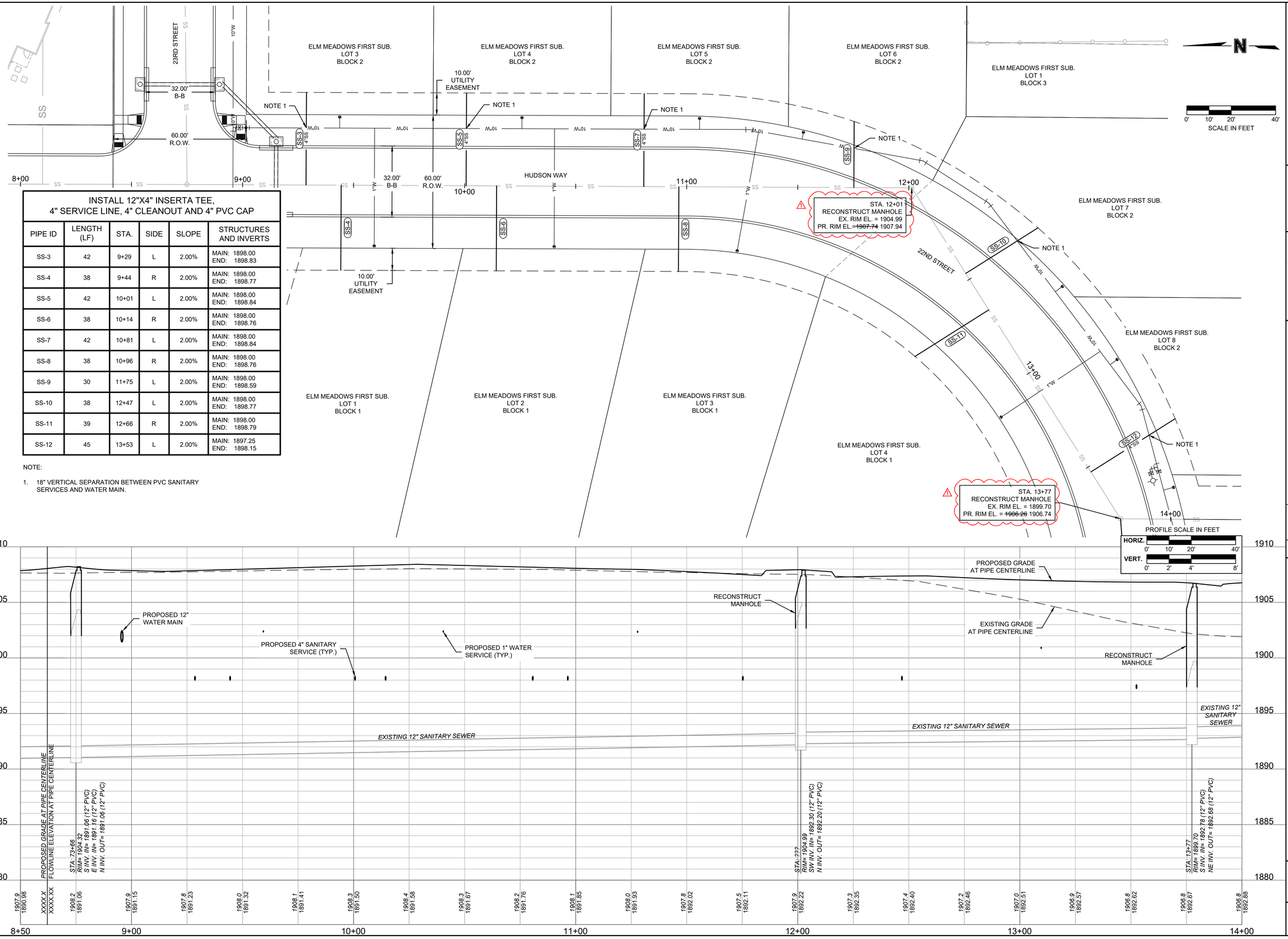
ELM MEADOWS FIRST SUBDIVISION
SANITARY SEWER EXTENSION DISTRICT 2024-3

2025

HASTINGS, NEBRASKA

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
3 of 6




## INSTALL 12"X4" INSERTA TEE, 4" SERVICE LINE, 4" CLEANOUT AND 4" PVC CAP

| PIPE ID | LENGTH (LF) | STA. | SIDE | SLOPE | STRUCTURES AND INVERTS |
|---|---|---|---|---|---|
| SS-3 | 42 | 9+29 | L | 2.00% | MAIN: 1898.00<br>END: 1898.83 |
| SS-4 | 38 | 9+44 | R | 2.00% | MAIN: 1898.00<br>END: 1898.77 |
| SS-5 | 42 | 10+01 | L | 2.00% | MAIN: 1898.00<br>END: 1898.84 |
| SS-6 | 38 | 10+14 | R | 2.00% | MAIN: 1898.00<br>END: 1898.76 |
| SS-7 | 42 | 10+81 | L | 2.00% | MAIN: 1898.00<br>END: 1898.84 |
| SS-8 | 38 | 10+96 | R | 2.00% | MAIN: 1898.00<br>END: 1898.76 |
| SS-9 | 30 | 11+75 | L | 2.00% | MAIN: 1898.00<br>END: 1898.59 |
| SS-10 | 38 | 12+47 | L | 2.00% | MAIN: 1898.00<br>END: 1898.77 |
| SS-11 | 39 | 12+66 | R | 2.00% | MAIN: 1898.00<br>END: 1898.79 |
| SS-12 | 45 | 13+53 | L | 2.00% | MAIN: 1897.25<br>END: 1898.15 |

NOTE:

1. 18" VERTICAL SEPARATION BETWEEN PVC SANITARY SERVICES AND WATER MAIN.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1-30-25
REGISTERED PROFESSIONAL CIVIL ENGINEER
STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 1-30-2025 | UPDATED FINISHED GRADE |

STA. 8+50 TO STA. 14+00
SANITARY SEWER PLAN & PROFILE

ELM MEADOWS FIRST SUBDIVISION
SANITARY SEWER EXTENSION DISTRICT 2024-3

2025

HASTINGS, NEBRASKA

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
4 of 6

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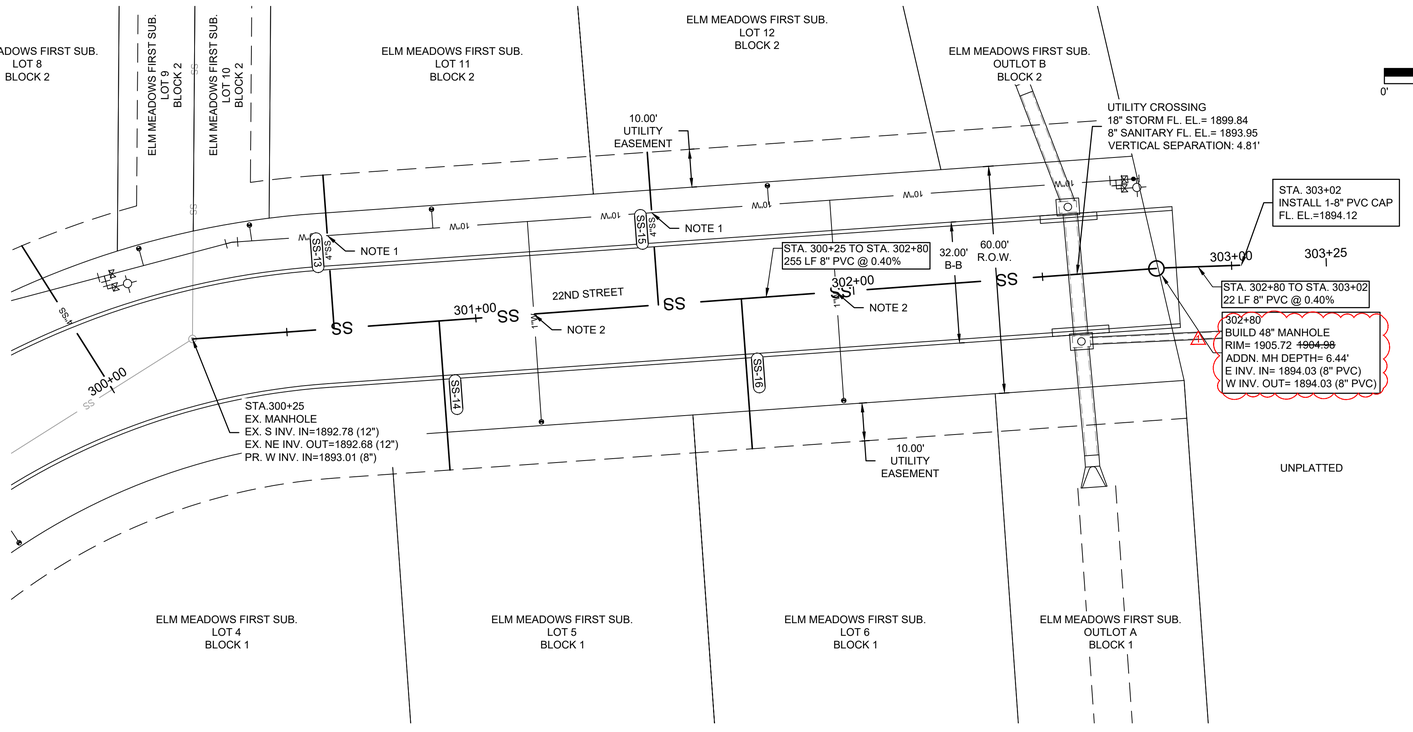
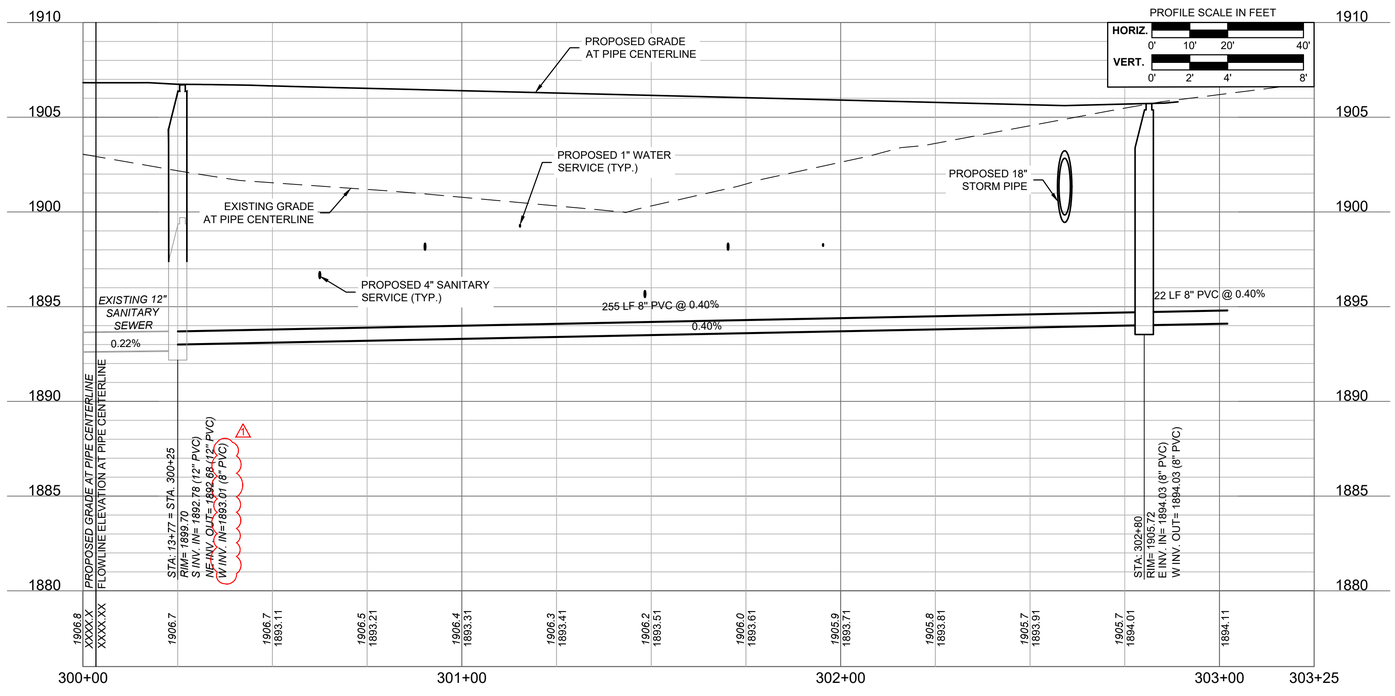
DATE: Jan 30, 2025 6:06pm USER: alarango

| INSTALL 8"X4" SERVICE TEE, 4" SERVICE LINE, 4" CLEANOUT, AND 4" PVC CAP | | | | | |
|---|---|---|---|---|---|
| PIPE ID | LENGTH (LF) | STA. | SIDE | SLOPE | STRUCTURES AND INVERTS |
| SS-13 | 41 | 300+63 | L | 2.00% | MAIN: 1896.50<br>END: 1897.31 |
| SS-14 | 39 | 300+90 | R | 2.00% | MAIN: 1898.00<br>END: 1898.79 |
| SS-15 | 40 | 301+48 | L | 2.00% | MAIN: 1895.50<br>END: 1896.31 |
| SS-16 | 40 | 301+70 | R | 2.00% | MAIN: 1898.00<br>END: 1898.79 |

NOTES:

1. 18" VERTICAL SEPARATION BETWEEN PVC SANITARY SERVICES AND WATER MAIN.
2. 18" MINIMUM VERTICAL SEPARATION BETWEEN 1" COPPER WATER SERVICE LINE AND SANITARY MAIN REQUIRED. ROUTE WATER SERVICE SUCH THAT MINIMUM SEPARATION AN 5' BURY REQUIREMENTS ARE MET.





