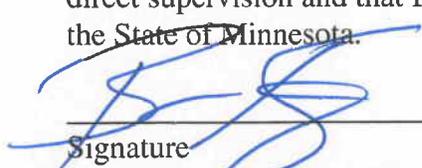


**Plans and Specifications
2010 H.H.I.C. Area
Flood Mitigation
City of Moorhead, Minnesota**

**City Engr. No. 09-A13-2G
Legal No. A13-2G-2009**

UEI Project No. 10.00209

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



Signature

Brian J King

Typed or Printed Name

Date 8/5/10

Reg. No. 45021

**Ulteig Engineers, Inc.
Bismarck Denver Detroit Lakes Fargo Minneapolis Sioux Falls
August 2010**

**INDEX SHEET
ENGINEERING PROJECT NO. 09-A13-2G**

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In accordance with Minnesota Statutes Section 429.011 to 429.111, sealed bids will be received by the City of Moorhead, Minnesota in the Basement East Conference Room, Moorhead City Hall, 500 Center Avenue, until 10:00 am, Wednesday, August 4, 2010 at which time they will be publicly opened and read aloud for furnishing all labor, materials and all else necessary for the construction of:

H.H.I.C., Stave Church Area Flood Mitigation Project
Engineering No. 09-A13-2G, Legal No. A13-2G-2009

The project consists of constructing an earthen and modular block levee system in the area adjacent to 1st Avenue North near 3rd Street. Major items shall include but not limited to the following:

3,500 CY Earthen Levee Borrow
160 LF Modular Block Wall
1.60 Acres of Turf Establishment
1,360 CY Common Excavation
1,400 CY Inspection Trench Excavation

All bids shall be made on the bid packet included in the specifications. Complete digital Bidding Documents are available at either www.questcdn.com or at the City's website at www.cityofmoorhead.com/city_services/engineering.asp. You may view the digital plan documents at no charge or download the digital plan documents for \$20 by inputting Quest project #1169984 on the website's Project Search page. Please contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information. An optional paper set of Bidding Documents is also available from Document Corporation for a nonrefundable price of \$75. Please contact Document at 763-475-9600 to obtain paper Bidding Documents. Paper Bidding Documents may also be viewed at the City of Moorhead Engineering Department and at Ulteig Engineering.

Direct inquiries to Engineer's Project Manager Brian King at (701) 280-8633.

This Project is made possible in part by a grant provided by the Minnesota Department of Natural Resources, through an appropriation by the Minnesota State Legislature.

Pursuant to Minnesota Statutes 177.41 to 177.44 and corresponding Rules 5200.1000 to 5200.1120 this contract is subject to the prevailing wages as established by the Minnesota Department of Labor and Industry. Specifically, all contractors and subcontractors must pay all laborers and mechanics the established prevailing wages for work performed under the contract. Failure to comply with the aforementioned may result in civil or criminal penalties.

Each bidder must submit with his bid a certified or a cashier's check upon some reputable bank of the State of Minnesota, payable to the City of Moorhead, for at least ten (10) percent of the total amount of such bid, which check and the amount thereof, shall be forfeited to the City of Moorhead, as liquidated damages if the bidder upon the letting of the contract to him, shall fail to enter into the contract so let. The bidder may submit a bidder's bond written through an insurance agency or cash in the same amount in lieu of a certified check. The successful bidder will be required to furnish contract performance and payment bonds, each in the full amount of the contract.

All bids shall be sealed, shall contain a deposit of the type specified above, and may be filed with the City Clerk during normal office hours (8:00 a.m. to 4:30 p.m.) or hand carried to the meeting prior to the scheduled bid opening as specified above. No bidder shall withdraw his bid for at least 30 (thirty) days after the scheduled closing time for the receipt of bids, except with the consent of the City Council.

The City Council of Moorhead reserves the right to reject any or all bids and to waive informalities.

Dated at Moorhead, Minnesota this 27th day of July, 2009.

KAYE E. BUCHHOLZ
CITY CLERK

Publish in Forum July 12th & 19th, 2010
Publish in Finance & Commerce July 12th, 2010

INSTRUCTIONS TO BIDDERS

Bidder's Responsibility for Conditions of Work and Site: Bidders shall make all necessary investigations to satisfy themselves as to the conditions and nature of the soil and other characteristics of the proposed site or sites of the project, and otherwise inform themselves of all facilities or difficulties that may be encountered in the complete execution of all the work included in or implied by the contract, in accordance with the plans and specifications.

Bidders are required to examine all drawings and data mentioned in the specifications, contract and proposal as being on file in the office of the City Clerk of Moorhead for examination by bidders. No plea of ignorance of conditions that exist, or of conditions or difficulties that may be encountered in the execution of the work under investigations will be accepted as an excuse for failure or omission on the part of the contract, specifications and plans, or will be accepted as a basis for any claims whatsoever for added compensation. Upon application, all available information in the possession of the City Engineer will be shown to the bidders but the correctness of any such information is not guaranteed.

Wage Determination: All contractors and subcontractors shall conform to the labor laws of the State of Minnesota and all other laws, ordinances, and legal requirements affecting their work in Minnesota. Pursuant to Minnesota Statutes 177.41 to 177.44 and corresponding Rules 5200.1000 to 5200.1120, this contract is subject to the prevailing wages as established by the Minnesota Department of Labor and Industry. Specifically, all contractors and subcontractors must pay all laborers and mechanics the established prevailing wages for work under this contract. Failure to comply with the aforementioned may result in civil or criminal penalties.

Unit Quantities: The schedule of unit quantities contained in the Form of Proposal, although estimated with as much accuracy as possible in advance, is approximate only and is assumed only for the purpose of comparing bids and forming a basic contract price for the work contemplated. The quantities on which payments will be made to the contractor are to be determined by measurements of the work actually performed by the contractor as specified by the contract, plans and specifications. Bidders shall not at any time after the submission of their bids dispute or complain of the aforementioned schedule of quantities or the character of the work to be done, and shall not make any claims for damage for loss of profits because of a difference between the quantities assumed in the Form of Proposal and the quantities of work actually performed.

Submitting Proposals: All bids must be made upon blank forms of proposal attached hereto and the prices of the work proposed shall be given in plain or typed figures. In case of discrepancy between a unit bid price and the extension, the unit price shall govern. The proposal must be signed in ink by the bidder. **All papers bound with or attached to the proposal form are a necessary part thereof and must not be detached.** The blank spaces in the proposal form must be correctly filled in where indicated for each and every item, with totals and grand totals. Any proposal, which is incomplete, obscure, or irregular, may be rejected. A bid shall be rejected if it contains any alterations or erasures which are not corrected as follows: 1) the alteration or erasure must be crossed out and the correction thereof printed in ink or typewritten adjacent thereto; and 2) the correction must be initialed in ink by the person signing the bid proposal. All bids, when properly made and signed shall be placed in a sealed envelope which envelope shall be plainly marked, "**Bids on 2010 H.H.I.C. Area Flood Mitigation**" and addressed to: Jill Wenger, City Clerk, City of Moorhead, PO Box 779, Moorhead, Minnesota 56561.

Each bidder, when requested by the City, shall submit the following information and data upon 48 hours notice:

- a. The location of bidders' permanent place of business.
- b. A statement of equipment, which the bidder proposes to use on the project.

- c. A financial statement showing assets and liabilities as of a time longer than six months previous to the time of bidding, and financial references.
- d. A statement listing projects of a similar nature, which the bidder has actually constructed.
- e. A list of proposed subcontractors, materials and suppliers to be used on the project.

-END OF SECTION-

FORM OF PROPOSAL
(Unit Price Contract)

TO: The Mayor and City Council
 Moorhead, Minnesota

The undersigned, being familiar with local conditions which may affect the cost of the work, and with the provisions of the contract documents including the Advertisement for Bids, Form of Contract, General Conditions, Plans and Specifications and Special Provisions all on file in the office of the City Clerk of Moorhead, Minnesota hereby proposes to furnish all labor, material equipment and services necessary for **2010 H.H.I.C. Area Flood Mitigation**, in the City of Moorhead.

In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that BIDDER has examined and carefully studied the Bidding Documents and the following Addenda, receipt of all which is hereby acknowledged:

Acknowledgement of Addenda

Date	Number
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

A. Base Bid

Spec. No.	Item Description	Amount	Unit	Unit Price	Total Cost
2021.501	Mobilization	1	Lump Sum		
2101.502	Clearing	22	Each		
2101.507	Grubbing	22	Each		
2104.501	Remove Pipe Culvert	265	LF		
2104.501	Remove Fence	40	LF		
2104.501	Remove Curb & Gutter	308	LF		
2104.505	Remove Concrete Pavement	105	SY		
2104.505	Remove Concrete Sidewalk	169	SY		
2104.505	Remove Bituminous Pavement	706	SY		
2104.505	Remove Bituminous Sidewalk	548	SY		
2104.509	Remove Birdhouse	2	Each		
2104.509	Remove Concrete Bollard	2	Each		
2104.523	Salvage Sign	1	Each		
2105.501	Inspection Trench (P)	1,145	CY		
2105.507	Unsuitable Excavation	2,100	CY		
2105.523	Common Borrow (CV)	3,123	CY		
2105.535	Salvage Topsoil (P)	2,082	CY		
2105.601	Temporary Rock Construction Entrance	4	Each		
2105.604	Geotextile Fabric Type V (P)	510	SY		
2211.503	Aggregate Base, Class 5, (CV), (P)	120	CY		
2360.503	Type SP B Wearing Course Mixture (B), 3" Thick	493	SY		
2360.503	Type SP B Non-Wearing Course Mixture (B), 4" Thick	493	SY		
2501.511	12" RC Pipe Storm Apron	3	Each		
2502.541	6" PE Perf. Pipe Drintile	174	LF		
2503.511	12" RC Pipe Storm CL III	452	LF		
2506.601	Construct Drainage Structure, 27" Inlet	5	Each		
2506.601	Construct Drainage Structure, 48" MH	3	Each		
2506.601	6" PE Area Drain	2	Each		
2506.601	6' x 6' RC Control Structure	5	Each		

Spec. No.	Item Description	Amount	Unit	<u>Unit Price</u>	<u>Total Cost</u>
2506.601	Adjust Valves & Castings	8	Each	_____	_____
2521.501	6" Concrete Sidewalk	1,370	SF	_____	_____
2531.501	Concrete Curb & Gutter	217	LF	_____	_____
2557.601	Install Fence	40	LF	_____	_____
2564.602	Install Sign	1	Each	_____	_____
2571.601	Plant & Relocate Trees	3	Each	_____	_____
2573.502	Silt Fence (Machine Sliced)	1,769	LF	_____	_____
2573.530	Inlet Protection	10	Each	_____	_____
2573.540	Bio Roll	309	LF	_____	_____
2575.501	Turf Establishment, Seeding	1	Lump Sum	_____	_____
2575.505	Sod, Type Lawn	4,240	SY	_____	_____
Spec	Machine Time	30	Hour	_____	_____
Spec	Purple Martin Birdhouse & Support	1	Lump Sum	_____	_____
Spec	Project Funding Sign	1	Lump Sum	_____	_____
Spec	Flood Wall Closure System	1	Lump Sum	_____	_____
Spec	Relocate Sprinkler System	3	Each	_____	_____

Total Bid _____

FORM OF PROPOSAL SIGNATURE SHEET

Accompanying this proposal is a certified check, cash or bidder's bond in the amount of 10% of the bid which shall serve as a guaranty that, should this proposal be accepted by the City, the undersigned will enter into a Contract with the City for the performance of the work at the unit prices stipulated herein.

The undersigned further agrees that within ten (10) days from the date of "Notice of Award" of this bid, he or they will execute the Contract and furnish to the City of Moorhead, Minnesota, satisfactory Contract Bonds, in conformance with MSA 574.26 for the full amount of the proposal, guaranteeing the faithful performance of the work and the payment of bills; and that, within said ten (10) days, he or they shall furnish evidence or certification of all necessary or required approval of the City Attorney.

The undersigned further agrees that he or they will begin work on this project as set forth in the Special Provisions.

In submitting this bid, it is understood that the right is reserved by the City to reject any or all bids and to waive informalities. It is further understood that this bid may not be withdrawn for a period of at least 30 days from the date of the opening of the bids, unless otherwise determined by the City Council.

DATE: _____

FIRM NAME: _____

ADDRESS: _____

CITY, STATE _____

BY: _____

TITLE: _____

SECTION 00325 – SCHEDULE OF SUBCONTRACTORS

PART 1 – GENERAL

- 1.1 The following information must be completed and submitted with the bid. Failure to complete and submit this form with the bidding documents may result in rejection of the bid. Changes to the information listed in the subsequent sections may only be made with the approval of the Engineer.

PART 2 – SUBCONTRACTORS

- 2.1 List all subcontractors who will be performing the following work on this project. If the Prime contractor is to do the work, list it as such in the appropriate location.

<u>Type of Work</u>	<u>Name of Prime or Subcontractor</u>
<u>Underground Utilities</u>	_____
<u>Grading & Base</u>	_____
<u>Bituminous Paving</u>	_____
<u>Concrete Curb, Gutter & Sidewalk</u>	_____
<u>Turf Establishment</u>	_____
<u>Floodwall Protection System</u>	_____

PART 3 – SUPPLIERS

- 3.1 List all suppliers who will furnish the following listed items.

<u>Type of Materials</u>	<u>Name of Supplier</u>
<u>Geotextiles</u>	_____
<u>RCP and Manholes</u>	_____
<u>PVC Pipe/ Fittings/Appurtances</u>	_____
<u>Aggregate Base and Granular Borrow</u>	_____
<u>Concrete</u>	_____

Floodwall Protection System

END OF SECTION

**FORM OF CONTRACT
CITY OF MOORHEAD, MINNESOTA**

CONTRACT NO. Eng No: 09-A13-2G, Legal No: A13-2G-2009

THIS AGREEMENT made and entered into this _____ day of _____, 2010 by and between the City of Moorhead, Minnesota, hereinafter called the "City" and _____, hereinafter called the "Contractor".

WITNESS that the City and the Contractor, for the consideration hereinafter stated, agree as follows:

ARTICLE I. The Contractor agrees to provide all the materials, equipment, labor, and services necessary for the complete construction of all work shown on the drawings and described in the specifications prepared by the City Engineer of Moorhead for the following:

Construction of **2010 H.H.I.C. Area Flood Mitigation Project** and to do everything required by this agreement and the Contract Documents.

ARTICLE II. All contractors and subcontractors shall conform to the labor laws of the State of Minnesota and all other laws, ordinances, and legal requirements affecting their work in Minnesota. Pursuant to Minnesota Statutes 177.41 to 177.44 and corresponding Rules 5200.1000 to 5200.1120, this contract is subject to the prevailing wages as established by the Minnesota Department of Labor and Industry. Specifically, all contractors and subcontractors must pay all laborers and mechanics the established prevailing wages for work under this contract. Failure to comply with the aforementioned may result in civil or criminal penalties.

ARTICLE III. The Contractor agrees that the work contemplated by this Contract shall be entirely completed within 30 days of the issuance of the Notice to Proceed from the City of Moorhead.

ARTICLE IV. The City agrees to pay and the Contractor agrees to receive and accept the prices bid for the unit or lump sum items as set forth in the conformed copy of the Form of Proposal hereto attached, which prices shall conform to those in the accepted Contractor's proposal on file in the office of the City Clerk of Moorhead, the aggregate of which prices, based on the approximate schedule of quantities is estimated to be \$ _____

ARTICLE IV. The Contract Documents shall consist of the following component parts:

1. Advertisement for Bids
2. Instruction to Bidders
3. Form of Proposal
4. General Conditions
5. Special Provisions
6. Specifications
7. Plans and Drawings which is a separate document identified as **2010 H.H.I.C. Area Flood Mitigation Project**

THIS INSTRUMENT, together with the documents hereinabove mentioned, for the Contract, and all documents are as fully a part of the Contracts as is attached hereto or herein repeated.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed as of the day and year first above written

(CONTRACTOR)

BY: _____

(TITLE)

DATE: _____

In the Presence of:

The City of Moorhead, Minnesota

Mark Voxland, Mayor

Michael J. Redlinger, City Manager

ATTEST:

Jill Wenger, City Clerk

Approved

Resolution

The Contractor is required to complete this work schedule form before final approval of the contract bid will be accepted.

The dates on the work schedule can be changed after the start of the project only because of adverse weather conditions, unavoidable delays in materials delivery, design changes in the project, or other justifiable reason subject to the approval of the City Engineer.

<u>Progress-Controlling Item</u>	<u>Starting Date</u>	<u>Estimated Completion Date</u>
1. Unsuitable Excavation		
2. Levee Borrow		
3. Storm Sewer		
4. Class 5		
5. Concrete		
6. Bituminous		
7. Sod		
8. Floodwall Protection System		

If a section contains more than one work area, a starting date and an estimated completion date should be provided for each area within the section.

The above schedule does not in any way alleviate the Contractor's responsibility to complete the project section by the date specified in the Special Provisions.

Contractor's Signature

Title

Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

City of Moorhead
500 Center Avenue
Moorhead, MN 56560

CONTRACT

Date:
Amount:
Description (Name and Location):

BOND

Date (Not earlier than Contract Date):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: (Corp. Seal)

Signature: _____
Name and Title:

SURETY

Company: (Corp. Seal)

Signature: _____
Name and Title:
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: (Corp. Seal)

Signature: _____
Name and Title:

SURETY

Company: (Corp. Seal)

Signature: _____
Name and Title:

EJCDC No. 1910-28-A (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

SECTION 00610 - PERFORMANCE BOND

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Contract, which is incorporated herein by reference.

2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.

3. If there is no OWNER Default, the Surety's obligation under this Bond shall arise after:

3.1. The OWNER has notified the CONTRACTOR and the Surety at the addresses described in paragraph 10 below, that the OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with the CONTRACTOR and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the OWNER's right, if any, subsequently to declare a CONTRACTOR Default; and

3.2. The OWNER has declared a CONTRACTOR Default and formally terminated the CONTRACTOR's right to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after the CONTRACTOR and the Surety have received notice as provided in paragraph 3.1; and

3.3. The OWNER has agreed to pay the Balance of the Contract Price to:

3.3.1. The Surety in accordance with the terms of the Contract;

3.3.2 Another contractor selected pursuant to paragraph 4.3 to perform the Contract.

4. When the OWNER has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or

4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or

4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR Default; or

4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances;

4.4.1 After investigation, determine the amount for which it may be liable to the OWNER and, as soon as practicable after the amount is determined, tender payment therefor to the OWNER; or

4.4.2 Deny liability in whole or in part and notify the OWNER citing reasons therefor.

5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the OWNER to the Surety demanding that the Surety perform its obligations under this Bond, and the OWNER shall be entitled to enforce any remedy available to the OWNER. If the Surety proceeds as provided in paragraph 4.4, and the OWNER refuses the payment tendered or the Surety has denied

liability, in whole or in part, without further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.

6. After the OWNER has terminated the CONTRACTOR's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Contract. To a limit of the amount of this Bond, but subject to commitment by the OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:

6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the Contract;

6.2. Additional legal, design professional and delay costs resulting from the CONTRACTOR's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and

6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the CONTRACTOR.

7. The Surety shall not be liable to the OWNER or others for obligations of the CONTRACTOR that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the OWNER or its heirs, executors, administrators, or successors.

8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.

9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after CONTRACTOR Default or within two years after the CONTRACTOR ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

10. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page.

11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12. Definitions.

12.1 Balance of the Contract Price: The total amount payable by the OWNER to the CONTRACTOR under the Contract after all proper adjustments have been made, including allowance to the CONTRACTOR of any amounts received or to be received by the OWNER in settlement of insurance or other Claims for damages to which the CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of the CONTRACTOR under the Contract.

