CITY OF GRAND ISLAND

Working Together for a Better Tomorrow. Today.

WATER MAIN PROJECT 2014-W-5

AIRPORT ROAD AND ACADEMY DRIVE

CONTRACT DOCUMENTS

THIS DOCUMENT WAS ORIGINALLY SEALED AND ISSUED BY LYNN M. MAYHEW E-10661, ON FEBRUARY 25, 2014 THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT AND SHOULD BE USED FOR REFERENCE ONLY.

Bid Opening Date/Time:

March13, 2014 @ 2:00 PM. (Local Time)
City of Grand Island, City Hall
100 East 1st Street, P.O. Box 1968
Grand Island, NE 68802-1968

Contacts:

City of Grand Island
Utilities Department (308) 385-5460

NAME OF BIDDER: _____

DOCUMENT NO: _____

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AIRPORT ROAD AND ACADEMY DRIVE

CHECKLIST FOR BID SUBMISSION

WATER MAIN PROJECT 2014-W-5

AIRPORT ROAD AND ACADEMY DRIVE
CITY OF GRAND ISLAND, NEBRASKA

Bids must be received by the City Clerk before 2:00 p.m. (local time) on Thursday, March 13, 2014

The following items must be completed for your bid to be considered.

Check Box:

- ☐ A completed Bidder Checklist form.
- ☐ The original bid submitted on the forms furnished by the City, and bound with the Contract documents as issued.
- ☐ Two (2) additional copies of the Bidder Checklist and the Form of the Contractor's Bid.
- ☐ Acknowledgment of Addenda Number(s) _____.
- ☐ Firm unit pricing and breakout of sales tax as applicable. (See Bid Form.)
- ☐ A certified check, cashier's check, or bid bond in a separate envelope attached to the outside of the envelope containing the bid. Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information in clearly marked and separate envelopes will result in your bid not being opened.

_____
Bidder Company Name

_____
Name of Person Completing Bid – Please Print

_____ _____
Signature Date

_____ _____
Telephone No. Fax No.

ADVERTISEMENT TO BIDDERS

ADVERTISEMENT TO BIDDERS
For

WATER MAIN PROJECT 2014-W-5
AIRPORT ROAD AND ACADEMY DRIVE
For
CITY OF GRAND ISLAND, NEBRASKA

Sealed bids will be **received at the office of the City Clerk**, 100 East First St., Grand Island, NE 68801 or P.O. Box 1968, Grand Island, NE 68802 **until Thursday, March 13, 2014 at 2:00 p.m. (local time)** for furnishing labor, tools, equipment, materials, and doing all work for Water Main Project 2014-W-5, involving the installation of 12" and 16" diameter ductile-iron water main and related appurtenances connected therewith in Airport Road between Academy Drive and Sky Park Road; and Academy Drive between Airport Road and Twin Star Lane, FOB the City of Grand Island. Bids will be publicly opened at this time in Conference Room #1 located on 1st floor of City Hall. Bids received after the specified time will be returned unopened to sender.

The original bid shall be submitted on the bid forms furnished by the City, which shall remain bound with the complete Contract documents as issued. Additionally, the bidder shall provide two (2) additional copies of the Form of the Contractor's Bid. Bidding documents, plans, and specifications for use in preparing bids may be obtained from the Utility Engineering Office located at Phelps Control Center, 700 East Bischeld Street, Grand Island, NE; Telephone (308) 385-5460. Each bidder will be assigned a "numbered" set of documents. Bids must be submitted on the "numbered" document set. Failure to submit bids on the "numbered" document set may result in disqualification of the bid.

Each bidder shall submit with their bid a certified check, a cashier's check or bid bond payable to the City Treasurer in an amount no less than five percent (5%) of the bid price which shall guarantee good faith on the part of the bidder and the entering into a contract within twenty (20) days, at the bid price, if accepted by the City. **Your certified check, cashier's check or bid bond must be submitted in a separate envelope attached to the outside of the envelope containing the bid. Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information in clearly marked and separate envelopes will result in your bid not being opened or considered.** Bid bonds must be issued by surety companies authorized to do business in the State of Nebraska.

The successful bidder will be required to comply with fair labor standards as required by Nebraska R.R.S. 73-102 and comply with Nebraska R.R.S. 48-657 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska.

Successful bidder shall comply with the City's insurance requirements and supply performance and payment bonds. Successful bidder shall maintain a drug free workplace.

Bids will be evaluated by the Purchaser based on price, quality, adherence to schedule, plan and specification, economy and efficiency of operation, experience and reputation of bidder, ability, capacity, and skill of the bidder to perform contract required and adaptability of the particular items to the specific use intended.

The Purchaser reserves the right to reject any or all bids and to waive irregularities therein and to accept whichever bid that may be in the best interest of the City, at its sole discretion.

No bidder may withdraw their bid for a period of sixty (60) days after date of opening bids.

RaNae Edwards, City Clerk

INSTRUCTIONS TO BIDDER

INSTRUCTIONS TO BIDDERS

WATER MAIN PROJECT 2014-W-5
AIRPORT ROAD AND ACADEMY DRIVE
CITY OF GRAND ISLAND, NEBRASKA

PROJECT DESCRIPTION: The project involves, but is not limited to: furnishing labor, tools, equipment, materials, and appurtenances thereto for the complete installation of Water Main Project 2014-W-5, FOB the City of Grand Island NE. The project is located along Airport Road from Academy Drive to Sky Park Road; and along Academy Drive from Airport Road to Twin Star Lane. Refer to the plans for exact alignment and location.

BIDDING DOCUMENTS: Bidding documents, plans and specifications for use in preparing bids may be obtained from the Utility Engineering Office located at Phelps Control Center, 700 East Bischeld Street, Grand Island, NE; Telephone: (308) 385-5460.

Bids will not be accepted from bidders that are not listed on the City's Bidding Document Holders List as having complete sets of Bidding Documents.

BIDDER QUALIFICATION: Bids will be received only from qualified bidders. A bidder will be considered qualified if they are a recognized supplier or manufacturer of materials and items similar to that specified herein with complete factory facilities in the United States and has had experience in the design and manufacture of items of equal or greater size than that specified herein. Bidders shall furnish upon request a list of jobs of similar size, magnitude and requirements which they have satisfactorily performed. The list shall state the name of the purchaser, locations, date of purchase, size, type and operating conditions. Such data will be used to assist in determining the qualifications of the bidder, and shall be submitted within seven (7) calendar days from receipt of such a request by the City. Bidder must comply with all applicable Federal, State and local rules and regulations.

SUBMISSION OF BIDS: All bids shall be submitted on the bid forms hereto attached, which shall remain bound with the complete Contract documents as originally issued, and be addressed to the City Clerk, and plainly marked, "BID FOR WATER MAIN PROJECT 2014-W-5." The bidder shall provide two (2) additional copies of the Check list for Bid Submission and Form of the Contractor's Bid.

BIDDER SECURITY: Bidder security, when required, shall be enclosed in a special envelope marked, "BIDDER SECURITY / BID FOR WATER MAIN PROJECT 2014-W-5." The envelope shall contain only a cashier's check, certified check, or bidder's bond.

This special envelope shall be attached to a sealed envelope containing the bid and any other requested bid materials. This second envelope shall be marked "BID FOR WATER MAIN PROJECT 2014-W-5." Bids of an incomplete nature or subject to multiple interpretations may, at the option of the purchaser, be rejected as being irregular.

CHECKS OR BID BONDS: Checks or bid bonds of the unsuccessful bidders will be returned when their bids have been rejected and not to exceed sixty (60) days from the date bids are opened. All bids shall remain in force for this 60-day period. The check or bid bond of the successful bidder will be returned when the Contracts are signed by both parties and necessary bonds supplied. Should the Purchaser make an award to a Contractor who refuses to enter into Contract and furnish the required bonds within twenty (20) days after notification of acceptance, then the bid security which has been deposited with the Purchaser will be forfeited to the Purchaser as liquidated damages.

PERFORMANCE AND PAYMENT BONDS: A Performance Bond, when required, in an amount equal to one-hundred percent (100%) of the Contract Price, conditioned upon faithful performance of the Contract and payment of all people supplying labor and/or furnishing materials will be required coincident with the

execution of the Contract. According to Nebraska Law, the surety company executing the Performance Bond must be authorized to do business in the State of Nebraska.

A Payment Bond, when required, in an amount equal to one-hundred percent (100%) of the Contract Price for protection of all people supplying labor and materials to the Contractor or its subcontractors for the performance of the work provided for in the Contract will be required coincident with the execution of the Contract. In accordance with Nebraska Law, the surety company executing the Payment Bond must be authorized to do business in the State of Nebraska.

LOCAL CONDITIONS: Each bidder shall have an authorized representative visit the site of the work and thoroughly inform themselves of all conditions and factors which would affect the work and the cost thereof, including the arrangement and conditions of existing or proposed structures affecting or affected by the proposed work; the procedure necessary for maintenance of uninterrupted operation; the availability and cost of labor and facilities for transportation, handling, and storage of materials and equipment.

It must be understood and agreed that all such factors have been investigated and considered in the preparation of every bid submitted. No claims for financial adjustment (to any Contract awarded for the work under these specifications and documents) will be permitted by the City, which are based on lack of such prior information, or its effect on the cost of the work.

BASE BID: The bidder is expected to base their bid for furnishing and installing materials and items complying fully with these specifications; and in the event items listed in the bid materials or items which do not conform, the bidder will be responsible for furnishing materials and items which fully conform at no change in the bid price.

ALTERNATE BIDS: It is the desire of the Owner that the bidder base their bid price for this project on the written specifications and plans. If an alternate bid or bids are submitted by a bidder, it is desired that they first submit a bid price as above described and then describe an alternate bid. Failure to do so may be reason for not extending any consideration to alternate bids.

MODIFICATION OF BIDS: Bids may be modified or withdrawn by an appropriate document duly executed in the manner that a bid must be executed and delivered to the place where bids are to be submitted at any time prior to the final time set for receiving bids.

Bidders may modify or withdraw bids by fax communication at any time prior to the time set for receiving bids provided this instruction is positively identified. Any fax modification should not reveal the amended bid price but should provide only the addition, subtraction or other modifications. A duly-executed document confirming the fax modification shall be submitted within three (3) days after bids are opened.

ADDENDA: Any addendum to the specifications issued during the time allowed for preparation of bids shall be covered in the bid and, upon closing, shall become a part of the specifications. One copy of each addendum issued before the date of the letting will be sent to all bidders. One signed copy is to be returned immediately to the Purchasing Division of the Legal Department (or other Department if so designated in the addendum) as acknowledgment of receipt.

TAXES -- WATER MAIN: The Grand Island Utilities Department is a non-exempt body and, as such, is required to pay City Sales Tax (which at present is 1.5%) and State Sales Tax (which at present is 5.5%). Therefore, all applicable taxes shall be included in the unit price relative to the water main and shall be paid by the Contractor as part of the Contract price. The Contract price will be adjusted to compensate for any changes in taxes applicable or changes in tax rates which occur subsequent to the bid opening date and prior to completion of the Contract, in a manner equitable to both parties.

BID EVALUATION: Bids will be evaluated by the Purchaser based on price, quality, adherence to schedule, plan and specification, economy and efficiency of operation, experience and reputation of bidder, ability, capacity, and skill of the bidder to perform Contract required and adaptability of the particular items to the specific use intended. The Purchaser reserves the right to reject any or all bids and to waive irregularities therein and to accept whichever bid that may be in the best interest of the City, at its sole discretion.

INSURANCE COVERAGE: The Contractor shall purchase and maintain at their expense as a minimum insurance coverage of such types and in such amounts as are specified herein to protect Contractor and the interest of Owner and others from claims which may arise out of or result from Contractor's operations under the Contract Documents, whether such operations be by Contractor or by any subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. Failure of Contractor to maintain proper insurance coverage shall not relieve him of any contractual responsibility or obligation.

GRATUITIES AND KICKBACKS: City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefore. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

DRUG-FREE WORKPLACE POLICY: Bidders shall furnish upon request, a copy of their drug-free workplace policy.

FINANCIAL STATEMENT: The bidder shall furnish upon request a complete financial statement signed by the bidder, if an individual, by all partners if the bidder is a partnership and, by the President or Secretary, if the bidder is a corporation.

EQUAL EMPLOYMENT OPPORTUNITY: The Contractor agrees that during the performance of this Contract not to discriminate in hiring or any other employment practice on the basis of race, color, religion, sex, disability, age or national origin, and to comply with Executive Order 11,246 of September 24, 1965, and the rules, regulations and relevant orders of the Secretary of Labor, and Chapter 20 of the Reissue Revised Statutes of the State of Nebraska.

CORRESPONDENCE: Correspondence regarding drawings, instruction manuals, and other engineering data shall be clearly marked "WATER MAIN PROJECT 2014-W-5" and sent through:

Purchasing Division of the Legal Department
City of Grand Island
P. O. Box 1968
Grand Island, NE 68802-1968

Telephone (308) 385-5444, Ext. 138

REQUEST FOR INTERPRETATION: 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, they may submit to the Purchasing Division of the Legal Department 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 and/or delivered to each person receiving a set of such documents. The addenda, upon closing, shall become a part of the Contract. The

Purchasing Division of the Legal Department will not be responsible for any other explanation or interpretation of the proposed documents.

LOCAL BIDDER PREFERENCE: In case of tied low bids, all other things being equal, preference shall be given in the following order:

1. To those bidders who manufacture their products within the limits of the City of Grand Island.

2. To those bidders who manufacture their products within the limits of the County of Hall.

3. To those bidders who package, process, or through some other substantial operation have employees and facilities for these purposes in the City of Grand Island.

4. To those bidders who package, process, or through some other substantial operation have employees and facilities for these purposes in the County of Hall.

5. To those bidders who maintain a bona fide business office in the City of Grand Island, whose products may be made outside the confines of the City of Grand Island.

6. To those bidders who maintain a bona fide business office in the County of Hall, whose products may be made outside the confines of the County of Hall.

7. To those bidders whose commodities are manufactured, mined, produced, or grown within the state of Nebraska, and to all firms, corporations, or individuals doing business as Nebraska firms, corporations or individuals, when quality is equal or better, and delivered price is the same or less than the other bids received.

8. To those bidders whose commodities are manufactured, mined, produced, or grown within the United States of America, and to all firms, corporations, or individuals doing business as firms registered in states other than Nebraska, when quality is equal or better, and delivered price is the same or less than the other bids received.

PROJECT TIME FRAME: No work shall commence until the Certificate of Insurance and bonds (when required) are approved by the City, the Contract is executed, and a Notice to Proceed is issued. The Contractor shall coordinate with the City of Grand Island Utilities Department relative to scheduling work.

All work, including restoration, shall be completed by **September 12, 2014**, as listed in the Contract Agreement.

REQUESTS FOR PAYMENT: The City of Grand Island will make payments only after approval at regularly scheduled City Council meetings. These meetings typically occur the second and fourth Tuesday each month. Requests for payment must be received no less than ten (10) working days prior to the designated meeting to allow proper review and consideration.

TITLE VI: The City of Grand Island, in accordance with Title VI of Civil Rights Act of 1964, 78 Stat.252, 42 U.S.C 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office the Secretary, Part 21, Nondiscrimination in Federally assisted programs of the Department of Transportation issued pursuant to such Act, hereby notified all bidden that it will affirmatively insure that in any contact entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin, sex, age and disability/handicap in consideration for an award.

SECTION 504/ADA NOTICE TO THE PUBLIC: The City of Grand Island does not discriminate on the basis of disability in admission of its programs, services, or activities, in access to them, in treatment of

individuals with disabilities, or in any aspect of their operations. The City of Grand Island also does not discriminate on the basis of disability in its hiring or employment practices.

This notice is provided as required by Title II of the Americans with Disabilities Act on 1990 and Section 504 of the Rehabilitation Act of 1973. Questions, complaints, or requests for addition information or accommodation regarding the ADA and Section 504 may be forwarded to the designated ADA and Section 504 compliance coordinator.

Mary Lou Brown
(308) 385-5444, ex. 140
100 E. First Street
Grand Island, NE 68801
Monday – Friday: 8:00 am to 5:00 pm

FORM OF CONTRACTOR'S BID

CONTRACTOR'S BID

WATER MAIN PROJECT 2014-W-5

AIRPORT ROAD AND ACADEMY DRIVE
CITY OF GRAND ISLAND, NEBRASKA

TO THE MEMBERS OF THE COUNCIL
CITY OF GRAND ISLAND
GRAND ISLAND, NEBRASKA

THE UNDERSIGNED BIDDER, having examined the plans, specifications, general and special conditions, other proposed Contract documents, all addenda thereto and being acquainted with and fully understanding (a) the extent and character of the work covered by this bid, (b) the location, arrangement and specified requirements for the proposed work, (c) the location, character and condition of existing streets, roads, highways, railroads, pavements, surfacing, walks, driveways, curbs, gutters, trees, sewers, utilities, drainage courses and structures and other installations, both surface and underground, which may affect or be affected by the proposed work, (d) the nature and extent of the excavations to be made and the handling and rehandling requirements, including the possible constraints of dewatering due to ground water, (f) the difficulties and hazards to the work which might be caused by storm and flood water, delivery facilities, and (h) all other factors and conditions affecting or which may be affected by the work,

HEREBY PROPOSES to furnish all required materials, supplies, equipment, tools and plant, to perform all necessary labor and supervision, and to construct, install, erect, equip and complete all work stipulated in, required by and in accordance with the Contract documents and the plans, specifications and other documents referred to therein (as altered, amended or modified by all addenda thereto) for; and in consideration of the following unit prices. These prices shall be used to adjust the bid price in the event the specifications or plans and drawings are altered or changed by the City due to unforeseen conditions. The unit prices shall be used in conjunction with, GENERAL SPECIFICATIONS, Section 9.04, titled "Payment for Extra Work." These prices will be used as the established price for any additions or deductions to the contract work. Unit prices shall include all materials, supplies, equipment, labor, and taxes necessary to furnish and install the unit complete. **The contractor will be paid on the basis of actual quantity times unit price:**

****

ITEM
D.1 BID FOR WATER MAIN PROJECT 2014-W-5
(TOTAL SUM OF ITEMS D.1.01 THROUGH D.1.30)

_____ $ _____
(Words) (Figures)

ITEM	DESCRIPTION	QUANTITY ESTIMATE	UNIT PRICE $	TOTAL PRICE $
D.1.01	16" S.J. D.I. PIPE	1,111.7 LF	$ _____	$ _____
D.1.02	12" S.J. D.I. PIPE	2,520.5 LF	$ _____	$ _____
D.1.03	8" S.J. D.I. PIPE	319.8 LF	$ _____	$ _____
D.1.04	8 MIL. POLYWRAP	3,952.0 LF	$ _____	$ _____
D.1.05	16" X 12" M.J. TEE	1.0 EA	$ _____	$ _____
D.1.06	16"X 6" M.J. TEE	1.0 EA	$ _____	$ _____
D.1.07	16" BUTTERFLY VALVE	1.0 EA	$ _____	$ _____
D.1.08	16" SLEEVE COUPLING	2.0 EA	$ _____	$ _____
D.1.09	16" M.J. CAP W/2" TAP	1.0 EA	$ _____	$ _____
D.1.10	16" RETAINER GLAND	1.0 EA	$ _____	$ _____

D.1.11	16” BELL BLOCK	1.0 EA	$ _____	$ _____
D.1.12	12” X 8” M.J. REDUCER	2.0 EA	$ _____	$ _____
D.1.13	12” X 8” M.J. TEE	1.0 EA	$ _____	$ _____
D.1.14	12” X 6” M.J. TEE	4.0 EA	$ _____	$ _____
D.1.15	12” X 12” M.J. CROSS	1.0 EA	$ _____	$ _____
D.1.16	12” R.S. GATE VALVE	3.0 EA	$ _____	$ _____
D.1.17	8” R.S. GATE VALVE	1.0 EA	$ _____	$ _____
D.1.18	8” R.S. GATE TAPPING VALVE	2.0 EA	$ _____	$ _____
D.1.19	8” X 8” TAPPING SLEEVE	2.0 EA	$ _____	$ _____
D.1.20	8” X 90^{O} M.J. BEND	2.0 EA	$ _____	$ _____
D.1.21	8” X 45^{O} M.J. BEND	2.0 EA	$ _____	$ _____
D.1.22	VALVE BOX	8.0 EA	$ _____	$ _____
D.1.23	FIRE HYDRANT ASSEMBLY	5.0 EA	$ _____	$ _____
D.1.24	THRUST BLOCK	15.0 EA	$ _____	$ _____
D.1.25	REMOVE AND SALVAGE EXIST. 16” CAP	1.0 EA	$ _____	$ _____
D.1.26	REMOVE AND SALVAGE EXIST. HYDRANT AND VALVE	1.0 EA	$ _____	$ _____
D.1.27	REMOVE ASPH. /CONC. ROADWAY	141.3 S.Y.	$ _____	$ _____
D.1.28	REPLACE ASPH. /CONC. ROADWAY	141.3 S.Y.	$ _____	$ _____
D.1.29	SEEDING AND RESTORATION	3.7 AC.	$ _____	$ _____
D.1.30	TRAFFIC CONTROL	1.0 L.S.	$ _____	$ _____

Notes:

The fire hydrant assemblies shall include the Contractor furnishing and installing the following materials: 6” ductile-iron pipe as required; 6” x 90^{o} Ell (m.j.); 6” R.S. gate valve, valve box and thrust blocks. The fire hydrant shall be furnished by the City and installed by the Contractor. All work shall be as per City standard plans and specifications.

The Grand Island Utilities Department is a non-exempt body and, as such, is required to pay City sales tax (which at present is 1.5%) and State sales tax (which at present is 5.5%). Therefore, all sales taxes relative to the water main shall be paid by the Contractor as part of the Contract price. If bidder fails to include all applicable sales tax in their bid price, the City will add a 7.0 % figure to the bid price for evaluation purposes; however, the City will only pay actual sales tax due.

According to Nebraska Sales and Use Tax Requirements, Section 1-017, Contractors, check which option you have selected to file with the Nebraska Department of Revenue;

Option 1 (Section 1-017.05) _____
Option 2 (Section 1-017.06) _____
Option 3 (Section 1.017.07) _____

The choice of option is made by completing and mailing to the Department of Revenue, a Nebraska Sales and Use Tax Election for Contractors. This form must be filed within three months after beginning to operate as a Contractor. If this form is not filed, the Contractor will be treated as a retailer under Option 1 for sales and use tax purposes.

The bidder shall provide the following breakdown of the water main bid information for use by the Grand Island Finance Department:

Sub-total for Sales Tax: $ _____

Sub-total for Materials Cost: $ _____

Sub-total for Services Cost $ _____
(Labor and Incidental Services Rendered)

Total of above items must equal Item D.1 $ _____

EXCEPTIONS TO SPECIFICATIONS: Each bidder shall carefully check all requirements herein set forth and shall offer items which fully comply with these requirements or shall plainly set forth all points, features, conditions, specifications, etc., wherein the bidder's items offered do not meet these specifications. Such exceptions as are made shall be listed by page number in the following blanks and shall be marked in ink on the pages of these specifications. Exceptions shall be explained in detail in a letter accompanying the bid. Reference shall not be made to other attachments for exceptions and supplementary terms. Failure to outline such exceptions as specifically stated herein will require the successful bidder to comply with these specifications. In case of conflict between the bid and these specifications, these specifications shall govern unless specific exceptions are listed by the bidder.

Exceptions to specifications, pages: _____

_____

_____

EXPERIENCE DATA: Each bidder shall supply the following data on their experience:

Name of Bidder: _____

Project Owner/Contact/Phone No. Project Location Completion Date

_____

_____

_____

Additional Data: _____

_____

INSURANCE: Bidder acknowledges that bid includes compliance with the attached insurance requirements.

ADDENDA: Bidder acknowledges that Addenda Number(s) _____ were received and considered in bid preparation.

The undersigned bidder agrees to furnish the required bond and to enter into a contract within (20) days after acceptance of this bid, and further agrees to complete all work covered by the foregoing bid in accordance with specified requirements. **No work shall commence until the Certificate of Insurance and bonds (when required) are approved by the City, the contract is executed, and the Notice to Proceed is issued.**

Enclosed herewith is the required bid guarantee in the amount of

_____ Dollars (_____)

which the undersigned bidder agrees is to be forfeited to and become the property of the City of Grand Island, Nebraska, as liquidated damages should this bid be accepted and a contract be awarded to them and then fail to enter into a contract in the form prescribed and to furnish the required bond within 20 days, but otherwise the aforesaid bid guarantee will be returned upon signing the contract and delivering the approved bond.

It is understood and agreed that time is the essence of the contract.

In submitting this bid it is understood that the right is reserved by the City to reject any and all bids; to waive irregularities therein and to accept whichever bid that may be in the best interest of the City. It is understood that this bid may not be withdrawn until after sixty (60) days from bid opening.

In submitting this bid, the bidder states that bidder fully complies with, and will continue to comply with, applicable State fair labor standards as required by section 73-102 RRS, 1943 and also complies with, and will continue to comply with, section 48-657 RRS, 1943 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska.

The undersigned bidder hereby certifies (a) that this bid is genuine and is not made in the interest of or in the behalf of any undisclosed person, firm or corporation, and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation, (b) that bidder has not directly or indirectly induced or solicited any person, firm or corporation to refrain from bidding, (c) that bidder has not sought, by collusion or otherwise, to obtain for themselves an advantage over any other bidder or over the City of Grand Island, and (d) that bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid.

DATED _____

SIGNATURE OF BIDDER:

If an Individual: _____ doing business

as _____

If a Partnership _____

by _____, member of firm.

If a Corporation: _____

by _____ (Seal)

Title _____

BUSINESS ADDRESS OF BIDDER _____

_____

TELEPHONE NUMBER OF BIDDER _____

FAX NUMBER OF BIDDER _____

INSURANCE REQUIREMENTS

MINIMUM INSURANCE REQUIREMENTS

WATER MAIN PROJECT 2014-W-5
AIRPORT ROAD AND ACADEMY DRIVE

CITY OF GRAND ISLAND, NEBRASKA

You are urged to include in your bid compliance with the City's minimum insurance requirements; however, any non-compliance must be detailed in the Exceptions Section of the bid. Compliance with the specified owner's and Contractor's Protection coverage is mandatory.

The Bidder shall take out, throughout the duration of the Contract, insurance of such types and in such amounts as may be necessary to protect himself and the interests of the City against all hazards or risks of loss as hereinafter specified. This insurance shall cover all aspects of the Bidder's operations to the fullest extent possible and provide no exclusions relative to any aspect of the work being performed for the City. The form and limits of such insurance, together with the underwriter thereof in each case, shall be approved by the City but regardless of such approval, it shall be the responsibility of the Bidder to maintain adequate insurance coverage at all times. Failure of the Bidder to maintain adequate coverage shall not relieve him of any contractual responsibility or obligation.

1. **WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY**

   This insurance shall protect the Bidder against all claims under applicable State worker's compensation laws. The Bidder 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. This policy shall include an "all states" endorsement. The liability limits shall not be less than the following:

Workers' Compensation	Statutory
Employer's Liability	$100,000 each person
	$100,000 per disease
	$500,000 policy limit

2. **BUSINESS AUTOMOBILE LIABILITY**

   This insurance shall be written in comprehensive form and shall protect the Bidder against all claims for injuries to members of the public and damage to property of others arising out of any act or omission of the Bidder, their agents, employees or subcontractors. The liability limits shall be not less than the following:

Bodily Injury & Property Damage	$ 500,000 combined single limit each

3. **COMPREHENSIVE GENERAL LIABILITY**

   This insurance shall protect the Bidder against claims in excess of the limits provided under employer's liability, comprehensive automobile liability, and commercial general liability policies. The umbrella policy shall follow the form of the primary insurance, including the application of the primary limits. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$ 500,000 each occurrence
	$1,000,000 aggregate

4. OWNER'S PROTECTIVE LIABILITY AND PROPERTY DAMAGE

The Bidder shall purchase and maintain owner's protective liability and property damage insurance issued in the name of the City, which shall protect the latter against any and all claims which might arise as a result of the operations of the Bidder or their subcontractors or the City and its agents and employees in fulfilling this Contract during the life of the Contract. The minimum amounts and coverage of such insurance shall be the same as required for comprehensive general liability.

5. UMBRELLA LIABILITY INSURANCE

This insurance shall protect the Bidder against claims in excess of the limits provided under workers' compensation and employer's liability, comprehensive automobile liability, and commercial general liability policies. The umbrella policy shall follow the form of the primary insurance, including the application of the primary limits. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$1,000,000 each occurrence $1,000,000 general aggregate

6. ADDITIONAL REQUIREMENTS

The City may require insurance covering a Bidder or subcontractor in character and more or less than the standard requirements set forth herein depending upon the character and extent of the work to be performed by such Bidder or subcontractor.

Insurance as herein required shall be maintained in force until the City releases the Bidder of all obligations under the Contract.

The Bidder shall provide and carry any additional insurance as may be required by special provisions of these specifications.

7. 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 show the City as "Additionally Insured" for all coverage's except Workers' Compensation. The certificate shall state that thirty (30) days written notice shall be given to the City before any policy covered thereby is changed or canceled (strike the "endeavor to" wording often shown on certificate forms)**. If the bidder cannot have the "endeavor to" language stricken, the bidder may elect to provide a new certificate of insurance every 30 days during the contract. Bidder shall immediately notify the City if there is any reduction of coverage because or revised limits or claims paid which affect the aggregate of any policy.

CONTRACT AGREEMENT

CONTRACT AGREEMENT

WATER MAIN PROJECT 2014-W-5
AIRPORT ROAD AND ACADEMY DRIVE
FOR
CITY OF GRAND ISLAND, NEBRASKA

THIS AGREEMENT made and entered into, by and between

_____

hereinafter called the Contractor, and the City of Grand Island, Nebraska, hereinafter called the City.

WITNESSETH:

THAT, WHEREAS, in accordance with law, the City has caused contract documents to be prepared and an advertisement calling for bids to be published, for construction of

_____; and

WHEREAS, the City, in the manner prescribed by law, has publicly opened, examined, and canvassed the bids submitted, and has determined the aforesaid Contractor to be the lowest responsive bidder, and has duly awarded to the said Contractor a contract therefore, for the sum or sums named in the Contractor's bid, a copy thereof being attached to and made a part of this contract;

NOW, THEREFORE, in consideration of the compensation to be paid to the Contractor and of the mutual agreements herein contained, the parties have agreed and hereby agree, the City for itself and its successors, and the Contractor for itself, himself, or themselves, and its, his, or their successors, as follows:

ARTICLE I. That the Contractor shall (a) furnish all tools, equipment, superintendence, transportation, and other construction materials, services and facilities; (b) furnish, as agent for the City, all materials, supplies and equipment specified and required to be incorporated in and form a permanent part of the completed work; (c) provide and perform all necessary labor; and (d) in a good substantial and workmanlike manner and in accordance with the requirements, stipulations, provisions, and conditions of the contract documents as listed in the attached General Specifications, said documents forming the contract and being as fully a part thereof as if repeated verbatim herein, perform, execute, construct and complete all work included in and covered by the City's official award of this contract to the said Contractor, such award being based on the acceptance by the City of the Contractor's bid;

ARTICLE II. That the City shall pay to the Contractor for the performance of the **water main work** embraced in this Contract and the Contractor will accept as full compensation therefore the sum (subject to adjustment as provided by the Contract) of

_____ Dollars ($_____), for all taxes covered by and included in the Contract; and

_____ Dollars ($_____), for all materials covered by and included in the Contract; and

_____ Dollars ($_____), for all services covered by and included in the Contract; for total amount of

_____ Dollars ($_____), for all work covered by and included in the Contract award and designated in the foregoing Article I; payments thereof to be made in cash or its equivalent in the manner provided in the General Specifications.

ARTICLE III. It is understood and agreed that time is the essence of the Contract. No work shall commence until the Certificate of Insurance and bonds (when required) are approved by the City, the Contract is executed, the erosion control plan has been submitted, and a Notice to Proceed is issued. The Contractor shall coordinate with the City of Grand Island relative to scheduling work. All work, including restoration, shall be completed by **September 12, 2014.**

ARTICLE IV. The Contractor agrees to comply with all applicable State fair labor standards in the execution of this contract as required by Section 73-102, R.R.S. 1943. The Contractor further agrees to comply with the provisions of Section 48-657, R.R.S. 1943, pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. During the performance of this contract, the contractor and all subcontractors agree not to discriminate in hiring or any other employment practice on the basis of race, color, religion, sex, national origin, age or disability. The Contractor agrees to comply with all applicable local, State and Federal rules and regulations. The Contractor agrees to maintain a drug-free workplace and to provide a copy of its policy to the City upon request.

IN WITNESS WHEREOF, the parties hereto have executed this Contract Agreement.

Contractor _____

By _____ Date _____

Title _____

CITY OF GRAND ISLAND, NEBRASKA,

By _____ Date _____
Mayor

Attest: _____ Date _____
City Clerk

The contract and bond are in due form according to law and are hereby approved.

_____ Date _____
Attorney for the City

DIVISION 1-A
SPECIAL PROVISIONS

WATER MAIN PROJECT 2014-W-5

DIVISION IA – SPECIAL PROVISIONS

WATER MAIN PROJECT 2014-W-5
AIRPORT ROAD AND ACADEMY DRIVE

CITY OF GRAND ISLAND, NEBRASKA

SECTION 100 – GENERAL

100.01 Description of Work. The work to be performed under the provisions of these Contract documents includes, but is not limited to: furnishing all materials, equipment, labor, and appurtenances involved with the complete installation of Water Main Project 2014-W-5, FOB the City of Grand Island.

The project is generally described as being located on the southerly side of the Central Nebraska Regional Airport property. The work will install a 16" diameter ductile-iron water main and related appurtenances connected therewith along Airport Road between Academy Drive and Sky Park Road; and a 12" dia. main along Academy Drive between Airport Road and Twin Star Lane.

Refer to the plans for exact location and alignment.

100.02 Time Frame. No work shall commence until the Certificate of Insurance and bonds (when required) are approved by the City, the Contract is executed, and a Notice to Proceed is issued. The Contractor shall coordinate with the City of Grand Island relative to scheduling work. **All work, including restoration, shall be completed by September 12, 2014 as stated in the Contract Agreement.**

100.03 Specifications and Standard Plan Drawings. All Divisions of the City of Grand Island Specifications and Standard Plan Drawings shall be considered a part of this Contract, whether or not attached into these specifications, and it shall be the Contractor's responsibility to comply with all requirements thereof.

No attempt has been made in these specifications to segregate work to be performed by any trade or subcontractor. Any segregation between the trades or crafts will be solely a matter for agreement between the Contractor and their employees or their subcontractors. The specifications as a whole will govern construction of the entire work. The applicable provisions whereof will govern work to be performed under each section.

100.04 Pre-Construction Conference. As soon as practical after the Contract is awarded, a pre-construction conference shall be scheduled with the Contractor. The purpose of the conference is to discuss: the project plans and specifications; any unusual conditions; erosion controls; the Contractor's plan and schedule of operation; materials; maintenance of traffic and access; permits; and other items that will result in a complete job.

At the pre-construction conference, the Contractor shall be required to submit for review by the Utilities Department:

- A written construction schedule. A minimum of ten (10) days in advance of commencing work on any section, the Contractor shall use the schedule to notify the affected property management of the impending activities. If the Contractor desires to make modifications to the schedule, or the schedule fails to reflect actual progress, a revised schedule shall be submitted to the Utilities Department ten (10) days prior to the revised operations;

- A list of Contractor's key personnel, including any subcontractors, and a list of their qualifications, experience, and cell phone contact numbers;

- Material manufacturer's standard data sheets;

- Notice of Intent (NOI) with all required form work to NDEQ;

- An environmental protection plan, including a Storm Water Pollution Prevention Plan (SWPPP);

- Construction Safety Plan for activities on the Central Nebraska Regional Airport property;

- An emergency procedure plan, including a list of the appropriate governmental agencies to be notified; and

- A work zone traffic control (WZTC) plan.

100.04.1 Submittals. Submittals shall be provided by the Contractor, when required by the plans and special provisions, or when requested by the City. The Contractor shall be responsible for the correctness of the submittal and shall allow a minimum of ten (10) working days for review of submittals unless otherwise specified. No materials shall be furnished, nor any work started, before the required submittals have been reviewed and accepted by the Utilities Department, and the *Notice To Proceed* issued.

100.05 Sufficient People and Equipment. It is the intent of these specifications that the Contractor has sufficient people and equipment on the job site capable of completing the job as specified by the date specified. The Contractor must demonstrate this capability to the satisfaction of the Utilities Department. If at any time during the performance of the work, the Contractor's progress on any phase of the work shall fall behind that necessary to enable the Contractor to complete it in accordance with the date or calendar days set out in the bid, the Contractor, at no extra expense to the City, shall take such action as necessary to meet those completion dates including, but not limited to, working additional or longer shifts and employing more labor and equipment and/or to increase the efficiency of, improve the character of, augment the number of, or

to substitute new tools, plant or equipment of the Contractor as the case might be so as to secure the quality of work required.

100.06 Relations with Other Contractors. The Contractor shall cooperate with other contractors and City crews performing work in the vicinity of this Contract; and shall conduct their operations to minimize interference with the work of such contractors.

Any difference or conflict, which may arise between the Contractor and other contractors or crews, shall be resolved as determined by the City. If the work is delayed because of any acts or omissions of any other contractor, the Contractor shall have no claim against the City.

100.07 Protection of Property and Utility Lines. All property and structures shall be protected unless their removal is shown on the Contract drawings or authorized by the City.

Existing utility installations (such as water mains, gas mains, sewers, communication lines and cables, power lines, fiber optic cables, and buried structures) in the vicinity of the work are to be checked by the Contractor. The Contractor shall be solely responsible for locating all existing utility installations.

The Contractor shall proceed with caution in the excavation and preparation of the trench so that the exact location of all such utilities, both known and unknown may be determined, and the Contractor shall be held responsible for the repair of such utilities when broken or otherwise damaged. All such utilities shall be accurately located, including hand excavating by the Contractor as required, as incidental to the Contract and performed prior to machine excavation in the vicinity.

Any delay, additional work, or extra cost to the Contractor caused by existing installations shall not constitute a claim for extra work, additional payment or damages.

100.07.1 Power Lines. There are existing high voltage power lines in the work area for this Contract. The Contractor shall use extreme caution such that personal safety is not jeopardized and electric continuity is maintained and such lines are protected from damage.

Any time the Contractor, sub-contractors, or their employees, are working near overhead or underground power lines, they will be required to comply with the Grand Island Utilities Department's *Recloser Policy*. The policy statement and inspection form are attached in the Appendix.

100.08 Emergency Response. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs for their employees in order to respond rapidly and successfully to an emergency situation. The Contractor's personnel must know the steps that need to be followed before, during, and after they occur. This includes the roles and responsibilities of the different responding agencies,

the location and availability of response resources, the process for conducting the response, and other actions as necessary.

If a hazardous situation is detected, the Contractor shall notify the appropriate police, fire, and/or other first response team as necessary to mitigate the hazard.

100.08.1 Local Contact Phone Numbers:

EMERGENCY 911

CENTRAL NEBRASKA REGIONAL AIRPORT:

Hall County Airport Authority (HCAA) ..... Office 308-385-5170
Office Hours: Monday through Friday 8 a.m. to 5 p.m.

Mike Olson, Executive Director ..... Office 308-385-5170

Doug Brown, Operations Manager ..... Office 308-385-5172

Air Traffic Control Tower ..... Office 308-384-3500

FAA Support Center G.I. ..... Office 308-382-2524

GRAND ISLAND UTILITIES DEPARTMENT:
Office Hours: Monday through Friday 8 a.m. to 5 p.m.

Bob Smith, Asst. Utilities Director ..... Office ..... 308-385-5444 ex. 288

Tom Barnes, Eng. Manager-Utilities ..... Office 308-385-5463
Cell Phone 308-390-5202

Tom Zeckser, Sr. Eng. Tech.–Utilities ..... Cell Phone 308-390-0568

City Water Department ..... Office 308-385-5436

Phelps Control Center ..... Office 308-385-5460

Any injuries or accidents will be reported to the Hall County Airport Authority office and the City of Grand Island immediately. The Contractor shall document such incidents and provide a written report to the Utilities' Project Inspector.

The Hall County Airport Authority and The City of Grand Island require a list of phone numbers from all contractors and subcontractors, including night contact phone numbers.

100.09 Construction Safety Plan. Construction activities within the areas of an airport have the potential to significantly compromise safety. Careful planning and implementation measures will greatly minimize the impact of construction activities on normal airport operations.