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PROFESSIONAL CIVIL ENGINEER
MATTHEW A. RIEF
E-10074
1-30-25
STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 1-30-2025 | UPDATED FINISHED GRADE & UPDATED PROFILE INVERT ELEVATION |

STA. 300+00 TO STA. 303+25
SANITARY SEWER PLAN & PROFILE

ELM MEADOWS FIRST SUBDIVISION
SANITARY SEWER EXTENSION DISTRICT 2024-3

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
5 of 6

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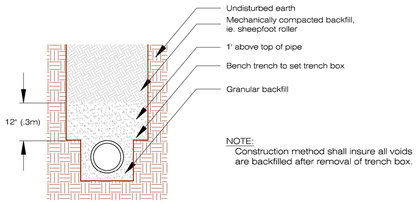
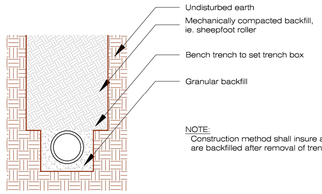



NOTE:
Construction method shall insure all voids are backfilled after removal of trench box.

**TYPE III BEDDING-PVC, HDPE & VCP SEWER**




NOTE:
Construction method shall insure all voids are backfilled after removal of trench box.

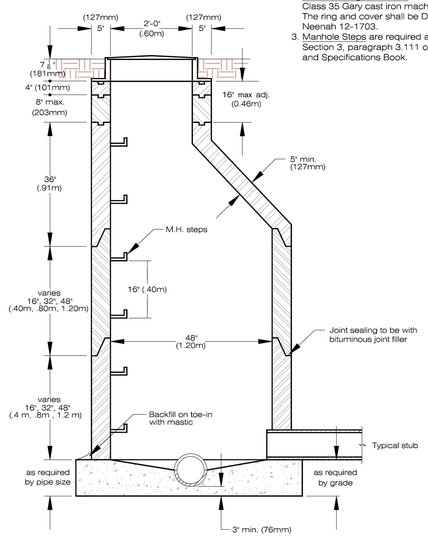
**TYPE IV BEDDING-DIP SEWER MAIN**

\\Hudomain\Birch\Water\Prototype\S.P.A.-1 Drawing-1.dwg

| DSN: M. Sidlo | CKD: | **Bedding for PVC, HDPE, VCP & DIP Sanitary Sewer Mains** | HASTINGS UTILITIES Hastings, Nebraska | NO. **PLAN 1B** |
|---|---|---|---|---|
| DRN: M. Sidlo | CKD: | | | |
| REVISED: Aug. '19 | APP: | | | |

NOTES:

1. Precast Sections must be made in such a manner that each section joins together in a normal configuration, otherwise section will be rejected as "unsatisfactory." The contractor will be liable and will provide a new section which is satisfactory. No sections will be used where void spots exist.
2. Manhole Ring and Cover shall be 450 lb (200 Kg) Class 35 Gary cast iron machined ring and cover. The ring and cover shall be Deter No. 1030 or Neenah 12-1703.
3. Manhole Steps are required and shall conform to Section 3, paragraph 3.111 of the current Contract and Specifications Book.



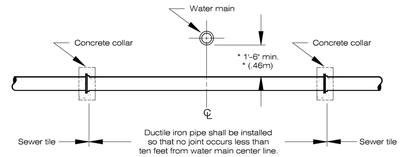

\\Hudomain\Birch\Water\Prototype\S.P.A.-1 Drawing-1.dwg

| DSN: M. Sidlo | CKD: | **Standard Sanitary Sewer Manhole Detail** | HASTINGS UTILITIES Hastings, Nebraska | NO. **PLAN 1E** |
|---|---|---|---|---|
| DRN: M. Sidlo | CKD: | | | |
| REVISED: July '19 | APP: | | | |

* NOTE:
When this distance is greater than 3'-0" (0.92m), the concrete collars duct iron pipe will not be required.

NOTE:
When more that 18" (.46m) clearance exists, ductile iron pipe is not required.

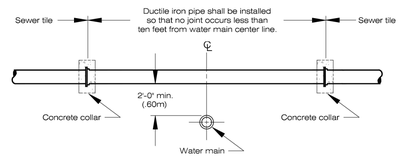
NOTE:
When water and sanitary sewer mains parallel each other, there must be a minimum of 10'-0" (3.048m) separation from face to face.




Center one 20' length of water main so joints in the water main occur not less than 10' from the sewer main crossing.

**SEWER CROSSING UNDER WATER MAIN DETAIL**

Center one 20' length of water main so joints in the water main occur not less than 10' from the sewer main crossing.

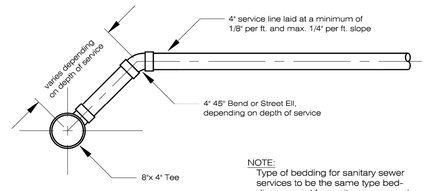



NOTE:
When water and sanitary sewer mains parallel each other, there must be a minimum of 10'-0" (3.04m) separation from face to face.

**SEWER CROSSING OVER WATER MAIN DETAIL**

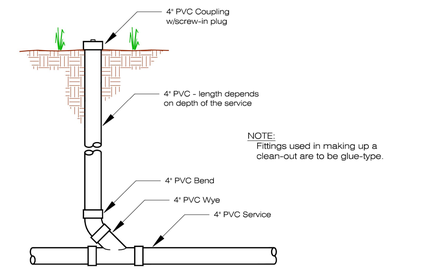
\\Hudomain\Birch\Water\Prototype\S.P.A.-1 Drawing-1.dwg

| DSN: M. Sidlo | CKD: | **San. Sewer Main Crossings Over & Under Water Mains** | HASTINGS UTILITIES Hastings, Nebraska | NO. **PLAN 1C** |
|---|---|---|---|---|
| DRN: M. Sidlo | CKD: | | | |
| REVISED: Sept. '05 | APP: | | | |




NOTE:
Type of bedding for sanitary sewer services to be the same type bedding as used for sanitary sewer main.

**SANITARY SEWER SERVICE DETAIL**

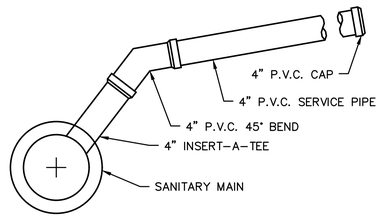



NOTE:
Fittings used in making up a clean-out are to be glue-type.

**SAN. SEWER SERVICE CLEAN-OUT**

\\Hudomain\Birch\Water\Prototype\S.P.A.-1 Drawing-1.dwg

| DSN: M. Sidlo | CKD: | **Sanitary Sewer Service and Clean-Out Details** | HASTINGS UTILITIES Hastings, Nebraska | NO. **PLAN 1D** |
|---|---|---|---|---|
| DRN: M. Sidlo | CKD: | | | |
| REVISED: Sept. '05 | APP: | | | |




SANITARY SEWER TAPPING
SERVICE CONNECTION
NOT TO SCALE

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Nebraska COA #CA-0638

PROFESSIONAL CIVIL ENGINEER
MATTHEW D. SIDLO
REG. E-10074
7-10-25
STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

DETAILS

ELM MEADOWS FIRST SUBDIVISION
SANITARY SEWER EXTENSION DISTRICT 2024-3
HASTINGS, NEBRASKA
2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 10, 2025

SHEET
6 of 6

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DATE: Jan 30, 2025 6:07pm USER: alarango

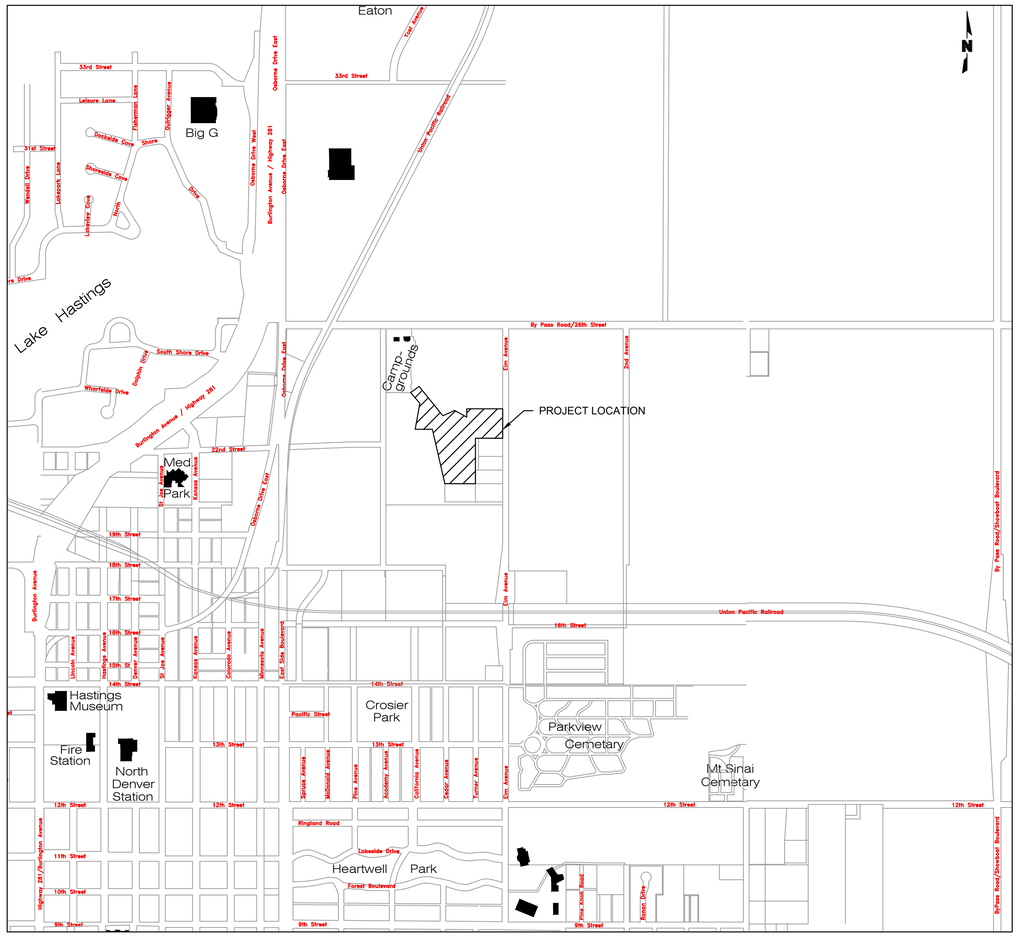
# ELM MEADOWS FIRST SUBDIVISION
# STREET IMPROVEMENT DISTRICT 2024-1
# HASTINGS, NEBRASKA
# 2025

## LEGEND

| | |
|---|---|
| SD | STORM SEWER PIPE |
| SS | SANITARY SEWER MAIN |
| G | GAS MAIN |
| W | WATER MAIN |
| CATV | UNDERGROUND CABLE TV |
| P/OH | OVERHEAD POWER |
| | CHAINLINK FENCE |
| | POWER POLE |
| LTP | LIGHT POLE |
| LPPP | POWER POLE/LIGHT POLE |
| | GUY WIRE |
| FHT | FIRE HYDRANT |
| WV | WATER VALVE |
| | POST INDICATOR VALVE |
| WM | WATER METER PIT |
| S | SANITARY SEWER MANHOLE |
| D | STORM SEWER MANHOLE |
| GM | GAS METER |
| AC | AIR CONDITIONER |
| EM | ELECTRIC METER |
| TP | TELEPHONE PEDESTAL |
| T | TELEPHONE RISER |
| | TRANSFORMER |
| | SPRINKLER CONTROL VALVES |
| RD | ROOF DRAIN |
| | STORM SEWER GRATE INLET |
| MLB | MAILBOX |
| | STEEL BOLLARD |
| | SIGN |
| | SECTION CORNER |
| | CONTROL POINT |
| BU | BUSH |
| | TREE |

## GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF HASTINGS STANDARD SPECIFICATIONS AND STANDARD DRAWINGS.
2. THE LOCATION OF ALL AERIAL AND UNDERGROUND UTILITY FACILITIES MAY NOT BE INDICATED ON THESE PLANS. UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT WILL BE LOCATED AND FLAGGED BY THE UTILITIES AT THE REQUEST OF THE CONTRACTOR. NO EXCAVATION WILL BE PERMITTED IN THE AREA OF UNDERGROUND UTILITY FACILITIES UNTIL ALL SUCH FACILITIES HAVE BEEN LOCATED AND IDENTIFIED TO THE SATISFACTION OF ALL PARTIES. THE EXCAVATION MUST BE ACCOMPLISHED WITH EXTREME CARE IN ORDER TO AVOID ANY POSSIBILITY OF DAMAGE TO THE UTILITY FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES.
3. CONTRACTOR SHALL PRESERVE ALL PROPERTY CORNER MONUMENTS OR RE-ESTABLISH THEM IF THEY ARE DISTURBED DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL OBTAIN AND PAY THE COST OF ALL REQUIRED PERMITS AND FEES.
5. THE CONTRACTOR SHALL USE EXTREME CAUTION IN THE AREA OF EXISTING MANHOLES, POWER POLES, AND EXISTING UTILITIES, AND SHALL BE RESPONSIBLE FOR DAMAGES.
6. THE TRENCHES SHALL BE BACKFILLED, MECHANICALLY TAMPED AND TESTED. OWNER IS RESPONSIBLE FOR ALL COSTS OF TESTING. SEE HASTINGS STANDARD SPECIFICATIONS FOR COMPACTION REQUIREMENTS.
7. SAW CUTTING PAVEMENT FOR REMOVAL SHALL BE SUBSIDIARY.
8. PRIOR TO MOVING OFF SITE THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND CITY IN WRITING REQUESTING A FINAL WALK-THROUGH OF THE PROJECT.
9. CONTRACTOR TO PROTECT WATER SERVICE VALVE BOXES & SANITARY SERVICE T-POST MARKERS.
10. THE CITY/ENGINEER SHALL BE RESPONSIBLE FOR CONCRETE AND DENSITY TESTING REQUIRED BY THE CITY OF HASTINGS SPECIFICATIONS.
11. MAX JOINT SPACING SHALL BE 12'.
12. CONSTRUCTION OF ALL JOINTS INCLUDING DOWELS AND TIE BARS SHALL BE CONSIDERED SUBSIDIARY TO CONCRETE PAVEMENT.
13. THE ENGINEER SHALL DEVELOP THE STORM WATER POLLUTION PREVENTION PLAN AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS IMPLEMENTATION, DOCUMENTATION AND INSPECTION.
14. CONSTRUCTION STAKING SHALL BE COMPLETED BY THE ENGINEER.
15. CONTRACTOR RESPONSIBLE FOR OBTAINING ALL PERMITS TO WORK IN PUBLIC R.O.W.
16. ADA CURB RAMP SHALL BE SUBSIDIARY TO SIDEWALK, INCLUDING PLACING DETECTIBLE WARNING PANELS, WHICH WILL BE FURNISHED BY THE CITY.
17. ALL PAVEMENT INCLUDING ROADWAYS, DRIVEWAYS, TRAILS AND SIDEWALKS SHALL BE NDOT CONCRETE CLASS 47B-3500 UTILIZING 1P, 1T OR 1S CEMENT IN ACCORDANCE WITH THE 2017 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
18. STORM SEWER PIPES CAN BE ADS HP STORM PIPE OR RCP OR APPROVED EQUIVALENT. NO ADDITIONAL COMPENSATION FOR TRANSITIONS FROM DIFFERENT MATERIALS.
19. STORM SEWER FLARED-ENDS CAN BE REINFORCED CONCRETE OR HIGH DENSITY POLYETHYLENE. NO ADDITIONAL COMPENSATION FOR TRANSITIONS BETWEEN PIPE MATERIAL AND FLARE-END SECTION.
20. IF HP STORM SEWER PIPE IS USED, THE BACKFILL SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATION WITH GRANULAR MATERIAL TO A MINIMUM IF 12" ABOVE THE PIPE.