12.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

12.3. CONTRACTOR Default: Failure of the CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.

12.4. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

SECTION 00615 - PAYMENT BOND

Any singular reference to contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address): _____ SURETY (Name and Address of Principal Place of Business): _____

OWNER (Name and Address):

City of Moorhead
500 Center Avenue
Moorhead, Minnesota 56560

CONTRACT

Date:
Amount:
Description (Name and Location):

BOND

Bond Number:
Date (Not earlier than Contract Date):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL
Company:

SURETY

Signature: _____ (Seal) _____ (Seal)
Name and Title Surety's Name and Corporate Seal

By: _____
Signature and Title
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

Attest: _____
Signature and Title

CONTRACTOR AS PRINCIPAL
Company:

SURETY

Signature: _____ (Seal) _____ (Seal)
Name and Title Surety's Name and Corporate Seal

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title

EJCDC No. C-615 (2002 Edition)
Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to Owner, this obligation shall be null and void if Contractor:

2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2. Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.

3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.

4. Surety shall have no obligation to Claimants under this Bond until:

4.1. Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the addresses described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2. Claimants who do not have a direct contract with Contractor:

1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
2. Have either received a rejection in whole or in part from Contractor, or not received within thirty (30) days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
3. Not having been paid within the above thirty (30) days, have sent a written notice to Surety and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.

5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.

6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:

6.1. Send an answer to that Claimant, with a copy to Owner, within forty-five (45) days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2. Pay or arrange for payment of any undisputed amounts.

7. Surety's total obligation shall not exceed the amount of this Bond and the amount of this Bond shall be credited for any payments made in good faith by Surety.

8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the

performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.

9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one (1) year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1. Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the work of Contractor and Contractor's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.

SECTION 00630 - NON-COLLUSION AFFIDAVIT

NON-COLLUSION AFFIDAVIT

The following Non-Collusion Affidavit shall be executed by the bidder:

State Project No: _____

Federal Project No: _____

City Project No: _____

STATE OF MINNESOTA)

) ss

COUNTY OF _____)

I, _____, being first duly sworn,
(Name of Person Signing this Affidavit)

do depose and say:

(1) that I am the authorized representative of _____

(Name of individual, partnership or corporation submitting this proposal)
and that I have the authority to make this affidavit for and on behalf of said bidder:

(2) that, in connection with this proposal, the said bidder has not either directly or indirectly entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding:

(3) that, to the best of my knowledge and belief, the contents of this proposal have not been communicated by the bidder or by any of his employees or agents to any person who is not an employee or agent of the bidder or of the surety on any bond furnished with the proposal, and will not be communicated to any person who is not an employee or agent of the bidder or of the said surety prior to the official opening of the proposal, and

(4) that I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed: _____
Bidder or his authorized representative

SECTION 00640 - CERTIFICATE OF COMPLIANCE

**Certification of Compliance with the
Minnesota Worker's Compensation Law**

Name _____ Doing Business as _____
Print your full name Print business name, if different than your name

Address _____
Print Mailing Address Print City or Town Name Print State Name Zip Code

Telephone Number (_____) _____ Type of Business _____
Area Code (For example: bldg construction; trucking)

Worker's Compensation
Insurance Company Name _____
Print full name of Insurance Company (Not your agent)

Policy Number _____
Print full number

Dates of Coverage _____ through _____
Print starting date Print ending date

- OR -

I certify that I am not required to carry worker's compensation insurance because
(check one)

___ I am a sole propeoirtor or partner and I have no employees.

___ I have no employees who are covered by the worker's compensation law. (Only employees specifically exempted by statute are not covered by the worker's compensation law. These include: Spouse; Parent; Children, regardless of age; and farm labor employees of a family farm that spent less than \$8,000 for labor in the previous calendar year. All other workers whose work activity is controlled by the employer must be covered).

I understand that the information provided about will be verified by the Minnesota Department of Labor and Industry, and that I am subject to a \$1,000 penalty if the information provided is false. I certify that the information provided is accurate and complete.

Signed by _____ Date _____

This Form must Be Completed and Submitted with Your Proposal

Withholding Affidavit for Contractors

IC-134

This affidavit must be approved by the Minnesota Department of Revenue before the state of Minnesota or any of its subdivisions can make final payment to contractors.

Please type or print clearly. This will be your mailing label for returning the completed form.

Type or print

Company name		Daytime phone ()	Minnesota tax ID number
Address		Total contract amount \$	Month/year work began
City	State	Zip Code	Amount still due \$
			Month/year work ended

Project information

Project number	Project location		
Project owner	Address	City	State Zip code
Did you have employees work on this project? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, who did the work?			

Contractor type

Check the box that describes your involvement in the project and fill in all information requested.

Sole contractor

Subcontractor
Name of contractor who hired you _____
Address _____

Prime contractor—If you subcontracted out any work on this project, all of your subcontractors must file their own IC-134 affidavits and have them certified by the Department of Revenue *before* you can file your affidavit. For each subcontractor you had, fill in the information below and attach a copy of each subcontractor's certified IC-134. If you need more space, attach a separate sheet.

Business name	Address	Owner/Officer

Sign here

I declare that all information I have filled in on this form is true and complete to the best of my knowledge and belief. I authorize the Department of Revenue to disclose pertinent information relating to this project, including sending copies of this form, to the prime contractor if I am a subcontractor, and to any subcontractors if I am a prime contractor, and to the contracting agency.

Contractor's signature	Title	Date

Mail to: MN Dept. of Revenue, Withholding Division, Mail Station 6610, St. Paul, MN 55146-6610

Certificate of Compliance

Based on records of the Minnesota Department of Revenue, I certify that the contractor who has signed this certificate has fulfilled all the requirements of Minnesota Statutes 290.92 and 290.97 concerning the withholding of Minnesota income tax from wages paid to employees relating to contract services with the state of Minnesota and/or its subdivisions.

Department of Revenue approval _____ Date _____

Instructions for Form IC-134

Who must file

If you are a prime contractor, a contractor or a subcontractor who did work on a project for the state of Minnesota or any of its local government subdivisions — such as a county, city or school district — you must file Form IC-134 with the Minnesota Department of Revenue.

This affidavit must be certified and returned before the state or any of its subdivisions can make final payment for your work.

If you're a prime contractor and a subcontractor on the same project

If you were hired as a subcontractor to do work on a project, and you subcontracted all or a part of your portion of the project to another contractor, you are a prime contractor as well. Fill out both the subcontractor and prime contractor areas on a single form.

When to file

The IC-134 cannot be processed until you finish the work. If you submit the form before the project is completed, it will be returned to you unprocessed.

If you are a subcontractor or sole contractor, send in the form when you have completed your part of the project.

If you are a prime contractor, send in the form when the entire project is completed and you have received certified affidavits from all of your subcontractors.

How to file

If you have fulfilled the requirements of Minnesota withholding tax laws, the Department of Revenue will sign your affidavit and return it to you.

If any withholding payments are due to the state, Minnesota law requires certified payments before we approve the IC-134.

Submit the certified affidavit to the government unit for which the work was done to receive your final payment. If you are a subcontractor, submit the certified affidavit to your prime contractor to receive your final payment.

Where to file

Mail to:
MN Dept. of Revenue
Withholding Tax Division
Mail Station 6610
St. Paul, MN 55146-6610

Minnesota tax ID number

You must fill in your Minnesota tax ID number on the form. You must have a Minnesota tax ID number if you have employees who work in Minnesota.

If you don't have a Minnesota ID number, you must apply for one. Call (651) 282-5225 or 1-800-657-3605.

If you prefer, you can get an application (Form ABR) from our web site, or by calling or writing us.

If you have no employees and did all the work yourself, you do not need a Minnesota tax ID number. If this is the case, fill in your Social Security number in the space for Minnesota tax ID number and explain who did the work.

Use of information

The Department of Revenue needs all the information to determine if you have met all state income tax withholding requirements. If all required information is not provided, the IC-134 will be returned to you for completion.

All information on this affidavit is private by state law. It cannot be given to others without your permission, except to the Internal Revenue Service, other states that guarantee the same privacy and certain government agencies as provided by law.

Information and assistance

If you need help or more information to complete this form, call (651) 282-9999 or 1-800-657-3594.

Additional forms are available on our website at www.taxes.state.mn.us or by calling (651) 296-4444 or 1-800-657-3676. You can also write for forms at the following address:

Minnesota Tax Forms
Mail Station 1421
St. Paul, MN 55146-1421

TTY users may contact the department through the Minnesota Relay Service at 1-800-627-3529.

We'll provide information in an alternative format upon request to persons with disabilities.

Exemption from Surety Deposits for Non-Minnesota Contractors

SD-E

Please type or print clearly. This will be your mailing label for returning the form to you.

Contractor information

Contractor			Total contract amount \$	Minnesota ID number
Address			Contact person	Daytime phone ()
City	State	Zip Code	Contract starting date	Projected completion date
Business type (check one):			<input type="checkbox"/> Corporation	<input type="checkbox"/> S corporation
			<input type="checkbox"/> Partnership	<input type="checkbox"/> Sole proprietor

Project information

Name of business or government agency			Contact person	Daytime phone ()
Contract owner's address	City	State	Zip Code	Project number
Project location address	City	State	Zip code	

Reason for exemption

I request exemption from surety deposits under Minnesota law (MS 290.9705) for the following reason (check one and complete the information requested):

- I have a cash surety or a bond secured by an insurance company licensed in Minnesota. The bond must be 8 percent of the total contract amount. **Attach a copy of the bonding agreement.**

Bonding company			Bonding agent	
Address			Daytime phone ()	
City	State	Zip code	Period of bond (month/day/year) From / / To / /	

- I have done construction work in Minnesota during the past three calendar years and have fully complied with Minnesota law regarding Minnesota income, sales and withholding taxes.
- I am performing work for a government agency and have a payment and performance bond.
- I am performing work for a government agency and have a cash surety issued by a state bank, national bank, or savings and loan association doing business in Minnesota.

Sign here

I declare this information is true and complete to the best of my knowledge and belief. I authorize the Department of Revenue to send a copy of this form to the contract owner and discuss this case and related taxes with the bonding company.

Contractor's signature	Title	Date
------------------------	-------	------

Mail to: MN Dept. of Revenue, Mail Station 6501, St. Paul, MN 55146-6501

Department of Revenue Approval

The above-named out-of-state contractor is exempt from the surety requirements of Minnesota Statute 290.9705 for this project.

Department of Revenue approval

Date

Instructions for Form SD-E

Before you start

You must have a Minnesota tax ID number from the Department of Revenue to request this exemption.

If you don't have one, apply for one by calling (651) 282-5225 or 1-800-657-3605. An application form (Form ABR) is also available on our website at www.taxes.state.mn.us.

How to apply

To apply for an exemption from Minnesota surety deposits, file Form SD-E before the project is started. You must file a separate application for each project that is over, or expected to go over, \$100,000.

Mail this form and any required attachments to the address on the front.

If you're approved

If we approve the exemption, we'll sign the bottom of this form and return it to you. Make a copy for your records and give the original to the business for whom you are doing the work.

If you're not approved

If we determine you're not eligible for exemption, 8 percent of each payment made to you must be withheld by the business for whom you are doing the work and deposited with the Department of Revenue.

To apply for a refund, complete Form SD-R, *Refund of Surety Deposits for Non-Minnesota Contractors*. When the project is complete, and we determine that you have complied with Minnesota income, withholding and sales tax laws, you'll receive a refund plus interest at the current rate required by law.

Use of information

All information on this form is required except for your phone number.

All information is private by state law. It cannot be given to others without your permission, except to the Internal Revenue Service, other states that guarantee the same privacy, the contract owner or bonding company, and certain government agencies as provided by law.

Information and assistance

If you need help or additional information to fill out this form, call (651) 282-9999 or 1-800-657-3594. A fact sheet on surety deposit requirements (Fact Sheet #12) is also available upon request.

TTY users may contact the department through the Minnesota Relay Service. Call 1-800-627-3529; ask for 1-800-657-3594.

We'll provide information in an alternative format upon request to persons with disabilities.

**CITY OF MOORHEAD
GENERAL CONDITIONS**

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SECTION I BIDDING REQUIREMENTS AND CONDITIONS

1-1 Contents of Proposal Form:

The proposal form will state the location and description of the contemplated construction, and will include a schedule of items showing the estimated quantities of the various kinds and classes of work for which bid prices are invited. The proposal form will state the time in which the work must be completed, the amount and nature of the Proposal Form required, and the date, time and place of the opening of Proposals.

Bound within the proposal forms will be any Special Provisions and other supplementary requirements. **All papers bound with or attached to the proposal form are essential parts of the Proposal and shall not be detached there from or altered without specific authorization.** The plans, specifications, and other documents designated in the Proposal are also a part thereof, whether attached or not.

1-2 Unit Quantities:

The schedule of unit quantities contained in the Proposal Form, although estimated with as much accuracy as possible in advance, is approximate only and is assumed only for the purpose of comparing bids and forming a basic contract price for the work contemplated. The quantities on which payments will be made to the contractor are to be determined by measurements of the work actually performed by the contractor as specified by the contract, plans and specifications. Bidders shall not at any time after the submission of their bids dispute or complain of the aforementioned schedule of quantities or the character of the work to be done, and shall not make any claims for damage for loss of profits because of a difference between the quantities assumed in the Proposal Form and the quantities of work actually performed.

1-3 Examination of Proposed Work:

Bidders shall make all necessary investigations to satisfy themselves as to the conditions and nature of the soil and other characteristics of the proposed site or sites of the project, and otherwise inform themselves of all facilities or difficulties that may be encountered in the complete execution of all the work included in or implied by the contract, in accordance with the plans and specifications.

Bidders are required to examine all drawings and data mentioned in the specifications, contract and proposal as being on file in the office of the City Clerk of Moorhead for examination by bidders. No plea of ignorance of conditions that exist, or of conditions or difficulties that may be encountered in the execution of the work under any contract, as a result of failure to make necessary examinations and investigations or omission on the part of the contract, specifications and plans, will be accepted as an excuse for failure or as a basis for any claims whatsoever for added compensation. Upon application, all available information in the possession of the City Engineer will be shown to the bidders but the correctness of any such information is not guaranteed.

1-4 Submitting Proposals:

All bids must be made upon blank forms of proposal attached hereto and the prices of the work proposed shall be given in plain or typed figures. The proposal must be signed in ink by the bidder. **All papers bound with or attached to the proposal form are a necessary part thereof and must not be detached.** The blank spaces in the proposal form must be correctly filled in where indicated for each and every item, with totals and grand totals. Any proposal that is incomplete, obscure, or irregular may be rejected. A bid shall be rejected if it contains any alterations or erasures which are not corrected as follows: 1) The alteration or erasure must be crossed out and the correction thereof printed in ink or typewritten adjacent thereto; and 2) The correction must be initialed in ink by the person signing the bid proposal. All bids, when properly made and signed, shall be placed in a sealed envelope which envelope shall be plainly marked with the project name and Eng. No. and addressed to: Jill Wenger, City Clerk, City of Moorhead; PO Box 779; Moorhead, MN 56561.

1-5 Contractor Resume:

Each bidder, when requested by the City, shall submit the following information and data upon 48 hours notice:

- A) The location of bidder's permanent place of business.
- B) A statement of equipment, which the bidder proposes to use on the project
- C) A financial statement showing assets and liabilities as of a time longer than 6 months previous to the time of bidding, and financial references.
- D) A statement listing projects of a similar nature, which the bidder has actually constructed.
- E) A list of subcontractors, materials, and suppliers to be used on the project.

1-6 Substitute Materials:

Wherever in the specifications any material, device or equipment is referred to by trade name, catalog reference or a combination of both is followed by the words "or approved equal", that material, device or equipment shall refer to the grade or quality required and shall in no way eliminate materials or products of equally desirable characteristics which will meet the requirements of the specifications. The words "approved equal" shall mean suitable, acceptable, proper or satisfactory in the judgment of the Owner and the Engineer.

**SECTION II
AWARD AND EXECUTION OF CONTRACT**

2-1 Award of Contract:

The award of contract, if it be awarded, will be made within 30 calendar days after the opening of proposals to the lowest responsible bidder who complies with all prescribed requirements. The successful bidder will be notified by letter, mailed to the address shown on his proposal that his bid has been accepted subject to execution and approval of the contract as required by law.

2-2 Assignment of Contract:

The contract covered by these specifications shall not be assigned or transferred in any manner, and any assignment or transfer thereof, except by operation of law and except by the consent of the City council expressed by resolution, shall fully end and terminate such contract and shall make the same null and void as to any other or further performance thereof by the contractor or his assigns without any other act on the part of the City, and the City, through its proper authorities, may at once proceed to relet such contract, or may, at its discretion, proceed to complete the same as the agent and at the expense of such contractor and his sureties.

2-3 Requirement of Contract Bond:

Upon entering into a contract with the City for the performance of any work, the Contractor shall furnish a contractor's bond in conformance with MSA 574.26 satisfactory to the City as security for the faithful performance of this contract, and for the payment of all persons or firms performing labor or furnishing material in connection with this contract, each in the sum of 100% of the contract price.

SECTION III SCOPE OF WORK

3-1 Intent of Contract:

The intent of the Contract is to provide for construction and completion of the Project in every detail as described in the Plans and Specifications. It is also intended and will be expected that the work be prosecuted diligently and pressed vigorously to early completion, with due regard being given to public interests, as well as to the obligations and right of all other parties concerned. By the terms of the Contract, the Contractor assumes full responsibility for performance of the work and agrees to furnish all labor, materials, equipment, tools, supplies, transportation, and other incidentals necessary or convenient to successful completion of the project.

Realizing that it would not be practical to fully describe every detail or to make specific allowances for all probable exceptions and contingencies, it is intended that the Engineer have sufficient executive authority to administer the Contract with discretion, within its general scope, so as to rule out apparent discrepancies, fulfill intentions, and allow for the exigencies of construction, on the basis of engineering judgment, giving careful consideration to all matters encumbering successful performance and completion of the project.

3-2 Extra Work and Alterations:

No arbitrary changes or deviations from the plans and specifications or special provisions will be permitted; and any such changes or deviations must be rectified by the Contractor on detection of such change or changes at his own expense no matter how far the work may have progressed beyond that point. If, however, the City may deem it expedient to accept work so changed or incorrectly performed, an equitable adjustment will be made with a proper deduction from the contract price for such unsatisfactory work.

Errors or omissions in the plans and specifications covering the work shall not constitute a cause or reason for claiming additional compensation. In all cases of discrepancies in the plans and specifications, the matter shall be submitted to the Engineer at once for his decision. The Engineer, without invalidating the contract, may order necessary changes made or extra work performed. The Engineer shall order all changes, deductions, or additions in writing and he shall be the sole judge of the value of such changes and the adjustments to be made by adding to or deducting from the contract price.

3-3 Clean Up:

The Contractor shall at all times keep the site of the project free from accumulation of waste materials or rubbish caused by his employees or work and at the completion of the work, he shall remove all his rubbish from and about the project as well as his tools, equipment, scaffolding, and surplus materials and shall leave his work clean and ready for use. In case of dispute, the City may remove the rubbish and surplus materials and charge the cost to the Contractor in such amount as the Engineer shall determine to be just. Maintaining a clean and well kept site shall be considered one of the requirements of the MPCA General Stormwater Permit.

3-4 Maintenance of Traffic:

Unless otherwise provided, the road while undergoing improvement shall be kept open to all traffic, at the expense of and by the Contractor as outlined below.

The Contractor shall provide adequate signs and barricades for traffic control as specified in the "Manual on Uniform Traffic Control Devices". Access for residents along the area under construction shall be kept open whenever possible. Residents shall be notified before their access is shut off so that they may make other parking arrangements for their vehicles and thus provide themselves a limited access to the area.

The traffic flow shall be maintained and controlled to the satisfaction of the Engineer throughout the length of the job. The contractor shall cooperate in good faith with the City in attempting to maintain a somewhat

regular flow of traffic around and through the construction area. A single lane for local traffic only shall be maintained in the construction area whenever possible to allow access to driveways.