The required Safety Plan for the project shall be specific to the project and airport. Safe construction activities at the airport include but are not limited to: sequencing, closures, hazard identification, security and airfield communication. These requirements are conveyed to the airport operator by a "Safety Plan".

100.09.1 Operational Safety on Airport during Construction. All Contractors' operations shall be conducted in accordance with the project's Safety Plan. The Safety Plan shall convey minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a plan that details how it proposes to comply with the requirements presented within the Safety Plan.

Contractors may not proceed with commencing any work activities until the Safety Plan has been submitted and approved. The Contractor shall conduct routine checks to assure compliance with the Safety Plan.

The Contractor is responsible for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the Safety Plan and that they implement and maintain all necessary measures.

No separate payment will be made for preparing and executing the proper Construction Safety Plan.

100.09.2 Maintenance of Traffic. It is the intention of the Contract that safety is a prime consideration. The Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies and communication services thereto) used in the guidance of aircraft while operating to, from, and upon the airport.

With respect to his/her own operations and the operations of all his/her subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying: personnel; equipment; vehicles; storage areas; and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport.

The contractor shall provide the means for safe vehicular traffic on existing roads, streets, or highway during the Contractor's performance of work. The Contractor shall keep such roads, streets, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall furnish erect, and maintain barricades, warning signs, flag person, and other traffic control devices in conformity with the manual of Manual of Uniform Traffic Control Devices.

100.09.3 Storage of Materials. The Contractor shall coordinate the storage of all materials with the Airport Authority. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. The storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the Airport Authority. The Contractor shall make all arrangements and bear all expenses for the storage of materials.

All storage sites on airport property shall be restored to their original condition by the Contractor at his/her entire expense.

100.10 Property Corners. It shall be the Contractor's responsibility to protect existing property corners and government surveying monuments. If property corners are disturbed or destroyed during construction, it shall be the Contractor's obligation to employ a licensed land surveyor to replace those damaged or destroyed corners. No extra or additional payment will be made for restoration of property corners.

SECTION 200 -- TRAFFIC AND ACCESS

200.01 Personal Protective Equipment. During all phases of the project, all personnel working within the construction limits shall be suitably dressed to perform their duties safely and in such a manner that will not interfere with their vision, hearing, and use of hands and feet. As a minimum, all workers shall be required to wear:

- Hard hats that meet the American National Standard Institute (ANSI) Z89.1-latest revision.

- High-visibility and reflective personal protective safety clothing. Such clothing shall be suitable during both daytime and nighttime usage, and meet the performance Class 2 or Class 3 requirements if ANSI/ISEA 107-2004 publication entitled "American National Standards for High-Visibility Safety Apparel and Headwear".

200.02 Work Site Protection. The Contractor shall be responsible for furnishing and maintaining all necessary safety equipment (such as temporary fences, barricades barriers, signs, warning light and guards) and to provide adequate protection of persons property, supplies, materials, and equipment. All excavations shall be properly enclosed and protected.

Good housekeeping is essential, and shall be practiced throughout the construction period. The Contractor and their employees shall maintain a clean and safe work site free from trash and debris. They shall use due care in placing construction tools, equipment, materials and supplies so as to cause the least possible damage to the property. Pedestrian and vehicular traffic shall be protected from work activities, equipment, and material stockpiles.

Following completion of the project, all materials, trash, and debris shall be removed by the Contractor.

200.02.1 Barricades and Warning Signs. The Contractor shall be responsible for all barricades, warning signs, flares or flashing lights adjacent to all work areas and/or coordination of any required detours. Placement and use of reflectorized materials, etc. shall be according to the Manual of Uniform Traffic Control Devices (MUTCD) and all revisions thereto published under the direction of the Federal Highway Administration.

In situations where sight distance is limited, or where other safety conditions dictate, the Contractor shall provide additional means of controlling traffic, including but not limited to furnishing flaggers. Flaggers shall be properly attired with vest, head gear and stop/slow paddles, and used according to MUTCD flagging procedures. No separate payment shall be made for the use of flaggers and they shall be considered inclusive for traffic control.

200.03 Temporary Traffic Control. Part VI of the Manual of Uniform Traffic Control Devices (MUTCD) is the national standard for work zone traffic control (WZTC). Any crews, contractors, utility companies, or any other person, firm or corporation performing work, shall install and maintain temporary traffic control (TTC) in accordance with the current version adopted by the City of Grand Island.

The Contractor shall prepare and submit for review a detailed WZTC Plan. The Director of Public Works or representative shall have the authority to direct corrective actions to the Plan not in compliance with the MUTCD and these provisions. Approval of permits to occupy public right-of-way may be contingent upon evidence of capability to provide, install, and maintain traffic control devices in accordance with the MUTCD and these provisions.

The individual responsible for installing and maintaining the TTC shall provide telephone numbers of personnel who will be available 24 hours per day, seven days per week. These individuals shall be responsible for repair, correction, replacement, and maintenance of the traffic control devices. These individuals shall perform inspections of the TTC at the site a minimum of twice during the day and once during the night every day until the work is completed and the right-of-way is cleared.

No separate payment will be made for preparing the proper WZTC Plan. It shall be included with the lump sum price for traffic control.

SECTION 300 – WATERWORKS INSTALLATION

300.01 Baselines, Benchmarks, and Control Points. All water main work shall be laid out from existing section corners, benchmarks, and control points established by the Utilities Department. The Contractor shall be responsible for executing the work to the lines and grades established. It shall be the Contractor's responsibility to maintain and preserve all baselines and control points. If such marks are destroyed by the Contractor

without authorization by the Utilities Department, all such lines, points, monuments and stakes shall be re-established by the Utilities Department, and the expense charged to the Contractor.

300.02 Limits of Construction. The Contractor shall confine all work activities to the immediate area of the project. Failure to restrict construction activities to the project limits may result in damage to private property and / or personal injury.

Any property damage done by the Contractor beyond these limits shall be immediately repaired at the Contractor's expense.

300.03 Staging Area. The Contractor will be restricted to a specified area on CNRA property for material storage and staging of construction activities for the duration of this project. When not in use, all construction material, equipment, etc. shall be stored in this area.

All supplies, materials and/or equipment shall be properly protected and enclosed by fences or barricades and not limit nor interfere with access and safety.

Upon completion of the project, the Contractor shall restore the area to equal or better than original condition. No separate payment shall be made for maintaining and/or restoring the stage area, but shall be considered incidental to the project.

300.03.1 Temporary Site Fencing. The construction site and staging areas shall be enclosed with temporary fencing. This temporary site fencing material, as a minimum, shall be a commercial grade heavy-duty plastic mesh design, and highly visible orange in color. The fence shall be a minimum of four (4) feet in height with a smooth top and bottom for safety and aesthetic appeal. The fence shall be installed plumb for the entire length, strung taut between posts, and properly maintained during the entire project.

300.04 Water Main Pipe Cover. The following section shall be used in addition to Division VI – Water Mains, Section 32.01. It is intended that all water main pipe, fittings, service lines, and appurtenances shall be installed to the alignment and grade shown on plans. The elevation of the piping may vary depending upon existing obstructions and proposed improvements encountered during the construction. Any deviations shall have the prior written approval of the Utilities Department. Where additional depth is required to clear encountered or proposed grade interference, the additional excavation and backfill shall be incidental to the project and not a claim for extra work.

300.05 Water Main Gaskets. All pipe and fitting gaskets shall be vulcanized styrene butadiene rubber (SBR) and shall conform to the "American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings," ANSI/AWWA C111/A21.11 and subsequent revisions. All necessary gaskets and gasket lubricants shall be the type recommended and supplied by the pipe manufacturer.

300.06 Location of City Supplied Materials. All fire hydrants will be supplied by the City. Materials will be available to the Contractor for pick up at the Water Department warehouse located at East North Front Street and Sycamore Street. The Contractor shall notify the Water Department (308-385-5436) at least twenty-four (24) hours in advance to make arrangements for material pick up.

300.07 Fire Hydrant Testing. During such times when fire hydrants have been installed, yet not accepted and approved for use, they shall be bagged and covered – except during testing, indicating they are not in service. Hydrant bags shall be made of a minimum 4 mil. polypropylene material, orange in color, printed with the words "Not in Service" and supplied with tie-down straps. Bags shall be furnished by the City and installed and maintained by the Contractor.

300.08 Soils investigation. Soil samples were obtained from locations within the project area by Geotechnical Services, Inc. on November 7, 2013. Although there was some variability in the subsurface conditions, a general soil profile was developed. Groundwater observations were made during drilling and after completion of the borings to evaluate groundwater conditions. Groundwater was not encountered in the test borings. The absence of groundwater during the exploration program should not, however, be construed to represent an absolute or permanent condition. For details, see attached boring logs in Appendix.

The Contractor is responsible for designing any excavation slopes or temporary shoring. The design should comply with all federal, Nebraska and local regulations, including OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926.

300.09 Water System Shut-Down. When specific activities are deemed that a section of the existing water main needs to be isolated and shut-down, the Contractor shall notify the Grand Island Water Department (308-385-5436) a minimum of seventy two (72) hours in advance through the Utilities' Inspector. All related work to accomplish the shut-down shall be scheduled and coordinated with the City's Water Department.

300.10 Polyethylene Encasement. This section shall be used in conjunction with City of Grand Island Specification Division VI – Water Mains, Section 34 – Polyethylene Encasement; and Standard Plan 155. The Contractor shall furnish complete all materials and field apply polyethylene encasement to all ductile-iron carrier pipe, fittings, valves, and other appurtenances associated with the piping system.

SECTION 302- EXCAVATION AND RESTORATION

302.01 Excavations. All excavations should be sloped back, shored, or shielded for protection of workers. The Contractor is responsible for designing any excavation slopes or temporary shoring. The design should comply with all federal, Nebraska and local regulations, including OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926

302.01.1 Excavation of Poor Soils. Where wet, soft, or frozen materials; asphalt, concrete or bricks; cinders, ashes, refuse, trash, organic material or other deleterious excavated substances are encountered, the material shall be rejected, hauled away, and disposed of by the Contractor. All such excavated materials shall be removed from the job site and disposed of properly. If the material is disposed of on private property, prior written permission shall be obtained from the owner of the property, and a copy submitted to the City's designated representative. All materials must be removed in a timely manner.

The Contractor shall over excavate the unsuitable material and remove it to a minimum depth of one (1) foot below the plan sub-grade. The over excavated volume shall be replaced with clean compacted sand, free from clay and organics, to re-establish the sub-grade.

302.02 Backfill in Poor Soils. The following section shall be used in addition to Division VI – Water Mains, Section 32.13. Where additional bedding and backfill materials are required to replace poor soils, clean sand, free from clay and organics, shall be compacted around and under the pipe. Backfill materials shall be deposited in the trench for its full width on each side of the pipe fittings and appurtenances simultaneously.

From the top of the pipe, to a depth of twelve (12) inches above the top of the pipe, the trench shall be backfilled and compacted. Special care shall be used in placing this portion of backfill so as to avoid disturbing the pipe. The remainder of the trench shall be backfilled and compacted per Section 36.13 and Section 36.13.1.

302.03 Basis of Payment. When authorized by the Utilities Department, removal and replacement of unsuitable excavated and backfill materials shall be measured and added to the established quantities as an Extra Work item, in conjunction with General Specifications, Section 9.04, titled "Payment for Extra Work."

302.04 Restoration - Non-Hard Surfaces. All non-hard surfaced and turf areas disturbed by excavation, backfill, and construction operations shall be fine graded and hand dressed as required to restore the terrain to its original shape. The Contractor shall leave the area in such a manner as to allow drainage without ponding, free of debris, and shall protect from erosion. All methods shall comply with these Special Provisions.

302.05 Restoration - Roadway and Driveways. Hard surfaced pavement restoration for roadways and driveways, whether concrete, asphalt, or concrete with an asphalt overlay, shall be replaced to full depth with materials matching the type, thickness, and grade of the existing adjacent surfacing.

All concrete pavement restoration shall conform to Division II – Portland Cement Concrete Pavement as indicated within the City of Grand Island's standard

specifications. All asphaltic pavement shall conform to Division IV – Asphaltic Concrete Surface Course as stated within the City of Grand Island's standard specifications.

When it becomes necessary to close a portion of a street during the execution of this work, the Contractor shall notify the Hall County Airport Authority at least seventy two (72) hours in advance.

302.05.1 Cold Weather Concreting. When average daily temperatures are below 40°F (4.5°C) for more than three consecutive days, the Contractor shall use approved practices and procedures that will assure that placed concrete will be sufficiently strong and durable to fully meet design requirements. The use of insulating coverings, accelerating admixtures, high-early strength cement, or additional cement may be used to develop the level of strength required. All such methods shall fully conform to the American Concrete Institute's "Recommended Practice for Cold Weather Concreting."

There shall be no additional payment if such cold weather techniques are required.

SECTION 400 -- DEWATERING

400.01 General. When required, this section will be used in conjunction with Division VI, Section 36, Dewatering. It shall be the Contractor's responsibility for devising and operating a construction dewatering system.

400.02 Discharge Permit. The City of Grand Island has a Construction Dewatering Permit from the State of Nebraska Department of Environmental Control. A copy of permit number NEG671000 is contained in the Appendix.

400.03 Discharge Water. All dewatering discharge water shall be conveyed to locations as previously approved by the City. It will be the Contractor's responsibility to make driveway and street crossings in such a manner as to not interfere with normal use. The Contractor will not be allowed to utilize the street pavement gutter line for open conveyance of discharge water.

SECTION 500 – TEMPORARY EROSION CONTROL

500.01 Phase II Construction Requirements. When required, the Contractor shall fully comply with all Phase II Construction Requirements.

Phase II of the storm water program applies to all construction activities disturbing one or more acres of land, or if the site is less than one acre but part of a larger common plan of development (such as a large subdivision). These sites must obtain an NPDES permit before any earthmoving activities begin. The NDEQ may require construction sites disturbing less than one acre of land to obtain a storm water discharge permit if such activities would adversely affect water quality.

In order to comply with Phase II of the storm water program, Contractor must review all requirements contained in the NDEQ construction permit. The steps below are a brief outline of what must be done as part of the permitting process. These steps are not inclusive and the NDEQ construction permit must be referenced and followed for full compliance:

Determine which parties are considered "operators" responsible for complying with the Phase II requirements.

Complete and submit a Notice of Intent (NOI) with all required form work to NDEQ before construction activities that will cause land disturbance begin.

Develop a Storm Water Pollution Prevention Plan (SWPPP) prior to the start of construction. The SWPPP does not need to be submitted to NDEQ, but must be kept on the construction site and accessible to everyone during construction activities.

Implement the SWPPP, including completion of inspection report, which must be kept on site.

Complete final stabilization of the site.

Complete and submit a Notice of Termination (NOT) to the NDEQ.

The SWPPP must include the following:

Site description identifying potential sources of pollution that may affect the quality of storm water discharges.

Appropriate best management practices (BMP), including erosion, sediment, and storm water management controls to minimize the discharge of pollutants from the site to the maximum extents practical.

Description of steps taken to prevent and control pollutants in storm water discharge from the site, including inspection of all disturbed areas and maintenance of all controls to ensure their effective operation.

The Contractor is responsible for the SWPPP implementation.

A more detailed SWPPP development guide can be found at the EPA website. After the land disturbing activities are complete and the site has achieved final stabilization, the operator should terminate coverage under the permit by completing a Notice of Termination (NOT) form and submitting it to NDEQ.

For more information on how to comply with the storm water program regulations, see the NDEQ website or the EPA's fact sheet "Storm Water Management for Construction

Activities". More information about NPDES storm water permits and assistance on filling out required paperwork can be obtained by contacting NDEQ.

Per NPDES General Permit Number NER110000 for Storm Water Discharges from Construction Sites to Waters of the State of Nebraska, all applicants shall concurrently submit a copy of NPDES form CSW-NOI to the municipal through which they discharge.

500.02 Best Management Practices (BMPs). The Contractor shall implement and maintain such BMPs as relevant to conduct the operations and maintain the work so that adequate drainage and erosion control are in place at all times. Techniques will be employed for wind erosion control, sediment control, non-storm water control, and waste management and materials pollution; including preventing petroleum products, chemicals, harmful materials, construction debris, and excessive suspended solids from entering waterways.

The Contractor shall submit to the City for acceptance, specific plans for accomplishing temporary erosion control. No work shall start until the erosion control plan is accepted by the City. A plan that contains only general statements indicating that erosion control will be accomplished "according to accepted standards" is not acceptable.

This work shall be subsidiary to other work for which payment is made. There shall be no separate payment for preparing the erosion control plan.

500.03 Drainage and Erosion Controls. The Contractor shall be responsible for evaluating the construction site and determining the need to prevent soil erosion and avoid water pollution, including but not limited to, taking temporary measures and/or installing permanent erosion control structures such as sediment traps, silt fence, ditch checks, etc. Such features shall be incorporated into the project at the earliest practicable time and shall be properly maintained by the Contractor.

The Contractor shall exercise every reasonable precaution throughout the project to provide adequate drainage and erosion controls on the project site and adjacent properties. Construction of drainage facilities, as well as performance of other Contract work which will contribute to the control of siltation, shall be carried out in conjunction with other project operations, or as soon thereafter as is practicable.

All erosion resulting from the Contractor's operations and the elements must be corrected by the Contractor at no additional cost to the City. The Contractor shall conduct all construction activities so as to avoid soil erosion. Each day, areas shall be protected so that storm runoff will not erode soil.

SECTION 600 -- SALVAGING AND REPLACEMENT OF TOPSOIL

600.01 General. This work shall consist of salvaging topsoil from areas requiring excavations, and replacing the topsoil after construction. Topsoil shall consist of friable

surface soil up to one (1) foot in depth, reasonably free of grass, roots, weeds, sticks, stones, and other foreign materials.

600.02 Salvage and Stockpile. After the site has been cleared and grubbed, the topsoil shall be removed to the depth of one (1) foot from the designated areas and shall be stockpiled. Objectionable materials encountered during excavation shall be removed from the construction site. Additional materials required to re-establish grade shall be supplied by the Contractor.

600.03 Spreading. Spreading shall not be done when the ground or topsoil is frozen, excessively wet or otherwise in the condition detrimental to the work. Surfaces designated to be covered shall be lightly scarified just prior to the spreading operation. Where compacted fills are designated to be covered by topsoil, the topsoil shall be placed concurrently with the fill and shall be bonded to the compacted fill with the compacting equipment.

After placement is completed, the surface of the topsoil shall be restored to the grade prior to construction.

SECTION 700 -- SEEDING

700.01 General. This work shall consist of furnishing and placing seed and mulch along road right-of-way, excavations, fills, embankments, or other designated grassed areas disturbed by the Contractor, or as otherwise directed by the City.

Seeding operations shall be performed only during the periods April 1 to May 31 and August 1 to November 30.

700.02 Fertilizer. Fertilizers shall not be applied.

700.03 Seedbed. The seedbed shall be prepared with a three (3) inch surface layer that will be loose enough to allow satisfactory penetration of the mulch-anchoring machine. Discing, harrowing, and raking shall be longitudinal on all slopes.

700.04 Seeding. The grass mixture to be furnished will be uniformly drilled on all areas accessible to machinery. On areas not accessible to machinery, the seed may be uniformly broadcast, and will be covered by use of a harrow.

The grass drill used to drill the seed will be of such construction that it can handle light fluffy seeds, will have double disc furrow openers spaced not more than ten (10) inches apart, and be equipped with depth bands to allow placement of the seed from 1/2" to 1" deep (Nisbet drill or equivalent). Land roller type of seeding equipment is not acceptable.

The seed shall comply with the following requirements and applied at the rates shown:

Seed Type	Min. Purity	Approved Drill, Broadcast or Hydraulic Mechanical Seeder, Application Rate
K-31 Fescue	85%	20.0 lbs., pure live seeds per acre
Western Wheatgrass – Barton	85%	8.0 lbs., pure live seeds per acre
Blue Gama -- NE, KS, CO.	35%	2.0 lbs., pure live seeds per acre
Buffalograsses — Sharp's App'd	85%	2.0 lbs., pure live seeds per acre
Upright Prairiecone Flower	85%	0.4 lbs., pure live seeds per acre
Common Oat	85%	10.0 lbs., pure live seeds per acre

All seed shall be Nebraska origin, adjoining states, or as specified. The Contractor shall submit to the City a certification tag which shows the variety, origin, and analysis of the seed. Work shall not be performed when the ground is frozen, wet, or otherwise untillable or when even distribution of materials cannot be obtained.

Seeding operations shall be completed by the dates specified within the Contract, except by written permission of the City.

700.05 Mulching. Area to be mulched will be the same as seeded listed above. This work shall consist of providing, placing, and crimping mulch on areas shown in the plans, or as otherwise identified by the City.

700.06 Material Requirements. Native hay will be used as mulching materials. Hays of the following species or a mixture of species is preferred: Big Bluestem, Little Bluestem, Indiangrass, Prairie Cordgrass, Western Wheatgrass, Sideoats Grama, or Switchgrass. Minor amount of other species that occur in the native prairie will be acceptable.

- Brome hay is not allowed.
- The mulch shall be certified as "Noxious Weed Free" by the "County Weed Control Authority" or other authorized agents.
- The certification or a copy shall accompany each load of mulch.

Hay in a stage of decomposition so advanced as to "powder" in the mulch blower shall be rejected. The Contractor shall notify the City as to where the propose to obtain the hay

700.07 Construction Methods. The Contractor shall apply the mulch within 24-hours after planting the seed. The mulch shall be applied uniformly over tilled areas with a mulch-blowing machine. Hay shall be applied at the rate of 2-tons per acre. The mulch shall be applied loose enough to allow sunlight to penetrate and air to slowly circulate, but thick enough to partially shade the ground, reduce water evaporation, and reduce wind and water erosion. Immediately after applying the mulch, the Contractor shall

anchor it to the soil using a mulch crimper with approximately six (6) inch cleats or other approved equipment with perpendicular, dull, disc blades.

All mulch shall be crimped the same day it is applied.

The crimper shall be narrow enough or hinged to uniformly crimp the mulch into the shoulder area. More than one crimping may be necessary in the shoulder area if directed by the City.

700.08 Watering. The Contractor will be responsible for watering seeded areas a minimum of once daily for a period of fourteen (14) days following the initial seeding operation.

700.09 Establishment, Acceptance, and Guarantee Period. Thirty (30) days after completion of seeding operations, the Utilities Department representative will inspect the seeded area(s) for determination of establishment and acceptability.

The Contractor will be notified in writing when their establishment responsibilities have been accepted.

The guarantee period for seeded areas shall begin at the date of acceptance. The Contractor shall guarantee all material to be in healthy and flourishing condition for a period of thirty (30) days from date of acceptance.

In areas of deficiencies, a list of locations will be provided to the Contractor for reseeding. The Contractor shall reseed such areas at their own cost as soon as weather conditions permit, with materials of the same species that have been planted.

Reseeded areas shall be subject to all requirements and specifications stated herein. The guarantee for reseeding shall be extend for a period of thirty (30) days from date of their acceptance.

CITY OF GRAND ISLAND

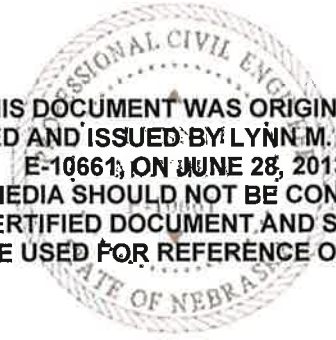
DIVISION VI

WATER MAINS

City of Grand Island, NE

DIVISION VI

WATER MAINS



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DIVISION VI
WATER MAINS

CONTENTS

REFERENCES AND DEFINITIONS

ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society For Testing Materials
AWS	American Welding Society
AWWA	American Water Works Association
DIPRA	Ductile Iron Pipe Research Association
EPA	Environmental Protection Agency
NDEQ	Nebraska Department of Environmental Quality
DW-NOI	Dewatering Notice of Intent
NPDES	National Pollution Discharge Elimination System
mg/L	Milligrams per Liter
psi	Pounds per Square Inch
UNS	Unified Numbering System
UHMW	Ultra High Molecular Weight

DIVISION VI
WATER MAINS

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DIVISION VI
WATER MAINS

This division is written so that ordinarily the type of construction described is complete, but, where applicable, other divisions are considered a part of this specification.

SECTION 30 - SCOPE OF WORK

The work covered by this division 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 31 - MATERIALS

31.00 Materials. Materials shall comply with the requirements of the United States of America Safe Drinking Water Act, other federal regulations for potable water systems, and these specifications as applicable. All materials shall be new and unused, and shall conform to the following specifications.

31.01 Ductile Iron Pipe. All pipe shall be ductile iron and shall conform to the AWWA Standard, *DUCTILE-IRON PIPE, CENTRIFUGALLY CAST*, ANSI/AWWA C151/A21.51 and subsequent revisions; and the T*HICKNESS DESIGN OF DUCTILE-IRON PIPE*, ANSI/AWWA C150/A21.50 and subsequent revisions or as otherwise shown on the plans.

All pipe shall have a nominal length of not less than eighteen (18) feet and be designed for a working pressure of 350 psi with a standard pipe thickness in accordance with Pressure Class 350.

Mechanical joint pipe, pipe sockets flanges, packing glands, gaskets, and bolts shall conform to the AWWA Standard, *DUCTILE-IRON PRESSURE PIPE AND FITTINGS,* ANSI/AWWA C111/A21.11 and subsequent revisions, and supplied with ductile iron glands as per ASTM A536.

Boltless gasketed joint pipe with the exception of jointing facilities shall conform to the AWWA Standard, *RUBBER-GASKET JOINTS FOR DUCTILE-IRON PRESSURE PIPE AND FITTINGS*, ANSI/AWWA C111/A21.11 and subsequent revisions. Pipe bells shall be grooved or otherwise recessed for gasket sealing and anchorage with reasonably close clearance between pipe bell and adjacent spigot surfaces. The design of the joint shall be such that a deflection of up to three degrees is allowable. All necessary gaskets and gasket lubricants shall be the type recommended and supplied by the pipe manufacturer.

Boltless gasketed joints shall be sealed with a continuous ring gasket manufactured for the use and service and shall seal the joint tight under all operating conditions, including water hammer and pipe movements due to expansion, contraction, and normal settlement. The physical properties and design of the gasket shall be such that they will remain in proper position in the pipe joints under maximum internal pressure and joint deflection conditions. The composition and physical properties of the gaskets shall be submitted to and approved by the Engineer prior to delivery and installation.

31.02 Fittings. All pipe fittings three (3) inches to twenty-four (24) inches shall be Pressure Class 350 and all pipe fittings thirty (30) inches to forty-eight (48) inches shall be Pressure Class 250. All fittings shall be ductile iron, mechanical joint, and shall conform to the AWWA Standard, *DUCTILE-IRON AND GRAY-IRON FITTINGS*, ANSI/AWWA C110/A21.10 and subsequent revisions.

Compact ductile-iron, mechanical joint fittings, three (3) inch through twenty-four (24) inch shall conform to the AWWA Standard, *DUCTILE-IRON COMPACT FITTINGS*, ANSI/AWWA C153/A21.53 and subsequent revisions, and designed for a working pressure of 350 psi.

All joint sockets, socket flanges, packing glands, gaskets, and bolts shall conform to the AWWA Standard, *RUBBER-GASKET JOINTS FOR DUCTILE-IRON PRESSURE PIPE AND FITTINGS,* ANSI/AWWA C111/A21.11 and subsequent revisions. Mechanical and push-on joints shall have the same pressure rating as the pipe or fitting of which they are a part. All fittings shall be supplied with ductile iron glands as per ASTM A536 and all required connecting bolts, nuts, glands, gaskets, and accessories.

Unless otherwise specified all bolt holes shall straddle the vertical centerline of all mechanical joint flanges, fittings, valves, and hydrants. (The vertical centerline of a fitting is determined when the fitting is in the position to change the direction of the fluid flowing in a horizontal plane.)

31.03 Coatings and Linings. The interior surfaces of all pipe and fittings shall be cement mortar lined in accordance with ASTM C150 and shall conform to the AWWA Standard, *CEMENT-MORTAR LINING FOR DUCTILE-IRON PIPE AND FITTINGS FOR WATER,* ANSI/AWWA C104/A21.4 and subsequent revisions. All cement mortar lining shall be coated with asphaltic seal coat in conformity with the referenced standard specifications.

The exterior of all pipe fittings and interior surface of bells not cement mortar lined, shall be coated with a bituminous pipe coating of a type acceptable to the Engineer. The coating shall dry to a smooth, glossy surface, shall not be brittle when cold or sticky when exposed to the sun, and shall adhere to the pipe at all temperatures. Coating shall be free from blisters and holidays. Coatings and linings shall conform to all subsequent revisions of the cited specifications.

31.04 Gate Valves. All valves up to and including twelve (12") inch shall be ductile-iron or cast-iron body, resilient wedge gate valves, and shall conform to the AWWA Standard, *RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE*, ANSI/AWWA C509 and subsequent revisions. Valves shall have mechanical joint ends, 2" square operating nut for key operation and "0" ring type stem seals. All valves shall open counterclockwise and be of the non-rising stem type. The valve sealing mechanism shall be a wedge design of ductile-iron or cast-iron, completely encapsulated with a molded resilient covering permanently boned to the iron wedge to meet ASTM D429 testing. The sealing mechanism shall be designed to provide zero leakage at a minimum of 200 psi operating pressure, with flow in either direction. All valves shall have a full unobstructed waterway, coated with a corrosion resistant material free of cavities or projections conforming to the AWWA Standard, *PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES AND HYDRANTS,* ANSI/AWWA C550 and subsequent revisions. All valves shall be furnished with all required connecting bolts, nuts, glands, gaskets, and accessories.

Unless otherwise specified, all bolt holes shall straddle the vertical centerline of all mechanical joint flanges, fittings, valves, and hydrants. (The vertical centerline of a fitting is determined when the fitting is in the position to change the direction of the fluid flowing in a horizontal plane.)

Valves shall be manufactured by American®, Clow Valve Co.®, Kennedy Valve®, or Mueller Co.®.

31.05 Butterfly Valves. All valves, fourteen (14") and larger, shall be rubber seated butterfly valves and shall conform to the AWWA Standard, *RUBBER-SEATED BUTTERFLY VALVES 3" In THROUGH 72 In,* ANSI/AWWA C504 and subsequent revisions, with heavy duty cast iron or ductile-iron bodies. The valves shall be designed for a working pressure of 150 psi. Each valve shall have mechanical joint ends, a suitable heavy reliable operator with more than adequate strength for the torque involved, and a 2" square operating nut for key operation. The operators and shafts shall be fully grease-packed and sealed for life and shall be suitable for direct burial. Valves shall be furnished with standard AWWA nuts and stainless steel shafts or high tensile carbon steel. All valves shall be furnished with all required connecting bolts, nuts, glands, gaskets, and accessories and open counterclockwise.

Valves shall be Henry Pratt® Groundhog butterfly valves or Mueller® Lineseal III butterfly valves.

31.06 Tapping Sleeves and Tapping Valves. All tapping sleeves shall be either ductile-iron body, mechanical joint, or 304 stainless steel body, full circumferential seal with carbon steel flange or ductile iron flange. All tapping sleeves shall be furnished with all required connecting bolts, nuts, glands, gaskets, and accessories.

Ductile iron body tapping sleeves shall be: American® Series 2800-C tapping sleeve; Kennedy Valve® tapping sleeve, or Mueller Co.® H-615 tapping sleeve.

Stainless steel body tapping sleeves shall be: Ford Meter Box Co.® "Fast" with carbon steel flange; Romac Industries, Inc® "SST" with ductile flange; or Mueller Co.® "H-304" with carbon steel or ductile flange.

All tapping valves shall conform to the AWWA Standard, *RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE*, ANSI/AWWA C509 and subsequent revisions. Valves shall have a 2" square operating nut for key operation and "0" ring type stem seals. All valves shall open counterclockwise and be of the non-rising stem type. The valve sealing mechanism shall be a wedge design of ductile-iron or cast-iron, completely encapsulated with a molded resilient covering permanently boned to the iron wedge to meet ASTM D429 testing. The sealing mechanism shall be designed to provide zero leakage at a minimum of 200 psi operating pressure, with flow in either direction. All valves shall have a full unobstructed waterway, coated with a corrosion resistant material free of cavities or projections conforming to the AWWA Standard, *PROTECTIVE INTERIOR COATINGS FOR VALVES AND HYDRANTS,* ANSI/AWWA C550 and subsequent revisions.

Unless otherwise specified, all bolt holes shall straddle the vertical centerline of all mechanical joint flanges, fittings, valves, and hydrants. (The vertical centerline of a fitting is determined when the fitting is in the position to change the direction of the fluid flowing in a horizontal plane.)

Tapping valves shall be: American® Series 2500 tapping valve; Kennedy Valve® tapping valve, or Mueller Co.® T-2360 tapping valve.

31.07 Water Main Valve Boxes. All buried valves installed in lines larger than 2" dia., shall be provided with cast iron, "Buffalo" type, valve boxes. Valve boxes shall have a two-piece screw-type extension sleeve and be intended for the size of valve on which it is to be used and for the depth of cover as required. The box's lid shall have the word "WATER" cast thereon. Valve boxes shall be "Tyler/Union – series 6850", size 664-S, or approved equal.

Valve box extensions shall be cast iron, screw-type, "Tyler/Union – item #69 for series 6850 boxes or approved equal.

31.08 Valve Stems. Valve stems shall turn counterclockwise to open the valves.

31.09 Sleeve Couplings. Sleeve couplings shall conform to the AWWA Standard, *BOLTED, SLEEVE-TYPE COUPLINGS FOR PLAIN-END PIPE,* ANSI/AWWA C219 and subsequent revisions, and have an inside diameter suitable for connecting ductile iron pipe to ductile iron pipe or cast iron pipe to cast iron pipe. The center sleeve shall be ductile iron ASTM A-536, grade 65-45-12. Ends shall have a smooth inside taper for uniform gasket seating. End rings shall be ductile iron ASTM A-536, grade 65-45-12. Couplings shall be furnished complete with gaskets, bolts, and nuts conforming to the AWWA Standard, RUBBER-GASKET JOINTS FOR DUCTILE-IRON PRESSURE PIPE AND FITTINGS, ANSI/AWWA C111/A21.11 and subsequent revisions, and without pipe stops. All materials shall be designed for 150 psi working pressure with the resulting seal flexible and bottle-tight.

Sleeve couplings shall be Romac Industries, Inc® 501 or approved equal. The center sleeve shall have a minimum of a seven (7") inch wide body.

31.10 Fire Hydrants. Fire hydrants shall conform to the AWWA Standard, *DRY-BARREL FIRE HYDRANTS,* ANSI/AWWA C502 and subsequent revisions. Hydrants shall be manufactured with "O" ring packing, 5-1/4" valve opening, 6" stand pipe, 6" mechanical joint inlet, two 2-1/2" hose connections (nozzle) with 3-1/16" OD and 7-1/2 threads per inch NST and one 4-1/2" pumper connection (nozzle) with 5-3/4" OD and 4 threads per inch NST. Hydrants shall have a 1-1/2" pentagonal operating and nozzle cap nuts which open left or counterclockwise.

Fire hydrants shall be furnished with all the required connecting bolts, nuts, glands, and gaskets. Unless otherwise specified, all bolt holes shall straddle the vertical centerline of all mechanical joint flanges, fittings, valves, and hydrants. (The vertical centerline of a fitting is determined when the fitting is in the position to change the direction of the fluid flowing in a horizontal plane).

Fire hydrants shall be painted as per City requirements with an industrial enamel exterior grade paint. Public fire hydrants shall be painted to have yellow barrels with red caps and bonnet; private fire hydrants shall be painted solid red. Colors shall be Guardsman Yellow #760-4004-00 and Red #760-7008-00, or Sherwin Williams Yellow #F77Y9 and Red #77R7, or Glidden Yellow #4540 and Red #4520.

Hydrants shall be: American-Darling B-62-B-5 hydrant with five and a half foot bury; or Kennedy Guardian K-81D hydrant with five foot bury; or Mueller Centurion A-423 3-way hydrant with five foot bury.

31.11 Structural Concrete. All concrete shall be type 47-B (modified) air-entrained as specified in City of Grand Island Specifications, Division II, "PORTLAND CEMENT CONCRETE PAVEMENT".

When average daily temperatures are below 40°F (4.5°C) for more than three consecutive days, the Contractor shall uses approved practices and procedures that will assure that placed concrete will be sufficiently strong and durable to fully meet design requirements. The use of insulating coverings, accelerating admixtures, high-early strength cement, or additional cement may be used to develop the level of strength required. All such methods shall fully conform to the American Concrete Institute's Recommended Practice for Cold Weather Concreting. There shall be no additional payment if such cold weather techniques are required.

31.12 "No-Lead Brass" Fittings and Valves. This specification shall apply to any waterworks brass goods, such as corporation stops, curb stops, coupling, connectors, nipples, etc. All such goods shall comply with the United States Of America Safe Drinking Water Act, and the U.S. Environmental Protection Agency.

The brass part of any fitting or valve in contact with potable water shall be made of a "No-Lead Brass", and shall conform to UNS Copper Alloy No. C89520 or C89833 in accordance with the chemical and mechanical requirements of ASTM B584 and AWWA Standard, UNDERGROUND SERVICE LINE VALVES AND FITTINGS, ANSI/AWWA C800 with a maximum lead content of 0.25% by weight.

All brass fittings and valves shall have the manufacturers name or trademark permanently stamped or cast on it. Additional marking such as "NL", "EBII", "FD" or other commonly accepted identifier, indicating the alloy as "No-lead" shall also be cast or stamped into the fitting or valve.

31.13 Corporation Stop. All corporation stops 1", 1-1/2", or 2" in size, shall be Ford Meter Box Co.® FB1000-NL ball valve; A.Y.McDonald Co.® 74701B-22 ball valve; or Mueller Co.® 300-N ball valve.

31.14 Curb Stop. All curb stops 1", 1-1/2", or 2" in size, shall be Ford Meter Box Co.® B44-NL ball valve; A.Y.McDonald Co ® 76100-22 ball valve; or Mueller Co. ® 300-N ball valve.

31.15 Water Service Valve Box. Curb stops in service lines 2" dia. or smaller, shall be provided with cast iron, two-piece screw-type, size 94-E valve boxes. The box's lid shall have the word "WATER" cast thereon and supplied with a standard pentagon head brass screw.

An enlarged base shall be used with a complete service box for all 1-1/2" and 2" curb stops.

Service boxes shall be "Tyler/Union – 6500 series" or approved equal.

31.16 Copper Pipe. All water service lines 1", 1-1/2", or 2" in size, shall be flexible Type "K" soft copper pipe.

31.17 Service Saddle. All service saddles shall conform to the AWWA Standard, *UNDERGROUND SERVICE LINE VALVES AND FITTINGS,* ANSI/AWWA C800 and subsequent revisions, and as additionally specified herein.

The saddle body shall be, high strength ductile-iron per ASTM A536, hot dipped zinc galvanized or enamel coated, with outlet tapped for CC taper threads, and a steel double strap design for use on cast iron or ductile-iron pipe. A service saddle shall be required for 1-1/2" and larger service taps on all mains regardless of thickness class.

All service saddles shall be Ford Meter Box Co.® F202; Mueller Co.® DR2A; Romac Industries, Inc® 202NS; or approved equal.

31.18 Not Used

31.19 Not Used

31.20 Restrained Couplings and Glands. With prior approval from the Utilities Department, mechanical joint restraint couplings and glands may be used on fittings, valves, and pipe to reduce the installation of concrete thrust blocks; however, thrust blocks will be required where indicated on plans.

31.20.1 Retainer Glands. All retainer glands shall be ductile iron conforming to ASTM A536 and designed for a working pressure rating of 350 psi. Glands shall have a wedge style design and torque limiting bolts to fully restrain the fitting and pipe together.

Retainer glands shall be "EBAA Iron, Inc. – Megalug series 1100", "Romac Industries, Inc. – RomaGrip", "Star Pipe Products – series 3000", or approved equal.

31.20.2 Anchor Couplings. Anchoring couplings shall be a ductile iron fitting, which provides a restrained connection without the use of braces or blocking and designed to prevent the joint form separating under pressure when all bolts are in place. It shall have a pressure rating of 350 psi; be equipped with freely moving, 360° rotatable couplings conforming to ASTM A536; and manufactured to fit standard mechanical joint connections.

31.20.3 Ultra-Compact MJ Restraint. The connector shall be an ultra-compact, bolt-through mechanical joint restraint, for 4", 6", and 8" valves and fittings, manufactured of ductile iron, cement-lined inside, asphalt-coated for corrosion protection, and conform to AWWA Standards, ANSI/AWWA C153/A21.53 and ANSI/AWWA C104/A21.4 and have a working pressure rating of 350 psi.