| SHEET INDEX | |
|---|---|
| Sheet # | Sheet Title |
| 1 | COVER SHEET |
| 2-4 | DETAILS |
| 5 | HORIZONTAL & VERTICAL CONTROL |
| 6 | GRADING PLAN |
| 7 | EROSION CONTROL PLAN |
| 8 | 23RD STREET PAVING PLAN & PROFILE STA. 100+00 TO STA. 103+75 |
| 9 | HUDSON WAY PAVING PLAN & PROFILE STA. 200+00 TO STA. 204+00 |
| 10 | 22ND STREET PAVING PLAN & PROFILE STA. 204+00 TO STA. 208+00 |
| P1 | HUDSON WAY PAVING PLAN & PROFILE STA. 300+00 TO STA. 302+75 |

| ELM MEADOWS PAVING - APPROXIMATE QUANTITIES | | |
|---|---|---|
| **ITEM DESCRIPTION** | **UNIT** | **QUANTITY** |
| MOBILIZATION | L.S. | 1 |
| EARTHWORK | L.S. | 1 |
| CLEARING & GRUBBING | L.S. | 1 |
| 6" CONCRETE PAVEMENT W/ INTEGRAL CURB | S.Y. | 3991 |
| SUBGRADE PREP | S.Y. | 3991 |
| 4" CONCRETE SIDEWALK | S.F. | 418 |
| CONCRETE HEADER | L.F. | 24 |
| CURB INLET (TYPE D MOD) | EA. | 6 |
| JUNCTION BOX | EA. | 1 |
| 15" FLARED END SECTION | EA. | 2 |
| 24" FLARED END SECTION | EA. | 1 |
| 36" FLARED END SECTION | EA. | 4 |
| 15" STORM PIPE | L.F. | 111 |
| 18" STORM PIPE | L.F. | 232 |
| 24" STORM PIPE | L.F. | 60 |
| 36" STORM PIPE | L.F. | 130 |
| INLET PROTECTION | EA. | 9 |
| LINEAR EROSION PROTECTION | L.F. | 2000 |
| EROSION CONTROL MAT | S.Y. | 176 |
| CONSTRUCTION ENTRANCE | EA. | 1 |

| APPROXIMATE QUANTITIES - ALTERNATE BID<br>HUDSON WAY PRIVATE | | |
|---|---|---|
| **ITEM DESCRIPTION** | **UNIT** | **QUANTITY** |
| MOBILIZATION | L.S. | 1 |
| EARTHWORK | L.S. | 1 |
| 6" CONCRETE PAVEMENT | S.Y. | 634 |
| 4" CONCRETE SIDEWALK | S.F. | 1662 |
| CURB INLET | EA. | 1 |
| 18" STORM PIPE | L.F. | 64 |

## APPROVED FOR CONSTRUCTION

Lee Vrooman — 1-31-25

DIRECTOR OF ENGINEERING, CITY OF HASTINGS — DATE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Olsson - Engineering
Nebraska COA #CA-0638


PROFESSIONAL CIVIL ENGINEER — REGISTERED — E-10074 — 1-30-25 — STATE OF NEBRASKA

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | REVISIONS |

COVER SHEET

ELM MEADOWS FIRST SUBDIVISION
STREET IMPROVEMENT DISTRICT 2024-1
HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 28, 2025

SHEET 1 of 10

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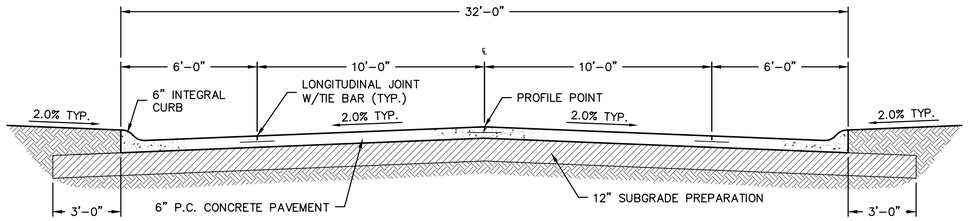
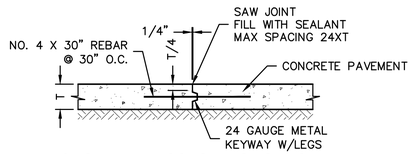
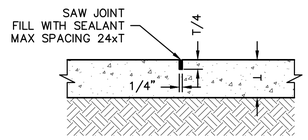
DATE: Jan 31, 2025 11:38am USER: atarango



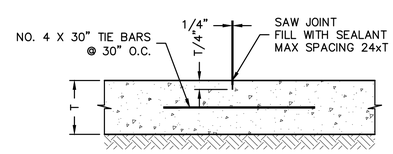

32' B-B TYPICAL SECTION
NOT TO SCALE



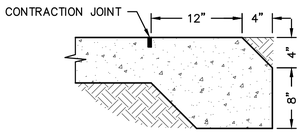

LONGITUDINAL CONSTRUCTION JOINT
NOT TO SCALE



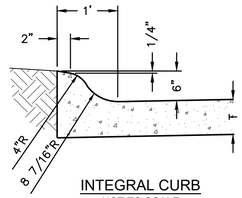

TYPICAL CONTRACTION JOINT
NOT TO SCALE



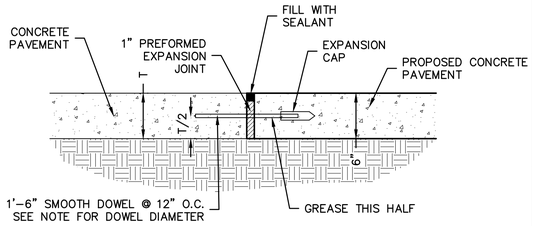

LONGITUDINAL JOINT
NOT TO SCALE




TYPICAL CONCRETE HEADER DETAIL
NOT TO SCALE

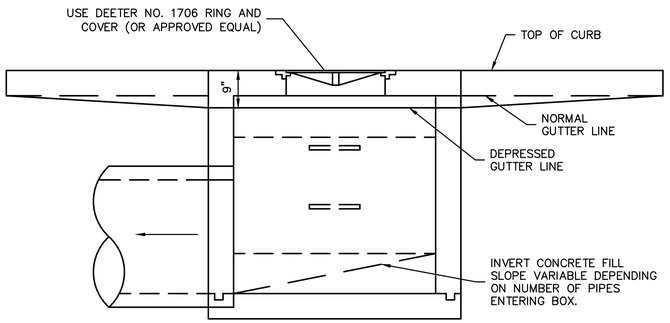



INTEGRAL CURB
NOT TO SCALE

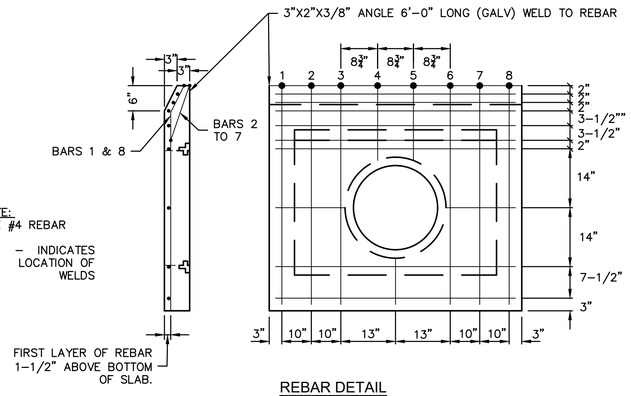



DOWELED EXPANSION JOINT
NOT TO SCALE

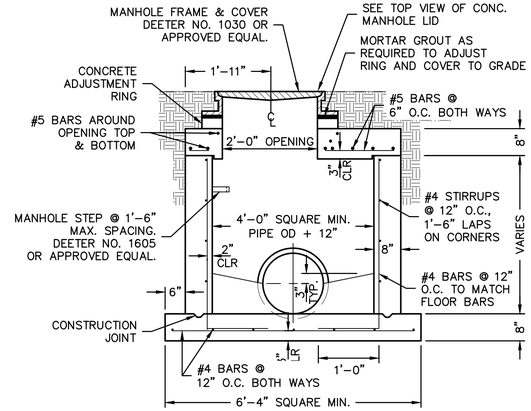
NOTE:
T = 6", 3/4" DOWEL
T = 8", 1" DOWEL
T = 9", 1-1/4" DOWEL
T = 10", 1/12" DOWEL



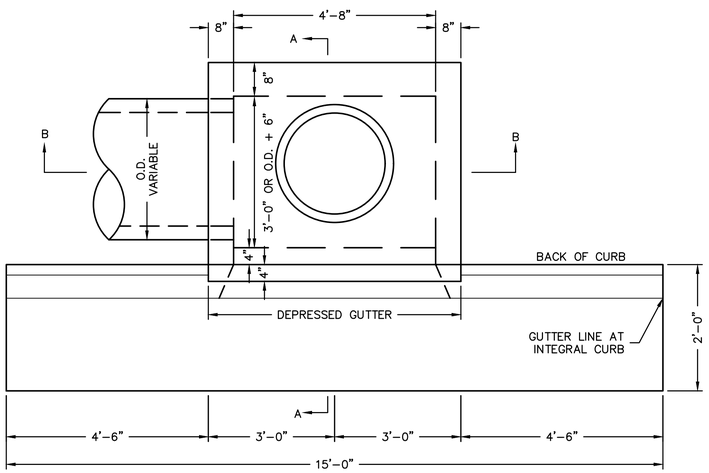

SECTION B-B

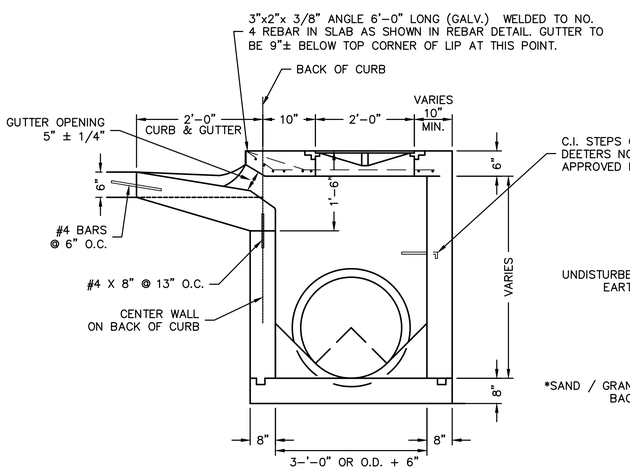



REBAR DETAIL



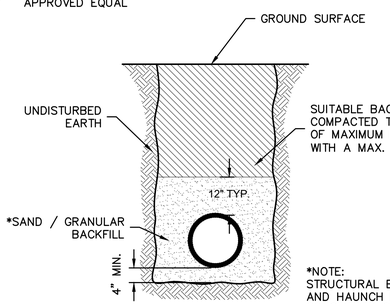

STORM JUNCTION BOX
NOT TO SCALE



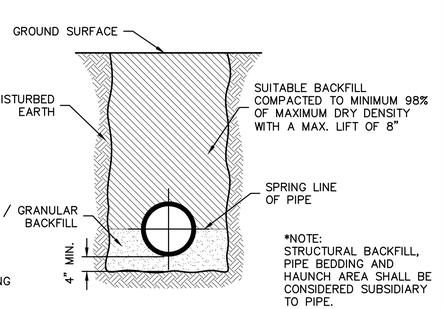

SECTION A-A

TYPE D MODIFIED CURB INLET
CURB INLET REPLACEMENT
NOT TO SCALE




FLEXIBLE PIPE TRENCH BACKFILL
NOT TO SCALE

*NOTE:
STRUCTURAL BACKFILL, PIPE BEDDING AND HAUNCH BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO PIPE. STRUCTURAL BACKFILL REQUIREMENTS PER MANUFACTURER'S RECOMMENDATION FOR FLEXIBLE PIPE SHALL BE CONSIDERED SUBSIDIARY TO PUPE.