SECTION IV CONTROL OF WORK

4-1 Engineer's Authority:

The City Engineer of Moorhead shall be and act as Engineer for the City in the performance of this contract. He shall be the sole judge and arbitrator as to the quantity and quality of all materials and workmanship used or required under this contract, and in all matters of doubt or dispute as to the requirements or meaning of the plans or details prepared or to be prepared from time to time as the work progresses, or as to the meaning of any of the clauses, terms or words used in the specifications, and his decision shall be final and binding on all parties concerned. The Contractor and his agents must conform to the Engineer's requirements in all matters pertaining to the work, and shall obey all reasonable legal orders, demands, or requests, failure on the part of the Contractor or any of his agents to do so, the Engineer may stop or suspend the work, or he may, for any cause which he may deem sufficient, dismiss any workman, foreman, or superintendent from the project, and no person so dismissed shall be again employed upon the work without the sanction of the Engineer. The decision of the Engineer shall be final and conclusive in all matters of estimate or other questions which may arise and shall be a condition to the right of the Contractor to receive any money under this agreement.

4-2 Coordination of Plans and Specifications:

The specifications, plans, general and special conditions, special provisions, and all supplementary documents herein are essential parts of the contract and a requirement occurring in one is as binding as though occurring in all.

4-3 Cooperation By Contractors:

The Contractor shall cooperate with the Engineer, utility owners, and other contractors, to the mutual interest of all parties doing work on the project and as may be in the public interest to have the work of certain contracts and agencies performed concurrently rather than consecutively.

The Contractor shall coordinate his work with that of utility owners so that removal and rearrangement operations may progress in a reasonable manner, that duplication of work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.

When separate contracts are let within the limits of any one project, each contractor shall conduct his work so as not to interfere with or hinder the progress or completion of the work being performed by other contractors. Contractors working on the same project shall cooperate with each other as directed. Each contractor shall assume all liability, financial or otherwise, in connection with his contract and shall save the city harmless from all damages and claims arising from any delay, inconvenience, or loss experienced by him because of the presence and operations of other contractors working within the limits of the same project.

Should a dispute arise between contractors or other agencies doing work on the project as to their mutual rights or obligations, the Engineer will act as referee, when requested to do so or upon his own motion, and his decision as to the rights and obligations of the interested parties shall be final.

4-4 Supervision by Contractor:

The Contractor shall give his personal superintendence to the work or have at the site of the work at all times a competent foreman, superintendent or other representative satisfactory to the City and having authority to act for the Contractor in receiving and executing orders and instructions from the City or its authorized representatives.

4-5 Existing Utility Lines:

It shall be the sole responsibility of the contractor to investigate the location of all existing public utility lines including telephone conduits, gas, water and sewer mains, power and heating conduits, Cable TV, the house or building services to all such utilities, which may be in place at the site of or along the line of his operations. No existing public utility lines, including house or building services shall be disturbed by the operations of the contractor except those which are specifically designated in the special provisions, without the express permission of the Engineer. In case any of the aforementioned public utilities are broken or injured in any way by the contractor's operations, the owner of the utility shall be notified immediately and the damage repaired at the expense of the contractor. Existing utility lines may or may not be shown on the construction plans, but whether they are shown or not will in no way relieve the contractor from his responsibility to take whatever precautions are necessary for their protection. Any delays or inconveniences caused by the existing utilities shall not be considered as a basis for extra compensation by the contractor.

4-6 Survey and Stakes:

All survey and stakes for alignment and grade will be made and set by the City Engineer or his delegated representative unless otherwise specifically provided in the technical specifications or special provisions.

The Contractor shall give the Engineer at least two 2 working days (Monday-Friday) notice before requiring the survey crew to be on a project site to commence construction staking. This minimum notice is required whenever the Contractor prepares to commence work on any portion of the contract, or at any new place, as well as at any place where work has been relinquished or stopped for any cause.

If there is no portion of the contract with the initial construction staking complete so that the Contractor is unable to proceed with construction, then at the discretion of the Engineer, the Contractor may be granted a temporary suspension of the working days or an extension of the completion date of the contract. No other compensation will be granted. The working days count will be started as soon as the staking is complete on any portion of the contract.

All work done under this contract shall be built in accordance with the line and grade shown on the plans or as given by the Engineer.

The Contractor is responsible for the preservation of all stakes and marks in their proper positions, and in case any of them are lost, destroyed or obliterated after once having been given, he shall at once notify the Engineer, and all expense incurred by the City in replacing the same may be charged against the Contractor and deducted from the estimates solely according to the judgment of the Engineer. Any delays in construction due to the time it takes to replace stakes shall not be considered as a justifiable delay and thus no allowance will be made in either working day or completion date schedules.

The Contractor is responsible for the preservation of all survey monuments (block corners, property pins, PC's, PT's, etc.) existing on the project site during construction. If the Contractor should remove any survey monuments, whose removal was not required by the plans, then the City shall withhold from the contract estimates all expenses incurred from having the survey monuments replaced by a registered land surveyor as required by law.

4-7 Inspection of Work:

The City and its representative shall at all times have access to the work wherever it is in preparation or progress and the contractor shall provide proper facilities for such access and inspection.

The City shall have the right to reject materials or workmanship which does not conform to the plans and specifications and all defective work shall be satisfactorily corrected, and rejected materials shall be removed from the premises without charge to the City. If the contractor does not correct such condemned work and

remove rejected materials within a reasonable time, as fixed by written notice; the City may remove them and charge the expense to the Contractor.

The work will be conducted under the general direction of the City Engineer and is subject to inspection by his authorized inspectors to insure strict compliance with the terms of these Contract Documents. No inspector is authorized to change any provisions of the plans or specifications without written authorization of the Engineer, nor shall the presence or absence of an inspector relieve the contractor from any requirement of the contract.

4-8 Materials: Specifications, Samples, Tests and Acceptance

All materials shall be tested as detailed in MNDOT Standard Specification for Construction 2005 Edition, Special Provisions and MNDOT Schedule for Materials Control.

The testing of construction materials will be the responsibility of the Owner unless otherwise specified in the specifications. The Owner shall have the authority to stop work in order to correct or replace such items that have failing test results.

The contractor shall be responsible for all costs associated with the failing tests, including but not limited to labor, equipment, and materials required for correction or replacement of failing work, additional testing required to determine the extent of failing work, or repeated testing of failing work.

4-9 Acceptance of Work:

Upon written notice from the Contractor that all work has been completed, the Engineer will make an inspection of the entire project. If any work is found unsatisfactory or incomplete, a list of discrepancies will be issued in writing and another inspection will be made after receiving notice that the discrepancies have been corrected.

Neither acceptance by the City, the final payment, or any provisions in the Contract Documents shall relieve the Contractor of the responsibility for negligence or faulty materials or workmanship within the extent and period required by law and upon written notice, he shall remove any defects due thereto and pay for any damage to other work resulting there from which shall appear within twelve (12) months after the date of completion and acceptance. The City Council of Moorhead shall interpret the day of completion and acceptance as being the day on which the work is accepted and final payment approved.

Correction Period: If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions: (i) correct such defective work, or, if it has been rejected by Owner, remove it from the site and replace it with work that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other work or the work of others resulting there from. If Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective work corrected or the rejected work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

In special circumstances where a particular item of equipment is placed in continuous service before substantial completion of all the work, the correction period for that item may start to run from an earlier date if so provided in the specifications or by written amendment.

Where defective work (and damage to other work resulting there from) has been corrected, removed or replaced under this paragraph 4-8, the correction period hereunder with respect to such work will be extended

for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

SECTION V LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

5-1 Laws to be Observed:

The Contractor shall keep fully informed of all Federal and State Laws; all local laws, ordinances and regulations, and all orders and decrees of bodies and tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work.

He shall at all times observe and comply with all applicable laws, ordinances, regulations, orders and decrees; and shall protect and indemnify the City and its representatives against all claims and liabilities arising from or based on violations committed by himself or his employees.

5-2 Permits and Public Utilities:

The City shall apply for and pay all application and licensing fees for the permits as listed in the Special Provisions. The Contractor shall take out and pay for all other permits, licenses or fees and shall give all notices necessary for the prosecution of the work in accordance with the provisions of all laws and ordinances.

He shall make the necessary arrangements for the use of, and shall pay for, any and all utilities service which may be necessary to the prosecution of the work or as may be specified in the special provisions. In case it is necessary to use City water, the Contractor must obtain a written permit (prior to commencing work) from the General Manager of Moorhead Public Service which will specifically set forth the locations of the hydrants or mains to be used or tapped. In lieu of such permit, it shall be incumbent upon the Contractor to install and pay for private service or services adjacent to the work. In no case, however, shall the Contractor make use of any private service without the consent of the owner thereof.

5-3 Patent Fees and Royalties:

Contractor shall pay all license fees and royalties and assume all costs incident to use in the performance of the work or the incorporation in the work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner, Engineer, Engineer's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the work of any invention, design, process, product or device not specified in the Contract Documents.

5-4 Indemnification:

5-4.1: To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner, Engineer, Engineer Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from the performance of the work, provided that any such claim, cost, loss or damage: (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself), including the loss of use resulting there from,

and (ii) is caused in whole or in part by any negligent act or omission of Contractor, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity.

5-4.2: In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 5-4.1 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any such Subcontractor, Supplier or other person or organization under worker's compensation acts, disability benefit acts or other employee benefit acts.

5-4.3: The indemnification obligations of Contractor under paragraph 5-4.1 shall not extend to the liability of Engineer and Engineer's Consultants, officers, directors, employees or agents caused by the professional negligence errors or omissions of any of them.

5-5 Contractor's Responsibility:

The whole of the work and everything pertaining thereto, which is specified or reasonably implied in these contract documents, shall be at the sole cost and risk of the Contractor from its commencement until its final acceptance by the City. The Contractor shall cause the least possible inconvenience to the public and to private individuals and residents in the vicinity of the work, and shall render them all reasonable assistance, whenever so required on account of his operations. He shall not permit any materials, stones, or rubbish to be deposited, thrown, or scattered upon or to remain upon any private or adjoining grounds without the owner's consent, nor cause or suffer to exist any unnecessary obstructions anywhere, and he shall provide watch guards whenever needed, and shall also provide all requisite signal lights, fences, temporary barricades, guards, and crosswalks, for the safety and convenience of the public and the residents or others in the vicinity of the work. The contractor shall refer to the Manual on Uniform Traffic Control Devices for streets and highways. He shall devote his special attention to keep all hydrants and water valves clear and easy to access, and all crossings as free, open, safe, and unobstructed as possible.

Use of Premises: Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, right-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any adjacent land or areas, resulting from the performance of the Work. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. Contractor shall to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Engineer, Engineer's Consultant and anyone directly or indirectly employed by any of them from and against all claims, costs, losses and damages arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

During the progress of the Work, Contractor shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the site clean and ready

for occupancy by Owner at Substantial Completion of the Work. Contractor shall restore to original condition all property not designated for alteration by the Contract Documents.

Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

5-6 Withholding of State Income Tax:

Before final payment is made for the work on this project, the contractor must make a satisfactory showing that he has complied with the provisions of Minnesota Statutes Annotated 290.92 requiring the withholding of State Income Tax for wages paid employees on this project. Receipt by the Moorhead City Clerk of a Certificate of Compliance from the Commissioner of Taxation will satisfy the requirement. The contractor is advised that before such certificate can be issued, he must first place on file with the Commissioner of Taxation an affidavit that he has complied with the provisions of M.S.A. 290.92.

The Commissioner of Taxation, Centennial Building, St. Paul, Minnesota, will supply the required affidavit form on request.

5-7 Insurance:

The Contractor shall take out and maintain during the life of this contract, Worker's Compensation Insurance covering all persons employed by him at the site of the project and, in case any of the work is sublet, the Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance unless the latter's employees are covered by the protection offered by the Contractor.

The Contractor shall maintain, during the life of this contract, a public liability insurance policy with liability limits as stated in Section 00800 of the specifications.

Before any work is started or before any equipment, including trucks and automobiles, is used in the performance of this contract, the Contractor shall furnish the City with satisfactory evidence that all operations to be performed are properly covered by appropriate insurance outlined in this paragraph.

5-8 Safety and Accident Prevention:

In the performance of this contract, the contractor shall comply with all applicable Federal, State, and Local laws governing safety, health, and sanitation. The contractor shall provide all safeguards, safety devices, and protective equipment and take any other needed actions, on his own responsibility necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

The Contractor and all subcontractors shall give special attention to MS 182 and Minnesota Department of Labor and Industry's MN/OSHA Standards 5205 and 5207. The contractor is responsible for compliance with this Act except that the Engineer shall be responsible for personal safety equipment of his employees and for specifications that conflict with safety standards. The Contractor will immediately inform the Engineer of any such specifications to minimize delays in correcting.

SECTION VI PROSECUTION AND PROGRESS

6-1 Subletting of Contract:

The Contractor shall notify the Engineer in writing of the names of the subcontractors proposed for the principal parts of the work, and shall not employ any subcontractor that the City objects to as incompetent or unfit. All agreements for subletting of work shall be bonafide subcontracts for component portions of the work and not in any way for the purpose of evading or circumventing the requirement and provisions of the Contract Documents. In no case shall the total of all subcontracts exceed 50% of the total contract price for the work.

The Contractor agrees to be fully responsible to the City for all acts or omissions of his subcontractors and of anyone employed directly or indirectly by him or them and this contract obligation shall be in addition to the liability imposed by law upon the Contractor.

The Contractor shall bind every subcontractor, and every subcontractor must agree to be bound, by the terms of the plans and specifications, general conditions and special provisions as far as applicable to his work, unless otherwise specifically noted in writing and approved by the Engineer.

6-2 Sunday and Holiday Work:

The Contractor shall not do any construction work on Sundays or legal holidays on this project except by approval of the Engineer. The contractor shall give the Engineer at least two (2) working days (Monday-Friday) previous notice on the above.

6-3 Failure to Complete the Work on Time:

Time being an essential element of the Contract, it is hereby agreed that the Contractor shall insure that the work is done in an expeditious manner. The City will not reduce the progress payment **retainage below 10% until final completion on any contract where it is deemed that the Contractor did not make satisfactory progress.**

SECTION VII MEASUREMENT AND PAYMENT

7-1 Measurement of Quantities:

Measurement of quantities shall be done in conformance with Specification 1901 of the MnDOT Standard Specifications for Construction, 2005 Edition.

7-2 Compensation for Increased or Decreased Quantities:

There shall be no adjustment in unit price for increased or decreased quantities under this contract.

7-3 Partial Payments:

Once each month, the contractor will receive a progress payment at the rate of 100% of the value of work actually done and materials in place, less all legal forfeitures and deductions. Payments may also be made for acceptable materials stored on the site of the project for incorporation into the finished work on the basis of 100% of the invoice of such materials, but likewise subject to legal forfeitures and deductions. The estimates upon which these payments are to be made will be prepared by the Engineer either by measurements or by estimation as he may find most convenient or practicable. They must be considered as only approximate and are not to be taken or construed as an acceptance of the work so estimated. Before receiving such estimates, however, the contractor or his authorized representative shall make and file with the City Clerk of Moorhead an affidavit that all work and labor to date, on which the estimate is based, has been fully paid.

7-4 Acceptance and Final Payment:

After the entire work shall have been completed in strict accordance with the provisions of the plans and the contract documents, the Engineer shall make a final inspection of the entire project and, if found acceptable, shall within 30 days thereafter prepare a final estimate which shall be based on accurate measurements of all work performed and shall then submit such estimate together with his recommendations to the City Council for their approval, and full payment shall then be made, less any partial estimates already paid and legal deductions or forfeitures for the satisfaction of liens or similar claims. Before receiving such final estimate, the Contractor shall nevertheless make and file with the City Clerk an affidavit that all claims for all work and labor performed and materials furnished to this contract have been fully paid.

-END OF SECTION-

CITY OF MOORHEAD INSURANCE REQUIREMENTS

Contractor's Liability Insurance:

The Contractor shall purchase and maintain such liability and other insurance as is appropriate for the work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance and furnishing of the work and Contractor's other obligations under the Contract Documents, whether it is to be performed or furnished by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform or furnish any of the work, or by anyone for whose acts any of them may be liable:

- 1.1 claims under workers' compensation, disability benefits and other similar employee benefit acts;
- 1.2 claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
- 1.3 claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
- 1.4 claims for damages insured by customary personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or (ii) by any other person for any other reason;
- 1.5 claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
- 1.6 claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The policies of insurance so required by this Section 00800 to be purchased and maintained shall:

- 1.7 with respect to insurance required by paragraphs 1.3 through 1.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) Owner, Engineer, Engineer's Consultants, and any other persons or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers and employees of all such additional insureds;
- 1.8 include the specific coverage and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
- 1.9 include completed operations insurance;
- 1.10 include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 5-3, 5-5 and 5-4.1 through 5-4.3 of Section 00700, General Conditions;
- 1.11 contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed or renewal refused until at least thirty days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor

pursuant to paragraph 1.14 will so provide);

- 1.12 remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective work in accordance with Paragraph 4-8 of Section 00700, General Conditions;
- 1.13 with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter).
- 1.14 Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain in accordance with Section 00800.

Bonds and Insurance

The following are your instructions with respect to the requirements for Bonds and insurance to be included in the Contract Documents for the project:

Bonds:

- A. Bid Security is to be provided by each Contractor in the amount of ten percent (10%) of the maximum Bid price and will be in the form of Certified or bank cashier's check drawn to the order of "City of Moorhead". The bidder may submit a Bidder's Bond written through an insurance agency or cash in the same in lieu of a certified check.
- B. Construction Performance Bond and Construction Payment Bond each in an amount equal to the Contract Price are required.

Liability Insurance: The limits of liability for the liability insurance required by Section 00800, Insurance Requirements, shall provide coverage for not less than the following amounts or greater where required by law or regulations and the coverage under Section 00800 shall be as follows:

- A. Workers' Compensation, etc. under Paragraphs 1.1 and 1.2 of Section 00800, Insurance Requirements:
 - i. State: Statutory
 - ii. Applicable Federal (e.g. Longshoreman's) Statutory
 - iii. Employer's Liability: \$500,000
- B. Comprehensive or Commercial General Liability under Paragraphs 1.3 through 1.5, Section 00800, Insurance Requirements, (including Premises-Operations; Independent Contractor's Protection; Products Liability and Completed Operations; Broad Form Property Damage):
 - i. General Aggregate \$2,000,000
(except Products-Completed Operations)
 - ii. Products-Completed Operations Aggregate \$2,000,000

- iii. Personal/Advertising Injury (per Person/Organization) \$1,000,000
 - iv. Each Occurrence (Bodily Injury/Property Damage) \$1,000,000
 - v. Limit per Person Medical Expense \$5,000
 - vi. Personal Injury Liability Coverage will include Claims arising out of Employment.
 - vii. Exclusions of property in Contractor's care, custody or control will not be eliminated.
 - viii. Property Damage Liability Insurance will provide coverage for explosion, collapse and underground damage.
- C. Contractual Liability under Paragraph 1.10 of Section 00800:
- i. General Aggregate \$2,000,000
 - ii. Each Occurrence (Bodily Injury/Property Damage) \$1,000,000
- D. Automobile Liability under Paragraph 1.6 of Section 00800, Insurance Requirements: Combined single limit of \$1,000,000 for bodily injury and property damage.
- E. Liability coverage for Owner, Engineer, Engineer's Consultants and others listed in the Supplementary Conditions will be provided (subject to customary exclusions for professional liability) by endorsement as additional insureds on Contractor's Liability Policy.

-END OF SECTION-

THIS SPECIFICATION SECTION INCLUDES:

- 1. Application for General Storm Water Permit for Construction Activity (MN R100001)**
- 2. Notice of Termination & Permit Modification Form**



**Minnesota
Pollution
Control
Agency**

Complete your application [online!](#)

Application for General Stormwater Permit for Construction Activity (MN R100001)

National Pollutant Discharge Elimination System
/ State Disposal System (NPDES/SDS)

Please submit to: Minnesota Pollution Control Agency
Construction Stormwater Permit Program
520 Lafayette Road North, St. Paul, MN 55155-

4194

PLEASE READ: This form is for new permit applications only. Use the Notice of Termination/Permit Modification form to transfer permit coverage for a project or a portion of a project to a new owner/contractor. [Forms](#) are available at the MPCA's Construction Stormwater Web site: www.pca.state.mn.us/water/stormwater/stormwater-c.html. Complete your application [online!](#)

Please refer to the application instructions and the NPDES/SDS General Stormwater Permit for Construction Activity (MN R100001) as you complete this form. Brackets '[]' refer to specific parts of the permit. For assistance, call the Stormwater Program at 651-757-2119 or toll-free at 800-657-3804.