The bolt-through, positive restraint device shall connect valves and fittings at a linear distance not to exceed one (1) inch and without attachment to the pipe; (the device shall not be used directly on fire hydrant shoes).

Connector shall be furnished complete with all gaskets and bolts, and be "Infact Corporation, Foster Adaptor" or approved equal.

31.20.4 Hydrant Offset Adapter. Offset adapters shall be manufactured of ductile iron, cement-lined inside and asphalt-coated for corrosion protection, and conform to AWWA Standards: ANSI/AWWA C153/A21.53 and ANSI/AWWA C104/A21.4 and have a pressure rating of 350 psi. The adapter shall provide a restrained joint and alignment adjustment in a single fitting, allowing fire hydrants to be set to grade without extension kits. Adapters shall come complete with all gaskets, bolts, and rotatable split-retainer glands.

Hydrant offset adapters shall be "Assured Flow Sales, Inc. – Gradelok" or approved equal.

SECTION 32 – CONSTRUCTION METHODS

32.00 Project Supervision. The general contractor shall be required at all times during construction activities to have a designated Project Supervisor at the work site.

The *Project Supervisor* shall be experienced in all aspects of the project and will be responsible for on-site, day-to-day management of the project.

The Project Supervisor shall have:

- Practical written and verbal communication skills of the English language.
- Ability to read, understand, and accurately interpret the contract documents, plans, specifications, and survey stakes prepared for the project.
- Skilled knowledge of construction techniques.
- Ability to supervise the entire construction crew, including sub-contractors.
- The experience and ability to identify existing and predictable hazards in the surroundings or working conditions, and the authority to take prompt corrective measure to resolve problems and / or eliminate them.
- A set of contract documents, plans and specifications at the work site.

If the Contractor's *Project Supervisor* is not at the work site, the Contractor's office shall notify the City and all construction activities shall cease until such time as a qualified replacement arrives on site. No claims for financial adjustment due to inadequate project supervision shall be permitted by the City.

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

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 installation.

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. Materials 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 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 (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 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.

32.02 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.

32.03 Tunneling. Tunneling, when necessary, shall be done under the supervision of the Engineer. Refer to Section 35 – UNDERCROSSING.

32.04 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. Wheel cutters shall be used when practicable.

32.05 Installation. Pipe and accessories shall be handled in such manner as to insure delivery to the work in a sound, undamaged condition.

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 Engineer.

Mechanical joints shall be installed under the provisions of the recommendations of the joint manufacturer. Fittings at bends or deadends shall be firmly blocked against the vertical face of the trench to prevent fittings from being blown of 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.

32.06 Manholes. Manholes shall be constructed as indicated on Standard Plan Drawings, No. 136-A, 136-B, or as otherwise shown on the plans. Floors of the manholes shall be earth. Manholes over three feet in depth shall be equipped with cast iron steps placed on approximately sixteen (16) inch centers.

32.07 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 a minimum of 24 hours in advance as to when and for how long service will be interrupted and also to notify all water users well in advance so 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.

32.07.1 Connection to City Mains. Newly installed piping shall not be connected to existing City mains until acceptance of the pressure and leakage tests, unless otherwise noted on the plans. Test plugs, corporations, connecting sleeves, and temporary piping to a water source, shall be furnished and installed by the Contractor.

32.07.2 Line Stoppers. When necessary to isolating sections of water lines for maintenance, repairs, lowering, or for other reasons when service interruptions in an existing main are not allowed, line-stoppers shall be used to eliminate system shut-down.

Line-stoppers shall be defined as a complete modular system of equipment specifically designed for plugging water lines in order to temporarily stop the flow of water as may be required for repair, replacement, and / or relocation of water main components. The flow control device shall be inserted at normal water main pressure.

Line-stoppers, inserted into mains twenty inch (20") dia. or smaller, shall be furnished and installed by the Grand Island Water Department. The actual material expense and labor costs associated with the use of such line-stoppers shall be charged to the Contractor.

In water lines larger than twenty inch (20") dia., the Contractor shall make arrangements for line-stoppers to be furnished and installed by a firm specializing in their use, with extensive experience in their equipment's operation. Prior to installation, all devices shall be thoroughly checked, cleaned, and sanitized by the Contractor. The City's Water Department shall inspect all equipment and issue final approval before installation of line-stoppers.

The Contractor shall be responsible for all excavations and properly maintaining trench banks, sheeting, and bracing as required. Trenches shall be of sufficient width to provide proper working space. After the work is completed, the Contractor shall backfill the trench with suitable compacted materials as specified.

32.08 Valve Boxes. Valves and valve boxes shall be installed in the lines as shown on the drawings and as directed by the Engineer. They shall be set plumb and centered with valve boxes placed directly over the valves. Earth fill shall be carefully tamped around all valve boxes. Valve boxes shall have the interiors cleaned of all foreign matter before installation.

32.09 Pressure and Leakage Test. The Contractor shall furnish all labor, pumps, pipe connections, line plugs, adapters, caps, and all other necessary apparatus, except gauges, for performing hydrostatic pressure and leakage tests in accordance with AWWA Standard, *INSTALLATION OF DUCTILE-IRON WATER MAINS AND THEIR APPURTENANCES,* ANSI/AWWA C600, except as otherwise specified. The City will furnish calibrated gauges for the tests and a source of water.

After the pipe has been laid, all new potable water systems, 2" dia. and larger, and each valved section thereof, shall be subjected to a hydrostatic pressure of at least one and one half (1-1/2) times the working pressure (100 PSI minimum) at the point of testing.

Each valved section of pipe shall be slowly filled with water, and the specified test pressure shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Engineer. Valves shall not be operated in either the opening or closing direction at differential pressures above the rated pressure. When hydrants are in the test section, the pressure test shall be made against closed hydrant valves.

Before applying the specified test pressure, air shall be expelled completely from the pipe, valves, and hydrants. If permanent air vents are not located at all high points, corporation cocks shall be installed at such points so the air can be expelled as the line is filled with water. After all the air has been expelled, the corporation cocks shall be closed, and the test pressure applied. At the conclusion of the pressure test, the corporation cocks shall be removed and plugged by the Contractor.

When the specified pressure has been reached, the valve between the pump and the pipeline shall be closed, and the pump shall be disconnected and removed. The test pressure shall remain for a minimum of two (2) hours. If the pressure varies more than two pounds per square inch plus or minus (2 PSI+/-) during the duration of the test, it shall be extended for twenty-four (24) hours to satisfy those concerned that the decrease in the pressure is not due to thermal-volume changes of the water in the line. At the end of the twenty-four (24) hour period, the pressure shall be brought back up to the specified pressure and observed for two (2) hours.

During the pressure test, any exposed pipe, fittings, valves, hydrants, and joints shall be examined carefully. Any damaged or defective pipe, fittings, valves, hydrants, or joints that are discovered shall be repaired or replaced with sound material, and the test shall be repeated until it is satisfactory to the Owner.

After the pressure testing has been successfully completed, a hydrostatic test shall be conducted for a minimum of two (2) hours. The test shall be conducted at the specified pressure and shall be maintained by adding makeup water during the test period.

The amount of makeup water added shall be accurately measured and shall not exceed the following allowance per length of pipeline determined by the following formula:

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

Where L = Testing allowance (Makeup water), in gallons per hour.
S = Length of pipe tested, in feet.
D = Nominal diameter of the pipe, in inches.
P = Average test pressure during the leakage test, in pounds per square inch, (gauge)

If the pipeline under test contains sections of various diameters, the testing allowance shall be the sum of the allowance for each size.

Testing allowance shall be defined as the maximum quantity of makeup water that is added into the pipeline, or valved section thereof, in order to maintain pressure within +/-5 psi of the specified test pressure. If any test of laid pipe discloses leakage greater that than specified, the Contractor shall, at his own expense, locate and make approved repairs as necessary until the leakage is within the specified allowance.

All visible leaks are to be repaired regardless of the amount of leakage.

32.10 Sterilization, Flushing and Sampling of Lines. All new potable water systems, 2" dia. and larger, and each valved section thereof, shall be disinfected before they are placed in service. All water mains taken out of service for inspecting, repairing, or other activity that might lead to contamination of water shall be disinfected before they are returned to service. The Contractor shall furnish all labor, pumps, pipe connections, additional line plugs, adapters, caps, and all other necessary apparatus and materials. All work shall conform to the AWWA Standard, *DISINFECTING WATER MAINS*, ANSI/AWWA C651 and subsequent revisions, except as otherwise specified.

Precautions shall be taken to protect the interiors of pipes, fittings, and valves against contamination. All materials delivered for construction shall be stored so as to minimize entrance of foreign material. All openings in the pipeline shall be closed with water tight plugs when pipe laying is stopped at the close of the day's work or for other reasons, such as rest breaks or meal periods.

Immediately prior to installing any pipe or fittings, the Contractor shall swab the interior of the pipe or fittings with a minimum 2% hypochlorite disinfecting solution. During the installation of any pipe or fittings, the Contractor shall place calcium hypochlorite granules in each section of pipe, each hydrant, hydrant branch, and other appurtenance. The quantity of granules to be placed shall be at a minimum concentration of one (1) ounce per one hundred (100) cubic feet of pipe volume.

After acceptance of the pressure and leakage test, the main shall be filled with water at a rate such that water within the main will flow at a velocity no greater than one (1) foot per second. Precautions shall be taken to assure that air pockets are eliminated. When all air has been eliminated, the main shall be flushed to remove particulates. The flushing velocity in the main shall not be less than two and five tenths (2.5) feet per second, unless the City determines that conditions do not permit the required flow to be discharged to waste. The main isolation valve shall not be operated for flushing or rechlorination until a downstream hydrant is opened. During such operations, the main isolation valve shall only be operated by Utility Department personnel.

After the initial flushing operation, the main shall be disinfected by chlorination. Chlorination will commence at a point not more than ten feet (10') downstream from the beginning of the new main. Water from an approved supply source, shall be made to flow at a constant and measured rate into the newly laid water main, and shall receive a dose of chlorine, fed at a constant rate such that the water will have not less than one-hundred (100) mg/L free chlorine. The chlorine shall be applied to the water main by injecting a hypochlorite solution by means of a chemical-feed pump designed for feeding chlorine
solutions.

Feed lines shall be of such material and strength as to safely withstand the corrosion caused by the concentrated chlorine solutions and the maximum pressures that may be created by the pumps. All connections shall be checked for tightness before the solution is applied to the main. During the application of chlorine, valves shall be positioned so the strong chlorine solution in the main being treated will not flow into water mains in active service. Chlorine application shall not cease until the entire main is filled with heavily chlorinated water.

The chlorinated water shall be retained in the main for at least twenty-four (24) hours, during which time all valves and hydrants in the treated section shall be operated to ensure disinfection of the appurtenances. At the end of this twenty-four (24) hour period, the treated water in all portions of the main shall have a residual of not less than twenty-five (25) mg/L free chlorine. After the applicable retention period, the heavily chlorinated water shall be flushed from the main until chlorine measurements show that the concentration in the water leaving the main is no higher than five-tenths (0.5) mg/L or as prevailing in the system.

The Contractor shall provide a means of disposing of the water and sterilizer so as to prevent damage to the environment during flushing operations. If there is any question that the chlorinated discharge will cause damage to the environment, then the Contractor shall supply a reducing agent to the water to be wasted to neutralize thoroughly the chlorine residual remaining in the water. Where necessary, Federal, State and local regulatory agencies shall be contacted to determine special provisions for the disposal of heavily chlorinated water.

After final flushing and before new water main is connected to the main system, two consecutive sets of acceptable samples, taken at least twenty-four (24) hours apart, shall be collected from the new main. At least one set of samples shall be collected from every 1,200 feet of the new water main, plus one set from the end of the line, and one set from each branch.

Samples will have 0 coliform bacteria and less than 250 heterotrophic plate count (HPC) to pass. Following successful sampling and testing of the line, the Contractor shall remove all testing apparatus and plug the main at the point of injection of the disinfectant and flushing discharge.

Samples for bacteriological analysis shall be collected in sterile bottles treated with sodium thiosulfate as required by "Standard Methods for the Examination of Water and Wastewater." No hose or fire hydrant shall be used in collection of samples. Sample tubing and devices shall be clean and disinfected with isopropyl rubbing alcohol or a 2% chlorine solution, and flushed prior to sampling. Sterilization by flame is not permitted. The Utility Department shall collect the final certification samples of record to check for complete disinfection. If the initial disinfection fails to produce satisfactory bacteriological samples, the main shall be rechlorinated in accordance with this section until satisfactory results are obtained.

The Contractor shall have the opportunity to perform the actual chlorination using the Contractor's own personnel and equipment. The Contractor shall notifying the Utility Director in writing at least 48 hours in advance of any work to disinfect the main. If the Contractor's personnel or equipment do not demonstrate the capabilities or methodology to properly disinfect the newly installed main after performing the chlorination procedures two times, the Contractor shall, upon written notification from the Utility Department, immediately suspend all such work. The disinfection will then be performed by the City and the expense charged to the Contractor.

The rate for each rechlorination application will be $0.25 per linear feet of pipeline, but not less than a minimum charge of $100.00. The City will furnish personnel, pumps, and chemicals for the actual chlorination. All temporary discharge hoses, piping, excavations, sample taps and corporations, other personnel or equipment, necessary for doing the work will remain the contractor's responsibility.

32.11 Tapping of Water Mains. The Contractor shall furnish the necessary tapping valve, tapping sleeve, and/or specials, and do all work necessary to make the connection to the water main without interruption of service on the tapped line. The actual tapping of the main will be performed by City personnel and the expense charged to the Contractor.

32.12 Separation from Sanitary Sewer and / or Storm Sewer Lines (Sewers).

There shall be a minimum of eighteen (18) inches vertical clearance between water lines crossing either above or below sewers. Distances shall be measured from outside of water line to outside of sewer lines. At crossings, one full length of pipe shall be centered at the crossing, such that all pipe end joints will be as far apart as possible.

For situations where water lines are parallel to sewer lines, water lines shall be installed at least ten (10) feet horizontally from any existing or proposed sewer line. Distances shall be measured from outside of water line to outside of sewer facilities.

When it is not practical to maintain the specified separation, the City may allow deviation on a case-by-case basis, if supported by data from the design engineer; and the sewer materials are water main pipe or equivalent. Refer to Standard Plan Drawing No. 138 entitled "Sanitary Sewer – Water Main Crossing" or Standard Plan Drawing No. 138-A entitled "Storm Sewer – Water Main Crossing", when it is not feasible to obtain the specified separation distances.

32.12.1 Separation from Storm Water Drain-Ways. Water lines crossing open storm water drain-ways or other surface water crossings shall be adequately supported and anchored; and accessible for repair or replacement. Pipe shall be of special construction, having flexible, restrained, watertight joints.

The water main shall be installed with sufficient earth cover to protect the line from damage due to: freezing; flow characteristics within the channel; depth of scour from flooding; and future channel widening and deepening.

When crossing waterways in excess of fifteen (15) feet in width, valves shall be provided at both ends of the crossing so that the section can be isolated for testing or repair. The valves shall be easily accessible and located so as to not be subject to flooding.

32.13 Backfilling. Trenches shall not be backfilled until all required tests are performed and until the water system installed conforms to the requirements of the plans and specifications.

Materials for tamped backfill and the method of placement shall be as specified per ANSI/AWWA C600 Type 3 pipe bedding. The trenches shall then be carefully backfilled up to one foot above the top of the pipe with sand or fine earth, in layers of not more than six (6) inches thick and carefully tamped to form a solid bedding for the pipe.

The balance of the excavated material shall be consolidated in the following manner. Tamped backfill will be required for the full depth of the trench above the pipe bedding in layers not to exceed twelve (12) inches in depth. As backfilling proceeds, the entire mass shall be vibrated with a mechanical vibrator, provided, however, in all locations where plastic soils are encountered, the backfill material shall not be placed until the moisture content is low enough to obtain maximum density when tamped into place with mechanical tampers.

32.13.1 Compaction Testing. When standard backfill methods are used, density tests will be required for each twelve (12) inch vertical lift of compacted material placed at a frequency of not greater than three hundred (300) lineal feet of trench. Density testing shall be required on each trench crossing a public right-of-way or easement. Test locations, to verify trench backfill integrity and methodology, may be specified by the City as required. The Contractor shall maintain the trench backfill for one (1) year from the date of acceptance of the project by the City.

The Contractor shall be required to hire an independent soil testing laboratory to test separately each lift for density and certify that each and every lift was compacted to 95% of maximum density within the public right-of-way and to 90% of maximum density within public easements. Density test results shall be submitted to the City before acceptance of the project by the City.

32.14 Backfilling Under Pavement. Non-shrinkable backfill will be required under all street sections, existing or proposed, unless the Director of Public Works approves standard backfill methods.

32.15 Nonshrinkable Backfill. All excavations where a sidewalk, curb, gutter, or paved street has been cut or where new paving (concrete or asphalt) will be placed, shall be backfilled using non-shrinkable backfill. The backfill shall be filled to the subgrade of the undisturbed sidewalk, curb, gutter, paving, or earth surface.

The non-shrinkable backfill shall be a mixture of sand, gravel, Portland cement, and water which flows easily around the utility being covered and develops a 28-day compressive strength of from 30 to 200 psi. No non-shrinkable backfill mix designs shall be used without the approval of the Public Works Director. Fly ash may be approved in the mix if test data are submitted to indicate the above characteristics are met.

The mix design shall met the following requirements:

Portland Cement	60 lbs.
47-B Sand - Gravel	3,300 lbs.
Water	40 gal.

32.16 Acceptance. Upon completion of a job, all debris and surplus material shall be removed from the job by the Contractor. The Engineer shall be notified so that an inspection of the work can be made.

32.17 Water Services. Water services shall be installed as indicated on the construction plans. The City Water Department will tap the water main and install the corporation stop. The Contractor shall furnish the corporation stop and pay the City Water Department for making the tap. Service lines shall be buried a minimum of five (5) feet in depth from future finished grade. No splices, joints, or unions in copper water service lines will be allowed between the water main and the curb stop. The service shall extend perpendicularly (90°) from the main's horizontal alignment to the curb stop or service valve location.

All water facilities shall be filled, pressure tested, disinfected, flushed, and acceptable water sample test results obtained, prior to being placed in service.

Following installation of water service lines, the Contractor shall furnish and install a seven (7) foot long, steel studded "T" post, adjacent to each stop box to identify its location. Posts shall be new, painted dark blue in color, and set three (3) feet into the ground. All marking posts shall be incidental to the service line and not a claim for extra material or work.

All work shall be per AWWA standard, *UNDERGROUND SERVICE LINE VALVES AND FITTINGS,* ANSI/AWWA C800 and subsequent revisions, City specifications, and Standard Plan 152.

32.17.1 Service Ownership. Water is conveyed from mains owned by the City of Grand Island to the consumer's premises by service lines and their appurtenances. The service line, pipes, valves, fittings and appurtenances, including the meter, through which a consumer receives water shall be owned by, installed, and maintained at the expense of the consumer.

The dividing point between the City Of Grand Island owned mains and consumer owned service line shall be defined as the connection on the discharge side of the City Of Grand Island owned main. At the dividing point, water irrevocably leaves the public system and enters privately owned facilities to serve the consumer premises.

The maintenance and protection of privately owned piping, service pipes, fittings, meters, fixtures, and water using appliances, is the exclusive responsibility and expense of the consumer; including but not limited to, protection of water using devise by reason of temporary or permanent pressure changes; the stoppage of the flow of water; limited or sustained water pressure; or from dirt or debris that may enter the service connection.

32.18 Water Meter Installations. Meters shall be installed in a clean pipeline, free from foreign materials. The meter shall be installed horizontally with the register facing upward; with the direction of flow as indicated by the arrow cast in the meter case; and protected from freezing, damage, and tampering.

Meters shall be equipped with a strainer, and shall be installed with a minimum of five (5) pipe diameters of straight run of pipe or equivalent full open components, upstream of the meter strainer inlet flange; and three (3) pipe diameters of straight run of pipe or equivalent full open components, downstream of the meter outlet flange. Full open components may consist of: straight pipe, full open gate valves and ball valves, tees, and concentric reducers.

No elbows, bends, non-concentric reducers, check valves, back flow preventers and/or pressure reducing devices shall be installed within ten (10) pipe diameters upstream or five (5) pipe diameters downstream of the meter set.

Butterfly valves shall not be installed within five (5) pipe diameters upstream or three (3) pipe diameters downstream of the meter set.

Full port ball valves or gate valves may be installed immediately upstream of the meter set, provided they are fully opened and not used to throttle flow rates through the meter.

All meters shall be equipped and installed with a remote meter reading system, to enable obtaining register reading without directly accessing the meter's location. The system shall be suitable for indoor and/or outdoor use and shall be factory sealed to prevent tampering.

32.18.1 Meter Ownership. A water meter is a device used to measure and record a consumer's water utilization. All water meters shall be purchased from the City of Grand Island; and owned by, installed, and maintained at the expense of the consumer.

32.18.2 Meter Pits and Vaults Prohibited. The water meter shall be located so that it may be easily examined and read by any such person designated by the Utilities Director to perform such functions.

Water meters shall not be located in any pit, manhole, or vault, nor an area containing fumes that are toxic, poisonous or corrosive; nor in any area in which the meter could be damaged by freezing, vibration, physical impact or structural stress; nor knowingly be allowed to conduct excessively high velocity waters.

32.19 Fire Hydrant. All fire hydrants shall be set with the centerline of the hydrant's pumper nozzle eighteen (18) inches above the final grade adjacent to their location. The Contractor shall furnish and install all fittings, offsets, and blocking required to adjust the hydrant's elevation. Hydrant extensions shall be supplied by the Contractor and installed by the City Water Department at the Contractor's expense. The method of adjustment shall have prior approval of the Utilities Department.

Service lines shall not be allowed to extend from the hydrant lead. The hydrant lead shall be defined as all piping upstream the water main fitting supplying the hydrant.

32.20 Relocation of Mains and Service Lines. When proper management, operation or maintenance of the Water System requires; or when new construction or reconstruction projects require existing water mains, lines or services to be moved, lowered, or relocated, the City Of Grand Island shall have the right to make such changes as required. All water lines that are relocated or reconstructed shall be inspected by the Grand Island Utilities Department.

32.20.1 Pressure and Leakage Testing of Relocated Mains and Service Lines. After each section of the water piping system has been relocated, and prior to being placed back in normal operation, it shall be subjected to a hydrostatic pressure test (100 PSI minimum) at the point of relocation. This will include testing the entire section of piping isolated and taken out of service to allow the relocation work.

32.20.2 Sterilization, Flushing and Sampling of Relocated Mains & Service Lines. All sections of the water system taken out of service for relocation, or any other activities that might lead to contamination of water, shall be disinfected before being returned to service. The Contractor shall provide a temporary connection for disinfecting the newly relocated lines. Additionally, the Contractor shall provide a temporary means for flushing the isolated sections. The discharge connection shall be sized for flushing velocities not less than two and one half (2.5) feet per second, and shall include: valves, connecting piping, and hoses as required to discharge to waste.

After final flushing and before new water main is connected to the main system, two consecutive sets of acceptable samples, taken at least twenty-four (24) hours apart, shall be collected from the new main. At least one set of samples shall be collected from every 1,200 feet of the new water main, plus one set from the end of the line, and one set from each branch. Samples will have 0 coliform bacteria and less than 250 heterotrophic plate count (HPC) to pass. Following successful sampling and testing of the line, the Contractor shall remove all testing apparatus and plug the main at the point of injection of the disinfectant and flushing discharge.

The City will furnish personnel, pumps, chemicals, and perform the actual chlorination of the water lines taken out of service during the repair / relocation work. The rate to be charged to the Contractor, for each chlorination application, will be $0.25 per linear feet of isolated pipeline, but not less than a minimum charge of $100.00. All temporary discharge hoses, piping, excavations, sample taps and corporations, other personnel or equipment, necessary for doing the work will remain the Contractor's responsibility.

32.20.3 Water Services on Relocated Mains. All materials necessary to relocate water service lines shall be new and un-used. Copper service pipe, laid between the water main and the curb stop, shall be built of continuous construction without joints, unions, or splices.

When required to relocate service lines under undisturbed hard surfaced roadways or driveways, trenchless methods shall be used. Any standard method of trenchless pipe installation that provides the best overall system, while providing the least disruption to the area, shall be considered for approval by the City. All service pipes shall have no less than five feet of earth cover, and in all cases shall be so protected as to prevent rupture by freezing.

The new service shall normally extend perpendicularly (90°) from the main's horizontal alignment; and connected to the existing water service at the new curb stop or valve location. All work shall be done under the direction of a licensed plumber, including the abandonment of the existing service. The Contractor shall salvage the existing curb stop (or valve) and box for the City.

32.20.4 Abandonment of Service Pipes on Relocated Mains. Water services shall be abandoned by a licensed plumber. For lead service lines, cut and crimp the line. For copper service lines, cut and sweat a cap onto the pipe. All work shall be done as close as possible to, but not to exceed one foot from the tap. The City Utilities Department shall be notified whenever a service pipe is abandoned and shall inspect and approve all work done in connection with such abandonment.

SECTION 33 – METHOD OF MEASUREMENT AND BASIS OF PAYMENT

33.01 Water Main. Water mains shall be measured for payment by measuring the length down the centerline 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.

It is intended that all water main pipe fittings, service lines, and appurtenances shall have five (5) feet of earth cover, or as otherwise indicated on the plans and specifications. The elevation of the piping may vary depending upon existing obstructions and proposed improvements encountered during the construction. Any deviations in alignment or grade shall have the prior approval of the Utilities Department. Where additional depth is required to clear encountered or proposed grade interference, the additional excavation and backfill shall be incidental to the project and not a claim for extra work.

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

33.03 Hydrants. Fire hydrants shall be paid for at the contract unit price complete. If applicable, the fire hydrant bid price shall include the 6" ductile iron pipe to complete the link between the hydrant and the tee at the main, the 6" valve and box, and the 6"x90 degree bend. The tee will be paid for separately as set forth in the bid.

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

33.05 Fittings. Fittings such as tees, bends, and reducers shall be paid for at the contract unit price complete in place.

33.06 Concrete Blocking. Payment will be made on the basis of cubic yards of concrete called for in Standard Plan Drawings entitled "Concrete Blocking for Fittings" and "Fire Hydrant Blocking".

33.07 Corporation Stop. Corporation stops shall be paid for at the contract unit price complete in place.

33.08 Curb Stop. Curb stops shall be paid for at the contract unit price complete in place.

33.09 Water Services. Water services shall be measured for payment by measuring the length down the center of the pipeline from the corporation stop to the curb stop. Payment shall be made at the contract unit price per lineal foot for various sizes, excavation, and backfill complete in place.

SECTION 34 – POLYETHYLENE ENCASEMENT

34.01 Scope of Work. This section includes the Contractor furnishing materials and installation procedures for polyethylene encasement to be applied to all underground installations of ductile-iron pipe, fittings, valves, and other appurtenances to ductile-iron pipe systems. In general, all materials and installation shall conform to the AWWA Standard, *POLYETHYLENE ENCASEMENT FOR DUCTILE-IRON PIPE SYSTEMS,* ANSI/AWWA C105/A21.5 and subsequent revisions, and as additionally specified herein.

34.01.1 Soil Testing. The Contractor shall furnish materials and shall field apply polyethylene encasement to all ductile-iron pipe, fittings, valves, and other appurtenances associated with the piping system unless such corrosion protection measures shall not be required as determined by soil testing previously conducted by the City of Grand Island.

In areas where the Utilities Department has not yet made a determination on soil characteristics, the Contractor shall have the opportunity to have performed soil tests to determine if polyethylene pipe encasement should be used. If this option is selected, the Contractor shall hire an independent testing laboratory to evaluate conditions that may affect their corrosive rate on ductile-iron pipe. Analysis shall only be conducted by personnel who are experienced in environmental factors which may contribute to the corrosion of the proposed piping system. Such test shall be at the Contractor's expense and not a claim for extra work.

All sampling collection, analysis, and evaluation shall fully comply and conform to the AWWA Standard, *POLYETHYLENE ENCASEMENT FOR DUCTILE-IRON PIPE SYSTEMS*, ANSI/AWWA C105/A21.5; APPENDIX A – "Notes on Procedures for Soil Survey Tests and Observations and Their Interpretation to Determine Whether Polyethylene Encasement Should Be Used", and subsequent revisions.

The Contractor shall deliver to the Utilities Director certified copies of such soil test results at least 48 hours in advance of any work on the installation of the water main. The Utilities Department shall review and make a determination from the data submitted.

34.02 Materials. Film shall be high-density, cross-laminated polyethylene or linear low-density polyethylene film manufactured of virgin polyethylene material. Film shall meet all the listed requirements for polyethylene film specified in the AWWA Standard, *POLYETHYLENE ENCASEMENT FOR DUCTILE-IRON PIPE SYSTEMS*, ANSI/AWWA C105/A21.5.

The polyethylene film shall have a nominal thickness of 0.008 in. (8 mil). Tube size or sheet width for each pipe diameter shall be as listed on Standard Plan No. 155.

34.03 Installation. The polyethylene encasement shall prevent contact between the pipe and the surrounding backfill and bedding material, but is not intended to be a completely airtight or watertight enclosure. All lumps of clay, mud, cinders, etc. on the pipe surface shall be removed prior to installation of the polyethylene encasement. During the installation, care shall be exercised to prevent soil or embedment material from becoming trapped between the pipe and the polyethylene.

The polyethylene film shall be fitted to the contour of the pipe to affect a snug, but not tight, encasement with minimum space between the polyethylene and the pipe.

Sufficient slack shall be provided in contouring to prevent stretching the polyethylene where it bridges irregular surfaces, such as bell-spigot interfaces, bolted joints, or fittings, and to prevent damage to the polyethylene due to backfilling operations. Overlaps and ends shall be secured with adhesive tape or other material capable of holding the polyethylene encasement in place until backfilling operations are complete.

For installations below the water table, both ends of the polyethylene tube shall be sealed as thoroughly as possible with adhesive tape at the joint overlap. This standard includes three methods of installation of polyethylene encasement on pipe. Methods A and B are for use with polyethylene tubes and Method C is for use with polyethylene sheets.

34.03.1 Method A. (Refer to Standard Plan No. 155) Cut polyethylene tube to a length approximately two (2) ft longer than the pipe section. Slip the tube around the pipe, centering it to provide a one (1) ft overlap on each adjacent pipe section, and bunching it accordion-fashion lengthwise until it clears the pipe ends.

Lower the pipe into the trench and make up the pipe joint with the preceding section of pipe. A shallow bell hole must be made at joints to facilitate installation of the polyethylene tube.

After assembling the pipe joint, make the overlap of the polyethylene tube. Pull the bunched polyethylene from the preceding length of pipe, slip it over the end of the new length of pipe, and secure it in place. Take up the slack width at the top of the pipe to make a snug, but not tight, fit along the barrel of the pipe, securing the fold at quarter points.

Any cuts, tears, punctures, or other damage to the polyethylene shall be repaired. Proceed with installation of the next section of pipe in the same manner.

34.03.2 Method B. (Refer to Standard Plan No. 155) Cut polyethylene tube to a length approximately one (1) ft shorter than that of the pipe section. Slip the tube around the pipe, centering it to provide 6" in. of bare pipe at each end. Take up the slack width at the top of the pipe to make a snug, but not tight, fit along the barrel of the pipe, securing the fold at quarter points.

Before making up a joint, slip a 4-ft length of polyethylene tube over the end of the preceding pipe section, bunching it accordion-fashion lengthwise. After completing the joint, pull the 4-ft length of polyethylene over the joint, overlapping the polyethylene previously installed on each adjacent section of pipe by at least one (1) ft, make each end snug and secure.

Any cuts, tears, punctures, or other damage to the polyethylene shall be repaired. Proceed with installation of the next section of pipe in the same manner.

34.03.3 Method C. (Refer to Standard Plan No. 155) Cut polyethylene sheet to a length approximately two (2) ft longer than that of the pipe section. Center the cut length to provide a one (1) ft overlap on each adjacent pipe section, bunching it until it clears the pipe ends. Wrap the polyethylene around the pipe so that it circumferentially overlaps the top quadrant of the pipe. Secure the cut edge of polyethylene sheet at intervals of approximately 3 ft.

Lower the wrapped pipe into the trench and make up the pipe joint with the preceding section of pipe. A shallow bell hole must be made at joints to facilitate installation of the polyethylene. After completing the joint, make the overlap and secure the ends.

Any cuts, tears, punctures, or other damage to the polyethylene shall be repaired. Proceed with installation of the next section of pipe in the same manner.

34.03.4 Appurtenances. Cover bends, reducers, offsets, and other pipe-shaped appurtenances with polyethylene in the same manner as the pipe. When it is not practical to wrap valves, tees, crosses, and other odd-shaped pieces in a tube, wrap with a flat sheet or split length of polyethylene tube by passing the sheet under the appurtenance and bringing it up around the body. Make seams by bringing the edges together, folding over twice, and taping down. Tape polyethylene securely in place at valve stem and other penetrations.

34.03.5 Repairs. Repair all cuts, tears, punctures, or damage to polyethylene with adhesive tape or with a short length of polyethylene sheet or a tube cut open, wrapped around the pipe to cover the damaged area, and secured in place.

34.03.6 Openings in Encasement. Provide openings for branches, service taps, blowoffs, air valves, and similar appurtenances by making an X-shaped cut in the polyethylene and temporarily folding back the film. After the appurtenance is installed, tape the slack securely to the appurtenance and repair the cut, as well as any other damaged areas in the polyethylene, with tape. Service taps may also be made directly through the polyethylene, with any resulting damaged areas being repaired as described above.

34.03.7 Junctions between Wrapped and Unwrapped Pipe. Where polyethylene wrapped pipe joins an adjacent pipe that is not wrapped, extend the polyethylene wrap to cover the adjacent pipe for a distance of at least 3 ft. Secure the end with circumferential turns of tape.

Service lines of dissimilar metals shall be wrapped with polyethylene or a suitable dielectric tape for a minimum clear distance of 3 ft away from the ductile-iron pipe.

34.03.8 Backfill for Polyethylene-Wrapped Pipe. Use the same backfill material as that specified for pipe without polyethylene wrap, exercising care to prevent damage to the polyethylene wrapping when placing backfill. Backfill material shall be free from cinders, refuse, boulders, rocks, stones, or other material that could damage polyethylene. In general, backfilling practice should be in accordance with the AWWA Standard, *INSTALLATION OF DUCTILE-IRON WATER MAINS AND THEIR APPURTENANCES,* ANSI/AWWA C600, subsequent revisions, and City of Grand Island Specification Division VI, Water Mains, Section 32.13, 32.14 and 32.15, and as specified with the contract.

SECTION 35 – UNDERCROSSING

35.01 Scope of Work. This section includes the Contractor furnishing all the materials and installing complete the casing and carrier pipes. This work shall include, but is not limited to, dewatering, shoring, excavating, tunneling, jacking casing, placing casing with specified support, sealing, compacting, backfilling, and fine grading.

35.02 Casing Material. The steel casing pipe shall have a minimum wall thickness of in accordance with Standard Plan 141-A, coated inside and outside with asphalt coating double full dipped. The casing for the under crossing shall be entirely of one (1) material.

The design of such pipe is based upon the superimposed loads and not upon the loads which may be placed upon the pipe as a result of the jacking operations. Increases in pipe strength to withstand jacking loads shall be the responsibility of the Contractor.

Sections of the steel pipe casing shall be joined with a continuous full penetration butt weld for the full circumference. Joints shall be beveled before welding. No other methods shall be acceptable unless prior approval is obtained from the City. Welds shall be in full compliance with AWS D1.1-80 standards.

35.03 Procedure. The Contractor will contact the appropriate regulatory agency a minimum forty-eight (48) hours in advance, before starting work within thirty feet (30') of any railroad or roadway surface.

35.04 Protection of Public. During the period that any work is being performed within the public right-of-way, or that an open trench or pit exists within the limits of said right-of-way, the Contractor shall furnish and utilize such signs, lights, barricades, and other devices to the extent necessary, in order to properly guide and protect the public; and shall be in accordance with State of Nebraska Department of Roads guidelines.

The Contractor shall accept full responsibility to the public, and to the right-of-way itself, for loss or damage caused by or directly traceable to his operations, actions, or inactions on or near the right-of-way.

35.05 Installation of Casing Pipe. The casing shall be so constructed and installed as to prevent leakage of any substance from the casing through its length, except at the ends. Casing shall be so installed as to prevent the formation of a waterway under the railroad or roadway, with an even bearing throughout its length, and shall slope to one (1) end. The casing shall be placed at the location and elevation shown on the drawing. No change in elevation from that shown shall be permitted without written approval from the City. Excavation shall be held to the minimum possible required for installation of liner plate. The casing shall be installed, using structural steel, plates, field bolted, to provide full round casing pipe. In advancing the casing operation, shielding or poling shall be used, together with such other measures as may become advisable to prevent settlement of the overburden. Casing pipe shall extend the entire distance, between the limits indicated on the plans. Liner plates may extend further than this minimum requirement at no additional cost to the City, if the Contractor so elects.

After installation, the entire length of the casing shall be pressure grouted between the exterior of the tunnel liner and the adjacent soil, using a cement-sand grout of one (1) part cement to six (6) parts sand.

The casing pipe jacked into place shall be accomplished without disturbance of the road surface above. The pipe shall be jacked in the up-slope direction.

After installation of casing, and prior to backfilling any excavations, both ends of the casing shall be closed by a manner approved by the City, so as to prevent any infiltration of dirt, water, or refuse into the casing, prior to the future installation of the carrier pipe.

35.06 Excavation. The Contractor shall perform all excavations necessary for installation of the casing. The City shall have the right to limit the amount of trench that may be opened in advance of the line of work. 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 practical and, where required, shall be properly sheeted and braced. Trenches shall be held to the minimum width needed to provide working space for proper installation.

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. Materials unsuitable for backfilling shall be wasted by the Contractor as directed by the City.

35.07 Backfilling. After installation of the casing, all excavations and trenches shall then be carefully backfilled as per Division VI, Water Mains Specifications, Sections 32.13, 32.14, 32.15, and other Divisions as appropriate.

35.08 Carrier Pipe. Carrier pipe shall be ductile-iron pipe with restrained joints conforming to Section 37.02.1, Division VI of the City of Grand Island Standard Specifications.

35.08.1 Carrier Pipe – Casing Spacers. Carrier pipes shall be centered within the casing by using full circle designed spacers. Spacers shall be constructed of 14 gauge, T-304 stainless steel, with a ribbed PVC extrusion insulating liner that overlaps the edges of the band and prevents slippage. Spacers, for carrier pipe diameters of 16 inches or less, shall have a minimum body width of 8 inches, and for carrier pipes, 18 inches and above, the spacer band width shall be increased to 12 inches.

Spacers risers and runners shall be properly designed to position and support the carrier pipe within the casing. Risers shall be a minimum of 10 gauge, T-304 stainless steel, MIG welded to the stainless steel body. Runners shall be ultra high molecular weight polymer (UHMW) with a high resistance to abrasion and frictional slid wear. The runners shall be mechanically attached to the riser and the bolt heads shall be welded for strength.

Casing spacers, for pipe diameters up to 16 inches, shall have two runners on the top and two runners on the bottom. For pipe diameters 18 inches through 36 inches, spacers shall be supplied with 4 runners on the bottom and two on the top.

35.08.2 Carrier Pipe – Installation. Casing spacers shall be installed on the carrier pipe within one foot from each end of the casing pipe. For carrier pipe diameters of 16 inches or less, three spacers per length of pipe shall be installed. For carrier pipes 18 inches and above, four spacers per length of pipe shall be used.

Pipelines shall normally be installed in the center of straight casings. Risers and runners shall be dimensioned to provide a clearance of ¾ inch to the top of the casing. Refer to Standard Plan 141-A for minimum clearances between pipe bells and casing.

Carrier pipes shall be pulled not pushed through the casing.

35.08.3 Carrier Pipe – Casing End Seals. After installation of the carrier pipe, the ends of the casing shall be closed against the carrier pipe to provide a backfill barrier to debris and seepage. End seals shall be made of heavy-duty neoprene or other synthetic rubber. Each end of the seal shall be secured to the pipe with T-304 stainless steel bands.

SECTION 36 – DEWATERING

36.01 General. The Contractor is responsible for devising and operating a construction dewatering system if required to install any part of the water main.

36.02 Discharge Permit. When required, facilities shall apply for authorization to discharge under a permit in compliance with the National Pollution Discharge Elimination System (NPDES).

The Owner or Operator shall use the Notice of Intent (DW-NOI) procedures to notify the Nebraska Department of Environmental Quality (NDEQ) that as a Permittee, they intend to meet all conditions of the permit. Complete and accurate information shall be submitted to the NDEQ for permission to discharge ten (10) calendar days prior to dewatering to use the construction-dewatering permit.