RC PIPE TRENCH BACKFILL
NOT TO SCALE

*NOTE:
STRUCTURAL BACKFILL, PIPE BEDDING AND HAUNCH AREA SHALL BE CONSIDERED SUBSIDIARY TO PIPE.

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Olsson - Engineering
Nebraska COA #CA-0638

PROFESSIONAL CIVIL ENGINEER
MATTHEW M. RIEF
E-10074
STATE OF NEBRASKA

REVISIONS
DESCRIPTION
DATE
REV. NO.

DETAILS

ELM MEADOWS FIRST SUBDIVISION
STREET IMPROVEMENT DISTRICT 2024-1
HASTINGS, NEBRASKA
2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 28, 2025

SHEET
2 of 10

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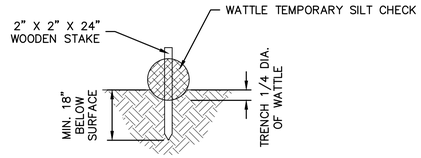
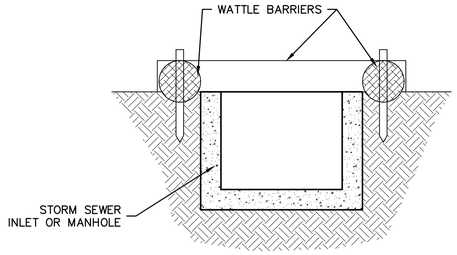
DATE: Jan 31, 2025 10:23am USER: atarango

## WATTLE NOTES

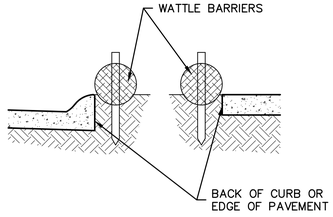
1. WATTLES SHALL EXTEND AN ADEQUATE DISTANCE TO PREVENT RUNOFF FROM FLOWING AROUND THE END OF THE BARRIER.
2. TIGHTLY ABUT WATTLE ENDS TO PREVENT GAPS.
3. WOOD STAKES SHALL BE PLACED AT 4' MAX. SPACING ALONG THE LENGTH OF WATTLES




TYPICAL INSTALLATION

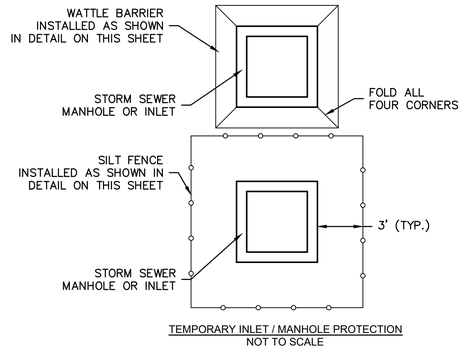



INLET PROTECTION

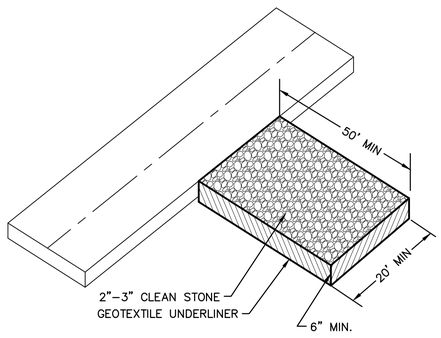



PAVEMENT EDGE

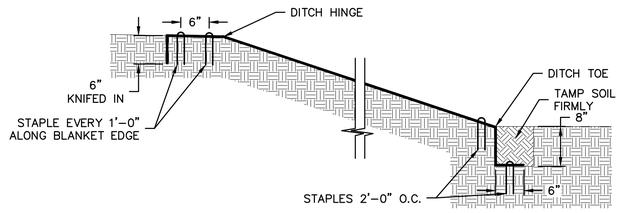
WATTLE BARRIER DETAILS
NOT TO SCALE



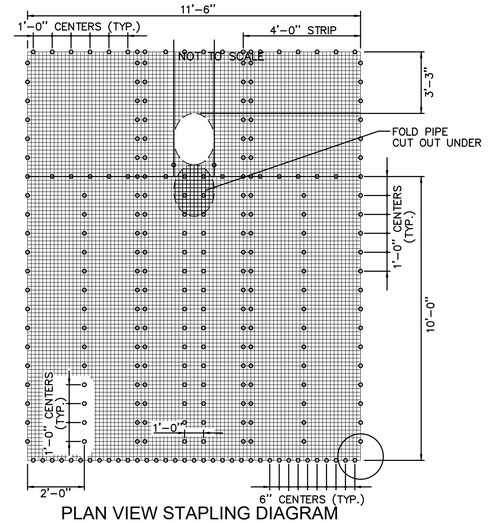

TEMPORARY INLET / MANHOLE PROTECTION
NOT TO SCALE




ROCK CONSTRUCTION ENTRANCE/EXIT
NOT TO SCALE




EROSION CONTROL MAT
ANCHOR DETAIL AT CULVERTS
NOT TO SCALE




PLAN VIEW STAPLING DIAGRAM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E-10074
2-10-25
STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

DETAILS

ELM MEADOWS FIRST SUBDIVISION
STREET IMPROVEMENT DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 28, 2025

SHEET
3 of 10


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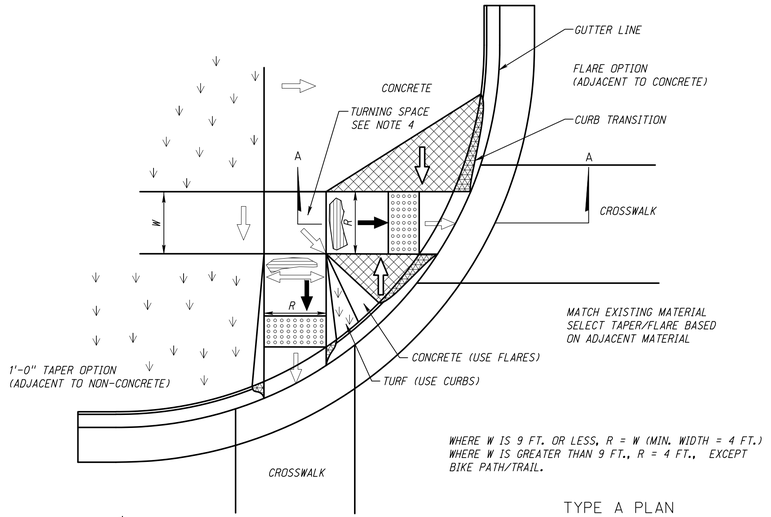
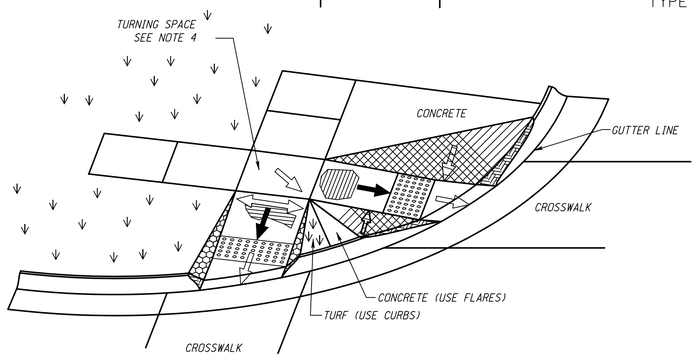
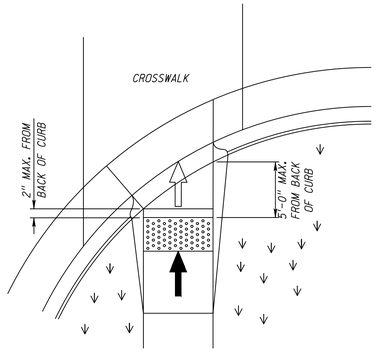



WHERE W IS 9 FT. OR LESS, R = W (MIN. WIDTH = 4 FT.)
WHERE W IS GREATER THAN 9 FT., R = 4 FT., EXCEPT BIKE PATH/TRAIL.

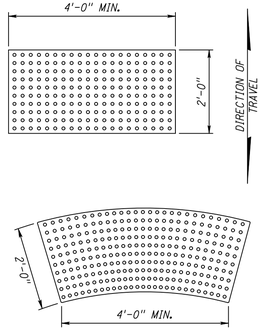
TYPE A PLAN




ISOMETRIC VIEW



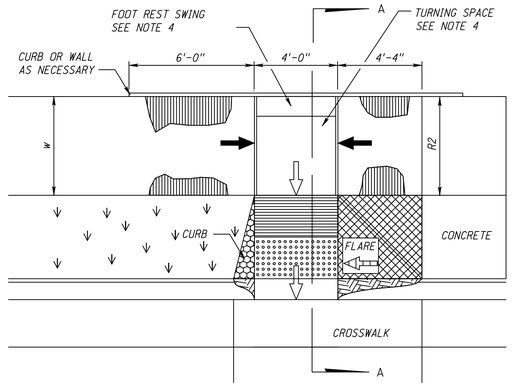

DETECTABLE WARNING PANEL
PLACEMENT DETAIL



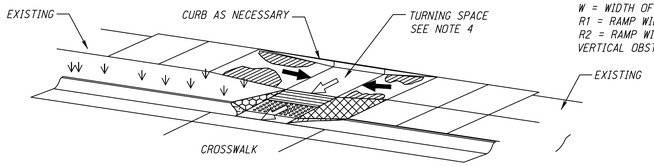

DETECTABLE WARNING PANELS

LEGEND

- DETECTABLE WARNING PANEL (DWP)
- BROOMED CURB RAMP WHEN 5% TO 8.3%
- RAMP FLARE
- GRASS OR NON WALKING SURFACE
- CURB TRANSITION
- CURB FACE SLOPE 1 VERT. : 2 HORZ.




TYPE F PLAN




W = WIDTH OF SIDEWALK (5'-0" TYP.)
R1 = RAMP WIDTH (4'-0" MIN.)
R2 = RAMP WIDTH (5'-0" MIN.) WITH VERTICAL OBSTACLE

ISOMETRIC VIEW

NOTES:

1. THE SURFACE OF ALL CURB RAMPS SHALL BE BROOMED PERPENDICULAR TO THE SLOPE OF THE CURB RAMP.

2. CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE CURB RAMP, FREE OF SAGS AND SHORT GRADE CHANGES.

3. ALL CURB RAMPS SHALL BE CONSTRUCTED WITH A DETECTABLE WARNING PANEL (DWP), 2 FT. × 4 FT. MINIMUM. PLACED WITHIN 2" OF THE BACK OF CURB.

DETECTABLE WARNING PANEL:
- SHALL BE SUBSIDIARY TO CURB RAMP
- SHALL BE A CONTRASTING COLOR TO THE SURROUNDING SURFACING.
- SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP.

NEW CURB RAMPS SHALL HAVE CAST IN CONCRETE DETECTABLE WARNING PANELS.

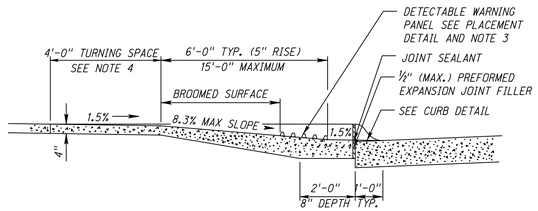
4. TURNING SPACE SHALL HAVE MINIMUM DIMENSIONS OF 4 FT. × 4 FT. AND SHALL BE A MINIMUM OF 1 FT. FROM ANY OBSTACLE SUCH AS A CURB OR RETAINING WALL FOR SWING OF WHEELCHAIR FOOT REST. THE SLOPE SHALL BE 2% MAXIMUM IN ANY DIRECTION.

5. THE WORK OF CONSTRUCTING CURB RAMPS AND INSTALLING DETECTABLE WARNING PLATES SHALL BE INCLUDED IN THE CURB RAMP BID ITEM. CURB RAMP PAVEMENT IS INCLUDED IN SIDEWALK PAVEMENT QUANTITY.

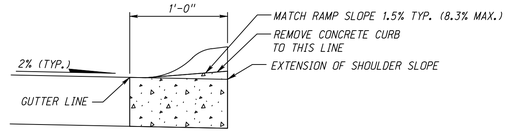
SLOPE LEGEND

| | |
|---|---|
| | SIDEWALK/TURNING SPACE AND RAMP CROSS SLOPE 1.5% TYPICAL, 2.0% MAX. SLOPE |
| | RAMP RUNNING SLOPE 8.0% TYPICAL, 8.3% MAX. SLOPE |
| | FLARE 90° TO RAMP 9.0% TYPICAL, 10.0% MAX. SLOPE |

THE CONTRACTOR SHOULD ACCOUNT FOR CONSTRUCTION TOLERANCES TO PREVENT EXCEEDING THE MAXIMUM SLOPES. ANY SLOPES EXCEEDING THE MAXIMUMS SHALL NOT BE ACCEPTED WITHOUT PRIOR APPROVAL FROM THE PROJECT MANAGER.




TYPICAL RAMP PROFILE (A-A SECTION)




NOTE:
COMBINATION CONCRETE CURB AND GUTTER MAY BE REMOVED AND REPLACED IN LIEU OF MILLING.