Are you ready to apply?

1. Stormwater Pollution Prevention Plan (SWPPP)

- a. Has a Stormwater Pollution Prevention Plan been developed for this project and incorporated into the project's plans and specifications [Part III.A] Yes No
- b. If an environmental review was required for this project or a common plan of development or sale that includes this project, has the environmental review been completed and all stormwater mitigative requirements been incorporated in the SWPPP as required in Part III.A.6 of the permit? Yes No NA

2. Discharges to Special or Impaired Waters

- a. If any portion of the project has a discharge point within 1 mile of a special water or a water that is impaired for sediment or a sediment related parameter (see Appendix A.B), does the SWPPP contain the additional requirements found in Appendix A, Part A-C? If the project does not have a discharge point within 1 mile of a special water or a water that is impaired for sediment or a sediment related parameter of the permit indicate "NA" Yes No NA
- b. If this project is discharging to a Calcareous fen, has an approval letter been obtained from the DNR as required in Part III.A.8 of the permit? Yes No NA

STOP if you responded 'No' to any question above. A SWPPP must be developed prior to submitting a permit application. Complete the above requirements and check 'Yes' before submitting this application. Continue if you responded 'Yes' or 'NA' to all questions above.

3. Additional Application Review:

- a. Will the project include alternative treatment methods? [Part III.C.5] If yes, this application and the alternative treatment plans must be submitted a minimum of 90 days before construction starts. Yes No
- b. If yes, are the plans attached? Yes No
- c. Will the project disturb 50 acres? AND Is there a discharge point within one mile of an impaired or special water whose discharge may reach an impaired or special water listed in Appendix A of the permit? [Part II.B.1.b] If yes, this application and the SWPPP must be submitted a minimum of 30 days before construction starts. Yes No
- d. If 'Yes,' is the SWPPP attached? Yes No

4. Application Fee:

Is the required \$400 Application Fee (payable to the MPCA) enclosed?

Yes

Construction Activity Information

5. Project name: _____

6. Project location:

a. Briefly describe where the construction activity occurs
(For example: "Intersection of 45th St. and Irving Ave.")
Include address if available:

b. All cities where project will occur:

c. All counties where project will occur:

d. All townships where project will occur:

e. Project ZIP Code:

f. Latitude and longitude of approximate centroid of project:

Latitude: ____ . ____ ° N (decimal)
Preferred

____ ° ____ ' ____ " N (degrees, minutes, seconds)

Longitude: ____ . ____ ° W (decimal) *Preferred*

____ ° ____ ' ____ " W (degrees, minutes, seconds)

g. Method used to collect latitude and longitude:

GPS

USGS Topographic map — Map scale: _____

Other

7. Project size:

Number of acres to be disturbed to the nearest quarter acre: _____

8. Project map:

A map must be included with the application for all projects disturbing 50 acres or more. Is Yes No a project map included?

9. Project type:

Residential

Residential / Road construction

Other:

Commercial / Industrial

Commercial / Road construction

Road construction

Commercial / Residential / Road construction

10. Cumulative impervious surface:

a. Existing area of impervious surface in acres: _____

b. Post-construction area of impervious surface in acres (If additional new impervious surface created by the project is less than one acre, skip to Question 12): _____

11. Permanent stormwater management:

- Wet sedimentation basin
- Infiltration / filtration
- Regional ponding
- Other (Use only if there is no feasible way of installing the treatment systems listed above for reasons such as lack of right-of-way or proximity to bedrock)
- Alternative methods (If using alternative methods, construction cannot commence until receiving approval from the MPCA.)

12. Receiving waters:

Identify surface waters within one mile of project boundary that will receive storm water from the site or discharge from permanent Stormwater management system. Include waters shown on USGS 7.5 minute quad or equivalent, all Special Waters and Impaired waters identified in Appendix A of the permit (To find Special or Impaired Waters, use the Special and Impaired Waters Search tool at www.pca.state.mn.us/water/stormwater/stormwater-c.html).

The Impaired Waters* list, also known as the Section 303(d) list can be found at <http://www.pca.state.mn.us/water/tmdl/index.html> Use additional paper if necessary.

* Impaired waters for the purpose of this permit are those identified as impaired for the following pollutant(s) or stressor(s): phosphorus, turbidity, dissolved oxygen, or biotic impairment

Name of water body	Type of water body (Ditch, pond, wetland, stream, river)	Special Water? See Stormwater Permit, Appendix A	Impaired Water? See Stormwater Permit, Appendix A
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

13. Dates of construction

- a. Start date: _____ / ____ / ____
- b. Estimated Completion date: _____ / ____ / ____

STOP This form will not be accepted if the Owner and Contractor contact information sections, below, are BOTH not completed and signed. If the owner is also the contractor, or a contractor hasn't yet been selected, the owner must also fill out the contractor information section and sign again.

Responsible parties**BOTH PARTIES MUST SIGN****Owner**

Business or firm name			
Last name	First name	Title	
E-mail	Phone (include area code)		
Mailing address	City	State	ZIP Code
Alternate contact name	E-mail	Phone (include area code)	

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information 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 also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the NPDES/SDS General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

X Authorized signature: _____ Date: _____

This Application must be signed by:

- **Corporation:** a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.
- **Partnership or Sole Proprietorship:** a general partner or the proprietor.
- **Municipality, State, Federal or Other Public Agency:** principal executive officer or ranking elected official.

Contractor

Business or firm name			
Last name	First name	Title	
E-mail	Phone (include area code)		
Mailing address	City	State	ZIP Code
Alternate contact name	E-mail	Phone (include area code)	

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information 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.

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- **Corporation:** a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.
- **Partnership or Sole Proprietorship:** a general partner or the proprietor.



Minnesota Pollution Control Agency

520 Lafayette Road North
St. Paul, MN 55155-4194

Notice of Termination/ Permit Modification Form

NPDES Construction Stormwater Permit Program

Transfer or terminate your National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit. Allowable changes are permit termination and permit transfer for all or a portion of the site. This form replaces the Notice of Termination (NOT), Permit Transfer, Permit Modification, and Subdivision Registration forms used under the former permit.

Instructions for this form are located on the Internet at <http://www.pca.state.mn.us/publications/wq-strm2-60i.pdf>.

Form will be invalid and returned to sender unless the checkbox associated with the applicable actions is checked and the corresponding signature is provided in section A-1, A-2, A-3, and or A-4.

Please submit to: **Construction Stormwater Permit Program**
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Existing Permit Identification

- a. Current permit ID: C000 _ _ _ _ _ or SUB00 _ _ _ _ _
- b. Project name: _____
Project location: _____

Briefly describe where the construction activity occurs (for example: Intersection of 45th St. and Irving Ave.). Include address if available.

Select Option 1, 2, or 3

1. Notice of Termination (NOT) for entire site by existing owner

Select this option when a project has achieved final stabilization with existing owner / contractor and no part of the site is being transferred to a new owner and all construction activity is complete.

- c. Notice of Termination for entire existing permitted site or a subdivided site. (Current owner and contractor must sign under the "Current" Owner and "Current" Contractor sections respectively).

Check above box and sign section A-1 and A-2 on page 2.

2. Transfer of entire site to new owner or contractor (Transfer/Modification)

Select this option if the **entire** site (represented by the ID above) has either a new owner and/or new general contractor. Check all the boxes below that apply.

- d. New Owner for entire existing permitted site.
- e. New Contractor for entire existing permitted site.
- f. Current Owner for entire existing permitted site.
- g. Current Contractor for entire existing permitted site.

Check above box(es) and sign section A-3 and A-4 page 3 and or check above box(es) and sign section A-1 and A-2 page 2
Both "Current" and "New" Parties must sign this form (preferred), however, separate forms are acceptable.

3. Transfer of a portion of a site to a new owner or contractor (Subdivision)

Select this option if a **portion** of a site (permitted under the ID above) has either a new owner and/or new general contractor. Check the boxes below that apply.

- h. Describe the portion of the site being transferred: Lot _____ Block _____
Project location/address: _____
City, State, and Zip: _____

Example: SW quadrant of 45th Street and Irving Avenue or Lots 1-17 of block 20. Include list of addresses if available or include a map

- i. New Owner for portion of existing site.
- j. New Contractor for portion of existing site.
- k. Current Owner of the portion to be transferred.
- l. Current Contractor of the portion to be transferred.

Check above box(es) and sign section A-3 and A-4 page 3 and or check above box(es) and sign section A-1 and A-2 page 2
Both "Current" and "New" Parties must sign this form (preferred), however, separate forms are acceptable.

Current Owner Authorized Signature (A-1)

Business/Firm name: _____

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: (____) _____ Ext. _____

Mailing address: _____

City: _____ State: _____ Zip code: _____

Alternate contact:

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: (____) _____ Ext. _____

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information 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 also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

Authorized signature: _____ Date: _____

*This Application must be signed by: **Corporation:** a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application. **Partnership or Sole Proprietorship:** a general partner or the proprietor. **Municipality, State, Federal or Other Public Agency:** principal executive officer or ranking elected official.*

Current Contractor Authorized Signature (A-2)

Business/Firm name: _____

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: (____) _____ Ext. _____

Mailing address: _____

City: _____ State: _____ Zip code: _____

Alternate contact:

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: (____) _____ Ext. _____

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information 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.

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Authorized signature: _____ Date: _____

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“New” Owner Authorized Signature (A-3)

Business/Firm name: _____

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: () _____ Ext. _____

Mailing address: _____

City: _____ State: _____ Zip code: _____

Alternate contact:

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: () _____ Ext. _____

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information 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 also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

Authorized signature: _____ Date: _____

*This Application must be signed by: **Corporation:** a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application. **Partnership or Sole Proprietorship:** a general partner or the proprietor. **Municipality, State, Federal or Other Public Agency:** principal executive officer or ranking elected official.*

“New” Contractor Authorized Signature (A-4)

Business/Firm name: _____

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: () _____ Ext. _____

Mailing address: _____

City: _____ State: _____ Zip code: _____

Alternate contact:

Last name: _____ First name: _____ Title: _____

E-mail address: _____ Telephone: () _____ Ext. _____

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information 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.

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If you have questions about the administrative details of the permit process go to: <http://www.pca.state.mn.us/publications/wq-strm2-60i.pdf> or call the Minnesota Pollution Control Agency at 651-296-6300 or 800-657-3864 and ask for “Construction Stormwater.” If you have technical questions, ask for the “Stormwater Policy and Technical Assistance Unit.”

MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY PREVAILING WAGES FOR STATE
FUNDED CONSTRUCTION PROJECTS

▽ THIS NOTICE MUST BE POSTED ON THE JOBSITE IN A CONSPICUOUS PLACE

Construction Type: Highway and Heavy

Region Number: 04

Counties within region:

- BECKER-03
- BIG STONE-06
- CLAY-14
- DOUGLAS-21
- GRANT-26
- MAHNOMEN-43
- OTTERTAIL-56
- POPE-61
- STEVENS-75
- SWIFT-76
- TRAVERSE-78
- WILKIN-84

Effective: 2009-12-07 Revised: 2010-04-21

This project is covered by Minnesota prevailing wage statutes. Wage rates listed below are the minimum hourly rates to be paid on this project.

All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at a rate of one and one half (1 1/2) times the basic hourly rate.

Violations should be reported to:

Department of Transportation
Office of Construction
Transportation Building MS650
John Ireland Blvd
St. Paul, MN 55155
(651) 366-4209

Refer questions concerning the prevailing wage rates to:

Department of Labor and Industry
Prevailing Wage Section
443 Lafayette Road N
St Paul, MN 55155

LABOR CODE AND CLASS	EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
101 LABORER, COMMON (GENERAL LABOR WORK)	2009-12-07	18.08	11.56	29.64
	2010-05-01	18.81	12.43	31.24
102 LABORER, SKILLED (ASSISTING SKILLED CRAFT JOURNEYMAN)	2009-12-07	18.08	11.56	29.64
	2010-05-01	18.81	12.43	31.24
103 LABORER, LANDSCAPING (GARDENER, SOD LAYER AND NURSERY OPERATOR)	2009-12-07	12.00	0.00	12.00
104 FLAG PERSON	2009-12-07	18.08	11.56	29.64
	2010-05-01	18.81	12.43	31.24
105 WATCH PERSON	FOR RATE CALL 651-284-5091 OR EMAIL <u>DLI.PRE VWAGE@STATE.MN.US</u>			
106 BLASTER	FOR RATE CALL 651-284-5091 OR EMAIL <u>DLI.PRE VWAGE@STATE.MN.US</u>			
107 PIPELAYER (WATER, SEWER AND GAS)	2009-12-07	20.08	11.56	31.64
	2010-05-01	20.81	12.43	33.24
108 TUNNEL MINER	2009-12-07	18.78	11.56	30.34
	2010-05-01	19.51	12.43	31.94
109 UNDERGROUND AND OPEN DITCH LABORER (EIGHT FEET BELOW STARTING GRADE LEVEL)	2009-12-07	18.78	11.56	30.34
	2010-05-01	19.51	12.43	31.94
110 SURVEY FIELD TECHNICIAN (OPERATE TOTAL STATION, GPS RECEIVER, LEVEL, ROD OR RANGE)	FOR RATE CALL 651-284-5091 OR EMAIL			

POLES, STEEL TAPE MEASUREMENT; MARK AND DRIVE STAKES; HAND OR POWER DIGGING FOR AND IDENTIFICATION OF MARKERS OR MONUMENTS; PERFORM AND CHECK CALCULATIONS; REVIEW AND UNDERSTAND CONSTRUCTION PLANS AND LAND SURVEY MATERIALS). THIS CLASSIFICATION DOES NOT APPLY TO THE WORK PERFORMED ON A PREVAILING WAGE PROJECT BY A LAND SURVEYOR WHO IS LICENSED PURSUANT TO MINNESOTA STATUTES, SECTIONS 326.02 TO 326.15.

DLI.PREVVAGE@STATE.MN.US

111 TRAFFIC CONTROL PERSON (TEMPORARY SIGNAGE)

FOR RATE CALL 651-284-5091 OR EMAIL
DLI.PREVVAGE@STATE.MN.US

112 QUALITY CONTROL TESTER (FIELD AND COVERED OFF-SITE FACILITIES; TESTING OF AGGREGATE, ASPHALT, AND CONCRETE MATERIALS); LIMITED TO MN DOT HIGHWAY AND HEAVY CONSTRUCTION PROJECTS WHERE THE MN DOT HAS RETAINED QUALITY ASSURANCE PROFESSIONALS TO REVIEW AND INTERPRET THE RESULTS OF QUALITY CONTROL TESTERS. SERVICES PROVIDED BY THE CONTRACTOR.

FOR RATE CALL 651-284-5091 OR EMAIL
DLI.PREVVAGE@STATE.MN.US

201 ARTICULATED HAULER

2009-12-07	22.21	15.25	37.46
2010-05-01	24.20	15.85	40.05

202 BOOM TRUCK

2009-12-07	22.21	15.25	37.46
2010-05-01	22.96	15.85	38.81

203 LANDSCAPING EQUIPMENT, INCLUDES HYDRO SEEDER OR MULCHER, SOD ROLLER, FARM TRACTOR WITH ATTACHMENT SPECIFICALLY SEEDING, SODDING, OR PLANT, AND TWO-FRAMED FORKLIFT (EXCLUDING FRONT, POSIT-TRACK, AND SKID STEER LOADERS), NO EARTHWORK OR GRADING FOR ELEVATIONS

2009-12-07	20.54	0.00	20.54
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204 OFF-ROAD TRUCK

2009-12-07	22.21	15.25	37.46
2010-05-01	22.96	15.85	38.81

GROUP 2

2009-12-07	23.45	15.25	38.70
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- 302 HELICOPTER PILOT (HIGHWAY AND HEAVY ONLY)
- 303 CONCRETE PUMP (HIGHWAY AND HEAVY ONLY)
- 304 ALL CRANES WITH OVER 135-FOOT BOOM, EXCLUDING JIB (HIGHWAY AND HEAVY ONLY)
- 305 DRAGLINE, CRAWLER, HYDRAULIC BACKHOE (TRACK OR WHEEL MOUNTED) AND/OR OTHER SIMILAR EQUIPMENT WITH SHOVEL-TYPE CONTROLS THREE CUBIC YARDS AND OVER MANUFACTURER.S RATED CAPACITY INCLUDING ALL ATTACHMENTS. (HIGHWAY AND HEAVY ONLY)
- 306 GRADER OR MOTOR PATROL (HIGHWAY AND HEAVY ONLY)
- 307 PILE DRIVING (HIGHWAY AND HEAVY ONLY)
- 308 TUGBOAT 100 H.P. AND OVER WHEN LICENSE REQUIRED (HIGHWAY AND HEAVY ONLY)

GROUP 3	2009-12-07	22.52	15.25	37.77
	2010-05-01	23.27	15.85	39.12

- 309 ASPHALT BITUMINOUS STABILIZER PLANT (HIGHWAY AND HEAVY ONLY)
- 310 CABLEWAY (HIGHWAY AND HEAVY ONLY)
- 311 CONCRETE MIXER, STATIONARY PLANT (HIGHWAY AND HEAVY ONLY)
- 312 DERRICK (GUY OR STIFFLEG)(POWER)(SKIDS OR STATIONARY) (HIGHWAY AND HEAVY ONLY)
- 313 DRAGLINE, CRAWLER, HYDRAULIC BACKHOE (TRACK OR WHEEL MOUNTED) AND/OR SIMILAR EQUIPMENT WITH SHOVEL-TYPE CONTROLS, UP TO THREE CUBIC YARDS MANUFACTURER.S RATED CAPACITY INCLUDING ALL ATTACHMENTS (HIGHWAY AND HEAVY ONLY)
- 314 DREDGE OR ENGINEERS, DREDGE (POWER) AND ENGINEER (HIGHWAY AND HEAVY ONLY)
- 315 FRONT END LOADER, FIVE CUBIC YARDS AND OVER INCLUDING ATTACHMENTS. (HIGHWAY AND HEAVY ONLY)
- 316 LOCOMOTIVE CRANE OPERATOR (HIGHWAY AND HEAVY ONLY)
- 317 MIXER (PAVING) CONCRETE PAVING, ROAD MOLE, INCLUDING MUCKING OPERATIONS, CONWAY OR SIMILAR TYPE (HIGHWAY AND HEAVY ONLY)
- 318 MECHANIC . WELDER ON POWER EQUIPMENT (HIGHWAY AND HEAVY ONLY)
- 319 TRACTOR . BOOM TYPE (HIGHWAY AND HEAVY ONLY)
- 320 TANDEM SCRAPER (HIGHWAY AND HEAVY ONLY)
- 321 TRUCK CRANE . CRAWLER CRANE (HIGHWAY AND HEAVY ONLY)
- 322 TUGBOAT 100 H.P AND OVER (HIGHWAY AND HEAVY ONLY)

GROUP 4	2009-12-07	22.21	15.25	37.46
	2010-05-01	22.96	15.85	38.81

- 323 AIR TRACK ROCK DRILL (HIGHWAY AND HEAVY ONLY)
- 324 AUTOMATIC ROAD MACHINE (CMI OR SIMILAR) (HIGHWAY AND HEAVY ONLY)