Nebraska Department of Environmental Quality
Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Lincoln, NE 68509-8922
Tel (402) 471-4220
Fax (402) 471-2909

36.03 Dewatering Wells. If dewatering wells are used, the Contractor is required to secure all permits, properly install, and abandon the wells as per Nebraska State Statute.

SECTION 37 -- TRENCHLESS INSTALLATION OF WATER MAIN

37.01 General. Trenchless methods for the installation of pipelines requires using specialized tools, equipment and experience. The Contractor shall be well practiced with such techniques, with a minimum of five years experience in successfully completed projects of similar size, length, and soil conditions. When required, the Contractor shall furnish the Utilities Department with a list of such jobs with the name of the purchaser, location, date, size, type, and operating conditions.

The Contractor shall provide all labor, materials, equipment, tools, dewatering, shoring, excavating, tunneling, boring with specified support, sealing, compacting, backfilling, clean-up, fine grading, and restoration of all required surface access pits, and launching and receiving pits. Additionally, it includes transporting and setting up all equipment used to perform the operations.

All work shall comply with the Ductile Iron Pipe Research Association's guidelines for "Horizontal Directional Drilling With Ductile Iron Pipe," the pipe manufacture's recommendations, and other specifications referenced within these contract documents.

The Utilities Department reserves the right to modify sections and location of pipe installed by trenchless methods due to such factors as: soil conditions, material limitations, installation methodology, obstacles, or other causes.

37.01.1 Permits. The Utilities Department shall obtain ingress and egress permits, right-of-way, and easements required for the work, where required. Other permits required for the performance of the work shall be obtained by the Contractor.

37.01.2 Site Investigation. The Contractor shall determine the types and locations of surface and subsurface utilities and materials, soil types, groundwater, and other environmental factors and shall determine their effect on the bore installation.

All site investigations required shall be the responsibility of the Contractor. If utilities of unknown depth or other obstructions will require grade or alignment deviations from the plans, the grade or alignment may be adjusted with the prior approval of the Utilities Department.

37.02 MATERIALS

37.02.1 Restrained Joint Pipe. Pipe shall be ductile iron with restrained push-on joints conforming to the AWWA Standard, *DUCTILE-IRON PIPE, CENTRIFUGALLY CAST,* ANSI/AWWA C151/A21.51 and Section 31, Division VI of the City of Grand Island Standard Specifications.

Pipe shall be cement mortar lined conforming to the AWWA Standard, *CEMENT-MORTAR LINING FOR DUCTILE-IRON PIPE AND FITTINGS*, ANSI/AWWA C104/A21.4 and subsequent revisions. All cement mortar lining shall be coated with asphaltic seal coat in conformity with referenced standard specifications.

Pipe shall be designed for a working pressure of 350 psi, with boltless, restrained, flexible joints, that have smoothly contoured bells. Joint designs that restrict smooth installation, increase pulling forces, or degrade the flow of drilling fluid around the joint shall not be used. Pipe and joint seals shall be capable of handling the internal pressures, external pressures, torque, and vacuum that can occur during pull-back along the bore path.

37.02.2 Pulling Heads. The pipe pulling head shall have the same characteristics as the pipe to which it is attached. Pulling heads, reamers, and swivel assemblies shall be designed and furnished by the pipe manufacturer, or an approved equal in full compliance with the pipe manufacturer's requirements.

37.02.3 Polyethylene Encasement. All pipe shall have polyethylene encasement, as per Grand Island Standard Specifications, Section 34, and as additionally specified herein.

Use only tube-type polyethylene sleeves with a nominal thickness of 0.008 in. (8 mil). Installation shall be per AWWA Standard, ANSI/AWWA C105/A21.5 "Alternate Method 'A' or Wet Trench Conditions" as modified herein. Polyethylene tubing shall be secured to the first length of pipe with several wraps of tape directly to both the pipe barrel and tubing, approximately one foot from the spigot end. Ensure that all excess material is neatly folded longitudinally, and secured around the barrel section by circumferential tape wraps at a maximum of two foot spacing. The polyethylene tubing should always overlap back over the bell and joint section to ensure that drilling fluid is not force under the polyethylene during pull-back. Secure the polyethylene at the joint area with circumferential tape wraps on each side of the joint. Continue installation opposite to the direction of pull-back.

37.03 PIPE INSTALLATION

37.03.1 Drilling System. The Contractor shall have the equipment and expertise appropriate for horizontal direction drilling operations and pipeline installation.

The equipment shall consist, as a minimum of a system capable of performing the bore and pulling back the pipe, with a boring mixture delivery and fluid recovery system of sufficient appropriate capacity, and a guidable drill head capable of carrying

out the drilling and piping installation. The equipment shall be designed to withstand the pulling, pushing and rotating pressure involved to complete the work, and equipped to monitor and record the pull-back pressure during the pull-back operation. The drill head shall be steerable and shall be provided with necessary cutting surfaces and drilling fluid jets as required.

37.03.2 Guidance System. The bore shall utilize a proven guidance probe and interface to accurately determination the location of the drill head during the drilling operation. It shall be capable of tracking at the required installation depth in any soils encountered and enable the operator to adjust the drill head both horizontally and vertically.

37.03.3 Drilling Fluid System. A self-contained system of sufficient size to mix and deliver the boring fluid shall be provided. Tank capacities shall be sized to hold excess material completely by containing "mud" quantities without spillage. The entry point shall be appropriately enclosed and equipped with a sump pump to reclaim or discharge excess drilling fluids to a reuse or disposal tank. The system shall be able to ensure thorough mixing of all components of the slurry to avoid clumping. The boring fluid shall be continually agitated by the mixing system. No discharge of excess material or site runoff will be allowed.

37.03.3.1 Drilling Fluid. The drilling fluid shall be comprised of clean potable water, bentonite clay, and appropriate additives. The Contractor shall be responsible for obtaining, transporting, and/or storage of any water required for drilling fluids. Additives shall be environmentally safe, non-toxic, and approved for such usage. The boring fluid shall be of a consistency to suspend the cuttings and maintain the integrity of the bore walls.

37.03.4 Excavations. The Contractor shall be responsible for all excavations and properly maintaining trench banks, sheeting, and bracing as required. Excavations shall be of sufficient width to provide proper working space for drilling operations and down hole assemblies. Material excavated from the trenches shall be stacked in an orderly manner a sufficient distance back from edge of excavations to avoid overloading and preventing slides or cave-ins.

Excavations shall be located for proper installation of the pipeline. The insertion / assembly pits may also subsequently be used for connections, installing valves, fittings, or hydrant assemblies at locations indicated on the plans.

37.03.5 Pilot Hole. Install the pilot hole using a steerable drilling head. The pilot hole shall be drilled along the planned bore path and alignment, to the tolerances listed and concurrent with safe operations. Proper setbacks shall be maintained to avoid excessively steep entry and exit of the pilot hole. In all cases, the transition from the surface to the bore path shall be within the pipe Manufacture's allowable joint deflection.

The Contractor has the option to pre-ream the pilot hole. However, lack of pre-reaming shall not place excessive loading on the installation of the pipeline. Any damage to the pipeline resulting from inadequate pre-reaming shall be the responsibility of the Contractor.

37.03.6 Alignment. The bore path shall be to the elevations and alignment indicated on the drawings and as staked for the contractor. The installation shall be guided by equipment that gives continuous, accurate monitoring and done without disturbing the area surfacing, ditch lines, or waterways.

The Contractor shall continuously monitor the bore alignment at all times when the bore operation is proceeding. When the alignment goes beneath a body of water, a visual inspection shall be made at the most accessible point immediately downstream of the bore alignment for changes in turbidity or color, which may indicate a subsurface breech in the boring operation.

Pipe entry and exit points may be moved further from the original plan only with prior approval of the Utilities Department. Any bore exit to the surface, other than for the final location, shall be plugged and stabilized before proceeding, and the exit site shall be restored to its original condition.

Deviations from the alignment indicated on the plans may be allowed providing:

- No deviation shall be greater than 5% of depth per 100' of installed length;
- All piping shall be installed with a minimum of five (5) feet of earth cover;
- The pipeline shall not interfere with proposed infrastructure locations, or the safe operation and maintenance of existing utilities or structures;
- The pipeline shall not encroach beyond the right-of-way, easement, or construction limits.

In cases where the pipe is outside of the specified limits, or otherwise deviates more than the approved maximum, the Contractor shall re-install the pipe to the accepted alignment and elevation at their own expense.

37.03.7 Installation – Cartridge Method. The Cartridge Assembly Method shall be the preferred option for assembling pipe sections due to right-of-way imitations.

The individual pipe sections shall be joined in the insertion pit. Each section shall then be progressively pulled into the bore path a distance equivalent to a single pipe section. The process is repeated until the entire length is pulled through the bore path to the exit point.

37.03.8 Pull-Back. After successfully reaming of the bore hole, the Contractor shall attach a swivel connector between the final reamer and the pulling head and pull the pipe through the bore hole. Once pull-back operations have commenced, the operations shall continue without interruption until the pipe is completely pulled back through the bore hole. Pipe shall only be pulled from the plain end to minimize pulling forces and to take advantage of the bell transition.

If excessive pull-back is encountered, or the pipe becomes immovable, the Contractor shall stop the pull-back operations to allow any potential hydro-lock to subside, then pulling operations will again commence. If the pipe remains stuck, the Contactor shall notify the City to discuss options or alternatives, and then work shall proceed in accordance with those decisions.

37.03.9 Pulling Force. Restrained push-on joint pipe must be able of withstanding the pulling forces used to install the pipe thought the bore hole. The pulling force shall be limited to the joints maximum dead-end thrust load at the rated working pressure, and in full compliance with the pipe Manufacture's recommendations.

37.03.10 Backfill and Clean-Up. Disposal and clean-up of excess drilling fluid and pits shall be the responsibility of the Contractor. Disposal shall not be allowed on the project site. All work shall be done in accordance with environmental regulations, right-of-way limits, and permit requirements.

The Contractor shall backfill all excavations with suitable compacted materials as required. Earth spoiled by drilling mud or where other deleterious backfill substances are encountered, the material shall be rejected, hauled away, and disposed of by the Contractor and the site refilled with clean material. The area shall be restored to a condition equal to or better than its original condition.

Materials to be removed from the job site shall be disposed of properly. If materials are to be disposed of on private property, prior written permission shall be obtained from the owner of the property, and submitted to the City's designated representative.

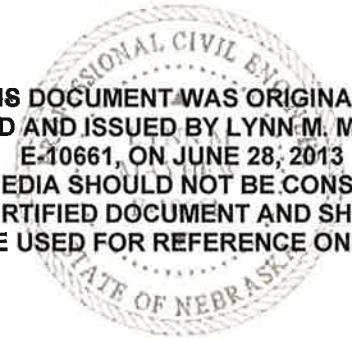
All materials, trash, and debris shall be removed by the Contractor from the construction limits in a timely manner.

37.04 RECORDS AND MEASUREMENTS

37.04.1 Records. The Contractor shall keep a daily log of all drilling activities and records indicating the pull-back loads exerted on the pipe for each section installed. A copy shall be provided to the City Utilities Department upon completion of the boring procedure. When monitoring records indicated the pullback forces exceed the pipe Manufacture's loading recommendations, the pipeline may be rejected.

The field records and notes shall additionally specify: the type of equipment used; the length and depth of the installation; and existing utility locations.

37.04.2 Measurement for Payment. The installation of bored pipe will be measured for payment by the linear foot of the various sizes of pipe acceptably installed. Measurement will be for full length of placement as verified in the field.



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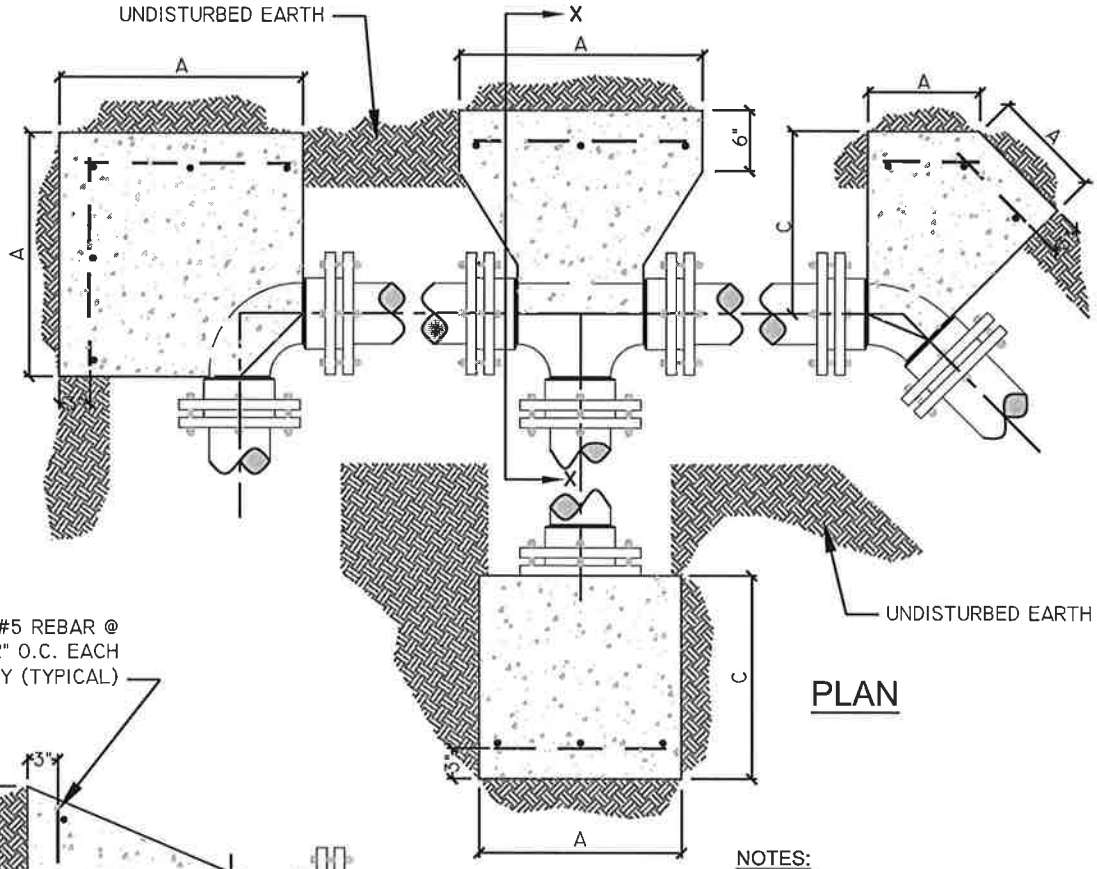
Jun 28, 2013

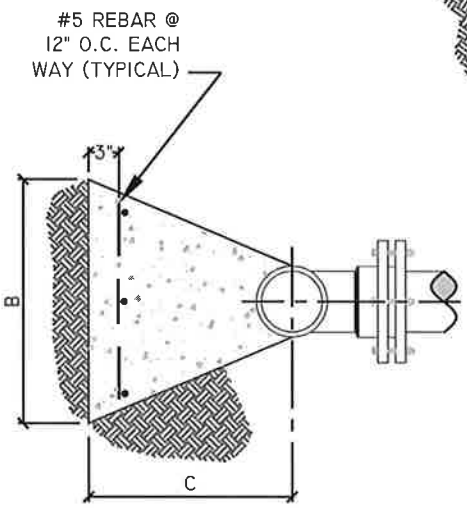
CITY OF
GRAND ISLAND
UTILITIES DEPARTMENT

Water Main
Standard Plans

CURRENT REVISION: FEBR. 4, 2013



PLAN



SECTION X-X

NOTES:

1. ALL THRUST BLOCKS TO BE TYPE 47-B MODIFIED POURED CONCRETE AS PER DIVISION II; "CONCRETE PAVING SPECIFICATIONS"; AND DIVISION VI "WATER MAINS".
2. ALL CONCRETE BLOCKING SHALL BE INSTALLED IN SUCH A MANNER THAT ALL PIPE AND FITTING JOINTS ARE ACCESSIBLE.
3. ALL FITTINGS ARE TO BE WRAPPED IN 8 MIL POLYETHYLENE.
4. ALL THRUST BLOCKS ARE TO BE POURED AGAINST UNDISTURBED SOIL.
5. IF SOIL OTHER THAN SANDY SOIL IS DISCOVERED DURING EXCAVATION, THE THRUST BLOCK SIZE SHALL BE VERIFIED BY THE ENGINEER.

THRUST BLOCK DIMENSIONS (INCHES)
DESIGN PRESSURE - 150 PSI SOIL TYPE - SANDY SILT (2000 LBS/SF)

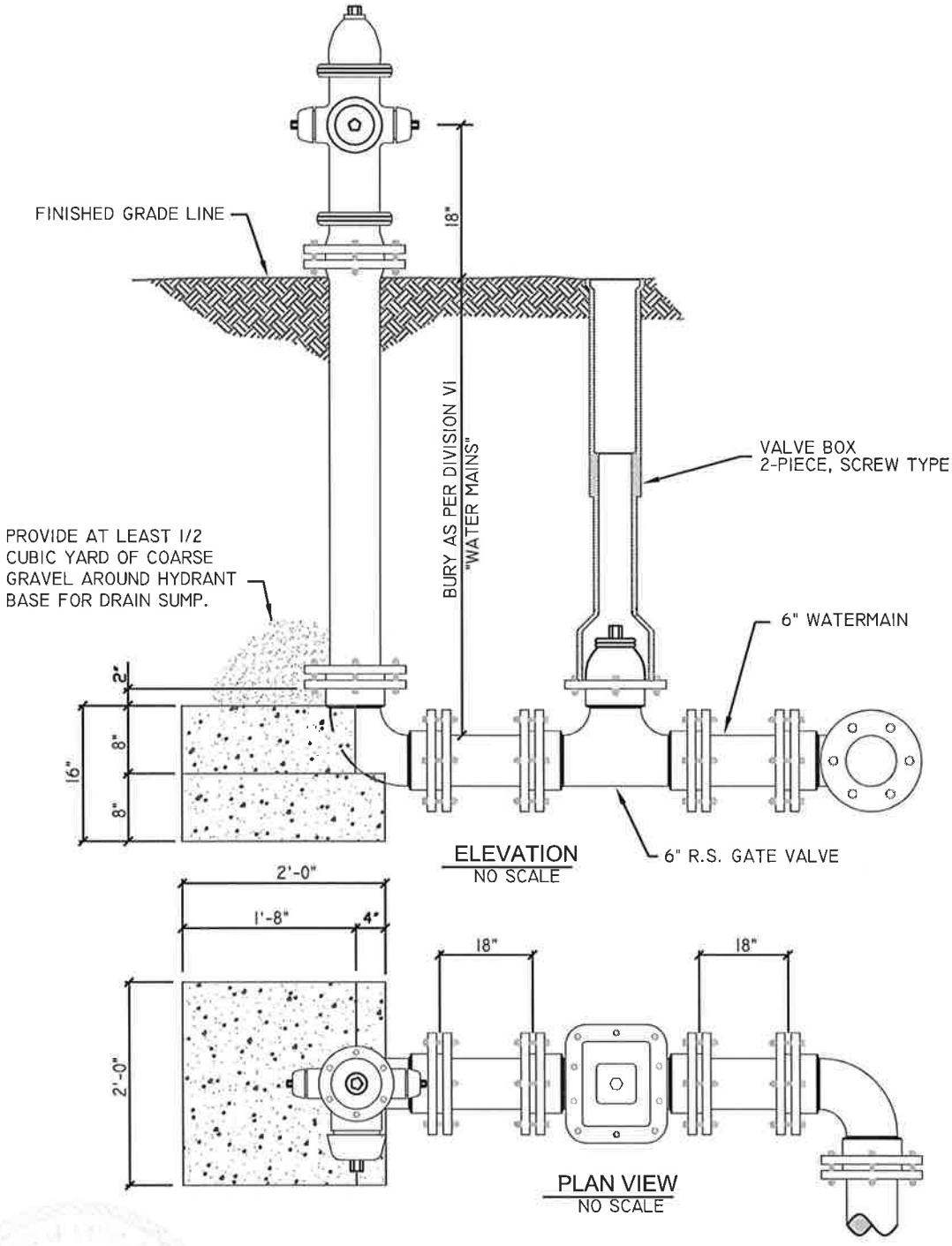
PIPE DIA.	TEES AND PLUGS			90° ELLS			45° ELLS			22 1/2° ELLS			11 1/4° ELLS		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
4"	17	17	18	20	20	18	12	12	18	12	12	18	12	12	18
6"	24	24	20	29	29	20	21	21	20	12	12	20	12	12	20
8"	32	32	22	37	37	22	28	28	22	20	20	22	12	12	22
10"	39	39	24	46	46	24	34	34	24	24	24	24	17	17	24
12"	46	46	26	55	55	26	40	40	26	29	29	26	20	20	26
14"	53	53	29	63	63	29	47	47	29	33	33	29	24	24	29
16"	61	61	31	72	72	31	53	53	31	38	38	31	27	27	31
18"	68	68	33	81	81	33	59	59	33	42	42	33	30	30	33
20"	75	75	36	89	89	36	66	66	36	47	47	36	33	33	36
24"	90	90	39	108	108	39	80	80	39	56	56	39	40	40	39
30"	111	111	42	133	133	42	98	98	42	70	70	42	49	49	42

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

REVISED: 5/03/2010
DRAWN BY: P.F.G.
CHECKED BY: T.W.B.

CONCRETE BLOCKING FOR FITTINGS

PLAN 134



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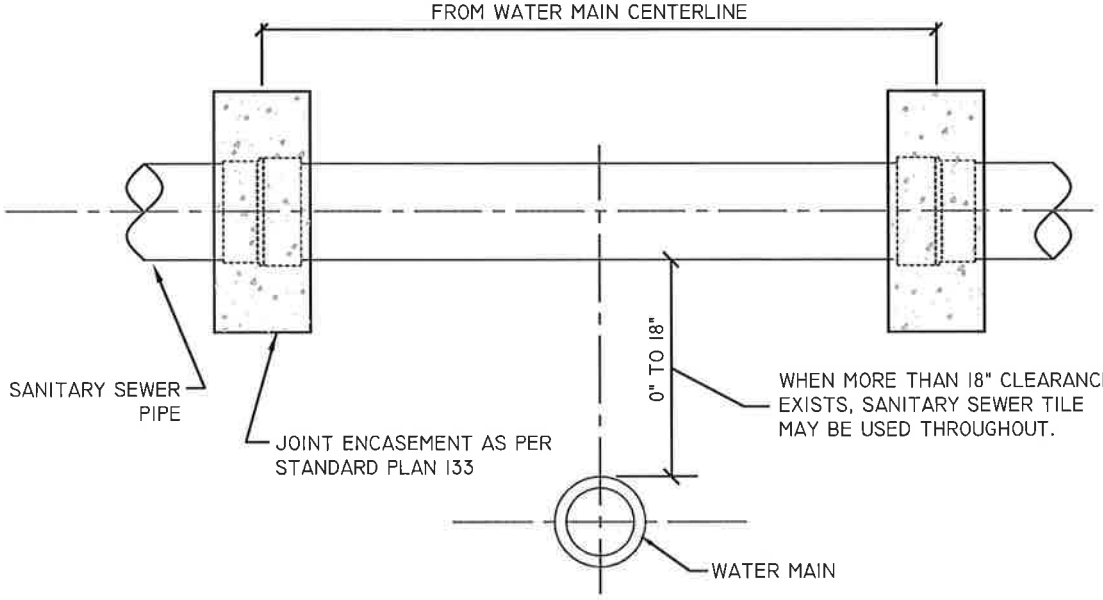
2. ALL CONCRETE BLOCKING SHALL BE INSTALLED IN SUCH A MANNER THAT ALL PIPE AND FITTING JOINTS ARE ACCESSIBLE.
3. ALL FITTINGS ARE TO BE WRAPPED IN 8 MIL POLYETHYLENE.
4. ALL THRUST BLOCKS ARE TO BE POURED AGAINST UNDISTURBED SOIL.

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	REVISED: 12/13/2004 DRAWN BY: P.F.G. CHECKED BY: T.W.B.	FIRE HYDRANT BLOCKING	PLAN 135

SANITARY SEWER CROSSING OVER WATER MAIN

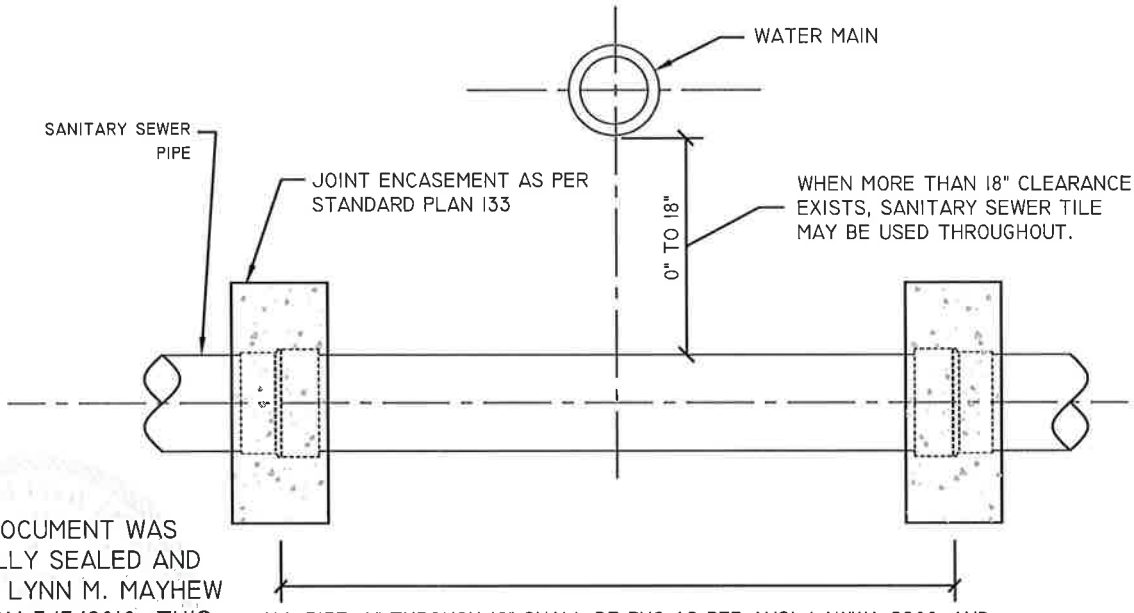
NO SCALE

ALL PIPE, 4" THROUGH 12" SHALL BE PVC AS PER ANSI / AWWA C900, AND ALL PIPE, 14" THROUGH 48" SHALL BE PVC AS PER ANSI / AWWA C905, AND SHALL BE INSTALLED SO THAT NO JOINT OCCURS LESS THAN 10' FROM WATER MAIN CENTERLINE



SANITARY SEWER CROSSING UNDER WATER MAIN

NO SCALE

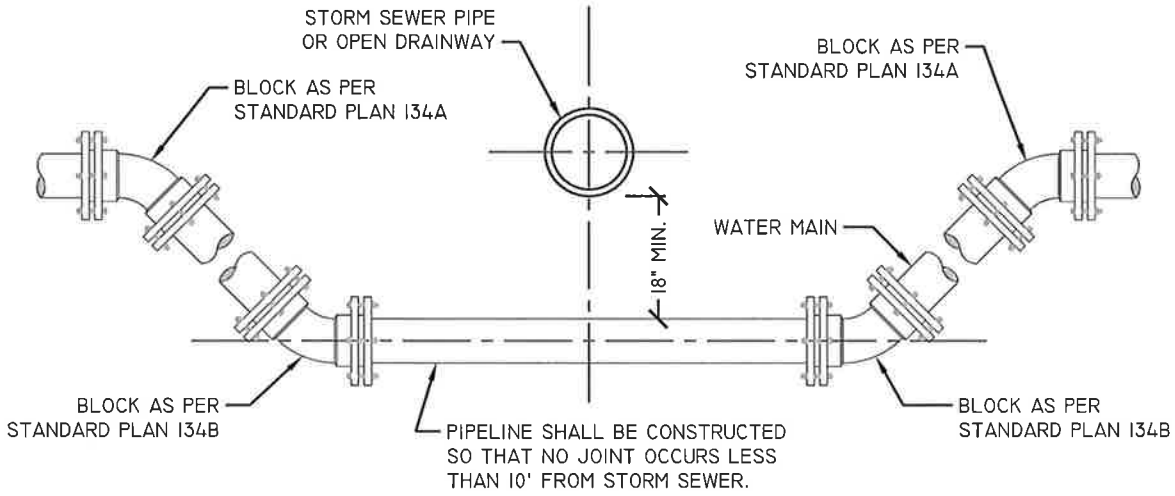


ALL PIPE, 4" THROUGH 12" SHALL BE PVC AS PER ANSI / AWWA C900, AND ALL PIPE, 14" THROUGH 48" SHALL BE PVC AS PER ANSI / AWWA C905, AND SHALL BE INSTALLED SO THAT NO JOINT OCCURS LESS THAN 10' FROM WATER MAIN CENTERLINE

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	REVISED: 5/22/2002 DRAWN BY: ZEX CHECKED BY: T.W.B.	SANITARY SEWER WATER MAIN CROSSING	PLAN 138

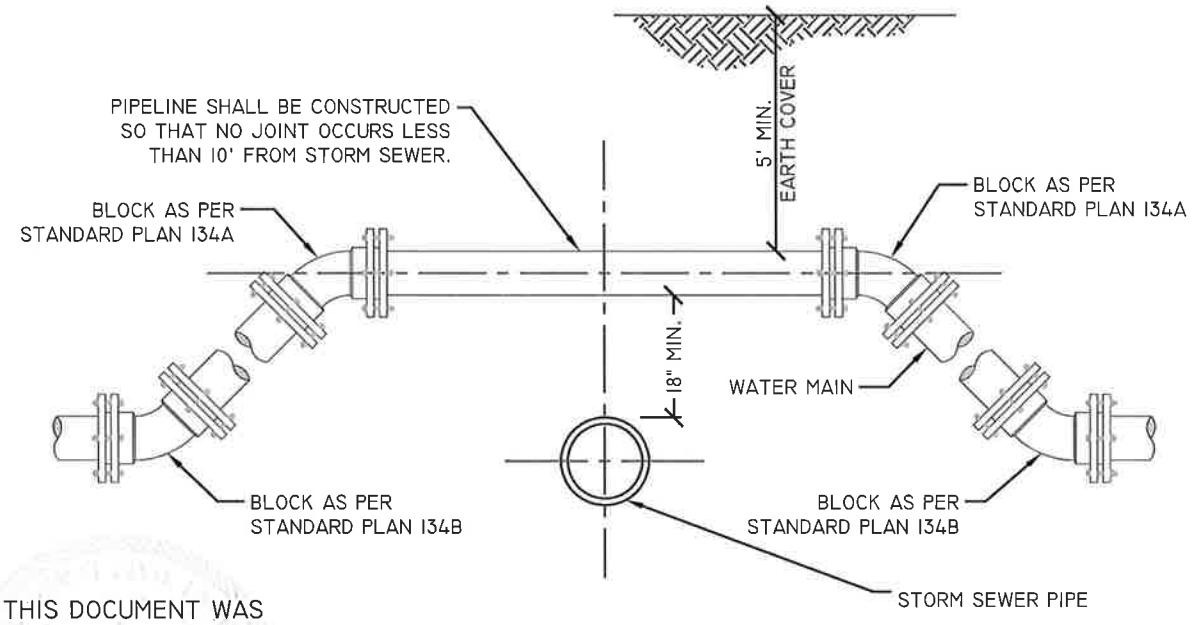
WATER MAIN CROSSING UNDER STORM SEWER / DRAINWAY

NO SCALE

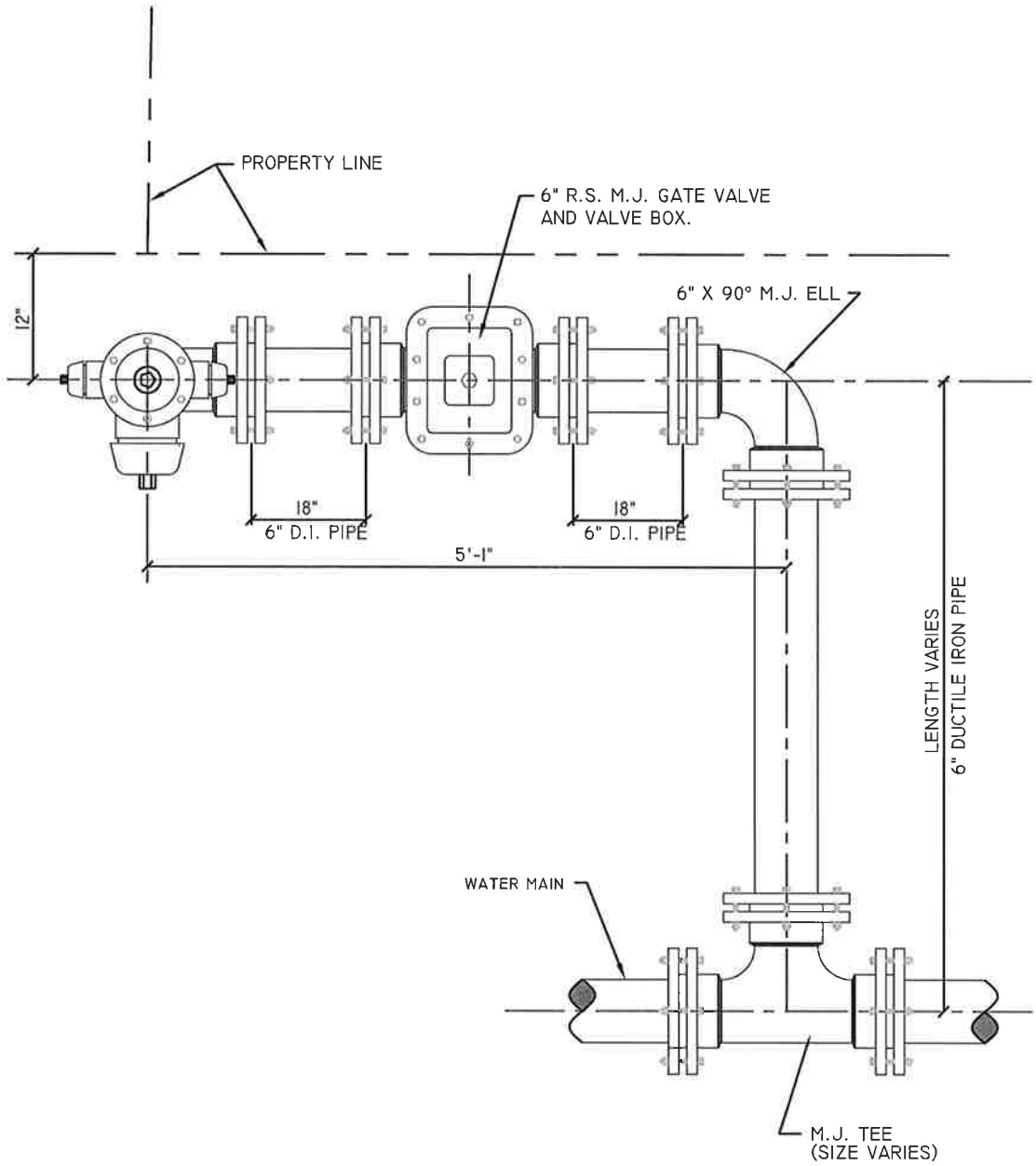


WATER MAIN CROSSING OVER STORM SEWER

NO SCALE



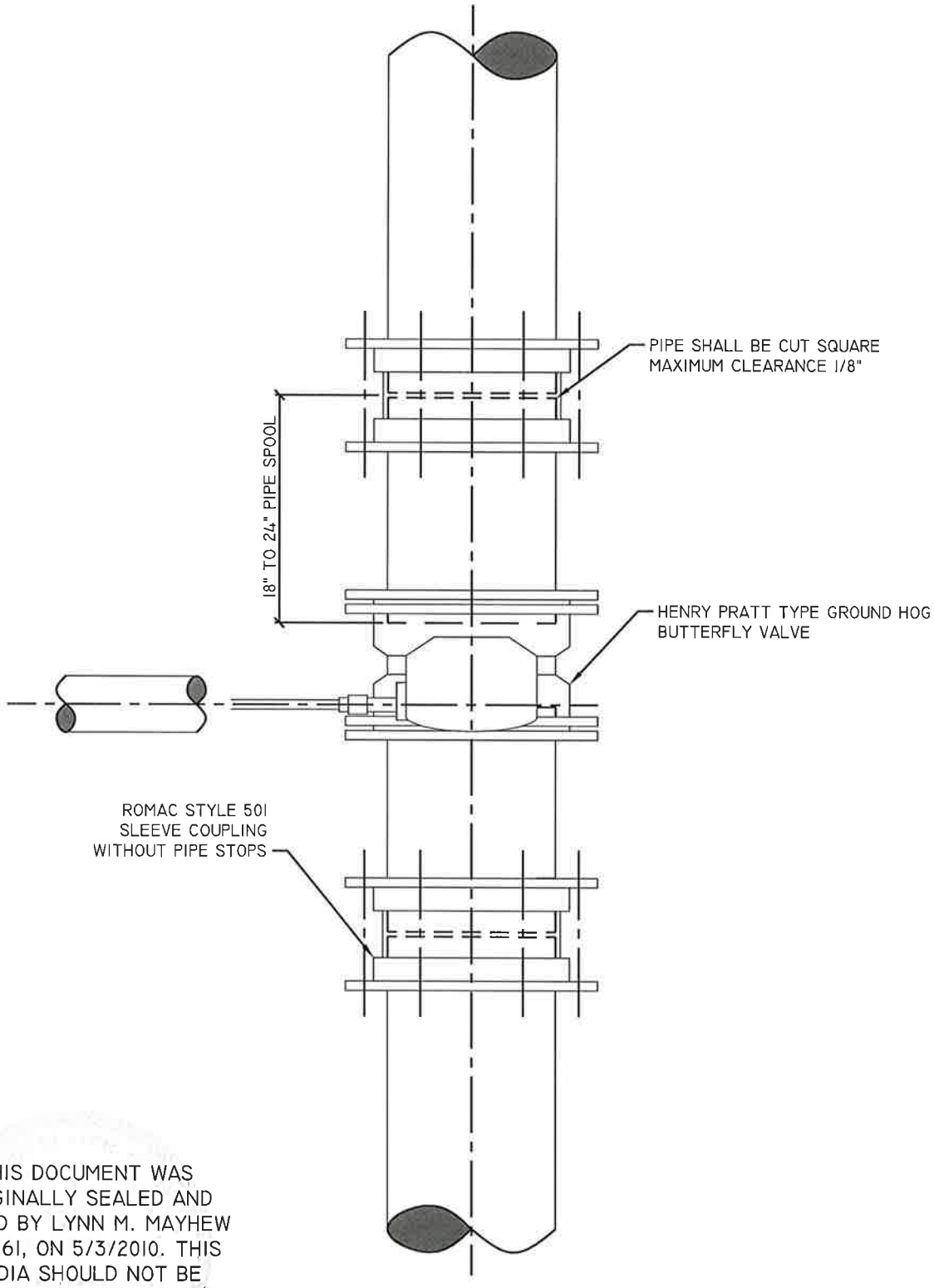
CITY OF GRAND ISLAND UTILITIES DEPARTMENT	REVISED: 8/17/2005 DRAWN BY: P.F.G. CHECKED BY: T.W.B.	STORM SEWER OR DRAINWAY - WATER MAIN CROSSING	PLAN 138A



NOTES :

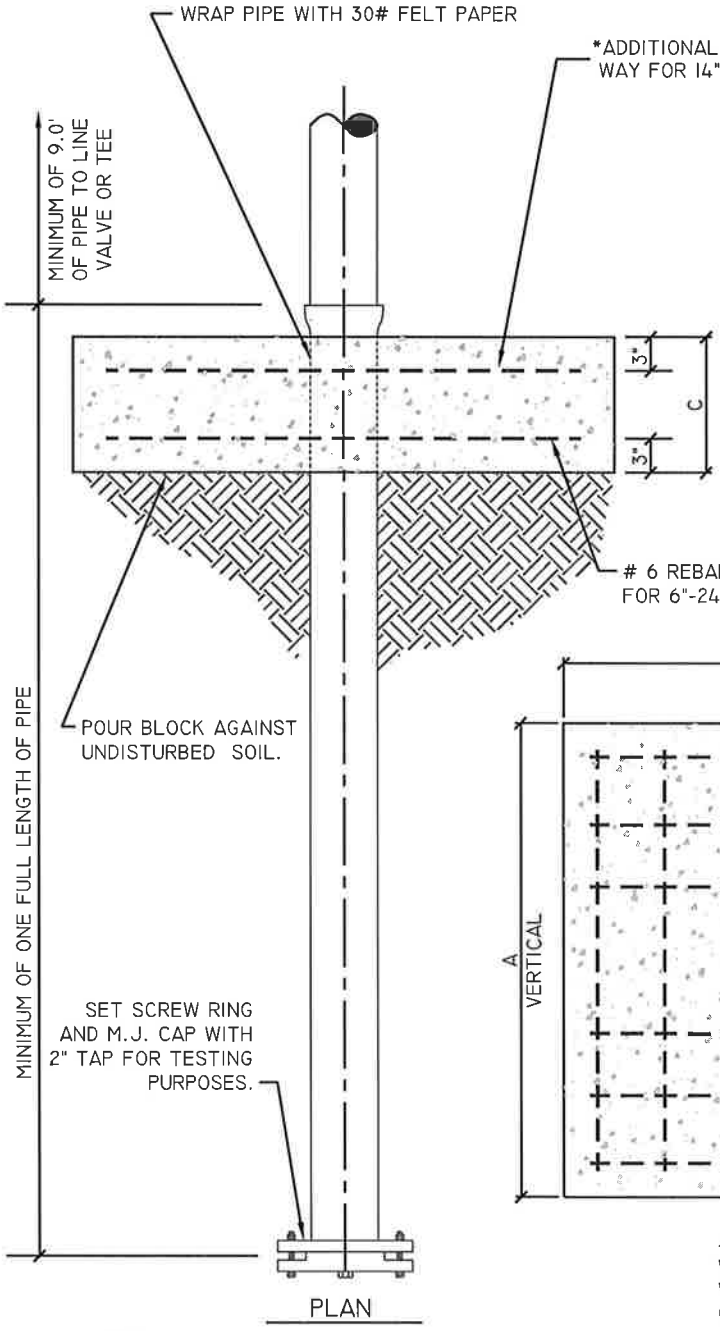
1. EACH FIRE HYDRANT ASSEMBLY SHALL INCLUDE: FIRE HYDRANT, 6" DUCTILE IRON PIPE AS REQUIRED TO COMPLETE THE ASSEMBLY, 6" M.J. R.S. GATE VALVE, VALVE BOX, 6" X 90° M.J. ELL, AND THRUST BLOCKS AS PER STANDARD PLANS 134 AND 135.
2. THE CONTRACTOR SHALL SET OR TURN ALL FIRE HYDRANTS SO THE PUMPER NOZZLE FACES THE DRIVEN ROADWAY OR AS OTHERWISE DIRECTED BY THE UTILITIES DEPARTMENT.
3. WHERE FIRE HYDRANTS ARE LOCATED IN A HARD SURFACED ISLAND, OR PARKING AREA, THE CONTRACTOR SHALL PROVIDE AN 18" BLOCK-OUT AROUND THE HYDRANT BARREL FILLED WITH COMPACTED SOIL.