CURB DETAIL

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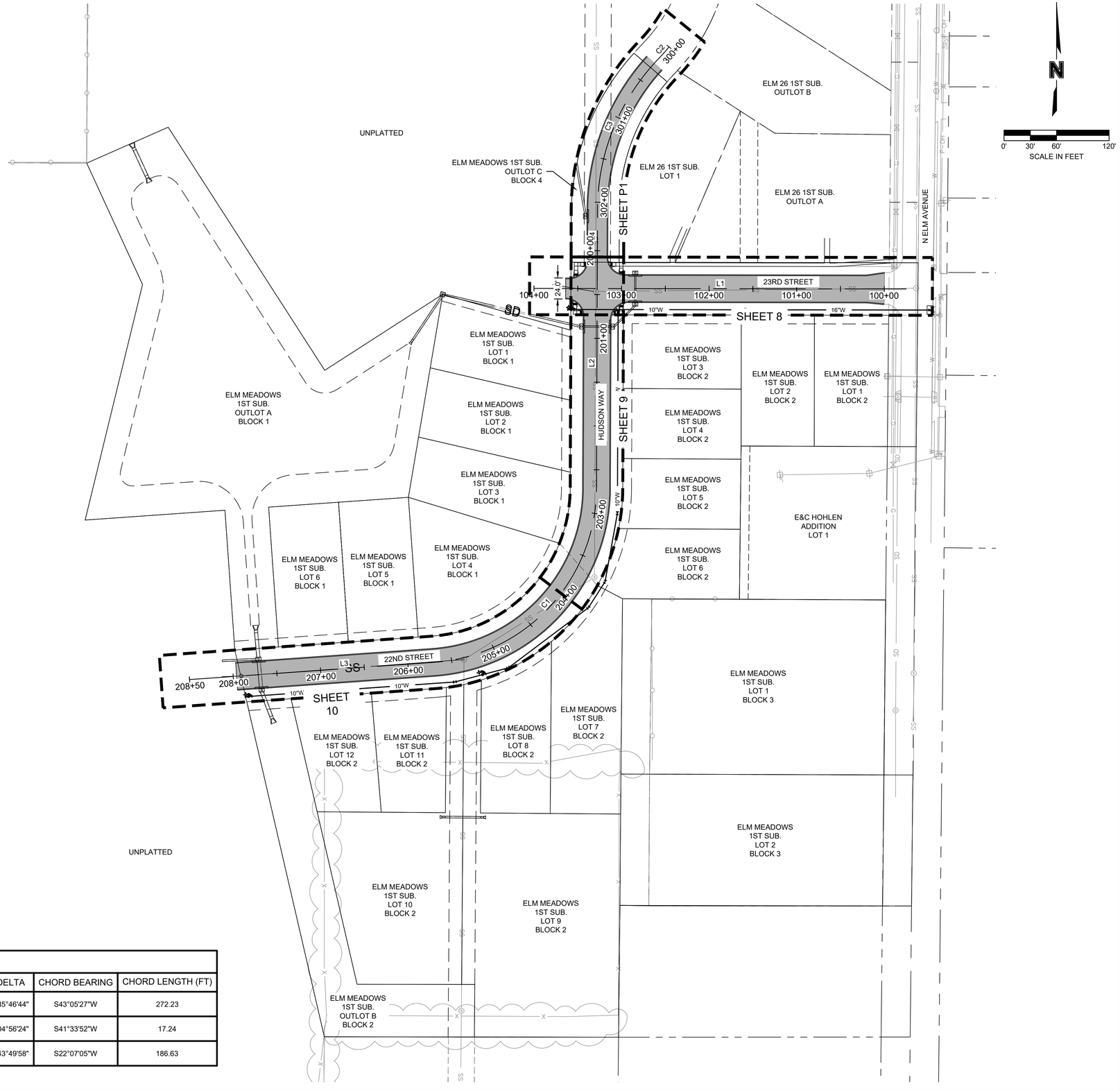


| ALIGNMENT LINES | | | | | |
|---|---|---|---|---|---|
| LINE ID # | STATION RANGE | START COORD. | END COORD. | DIRECTION | LENGTH (FT) |
| L1 | 99+75<br>104+00 | N: 111481.84<br>E: 117101.12 | N: 111482.49<br>E: 116676.12 | N89°54'46"W | 425.00 |
| L2 | 199+85<br>202+71.15 | N: 111540.50<br>E: 116748.53 | N: 111254.35<br>E: 116747.53 | S0°12'06"W | 286.15 |
| L3 | 205+70.57<br>208+50 | N: 111055.55<br>E: 116561.55 | N: 111035.96<br>E: 116282.81 | S85°58'49"W | 279.43 |
| L4 | 302+08.50<br>303+00 | N: 111572.44<br>E: 116748.64 | N: 111480.94<br>E: 116748.33 | S0°11'57"W | 91.50 |

| ALIGNMENT CURVES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CURVE ID # | STATION RANGE | START COORD. | END COORD. | RADIUS (FT) | LENGTH (FT) | DELTA | CHORD BEARING | CHORD LENGTH (FT) |
| C1 | 202+71.15<br>205+70.57 | N: 111254.35<br>E: 116747.53 | N: 111055.55<br>E: 116561.55 | 200.00 | 299.42 | 085°46'44" | S43°05'27"W | 272.23 |
| C2 | 300+00<br>300+17.24 | N: 111758.23<br>E: 116830.35 | N: 111745.33<br>E: 116818.91 | 200.00 | 17.24 | 004°56'24" | S41°33'52"W | 17.24 |
| C3 | 300+17.24<br>302+08.50 | N: 111745.33<br>E: 116818.91 | N: 111572.44<br>E: 116748.64 | 250.00 | 191.26 | 043°49'58" | S22°07'05"W | 186.63 |

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DATE: Jan 31, 2025 10:24am USER: atarango

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Nebraska COA #CA-0638

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E-10074
1-30-25
STATE OF NEBRASKA

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | REVISIONS |

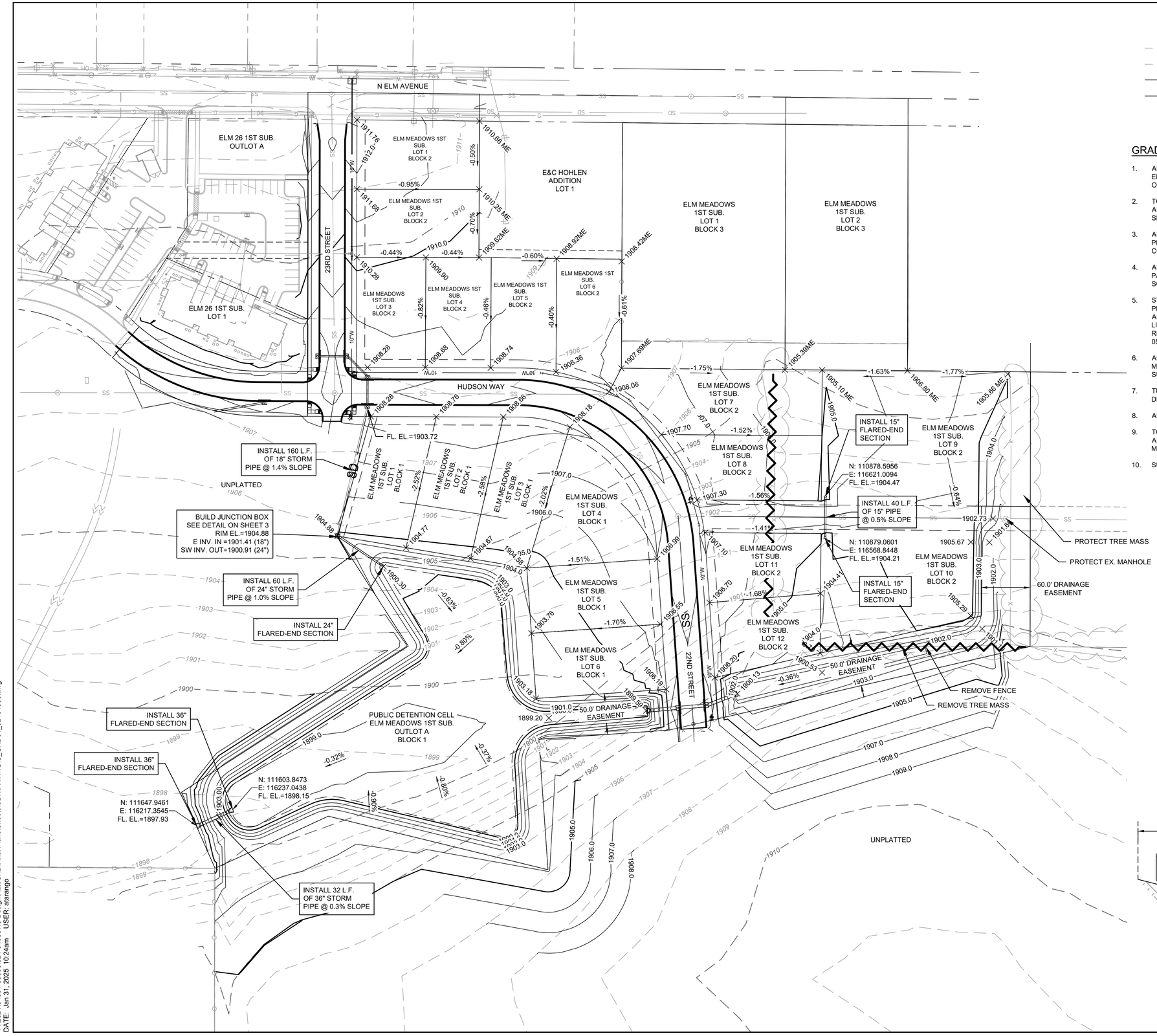
HORIZONTAL & VERTICAL CONTROL

ELM MEADOWS FIRST SUBDIVISION
STREET IMPROVEMENT DISTRICT 2024-1

2025

HASTINGS, NEBRASKA

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 28, 2025




## LEGEND:

- 1900.00 — EXISTING MAJOR CONTOUR
- 1900.50 — EXISTING MINOR CONTOUR
- 1900.00 — PROPOSED MAJOR CONTOUR
- 1900.50 — PROPOSED MINOR CONTOUR
- X.X% — SURFACE SLOPE
- ME — MATCH EXISTING ELEVATION

N

0' 30' 60' 120'

SCALE IN FEET

## GRADING NOTES:

1. ALL CONTOURS SHOWN ARE FOR FINISHED GRADE OR TOP OF SLAB. SPOT ELEVATIONS REPRESENT TOP OF SLAB OR TOP OF FINISHED GRADE UNLESS NOTED OTHERWISE.
2. TOPSOIL SHALL BE STRIPPED AND STOCKPILED. TOPSOIL CAN BE REDISTRIBUTED AROUND THE SITE AFTER PAVING IS COMPLETE. ALL UNSURFACED AREAS DISTURBED SHALL RECEIVE 6 INCHES OF TOPSOIL, MINIMUM.
3. AFTER TOPSOIL IS STRIPPED, ALL DISTURBED AREAS TO BE BUILT UPON SHALL BE PROOF ROLLED WITH A LOADED DUMP TRUCK OR SIMILAR APPROVED CONSTRUCTION EQUIPMENT TO DETECT UNSUITABLE SOIL CONDITIONS.
4. AFTER TOPSOIL IS STRIPPED, PRIOR TO PLACEMENT OF STRUCTURAL FILL FOR PAVEMENT AND BUILDINGS, THE TOP 12 INCHES OF EXPOSED SUBGRADE SHALL BE SCARIFIED AND COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
5. STRUCTURAL FILL SHALL BE COMPACTED TO A MINIMUM OF 98% STANDARD PROCTOR DENSITY, AND -3% TO +3% OPTIMUM MOISTURE. SITE FILL SHALL BE OF APPROVED MATERIALS, FREE OF ORGANIC MATTER. FILL SHALL BE PLACED IN THIN LIFTS (8 INCHES RECOMMENDED, AND SHALL EXTEND 5' BEYOND BUILDING LIMITS). REFER TO GEOTECHNICAL EXPLORATION REPORT PREPARED BY OLSSON, DATED 05/31/2024.
6. ANY UNSUITABLE AREAS SHALL BE UNDERCUT AND REPLACED WITH SUITABLE MATERIAL BEFORE ANY FILL MATERIAL CAN BE APPLIED, SHALL BE CONSIDERED SUBSIDIARY TO EARTHWORK.
7. TURF AREAS TO RECEIVE FILL SHALL BE COMPACTED TO 92% STANDARD PROCTOR DENSITY.
8. ALL CUT OR FILL SLOPES SHALL BE 4:1 OR FLATTER UNLESS OTHERWISE NOTED.
9. TOTAL DISTURBED AREA REQUIRED TO COMPLETE THE EARTHWORK SHOWN IS APPROXIMATELY 14.12 AC. CONTRACTOR RESPONSIBLE FOR EROSION CONTROL MEASURES DURING GRADING OPERATIONS.
10. SUBGRADE SHALL BE COMPACTED TO 98% OF MAXIMUM DRY DENSITY.