- 325 BACKFILLER OPERATOR (HIGHWAY AND HEAVY ONLY)
- 326 CONCRETE BATCH PLANT OPERATOR (HIGHWAY AND HEAVY ONLY)
- 327 BITUMINOUS ROLLERS, RUBBER TIERED OR STEEL DRUMMED (EIGHT TONS AND OVER)
(HIGHWAY AND HEAVY ONLY)
- 328 BITUMINOUS SPREADER AND FINISHING MACHINES (POWER), INCLUDING PAVERS, MACRO
SURFACING AND MICRO SURFACING, OR SIMILAR TYPES (OPERATOR AND SCREED PERSON)
(HIGHWAY AND HEAVY ONLY)
- 329 BROKK OR R.T.C. REMOTE CONTROL OR SIMILAR TYPE WITH ALL ATTACHMENTS (HIGHWAY
AND HEAVY ONLY)
- 330 CAT CHALLENGER TRACTORS OR SIMILAR TYPES PULLING ROCK WAGONS, BULLDOZERS
AND SCRAPERS (HIGHWAY AND HEAVY ONLY)
- 331 CHIP HARVESTER AND TREE CUTTER (HIGHWAY AND HEAVY ONLY)
- 332 CONCRETE DISTRIBUTOR AND SPREADER FINISHING MACHINE, LONGITUDINAL FLOAT,
JOINT MACHINE, AND SPRAY MACHINE (HIGHWAY AND HEAVY ONLY)
- 333 CONCRETE MIXER ON JOBSITE (HIGHWAY AND HEAVY ONLY)
- 334 CONCRETE MOBIL (HIGHWAY AND HEAVY ONLY)
- 335 CRUSHING PLANT (GRAVEL AND STONE) OR GRAVEL WASHING, CRUSHING AND SCREENING
PLANT (HIGHWAY AND HEAVY ONLY)
- 336 CURB MACHINE (HIGHWAY AND HEAVY ONLY)
- 337 DIRECTIONAL BORING MACHINE (HIGHWAY AND HEAVY ONLY)
- 338 DOPE MACHINE (PIPELINE) (HIGHWAY AND HEAVY ONLY)
- 339 DRILL RIGS, HEAVY ROTARY OR CHURN OR CABLE DRILL (HIGHWAY AND HEAVY ONLY)
- 340 DUAL TRACTOR (HIGHWAY AND HEAVY ONLY)
- 341 ELEVATING GRADER (HIGHWAY AND HEAVY ONLY)
- 342 FORK LIFT OR STRADDLE CARRIER (HIGHWAY AND HEAVY ONLY)
- 343 FORK LIFT OR LUMBER STACKER (HIGHWAY AND HEAVY ONLY)
- 344 FRONT END, SKID STEER OVER 1 TO 5 C YD
- 345 GPS REMOTE OPERATING OF EQUIPMENT (HIGHWAY AND HEAVY ONLY)
- 346 HOIST ENGINEER (POWER) (HIGHWAY AND HEAVY ONLY)
- 347 HYDRAULIC TREE PLANTER (HIGHWAY AND HEAVY ONLY)
- 348 LAUNCHER PERSON (TANKER PERSON OR PILOT LICENSE) (HIGHWAY AND HEAVY ONLY)
- 349 LOCOMOTIVE (HIGHWAY AND HEAVY ONLY)
- 350 MILLING, GRINDING, PLANNING, FINE GRADE, OR TRIMMER MACHINE (HIGHWAY AND
HEAVY ONLY)
- 351 MULTIPLE MACHINES, SUCH AS AIR COMPRESSORS, WELDING MACHINES, GENERATORS,
PUMPS (HIGHWAY AND HEAVY ONLY)
- 352 PAVEMENT BREAKER OR TAMPING MACHINE (POWER DRIVEN) MIGHTY MITE OR SIMILAR
TYPE (HIGHWAY AND HEAVY ONLY)

353

PICKUP SWEEPER, ONE CUBIC YARD AND OVER HOPPER CAPACITY(HIGHWAY AND HEAVY ONLY)

354 PIPELINE WRAPPING, CLEANING OR BENDING MACHINE (HIGHWAY AND HEAVY ONLY)

355 POWER PLANT ENGINEER, 100 KWH AND OVER (HIGHWAY AND HEAVY ONLY)

356 POWER ACTUATED HORIZONTAL BORING MACHINE, OVER SIX INCHES (HIGHWAY AND HEAVY ONLY)

357 PUGMILL (HIGHWAY AND HEAVY ONLY)

358 PUMPCRETE (HIGHWAY AND HEAVY ONLY)

359 RUBBER-TIRED FARM TRACTOR WITH BACKHOE INCLUDING ATTACHMENTS (HIGHWAY AND HEAVY ONLY)

360 SCRAPER (HIGHWAY AND HEAVY ONLY)

361 SELF-PROPELLED SOIL STABILIZER (HIGHWAY AND HEAVY ONLY)

362 SLIP FORM (POWER DRIVEN) (PAVING) (HIGHWAY AND HEAVY ONLY)

363 TIE TAMPER AND BALLAST MACHINE (HIGHWAY AND HEAVY ONLY)

364 TRACTOR, BULLDOZER (HIGHWAY AND HEAVY ONLY)

365 TRACTOR, WHEEL TYPE, OVER 50 H.P. WITH PTO UNRELATED TO LANDSCAPING (HIGHWAY AND HEAVY ONLY)

366 TRENCHING MACHINE (SEWER, WATER, GAS) EXCLUDES WALK BEHIND TRENCHER (HIGHWAY AND HEAVY ONLY)

367 TUB GRINDER, MORBARK, OR SIMILAR TYPE (HIGHWAY AND HEAVY ONLY)

368 WELL POINT DISMANTLING OR INSTALLATION (HIGHWAY AND HEAVY ONLY)

GROUP 5

2009-12-07 19.00 0.00 19.00

369 AIR COMPRESSOR, 600 CFM OR OVER (HIGHWAY AND HEAVY ONLY)

370 BITUMINOUS ROLLER (UNDER EIGHT TONS) (HIGHWAY AND HEAVY ONLY)

371 CONCRETE SAW (MULTIPLE BLADE) (POWER OPERATED) (HIGHWAY AND HEAVY ONLY)

372 FORM TRENCH DIGGER (POWER) (HIGHWAY AND HEAVY ONLY)

373 FRONT END, SKID STEER UP TO 1C YD

374 GUNITE GUNALL (HIGHWAY AND HEAVY ONLY)

375 HYDRAULIC LOG SPLITTER (HIGHWAY AND HEAVY ONLY)

376 LOADER (BARBER GREENE OR SIMILAR TYPE) (HIGHWAY AND HEAVY ONLY)

377 POST HOLE DRIVING MACHINE/POST HOLE AUGER (HIGHWAY AND HEAVY ONLY)

378 POWER ACTUATED AUGER AND BORING MACHINE (HIGHWAY AND HEAVY ONLY)

379 POWER ACTUATED JACK (HIGHWAY AND HEAVY ONLY)

380 PUMP (HIGHWAY AND HEAVY ONLY)

381 SELF-PROPELLED CHIP SPREADER (FLAHERTY OR SIMILAR) (HIGHWAY AND HEAVY ONLY)

382 SHEEP FOOT COMPACTOR WITH BLADE . 200 H.P. AND OVER(HIGHWAY AND HEAVY ONLY)

- 383 SHOULDERING MACHINE (POWER) APSCO OR SIMILAR TYPE INCLUDING SELF-PROPELLED SAND AND CHIP SPREADER (HIGHWAY AND HEAVY ONLY)
- 384 STUMP CHIPPER AND TREE CHIPPER (HIGHWAY AND HEAVY ONLY)
- 385 TREE FARMER (MACHINE) (HIGHWAY AND HEAVY ONLY)

GROUP 6	2009-12-07	19.90	15.25	35.15
	2010-05-01	20.65	15.85	36.50

- 387 CAT, CHALLENGER, OR SIMILAR TYPE OF TRACTORS, WHEN PULLING DISK OR ROLLER (HIGHWAY AND HEAVY ONLY)
- 388 CONVEYOR (HIGHWAY AND HEAVY ONLY)
- 389 DREDGE DECK HAND (HIGHWAY AND HEAVY ONLY)
- 390 FIRE PERSON OR TANK CAR HEATER (HIGHWAY AND HEAVY ONLY)
- 391 GRAVEL SCREENING PLANT (PORTABLE NOT CRUSHING OR WASHING) (HIGHWAY AND HEAVY ONLY)
- 392 GREASER (TRACTOR) (HIGHWAY AND HEAVY ONLY)
- 393 LEVER PERSON (HIGHWAY AND HEAVY ONLY)
- 394 OILER (POWER SHOVEL, CRANE, TRUCK CRANE, DRAGLINE, CRUSHERS, AND MILLING MACHINES, OR OTHER SIMILAR HEAVY EQUIPMENT) (HIGHWAY AND HEAVY ONLY)
- 395 POWER SWEEPER (HIGHWAY AND HEAVY ONLY)
- 396 SHEEP FOOT ROLLER AND ROLLERS ON GRAVEL COMPACTION, INCLUDING VIBRATING ROLLERS (HIGHWAY AND HEAVY ONLY)
- 397 TRACTOR, WHEEL TYPE, OVER 50 H.P., UNRELATED TO LANDSCAPING

GROUP 1 FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PREVVAGE@STATE.MN.US

- 501 HELICOPTER PILOT (COMMERCIAL CONSTRUCTION ONLY)
- 502 TOWER CRANE 250 FEET AND OVER (COMMERCIAL CONSTRUCTION ONLY)
- 503 TRUCK CRAWLER CRANE WITH 200 FEET OF BOOM AND OVER, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)

GROUP 2 FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PREVVAGE@STATE.MN.US

- 504 CONCRETE PUMP WITH 50 METERS/164 FEET OF BOOM AND OVER (COMMERCIAL CONSTRUCTION ONLY)
- 505 PILE DRIVING WHEN THREE DRUMS IN USE (COMMERCIAL CONSTRUCTION ONLY)
- 506 TOWER CRANE 200 FEET AND OVER (COMMERCIAL CONSTRUCTION ONLY)
- 507 TRUCK OR CRAWLER CRANE WITH 150 FEET OF BOOM UP TO AND NOT INCLUDING 200 FEET, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)

GROUP 3

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PREVVAGE@STATE.MN.US

- 508 ALL-TERRAIN VEHICLE CRANES (COMMERCIAL CONSTRUCTION ONLY)
- 509 CONCRETE PUMP 32-49 METERS/102-164 FEET (COMMERCIAL CONSTRUCTION ONLY)
- 510 DERRICK (GUY & STIFFLEG) (COMMERCIAL CONSTRUCTION ONLY)
- 511 STATIONARY TOWER CRANE 200 FEET AND OVER MEASURED FROM BOOM FOOT PIN (COMMERCIAL CONSTRUCTION ONLY)
- 512 SELF-ERECTING TOWER CRANE 100 FEET AND OVER MEASURED FROM BOOM FOOT PIN (COMMERCIAL CONSTRUCTION ONLY)
- 513 TRAVELING TOWER CRANE (COMMERCIAL CONSTRUCTION ONLY)
- 514 TRUCK OR CRAWLER CRANE UP TO AND NOT INCLUDING 150 FEET OF BOOM, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)

GROUP 4

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PREVVAGE@STATE.MN.US

- 515 CRAWLER BACKHOE INCLUDING ATTACHMENTS (COMMERCIAL CONSTRUCTION ONLY)
- 516 FIREPERSON, CHIEF BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)
- 517 HOIST ENGINEER (THREE DRUMS OR MORE) (COMMERCIAL CONSTRUCTION ONLY)
- 518 LOCOMOTIVE (COMMERCIAL CONSTRUCTION ONLY)
- 519 OVERHEAD CRANE (INSIDE BUILDING PERIMETER) (COMMERCIAL CONSTRUCTION ONLY)
- 520 TRACTOR . BOOM TYPE (COMMERCIAL CONSTRUCTION ONLY)

GROUP 5

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PREVVAGE@STATE.MN.US

- 521 AIR COMPRESSOR 450 CFM OR OVER (TWO OR MORE MACHINES) (COMMERCIAL CONSTRUCTION ONLY)
- 522 CONCRETE MIXER (COMMERCIAL CONSTRUCTION ONLY)
- 523 CONCRETE PUMP UP TO 31 METERS/101 FEET OF BOOM
- 524 DRILL RIGS, HEAVY ROTARY OR CHURN OR CABLE DRILL WHEN USED FOR CAISSON FOR ELEVATOR OR BUILDING CONSTRUCTION (COMMERCIAL CONSTRUCTION ONLY)
- 525 FORKLIFT (COMMERCIAL CONSTRUCTION ONLY)
- 526 FRONT END, SKID STEER 1 TO 5 C YD
- 527 HOIST ENGINEER (ONE OR TWO DRUMS) (COMMERCIAL CONSTRUCTION ONLY)
- 528 MECHANIC-WELDER (ON POWER EQUIPMENT) (COMMERCIAL CONSTRUCTION ONLY)
- 529 POWER PLANT (100 KW AND OVER OR MULTIPLES EQUAL TO 100KW AND OVER) (COMMERCIAL CONSTRUCTION ONLY)

- 530 PUMP OPERATOR AND/OR CONVEYOR (TWO OR MORE MACHINES) (COMMERCIAL CONSTRUCTION ONLY)
- 531 SELF-ERECTING TOWER CRANE UNDER 100 FEET MEASURED FROM BOOM FOOT PIN (COMMERCIAL CONSTRUCTION ONLY)
- 532 STRADDLE CARRIER (COMMERCIAL CONSTRUCTION ONLY)
- 533 TRACTOR OVER D2 (COMMERCIAL CONSTRUCTION ONLY)
- 534 WELL POINT PUMP (COMMERCIAL CONSTRUCTION ONLY)

GROUP 6

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PREVVAGE@STATE.MN.US

- 535 CONCRETE BATCH PLANT (COMMERCIAL CONSTRUCTION ONLY)
- 536 FIREPERSON, FIRST CLASS BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)
- 537 FRONT END, SKID STEER UP TO 1 C YD
- 538 GUNITE MACHINE (COMMERCIAL CONSTRUCTION ONLY)
- 539 TRACTOR OPERATOR D2 OR SIMILAR SIZE (COMMERCIAL CONSTRUCTION ONLY)
- 540 TRENCHING MACHINE (SEWER, WATER, GAS) EXCLUDES WALK BEHIND TRENCHER

GROUP 7

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PREVVAGE@STATE.MN.US

- 541 AIR COMPRESSOR 600 CFM OR OVER (COMMERCIAL CONSTRUCTION ONLY)
- 542 BRAKEPERSON (COMMERCIAL CONSTRUCTION ONLY)
- 543 CONCRETE PUMP/PUMPCRETE OR COMPLACO TYPE (COMMERCIAL CONSTRUCTION ONLY)
- 544 FIREPERSON, TEMPORARY HEAT SECOND CLASS BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)
- 545 OILER (POWER SHOVEL, CRANE, TRUCK CRANE, DRAGLINE, CRUSHERS AND MILLING MACHINES, OR OTHER SIMILAR POWER EQUIPMENT) (COMMERCIAL CONSTRUCTION ONLY)
- 546 PICK UP SWEEPER (ONE CUBIC YARD HOPPER CAPACITY) (COMMERCIAL CONSTRUCTION ONLY)
- 547 PUMP AND/OR CONVEYOR (COMMERCIAL CONSTRUCTION ONLY)

GROUP 8

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PREVVAGE@STATE.MN.US

- 548 ELEVATOR OPERATOR (COMMERCIAL CONSTRUCTION ONLY)
- 549 GREASER (COMMERCIAL CONSTRUCTION ONLY)
- 550 MECHANICAL SPACE HEATER (TEMPORARY HEAT NO BOILER LICENSE REQUIRED) (COMMERCIAL CONSTRUCTION ONLY)

GROUP 1	2009-12-07	15.30	6.13	21.43
601 MECHANIC . WELDER				
602 TRACTOR TRAILER DRIVER				
603 TRUCK DRIVER (HAULING MACHINERY INCLUDING OPERATION OF HAND AND POWER OPERATED WINCHES)				
GROUP 2	2009-12-07	14.77	6.13	20.90
604 FOUR OR MORE AXLE UNIT, STRAIGHT BODY TRUCK				
GROUP 3	2009-12-07	19.41	12.00	31.41
	2010-05-01	20.01	12.75	32.76
605 BITUMINOUS DISTRIBUTOR DRIVER				
606 BITUMINOUS DISTRIBUTOR (ONE PERSON OPERATION)				
607 THREE AXLE UNITS				
GROUP 4	2009-12-07	19.41	12.00	31.41
	2010-05-01	20.01	12.75	32.76
608 BITUMINOUS DISTRIBUTOR SPRAY OPERATOR (REAR AND OILER)				
609 DUMP PERSON				
610 GREASER				
611 PILOT CAR DRIVER				
612 RUBBER-TIRED, SELF-PROPELLED PACKER UNDER 8 TONS				
613 TWO AXLE UNIT				
614 SLURRY OPERATOR				
615 TANK TRUCK HELPER (GAS, OIL, ROAD OIL, AND WATER)				
616 TRACTOR OPERATOR, UNDER 50 H.P.				
701 HEATING AND FROST INSULATORS	2009-12-07	20.00	3.96	23.96
702 BOILERMAKERS	2009-12-07	34.79	18.07	52.86
703 BRICKLAYERS	2009-12-07	25.46	0.00	25.46
704 CARPENTERS	2009-12-07	22.35	14.69	37.04
	2010-05-01	23.70	14.69	38.39
705 CARPET LAYERS (LINOLEUM)				

		FOR RATE CALL 651-284-5091 OR EMAIL <u>DLI.PRE VWAGE@STATE.MN.US</u>		
706 CEMENT MASONS	2009-12-07	24.31	14.34	38.65
707 ELECTRICIANS	2009-12-07	27.00	14.32	41.32
708 ELEVATOR CONSTRUCTORS		FOR RATE CALL 651-284-5091 OR EMAIL <u>DLI.PRE VWAGE@STATE.MN.US</u>		
709 GLAZIERS		FOR RATE CALL 651-284-5091 OR EMAIL <u>DLI.PRE VWAGE@STATE.MN.US</u>		
710 LATHERS		FOR RATE CALL 651-284-5091 OR EMAIL <u>DLI.PRE VWAGE@STATE.MN.US</u>		
711 GROUND PERSON	2009-12-07	10.00	0.00	10.00
712 IRONWORKERS	2009-12-07	33.80	20.37	54.17
713 LINEMAN		FOR RATE CALL 651-284-5091 OR EMAIL <u>DLI.PRE VWAGE@STATE.MN.US</u>		
714 MILLWRIGHT	2009-12-07	30.75	19.47	50.22
715 PAINTERS (INCLUDING HAND BRUSHED, HAND SPRAYED, AND THE TAPING OF PAVEMENT MARKINGS)	2009-12-07	24.16	13.06	37.22
716 PILEDRIVER (INCLUDING VIBRATORY DRIVER OR EXTRACTOR FOR PILING AND SHEETING OPERATIONS)	2009-12-07	22.35	14.69	37.04
	2010-05-01	23.70	14.69	38.39
717 PIPEFITTERS . STEAMFITTERS	2009-12-07	35.95	8.13	44.08

2010-05-01 36.60 8.13 44.73

718 PLASTERERS

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PRE VWAGE@STATE.MN.US

719 PLUMBERS

2009-12-07 35.95 8.13 44.08

2010-05-01 36.60 8.13 44.73

720 ROOFER

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PRE VWAGE@STATE.MN.US

721 SHEET METAL WORKERS

2009-12-07 32.07 16.56 48.63

722 SPRINKLER FITTERS

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PRE VWAGE@STATE.MN.US

723 TERRAZZO WORKERS

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PRE VWAGE@STATE.MN.US

724 TILE SETTERS

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PRE VWAGE@STATE.MN.US

725 TILE FINISHERS

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PRE VWAGE@STATE.MN.US

726 DRYWALL TAPER

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PRE VWAGE@STATE.MN.US

727 WIRING SYSTEM TECHNICIAN

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PRE VWAGE@STATE.MN.US

728 WIRING SYSTEMS INSTALLER

FOR RATE CALL 651-284-5091 OR
EMAIL

DLI.PRE VWAGE@STATE.MN.US

729 ASBESTOS ABATEMENT WORKER

FOR RATE CALL 651-284-5091 OR
EMAIL

DLI.PRE VWAGE@STATE.MN.US

730 SIGN ERECTOR

FOR RATE CALL 651-284-5091 OR
EMAIL

DLI.PRE VWAGE@STATE.MN.US

LABOR STANDARDS UNIT

**NOTICE OF CERTIFICATION OF TRUCK RENTAL RATES AND EFFECTIVE
DATE PURSUANT TO *MINNESOTA RULES*, PART 5200.1105**

On May 10, 2010 the commissioner certified the minimum truck rental rates for highway projects in the state's ten highway and heavy construction areas for trucks and drivers operating "operating "five or more axle units, straight body trucks," "four axle units, straight body trucks," "three axle units," "tractor only," and "tractor trailers." The certification by the commissioner came after Notice of Determination of Truck Rental Rates by the commissioner, including the determination of truck operating costs, was published in the *State Register* on March 22, 2010 and the informal conference pursuant to *Minnesota Rules*, Part 5200.1105 to receive further public input prior to certification was held at the department on April 12, 2010.