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	REVISED: 12/06/2004 DRAWN BY: ZEX CHECKED BY: T.W.B.	FIRE HYDRANT LOCATION	PLAN 140

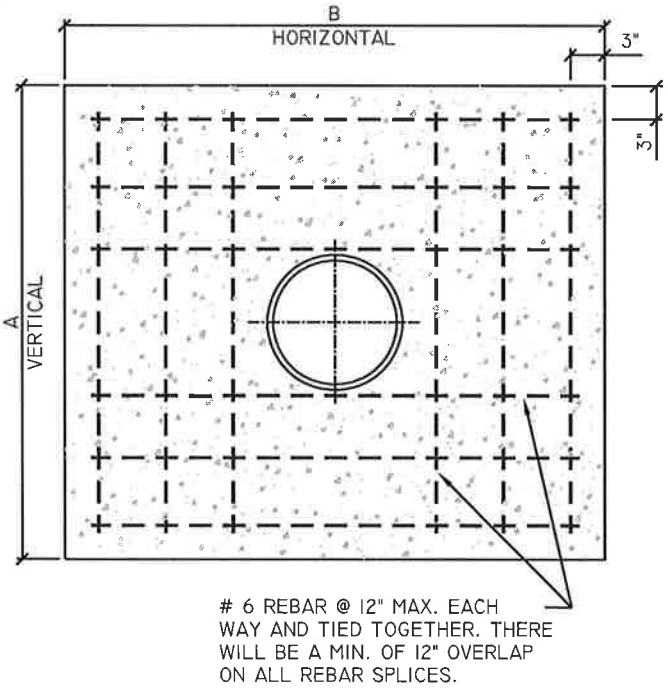


ELEVATION

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	REVISED: 5/22/2002 DRAWN BY: ZEX CHECKED BY: T.W.B.	BUTTERFLY VALVE INSTALLATION	PLAN 142



MIN. BELL BLOCK DIMENSIONS			
PIPE DIA.	VERT. "A"	HORZ. "B"	WIDTH "C"
6"	42"	48"	12"
8"	42"	48"	12"
10"	48"	48"	12"
12"	48"	48"	12"
*14"	54"	54"	18"
*16"	54"	60"	18"
*18"	54"	66"	18"
*20"	60"	84"	18"
*24"	60"	102"	18"
* 2 ROWS OF # 6 REBAR REQUIRED			



ELEVATION

NOTES:

1. GRANULAR BACKFILL SHALL BE PLACED IN 3" TO 6" VERTICAL LIFTS AND COMPACTED BY APRROVED MECHANICAL TAMPING DEVICE. MINIMUM EARTH COVER SHALL BE 5'-0".
2. ALL THRUST BLOCKS TO BE TYPE 47-B MODIFIED POURED CONCRETE AS PER DIVISION II; "CONCRETE PAVING SPECIFICATIONS"; AND DIVISION VI "WATER MAINS".
3. ALL CONCRETE BLOCKING SHALL BE INSTALLED IN SUCH A MANNER THAT ALL PIPE AND FITTING JOINTS ARE ACCESSIBLE.

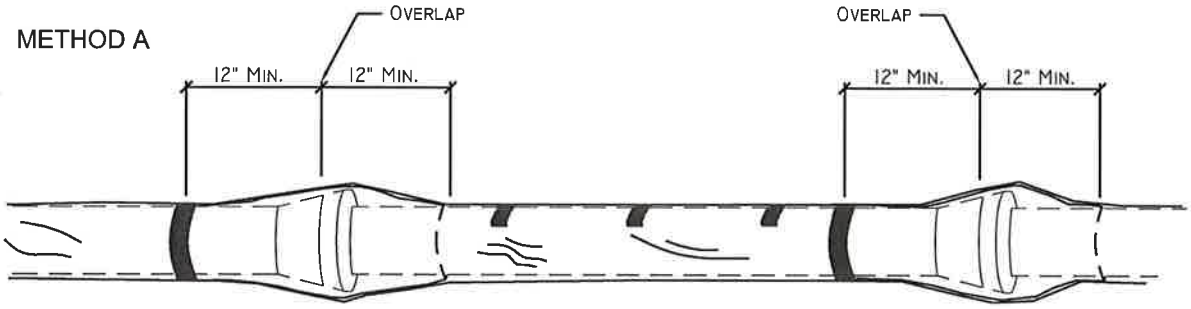
CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

REVISED: 12/13/2004
DRAWN BY: ZEX
CHECKED BY: T.W.B.

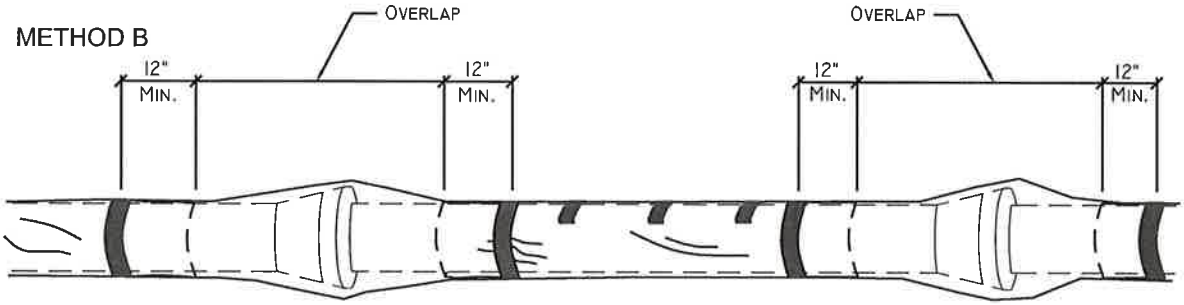
BELL JOINT BLOCK

PLAN 143

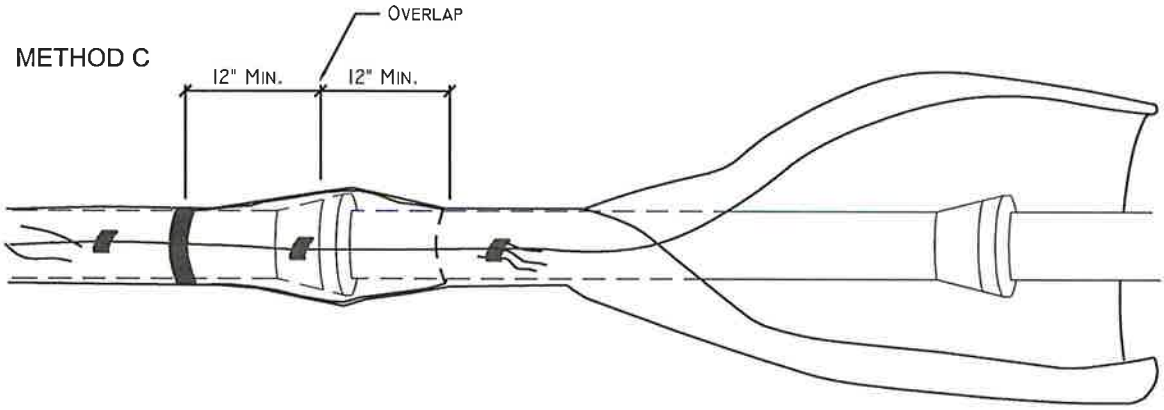
METHOD A



METHOD B



METHOD C



POLYETHYLENE TUBE AND SHEET SIZES NOMINAL THICKNESS OF 0.008 IN. (8 MIL.)		
NOMINAL PIPE DIA. (INCHES)	MIN. POLYETHYLENE WIDTH (INCHES)	
	FLAT TUBE	SHEET
4	16	32
6	20	40
8	24	48
10	27	54
12	30	60
14	34	68
16	37	74
18	41	82
20	45	90
24	54	108
30	67	134
36	81	162

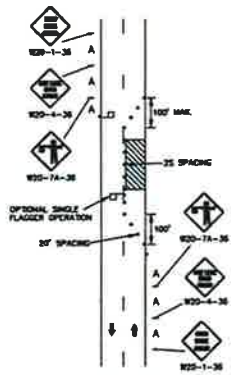
CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

REVISED: 5/22/2002
DRAWN BY: ZEX
CHECKED BY: T.W.B.

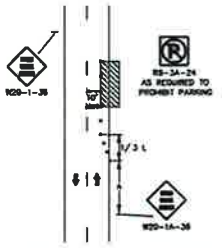
POLYETHLENE ENCASEMENT

PLAN 155

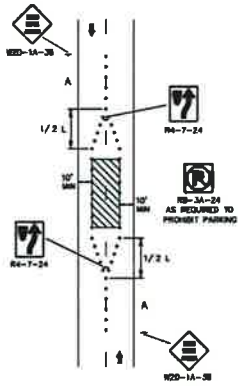
APPENDIX



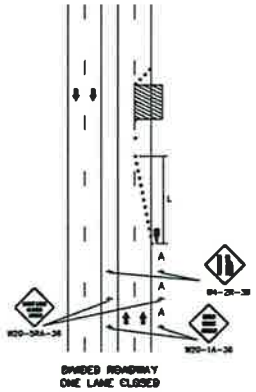
ONE LANE CLOSED WITH FLAGGER



SHOULDER OR PARKING LANE CLOSED



WORK IN CENTER OF ROAD WITH LOW TRAFFIC VOLUMES



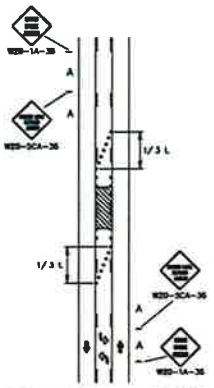
SHADED ROADWAY
ONE LANE CLOSED

LEGEND

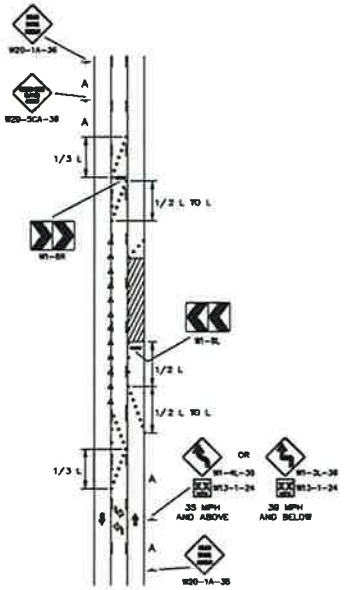
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- REFLECTORIZED PLASTIC DRUM OR TYPE II BARRICADE (SEE NOTE 6)
- SIGN
- 28" CONES OR 28" TUBULAR POST

TAPER FORMULA

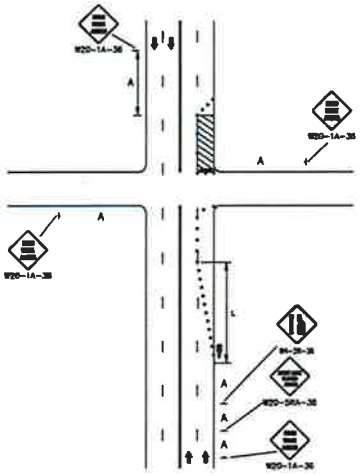
- L = MERGING TAPER
- L/2 = SHIFTING TAPER
- L/S = SHOULDER TAPER
- L = W x S FOR SPEEDS OF 45 MPH OR HIGHER
- L = $\frac{S^2 W}{60}$ FOR SPEEDS OF 40 MPH OR LOWER
- L = MINIMUM LENGTH OF TAPER
- S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK
- W = WIDTH OF OFFSET



TWO-WAY LEFT TURN LANE CLOSED



3-LANE ROADWAY
ONE LANE CLOSED



LANE CLOSED NEAR INTERSECTION
(RIGHT LANE CLOSED)

GENERAL NOTES

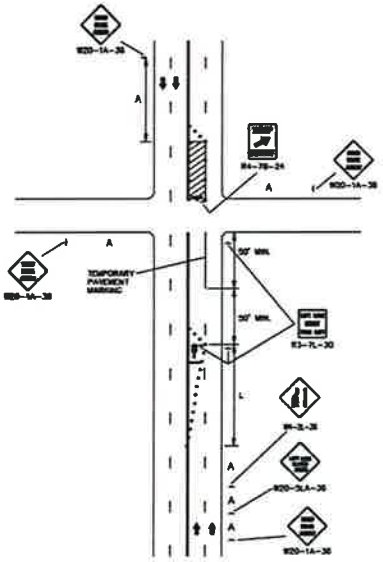
1. ALL BARRICADE AND SIGN LOCATIONS ON THIS PLAN ARE APPROXIMATE, AND MAY BE ADJUSTED TO FIT FIELD CONDITIONS. THE SIGNS SHALL BE INSTALLED SO AS NOT TO OBSCURE THE VIEW OF OTHER TRAFFIC CONTROL DEVICES.
2. MINIMUM WIDTH OF TRAVELLED LANE SHALL BE AS REQUIRED BY THE ENGINEER.
3. FLASHING ARROW PANEL REQUIRED ON ALL ROADWAYS WITH POSTED SPEED LIMIT 45 MPH OR HIGHER.
4. LONG TERM FLASHING ARROW PANELS IN URBAN RESIDENTIAL AREAS WHERE DIESEL ENGINE NOISE WILL BE DISRUPTIVE TO RESIDENTS, MAY BE REQUIRED TO OPERATE BY 120 VAC OR, IF SIGHT DISTANCE ALLOWS A SOLAR POWERED ARROW PANEL MAY BE USED.
5. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. WHERE USED ALONG THE WORK AREA, THE SPACING MAY BE INCREASED TO TWO S SPACING.
6. SUBSTITUTION OF CONES, IF IN ACCORDANCE WITH SECTION 6F.64 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, IS PERMITTED.

ROAD TYPE	MINIMUM DISTANCE BETWEEN SIGNS
	A
URBAN (LOW SPEED – 25 MPH TO 40 MPH)	150
URBAN (HIGH SPEED – GREATER THAN 45 MPH)	350

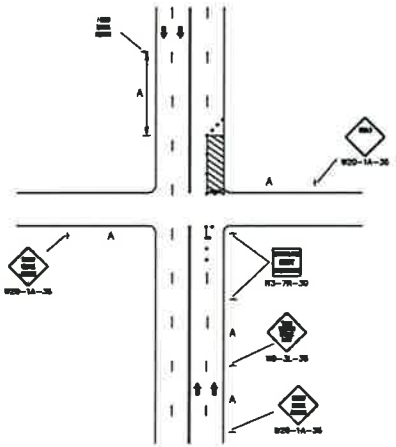
REGISTERED PROFESSIONAL ENGINEER
TERRY A. BROWN
E-6731
STATE OF NEBRASKA

CITY OF GRAND ISLAND
ENGINEERING DIVISION
TYPICAL TRAFFIC CONTROL PLAN

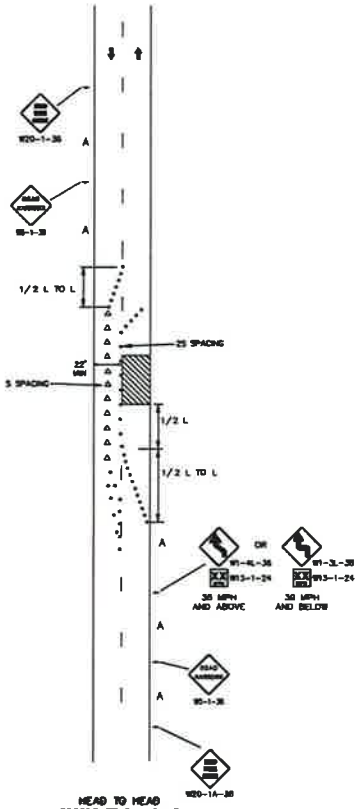
DESIGNED	12/98	SS	TYPICAL URBAN TRAFFIC CONTROL PLAN	1/3
REVISED				



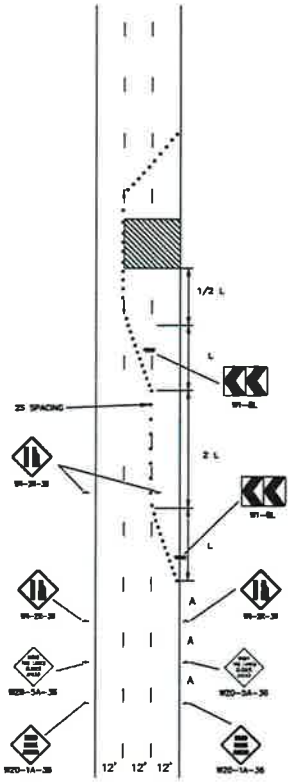
LANE CLOSED NEAR INTERSECTION
(LEFT LANE CLOSURE FORMING A RUNAWAY)



LANE CLOSED NEAR INTERSECTION
(RIGHT LANE REMAINS OPEN)



HEAD TO HEAD
SPEEDS BELOW 40 MPH

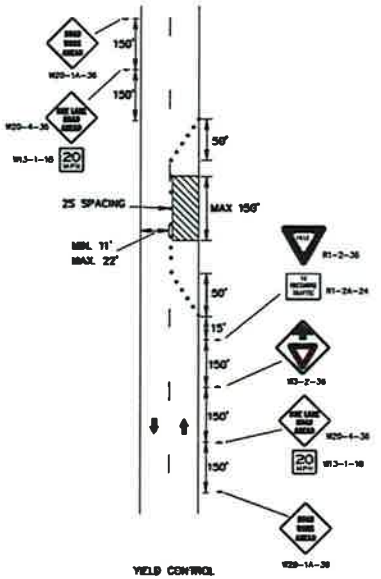


MULTIPLE LANE CLOSURE

MERGING TAPER (L) 12' WIDTH

SPEED	DESCRIPTION
25	8 CONES AT 20' SPACES
30	10 CONES AT 20' SPACES
35	11 CONES AT 25' SPACES
40	11 CONES AT 35' SPACES
45	13 CONES AT 45' SPACES

S = POSTED SPEED LIMIT



YIELD CONTROL
USE FOR SPEED LIMITS OF 40 OR BELOW
USE ON CITY STREETS ONLY

TERRY A. BROWN E-8731 REGISTERED PROFESSIONAL ENGINEER STATE OF NEBRASKA

CITY OF GRAND ISLAND ENGINEERING DIVISION	
TYPICAL TRAFFIC CONTROL PLAN	
DESIGNED 12/98 SS REVISED	TYPICAL URBAN TRAFFIC CONTROL PLAN

NPDES CONSTRUCTION DEWATERING DISCHARGE PERMIT

Nebraska Department
of Environmental Quality

Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Lincoln, NE 68509-8922
Tel.: 402-471-4220
Fax:: 402-471-2909

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
General NPDES Permit Number NEG671000

A General NPDES Permit Authorizing Dewatering Discharges

In compliance with the provisions of the Federal Water Pollution Control Act (33 U.S.C. Sections. 1251 et. seq. as amended to date), the Nebraska Environmental Protection Act (Neb. Rev. Stat. Sections 81-1501 et. seq. as amended to date), and the Rules and Regulations promulgated pursuant to these Acts, the Director of the Nebraska Department of Environmental Quality is hereby issuing this general permit authorizing the discharge of pollutants to waters of the State and excluding tribal lands within the State of Nebraska. This general permit establishes prohibitions, limitations and other conditions pertaining to these discharges. This general permit does not relieve permittees of other duties and responsibilities under the Nebraska Environmental Protection Act, as amended, or established by regulations promulgated pursuant thereto.

This general permit establishes prohibitions and other conditions pertaining to these types of discharges. This general permit is issued authorizing dewatering discharges from construction excavation sites and wells to waters of the state. Some dewatering discharges may be prohibited to those waters identified in Part I B and C of this permit.

This permit shall become effective on **January 1, 2012.**

This permit and the authorization to discharge shall expire at midnight, **December 31, 2016**

Pursuant to the Delegation Memorandum dated January 12, 1999 and signed by the Director, the undersigned hereby executes this document on the behalf of the Director.

Signed this 30th day of December, 2011

Marty Link
Acting Water Quality Division Administrator

Table of Contents

Part I. Eligibility

A. Discharges Authorized by this Permit

This permit authorizes ground and surface waters discharges from dewatering construction excavations, foundation sumps, utility vaults or wells provided the water being discharged is groundwater or groundwater mixed with storm water. This permit does not constitute authorization under 33 U.S.C. 1344 (Section 404 of the Clean Water Act) of any stream dredging or filling operations.

B. Area of Application

This permit has application throughout the entire State of Nebraska excluding State Resource Waters and tribal lands within the State of Nebraska.

C. Limitations of Coverage

This permit does not authorize the following discharges and may be the basis for denial or termination of authorization under this general permit. The department shall be consulted prior to your submission of the DW-NOI if any of the following conditions apply:

1. Discharges regulated by an existing NPDES permit;
2. Direct discharges to classified lakes or impounded waters listed in NDEQ Title 117, Chapter 6;
3. State Resource Waters (See Appendix B)
4. Discharges to Public Drinking Water (See Appendix B), unless written authorization from the Department is received;
5. Discharges to tribal lands within the State of Nebraska;
6. The discharges containing sanitary, process wastewater or livestock wastes;
7. Discharges in the opinion of the Department, may create potential, negative water quality impacts in the receiving stream, water body; and ground water;
8. Discharges that may adversely impact critical habitat of aquatic related, threatened or endangered species as designated by Nebraska Game and Parks Commission (www.ngpc.state.ne.us) or the U.S. Fish and Wildlife Service (www.fws.gov);
9. Discharges that may adversely affect properties listed or eligible for listing in the National Register of Historic Places (www.nebraskahistory.org) or affecting known or discovered archeological sites; and
10. Storm water discharges associated with industrial activity as defined in Title 119, which includes storm water discharges from construction sites of 1 acre or more.

D. Permit Compliance

Any noncompliance with the requirements of this Permit constitutes a violation of the provisions of the Federal Water Pollution Control Act (33 U.S.C. Secs. 1251 et. seq. as amended to date), the Nebraska Environmental Protection Act (Neb. Rev. Stat. Secs. 81-1501 et. seq. as amended to date), and the Rules and Regulations promulgated pursuant to these Acts.

Part II. Authorization to Discharge

A. Authorization

Eligible facilities are defined by the requirements and limitations in Part I. The eligible facilities may apply for authorization to discharge under this general permit using the Notice of Intent (DW-NOI) (See Attachment #1). You must use the DW-NOI form provided in Attachment #1 (or a photocopy thereof or electronic DW-NOI form that may become available during the term of this permit provided by NDEQ).

1. You must use the DW-NOI form to notify the Department that as a Permittee, you intend to meet all conditions of this permit. Complete, accurate, and timely DW-NOI forms shall automatically receive authorization ten (10) calendar days after the post-marked date. The Department shall provide a Discharge Authorization Number for the dewatering site described on the DW-NOI form.
   a. Ongoing projects authorized under the previous version of this permit shall remain in effect no longer than 180 days after the issue date of this permit. Permittees with ongoing projects shall operate under

all existing terms and conditions of that permit until the project is either terminated or receives authorization under this permit.

b. You are not prohibited from submitting NOIs after initiating Dewatering. An NOI submitted to the Department after initiating dewatering shall receive authorization consistent with this permit. Authorization of a late NOI shall not preclude the Department from taking enforcement action for discharging pollutants to Waters of the State without a permit.

c. The Department may request additional information from an applicant for any substantive reason and postpone the assignment of discharge authorization in writing as necessary.

d. Written authorization shall be required for dewatering when effluent discharge is within 2,500 feet of any water of the state identified in Appendix B of this permit.

e. Submittal of the NPDES DW-NOI form does not relieve the applicant of the responsibility to comply with the requirements of other government agencies.

f. The current addresses and telephone number at the time of permit issuance are:

Wastewater Section
Nebraska Department of Environmental Quality
1200 N Street, The Atrium, Suite 400
P.O. Box 98922
Lincoln, Nebraska 68509-8922
Telephone 402-471-4220

Web Site Address: www.deq.state.ne.us/publications/grantsandforms/npdes program/applications

2. Contents of the Notice of Intent

You must provide the following information on the DW-NOI form

Site Information

The following information shall be provided:

1) The name of the site;
2) The site location in descriptive terms (i.e., street address, or if not available, in relationship to recognizable landmarks);
3) A legal description designated in terms of section, township, range and county, provided to the nearest 1/16th of a section, unless the facility occupies a larger area (e.g., NW¼, SW¼, S10, T15N, R11E, Douglas County) and/or Global Positioning System (GPS) location;
4) Information on the number of outfalls and the discharge volume anticipated from each;
5) The source of water (e.g., surface water, storm water runoff and/or ground water);
6) The identity of any contamination and/or pollutants that may be present in dewatering discharges.

Receiving Stream

1) The name of the stream or water body that will receive the outfall discharges;
2) Identify the number of outfalls that discharge into the receiving stream;
3) Identify if the receiving stream(s) is listed in Appendix B, and
4) Provide a brief description of any controls used to dissipate energy so as to prevent channel erosion and scouring in the receiving stream or drainage way.

The "Certifying Official's" Identity, Mailing Address and Telephone Number

The "Authorized Representative's" Identity, Mailing Address and Telephone Number

Certification Statement

The following certification statement shall be contained in the Notice of Intent:

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

I further certify that:

1) I or qualified members of my staff, have reviewed and understand the terms and conditions of NPDES General Permit Number NEG671000;
2) The facility identified in Section 1 of this DW-NOI (Notice of Intent) meets the "Eligibility" requirements and is not excluded by the "Limitation of Coverage" requirements, set forth in Section C of the permit; and
3) I understand that the submission of this DW-NOI (Notice of Intent) obligates the facility identified in Section 1 of this Notice of Intent to comply with the terms and conditions of the Permit NEG671000, provided authorization to discharge is obtained.

Signature Requirements

The owner/operator (person, business, or governmental entity) shall sign and submit the initial Notice of Intent. DW-NOIs for additional sites may be submitted under the signature of the Authorized Representative. The owner/operator must specifically authorize the Authorized Representative to perform this task in a previous DW-NOI or other written documentation.

B. Additional Notification Requirements that Apply to Some Facilities

1. The Department may request additional information from the applicant when it is necessary to adequately review the DW-NOI and evaluate the discharge request.
2. Facilities that discharge to a public or private storm sewer system are obligated to notify the owner or operator of the storm sewer system.

C. Revocation of Discharge Authorization

1. The Director may revoke a permittee's authorization to discharge under the terms and conditions of this permit for any of the following reasons:
   a. When it becomes necessary to protect the public health and welfare.
   b. The discharge is adversely affecting a listed endangered or threatened species or its critical habitat;
   c. The discharge is causing a violation of a surface or ground water quality standard; and
   d. A permittee fails to submit an alternative permit application requested pursuant to Part II.D.
2. The Department may deny authorization to discharge under the terms and conditions of this permit by providing the applicant with a written notice of the denial and an explanation of the basis for the determination.
3. The Department may require the submittal of a different Notice of Intent for an alternative general permit. The Department shall provide an explanation of the basis for any such request.
4. All permittees must meet the requirements set forth in this permit. Failure to do so shall negate any authorization to discharge.
5. Authorization to discharge under the terms and conditions of this permit shall be terminated upon the issuance of the alternative permit or the granting of discharge authorization under another alternative general permit.

D. Requiring an Alternative Permit and Application

1. The Director may require any person authorized to discharge under the terms and conditions of this permit to apply for and obtain either a site-specific NPDES permit or an alternative NPDES general permit. The Department shall provide a written notice that an alternative permits application is required. This notice shall include:
   a. A brief explanation of the basis for the determination;
   b. An application or Notice of Intent for an alternative permit; and
   c. A deadline for submitting the application for the alternative permit.
2. The Director may grant additional time for the submittal of the alternative application following the initial notice. Conditions that may constitute a basis for requesting an alternative application include, but are not limited to:
   a. The discharge is a significant contributor of pollution;
   b. The discharge is to Public Drinking Water Supply (see Appendix B);
   c. The discharger is not in compliance with the terms and conditions of the permit;
   d. Additional pollution control or prevention technology has become available;
   e. The promulgation of new effluent limitations that apply to the source;
   f. The approval of a water quality management plan containing requirements applicable to the source;
   g. The identification of conditions or pollutant sources not previously recognized; and
   h. The issuance of an alternative general permit that applies to the discharge.

E. Notification of Changes: Ownership, Name, or Contacts

The permittee is responsible for notifying the Department within 30 days of any transfer of ownership, facility name change, or changes in the owner/operator or Authorized Representative. The former owner and the new owner must provide written notification of ownership changes.

F. Notification of Activities that may alter the Water Quality of the Discharge

The permittee shall notify the Department immediately of any activities or actions that may alter the water quality of dewatering discharges. For additional reporting requirements relative to spills, leaks, or effluent physical characteristics (Immediate Reporting Requirements) see Part IV.F.

G. Notification of Project Relocation or Completion

1. The permittee shall notify the Wastewater Section within 30 days when a different dewatering site is established. The written notification of these site changes is completed using the NPDES DW-RLN form - Relocation Notice.

2. The permittee shall notify the Department prior to initiating dewatering activities if the start-up date varies by more than one week of the anticipated date submitted in the DW-NOI form. Written notification shall be provided to the Department.
3. The permittee shall provide the Department with a written notification of the project termination within 30 days after discontinuing the dewatering activities.

Part III. Effluent Limitations and Monitoring Requirements for Dewatering Discharges

A. Construction Excavation Discharge Effluent Limitations and Monitoring Requirements

The dewatering discharges associated with construction excavation sites shall be monitored and subject to the limitations set forth in the following table. Monitoring shall be conducted at the discharge point(s). The Department may specify an alternate or more specific monitoring point(s).

Parameter	Storet #	Units	Discharge Limitations		Monitoring Frequency [1]	Sample Type
			Monthly Average	Daily Maximum		
Flow	50050	MGD	Report	Report [2]	Daily	Calculated or Measured
Physical Characteristics [3]	NA	NA	[3]		Daily	*In Situ* and Grab [3]
Petroleum Hydrocarbons [4]	82180	mg/L	Report	10	[4]	Grab
Total Suspended Solids	00530	mg/L	Report	90	Weekly	Grab
Metals	NA	mg/L	Varies	Varies	[7]	Grab
Organics	NA	mg/L	Varies	Varies	[7]	Grab
Parameter	**Storet #**	**Units**	**Discharge Limitations**		**Monitoring Frequency**	**Sample Type**
			Minimum	**Maximum**		
pH [5]	00400	Standard Units	6.5 [6]	9.0 [2]	Weekly	Grab

Footnotes:

(1) Monitoring shall be initiated within 8 hours after the discharge is started.

(2) Maximum means the maximum amount discharged.

(3) The procedures, limits, sampling, record keeping and reporting requirements for this parameter are set forth in the 'Physical Characteristics Examination Procedures' (see Attachment #6 of this permit).

(4) If a visible hydrocarbon sheen or petroleum free-product is detected during the physical characteristic examination, the petroleum hydrocarbon reporting and limitation requirements apply. The OA-2 test method (University Hygienic Laboratory, Iowa City, IA) shall be used for Total Extractable Hydrocarbon analyses, unless otherwise specified in writing by the NDEQ.

(5) All pH samples must be analyzed within a 15-minute time period.

(6) Minimum means the minimum acceptable value. pH is reported as the negative logarithm of the hydrogen ion concentration. pH results cannot be averaged.

(7) Applicable on a site by site basis

Abbreviations: MGD - million gallons per day mg/L - milligrams per Liter NA - Not Applicable

B. Foundation Sumps, Utility Vaults or Well Effluent Limitations and Monitoring Requirements

The dewatering discharges associated with foundation sumps, utility vaults or wells used to lower ground water levels shall be monitored and subject to the limitations set forth in the following table. Monitoring shall be conducted at the discharge point(s). The Department may specify an alternate or more specific monitoring point(s).

Parameter	Storet #	Units	Discharge Limitations		Monitoring Frequency [1]	Sample Type
			Monthly Average	Daily Maximum		
Flow	50050	Gallons per Day	Report	Report [2]	Daily	Calculated or Measured
Physical Characteristics [3]	NA	NA	[3]		Daily	*In Situ* and Grab [3]
Petroleum Hydrocarbons [4]	82180	mg/L	Report	10	[4]	Grab
Total Suspended Solids	00530	mg/L	Report	30	Weekly	Grab
Metals	NA	mg/L	Varies	Varies	[7]	Grab
Organics	NA	mg/L	Varies	Varies	[7]	Grab
Parameter	**Storet #**	**Units**	**Discharge Limitations**		**Monitoring Frequency**	**Sample Type**
			Minimum	**Maximum**		
pH [5]	00400	Standard Units	6.5 [6]	9.0 [2]	Weekly	Grab

Footnotes:

(1) Monitoring shall be initiated within 8 hours after the discharge is started.

(2) Maximum means the maximum amount discharged.

(3) The procedures, limits, sampling, record keeping and reporting requirements for this parameter are set forth in the 'Physical Characteristics Examination Procedures' (see Attachment #6 of this permit).

(4) If a visible hydrocarbon sheen or petroleum free-product is detected during the physical characteristic examination, the petroleum hydrocarbon reporting and limitation requirements apply. The OA-2 test method (University Hygienic Laboratory, Iowa City, IA) shall be used for Total Extractable Hydrocarbon analyses, unless otherwise specified in writing by the NDEQ.

(5) All pH samples must be analyzed within a 15-minute time period.

(6) Minimum means the minimum acceptable value. pH is reported as the negative logarithm of the hydrogen ion concentration. pH results cannot be averaged.

(7) Applicable on a site by site basis

Abbreviations: MGD - million gallons per day mg/L - milligrams per Liter NA - Not Applicable

C. Site Specific Limitations

Site specific limitations for a parameter may be added on a case-by-case basis that are equivalent to the basic standards and methodologies for surface water, or regulation for effluent limitations, or any other applicable regulation, and would be specified in the certification along with the appropriate monitoring frequency.

D. One-time sampling analysis for Metals

The Department may request a one-time sampling and analysis for specific or all inclusive metals parameters on a site specific/ discharge specific basis. The permittee will be required to submit these results to the Department. The Department will then review the data to determine if any certification amendments are necessary based on the effluent monitoring results.

E. One-time sampling analysis for Organics

The Department may request a one-time sampling and analysis for specific or all inclusive organics parameters on a site specific/ discharge specific basis. The permittee will be required to submit these results to the Department. The Department will then review the data to determine if any certification amendments are necessary based on the effluent monitoring results.

Part IV. Other Conditions and Requirements

A. Compliance with Permit Terms and Conditions

Compliance with the terms and conditions of this permit does not relieve the permittee from any liability that may arise as a consequence of their discharges.

B. Discharge affecting Endangered or Threatened Species

This permit does not replace or satisfy any review requirements for Endangered or Threatened species from new or expanded discharges that adversely impact or contribute to adverse impacts on a listed endangered or threatened species or adversely modify a designated critical habitat. The permittee must conduct any required review and coordinate with appropriate agencies for any project with the potential of affecting threatened or endangered species, or their critical habitat.

C. Discharges Affecting Historical Places or Archeological Sites

This permit does not replace or satisfy any review requirements for Historic Places or Archeological Sites, from new or expanded discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered Archeological Sites. The permittee must be in compliance with National Historic Preservation Act and conduct all required review and coordination related to historic preservation, including significant anthropological sites and any burial sites, with the Nebraska Historic Preservation Officer. You must comply with all applicable state, and local laws concerning the protection of historic properties and places. Your discharge authorization under this permit is contingent upon this compliance.

D. Prohibited Toxic Discharges

Discharges shall be free from toxic substances, which alone or in combination with other substances, create conditions unsuitable for aquatic life, except in instances where there is no net increase in the receiving water body of the quantity or concentration of the toxic substance. The exception shall only apply in instances where water is taken from and discharged to the same water body and no increases in pollutant quantities or concentrations occur.

E. Prohibited Discharges that Cause Aesthetic Violations

Discharges shall not contain pollutants at concentrations or levels that produce objectionable films, foam, colors, turbidity or deposits, or noxious odors in the receiving stream or waterway, except in instances where there is no net increase in pollutant quantities or concentrations in the receiving water body. The exception shall only apply in instances where water is taken from and discharged to the same water body and no increases in pollutant quantities or concentrations occur.

F. Immediate Reporting Requirement

The permittees shall report immediately by telephone upon becoming aware of any of the following:

1. Evidence indicating a possible violation of the effluent limitations and requirements listed in Effluent Limitations and Monitoring Requirements for Dewatering Discharges;
2. Evidence of oil or petroleum product contamination in the effluent (e.g., a visible oil sheen);
3. Any physical characteristic in the effluent that could indicate the presence of a pollutant or pollutants not previously identified or anticipated; and
4. The occurrence, or new knowledge of, any spills, leaks or contamination in the vicinity of the project that could impact the water quality of the effluent.

The telephone numbers are listed in Part II. A. 1. f

G. Reduction of the Monitoring Frequency

1. Excavation Dewatering

   If continuous dewatering is conducted for a period of 30 days, the permittee may request a reduction in the monitoring frequency. The request shall be submitted in writing. The compliance limitations and requirements criteria will be used to evaluate the frequency reduction.

2. Dewatering using Wells to depress the water level

   After dewatering wells have been operated continuously for a one-week period, the permittee may request a reduction in the monitoring frequency. The request shall be submitted in writing. The compliance limitations and requirements criteria will be used to evaluate the frequency reduction.

H. Implementation of Erosion Control and Energy Dissipation Measures

Permittees shall implement erosion control and energy dissipation measures as necessary to prevent excessive erosion and channel scouring that may result from the discharge flow.

I. Groundwater Contamination

If groundwater contamination is encountered, then the permittee is to contact the department and, if appropriate, the owner of the collection system receiving the discharge. Since this discharge of contaminated groundwater is not covered under this permit, the permittee shall immediately cease dewatering and apply for a treated groundwater remediation discharge permit.