## EARTHWORK QUANTITIES:

CUT = 12,000 CY
FILL = 25,200 CY
NET = 13,200 SY (FILL)

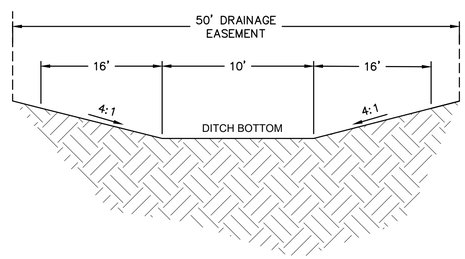
QUANTITIES ARE TO BOTTOM OF CONCRETE OR TOP OF SUBGRADE, NO FILL FACTOR HAS BEEN APPLIED. CONTRACTOR SHALL VERIFY ALL QUANTITIES. NO ADJUSTMENTS IN QUANTITIES WILL BE MADE UNLESS SIGNIFICANT CHANGES ARE MADE TO THE PLANS THAT INCREASE THE QUANTITIES BY OVER 5%

## EARTHWORK QUANTITIES:

(ALTERNATIVE BID SECTION)

CUT = 0 CY
FILL = 600 CY
NET = 600 SY (FILL)

QUANTITIES ARE TO BOTTOM OF CONCRETE OR TOP OF SUBGRADE, NO FILL FACTOR HAS BEEN APPLIED. CONTRACTOR SHALL VERIFY ALL QUANTITIES. NO ADJUSTMENTS IN QUANTITIES WILL BE MADE UNLESS SIGNIFICANT CHANGES ARE MADE TO THE PLANS THAT INCREASE THE QUANTITIES BY OVER 5%




DRAINAGE DITCH TYPICAL SECTION
NOT TO SCALE

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REG. E-10074
10-7-25
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REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

GRADING PLAN

ELM MEADOWS FIRST SUBDIVISION
STREET IMPROVEMENT DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 28, 2025

SHEET 6 of 10

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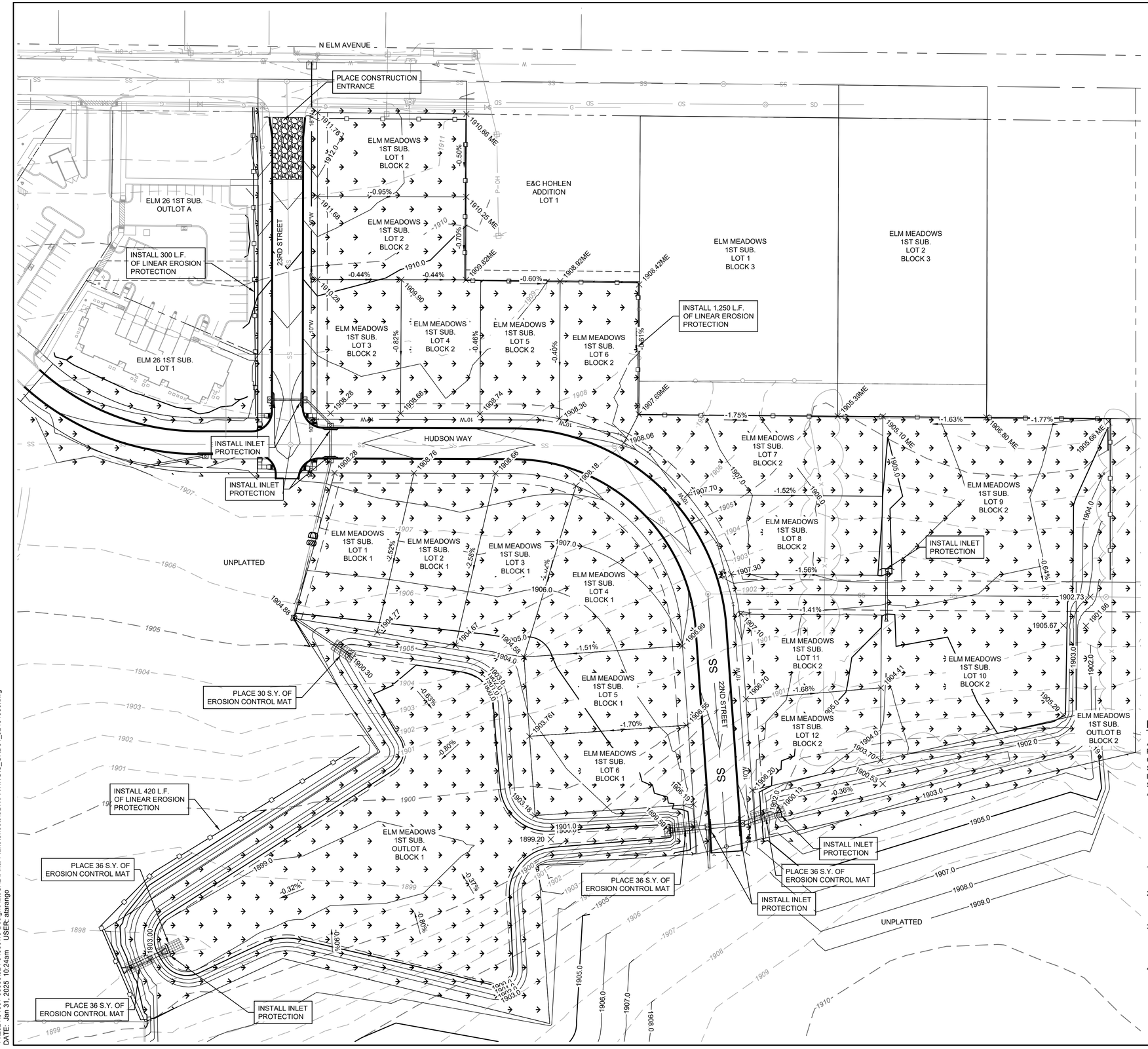


## LEGEND:

- 1900.00 — EXISTING MAJOR CONTOUR
- 1900.50 — EXISTING MINOR CONTOUR
- 1900.00 — PROPOSED MAJOR CONTOUR
- 1900.50 — PROPOSED MINOR CONTOUR
- 1.0% — SURFACE SLOPE
- SEEDING (BY OTHERS)
- CONSTRUCTION EXIT

N

0' 25' 50' 100'
SCALE IN FEET

## NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION & SEDIMENT CONTROL MEASURES AND PRACTICES THROUGHOUT THE PROJECT. ANY AND ALL FINES ASSOCIATED WITH THE EROSION CONTROL VIOLATIONS WILL BE THE CONTRACTOR'S RESPONSIBILITY.
2. ALL HERBACEOUS VEGETATION SHALL BE REMOVED FROM WITHIN THE LIMITS OF THE GRADING AND REDISTRIBUTED WITH THE TOPSOIL. IF POSSIBLE, LEAVE VEGETATION BUFFER TO NEIGHBORING PROPERTIES AND SENSITIVE AREAS.
3. THE CONTRACTOR SHALL USE CAUTION AROUND ANY EXISTING UTILITIES LOCATED ON SITE, AND SHALL BE RESPONSIBLE FOR THE REPAIR OF SUCH STRUCTURES WHEN BROKEN OR OTHERWISE DAMAGED BY THE NEW CONSTRUCTION.
4. THE LOCATION OF ALL AERIAL AND UNDERGROUND UTILITY FACILITIES MAY NOT BE INDICATED ON THESE PLANS. UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT WILL BE LOCATED AND FLAGGED BY THE UTILITIES AT THE REQUEST OF THE CONTRACTOR. NO EXCAVATION WILL BE PERMITTED IN THE AREA OF UNDERGROUND UTILITY FACILITIES UNTIL ALL SUCH FACILITIES HAVE BEEN LOCATED AND IDENTIFIED TO THE SATISFACTION OF ALL PARTIES. THE EXCAVATION MUST BE ACCOMPLISHED WITH EXTREME CARE IN ORDER TO AVOID ANY POSSIBILITY OF DAMAGE TO THE UTILITY FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE SEDIMENT CONTROL STRUCTURES UNTIL FINAL SITE STABILIZATION IS ACHIEVED.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVING AND REPLACING ANY EXISTING SILT FENCE AS REQUIRED BY CONSTRUCTION ACTIVITIES.
7. THE CONTRACTOR SHALL INSTALL GRAVEL CHECK DAMS OR SEDIMENT BARRIERS IN ANY GULLY WASHOUT AREAS TO CONTROL FURTHER EROSION AS DIRECTED PER THE ENGINEER.
8. INLET PROTECTION & SILT CHECKS SHALL CONSIST OF SILT FENCE, WATTLES, STRAW BALES, OF OTHER SEDIMENT CONTROL DEVICES.
9. FOLLOWING SOIL DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN FOURTEEN (14) CALENDAR DAYS TO THE SURFACE OF ALL PERIMETER CONTROLS, TOPSOIL STOCKPILES, AND ANY OTHER DISTURBED OR GRADED AREAS ON PROJECT SITE WHICH ARE NOT BEING USED FOR MATERIAL STORAGE, OR ON WHICH ACTUAL EARTH MOVING ACTIVITIES ARE NOT BEING PERFORMED.
10. ALL AREAS NOT BUILT UPON SHALL BE SEEDED.
11. THE CONTRACTOR SHALL BUILD A 50' MIN. X 20' MIN. ROCK CONSTRUCTION ENTRANCE/EXIT FROM STAGING AREA TO ADJACENT PAVED SURFACE TO PREVENT TRACKING OR FLOW OF MUD ONTO PAVED SURFACES.
12. CONTRACTOR TO CLEAN STREETS IF MUD IS TRACKED FROM JOBSITE & UPON COMPLETION IF NEEDED.
13. ARRANGEMENTS FOR SEEDING WILL BE MADE BY CITY. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY SEEDED AREAS THEY DISTURB.
14. A PRE-SEED WALK THROUGH WITH CITY'S SEEDING CONTRACTOR SHALL BE COMPLETED TO FINALIZE GRADE & INSPECT TOP SOIL; INCLUDING DEPTH TO SUPPORT VEGETATIVE GROWTH.

## MAINTENANCE:

ALL MEASURES STATED ON THIS EROSION CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ANY NECESSARY REPAIRS OR CLEANUP IDENTIFIED DURING INSPECTIONS TO MAINTAIN THE EFFECTIVENESS OF THE BEST MANAGEMENT PRACTICES SHALL BE MADE IMMEDIATELY. AT A MINIMUM THERE MUST BE A SITE INSPECTION IN ACCORDANCE WITH ONE OF THE TWO SCHEDULES LISTED BELOW.

a. AT LEAST EVERY SEVEN (7) CALENDAR DAYS, EXCLUDING NONBUSINESS HOURS.
b. ONCE FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE OCCURRENCE OF A STORM EVENT OF 0.25 INCHES OR GREATER, OR THE OCCURRENCE OF RUNOFF FROM SNOWMELT SUFFICIENT TO CAUSE A DISCHARGE, EXCLUDING NONBUSINESS HOURS.

1. BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, MULCHED, WATERED, AND RESEEDED AS NEEDED.
3. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
4. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.

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MATTHEW M. MAY
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2-10-25
STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|

EROSION CONTROL PLAN

ELM MEADOWS FIRST SUBDIVISION
STREET IMPROVEMENT DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 28, 2025

SHEET
7 of 10

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DATE: Jan 31, 2025 10:24am USER: alarango

| PIPES | | | | |
|---|---|---|---|---|
| PIPE ID | LENGTH (LF) | DIAMETER AND MATERIAL | SLOPE | STRUCTURES AND INVERTS |
| SD-7 | 32 | 18" HDPE | 1.00% | START: CI-4 1904.04<br>END: CI-3 1903.72 |
| SD-8 | 39 | 15" HDPE | 1.00% | START: CI-5 1904.68<br>END: CI-4 1904.29 |
| SD-9 | 32 | 15" HDPE | 1.00% | START: CI-6 1905.00<br>END: CI-5 1904.68 |

| CURB INLET | | | | |
|---|---|---|---|---|
| ID | STATION, OFFSET | RIM | INVERT | DEPTH |
| CI-3 | 200+87, 16.00 R | 1908.00 | IN INV. IN= 1903.72 (18")<br>OUT INV. OUT= 1903.72 (18") | 4.28 |
| CI-4 | 200+87, 16.00 L | 1908.00 | IN INV. IN= 1904.29 (15")<br>OUT INV. OUT= 1904.04 (18") | 3.96 |
| CI-5 | 102+84, 16.00 L | 1908.26 | IN INV. IN= 1904.68 (15")<br>OUT INV. OUT= 1904.68 (15") | 3.58 |
| CI-6 | 102+84, 16.00 R | 1908.26 | OUT INV. OUT= 1905.00 (15") | 3.26 |

① 20.00' RADIUS
R.P. STA. 102+91.87 - 36.00' LT
P.C. STA. 102+91.87 - 16.00' LT
P.T. STA. 103+11.87 - 35.96' LT

② 20.00' RADIUS
R.P. STA. 102+95.71 - 36.00' RT
P.C. STA. 102+95.71 - 16.00' RT
P.T. STA. 103+15.71 - 35.96' RT

③ 20.00' RADIUS
R.P. STA. 103+63.86 - 32.00' LT
P.C. STA. 103+63.86 - 12.00' LT
P.T. STA. 103+43.86 - 32.00' LT

④ 20.00' RADIUS
R.P. STA. 103+59.72 - 32.00' RT
P.C. STA. 103+59.72 - 12.00' RT
P.T. STA. 103+39.72 - 32.00' RT

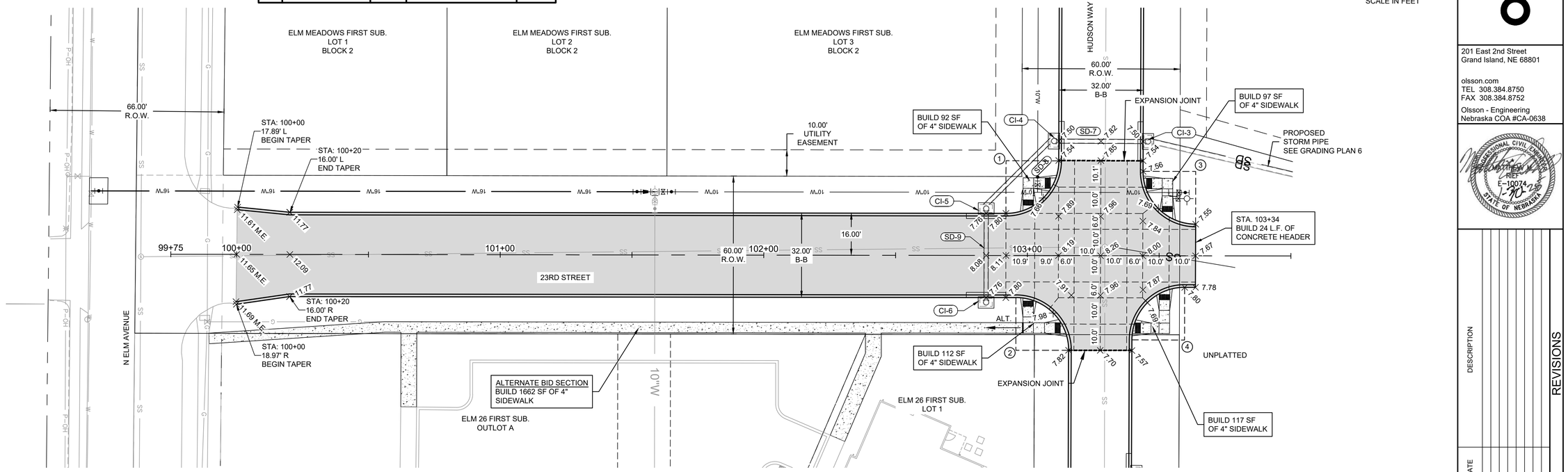
| BUILD 6" CONCRETE PAVEMENT W/ INTEGRAL CURB | | |
|---|---|---|
| STA. TO STA. | LENGTH (L.F.) | SQ. YDS. |
| 100+00 - 103+64 | 364 | 1442 |