The operating costs were determined by survey on a statewide basis. The operating cost for five or more axle units, straight body trucks" is determined to be \$44.46 per hour. The operating cost for "four axle units, straight body trucks" is determined to be \$36.81 per hour. The operating cost for "three axle units" is determined to be \$37.35 per hour. The operating cost for "tractor only" is determined to be \$41.58 per hour. The operating cost for "trailer only" is determined to be \$11.46 per hour. The operating cost for "tractor trailers" is determined to be \$53.04 per hour.

Adding the prevailing wage for drivers of these five types of trucks from each of the State's ten highway and heavy construction areas to the operating costs, the minimum hourly truck rental rate for the five types of trucks in each area is determined to be as follows:

	Tractor Trailer	Five or more axle	Four axle	Three Axle	Tractor only
Region 1	92.79	83.66	76.01	76.45	81.33
Region 2	86.46	77.37	69.72	63.30	75.00
Region 3	75.41	67.58	59.93	61.14	63.95
Region 4	74.47	65.36	57.71	70.11*	63.01
Region 5	89.99	68.31	60.66	64.08	78.53
Region 6	90.99	81.86	74.21	74.65	79.53
Region 7	86.46	77.37	69.72	70.11*	75.00
Region 8	79.42	65.21	57.56	50.82	67.96
Region 9	93.19	84.06	76.41	76.85	81.73
Region 10	86.46	77.37	69.72	50.12	75.00

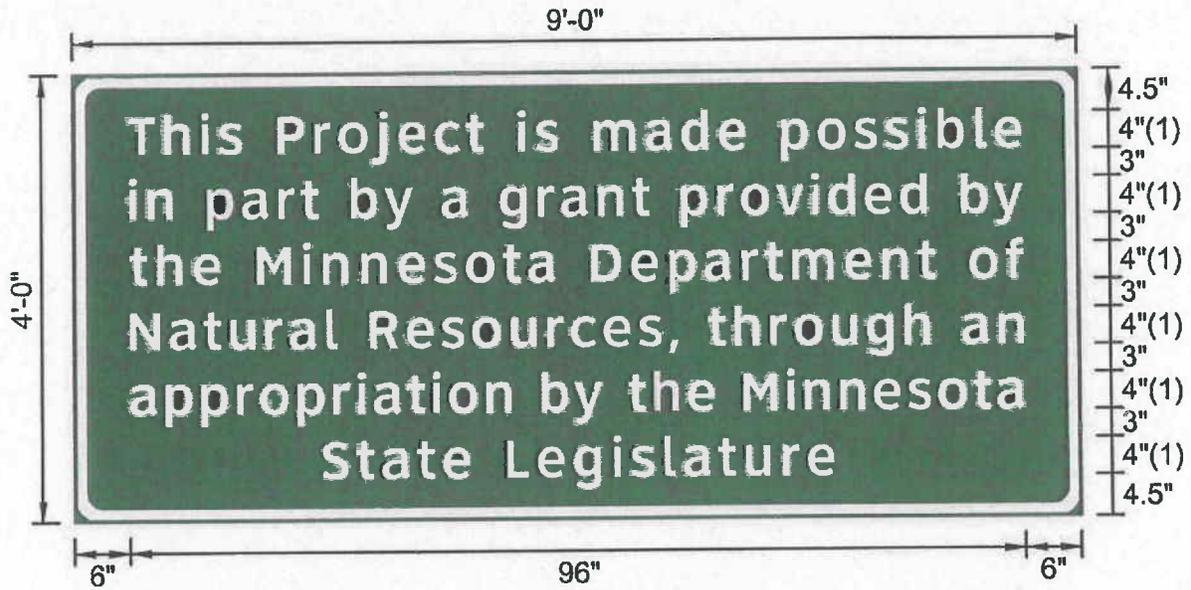
*Correction to prevailing wage labor rate in Regions 4 & 7 effective May 10, 2010 from \$33.01 to \$32.76.

The operating costs, including the average truck broker fee paid by those survey respondents who reported paying truck broker fees, and the truck rental rates may also be reviewed by accessing the department's web site at www.dli.mn.gov. Questions regarding the operational costs and truck rental rates can be answered by calling (651)284-5091.

The minimum truck rental rates certified for these five types of trucks in the state's ten highway and heavy construction areas will be effective for all highway and heavy construction projects financed in whole or part with state funds advertised for bid on or after May 10, 2010.


 STEVE SVIGGUM
 COMMISSIONER

PROJECT FUNDING SIGN SPECIFICATIONS



**CITY OF MOORHEAD
SPECIFICATIONS
AIR AND WATER POLLUTION**

INDEX

SECTION I – GENERAL REQUIREMENTS
SECTION II – PERMIT APPLICATION FORM
SECTION III – PERMIT TRANSFER FORM
SECTION IV – NOTICE OF TERMINATION

SECTION I – GENERAL REQUIREMENTS

(1717) Air and Water Pollution:

Pollution of natural resources of air, land and water by operations under this contract shall be prevented, controlled, and abated in accordance with the rules, regulations and standards adopted and established by the Minnesota Pollution Control Agency, and in accordance with the MPCA General Storm Water Permit and the provisions of MnDOT 1717 and 2573 as modified below:

The Contractor shall sign the NPDES Permit in conjunction with the City on this Project. The City will apply and pay for the NPDES Permit. The Application and Inspection Log for the General Storm Water Permit for Construction Activity (MN R100001) has been included in the proposal for this project.

By signing the Proposal and completing the permit, the Contractor is a co-permittee with the City to ensure compliance with the terms and conditions of the General Storm Water Permit (MN R100001) and is responsible for those portions of the permit where the Contractor is referenced. This Permit establishes conditions for discharging storm water to waters of the State from construction activities that disturb one or more acres of total land area. A copy of the “General Permit Authorization to Discharge Storm Water Associated with a Construction Activity under the National Pollutant Discharge Elimination System (NPDES)/State Disposal System Permit Program” may be obtained from the M.P.C.A. web site.

The Contractor shall be solely responsible for complying with the requirements of Part IV (Construction Activity Requirements) of the General Permit where “Permittee”, “Owner” or “Operator” is referenced until a Notice of Termination has been completed and approved.

The Contractor shall be responsible for providing all inspections, documentation, record keeping, maintenance, remedial actions, and repairs required by the permit. All inspections, maintenance, and records required in the General Permit Paragraph IV.E., shall be the sole responsibility of the Contractor. The words “Permittee”, “Owner” or “Operator” in these referenced paragraphs shall mean “Contractor”. Standard forms for logging all required inspection and maintenance activities have been included in the Contract and shall be used by the Contractor. Copies of all inspection and maintenance forms used on this Project shall be turned over to the Engineer every two weeks. Pay requests will not be processed until the inspection and maintenance forms for the time period covered in the estimate have been submitted.

The Contractor shall have all logs, documentation and inspection reports on site for Engineer’s review and shall post the permit on site. The Contractor shall immediately rectify any shortcomings noted by the Engineer.

All meetings with the MPCA, Watershed District, WMO, or any local authority shall be attended by both the Engineer and the Contractor or their representatives. No work required by said entities, and for which the Contractor would request additional compensation from the city, shall be started without approval from the Engineer. No work required by said entities and for which the changes will impact the design or requirements of the Contract documents or impact traffic shall be started without approval from the Engineer.

The Contractor shall immediately notify the Engineer of any site visits by Local Permitting Authorities performed in accordance with Part V.H.

If the Contractor fails to perform the requirements as listed herein, the Engineer will issue a Work Order detailing the required action. The Contractor shall start the required action within twenty-four (24) hours of receipt of the Work Order and continue the required action until the Project is brought into compliance with the permit. Failure to perform the required action as specified, shall subject the Contractor to a \$1000/calendar day deduction.

The Contractor shall review and abide by the instruction contained in the permit package. The Contractor shall hold the city harmless for any fines or sanctions caused by the Contractor's actions or inactions regarding compliance with the permit or erosion control provisions of the Contract Documents.

Temporary Pollution Control:

The Contractor shall furnish material, labor and equipment for temporary control measures as shown in the plans or ordered by the Engineer and shall provide for the acceptable maintenance thereof during the life of the contract, to effectively prevent water pollution through the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

Temporary pollution control may include construction work outside the right of way where such work is necessary as a result of borrow pit operations, haul road construction, equipment storage, and plant or waste disposal sites.

The temporary pollution control provisions contained herein shall be coordinated with the permanent erosion control features specified elsewhere in the contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction and post-construction period.

At the preconstruction conference, or prior to the start of the applicable construction, the Contractor shall submit for acceptance his proposed schedules for accomplishment of temporary and permanent erosion control work, as are applicable for clearing and grubbing; grading, construction of bridges and other structures at watercourses; paving, and miscellaneous construction. He shall also submit for acceptance his proposed method of erosion control on haul roads and at borrow pits and his plans for disposal of waste material. No work shall be started until the applicable erosion control schedules and the Engineer has accepted methods of operation.

Construction Requirements:

The Engineer shall have authority to limit the surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and fill operations and to direct the Contractors to provide immediate permanent or temporary control measures to prevent contamination of adjacent streams and other water courses, lakes, ponds, and areas of water impoundment. Cut slopes shall be seeded and mulched as the excavation proceeds to the extent considered desirable and practicable and as required by the General Storm Water Permit.

The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in his accepted schedules. Temporary pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design state; that are needed prior to installation of permanent erosion control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with the permanent control features on the project.

The Engineer will limit the area of excavation, borrow and embankment operations in progress commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent erosion control measures current in accordance with the accepted schedules. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified.

In the event of conflict between these requirements and any pollution control laws, rules or regulations of other Federal and State or local agencies, the more restrictive requirements shall apply.

Temporary Seeding Requirements:

Turf Establishment

The following schedule shall be used where seeding is associated with application of erosion protection such as straw mulch or erosion control mats:

<u>Type of Slope</u>	<u>Time*</u>
Steeper than 3:1	7 Days
10:1 to 3:1	7 Days
Flatter than 10:1	21 Days

*Maximum time an area can remain open when the area is not actively being worked.

Areas receiving mulch or erosion control mats shall be maintained and watered until the area is 70 percent established in turf. Areas not achieving 70 percent turf establishment (4) weeks after seeding shall be tilled, reseeded and mulch or erosion control mats reinstalled at Contractor's expense. This process shall be repeated at Contractor's expense until the 70 percent coverage requirement is met.

Areas not receiving mulch or erosion control mats can be seeded on the following schedule:

Spring – After soil temperature reaches 58 Degrees Fahrenheit and until June 10th.

Fall – After August 15th and before September 10th.

No seeding of bare soil areas will be allowed between June 10th and August 15th unless the Contractor presents an irrigation plan that is acceptable to the Engineer. Any areas seeded under an approved irrigation plan must meet the requirement of 70 percent coverage after four (4) weeks or be tilled and reseeded at Contractor's expense. This process shall be repeated at Contractor's expense until the 70 percent coverage requirement is met.

Bare soil areas awaiting seeding shall have temporary erosion and sedimentation controls in place to meet terms of the MPCA Storm Water Construction Permit.

This provision shall be in effect for the duration of the Contractor's responsibility to comply with terms of this project's MPCA Storm Water Construction Permit (i.e. until an approved Application for Permit Transfer/Modification or Notice of Termination releases the Contractor from further responsibility.

Measurement and Payment:

All temporary and permanent erosion and pollution control measures necessitated by the Contractor's operations outside the right of way, and all temporary erosion and pollution control measures necessitated by the Contractor's negligence, carelessness, or failure to properly coordinate the installation of permanent

controls as part of the work scheduled within the right of way, shall be performed as ordered by the Engineer at the Contractor's own expense.

In case of failure on the part of the Contractor to control erosion, pollution, and siltation as ordered, the City reserves the right to employ outside assistance or to use its own forces to provide the necessary corrective measures. All expenses so incurred by the City, including its engineering costs, that are chargeable to the Contractor as his obligation and expense, will be deducted from any monies due or coming due the Contractor.

Where the Engineer orders installation of either temporary or additional permanent erosion or pollution control measures, in the absence of any negligence, carelessness, or failure on the Contractor's part to properly schedule and carry out the measures provided for in the contract, and except for such work which is necessitated by the Contractor's operations outside the right of way, the work shall be performed at the City's expense and payment will be made therefore at appropriate contract bid prices for like work, or as Extra Work if there is no comparable item of work in the contract.

Implementation of Clean Air Act and Federal Water Pollution Control Act:

By signing this bid, the bidder will be deemed to have stipulated as follows:

- (a) That any facility to be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et. seq., as amended by Pub. L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., as amended by Pub. L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR, Part 15), is not listed on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
- (b) That the City shall be promptly notified prior to contract award of the receipt by the bidder of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

-END OF SECTION-

**CITY OF MOORHEAD
SPECIFICATIONS
EXCAVATION, BACKFILL AND COMPACTION
WATER, SEWERS AND STRUCTURES**

Description of Work:

The work to be done under these specifications and the accompanying plans consists of the furnishing of all labor, materials, accessories, and plans necessary for excavation, backfill, and compaction for the completion of the work as shown on the Plans and as modified in the Special Provisions.

SPECIFICATION I - EXCAVATION, BACKFILLING AND COMPACTION

- 1-1 Trench Excavation, General Requirements
- 1-2 Classification of Excavated Materials
- 1-2.1 Dewatering of Trenches
- 1-2.2 Excavation for Structures
- 1-2.3 Subsurface Exploration
- 1-3 Replacement of Unsuitable Pipe Foundation Materials
- 1-4 Sewer Trench Excavation
- 1-4.1 Finish Grading of Trench Bottom
- 1-4.2 Maximum Sewer Trench Widths
- 1-4.3 Tunnel Excavation
- 1-5 Trench Backfill
- 1-6 Drainage Maintenance
- 1-7 Responsibility of contractors for Backfill Settlement
- 1-8 Disposal of Excess Excavated Materials
- 1-9 Protection of Sewer
- 1-10 Trench Compaction
- 1-11 Stripping of the Top Soil
- 1-12 Excavation and Backfill for Manholes

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- 2-1 Excavating, Backfilling and Trench Compaction

**SPECIFICATION I
EXCAVATION, BACKFILLING & COMPACTION**

1-1 Trench Excavation, General Requirements:

The terms "excavation" and "backfilling", as used in the specifications shall refer to, and shall mean, all material excavated or otherwise removed in the performance of the specified work, and all work required for, and in connection with, the excavation, removal, and subsequent handling and disposal of such material. Excavation and backfilling shall include site clearing and preparation where required, subgrade preparation, bell holes, all sheeting, shoring, bracing, and de-watering of trenches and other excavation, protection of adjacent property, backfilling, pipe embedment, all specified backfill consolidation and surfacing, and other work necessary and required.

The contractor shall not open more trench in advance of pipe laying than is necessary to expedite the work and, in the event that pipe laying is stopped for any cause, 100 feet will be the maximum length of open trench allowed on any line under construction.

Under ordinary conditions, excavation shall be by open cut from surface. Where the depth of trench and soil conditions permit, tunneling shall be required beneath cross walks, concrete driveways, curbs, gutters, pavements, and other surface structures; for such tunneling, no additional compensation will be allowed over the price for, or based upon, open cut excavation of equivalent depths below the ground surface.

All material excavated shall be deposited along the trench in a manner that will cause the least inconvenience to the public and be consistent with the rapid and economical handling of the work. Sidewalks shall be kept clear of all materials, cross streets, driveways, alleys, and avenues shall be kept open to traffic and all trees shall be protected from injury.

The contractor shall use a backhoe bucket with a smooth cutting edge for all excavation on this contract unless the Engineer gives prior approval for a change.

1-2 Classification of Excavated Materials:

The term "excavation" shall include all materials excavated or otherwise removed in the performance of the contract work, regardless of the type, character, composition, or condition of any and all such material or materials. "Excavation" shall also include the removal and disposal of all debris, junk, broken concrete, bricks, stone, and all other materials encountered within the excavation limits.

1-2.1 De-Watering of Trenches:

Whenever ground water or surface water is encountered in the trench, the contractor shall, at his own expense, provide suitable means of the removal of same and in no case shall this water be allowed to flow into the pipe or structure except by permission of the Engineer. In case quicksand or other unusual or exceptional conditions of soil or water are encountered and which are not otherwise covered by these specifications, the contractor shall immediately notify the Engineer. Upon receiving such notice, and after an inspection has been made, the Engineer shall direct the work to proceed in accordance with the general provisions for extra work and changes.

1-2.2 Excavation for Structures:

Excavation shall be large enough to place structure and perform backfill and proper compaction.

Except where special construction on unstable soil is authorized, all manholes shall be founded on a two-inch (2") gravel cushion; all unauthorized excavation below the specified structure subgrade shall be replaced, by and at the expense of the contractor, with gravel or crushed rock.

All excavation shall be kept dry. No water shall be permitted to come in contact with any concrete within twelve (12) hours after placing. All excavations for structures which extend down to or below the static ground water elevation at the sites of such structures shall be de-watered by lowering and maintaining the ground water at an elevation not less than twelve (12) inches below the bottom of such excavation at all times when work thereon is in progress, during subgrade preparation and continuously thereafter until the structure concrete has been placed and has hardened.

The contractor shall be held responsible for the condition of any water line, sewer, drain or other conduit or pipeline which may be used for drainage purposes and all such pipe or conduits shall be clean and free from all sediments before acceptance thereof by the Engineer.

Subgrade soil for all structures, shall be firm, dense and thoroughly compacted and consolidated; and shall be free from mud and muck; and shall be sufficiently stable to remain firm and intact under the feet of the workmen engaged in subgrade surfacing, and depositing concrete thereon. Where necessary, a layer of concrete of sufficient strength and thickness to withstand subsequent construction operations shall be installed below the specified subgrade elevation and the structure concrete deposited thereon.

Coarse gravel or crushed stone may be used for subsoil reinforcement if satisfactory results can be obtained thereby. Such material shall be applied in thin layers, each layer being entirely embedded in the subsoil by thorough tamping. All excess soil shall be removed to compensate for the displacement of the gravel or crushed stone and the finished elevation of any subsoil reinforced in this manner shall not be above the specified subgrade.

1-2.3 Subsurface Exploration:

Whenever necessary to determine the location or elevation of existing utilities, the contractor upon order of the Engineer, shall make the necessary excavation. Payment will be on an hourly basis as bid in the Proposal Form. The work shall include all labor and equipment necessary to expose the utilities from the time excavation is begun until the utility has been located and measured. Backfill and compaction of the exploration area shall be incidental.

1-3 Replacement of Unsuitable Pipe Foundation Materials - Crushed Rock Cradle:

If the bottom of the trench is not sufficiently stable or firm to prevent vertical or lateral displacement of the pipe after installation, supplementary foundation will be required. Excavation of said unstable material shall be made to a depth of not less than eight (8) inches below grade and for the full width of the trench. A foundation of crushed rock shall be laid in layers of not more than four (4) inches thick from the bottom of the excavation to within two (2) inches of the pipe grade. The pipe shall then be laid to grade and the crushed rock carefully placed and uniformly tamped around the pipe to the spring line. The price as bid on the Proposal Form for each cubic yard includes the removal of unstable material and the placing of the crushed rock foundation complete in place. The unstable material shall not be used in backfilling the trench.

1-4 Trench Excavation:

Grade lines parallel to the invert shall determine the alignment, depth, and pipe subgrade of all trenches.