J. Modification of Permit Attachments

The Department may modify the permit attachments (i.e., DW-NOI, DW-DMR, and DW-RLN forms). The modified forms satisfy the notification and reporting requirements set forth in this permit. If information is submitted on an outdated form, opportunity to resubmit the information shall be provided the permittee, or, at the discretion of the Department, submittals on outdated forms may be accepted.

K. Additional Monitoring Requirements

In addition to monitoring requirements set forth, the Department may request more frequent monitoring.

Appendix A – Standard Conditions that Apply to NPDES and NPP Permits

These general conditions are applicable to all NPDES and NPP permits. These conditions shall not preempt any more stringent requirements found elsewhere in this permit.

A. General Conditions

1. **Information Available**

   All permit applications, fact sheets, permits, discharge data, monitoring reports, and any public comments concerning such shall be available to the public for inspection and copying, unless such information about methods or processes is entitled to protection as trade secrets of the owner or operator under Neb. Rev. Stat. §81-1527, (Reissue 1999) and NDEQ Title 115, Chapter 4.

2. **Duty to Comply**

   The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Federal Clean Water Act and the State Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

   The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal even if the permit has not yet been modified to incorporate the requirement.

3. **Duty to Reapply**

   If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

4. **Need to Halt or Reduce Activity is not a Defense**

   It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. **Duty to Mitigate**

   The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

6. **Proper Operation and Maintenance**

   The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

7. **Permit Actions**

   This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

8. **Property Rights**

   This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request copies of records required to be kept by this permit.

10. Inspection and Entry

The permittee shall allow the Director or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. Land Application of Wastewater Effluent

The permittee shall be permitted to discharge treated domestic wastewater effluent by means of land application in accordance with the regulations and standards set forth in NDEQ Title 119, Chapter 12 002. The Wastewater Section of the Department must be notified in writing if the permittee chooses to land apply effluent.

12. Toxic Pollutants

The permittee shall not discharge pollutants to waters of the state that cause a violation of the standards established in NDEQ Titles 117, 118 or 119. All discharges to surface waters of the state shall be free of toxic (acute or chronic) substances which alone or in combination with other substances, create conditions unsuitable for aquatic life outside the appropriate mixing zone.

13. Oil and Hazardous Substances/Spill Notification

Nothing in this permit shall preclude the initiation of any legal action or relieve the permittee from any responsibilities, liabilities or penalties under section 311 of the Clean Water Act. The permittee shall conform to the provisions set forth in NDEQ Title 126, *Rules and Regulations Pertaining to the Management of Wastes*. If the permittee knows, or has reason to believe, that oil or hazardous substances were released at the facility and could enter waters of the state or any of the outfall discharges authorized in this permit, the permittee shall immediately notify the Department of a release of oil or hazardous substances. During Department office hours (i.e., 8:00 a.m. to 5:00 p.m., Monday through Friday, except holidays), notification shall be made to the Nebraska Department of Environmental Quality at telephone numbers (402) 471-2186 or (877) 253-2603 (toll free). When NDEQ cannot be contacted, the permittee shall report to the Nebraska State Patrol for referral to the NDEQ Immediate Response Team at telephone number (402) 471-4545. It shall be the permittee's responsibility to maintain current telephone numbers necessary to carry out the notification requirements set forth in this paragraph.

14. Unlawful Acts; Civil Penalty

a. It shall be unlawful for any person:

i) To refuse the right of entry and inspection to any authorized representative of the department when the representative is acting under the provisions of a permit issued by the department;

ii) To violate any air, water, or land quality standards, any emission or effluent standards or limitations, any permit or license condition or limitation, any order of the director, or any monitoring, reporting, or record-keeping requirements contained in or issued or entered into pursuant to the Environmental Protection Act, the Integrated Solid Waste Management Act, or the Livestock Waste Management Act or the rules or regulations adopted and promulgated pursuant to such acts;

iii) To make any false statement, representation, or certification in any application, label, record, report, plan, or other document required to be filed or maintained by such acts, rules, or regulations;

iv) To falsify, tamper with, or render inaccurate any monitoring device or method used or required for compliance with a permit or license or such acts, rules, or regulations; or

v) To violate any other provision of or fail to perform any other duty imposed by such acts, rules, or regulations.

b. Each violation of this section or of Neb. Rev. Stat § 81-1506 shall subject a person to a civil penalty of no more than $10,000 per day. In case of a continuing violation, each day shall constitute a separate offense. In assessing the amount of the fine, the court shall consider the degree and extent of the violation, the size of the operation, and any economic benefit derived from noncompliance to violate any air, water, or land quality standards, any emission or effluent standards or limitations, any permit or license condition or limitation, any order of the Director, or any monitoring, reporting, or record-keeping requirements contained in or issued or entered into pursuant to the Environmental Protection Act, the Integrated Solid Waste Management Act, or the Livestock Waste Management Act or the rules or regulations adopted and promulgated pursuant to such acts. Violations may also result in federal prosecution.

15. Severability

If any provision of this permit is held invalid, the remainder of this permit shall not be affected.

16. Other Rules and Regulations Liability

The issuance of this permit in no way relieves the obligation of the permittee to comply with other rules and regulations of the Department.

B. Signatory Requirements

1. Applications

a. Applications, reports, or information submitted to the Director shall be signed and certified.

b. All permit applications shall be signed as follows:

i) For a corporation

By a responsible corporate officer: For the purpose of this section, a responsible corporate officer means:

(a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or

(b) The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

ii) For a partnership or sole proprietorship

By a general partner or the proprietor.

iii) For a municipality, State, Federal, or other public agency

By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(a) The chief executive officer of the agency, or

(b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

c. All reports required by permits, and other information requested by the Director shall be signed by a person described in this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

i) The authorization is made in writing by a person described in paragraphs B.1.b.(i), b.(ii), orb.(iii);

ii) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company, (a duly authorized representative may thus be either a named individual or any individual occupying a named position) and;

iii) The written authorization is submitted to the Director.

2. Changes to Authorization

If an authorization of paragraphs B.1.b.(i), b.(ii), or b.(iii) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

3. Certification

All applications, reports and information submitted as a requirement of this permit shall contain the following certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

C. Monitoring and Records

1. Samples

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. Records

Records of monitoring information shall include:

a. The date(s), exact place, and time and methods of sampling or measurements;

b. The individual(s) who performed the sampling or measurements;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such analyses.

3. Test Methods

Monitoring must be conducted according to test procedures approved in NDEQ Title 119, Chapter 27 002 unless another method is required under 40 CFR subchapter N – Effluent Guidelines and Standards Parts 425 to 471 and subchapter O – Sewer Sludge Parts 501 and 503.

4. Record Retention

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

5. Representative Sampling

Samples and measurements taken as required within this permit shall be representative of the discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water or substance. Monitoring points shall not be changed without notification to the Department and with the written approval of the Director.

a. Composite sampling shall be conducted in one of the following manners
   i) Continuous discharge - a minimum of one discrete aliquot collected every three hours,
   ii) Less than 24 hours - a minimum of hourly discrete aliquots or a continuously drawn sample shall be collected during the discharge, or
   iii) Batch discharge - a minimum of three discrete aliquots shall be collected during each discharge.

b. Composite samples shall be collected in one of the following manners:
   i) The volume of each aliquot must be proportional to either the waste stream flow at the time of sampling or the total waste stream flow since collection of the previous aliquot,
   ii) A number of equal volume aliquots taken at varying time intervals in proportion to flow,
   iii) A sample continuously collected in proportion to flow, and
   iv) Where flow proportional sampling is infeasible or nonrepresentative of the pollutant loadings, the Department may approve the use of time composite samples.

c. Grab samples shall consist of a single aliquot collected over a time period not exceeding 15 minutes.

d. All sample preservation techniques shall conform to the methods adopted in NDEQ Title 119, Chapter 21 006 unless:
   i) In the case of sludge samples, alternative techniques are specified in the 40 CFR, Part 503, or
   ii) Other procedures are specified in this permit.

e. Flow Measurements

   Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be used to insure the accuracy and reliability of measurements. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements. The accepted capability shall be consistent with that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of +/- 10%. The amount of deviation shall be from the true discharge rates throughout the range of expected discharge volumes. Guidance can be obtained from the following references for the selection, installation, calibration and operation of acceptable flow measurement devices:

   i) *Water Management Manual*, U. S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 2001, 327 pp. Available on the Department of Interior, Bureau of Reclamation (website http://www.usbr.gov/pmts/hydraulicslab/pubs/wmm/).

   ii) *NPDES Compliance Inspection Manual*, U. S. Environmental Protection Agency, Office of Enforcement and Compliance Assurance, Publication EPA 305-X-04-001 July 2004. This document is available on EPA website:

   http://www.epa.gov/compliance/resources/publications/monitoring/cwa/inspections/npdesinspect/npdesmanual.html

D. Reporting Requirements

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in NDEQ Title 119, Chapter 4;

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements in NDEQ Title 119, Chapter 4; or

c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary in NDEQ Title 119, Chapter 24; in some cases, modification or revocation and reissuance is mandatory.

4. Monitoring Reports

Monitoring results shall be reported at the intervals specified elsewhere in this permit.

a. Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director.

b. If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under in NDEQ Title 119, Chapter 27 002, or another method required for an industry-specific waste stream under 40 CFR subchapter N – Effluent Guidelines and Standards Parts 425 to 471 and subchapter O – Sewer Sludge Parts 501 and 503, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

c. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

5. Quarterly Discharge Monitoring Reports (DMRs)

The permittee shall report the monitoring results required by this permit on a DMR form supplied or approved by the Department. Monitoring results shall be submitted on a quarterly basis using the reporting schedule set forth below, unless otherwise specified in this permit or by the Department.

Monitoring Quarters	DMR Reporting Deadlines
January - March	April 28
April - June	July 28
July - September	October 28
October - December	January 28

If the permittee monitors any pollutant more frequently than required by this permit, using procedures specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted on the DMR. The frequency of the analysis shall also be reported on the DMR.

6. **Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

7. **Immediate Notification**

a. NPP permittees shall report immediately to the publicly owned treatment works (POTW), any discharge to the POTW that may result in a violation of NDEQ Title 119, Chapter 26.

b. All permittees shall report immediately to the NDEQ:

i) Discharges of oil or hazardous substances which threaten waters of the state or public health and welfare, and

ii) Discharges causing in-stream toxicity (i.e., a fish kill) or an immediate threat to human health.

Initial notification may be verbal. A written noncompliance notification shall be submitted as set forth in Section D. 9. of this Appendix.

8. **Twenty-four Hour Reporting**

a. The permittee shall report any noncompliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours under this paragraph.

i) Any unanticipated bypass which exceeds any effluent limitation in the permit.

ii) Any upset which exceeds any effluent limitation in the permit.

iii) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours.

c. The Director may waive the written report on a case-by-case basis for reports under Section D if the oral report has been received within 24 hours.

9. **Written Noncompliance Notification**

The permittee shall submit a written noncompliance report to the NDEQ:

a. Within five days of becoming aware of any noncompliance with the:

i) NPP effluent limitations or requirements set forth in this permit, or

ii) NPDES toxic pollutant effluent limitations or requirements set forth in this permit.

b. Within seven days of becoming aware of any other noncompliance with the NPDES requirements and/or effluent limitations set forth in this permit. The written notification shall be submitted on a noncompliance form supplied by the Department and shall include:

i) A description of the discharge and cause of noncompliance,

ii) The period of noncompliance, including exact dates and times, or if not corrected, the anticipated time the noncompliance is expected to continue, and

iii) The steps taken to reduce, eliminate, and prevent the reoccurrence of the noncompliance.

c. The submittal of a written noncompliance report does not relieve the permittee of any liability from enforcement proceedings that may result from the violation of permit or regulatory requirements.

10. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under paragraph D.7. at the time discharge monitoring reports are submitted.

11. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

E. Bypass

1. Definitions

a. **Bypass** means the intentional diversion of waste streams from any portion of a treatment facility.

b. **Severe property damage** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

2. Bypass not Exceeding Limitations

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs E.3. and E.4. of this section.

3. Notice

a. Anticipated bypass: If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

b. Unanticipated bypass: The permittee shall submit notice of an unanticipated bypass as required in the 24-hour notice (paragraph D. 7.).

4. Prohibition of Bypass

Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under paragraph E.3. of this section.

The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in paragraph E.4.a., b., and c. of this section.

F. Upset

1. Definition

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. Effect of an Upset

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph F. 3 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

3. Conditions Necessary for a Demonstration of Upset

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An upset occurred and that the permittee can identify the cause(s) of the upset;

b. The permitted facility was at the time being properly operated;

c. The permittee submitted notice of the upset as required in paragraph D.7.b. (24-hour notice); and

d. Permittee complied with any remedial measures required under A.5.

4. Burden of Proof

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

G. Operation and Maintenance

1. Proper Operation and Maintenance

The permittee shall, at all times, maintain in good working order and operate as efficiently as possible, any facilities or systems of control installed by the permittee in order to achieve compliance with the terms and conditions of this permit. This would include, but not be limited to, effective performance based on designed facility removals, effective management, adequate operator staffing and training, adequate laboratory and process controls, and adequate funding that reflects proper user fee schedules.

2. Removed Substances

Solids, sludge, filter backwash or other pollutants removed in the course of treatment or control of wastewater shall be disposed of at a site and in a manner approved by the Nebraska Department of Environmental Quality. The disposal of nonhazardous industrial sludges shall conform to the standards established in or to the regulations established pursuant to 40 CFR, Part 257. The disposal of sludge shall conform to the standards established in or to the regulations established pursuant to 40 CFR, Part 503. If solids are disposed of in a licensed sanitary landfill, the disposal of solids shall conform to the standards established in NDEQ Title 132. Publicly owned treatment works shall dispose of sewage sludge in a manner that protects public health and the environment from any adverse effects which may occur from toxic pollutants as defined in Section 307 of the Clean Water Act. This permit may be modified or revoked and reissued to incorporate regulatory limitations established pursuant to 40 CFR, Part 503.

3. **Changes in Discharge**

   Any facility expansion, production increases or process modifications which will result in new or substantially increased discharges of pollutants or a change in the nature of the discharge of pollutants must be reported by the permittee 180 days prior to the expansion, increases or modifications, either by amending the original application or by submitting a new application. This permit may be modified or revoked and reissued as a result of this notification to maintain compliance with applicable state or federal regulations.

4. **Changes in Toxic Discharges from Manufacturing, Commercial, Mining and Silvicultural Facilities**

   Permittees discharging from manufacturing, commercial, mining and silvicultural facilities shall report to the Department:

   a. If any toxic pollutant not limited in this permit is discharged from any NPDES outfall as a result of any activity that will or has occurred and results in its routine or frequent discharge. The Department shall be informed if that discharge exceeds the following notification levels:
      i) 100 micrograms per liter (0.1 mg/L) for any toxic pollutant,
      ii) 200 micrograms per liter for acrolein and acrylonitrile (0.2 mg/L),
      iii) 500 micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol (0.5 mg/L),
      iv) 1000 micrograms per liter for antimony (1 mg/L),
      v) Five times the maximum concentration value reported for that pollutant in the permit application or
      vi) An alternative level established by the Director, and
   b. If any toxic pollutant not limited in this permit is discharged from an NPDES outfall as a result of any activity that will or has occurred and results in its nonroutine discharge. The Department shall be informed if that discharge exceeds the following notification levels:
      i) 500 micrograms per liter (0.5 mg/L) for any toxic pollutant,
      ii) 1000 micrograms for antimony (1 mg/L),
      iii) Ten times the maximum concentration value reported for that pollutant in the permit application, or
      iv) An alternative level established by the Director.

5. **Changes in Sludge Quality**

   The permittee shall provide written notice to the Department of any alteration or addition that result in a significant change in the permittee's sludge use or disposal practices. This permit may be modified or revoked and reissued as a result of this notification to maintain compliance with applicable state or federal regulations.

6. **Changes of Loadings to Publicly Owned Treatment Work (POTW)**

   All POTWs must provide adequate notice to the Director of the following:

   a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to NDEQ Title 119, Chapter 26, if it were directly discharging those pollutants; and
   b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

   For purposes of this paragraph, adequate notice shall include information on the quality and quantity of effluent introduced into the POTW, and any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

H. Definitions

Administrator: The Administrator of the USEPA.

Aliquot: An individual sample having a minimum volume of 100 milliliters that is collected either manually or in an automatic sampling device.

Annually: Once every calendar year.

Authorized Representative: Individual or position designated the authorization to submit reports, notifications, or other information requested by the Director on behalf of the Owner under the circumstances that the authorization is made in writing by the Owner, the authorization specifies the individual or postion who is duly authorized, and the authorization is submitted to the Director.

Bimonthly: Once every other month.

Biosolids: Sewage sludge that is used or disposed through land application, surface disposal, incineration, or disposal in a municipal solid waste landfill.

Biweekly: Once every other week.

Bypass: The intentional diversion of wastes from any portion of a treatment facility.

Certifying Official: For a corporation, Certifying Official means a responsible corporate officer which means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or

The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship, Certifying Official means a general partner or proprietor, respectively.

For a municipality, State, Federal, or other public agency, Certifying Official means a principal executive officer of the agency, or a senior executive officer having responsibility for the operations of a principal geographic unit of the agency.

Daily Average: An effluent limitation that cannot be exceeded and is calculated by averaging the monitoring results for any given pollutant parameter obtained during a 24-hour day.

Department: Nebraska Department of Environmental Quality.

Director: The Director of the Nebraska Department of Environmental Quality.

Industrial Discharge: Wastewater that originates from an industrial process and / or is noncontact cooling water and / or is boiler blowdown.

Industrial User: A source of indirect discharge (a pretreatment facility).

Monthly Average: An effluent limitation that cannot be exceeded. It is calculated by averaging any given pollutant parameter monitoring results obtained during a calendar month.

Operator: A person (often the general contractor) designated by the owner who has day to day operational control and/or the ability to modify project plans and specifications related to the facility.

Owner: A person or party possessing the title of the land on which the activities will occur; or if the activity is for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the activity.

Outfall: A discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged into Waters of the State.

Passive Discharge: A discharge from a POTW that occurs in the absence of an affirmative action and is not authorized by the NPDES permit (e.g. discharges due to a leaking valve, discharges from an overflow

structure) and / or is a discharge from an overflow structure not designed as part of the POTW (e.g. discharges resulting from lagoon berm / dike breaches).

Publicly Owned Treatment Works (POTW): A treatment works as defined by Section 212 of the Clean Water Act (Public Law 100-4) which is owned by the state or municipality, excluding any sewers or other conveyances not leading to a facility providing treatment.

Semiannually: Twice every year

Significant Industrial User (SIU): All industrial users subject to Categorical Pretreatment Standards or any industrial user that, unless exempted under Chapter 1, Section 105 of NDEQ Title 119, discharges an average of 25,000 gallons per day or more of process water; or contributes a process waste stream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW; or is designated as such by the Director on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any National Pretreatment Standard or requirement.

Sludge: Any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect.

30-Day Average: An effluent limitation that cannot be exceeded. It is calculated by averaging any given pollutant parameter monitoring results obtained during a calendar month.

Total Toxic Organics (TTO): The summation of all quantifiable values greater than 0.01 milligrams per liter (mg/l) for toxic organic compounds that may be identified elsewhere in this permit. (If this term has application in this permit, the list of toxic organic compounds will be identified, typically in the Limitations and Monitoring Section(s) and/or in an additional Appendix to this permit.)

Toxic Pollutant: Those pollutants or combination of pollutants, including disease causing agents, after discharge and upon exposure, ingestion, inhalation or assimilation into an organism, either directly from the environment or indirectly by ingestion through food chains will, on the basis of information available to the administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunction (including malfunctions in reproduction) or physical deformations in such organisms or their offspring.

Upset: An exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee, excluding such factors as operational error, improperly designed or inadequate treatment facilities or improper operation and maintenance or lack thereof.

Volatile Organic Compounds (VOC): The summation of all quantifiable values greater than 0.01 milligrams per liter (mg/l) for volatile, toxic organic compounds that may be identified elsewhere in this permit. (See the definition for Total Toxic Organics above. In many instances, VOCs are defined as the volatile fraction of the TTO parameter. If the term "VOC" has application in this permit, the list of toxic organic compounds will be identified, typically in the Limitations and Monitoring Section(s) and/or in an additional Appendix to this permit.)

Waters of the State: All waters within the jurisdiction of this state including all streams, lakes, ponds, impounding reservoirs, marshes, wetlands, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state.

Weekly Average: An effluent limitation that cannot be exceeded. It is calculated by averaging any given pollutant parameter monitoring results obtained during a fixed calendar week. The permittee may start their week on any weekday but the weekday must remain fixed. The Department approval is required for any change of the starting day.

"X" Day Average: An effluent limitation defined as the maximum allowable "X" day average of consecutive monitoring results during any monitoring period where "X" is a number in the range of one to seven days.

I. Abbreviations

CFR: Code of Federal Regulations

kg/Day: Kilograms per Day

MGD: Million Gallons per Day

mg/L: Milligrams per Liter

NOI: Notice of Intent

NDEQ: Nebraska Department of Environmental Quality

NDEQ Title 115: *Rules of Practice and Procedure*

NDEQ Title 117: *Nebraska Surface Water Quality Standards*

NDEQ Title 118: *Ground Water Quality Standards and Use Classification*

NDEQ Title 119: *Rules and Regulations Pertaining to the Issuance of Permits under the National Pollutant Discharge Elimination System*

NDEQ Title 126: *Rules and Regulations Pertaining to the Management of Wastes*

NDEQ Title 132: *Integrated Solid Waste Management Regulations*

NPDES: National Pollutant Discharge Elimination System

NPP: Nebraska Pretreatment Program

POTW: Publicly Owned Treatment Works

µg/L: Micrograms per Liter

WWTF: Wastewater Treatment Facility

A. General

A complete TTO analysis involves testing for up to 5 fractions containing 111 compounds. However, the Pesticide Fraction and Dioxin need not be included in the TTO analysis unless specifically requested by the Department. The Department may also, on a case-by-case basis, add additional parameters to this TTO list.

B. Calculation of TTO Value

TTO test results are calculated by summing all quantifiable values greater than 0.01 milligrams per liter (mg/L) for the TTO compounds. In situations where the concentration of a compound is below the detection limit, it need not be included. However, the Department may reject an analysis as inconclusive and request follow-up monitoring if the detection limits are too high to provide reasonable assurance of compliance.

C. Reporting of Results

The TTO value calculated as set forth above is to be reported on the appropriate Discharge Monitoring Report (DMR) and a copy of the laboratory report showing the test results for each individual compound is to be included as an attachment to both the Department's and City's copy of the DMR.

D. Identification of Compounds, Sampling Methods and Analytical Procedures

1. Volatile Fraction

The compounds included in this fraction are listed below. The volatile fraction is to be analyzed using **grab samples and EPA Method 624 or 1624**, unless written Departmental approval for alternative methods is provided.

Acrolein	Acrylonitrile	Benzene
Bromoform	Carbon tetrachloride	Chlorobenzene
Chlorodibromomethane	Chloroethane	2-Chloroethyl vinyl ether
Chloroform	Dichlorobromomethane	1, 1-Dichloroethane
1, 2-Dichloroethane	1, 1-Dichloroethylene	1, 2-Dichlorobenzene
1, 3-Dichlorobenzene	1, 4-Dichlorobenzene	1, 2-Dichloropropane
1, 3-Dichloropropylene	Ethylbenzene	Methyl bromide
Methyl chloride	Methylene chloride	Tetrachloroethylene
1, 1, 2, 2-Tetrachloroethane	Toluene	1, 2-*trans*-Dichloroethylene
1, 1, 1-Trichloroethane	1, 1, 2-Trichloroethane	Trichloroethylene
Vinyl chloride		

2. Acid Fraction

The compounds included in this fraction are listed below. The acid fraction is to be analyzed using **production day composite samples and EPA Method 625 or 1625**, unless written Departmental approval for alternative methods is provided.

2-Chlorophenol	2, 4-Dichlorophenol	2, 4-Dimethylphenol
4, 6-Dinitro-o-cresol	2, 4-Dinitrophenol	2-Nitrophenol
4-Nitrophenol	N-nitrosodimethylamine	N-nitrosodi-n-propylamine
N-nitrosodiphenylamine	Parachlorometa cresol	Pentachlorophenol
Phenol	2, 4, 6-Trichlorophenol	

3. **Base/Neutral Fraction**

The compounds included in this fraction are listed below. The volatile fraction is to be analyzed using **production day composite samples and EPA Method 625 or 1625**, unless written Departmental approval for alternative methods is provided.

Acenaphthene	Acenaphthylene	Anthracene
Benzidine	1, 2-Benzanthracene	3, 4 -Benzopyrene
3, 4-Benzofluoranthene	11, 12-Benzofluoranthene	1, 12-Benzoperylene
Bis(2-chloroethoxy) methane	Bis(2-chloroethyl) ether	Bis(2-chloroisopropyl) ether
Bis(2-ethylhexyl)phthalate	4-Bromophenyl phenyl ether	Butyl benzyl phthalate
2-Chloronaphthalene	Chrysene	4-Chlorophenyl phenyl ether
1, 2, 5, 6-Dibenzanthracene	3, 3-Dichlorobenzidine	Diethyl phthalate
Dimethyl phthalate	Di-N-Butyl phthalate	2, 4-Dinitrotoluene
2, 6-Dinitrotoluene	Di-n-octyl phthalate	
1, 2-Diphenylhydrazine (as Azobenzene)		Fluoranthene
Fluorene	Hexachlorobenzene	Hexachlorobutadiene
Hexachloroethane	Indeno (1 ,2, 3-cd) pyrene	Isophorone
Hexachlorocyclopentadiene	Naphthalene	Nitrobenzene
Phenanthrene	Pyrene	1, 2 ,4-Trichlorobenzene

4. **Pesticide Fraction**

The compounds included in this fraction are listed below. The Pesticide Fraction is to be analyzed using **production day composite samples** and **EPA Method 608**, unless written Departmental approval for alternative methods is provided. Monitoring for the Pesticide Fraction need not be conducted unless specifically requested by the Department.

Aldrin	Alpha-BHC	Beta-BHC
Gamma-BHC	Delta-BHC	Chlordane
4, 4'-DDT	4, 4'-DDE	4, 4'-DDD
Dieldrin	Alpha-endosulfan	Beta-endosulfan
Endosulfan sulfate	Endrin	Endrin aldehyde
Heptachlor	Heptachlor epoxide	PCB-1016
PCB-1221	PCB-1232	PCB-1242
PCB-1248	PCB-1254	PCB-1260
Toxaphene		

5. **Dioxin (2, 3, 7, 8-tetrachlorodibenzo-p-dioxin)**

Dioxin is to be analyzed using production day composite samples and EPA Method 613, unless written Departmental approval for alternative methods is provided. Monitoring for Dioxin need not be conducted unless specifically requested by the Department.

Nebraska Department of Environmental Quality

Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Lincoln, NE 68509-8922
Tel. 402/471-4220
Fax 402/471-2909

DW-NOI

Notice of Intent (NOI) for Requesting Dewatering Discharges Authorization Under the General NPDES Permit NEG671000

Submission of this Notice of Intent fulfills the requirements set forth in Part II of NPDES General Permit Number NEG671000. By submission of this Notice of Intent the applicant is requesting authorization to discharge under the terms and conditions of said permit, and is agreeing to meet all of the terms and conditions set forth in said permit.

Once authorization to discharge is granted violations of the terms and conditions of the permit may result in the initiation of enforcement proceedings pursuant to sections 81-1508 through 81-1508.02 of the Nebraska Environmental Protection Act (Reissue 1987 and Cum. Supp. 1994). Among the enforcement options authorized by the Act are civil penalties of up to $10,000 per day per violation.

The permit should be consulted for additional information on the completion of this NOI. Questions concerning the NOI or the permit should be directed to the Wastewater Section at (402) 471-4220. Written requests and submittals should be sent to the Wastewater Section at the address set forth on page 4 of this NOI.

1. **Facility Certifying Official / Owner or Operator**

   If both the owner and the operator are to be jointly responsible for permit compliance, then both must be identified. If not, only the owner or the operator, whichever meets the requirements as certifying official, is responsible for permit compliance should be identified.

   Owner or Operator Name: _____

   _____

2. **Identification and Location of Sources**

   a. **Facility Name:** _____

   b. **Facility Location:** (location description, not mail address):

   _____

   _____

   c. **Legal Description**:

   _____ Quarter of the _____ Quarter, _____ Section _____, Township _____ N, Range _____ (E or W),

   County _____

   d. **Receiving Stream or Waterbody:** _____

e. **Is the Receiving Stream listed in Appendix B of the permit?** **Yes** **No**
(If yes, written notification from the department for authorization to discharge is required. No discharges will be allowed to State Resource Waters. The discharge site may be denied due to potential for water quality impacts. Addition information concerning the dewatering and potential impact of the discharge on water quality may be required.)

f. **Is this a direct discharge into a waterbody listed in NDEQ Title 117, Chapter 6?** **Yes** **No**

g. **Is the dewatering discharge to a Municipal Separate Storm Sewer System?** **Yes** **No**

h. **Have you notified the Municipal Separate Storm Sewer System operator?** **Yes** **No**

i. **Have you contacted the Nebraska Game and Parks Commission been contacted concerning impact(s) to the listed endangered or threatened species or their critical habitat(s)?** **Yes** **No**

j. **Have you contacted the Nebraska Historical Society concerning impact(s) to historic sites?** **Yes** **No**

k. **Please provide a brief description of any controls used to dissipate energy so as to prevent channel erosion and scouring in the receiving stream.**

_____

_____

_____

_____

3. **Certifying Official and Authorized Representative**

The responsibilities and requirements of the "Certifying Official" and the "Authorized Representative" are set forth on page 4 of this NOI. If both the owner and the operator are to be jointly responsible for permit compliance, then an Authorized Representative for both must be identified. Only one Authorized Representative can be specified. An Authorized Representative need not be identified if an owner/operator wishes to be the sole contact for the Department.

a. **Certifying Official**

Name: _____ Title: _____

Mail Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: _____ Email(optional)_____

b. **Authorized Representative**

Name: _____ Title: _____

Mail Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: _____ Email(optional)_____

4. Discharge Information

a. How many discharge outfalls are present? _____

For each outfall, identify the following information:

b. Outfall 1:

1) What is the source of the discharge? (i.e. chlorinated municipal water, storm water, surface water or ground water):

_____

2) Anticipated Start-Up Date: _____ Anticipated Completion Date: _____

3) Anticipated Discharge Flow Rate: _____ Anticipated Discharge Frequency _____

c. Outfall 2:

1) What is the source of the discharge? (i.e. chlorinated municipal water, storm water, surface water or ground water):

_____

2) Anticipated Start-Up Date: _____ Anticipated Completion Date: _____

3) Anticipated Discharge Flow Rate: _____ Anticipated Discharge Frequency _____

d. Outfall 3:

1) What is the source of the discharge? (i.e. chlorinated municipal water, storm water, surface water or ground water):

_____

2) Anticipated Start-Up Date: _____ Anticipated Completion Date: _____

3) Anticipated Discharge Flow Rate: _____ Anticipated Discharge Frequency _____

5. Identification of Potential Pollutants in the Discharge

Identify any pollutants that you know may be potentially present in the discharge or any materials stored in the vicinity that if spilled could contaminate the discharge. Also identify any ground water contamination plumes, previous spills or other events that you know have occurred and that may contribute pollutants to the discharge.

_____

_____

_____

_____

_____

_____

6. Certification

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

I further certify that:

I, or qualified members of my staff, have reviewed and understand the terms and conditions of NPDES General Permit Number NEG671000;

The facility identified in Section 1 of this NOI meets the "Eligibility" requirements and is not excluded by the "Limitation of Coverage" requirements, set forth in Part I. C. of the permit; and

I understand that the submission of this NOI obligates the facility identified in Section 1 of this NOI to comply with the terms and conditions of the Permit NEG671000, provided authorization to discharge is obtained.

Certifying Official's Signature	Date Signed
Certifying Official's Printed Name	Title

Qualifications and Responsibilities of the "Certifying Official" and the "Authorized Representative"
The qualifications and responsibilities of the "Certifying Official" are set forth in NDEQ Title 119 Chapter 13 002:

All permit applications submitted to the Department shall be signed:

002.01 – For a corporation by a responsible corporate officer;

002.02 - For a partnership or in the case of a sole proprietorship by a general partner or the proprietor; and

002.03 - For a municipal, State, Federal, or other public facility by either a principal executive officer or ranking elected official.

The qualifications and responsibilities for the "authorized representative" are set forth in NDEQ Title 119 Chapter 13 003. All other correspondence, reports and DW-DMR's shall be signed by a person designated in 002.01 through 002.03 or a duly authorized representative if such representative is responsible for the overall operation of the facility from which the discharge originates; the authorization is made in writing by the person designated under 002.01 through 002.03 and the written authorization is submitted to the Director. The authorized representative may also sign DW-NOIs, if the Owner/Operator has specifically authorized them to perform this task in a previous DW-NOI or in other written documentation.

Submit the completed NOI to:

U.S. Postal Service Address:

Wastewater Section
Nebraska Department of Environmental Quality
PO Box 98922
Lincoln, NE 68509-8922
Telephone: (402) 471-4220

Alternate Carrier Address:

Wastewater Section
Nebraska Department of Environmental Quality
1200 'N' Street, The Atrium, Suite 400
Lincoln, NE 68509

Attachment # 2

THREATENED & ENDANGERED SPECIES GUIDANCE CHECKLIST
For NPDES Industrial Storm Water General Permit #NER900000
(For New or Expanded Dischargers)

Disclaimer: This checklist was developed for guidance purposes only in an effort to assist permit applicants to identify potential locations of threatened and endangered species that could be affected by discharge activities. Completion of this checklist is not a requirement for permit authorization and is not intended to be used as a substitute for a professional environmental review. The use of this form does not relieve the permittee from further review or enforcement action by the Nebraska Department of Environmental Quality (NDEQ) or the Nebraska Game and Parks Commission (NGPC)

1.	Does the action area drain to a stream of concern? *(See attached Stream and River Reaches of Concern for Nebraska Fish Species map.)*	☐ Yes	☐ No
2.	Does the action area drain to rivers, streams, ponds, lakes or wetlands within the range of American burying beetle? *(See attached American Burying Beetle Distribution map.)*	☐ Yes	☐ No
3.	Does the action area drain to a Salt Creek, Little Salt Creek, Rock Creek or saline wetlands in Lancaster or Saunders County?	☐ Yes	☐ No
4.	Does the action area drain to Lodgepole Creek from Kimball to the Wyoming State line?	☐ Yes	☐ No
5.	Does the action area drain to wetlands or wet meadows in the range of the western prairie fringed orchid or small white lady's slipper. *(These are both species of orchids. See attached Orchid Distribution map.)*	☐ Yes	☐ No
6.	Does the action area drain to a river within the range of interior least tern or piping plover? *(See attached Tern & Plover Distribution map.)*	☐ Yes	☐ No
7.	Does the action area drain to a river, stream, lake, pond, or wetland within the range of massasauga? *(See attached Massasauga Distribution map.)*	☐ Yes	☐ No
8.	Does the action area drain to a river within the range of river otter? *(See attached River Otter Distribution map.)*	☐ Yes	☐ No
9.	Does the action drain to wetlands or to the Republican, Platte, Loup, Middle Loup, North Loup, or Niobrara Rivers within the primary whooping crane migration corridor? *(See attached Primary Migration Corridor of Whooping Crane map.)*	☐ Yes	☐ No

If you answered "no" to all questions, a review by NGPC may not be needed (*see disclaimer above*). Include this form with your permit application.

If you answered "yes" to any of these questions, consultation with the Nebraska Game and Parks Commission may be necessary. Include this form with your permit application. Permit authorizations will vary from those identified in Table 1-2 depending on the additional time required to evaluate potential impacts.

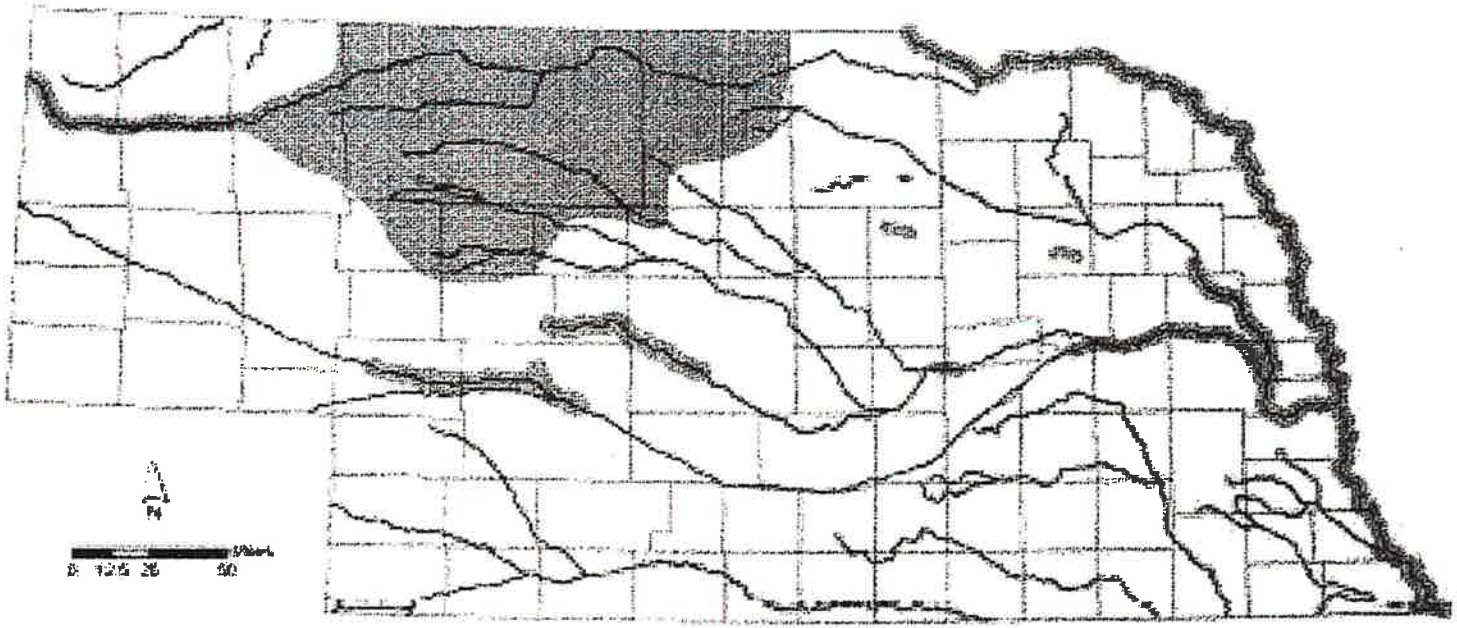
All NOI submissions received without documentation relating to threatened and endangered species will be considered incomplete.

If you have questions, please call the Environmental Analyst Supervisor at (402) 471-5438.