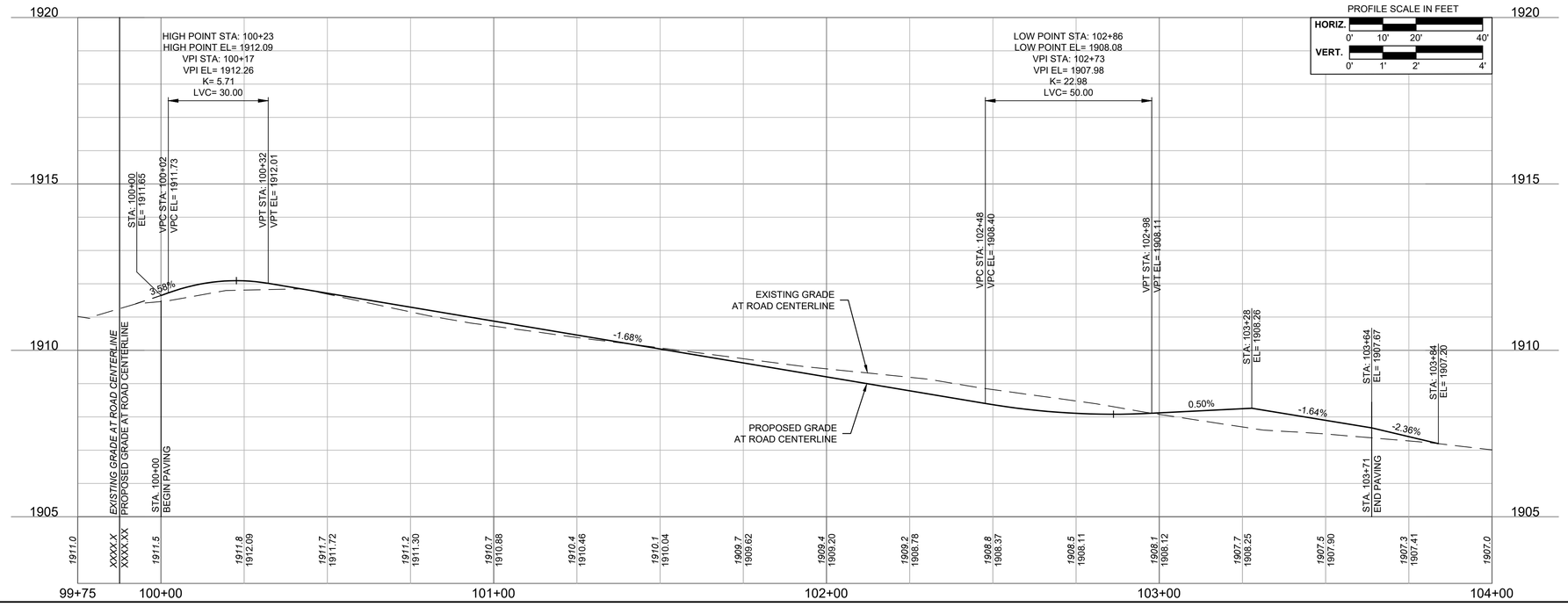
ALL SPOT ELEVATIONS ARE TO TOP OF SLAB.
DATUM ELEVATION = 1900.00

NOTE:
CONSTRUCTION OF CURB RAMPS SHALL BE SUBSIDIARY TO CONCRETE SIDEWALK. DETECTABLE WARNING PANELS TO BE PROVIDED BY CITY AND INSTALLED BY CONTRACTOR AS PART OF SIDEWALK CONSTRUCTION.

N

0' 10' 20' 40'
SCALE IN FEET





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APPROVED
STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
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STA. 100+00 TO STA. 103+75
23RD STREET PAVING PLAN & PROFILE

ELM MEADOWS FIRST SUBDIVISION
STREET IMPROVEMENT DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 28, 2025

SHEET
8 of 10

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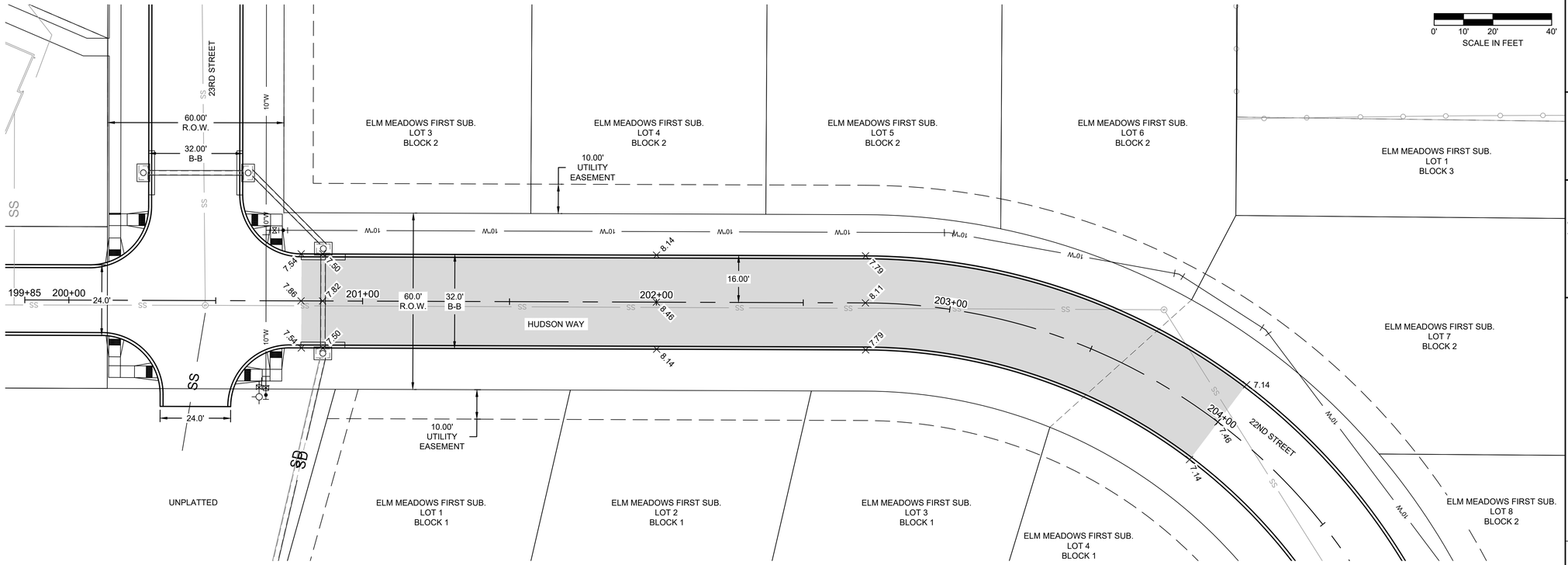
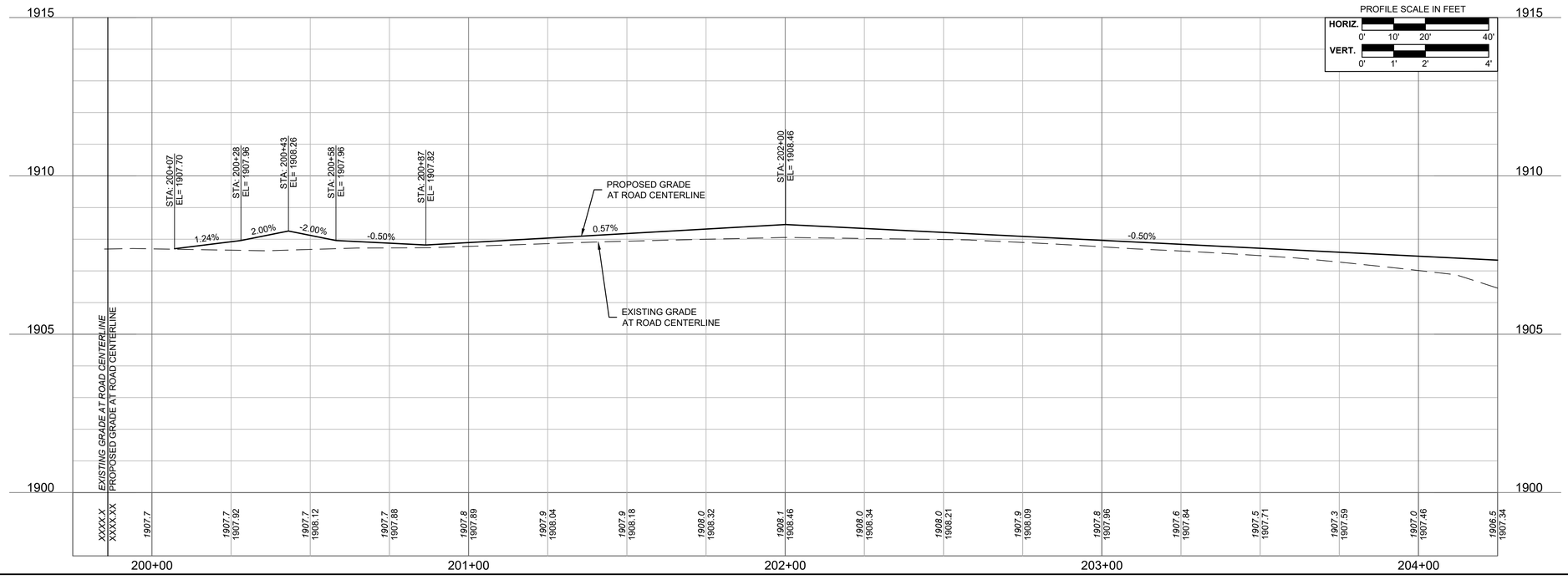
| BUILD 6" CONCRETE PAVEMENT W/ INTEGRAL CURB | | |
|---|---|---|
| STA. TO STA. | LENGTH (L.F.) | SQ. YDS. |
| 200+79 - 204+00 | 321 | 1141 |

NOTE:
ALL SPOT ELEVATIONS ARE TO TOP OF SLAB.
DATUM ELEVATION = 1900.00

N

0' 10' 20' 40'
SCALE IN FEET





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REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

STA. 200+00 TO STA. 204+00
HUDSON WAY PAVING PLAN & PROFILE

ELM MEADOWS FIRST SUBDIVISION
STREET IMPROVEMENT DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 28, 2025

SHEET
9 of 10

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DATE: Jan 31, 2025 10:23am USER: atarango

| PIPES | | | | |
|---|---|---|---|---|
| PIPE ID | LENGTH (LF) | DIAMETER AND MATERIAL | SLOPE | STRUCTURES AND INVERTS |
| SD-1 | 33 | 36" RCP | 0.50% | START: 1900.09<br>END: CI-1 1899.92 |
| SD-2 | 34 | 36" RCP | 0.50% | START: CI-1 1899.92<br>END: CI-2 1899.75 |
| SD-3 | 31 | 36" RCP | 0.50% | START: CI-2 1899.75<br>END: FES-2 1899.60 |
| * SD-4 | 40 | 18" RCP | 0.30% | START: CI-2 1901.25<br>END: 29 1901.37 |

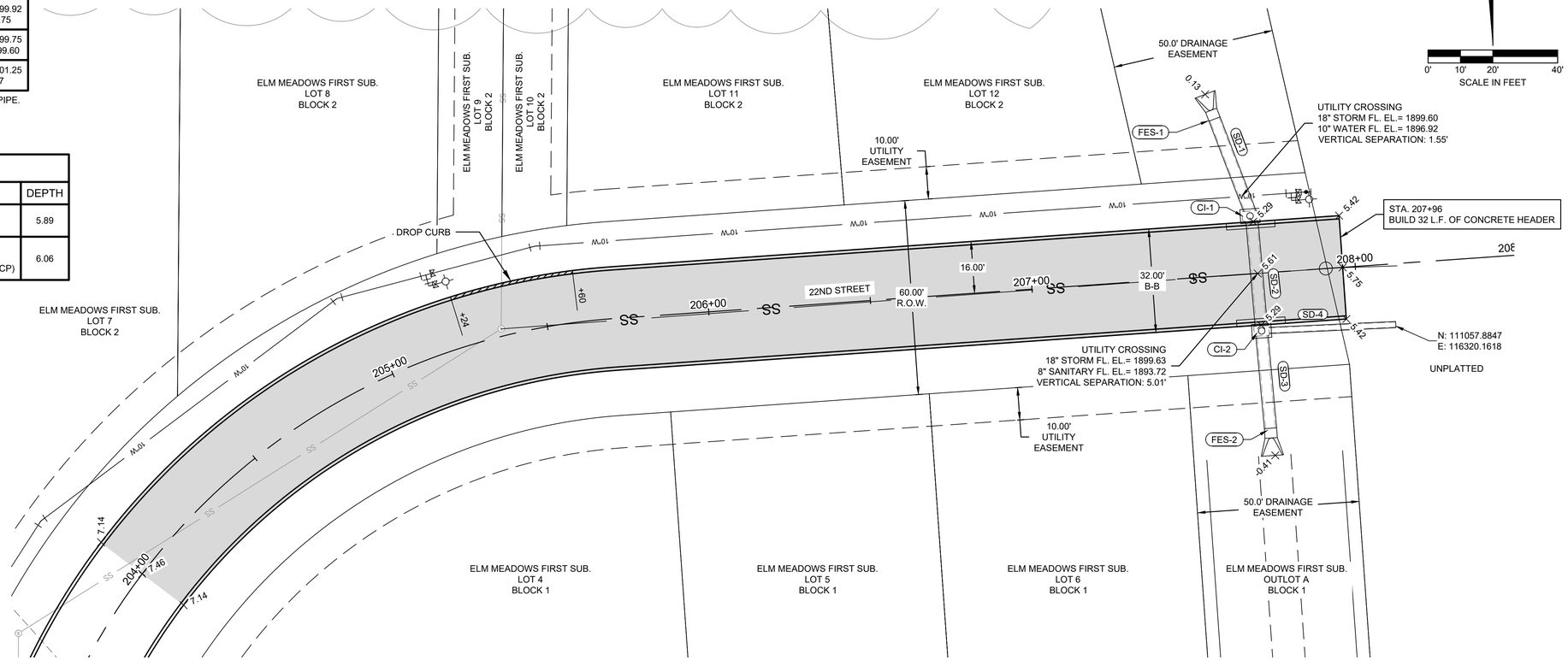
*CONTRACTOR TO INSTALL TEMPORARY CONCRETE PLUG AT END OF PIPE.