1-4.1 Finish Grading of Trench Bottom:

Trench bottoms shall conform to the grade or depth to which the pipe is to be laid and the pipe bedding shall be accurately graded and shaped to provide uniform bearing and support for each pipe at every point along its entire length between bell holes before the pipe is placed in the trench. The pipe bedding shall include a three (3) inch depth of material below the pipe barrel. If excavation has been carried deeper than six (6) inches below the pipe barrel, the excess depth shall be filled with bedding material and be mechanically tamped.

In the event that after placing a pipe in the trench, it is found that the prepared trench bottom is not at the proper elevation, the pipe shall be removed and the grade corrected. In no case shall the pipe be raised from and dropped in the trench bottom for the purpose of lowering a subgrade, which is too high.

1-4.2 Maximum Sewer Trench Widths:

In order to prevent the application of superimposed loadings on pipe in excess of the designed and specified pipe strengths, excavation of the pipe trench shall be in accordance with MnDOT 2503.3B, except that the maximum trench width shall also apply for cover depths less than 15 feet.

Where necessary to prevent sliding and caving of trench banks, which cannot be effectively braced because of the character of the soil, it will be permissible to deviate from the above standards as necessary to comply with OSHA requirements. However, no additional compensation will be made for over-excavation of the pipe trench.

1-4.3 Tunnel Excavation:

Installation of pipes may be made in tunnels only where such installation is required or permitted by these specifications, the drawings, or the City Engineer.

Tunnel sections shall provide adequate clearance for pipe and workmen for proper lining, grading and jointing of the pipe installed therein. All bracing, shoring and sheeting necessary for the construction of the tunnel and the proper protection of workmen therein shall be furnished and installed and, where required by the City Engineer, shall be left in place. All tunnel backfill shall be of proper condition and moisture content to compact readily, and shall be thoroughly tamped and rammed under, around and over the pipe from the floor of the tunnel to the sidewalls and top thereof.

1-5 Trench Backfill:

Unless otherwise specified, backfill above pipe encasement shall be done with original excavation material. Within the pipe encasement zone, granular backfill shall be placed in two layers of approximately equal depth to a height in the trench of six (6) inches above the top of the pipe. The bottom layer shall be compacted either mechanically or by hand around the pipe in such a way as to provide a good and sufficient bedding and support around the pipe, but not to disturb the pipe. The upper layer shall be mechanically compacted. Thereafter, additional backfill shall be placed in the trench in uniform lifts not exceeding 12 inches in thickness and compacted by the use of a sheep's foot roller or as directed by the Engineer. The trench shall be backfilled to the level of or slightly higher than the natural ground surface. Within the upper 3 feet of roadways, trench backfill shall be placed in uniform layers not exceeding 8 inches in thickness. After all backfilling has been satisfactorily completed, all excess earth or any other material or rubbish shall be removed from the site of work by the contractor and disposed of in a manner suitable and satisfactory to the Engineer. The contractor shall maintain the street over the trench until all settlement has taken place, provided that his responsibility for so maintaining the street shall not extend beyond the period of one year after the final payment date of the contract.

1-6 Drainage Maintenance:

Backfilling of trenches for pipe installed beneath and/or across roadways, driveways, walks and other traffic ways adjacent to drainage ditches and water courses shall not be done prior to the completion of backfilling to the original ground surface of the trench on the upstream side of such traffic way in order to prevent the impounding of water at any point after the pipe has been laid, and all necessary bridges and other temporary structures required to maintain traffic across such unfilled trenches shall be constructed and maintained. All backfilling shall be done in such manner that water will not accumulate in unfilled or partially filled trenches. All material deposited in roadway ditches or other water courses crossed by the line of trench shall be removed immediately after backfilling is completed and the section, grades and contours of such ditches or water courses restored to their original condition, in order that surface drainage will be obstructed no longer than necessary.

1-7 Responsibility of Contractors for Backfill Settlement:

Wherever trenching or other excavations made by the contractor in the performance of work under this contract have not been properly backfilled, or where settlement has occurred at any time prior to the final acceptance of the entire work, to the extent that the top of the backfill is below the original ground surface, such trenches shall be refilled and backfill surface compacted and smoothed to conform to the elevation of the adjacent ground surface. All sod in lawns and parking removed or

damaged by reason of such settlement and the repair thereof, shall be replaced by and at the expense of the contractor.

1-8 Disposal of Excess Excavated Materials:

All excess materials removed from trenches shall be disposed of as required in section 2104.3C of the current Minnesota Department of Transportation Specifications.

1-9 Protection of Pipe:

In backfilling trenches, the installed pipe shall not be disturbed by dropping backfill material from the top of the trench onto the pipe, or by walking on or along side the sewer, or by pulling sheeting, or in any other manner.

1-10 Trench Compaction:

Within streets, parking lots or other improved areas, the backfill shall be compacted to 95% of the maximum density determined by standard proctor. The density of the compacted backfill will be determined by field density tests unless otherwise noted in the Special Provisions. Backfill in lawns or other green areas shall be compacted by the Quality Compaction Method (MnDOT 2105.3F2).

1-11 Stripping of the Topsoil:

The contractor shall, on all unimproved streets and avenues, strip all topsoil as directed by the Engineer. Said topsoil shall be carefully preserved and stockpiled on the rear of the adjacent lots or other designated locations as directed by the Engineer. Payment for removal and stockpiling of said topsoil shall be at the unit price bid for Salvage Topsoil.

The Contractor shall, on all utility easements, strip all topsoil in the area to be disturbed by his operations. Said topsoil shall be carefully stock piled and preserved until after the sewer has been installed and the trench backfilled. The Contractor shall then restore the topsoil on the stripped area to its original depth and elevation. Stripping, preservation and restoration of the topsoil on utility easements shall be considered, as incidental to the project and no direct compensation shall be made for this work.

1-12 Excavation and Backfill for Structures:

Excavation shall be limited to the size required for the manhole to be constructed. Allowance shall be made for a manhole bedding of two (2) inches of sand or gravel.

Backfill shall be compacted by an approved mechanical tamper. The backfill shall be compacted to the same specifications required for the adjacent trench.

**SPECIFICATION 2
MEASUREMENT AND PAYMENT**

2-1 Excavating, Backfilling and Compaction:

Excavation, Backfill and Compaction is incidental to pipe construction.

-END OF SECTION-

SECTION 01750 – MACHINE TIME

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Machine Time shall be utilized to determine subsurface conditions to include the depth of watermain or existing water/sewer services, type of service pipe, and the exact location of these utilities.
- B. This item may also be utilized for minor additional work items that are beyond the scope of the bid items, as directed by the Engineer.

PART 2 – MATERIALS (Not Used)

PART 3 – CONSTRUCTION REQUIREMENTS (Not Used)

PART 4 – MEASUREMENT AND PAYMENT

4.1 PAYMENT

- A. Payment shall be on an hourly basis and shall include a crew and equipment that meets or exceeds the following requirements: two and one-half (2½) CY backhoe and two and one-half (2½) CY frontend loader with operators, mechanical compaction equipment, two (2) laborers, and one (1) foreman. Backfill and compaction of excavated material shall be incidental.

END OF SECTION

SECTION 02313 - STRUCTURAL EXCAVATION FOR FLOOD WALL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Excavating for flood walls.

1.2 RELATED REQUIREMENTS

- A. Document 10.10748.700: Geotechnical report; bore hole locations and findings of subsurface materials by Northern Technologies, Inc.
- B. Section 02314 - Structural Fill and Backfill for Flood Wall: Fill materials, filling, and compacting.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the work are as indicated.

3.2 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. Locate, identify, and protect utilities that remain and protect from damage.
- C. Notify utility company to remove and relocate utilities as necessary.
- D. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- E. Protect plants, lawns, rock outcroppings, and other features to remain.

3.3 EXCAVATING

- A. Underpin adjacent structures that could be damaged by excavating work.
- B. Excavate to accommodate foundation and wall for flood wall.
- C. Notify Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- D. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- E. Excavations for concrete structures which extend down to the static groundwater or below shall be dewatered.
- F. Do not interfere with 45 degree bearing splay of foundations.
- G. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume.
- H. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 02314.
- I. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- J. Remove excavated material that is unsuitable for re-use from site.
- K. Stockpile excavated material to be re-used in area designated on site by the Engineer.

L. Remove excess excavated material from site.

3.4 FIELD QUALITY CONTROL

A. Contractor shall employ a Geotechnical Engineer to provide visual inspection of load-bearing excavated surfaces before placement of foundations. Cost of these services shall be included in lump sum bid for flood wall structure.

3.5 PROTECTION

A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.

B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

END OF SECTION

SECTION 02314 - STRUCTURAL FILL AND BACKFILL FOR FLOOD WALL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Filling, backfilling, and compacting for flood wall.

1.2 RELATED REQUIREMENTS

- A. Document 10.1048.700: Geotechnical report; bore hole locations and findings of subsurface materials by Northern Technologies, Inc..
- B. Section 02313 - Structural Excavation for Flood Wall: Removal and handling of soil to be re-used.
- C. Section 03300 - Cast-in-Place Concrete.

1.3 DEFINITIONS

- A. Finish Grade Elevations: Indicated on drawings.
- B. Subgrade Elevations: Indicated on drawings.

1.4 REFERENCE STANDARDS

- A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; 2001 (2004).
- B. ASTM D 698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)); 2007.
- C. ASTM D 1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2007.
- D. ASTM D 1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m³)); 2007.
- E. ASTM D 2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2008.
- F. ASTM D 2922 - Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth); 2005.
- G. ASTM D 3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 2005.

1.5 SUBMITTALS

- A. Fill Composition Test Reports: Results of laboratory tests on actual materials used.
- B. Compaction Density Test Reports.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where indicated.
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination.

3. Protect stockpiles from erosion and deterioration of materials.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. Engineered Fill: Native, non-organic fat clay.
 1. Tempered with moisture content at time of placement equal to and no more than 3 percent above the optimum content as determined by the appropriate proctor test.
 2. Graded.
 3. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.

2.2 SOURCE QUALITY CONTROL

- A. If tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the Work are as indicated.
- B. Identify required lines, levels, contours, and datum locations.
- C. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.
- D. Verify structural ability of unsupported walls to support imposed loads by the fill.

3.2 PREPARATION

- A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with fill approved by Geotechnical Engineer.
- B. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

3.3 FILLING

- A. Fill to contours and elevations indicated using unfrozen materials.
- B. Fill up to finish grade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage other work.
- D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Engineered Fill: Place and compact materials in equal continuous layers not exceeding 8 inches compacted depth.
- G. Correct areas that are over-excavated.
 1. Load-bearing foundation surfaces: Fill with material approved by Geotechnical Engineer.
 2. Other areas: Use Engineered Fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.
- H. Reshape and re-compact fills subjected to vehicular traffic.

3.4 FILL AT SPECIFIC LOCATIONS

STRUCTURAL FILL AND BACKFILL FOR FLOOD WALL 02314 - Page 2

- A. Use Engineered Fill unless otherwise specified or indicated.
- B. At Flood wall:
 - 1. Use Engineered Fill.
 - 2. Fill up to subgrade elevation.
 - 3. Compact each lift to 95 to 98 percent of maximum dry density.
 - 4. Do not backfill against unsupported walls.
 - 5. Backfill simultaneously on each side of unsupported walls until supports are in place.

3.5 TOLERANCES

- A. Top Surface of General Filling: Plus or minus 1 inch from required elevations.

3.6 FIELD QUALITY CONTROL

- A. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, ASTM D2922, or ASTM D3017.
- B. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 698 ("standard Proctor"), ASTM D 1557 ("modified Proctor"), or AASHTO T 180.
- C. If tests indicate work does not meet specified requirements, remove work, replace and retest.
- D. Frequency of Tests: 1 per 100 cu. yd. of fill.

3.7 CLEANING

- A. Leave unused materials in a neat, compact stockpile.
- B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION

SECTION 02606 – MANHOLES AND CATCH BASINS

PART 1 - GENERAL

1.1 SECTION INCLUDES:

- A. This work shall consist of the construction or reconstruction of brick or concrete block masonry, cast-in-place concrete, precast sectional concrete, or pipe structures built for the purpose of providing access to underground drainage or other systems for the ingress of surface water. All construction and materials shall be in accordance with MnDOT 2506 and these Special Provisions.
- B. Cast Iron Castings
- C. Protective Coatings

1.2 SUBMITTALS

- A. The contractor shall submit shop drawings for all manholes, catch basins, and castings.

PART 2 - MATERIALS

2.1 MANHOLE AND CATCH BASIN RING AND COVER

- A. Cast iron for both manhole and catch basin frames and covers shall be of the best grade cast iron free from all injurious defects and flaws and shall conform with AASHTO M105 for class specified.
- B. Unless otherwise specified, Class 35B or better shall be furnished for all drainage castings. For all drainage castings, the metal shall have a Brinell Hardness number within the range of 190 to 265.
- C. The lid-to-frame surfaces on all round casting assemblies shall be machine milled to provide true bearing around the entire circumference.
- D. The manhole and catch basin castings shall be in accordance with the schedule on the drawings.

2.2 STRUCTURE OPENING

- A. Unless otherwise stated in the contract documents, a minimum twenty-seven (27) inch round access opening shall be provided for all manholes and catch basins.

2.3 PLASTIC REINFORCED STEEL STEPS

- A. All manhole steps shall be integral to the concrete structure.

2.4 PRECAST CONCRETE MANHOLE AND CATCH BASIN

- A. Cones shall be eccentric. Manholes shall conform to AASHTO M199, MnDOT 3622, and the details on the drawings.

2.5 CONCRETE

- A. Concrete cast in place for the construction of manholes and catch basins shall conform with the requirements of MnDOT Section 2461 - Structural Concrete and Section 2506 - Manholes and Catch Basins. See Section 2506 for mortar requirements.

2.6 PROTECTIVE COATING

- A. Manufacturer shall apply coal-tar epoxy coating to all exposed concrete surfaces of sanitary sewer manholes. Apply coating to inside of monolithic base, riser section(s), and cone or cover. Apply an eight (8) mil primer and two (2) - eight (8) mil finish coats.
- B. Coal-tar shall be Bitumastic 300-M, Shertar, Devtar, or approved equal.
- C. Coating shall be factory applied, unless otherwise specified.
- D. Coating shall be considered incidental to the concrete structure.

PART 3 – CONSTRUCTION REQUIREMENTS (Not Used)

PART 4 – MEASUREMENT AND PAYMENT

4.1 CASTINGS AND COVERS

- A. Furnishing and installation of castings for manhole, catch basin, and other similar structures shall be considered incidental to the structure that they are installed on.

4.2 CONSTRUCT MANHOLE

- A. Payment for constructing manholes of each diameter and type, at the appropriate contract price, shall be compensation in full for all costs of furnishing and installing the structure in the ground complete, as specified. Manholes will be paid per each unit installed, complete with casting. No measurement of length (depth) will be made. A maximum of four (4) adjusting rings shall be considered incidental to the manhole structure.

4.3 CONSTRUCT CATCH BASIN

- A. Catch basins will be paid at the contract unit price per each unit furnished and installed as specified, complete with casting. Payment shall be compensation in full for all costs of furnishing and installing the structure in the ground complete, as specified. A maximum of four (4) adjusting rings shall be considered incidental to the inlet structure.

END OF SECTION

SECTION 02720 – STORM SEWER SYSTEM

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This work shall consist of the construction of storm sewer systems and culverts, using plant fabricated pipe and other appurtenant materials, for the conveyance of stormwater. All construction and materials shall be in accordance with MnDOT 2501 Pipe Culverts, MnDOT 2503 Pipe Sewers, and these Special Provisions.

1.2 RELATED SECTIONS

- A. Section 02221 – Trenching, Backfilling, and Compacting
- B. Section 02606 – Manholes and Catch Basins

1.3 SUBMITTALS

- A. Submit names of pipe manufacturer and supplier
- B. Submit shop drawings of pipe and joint material

1.4 DELIVERY, HANDLING, AND STORAGE

- A. Avoid damage during delivery, handling, and storage, in accordance with manufacturer's recommendations.
- B. All material found during the progress of work to have cracks, flaws, or defects will be rejected by the Engineer. The contractor shall promptly remove all such material from the project site.
- C. The contractor shall be responsible for the safe storage of material furnished by or to him, accepted by him, and intended for the work, until it has been incorporated into the completed project.

PART 2 - MATERIALS

2.1 GOVERNING DOCUMENTS

- A. The materials used in this work shall conform to the requirements for class, kind, and size of material specified below, or as altered, or as more specifically described in the Contract Documents. Where the American Society of Testing and Materials (ASTM), American Standards Association (ASA), American Water Works Association (AWWA), Federal Specifications, or Minnesota Department of Transportation (MnDOT) Standard Specifications for Construction are referred to or cited, the latest published revisions shall apply.

2.2 MATERIAL ACCEPTANCE

- A. All materials, whether furnished by the Owner or by the contractor, are subject, at the discretion of the Owner, to inspection and approval at the plant of the manufacturer.

- B. During the process of unloading, all pipe and accessories shall be inspected by the contractor for loss or damage in transit. No shipment of material shall be accepted by the contractor until or unless notation of any lost or damaged material shall have been made on the bill of lading by the agent of the carrier.

2.3 PIPE MATERIALS

A. High Density Polyethylene Pipe (HDPE)

- 1) HDPE pipe and fittings shall be Type S (corrugated exterior wall and smooth interior liner) and shall conform to AASHTO M 294 for twelve (12) inch to forty-eight (48) inch diameter pipe or to AASHTO MP7 for sixty (60) inch diameter pipe. The design of the joints shall be bell and spigot ends with gasket meeting ASTM F 477.
- 2) Pipe shall be ADS N-12 or approved equal. All HDPE pipe material furnished shall conform to the current edition requirements of AASHTO M294, be certified through the Plastic Pipe Institute (PPI) Third Party Certification program, and bear the Third Party Administered PPI seal.
- 3) HDPE shall only be allowed when specified in the drawings and/or Schedule of Prices.

B. Reinforced Concrete Pipe (RCP)

- 1) RCP shall conform to the latest requirements of ASTM Specification C-76, C-506 or C-507, and AASHTO M 170 (Circular Pipe) and AASHTO M 206 (Pipe Arch) for the appropriate type and class of pipe, as noted in the drawings and in the Schedule of Prices.
- 2) All RCP shall conform to MnDOT Standard Plate No. 3006G. The pipe joints shall be clean and dry and shall be lubricated and joined in accordance with the manufacturer's instructions.
- 3) The date of manufacture shall be marked on all pipe sections.
- 4) When tie rods are required, "Polk County" style tie rods, as manufactured by Haala Industries, shall be furnished.

C. Corrugated Steel Pipe

- 1) The pipe shall be sixteen (16) gauge. The pipe shall conform to the requirements of MnDOT Specification 3226 and AASHTO M36.

PART 3 – CONSTRUCTION REQUIREMENTS

3.1 GENERAL

- A. All installations shall be made according to the requirements of MnDOT 2451 and Section 02221 of this Project Manual, as they relate to the excavation, foundation construction, and backfilling of prefabricated structures and shall apply together with the additional requirements or modifications contained herein.

3.2 LAYING PIPE

A. General

All pipe shall be laid and maintained to the required lines and grades with manholes at the required locations and with joints centered and spigots home. Pipe laying shall proceed upstream at the line and grade, as noted on the drawings. Bell or grooved ends shall be laid facing upgrade. The grade board method or laser beam method shall be used for line and grade on all mainline sewer. Holes shall be excavated for bells, so that the barrel of the pipe seats firmly against the bottom of the trench. While the centerline of the sewer has been determined with reasonable accuracy, the Engineer reserves the right to make minor adjustments in sewer and manhole locations. No deviation shall be made from the required line or grade, except with the written consent of the Engineer.

B. Pipe Kept Clean

All foreign matter or dirt shall be removed from the inside of the pipe before it is lowered into its position in the trench and it shall be kept clean by approved means during and after laying.

C. Preventing Trench Water from Entering Pipe

All openings along the line of sewer shall be securely closed, as directed, and at the suspension of work at any time, suitable stoppers shall be placed to prevent earth or other substances from entering the sewer.

D. Unsuitable Conditions for Laying Pipe

No pipe shall be laid in water or when the trench conditions are unsuitable for such work, except by permission of the Engineer.