Additional Resources

- Nebraska Game and Parks Commission Nongame and Endangered Species
http://outdoornebraska.ne.gov/wildlife/programs/nongame/pdf/E_T_Species_List.pdf
- Range Maps for Nebraska's Threatened and Endangered Species (includes listing by county)
http://digitalcommons.unl.edu/nebgamewhitepap/30/
- Endangered, threatened, proposed, and Candidate species in Nebraska Counties (USFWS)
http://www.fws.gov/mountain-prairie/endspp/CountyLists/Nebraska.pdf
- Listings and occurrences for Nebraska (USFWS)
http://ecos.fws.gov/tess_public/pub/stateListingAndOccurrenceIndividual.jsp?state=NE

Stream and River Reaches of Concern for Nebraska Fish Species

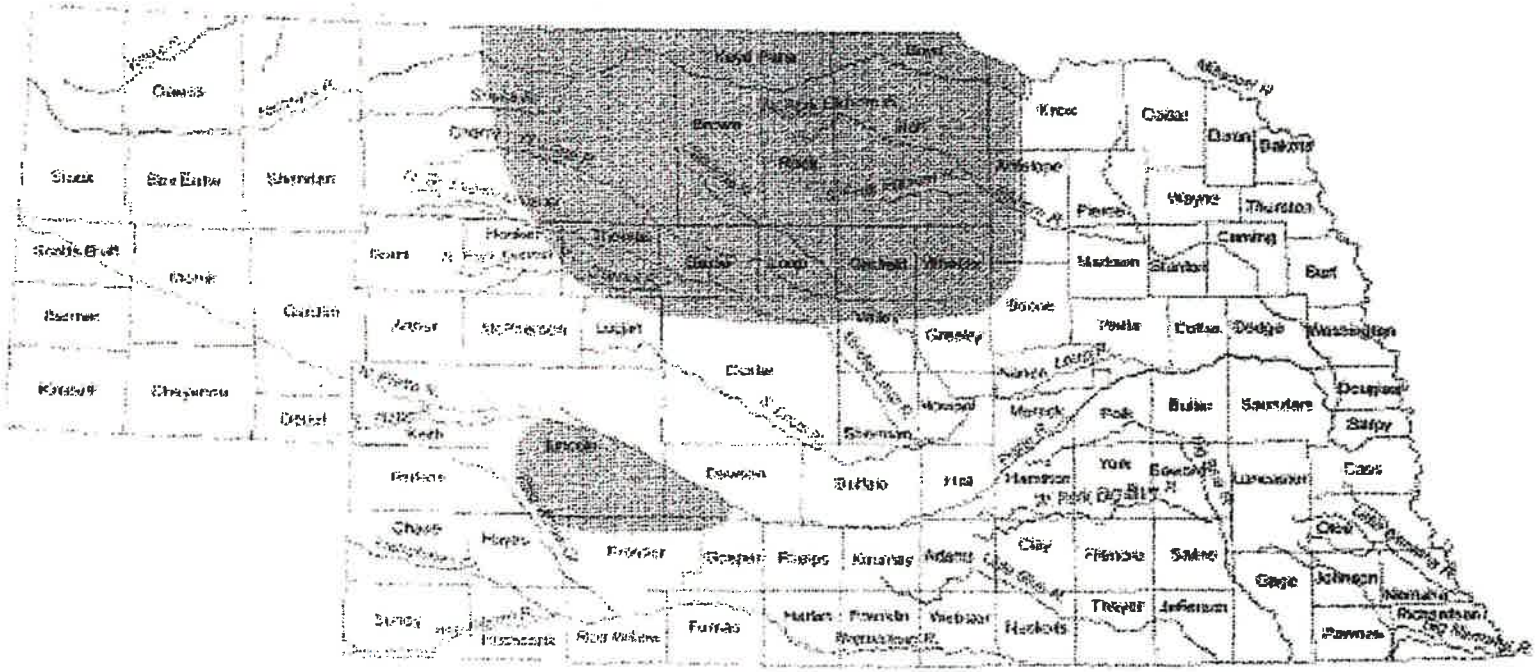


Map produced by the Nebraska Game and Parks Commission
February 19, 2008

Streams and rivers within shaded areas are of concern for at-risk fish species.

Attachment # 2

Estimated Current Range of American Burying Beetle (*Nicrophorus americanus*)

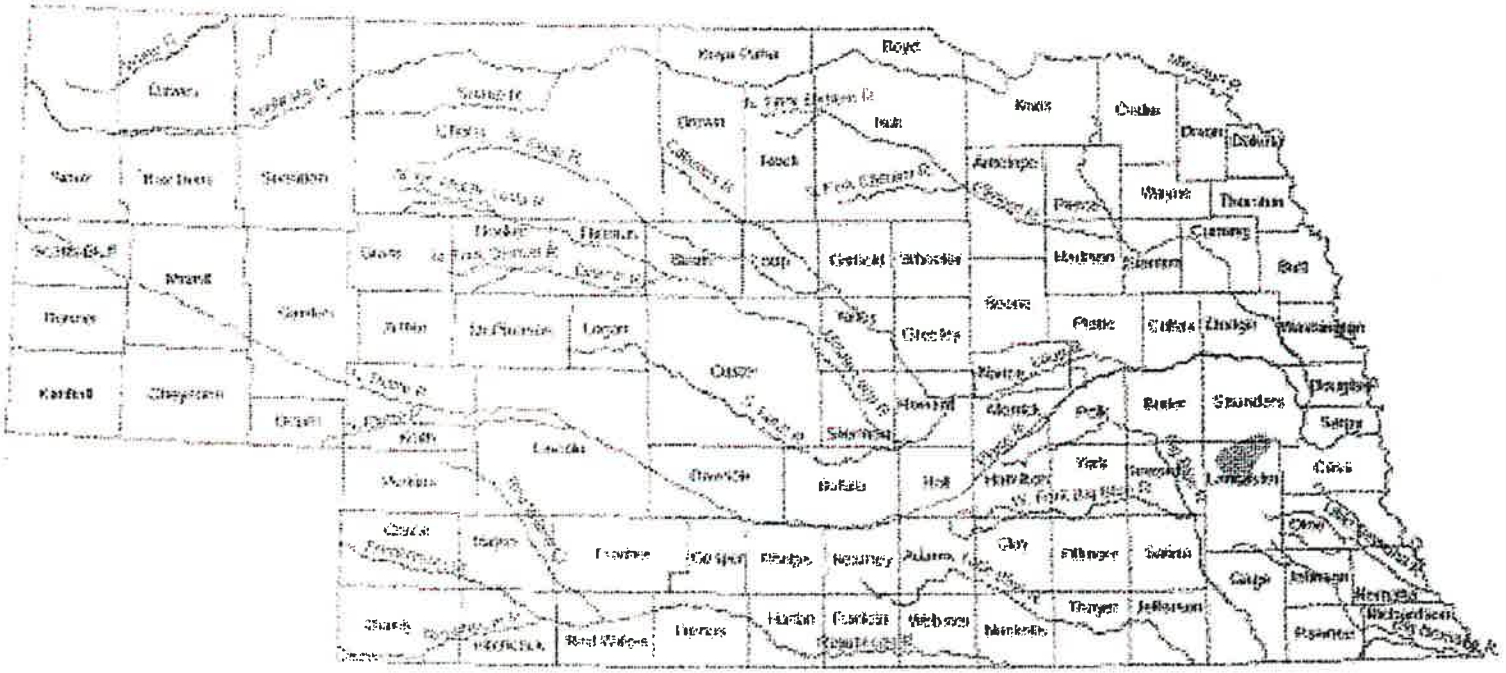


0 25 50 Miles

Nebraska Natural Heritage Program,
Nebraska Game and Parks Commission
June 2008

Attachment # 2

Estimated Current Range of Saltwort (Salicornia rubra) and Salt Creek Tiger Beetle (Cicindela nevadica lincolniana)



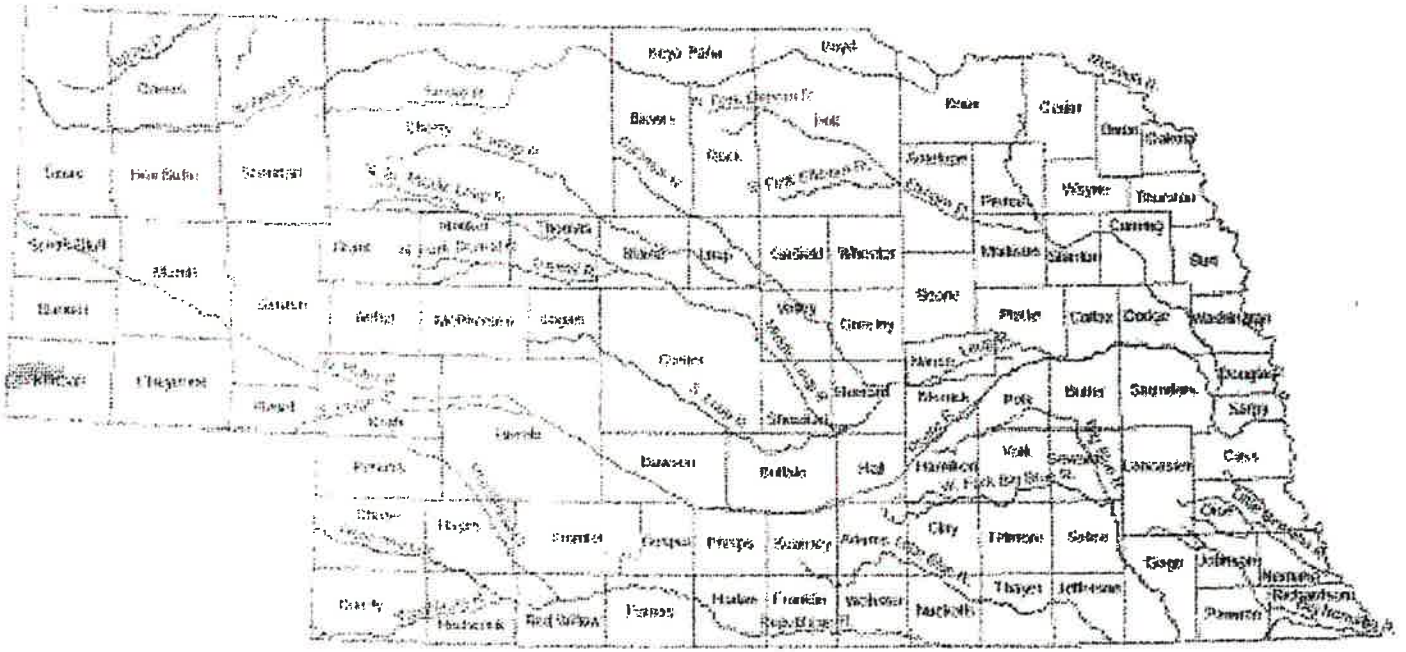
N

0 25 50 Miles

Nebraska Natural Heritage Program,
Nebraska Game and Parks Commission
June 2008

Attachment # 2

Estimated Current Range of
Colorado Butterfly Plant (Gaura neomexicana ssp. coloradensis)

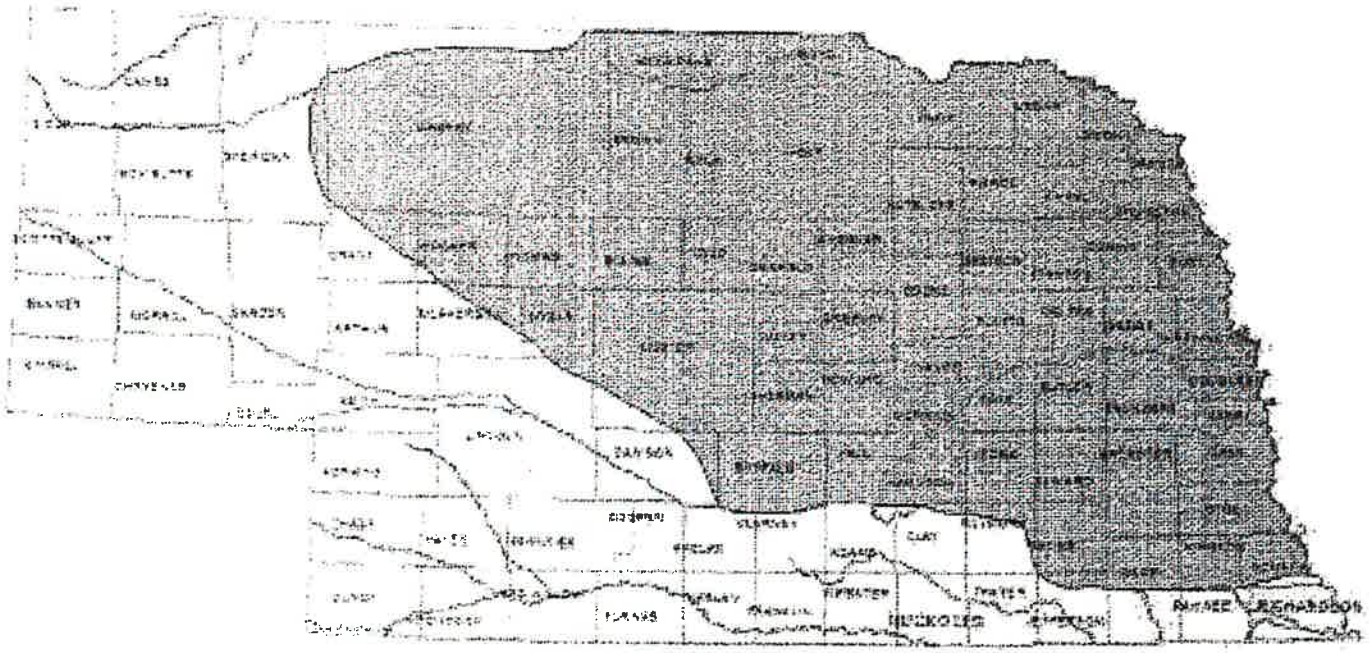


0 25 50
Miles

Nebraska Natural Heritage Program,
Nebraska Game and Parks Commission
June 2008

Attachment # 2

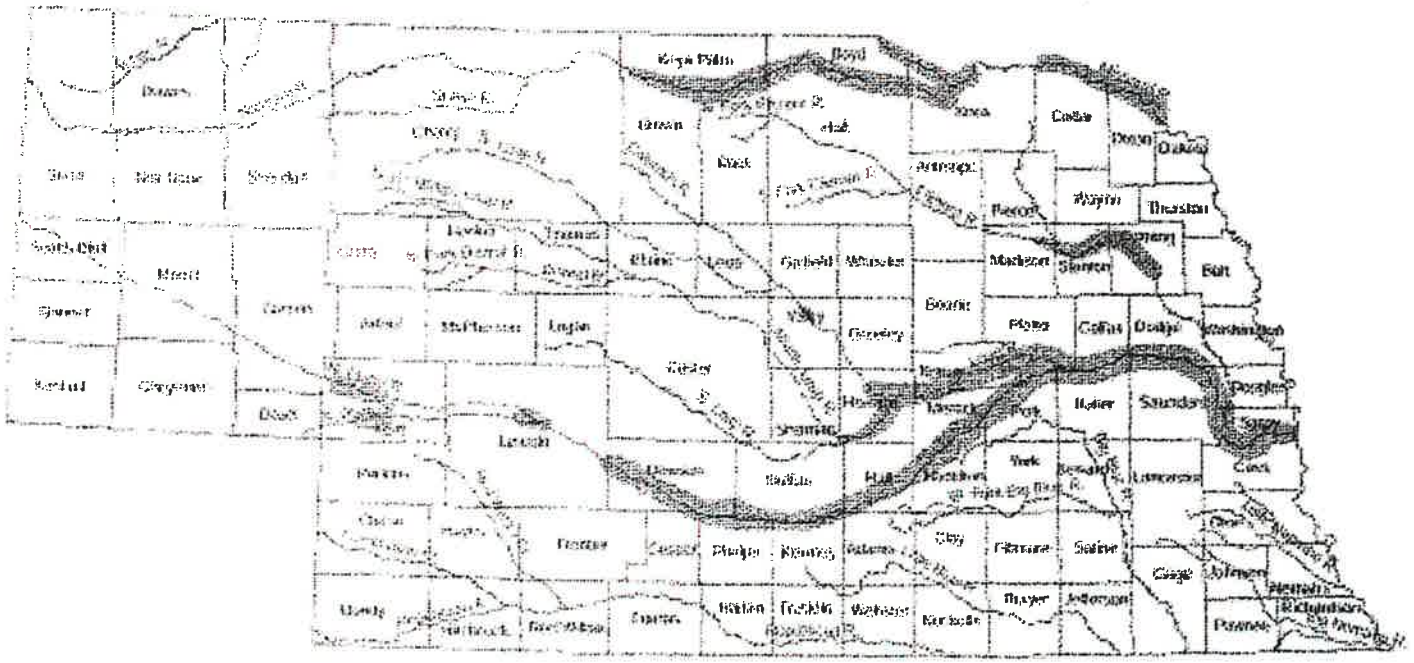
Orchid Distribution



Nebraska Game and Parks Commission 2008

Attachment # 2

Estimated Current Range of Piping Plover (Charadrius melodus) and Interior Least Tern (Sternula antillarum athalassos)



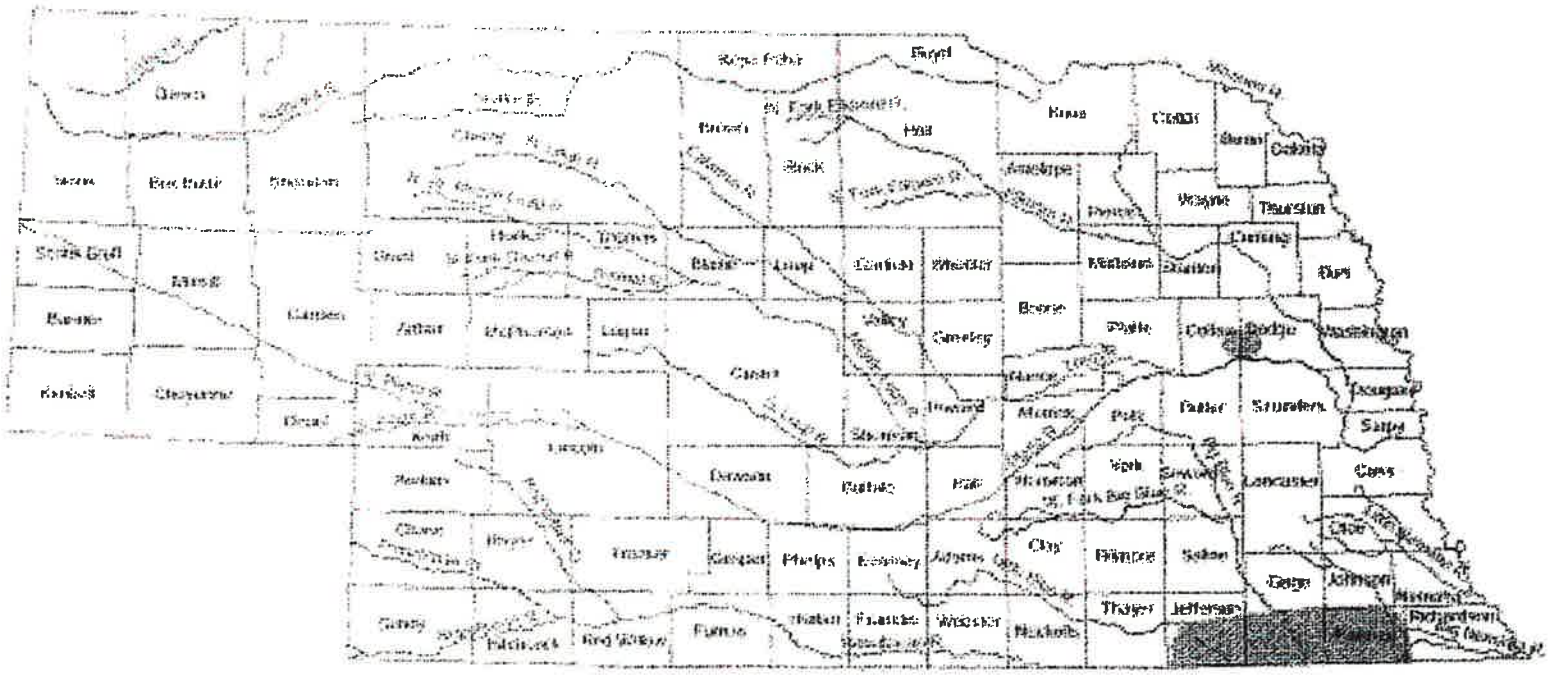
N

0 25 50 Miles

Nebraska Natural Heritage Program,
Nebraska Game and Parks Commission
June 2008

Attachment # 2

Estimated Current Range of Massasauga (Sistrurus catenatus)



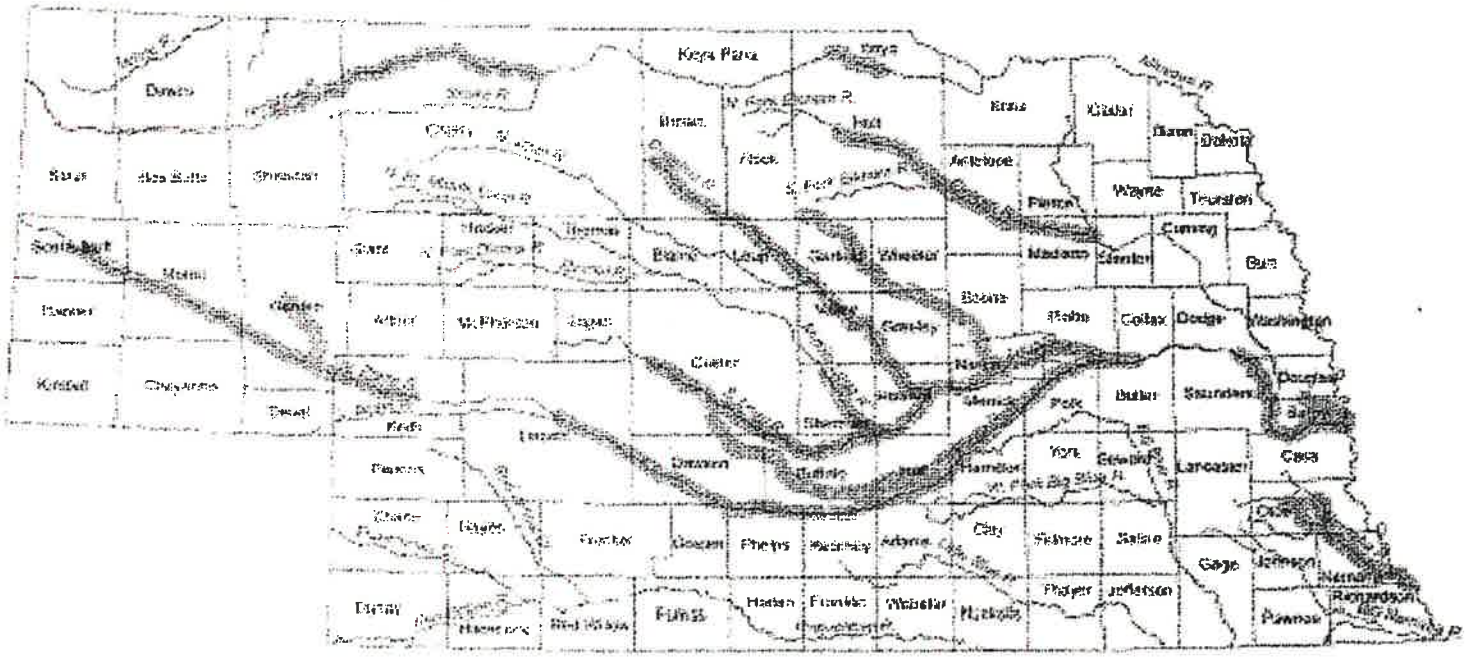
N

0 25 50
Miles

Nebraska Natural Heritage Program,
Nebraska Game and Parks Commission
June 2008

Attachment # 2

Estimated Current Range of River Otter (*Lutra canadensis*)



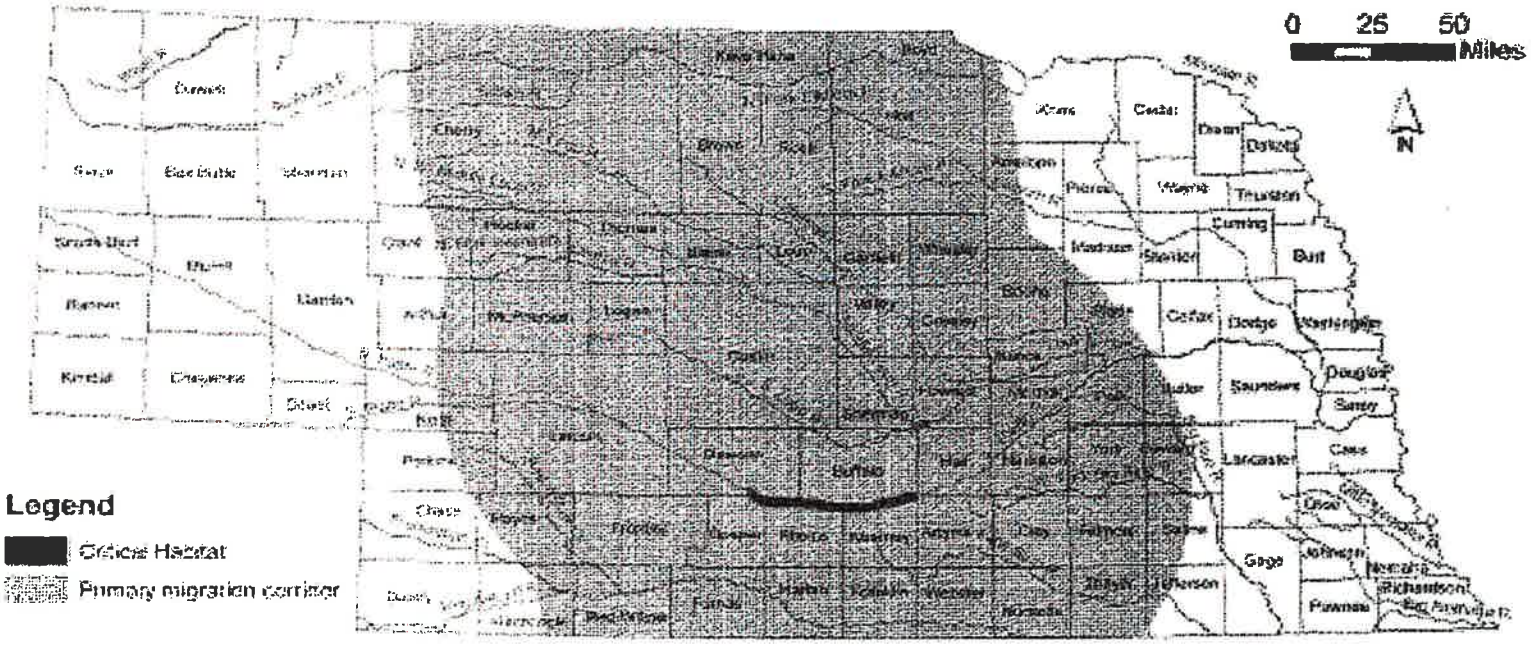
N

0 25 50 Miles

Nebraska Natural Heritage Program,
Nebraska Game and Parks Commission
August 2008

Attachment # 2

Whooping Crane (*Grus americana*): Primary migration corridor and USFWS-designated Critical Habitat



The primary migration corridor is the area identified by the U.S. Fish and Wildlife Service (USFWS) as encompassing 95% of documented Whooping Crane migratory stopovers between 1978 and 2007. Whooping Cranes have been documented far outside of this corridor in Nebraska. Data source: U.S. Fish and Wildlife Service. State-specific Nebraska flyway for Whooping Cranes. Vector digital data. Unpublished shapefile received October 27, 2008 from Marnie Tadlock, USFWS, Region 6, Grand Island, Nebraska.

Critical habitat areas are considered essential for the conservation of a listed species. Data source: U.S. Fish and Wildlife Service, Region 2. 2003. Whooping Crane critical habitat. Vector digital data. Downloaded October 29, 2008 from http://crithab.fws.gov.

Map produced by the Nebraska Natural Heritage Program, Nebraska Game and Parks Commission, November 2008.

Attachment # 2

Attachment # 3

Nebraska Department of Environmental Quality

Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Lincoln, NE 68509-8922
Tel. 402/471-4220
Fax 402/471-2909

DW-DMR

Dewater Discharges Discharge Monitoring Report (DMR)
Authorized Under NPDES General Permit NEG671000

This DW-DMR is to be submitted monthly (i.e., within 28 days after the end of each calendar month), unless alternative submittal arrangements are approved. Any pH, Oil & Grease, or Total Suspended Solids monitoring results that are not in compliance with the permit effluent limits shall be reported to the Department within 24 hours (Telephone 402/471-4220) and a written non-compliance report must be submitted within 5 days (See Appendix A, Sections D.8 and D.9 in the permit). If the appropriate information is included on this form, it may be used as a non-compliance report form and to provide notification of project completion. Be sure to fill in all of the appropriate blanks below and sign on the back of this form.

NPDES Tracking Number: NEG671 ____ _____ ____ - R

Project Owner or Operator: _____

Project Name & Location: _____

When was the discharge initiated? (mo/day/yr) _____

Is the discharge continuing? _____ **If not, when was it discontinued?** _____

Is this a dewatering well site? _____

If yes, the total suspended solids maximum limitations should 30 mg/L. If no, the 90mg/L limitation shall apply.

If the prior question is not true, please explain: _____

_____

What is the Outfall Designations: _____

What is the Source of the outfall? (i.e. well, pit, foundation pump, etc.) _____

_____

Attachment # 3

Circle the Calendar Quarter to which this report applies: **January through March**

April through June **July through September** **October through December**

Discharge Report for the month (Specify Calendar Month)____________________

Pollutant	Discharge Limitations		Discharge Concentration		Number of Samples	Sample Type
	30-Day Average	Daily Average	30-Day Average[2]	Daily Average[2]		
Flow [1]	Report as MGD	Report as MGD				
Total Petroleum Hydrocarbons	Report as mg/L	10 mg/L				
Total Suspended Solids [4]	Report as mg/L	30 or 90 mg/L				
pH	6.5 Standard Units	9.0 Standard Units				

Discharge Report for the month (Specify Calendar Month)____________________

Pollutant	Discharge Limitations		Discharge Concentration		Number of Samples	Sample Type
	30-Day Average	Daily Average	30-Day Average[2]	Daily Average[2]		
Flow [1]	Report as MGD	Report as MGD				
Total Petroleum Hydrocarbons	Report as mg/L	10 mg/L				
Total Suspended Solids [4]	Report as mg/L	30 or 90 mg/L				
pH	6.5 Standard Units	9.0 Standard Units				

Discharge Report for the month (Specify Calendar Month)____________________

Pollutant	Discharge Limitations		Discharge Concentration		Number of Samples	Sample Type
	30-Day Average	Daily Average	30-Day Average[2]	Daily Average[2]		
Flow [1]	Report as MGD	Report as MGD				
Total Petroleum Hydrocarbons	Report as mg/L	10 mg/L				
Total Suspended Solids [4]	Report as mg/L	30 or 90 mg/L				
pH	6.5 Standard Units	9.0 Standard Units				

Footnote:

(1) If there is no flow during calendar month, enter "0" in the Monthly Average and Daily Average boxes for flow. The other reporting boxes in that month's table may be left blank

(2) The calculated valued determined by averaging the monitoring results for any given pollutant obtained during a 24-hour day.

(3) The calculated valued determined by averaging the monitoring results for any given pollutant obtained during calendar month.

(4) The Daily Average Limitation is 90 mg/L for construction excavation site discharges and 30 mg/L for other sites.

Abbreviations: MGD = Million gallons per day mg/L = milligrams per Liter

Attachment # 3

Summary of Physical Characteristic Examination Findings or Other Information:

PCE results may be summarized herein or the PCE form may be attached. Examples of "Other Information": explain non-compliances or unusual conditions, request termination of permit coverage or identify attachments including any additional monitoring results requested by the Department.

Discharge Report for week or month(s) of _____

_____

_____

_____

_____

Certification

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

_____ _____

Certifying Official's Signature or Authorized Representative **Date Signed**

_____ _____

Print Name **Title**

Requirements for and Responsibilities of Certifying Official and Authorized Representative

The "Certifying Official" is responsible for signing all permit applications and must meet the requirements set forth in NDEQ Title 119 Chapter, 13 002:

"All permit applications submitted to the Department shall be signed:

002.01 – For a corporation, by a responsible corporate officer;

002.02 - For a partnership or a sole proprietorship by a general partner or the proprietor; and

002.03 - For a municipal, State, Federal, or other public facility by either a principal executive officer or ranking elected official."

The qualifications and responsibilities for the "authorized representative" are set forth in NDEQ Title 119 Chapter 13 003. All other correspondence, reports and DW-DMR's shall be signed by a person designated in 002.01 through 002.03 or a duly authorized representative if such representative is responsible for the overall operation of the facility from which the discharge originates; the authorization is made in writing by the person designated under 002.01 through 002.03 and the written authorization is submitted to the Director. The authorized representative may also sign DW-NOIs, if the Owner/Operator has specifically authorized them to perform this task in a previous DW-NOI or in other written documentation as set forth in permit Section C.2.g.

Submit the completed DW-DMR form to one of the following addresses:

US Postal Service Address

Wastewater Section
Nebraska Department of Environmental Quality
PO Box 98922
Lincoln, NE 68509-8922

Alternate Carrier Address

Wastewater Section
Nebraska Department of Environmental Quality
The Atrium, 1200 N Street, Suite 400
Lincoln, NE 68509

Attachment # 4

Nebraska Department of Environmental Quality

Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Lincoln, NE 68509-8922
Tel. 402/471-4220
Fax 402/471-2909

Physical Characteristics Examination (PCE) Instructions
Authorized by NPDES General Permit NEG671000

The General Dewatering Permit requires that Physical Characteristic Examinations be made in addition to the monitoring required in the general permit. Discharge authorizations are contingent upon the conductance of these examinations (i.e., Physical Characteristic Examinations are required).

1. **Physical Characteristic Examination (PCE) Procedure**

   This procedure involves qualitative observations for characteristics of color, turbidity, odors, surface sheens, septic conditions, or any other unusual conditions (e.g., off-gassing). PCE observations are to be made both *in situ* and on grab samples. PCE results are to be recorded on the attached report form or other approved format. PCE results are to be used as indicators of potential pollution problems. If none of the previous listed characteristics are noted a report is not required.

2. **Immediate Notification and Follow-Up**

   a. When a discharge displays, any of these characteristics: turbidity, color, off gassing, sheens, films, hydrocarbon contamination, or foaming and odors.

   b. This may indicate possible presence of excessive pollution. At these concentrations or amounts that are indicated requires that the discharge be discontinued immediately and the Department notified.

   c. The discharge shall be discontinued immediately and the NDEQ shall be contacted: If there is any evidence the discharge is causing distress to fish, aquatic organisms, plant life, wildlife and/or livestock, or creating a public health concern.

   d. Following the notification, the permittee shall take appropriate follow-up actions as specified by the Department. These actions may include, but are not necessarily limited to: a follow-up investigation, additional testing, alternative disposal options, and/or treatment. It is also possible that the discharge may be allowed without further action if it is determined that the discharge would not result in excessive pollution.

   e. Excessive pollution is defined as pollution in amounts that would result in a violation of a permit limit or of water quality criteria set forth in NDEQ Title 117 and 118. "Water shall be free from human-induced pollution which causes". These narrative and aesthetic standards for surface waters include:

      1) Noxious odors;

      2) Floating, suspended, colloidal, or settleable materials that produce objectionable films, colors, turbidity, or deposits; and

      3) The occurrence of undesirable or nuisance aquatic life (e.g., algal blooms).

3. **Periodic Reporting**

   In addition to the immediate notification requirements described above, a summary report of the findings of the Physical Characteristic Examination procedure results is to be submitted as an attachment to the discharge monitoring reports (DW-DMR's) that are required pursuant to Appendix A, Subsection D of the NPDES permit.

4. **Record Keeping**

   Records of the physical examination results need to be kept and need to include the following information:

   a. The date and time of the observation

   b. Name of the observer; and

   c. Summary information on the observations made.

Attachment # 4

Nebraska Department of Environmental Quality

Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Lincoln, NE 68509-8922
Tel. 402/471-4220
Fax 402/471-2909

PCE - Physical Examination Characteristic Examination Report

This form may be used to record observations of the physical characteristics of water discharges as required on some NPDES permit. The use of this form is generally not required by NPDES permits. Therefore an alternative report form containing the same information may be used.

Project/Facility Name: _____

Date and Time of Observation: _____

Name of Observer: _____

Parameter	Observations
Turbidity	
Color	
Odor	
Petroleum or Hydrocarbons Present	
Sheens or Films	
Foam or Foaming Below Discharge	
Floating Solids	
Off-Gassing	

Record any other observations or additional information: _____

_____

_____

Is there evidence or potential evidence of excessive pollution as defined in the PCE procedure: _____

_____

_____

Attachment # 5

Nebraska Department of Environmental Quality

Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Lincoln, NE 68509-8922
Tel. 402/471-4220

NCR Non-Compliance Report Instructions

The Non-Compliance Report form needs to be submitted within 5 days of becoming aware of any permit violation. In addition, an oral report of the violation needs to be made within 24 hours of becoming aware of a permit violation. Other reporting requirements may also apply; see the Reporting Requirements and Standard Conditions in your NPDES permit for more details.

Complete the heading on the report, including: permittee or facility name, NPDES permits number, outfall number, and the date(s) on which sampling was conducted.

In the left column, list the parameter(s) for which the noncompliance(s) occurred. In the columns to the right, provide the requested information on the monitoring values found, the permit limits, their units and the frequency of analysis, and the sample type (e.g., grab or 24 hour composite). Be sure to provide the flow data requested in the last row, as well.

Also provide on the form or in an attachment (e.g., a laboratory report) monitoring information on the other parameters tested at the same time or over the same time period.

Provide an explanation of what caused the non-compliance, and what actions were taken to correct and to prevent a reoccurrence of the non-compliance. If necessary, provide additional information on the nature of the violation, the exact time frame over which it occurred, and any impacts that were observed in the receiving stream. Attachments may be used as needed.

The Certifying Official or Authorized Representative, who meet the following qualifications, must sign the form.

The "Certifying Official", who meets the requirements set forth in NDEQ Title 119, Chapter 13 002 is responsible for signing all permit applications. "All permit applications submitted to the Department shall be signed:

002.01 – For a corporation by a responsible corporate officer;

002.02 - For a partnership or in a sole proprietorship by a general partner or the proprietor; and

002.03 - For a municipal, State, Federal; or other public facility by either a principal executive officer or ranking elected official."

The qualifications and responsibilities for the "authorized representative" are set forth in NDEQ Title 119 Chapter 13 003. All other correspondence, reports and DW-DMR's shall be signed by a person designated in 002.01 through 002.03 or a duly authorized representative if such representative is responsible for the overall operation of the facility from which the discharge originates; the authorization is made in writing by the person designated under 002.01 through 002.03 and the written authorization is submitted to the Director. The authorized representative may also sign DW-NOIs, if the Owner/Operator has specifically authorized them to perform this task in a previous DW-NOI or in other written documentation as set forth in permit Section C.2.g.

Return the completed form to one of the following addresses:

US Postal Service Address

Wastewater Section
Nebraska Department of Environmental Quality
PO Box 98922
Lincoln, NE 68509-8922

Alternate Carrier Address

Wastewater Section
Nebraska Department of Environmental Quality
The Atrium, 1200 N Street, Suite 400
Lincoln, NE 68509

Attachment # 5

Nebraska Department of Environmental Quality

Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Lincoln, NE 68509-8922
Tel. 402/471-4220

NCR Non-Compliance Report

This non-compliance form needs to be submitted within 5 days of becoming aware of any permit violation. In addition, an oral report of the violation needs to be made within 24 hours of becoming aware of a permit violation. Other reporting requirements may also apply; see Appendix A, Section D of your permit for more details.

Facility Name: _____

Facility Location: _____

NPDES Tracking Number: NEG671 _____ Outfall Number: _____

Parameter	Date(s) Monitored	Type of Limitation: Minimum, Average or Maximum	Permit Limit (Include Units e.g., mg/L or kg/day)	Test Result (Include Units e.g., mg/L or kg/day)	Flow (MGD) or Volume (gallons)

Attachment # 5

Provide an explanation of what caused the non-compliance and what actions were taken to correct and to prevent a reoccurrence the non-compliance. If necessary, provide additional information on the nature of the violation, the exact time frame over which it occurred, and any impacts that were observed in the receiving stream. Attachments may be used as needed.

Certification: I certify that I am familiar with the information in this report and that to the best of my knowledge and belief this report is true, complete and accurate.

Signature of Certifying Official or Authorized Representative*

Date

Printed Name of Signatory

The "Certifying Official", who meets the requirements set forth in NDEQ Title 119, Chapter 13 002 is responsible for signing all permit applications. "All permit applications submitted to the Department shall be signed:

002.01 – For a corporation by a responsible corporate officer;
002.02 - For a partnership or in a sole proprietorship by a general partner or the proprietor; and
002.03 - For a municipal, State, Federal, or other public facility by either a principal executive officer or ranking elected official."

The qualifications and responsibilities for the "authorized representative" are set forth in NDEQ Title 119 Chapter 13 003. All other correspondence, reports and DW-DMR's shall be signed by a person designated in 002.01 through 002.03 or a duly authorized representative if such representative is responsible for the overall operation of the facility from which the discharge originates; the authorization is made in writing by the person designated under 002.01 through 002.03 and the written authorization is submitted to the Director. The authorized representative may also sign DW-NOIs, if the Owner/Operator has specifically authorized them to perform this task in a previous DW-NOI or in other written documentation as set forth in permit Section C.2.g.

Attachment # 6

Nebraska Department of Environmental Quality

Wastewater Section
The Atrium Building, Suite 400, 1200 N Street
PO Box 98922
Lincoln, NE 68509-8922
Tel. 402/471-4220
Fax 402/471-2909

DW-RLN Dewatering Discharges Relocation Notice

Authorized Under NPDES General Permit NEG671000

This form is intended for use by facilities subject to NPDES General Permit for Dewatering Discharges. The second page of this form contains sections that apply specifically to this NPDES program.

Questions concerning the completion of this form should be directed to Wastewater Section at 402/471-4220.