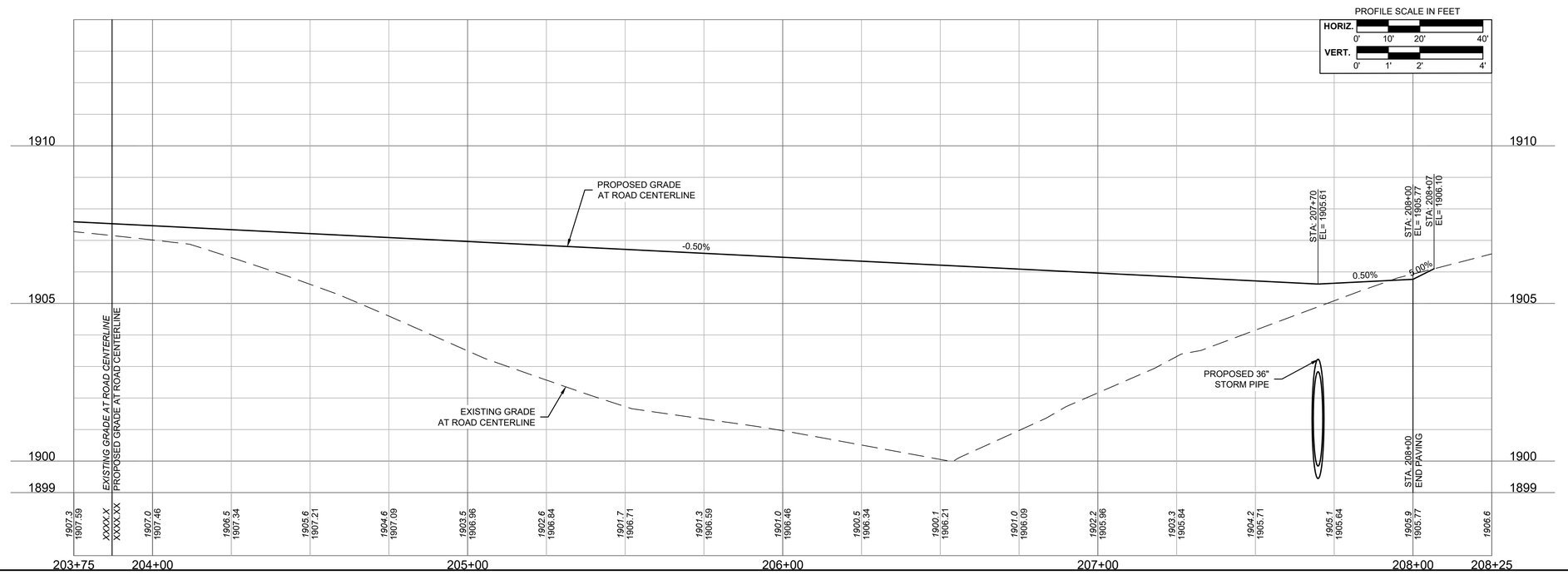
| CURB INLET | | | | |
|---|---|---|---|---|
| ID | STATION, OFFSET | RIM | INVERT | DEPTH |
| CI-1 | 207+69, 16.74 L | 1905.81 | IN INV. IN= 1899.92 (36")<br>OUT INV. OUT= 1899.92 (36") | 5.89 |
| CI-2 | 207+71, 16.74 R | 1905.81 | IN INV. IN= 1899.75 (36")<br>OUT INV. OUT= 1899.75 (36")<br>OUT INV. OUT= 1901.25 (18" RCP) | 6.06 |

| FLARED END SECTION | | | |
|---|---|---|---|
| ID | DESC. | NORTHING EASTING | INVERT |
| FES-1 | 36" FES | N: 110994.00<br>E: 116376.24 | |
| FES-2 | 36" FES | N: 111089.36<br>E: 116357.98 | 1899.60 (36") |

| BUILD 6" CONCRETE PAVEMENT W/ INTEGRAL CURB | | |
|---|---|---|
| STA. TO STA. | LENGTH (L.F.) | SQ. YDS. |
| 204+00 - 207+96 | 396 | 1408 |

NOTE:
ALL SPOT ELEVATIONS ARE TO TOP OF SLAB.
DATUM ELEVATION = 1900.00





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STATE OF NEBRASKA

REVISIONS

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

STA. 204+00 TO STA. 208+00
22ND STREET PAVING PLAN & PROFILE

ELM MEADOWS FIRST SUBDIVISION
STREET IMPROVEMENT DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 28, 2025

SHEET 10 of 10

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DATE: Jan 31, 2025 10:25am USER: atarango

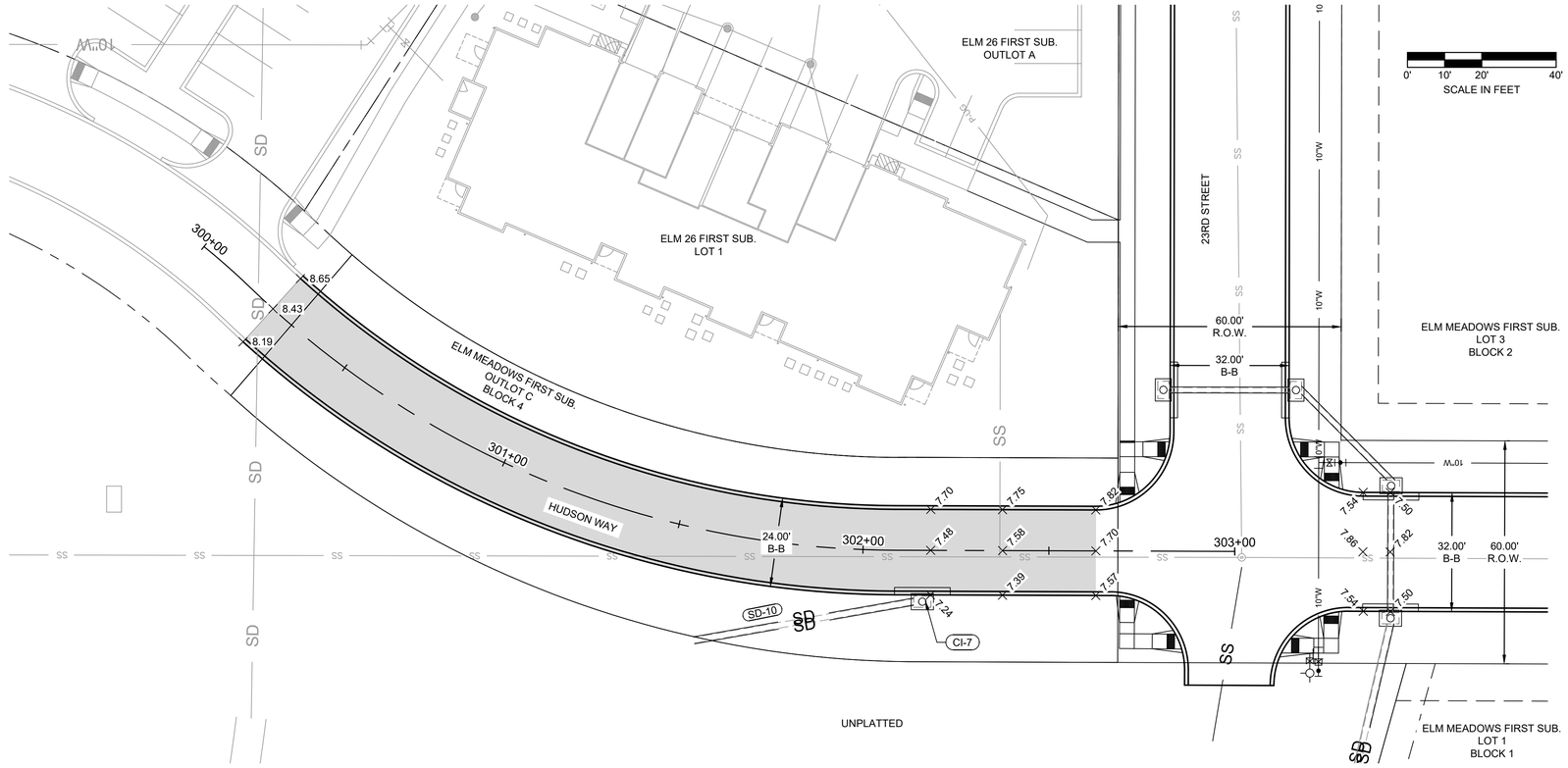
# ALTERNATE BID

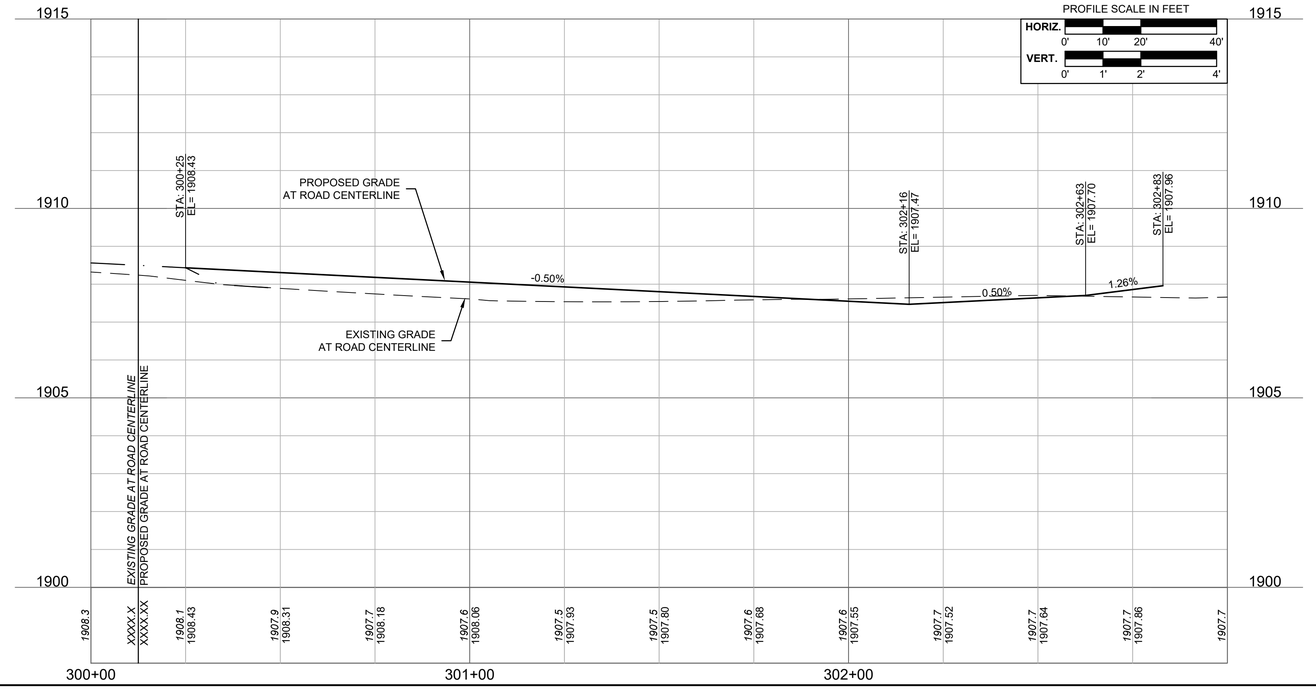
| PIPES | | | | |
|---|---|---|---|---|
| PIPE ID | LENGTH (LF) | DIAMETER AND MATERIAL | SLOPE | STRUCTURES AND INVERTS |
| SD-10 | 64 | 18" RCP | 1.20% | START: 1903.47<br>END: CI-7 1904.24 |

| CURB INLET | | | | |
|---|---|---|---|---|
| ID | STATION, OFFSET | RIM | INVERT | DEPTH |
| CI-7 | 103+40, 82.58 R | 1907.73 | IN INV. IN= 1904.24 (18" RCP) | 3.49 |

| BUILD 6" CONCRETE PAVEMENT W/ INTEGRAL CURB | | |
|---|---|---|
| STA. TO STA. | LENGTH (L.F.) | SQ. YDS. |
| 300+25 - 302+63 | 238 | 634 |

NOTE:
ALL SPOT ELEVATIONS ARE TO TOP OF SLAB.
DATUM ELEVATION = 1900.00





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PROFESSIONAL CIVIL ENGINEER
STATE OF NEBRASKA

| REVISIONS | | |
|---|---|---|
| REV. NO. | DATE | DESCRIPTION |

STA. 300+00 TO STA. 302+75
HUDSON WAY PAVING PLAN & PROFILE

ELM MEADOWS FIRST SUBDIVISION
STREET IMPROVEMENT DISTRICT 2024-1

HASTINGS, NEBRASKA

2025

drawn by: KDG
designed by: AST
project no.: 024-04930
date: January 28, 2025

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