1. **Certifying Official Identification**

   Certifying Official: _____

   Title: _____

   Address: _____

   Telephone Number: _____ Email: _____

2. **Authorization Number NEG671** _____

3. **Facility Identification**
   Facility Name: _____

   SIC Code: _____ Facility Type: _____

4. **Relocation Site**
   Street Address or brief narrative description of the facility location (not the mail address):

   _____

   _____

5. **Legal Description:**

   _____ **Quarter of the** _____ **Quarter of Section** _____, **Township** _____**N, Range** _____**(E or W)**

   County _____

6. **Relocation Schedule** – Provide the anticipated dates for the following:

   Start Date: _____

   Stop Date: _____

7. **Receiving Waters:**

Name of receiving water of the dewatering water: _____

Is the receiving water identified in Appendix B of the NPDES permit? _____

If yes, written notification from the Department for authorization to discharge is required. No discharges are allowed to State Resource Waters. The relocation site may be denied due to the potential of water quality impacts. Additional information concerning the dewatering discharge and potential impact of the discharge on water quality may be required.

Is the dewatering water being land applied? _____

Have measures been taken to prevent soil erosion from the discharge? _____

What preventative measures were used? _____

_____

_____

8. **Certification**

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

_____ _____

Signature of Certifying Official or Authorized Representative — Date Signed

_____ _____

Printed Name — Title

Submit the completed form to:

US Postal Service Address

Wastewater Section
Nebraska Department of Environmental Quality
PO Box 98922
Lincoln, NE 68509-8922

Alternate Carrier Address

Wastewater Section
Nebraska Department of Environmental Quality
The Atrium, 1200 N Street, Suite 400
Lincoln, NE 68509

RECLOSER POLICY

CITY OF GRAND ISLAND Utilities Department

RECLOSER POLICY

FOR ANY WORK ON OR NEAR CITY OF GRAND ISLAND OVERHEAD OR UNDERGROUND POWER LINES

PURPOSE

This policy applies to anyone planning to work on or near power lines or conduits where there is a potential danger of electric shock, equipment damage, and/or injury. Examples include, but are not limited to, contractors, well drillers, crane operators, tree trimmers, and excavators. For purposes of this policy any party planning work will be referred to as "Contractor".

PROCEDURE

I. CONTACT CITY OF GRAND ISLAND ELECTRIC DEPARTMENT

Anyone wanting to do work on or near power lines shall consult the City of Grand Island Utilities Department 48 hours prior to doing any set up of equipment or actual work. (The City will not charge for this consultation.)

Contact List:	First contact	- Brian Fiala	(308) 390-5210
	Second contact	- Randy Leiser	(308) 390-5213
	Or	- Larry Christensen	(308) 390-5212
	Third contact	- Power Dispatcher	(308) 385-5461
Emergency Contact 24/7:		- Power Dispatcher	(308) 385-5461

The City representative will evaluate the site and situation, and make a determination as to the proper course of action.

II. POSSIBLE ACTIONS (TO BE DETERMINED BY THE CITY)

A. Maintain safe distance at all times. The City representative will recommend the required distance.
B. Request the recloser be put in the "off" position. Note, the lines will remain energized, but will not automatically reclose if a fault is detected. (The City will not charge to turn the recloser off and on.)
C. Cover the lines. This could be in addition to requesting the recloser off or a stand alone action. In this case a City line crew will come on site and physically cover the power lines with insulating socks, but the lines will remain energized. (The City will charge for this service.)

D. Switch section of line out of service. City personnel will de-energize the line section. This could require up to 2 weeks advanced notice. (The City will charge for this service.)

III. RECLOSER POLICY

If "Recloser Off" is the action determined, then the following applies.

A. Prior to work.

1. During the consultation, the Contractor and the City representative will jointly fill out the "Recloser Off Request Form". Copies will be distributed as instructed on the form and repeated here.
   a. Copy A. City field representative.
   b. Copy B. Contractor on site.
   c. Copy C. Contractor main office.
   d. Copy D. City Power Dispatcher at Phelps Control Center.
2. Prior to beginning work each day, the Contractor on site will call the Phelps Control Center at (308) 385-5461 and do the following:
   a. Provide the Recloser Off Request Form number from upper right corner of form.
   b. Request recloser for appropriate feeder be turned "off".
   c. Provide an estimated completion time for that day.
3. The Power Dispatcher will do the following:
   a. Match the form number with their own.
   b. Verify the on site phone number.
   c. Verify the requested feeder matches the feeder identified on the form.
   d. Turn the recloser off.
   e. Relay to the Contractor that the recloser is turned off for that feeder.
   f. Announce over the City radio system that said recloser is off for said Contractor.

B. During work.

The recloser remains in the off position, but the line energized.

***KEY POINT** – A fault anywhere on the feeder for any reason will cause an outage and the Power Dispatcher will receive an alarm. The Power Dispatcher will immediately contact the Contractor on site to verify whether or not the Contractor work caused the fault, and that all personnel and equipment are in the clear.*

C. After work.

1. Whenever the Contractor stops or completes work for an extended time, the onsite Contractor will call the Phelps Control Center at (308) 385-5461 and do the following:
   a. Provide the Recloser Off Request Form number.
   b. State that work is complete and all personnel and equipment are in the clear.
   c. Request recloser for the appropriate feeder be turned "on".
2. The Power Dispatcher will do the following, while the Contractor remains on the line:
   a. Match the form number with their own.
   b. Verify the requested feeder matches the feeder identified on the form.
   c. Turn the requested recloser on.
   d. Relay to the Contractor that the recloser for that feeder is turned on.
   e. Announce over the City radio system that said recloser is on.

KEY POINT *– If the Contractor does not call when work is expected to be complete, such as at the end of a day, the Power Dispatcher will call the Contractor and verify work is complete, so the recloser does not remain off unnecessarily.*

****

Version History

Version	Date	Action	By
1	10/2/1995	New document	
1	3/23/2011	Updated personnel reference.	Tom Barnes
2	5/2/2012	Total policy update.	Jeff Mead

END

FORM # Sample
DATE _____

CITY OF GRAND ISLAND Utilities Department

RECLOSER OFF REQUEST

PURPOSE: To provide necessary information between the City of Grand Island Utilities Department and a Contractor wishing to do work on or near City owned power lines. A City representative and the Contractor will work together to complete this form. A separate form will be required for each work location and Contractor. This form is part of the more comprehensive "Recloser Policy". (Please print unless noted.)

City of GI Representative	City Cell Ph#	24/7 City Power Dispatcher **(308) 385-5461**
Alternative City Rep	Alt Rep Cell Ph#	City Electric Emergency **(308) 385-5461**

SECTION A. CONTRACTOR AND PROJECT WORK INFORMATION (all projects)

Company Name	Main Office Ph#	Job Site Contact	Job Site Cell Ph#
Billing Address		Alternative Site Contact	Alt Site Cell Ph#
Manager	Manager Cell Ph#		Max Equipment Height
Work Location			
Work Being Performed			
Start Date	Start Time	End Date	End Time

INFORMATION ONLY

SECTION B. RECLOSER OFF INFORMATION (recloser off action only)

System Location Info (between switches, etc.)	Feeder Number

SECTION C. LINE OUTAGE INFORMATION (line section out of service only)

System Location Info (between substations, etc.)	Line Number

SECTION D. SIGNATURES

_____ Contractor (sign & date)

_____ City Representative (sign & date)

WHITE
City Field Representative

YELLOW
Contractor On Site

PINK
Contractor Main Office

GOLD
City Phelps Control Center

WATER MAIN PROJECT 2014-W-1
CONSTRUCTION PLANS

GENERAL NOTES

1.) THE LOCATION OF ALL UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VARIFYING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION.

2.) THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF GRAND ISLAND UTILITY DEPARTMENT ANY WORK IN CONFLICT WITH EXISTING OVERHEAD OR UNDERGROUND ELECTRIC LINES.

3.) ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF GRAND ISLAND STANDARD PLANS AND SPECIFICATIONS.

4.) ALL WATER MAIN TAPS SHALL BE PERFORMED BY THE CITY OF GRAND ISLAND WATER DEPARTMENT AT THE CONTRACTOR'S EXPENSE.

5.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL TESTING PROCEDURES REQUIRED.

6.) AT THE COMPLETION OF WORK AND BEFORE FINAL ACCEPTANCE ALL SALVAGED MATERIAL SHALL BE RETURNED TO THE CITY OF GRAND ISLAND WATER DEPARTMENT.

7.) THE CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION CONTROL MEASURES DURING ALL PHASES OF CONSTRUCTION AND SHALL SUBMIT TO THE UTILITIES DEPARTMENT AN EROSION CONTROL PLAN PRIOR TO ANY CONSTRUCTION.

8.) THE FIRE HYDRANTS (HYDRANT ONLY NOT ENTIRE ASSEMBLY) SHALL BE PROVIDED BY THE CITY AND WILL BE AVAILABLE FOR PICK-UP AT THE CITY OF GRAND ISLAND WATER DEPT.

9.) THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY PROPERTY OWNERS A MINIMUM OF SEVEN DAYS PRIOR TO ANY CONSTRUCTION.

10.) THE REMOVAL OF TREES, BUSHES, SCHRUBS, LANDSCAPING AND ETC... SHALL BE CONSIDERED SUBSIDIARY TO THE INSTALLATION OF THE WATER MAIN.

SURVEY CONTROL

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	414826.4940	2093521.6410	1857.855	NW COR 4-11-9
2	414847.8770	2096159.8260	1855.906	N QTR 4-11-9
3	414865.6300	2098790.0130	1852.898	NE COR 4-11-9
4	414880.6920	2101434.8850	1850.067	N QTR 3-11-9
5	414892.0410	2104077.7640	1847.373	NE COR 3-11-9
6	417488.7220	2098756.5250	1849.477	E QTR 33-12-9
7	412223.0500	2098874.5010	1853.973	E QTR 4-11-9
8	417522.2170	2104046.0980	1845.823	E QTR 34-12-9
9	412250.3130	2104142.9540	1849.226	E QTR 3-11-9
92	414825.0990	2100317.6490	1853.181	BM P306 1950
2460	414781.8930	2094869.9430	1855.148	BM

CONSTRUCTION POINTS

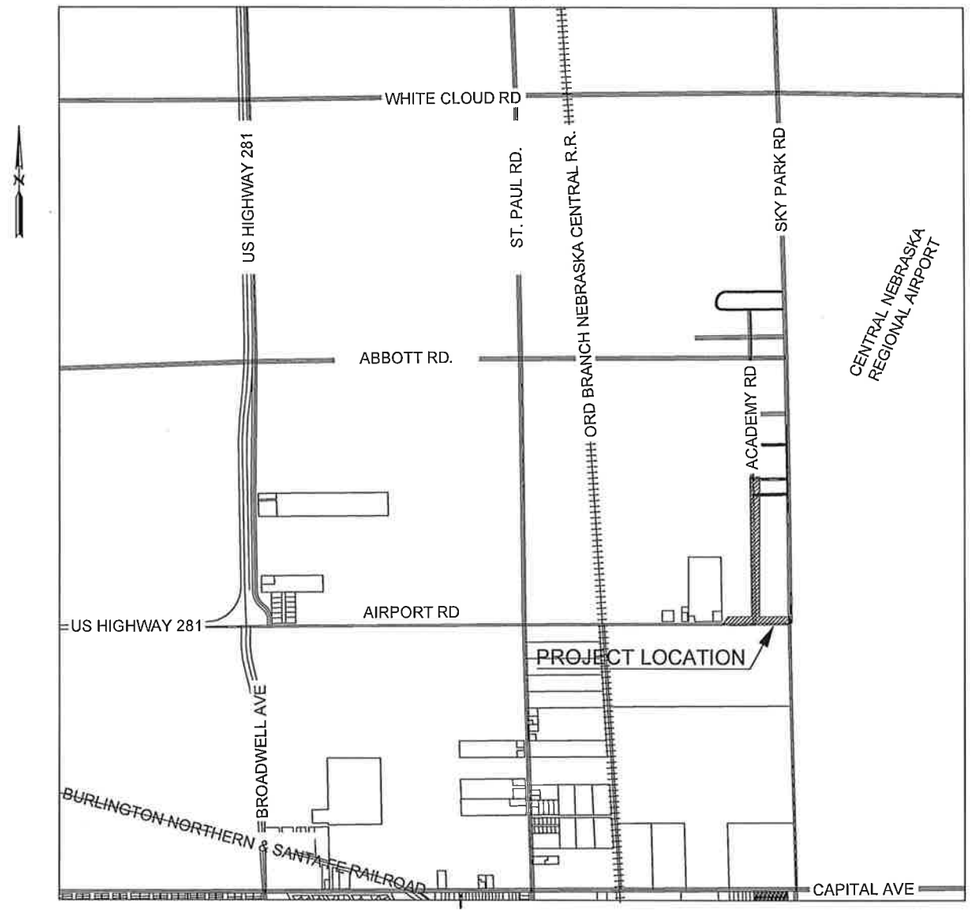
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
3035	414924.9700	2102897.0533	1839.500	81+55.1 CAP
3036	414925.0473	2102915.0532	0.000	81+73.1 BELL BLK
3037	414925.0860	2102924.0531	0.000	81+82.1 VALVE
3038	414925.1246	2102933.0530	0.000	81+91.1 TEE
3039	414935.1246	2102928.0530	0.000	PROP HYD
3041	414927.2268	2103422.5925	0.000	86+80.7 TEE
3042	414929.4568	2103941.9114	0.000	92+00 DEFLECTION
3043	414926.9650	2104008.6820	0.000	92+66.8 CONNECTION
3050	414932.2264	2103422.5309	1841.170	100+05 VALVE
3051	414977.2230	2103421.9772	1841.170	100+50 TEE
3052	414972.1618	2103417.0391	0.000	PROP HYD
3053	415677.1700	2103413.3633	1838.910	107+50 TEE
3054	415672.1088	2103408.4252	0.000	PROP HYD
3055	416358.1184	2103404.9833	1836.620	114+31 12X8 TEE
3056	416358.2549	2103412.4751	0.000	114+31 90 7.5R 90 BEND
3057	416353.4948	2103412.5336	0.000	114+26.3 7.5R 8X8 TAP
3058	416367.1177	2103404.8726	1836.870	114+40 VALVE
3059	416902.0772	2103398.2891	1837.500	119+75 TEE
3060	416897.0161	2103393.3510	0.000	PROP HYD
3061	417432.0371	2103391.7673	1838.770	125+05 12X12 CROSS
3062	417431.8970	2103394.7686	1838.770	125+05 3R VALVE
3063	417431.9554	2103399.2682	1838.770	125+05 7.5 RT 90 BEND
3064	417425.9559	2103399.3461	0.000	PROP HYD
3065	417431.8191	2103388.7691	1838.770	125+05 3L 12X8 REDUCER
3066	417431.7632	2103384.2701	1838.770	125+05 7.5L VALVE
3067	417431.7090	2103379.9800	1838.770	125+05 11.8L 90 BEND
3068	417435.0369	2103391.7304	1838.740	125+08 12X8 REDUCER
3069	417727.0040	2103387.3748	1837.760	128+00 45 BEND
3070	417735.1272	2103395.2550	1837.670	128+08 8R 45 BEND
3071	417746.0803	2103395.0704	0.000	128+19 8R TAP

CITY OF GRAND ISLAND

UTILITIES DEPARTMENT

AIRPORT RD & ACADEMY DR WATER MAIN PROJECT 2014-W-5

LOCATION MAP



SHEET INDEX

QUANTITY ESTIMATE

ITEM	UNIT	QTY.
16" S.J. D.I. PIPE	L.F.	1111.7
12" S.J. D.I. PIPE	L.F.	2520.5
8" S.J. D.I. PIPE	L.F.	319.8
8 MIL. POLYWRAP	L.F.	3952.0
16"X12" M.J. TEE	EA.	1
16"X6" M.J. TEE	EA.	1
16" BUTTERFLY VALVE	EA.	1
16" SLEEVE COUPLING	EA.	2
16" M.J. CAP W/2" TAP	EA.	1
16" RETAINER GLAND	EA.	1
16" BELL BLOCK	EA.	1
12"X8" M.J. REDUCER	EA.	2
12"X8" M.J. TEE	EA.	1
12"X6" M.J. TEE	EA.	4
12"X12" M.J. CROSS	EA.	1
12" R.S. GATE VALVE	EA.	3
8" R.S. GATE VALVE	EA.	1
8" R.S. GATE TAPPING VALVE	EA.	2
8"X8" TAPPING SLEEVE	EA.	2
8"X90° M.J. BEND	EA.	2
8"X45° M.J. BEND	EA.	2
VALVE BOX	EA.	8
FIRE HYDRANT ASSEMBLY	EA.	5
THRUST BLOCK	EA.	15
REMOVE AND SALVAGE EXIST. 16" CAP	EA.	1
REMOVE AND SALVAGE EXIST. HYDRANT AND VALVE	EA.	1
REMOVE ASPH./CONC. ROADWAY	S.Y.	141.3
REPLACE ASPH./CONC. ROADWAY	S.Y.	141.3
SEEDING AND RESTORATION	AC.	2.7
TRAFFIC CONTROL	L.S.	1

APPROVALS: WATER MAIN PROJECT 2014-W-5

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ENGINEER _____ DATE _____

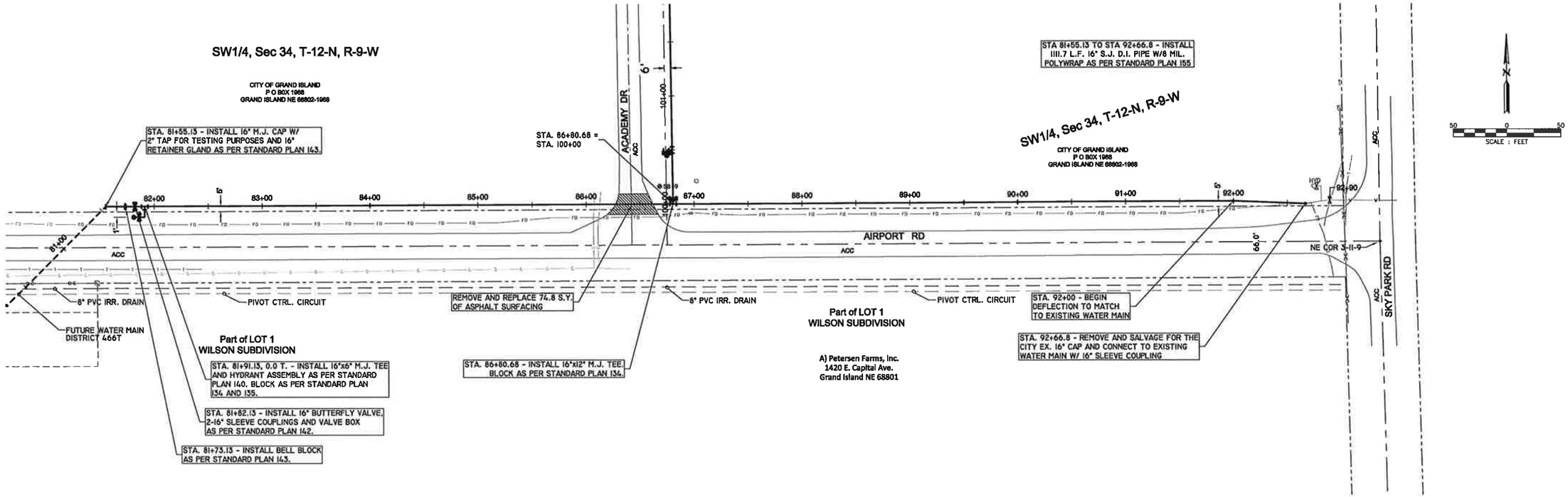
APPROVED — UTILITIES DIRECTOR — DATE 2-25-2014

APPROVED — FIRE CHIEF — DATE 2-25-2014

APPROVED — PUBLIC WORKS DIRECTOR — DATE 2-25-2014

2-25-14 TZ REVISED FOR 2014-W-5

F-406



LEGEND

- TRAVERSE OR CONTROL POINT (AS NOTED)
- BENCH MARK
- PROPERTY CORNER (AS NOTED)
- SOIL BORE LOCATION
- HYD EXISTING FIRE HYDRANT
- EXISTING MANHOLE
- POWER POLE
- GUY ANCHOR
- LIGHT POLE
- BARBED WIRE FENCE
- WOODEN FENCE
- CHAINLINK FENCE
- RIGHT-OF-WAY/PROPERTY LINE
- SECTION LINE
- EASEMENT LINE
- SECTION CORNER
- QUARTER-SECTION CORNER
- 1800 MAJOR CONTOUR LINE
- 1800 MINOR CONTOUR LINE
- WS0 WATER SHUT-OFF
- EXISTING VALVE
- FIRE HYDRANT TO BE INSTALLED
- VALVE TO BE INSTALLED
- WATER MAIN TO BE INSTALLED
- EXISTING WATER MAIN (AS NOTED)
- U.G. FIBER OPTIC LINE (AS NOTED)
- U.G. TELEPHONE LINE (AS NOTED)
- U.G. TV LINE (AS NOTED)
- U.G. GAS LINE (AS NOTED)
- U.G. ELECTRICAL LINE (AS NOTED)
- OVERHEAD ELECTRICAL LINE (AS NOTED)
- SANITARY SEWER LINE (AS NOTED)
- STORM SEWER LINE (AS NOTED)
- U.G. ELEC. LINE TO BE INSTALLED
- OVERHEAD ELEC. LINE TO BE INSTALLED
- POWER POLE TO BE INSTALLED

REVISIONS		
DATE	BY	DESCRIPTION
2-25-14	TZ	REVISED FOR 2014-W-5

SURV. BY: BH
DATE: 1/2013
DR. BY: PFG
DATE: 11/7/2013
CHK. BY: TWB
DATE:
APPR. BY:
DATE:
HORZ.: 1" = 50'
VERT.: 1" = 5'

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

WATER MAIN PROJECT 2014-W-5
AIRPORT ROAD AND ACADEMY DRIVE

DRAWING NO.: F-406

SW1/4, Sec 34, T-12-N, R-9-W

STA 100+00 TO STA 115+00 - INSTALL 1500 L.F. 12" S.J. D.I. PIPE.

CITY OF GRAND ISLAND
P O BOX 1968
GRAND ISLAND NE 68802-1968

STATE OF NEBR
521 S 14TH ST, SUITE 500
LINCOLN NE 68509-8940

SCALE : FEET

STA. 86+80.68 = STA. 100+00

ACADEMY DR
ACC

ACADEMY RD N
ACC

AIRPORT RD

1/16 SEC. LINE

STA. 100+50 - INSTALL 12"x6" M.J. TEE AND HYDRANT ASSEMBLY-TYPE I AS PER STANDARD PLAN 140. BLOCK AS PER STANDARD PLAN 134 AND 135.

STA. 100+05 - INSTALL 12" R.S. GATE VALVE AND VALVE BOX.

STA. 107+50 - INSTALL 12"x6" M.J. TEE AND HYDRANT ASSEMBLY-TYPE I AS PER STANDARD PLAN 140. BLOCK AS PER STANDARD PLAN 134 AND 135.

STA. 114+24, 21 LT. - EXISTING HYDRANT

STA. 114+31 - INSTALL 12"x8" M.J. TEE. BLOCK AS PER STANDARD PLAN 134.

STA. 114+40 - INSTALL 12" R.S. GATE VALVE AND VALVE BOX.

STA. 114+31, 7.5 RT. - INSTALL 8"x90° M.J. BEND. BLOCK AS PER STANDARD PLAN 134.

STA. 114+26.3, 7.5' RT. - INSTALL 8"x8" TAPPING SLEEVE AND 8" R.S. GATE TAPPING VALVE & BOX. BLOCK AS PER STANDARD PLAN 134.

DRIVE

MATCH LINE - SHEET 11 SHEET 12

1500 L.F. OF 12" S.J. D.I. PIPE

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"=5'

EXISTING GRADE

5' MIN. COVER

0.00% 0.98% 0.22% 0.25% 1.58% 2.12%

2' MIN.

+26.24 EX. 8" W/V
1839.90 F/L - VERIFY

+26.24 GRADE BREAK
1836.50 F/L
+31 TEE
1836.66 F/L
+40 VALVE
1836.87 F/L

STA	GND	F/L	
100+00	1848.6	1841.17	
+50		1841.17	
101+00	1847.8	1841.17	
+50		1841.17	
102+00	1847.7	1841.17	
+50		1841.17	
103+00	1847.4	1841.17	
+50		1841.17	
104+00	1847.3	1840.68	
+50		1847.4	1840.19
105+00	1846.7	1839.70	
+50		1845.6	1839.59
106+00	1845.8	1839.47	
+50		1845.6	1839.36
107+00	1845.4	1839.25	
+50		1845.4	1839.13
108+00	1845.3	1839.02	
+50		1845.0	1838.91
109+00	1844.9	1838.79	
+50		1844.9	1838.68
110+00	1844.8	1838.57	
+50		1844.7	1838.45
111+00	1844.7	1838.34	
+50		1844.7	1838.23
112+00	1844.5	1838.11	
+50		1844.3	1838.00
113+00	1844.2	1837.89	
+50		1844.2	1837.77
114+00	1844.4	1837.66	
+50		1844.5	1837.55
114+26.24	1844.5	1836.86	
114+31	1844.7	1837.14	
115+00	1844.7	1838.50	

NAVD-88 DATUM

LEGEND

- TRAVERSE OR CONTROL POINT (AS NOTED)
- BENCH MARK
- PROPERTY CORNER (AS NOTED)
- SOIL BORE LOCATION
- HYD — EXISTING FIRE HYDRANT
- EXISTING MANHOLE
- POWER POLE
- GUY ANCHOR
- LIGHT POLE
- BARBED WIRE FENCE
- WOODEN FENCE
- CHAINLINK FENCE
- RIGHT-OF-WAY/PROPERTY LINE
- SECTION LINE
- EASEMENT LINE
- SECTION CORNER
- QUARTER-SECTION CORNER
- 1800 — MAJOR CONTOUR LINE
- 1800 — MINOR CONTOUR LINE
- OWSO — WATER SHUT-OFF
- EXISTING VALVE
- FIRE HYDRANT TO BE INSTALLED
- VALVE TO BE INSTALLED
- WATER MAIN TO BE INSTALLED
- EXISTING WATER MAIN (AS NOTED)
- U.G. FIBER OPTIC LINE (AS NOTED)
- U.G. TELEPHONE LINE (AS NOTED)
- U.G. TV LINE (AS NOTED)
- U.G. GAS LINE (AS NOTED)
- U.G. ELECTRICAL LINE (AS NOTED)
- OVERHEAD ELECTRICAL LINE (AS NOTED)
- SANITARY SEWER LINE (AS NOTED)
- STORM SEWER LINE (AS NOTED)
- U.G. ELEC. LINE TO BE INSTALLED
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CHK. BY: TWB
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CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

WATER MAIN PROJECT 2014-W-5
AIRPORT ROAD AND ACADEMY DRIVE

DRAWING NO.: F-406

3 / 4

STA 115+00 TO STA 125+08 - INSTALL 1008 L.F. 12" S.J. D.I.P.
STA 125+05, 3 LT TO 7.5 RT - INSTALL 10.5 L.F. 12" S.J. D.I.P.
STA 125+05, 3 LT TO 11.8 LT - INSTALL 8.8 L.F. 8" S.J. D.I.P.
STA 125+08 TO STA 128+19 - INSTALL 311 L.F. 8" S.J. D.I.P.

STATE OF NEBR
521 S 14TH ST, SUITE 500
LINCOLN NE 68509-8940

CITY OF GRAND ISLAND
P O BOX 1968
GRAND ISLAND NE 68802-1968

SCALE : FEET (50 0 50)

POLICE ACADEMY ENTRANCE

ACADEMY RD N

ABANDONED 8" WATER MAIN AND VALVE

STA. +93.8, 13.5 LT - INSTALL LINE STOP (BY CITY)

6'

115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00

1/16 SEC. LINE

DRIVE

ABANDONED DRIVE

SHEET 11
MATCH LINE
SHEET 12

STA. 119+75 - INSTALL 12"x6" M.J. TEE AND HYDRANT ASSEMBLY-TYPE 1 AS PER STANDARD PLAN 140. BLOCK AS PER STANDARD PLAN 134 AND 135.

STA. 125+05 11.8 LT. - INSTALL 8"x90° M.J. BEND. BLOCK AS PER STANDARD PLAN 134.

STA. 125+05, 7.5 LT. - INSTALL 8" R.S. GATE VALVE AND VALVE BOX.

STA. 125+05 3.0 LT, - INSTALL 12"x8" REDUCER

STA. 125+05 - INSTALL 12"x12" M.J. CROSS.

STA. 125+08, - INSTALL 12"x8" REDUCER

STA. 125+05, 7.5 RT. - INSTALL 12"x6" M.J. TEE AND HYDRANT ASSEMBLY-TYPE 2 AS PER STANDARD PLAN 158. BLOCK AS PER STANDARD PLAN 134 AND 135. INSTALL 12" PLUG IN TEE TO EAST AND BLOCK AS PER STANDARD PLAN 134.

STA. 125+05, 12.5' RT. - INSTALL 12" M.J. CAP W/ 2" TAP FOR TESTING PURPOSES AND 12" RETAINER GLAND AS PER STANDARD PLAN 143.

REMOVE AND SALVAGE FOR THE CITY, EXISTING HYDRANT AND VALVE.

STA. 125+05, 3.0 RT. - INSTALL 12" R.S. GATE VALVE AND VALVE BOX

12" RCP BURIED

MIRAGE ST

REMOVE AND REPLACE 66.5 S.Y. OF ASPHALT SURFACING

STA. 128+00 - INSTALL 8"x45° M.J. BEND. BLOCK AS PER STANDARD PLAN 134.

STA. 128+08, 8.0' RT. - INSTALL 8"x45° M.J. BEND. BLOCK AS PER STANDARD PLAN 134.

STA. 128+19, 8.0' RT. - INSTALL 8"x8" TAPPING SLEEVE AND 8" R.S. GATE TAPPING VALVE & BOX. BLOCK AS PER STANDARD PLAN 134.

TWINSTAR LN

BROKEN ARC

1008 L.F. OF 12" S.J. D.I. PIPE

311 L.F. OF 8" S.J. D.I. PIPE

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"=5'

EXISTING GRADE

5' MIN. COVER

0.25% 0.49% 0.00% 4.00% 0.14% 1.06% 1.07% 0.28% 1.18%

+0.7 GAS
+77.1 TEL
+80.1 TEL
+37.6 TEL

	115+00	116+00	117+00	118+00	119+00	120+00	121+00	122+00	123+00	124+00	125+00	126+00	127+00	128+00	129+00	130+00
GND/PIPE	1844.7	1844.4	1844.3	1844.1	1843.9 GRADE BREAK	1843.7	1843.4 GRADE BREAK	1843.5	1843.6	1843.7	+75 TEE 1843.9	1844.1	1845.2	1845.0	1844.1	1844.6
F/L	1838.50	1838.37	1838.25	1838.12	1837.99	1837.75	1837.50	1837.50	1837.50	1837.50	1837.50	1837.50	1837.50	1837.50	1837.50	1837.50
		+50	+50	+50		+50		+50	+50	+50		+50	+50	+50	+50	+50

	125+00	126+00	127+00	128+00	129+00	130+00
GND/PIPE	1845.5 GRADE BREAK	1845.5 GRADE BREAK	1845.4	1844.7 GRADE BREAK	1844.8	+05 CROSS 1838.71 F/L +08 REDUCER 1838.74 F/L
F/L	1839.50	1839.45	1839.36		1838.83	1838.46
	+50	+50	+50		+50	

	126+00	127+00	128+00	129+00	130+00
GND/PIPE	1844.0 GRADE BREAK	1843.7	1843.8	1844.2 GRADE BREAK	1844.1 +08 GRADE BREAK - BEND
F/L	1837.90	1838.07	1838.21	1838.35	1837.76 1837.67 F/L +11.95 TAP F/L - MATCH EX.
	+50	+50		+50	+50

NAVD-88 DATUM

LEGEND

- TRAVERSE OR CONTROL POINT (AS NOTED)
- BENCH MARK
- PROPERTY CORNER (AS NOTED)
- SOIL BORE LOCATION
- HYD EXISTING FIRE HYDRANT
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- EASEMENT LINE
- SECTION CORNER
- QUARTER-SECTION CORNER
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- 1800 MINOR CONTOUR LINE
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- EXISTING VALVE
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- VALVE TO BE INSTALLED
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DATE:
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VERT.: 1" = 5'

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

WATER MAIN PROJECT 2014-W-5
AIRPORT ROAD AND ACADEMY DRIVE

DRAWING NO.: F-406

4 / 4

Soil Report

GSI

GEOTECHNICAL EXPLORATION

CITY OF GRAND ISLAND
2013 FALL SOIL BORINGS FOR
WATER AND SEWER MAIN PROJECTS
GRAND ISLAND, NEBRASKA

GSI JOB NO. 135183

NOVEMBER 7, 2013

Prepared By:

GSI Engineering Northern
Division, LLC
2960 North Diers Avenue
Grand Island, Nebraska
68803-1243

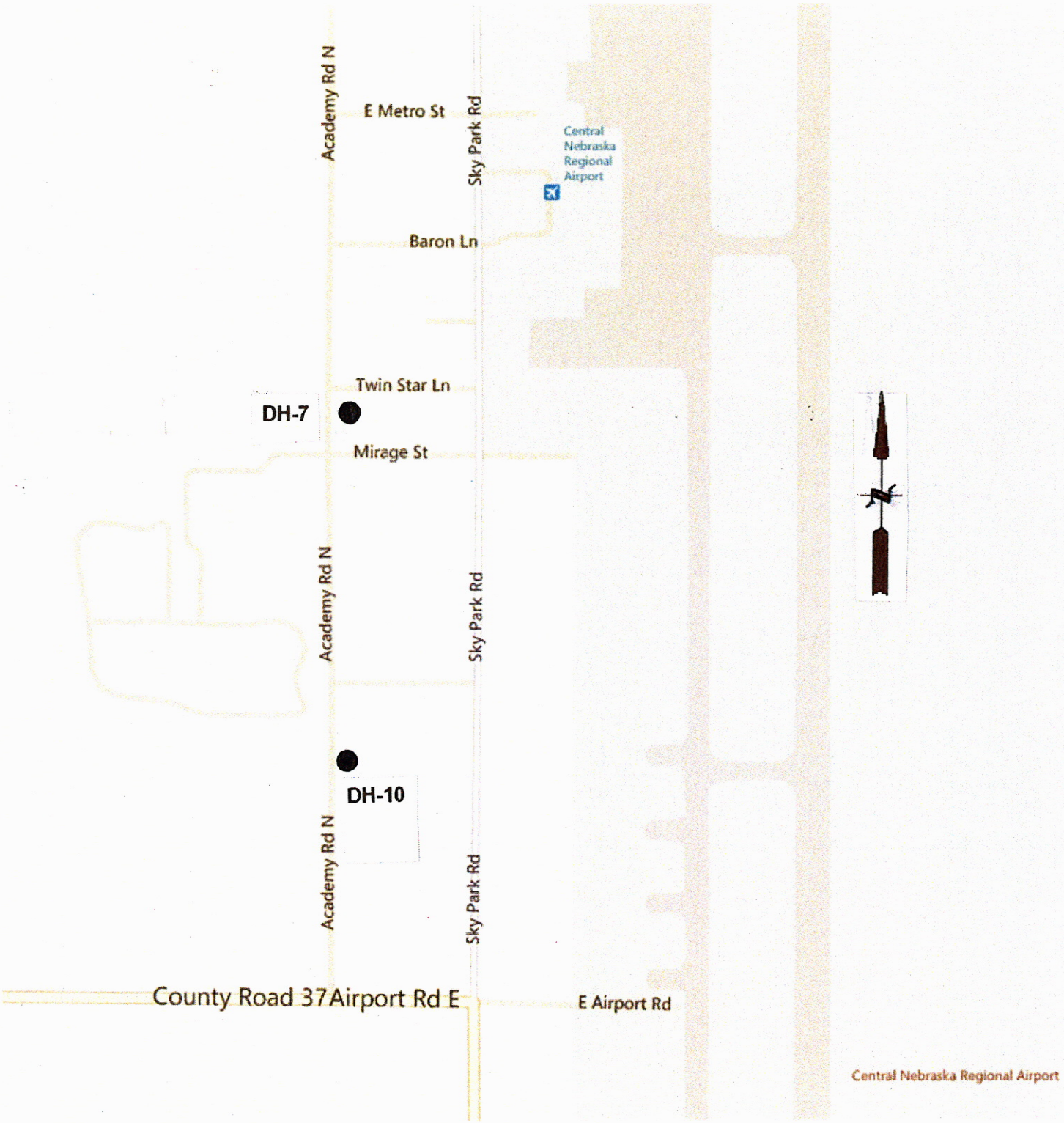
Prepared For:

City of Grand Island Utilities
Department
Phelps Control Center
Mr. Tom Zeckser
700 East Bischeld Street
Grand Island, Nebraska
68801

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Nebraska.

James D. Sorgenfrei — Date 11-7-13

My license renewal date is December 31, 2014.
Pages covered by this seal: 1-6, Appendices A, B, & C
Date issued: November 7, 2013


Academy Rd N
E Metro St
Sky Park Rd
Central Nebraska Regional Airport
Baron Ln
Twin Star Ln
DH-7
Mirage St
Academy Rd N
Sky Park Rd
DH-10
Academy Rd N
Sky Park Rd
County Road 37Airport Rd E
E Airport Rd
Central Nebraska Regional Airport

BORING LOG No. DH-7

BORING NO.	LOCATION OF BORING	ELEVATION	DATUM	DRILLER	LOGGER
DH-7	See Boring Location Plan			Matt Wold	James Tinnell

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILL RIG
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING	Grass	CME-45
			DRILLING METHOD	TOTAL DEPTH
None	None		Six Inch Continuous Flight Augers	10 Feet

DEP. FT.	SAMPLE DATA: SAMPLE NO. & TYPE	SAMPLE DATA: "N" BLOWS (FT)	SAMPLE DATA: % REC.	SOIL DESCRIPTION: COLOR, MOISTURE, CONSISTENCY / GEOLOGIC DESCRIPTION & OTHER REMARKS	USCS CLASS.	LABORATORY DATA: % MC	LABORATORY DATA: DRY DENS. pcf	LABORATORY DATA: Qu taf	ELEV. FT.
				DEVELOPED ZONE Dark Brown, Moist, Loose, Clayey Sand — 1.0'	SC				
	S-1	7		Dark Brown, Moist, Firm, Lean Clay	CL	16.7			
	S-2	5		— 3.0'					
	S-3	10		ALLUVIAL DEPOSITS Brown, Very Moist, Firm, Lean Clay Olive Brown Below a Depth of 4 Feet — 4.5'	CL	19.9			
5	S-4	13		ALLUVIAL DEPOSITS Light Brown, Moist, Medium Dense, Medium to Fine Grained, Poorly Graded Sand	SP	3.1			
10	S-5	22		— 10.0'					
				Bottom of Boring @ 10'					
15									
20									
25									
30									
35									

GSI Engineering
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BORING LOG No. DH-10

BORING NO.	LOCATION OF BORING	ELEVATION	DATUM	DRILLER	LOGGER
DH-10	See Boring Location Plan			Matt Wold	James Tinnell

WATER LEVEL OBSERVATIONS			TYPE OF SURFACE	DRILL RIG
WHILE DRILLING	END OF DRILLING	24 HOURS AFTER DRILLING	Grass	CME-45
			DRILLING METHOD	TOTAL DEPTH
None	None		Six Inch Continuous Flight Augers	10 Feet

DEP. FT.	SAMPLE DATA: SAMPLE NO. & TYPE	SAMPLE DATA: "N" BLOWS (FT)	SAMPLE DATA: % REC.	SOIL DESCRIPTION: COLOR, MOISTURE, CONSISTENCY / GEOLOGIC DESCRIPTION & OTHER REMARKS	USCS CLASS.	LABORATORY DATA: % MC	LABORATORY DATA: DRY DENS. pcf	LABORATORY DATA: Qu tsf	ELEV. FT.
	S-1	7		DEVELOPED ZONE Dark Brown, Moist, Firm, Lean Clay	CL	16.1			
	S-2	7							
				3.0'					
	S-3	8		ALLUVIAL DEPOSITS Brown, Very Moist, Loose, Clayey Sand	SC				
				4.0'					
5				ALLUVIAL DEPOSITS Olive Brown, Very Moist, Firm, Lean Clay	CL	20.7			
	S-4	11		5.0'					
				ALLUVIAL DEPOSITS Light Brown, Moist, Medium Dense, Medium to Fine Grained, Poorly Graded Sand	SP	3.2			
10	S-5	21							
				10.0'					
				Bottom of Boring @ 10'					
15									
20									
25									
30									
35									

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