In some instances, natural, suitable bedding material may not be encountered during the normal excavation of the trench. When the material encountered is determined, by the Engineer, as unsuitable, the contractor shall provide and place approved available bedding from surplus material stockpiled from previous excavation or other excavation then in progress on the project, at no additional compensation.

E. Protecting Underground and Surface Utilities

Temporary support, adequate protection, and maintenance of all underground and surface utility structures, drains, sewers, and other obstructions encountered in the progress of the work shall be furnished by the contractor, at his own expense, under the direction of the Engineer.

F. Deviations Occasioned by Other Utility Structures

Wherever existing utility structures or branch connections leading to main sewers or to main drains, or other conduits, ducts, pipes, or structures present obstructions to the grade and alignment of the pipe, they shall be permanently supported, removed, relocated, or reconstructed by the contractor through cooperation with the owner of the utility, structure, or obstruction involved. In those instances where their relocation or reconstruction is impractical, a deviation from line and grade will be ordered and the change will be made in the manner directed.

3.3 PIPE TIES

- A. Pipe tie back rods shall be, at a minimum, installed between the last four (4) segments (three [3] sets of rods) of RCP pipe which daylight to exposed grades.
- B. Install additional tie rods as indicated in the drawings.

3.4 BACKFILLING

A. General

Backfill will include placement and compaction of material in the trench from the top of the bedding to the bottom of the street surfacing or finished grade. All backfilling shall be performed in accordance with MnDOT 2451 and Section 02221 of these Special Provisions.

3.5 CLEANING

- A. Clean debris from all pipe, manholes, and inlets upon completion of grading and/or paving operations.

3.6 DEWATERING FOR CONSTRUCTION

- A. The contractor shall provide all equipment and personnel necessary to conduct dewatering operations, which are required for the proper completion of the work. The contractor shall prepare a dewatering plan and submit it to the Owner for review prior to starting dewatering operations. The plan shall include a description of the proposed dewatering methods and maps or drawings indicating the locations of dewatering facilities and the points of surface discharge of the water. Review of the dewatering plan does not relieve the contractor of the dewatering requirements stated in these Special Provisions.
- B. The contractor will be responsible for obtaining a water appropriation permit from the Department of Natural Resources (DNR) and complying with all requirements contained in said permit. The contractor shall forward a copy of the approved permit to the Engineer prior to beginning dewatering activities.
- C. Dewatering shall be done in a manner, which ensures safe working conditions and provides stable trench side slopes and trench bottom for adequate support of the pipe and appurtenances. The contractor must dewater sufficiently to minimize or eliminate groundwater pressures below the proposed trench bottom, which otherwise may tend to cause a boiling or "quick" condition at the trench bottom. Where silty sands or other impervious soils are encountered at and/or below the pipe zone, the dewatering equipment must be adequate to relieve the groundwater pressure below the impervious soil layer and accomplish sufficient drainage of the impervious soils to provide a stable trench bottom.
- D. All dewatering shall comply with the requirements of the project's Stormwater Pollution Prevention Plan (SWPPP).
- E. The contractor shall notify the Engineer at least three (3) days in advance of any proposed changes in his dewatering plan.
- F. If the trench bottom is otherwise suitable firm material but becomes soft and muddy due to the presence of water, through the fault or negligence of the contractor, the soft

material shall be removed to firm natural soil or as the Engineer directs. Such excavation and disposal of soft material and subsequent replacement with granular material to stabilize the trench bottom shall be classed as incidental work.

- G. All dewatering shall be considered incidental to the sewer construction and no direct payment will be made therefore.

PART 4 – MEASUREMENT AND PAYMENT

4.1 EXCAVATION AND BACKFILL

- A. All sewer trench excavation and backfill shall be classed as incidental work, except when identified as unit bid items.

4.2 STORM SEWER PIPE

- A. Storm sewer pipe of each type of material furnished and installed, diameter, classification, etc. shall be measured separately, by length, in linear feet (LF). Measurement will be made along the centerline of the sewer from center to center of manholes, catch basins, or junction fittings.

4.3 INCIDENTAL ITEMS

- A. Incidental work for which no direct compensation shall be made consists of, but is not limited to, the following items:
 - 1) Dewatering
 - 2) Connection to existing storm sewer systems and manholes
 - 3) Tie rods
 - 4) Granular bedding material

END OF SECTION

SECTION 02735 – CASTING ADJUSTMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES:

- A. This work shall consist of the interim and final elevation adjustments of manhole, gate valve boxes, and other such devices.

PART 2 - MATERIALS

2.1 ADJUSTING RINGS

- A. Shall be HDPE unless otherwise indicated in the contract documents or approved by the Engineer. Plastic adjusting rings will not be allowed unless approved by the Engineer.

2.2 CONCRETE MIXTURE

- A. Concrete used for adjustments shall meet the requirements of MnDOT Mix Designation 3A32.

2.3 METAL INSERT ADJUSTING RINGS

- A. Metal insert adjusting rings, which are inserted on or within existing castings for the purpose of elevation adjustment, will only be allowed with the approval of the Engineer.

PART 3 – CONSTRUCTION REQUIREMENTS

3.1 GATE VALVE BOX ADJUSTMENTS

- A. Shall be made by turning or lifting the box only
- B. Valve boxes damaged during adjustment shall be repaired or replaced by the contractor at no expense to the Owner.

3.2 MANHOLE AND CATCH BASIN ADJUSTMENTS

- A. Shall be made by removing the casting assembly, if necessary, and adding the appropriate amount of adjusting rings and metal shims only.
- B. Castings shall be adjusted in a manner that will result in the casting having a slope similar to the finished surface.
- C. Adjustments shall include removing the existing cone section, adding a new 3 foot extension and the new cone structure.

3.3 INITIAL AND INTERIM ADJUSTMENT ELEVATIONS

- A. The top elevations of all catch basin and manhole castings shall be left eight (8) to twelve (12) inches below the final finished grade as shown on the drawings until such time that the bituminous base course has been placed.

- B. Upon completion of the bituminous base course, the valve boxes, designated by the Owner or Engineer, shall be adjusted to within one-half ($\frac{1}{2}$) inch below the base course surface. Bituminous mixture shall then be used to patch any bituminous base removed for the adjustment.

3.4 FINAL ADJUSTMENTS

- A. Castings shall be adjusted to an elevation one-half ($\frac{1}{2}$) inch below the finished surface elevation and mortared in place. A tolerance of \pm one-quarter ($\frac{1}{4}$) inch will be allowed from this target elevation.
- B. The elevation of castings in lawn and unfinished areas shall be three (3) to (4) inches below the finished grade.

3.5 SEQUENCE

- A. Interim casting adjustments must be made within one (1) week of the completion of base course paving operations.
- B. Final casting adjustments shall be made at least forty-eight (48) hours but not more than ninety-six (96) hours prior to the placement of the bituminous base or wearing course.

3.6 ACCEPTANCE

- A. Upon completion of the final adjustments and placement of the bituminous wearing course, the Engineer will verify that the completed adjustments are within the elevation tolerance specified.
- B. Elevation tolerance will be verified by placing a ten (10) foot long straight edge across the center of the casting, in directions parallel and perpendicular to the flow of traffic. Measurement will then be made, in both positions of the straight edge, from the top center of the casting to the bottom of the straight edge.
- C. In the event that a casting adjustment fails to meet the specified tolerance, the contractor shall re-adjust the casting, as specified, at no expense to the Owner.

3.7 RE-ADJUSTMENT REQUIREMENTS

- A. Re-adjustment of castings shall be made only by the following procedure:
 - 1) Sawcut a diamond shaped area, centered on the casting, and remove all pavement.
 - 2) A six (6) foot by six (6) foot area shall be cut and removed for manhole castings and a two (2) foot by two (2) foot area shall be cut and removed for gate valve box castings.
 - 3) Re-adjust casting elevation to specified tolerance.
 - 4) Place No. 4 rebar three (3) inches inside the outer edge of sawcut line. Rebar shall be placed four (4) inches below finished surface.
 - 5) Place concrete mixture within the full depth of the void resulting from the bituminous pavement removal. Remove aggregate base, as necessary, to achieve a minimum concrete depth of six (6) inches. Concrete must meet the specifications for MnDOT Mix Designation 3A32.

- 6) Trowel concrete to create a uniform surface profile and provide a broomed finish.
 - 7) Control joints shall be formed into finished surface extending out from casting, in four (4) perpendicular directions, to the sawcut line.
- B. Bituminous mixture shall not be used in lieu of concrete mixture for purposes of patching adjacent to the re-adjustment.
- C. All casting re-adjustments will be made in the manner specified at no expense to the Owner.

PART 4 – MEASUREMENT AND PAYMENT

4.1 CASTING ADJUSTMENTS

- A. Payment shall be made on an each basis for adjustment of manhole and gate valve castings under the respective bid items, “Adjust Frame Ring and Casting” and “Adjust Gate Valve Box.” Payment will be made for each type of casting, as directed by the Engineer. The contractor will be paid separately for interim and final adjustments.
- B. Payment for adjusting each unit as specified shall be compensation in full for all labor and materials to adjust the structures to the necessary elevations as indicated on the drawings.
- C. Payment for adjustments will not be made until the Engineer has verified that the adjustment is within the specified tolerance. Payment will be withheld on adjustments not meeting the specified elevation tolerance.

END OF SECTION

SECTION 02940 – SEEDING & SODDING

PART 1 GENERAL

1.1 WORK INCLUDES

- A. Topsoiling Preparation
- B. Fertilizing
- C. Seeding
- D. Sodding
- E. Hydromulching
- F. Bonded Fiber Matrix (Not Used on this Project)
- G. Watering

1.2 UNIT PRICES

- A. Seeding: Paid at unit price per acre.
- B. Sodding: Paid at the unit price per Square Yard.
- C. Bonded Fiber Matrix: Paid at the unit price per square yard.(Not Used on this Project)
- D. Hydromulching: Incidental to the cost of seeding and not paid for directly.
- E. Topsoil Preparation: Incidental to paving operations and not paid for directly.
- F. Fertilizing and Watering: Incidental to seeding and sodding and not paid for directly.

1.3 ENVIRONMENTAL CONDITIONS

- A. Seeding: Do not seed when wind exceeds 15 MPH, on standing water or frozen ground, or when soil is excessively wet.
- B. Sodding: Do not use frozen sod or place sod on frozen soil. Do not place sod when temperature is below 32°F, or when soil is excessively wet. Between June 1 and September 15, sod shall not be cut more than 24 hours in advance of delivery.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Topsoil: Shall be natural soil, loose, friable loamy, free of subsoil, toxic substances, objectionable weeds, and debris larger than one inch in diameter, that has produced healthy crops or grasses.

- B. Fertilizer: Shall be 5-10-5.
- C. Sod: Sod shall consist of densely-rooted bluegrass or other permanent turf grasses as approved by the engineer. The sod shall be cut in uniform strips of not less than 12-inches in width and to a uniform thickness of 0.75-inch or more as necessary so that a dense root system is established on the bottom side of the sod. Sod shall be free of clippings and debris with a top growth of 1-3 inches.
- D. Seed: Shall be labeled in accordance with USDA Rules and Regulations under The Federal Seed Act. Wet, moldy or otherwise damaged seed will not be accepted. Weed seed not to exceed 0.5 percent of total mixture. Mixture and minimum purity requirements as follows:

Mix 1 (Parks, Boulevards, Lawns):

Grass Species	Percent by Weight	Purity	Percent Pure Live Seed
Glade Kentucky Blue	25	90	80
Park Kentucky Blue	25	90	80
Creeping Red Fescue	25	90	80
Perennial Rye Grass	25	95	90

Rate of Seeding = 220 pounds per Acre

- E. **Hydromulch:** All seeded areas shall be Hydromulched, excluding areas where erosion control blanket is used. Hydromulch shall be a wood cellulose fiber (not sawdust). The mulch shall have an approved tacking and bonding agent to ensure long lasting stabilization and reduce erosion potential. The tackifier shall be installed as per the manufacturer's recommendation.
- F. **Bonded Fiber Matrix (BFM):** (NOT USED FOR THIS PROJECT) Bonded Fiber Matrix shall be applied to the seeded areas on the inslopes of the pond. BFM shall be a commercially available matrix for use in spray applications. BFM shall be "Soil Guard", manufactured by Weyerhaeuser or approved equal.
- G. All areas that require seeding past September 15th shall be dormant seeded with an approved MNDOT dormant seed mix suitable for the areas.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify locations to be seeded or sodded are free of stones, sticks, roots and other debris. Any debris shall be disposed of by the Contractor at no additional cost to the Owner.

3.2 PREPARATION

- A. Topsoiling: Shape area to required cross section and contour and place topsoil to a minimum of 6 inches in depth in the areas as shown in the plan.
- B. Fertilizing: Fertilizer shall be applied prior to seeding. Apply fertilizer uniformly and at a rate of 10 (ten) pounds per 1000 square feet, or 450 pounds per acre, and work into topsoil.
- C. Seeding: Soil shall be moist when seeding. Seed shall be mechanically sown with a drill or Brillion type seeder. Seed may be broadcast sown in small areas and covered 1/2 inch by a harrow or approved device. Apply seed uniformly at the specified rate for the mix.
- D. Sodding: Soil shall be loosened and brought to a reasonably fine granular texture to a depth not less than 1-inch. Earth bed shall be moistened to the loose depth.
- E. Mulch:
 - 1. Hydromulch: Shall be spray applied to the seeded soil to provide uniform coverage while allowing percolation of water to the seedbed. Hydromulch shall be applied at a rate of 2000 pounds/acre (based on the dry weight of mulch).
- F. Bonded Fiber Matrix: (NOT USED ON THIS PROJECT) BFM shall be spray applied to the seeded soil to provide uniform coverage and stabilization for the seedbed. BFM shall be applied in two equal lifts perpendicular to each other. The total application rate of the two lifts shall be 3500 pounds/acre for the slopes (based on dry weight of matrix).
- G. Watering: Seeded areas shall be watered until a good stand of grass is obtained. Sod shall be watered daily or as necessary until permanent root growth is established. All costs of watering are incidental to seeding or sodding.

3.3 PROTECTION

- A. Seeded areas damaged as a result of the Contractor's activities shall be replaced at no expense to the Owner for a period of at least 30 days after turf has been established.
- B. Dormant seeded areas that are dead, damaged or barren after the growing season begins in 2007 shall be reseeded at no expense to the Owner.
- C. Sod shall be maintained for 30 growing days. The engineer will then make final inspection and consider acceptance of the sod. A growing day is any calendar day exclusive of those days from June 10 to August 10 and from November 1 to April 15, subject to adjustments in the contract. The above dates may be lengthened or shortened by 15 days depending on favorable or unfavorable conditions. During the maintenance period the contractor shall replace all sod that dries out to the point where it is presumed dead, damaged, displaced or heavily infected with weeds. Replaced sod shall be maintained for 20 growing days after placement.

END OF SECTION

SECTION 02941 - TREES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This work includes the planting and transplanting of trees.

1.2 GOVERNING SPECIFICATIONS

- A. MnDOT Specification 2571 shall govern.

PART 2 – MATERIALS

1.1 Not Used

PART 3 – CONSTRUCTION REQUIREMENTS

3.1 PLANTING & TRANSPLANTING

- A. The contractor shall notify the Owner upon delivery to the trees to the site. All trees must be inspected and approved by the Owner prior to planting.
- A. The plantings shall take place in September, 2010.
- C. Trees that are specified to be transplanted or moved must be moved with an appropriate sized tree spade. Trees may not be transplanted until a meeting is completed with the home owner, engineer, and contractor.
- D. Plantings must be maintained for a period of one (1) year following the initial planting. Maintenance shall include, but not be limited to, pruning of dead or random limbs, watering, replacing bark mulch around trunk, and removing stakes and guys, if requested by the Owner.

PART 4 – MEASUREMENT AND PAYMENT

4.1 BASIS OF PAYMENT

- A. Payment will be made at the contract price per unit of measure for each type of tree furnished, installed, and maintained as shown on the Drawings.

4.2 INCIDENTAL ITEMS

- A. Staking and Guying
- B. Watering
- C. Pruning
- D. Mulch

END OF SECTION

SECTION 03300 - CAST-IN-PLACE CONCRETE FOR FLOOD WALL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete formwork.
- B. Concrete Flood Walls and Foundations.
- C. Concrete reinforcement.
- D. Joint devices associated with concrete work.
- E. Concrete curing.

1.2 REFERENCE STANDARDS

- A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; American Concrete Institute International; 2006.
- B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).
- C. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 2005.
- D. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004 (Errata 2007).
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- F. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 1999.
- G. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 1988 (Reapproved 2002).
- H. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001 (Reapproved 2008).
- I. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2008.
- J. ACI 347 - Guide to Formwork for Concrete; American Concrete Institute International; 2004.
- K. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2007.
- L. ASTM C 33 - Standard Specification for Concrete Aggregates; 2007.
- M. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2005.
- N. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete; 2007.
- O. ASTM C 143/C 143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2008.
- P. ASTM C 150 - Standard Specification for Portland Cement; 2007.
- Q. ASTM C 173/C 173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2008a.

- R. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete; 2006.
- S. ASTM C 309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2007.
- T. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete; 2008a.
- U. ASTM C 618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2008a.
- V. ASTM C 881/C 881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2002.
- W. ASTM C 1059 - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 1999 (Reapproved 2008).

1.3 SUBMITTALS

- A. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements.
- B. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.4 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
- B. Follow recommendations of ACI 305R when concreting during hot weather.
- C. Follow recommendations of ACI 306R when concreting during cold weather.

PART 2 PRODUCTS

2.1 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI 347 to provide formwork that will produce concrete complying with tolerances of ACI 117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Form Facing for Exposed Finish Concrete: Use formliner as noted on drawings.
 - 2. Earth Cuts: Do not use earth cuts as forms for vertical surfaces. Natural rock formations that maintain a stable vertical edge may be used as side forms.
 - 3. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
 - 4. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

2.2 REINFORCEMENT

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 60 (420).
 - 1. Type: Deformed billet-steel bars.
 - 2. Finish: Unfinished, unless otherwise indicated.
- B. Reinforcement Accessories:
 - 1. Tie Wire: Annealed, minimum 16 gage.

2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
3. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches of weathering surfaces.

2.3 CONCRETE MATERIALS

- A. Cement: ASTM C 150, Type I - Normal portland type.
 1. Acquire all cement for entire project from same source.
- B. Fine and Coarse Aggregates: ASTM C 33.
 1. Acquire all aggregates for entire project from same source.
- C. Fly Ash: ASTM C 618, Class C or F.
- D. Water: Clean and not detrimental to concrete.

2.4 CHEMICAL ADMIXTURES

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- B. Air Entrainment Admixture: ASTM C 260.
- C. High Range Water Reducing and Retarding Admixture: ASTM C 494/C 494M Type G.
- D. High Range Water Reducing Admixture: ASTM C 494/C 494M Type F.
- E. Water Reducing and Accelerating Admixture: ASTM C 494/C 494M Type E.
- F. Water Reducing and Retarding Admixture: ASTM C 494/C 494M Type D.
- G. Accelerating Admixture: ASTM C 494/C 494M Type C.
- H. Retarding Admixture: ASTM C 494/C 494M Type B.
- I. Water Reducing Admixture: ASTM C 494/C 494M Type A.

2.5 ACCESSORY MATERIALS

- A. Liquid Curing Compound: ASTM C 309, Type 1, clear or translucent.
- B. Provide a rubber sleeve for all pipe penetrations.

2.6 BONDING AND JOINTING PRODUCTS

- A. Latex Bonding Agent: Non-dispersible acrylic latex, complying with ASTM C 1059 Type II.
- B. Epoxy Bonding System: Complying with ASTM C 881/C 881M and of Type required for specific application.

2.7 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of trial mixtures, as specified in ACI 301.
 1. For trial mixtures method, employ independent testing agency acceptable to Engineer for preparing and reporting proposed mix designs.

- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.
- D. Normal Weight Concrete:
 - 1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 4000 psi.
 - 2. Fly Ash Content: Maximum 20 percent of cementitious materials by weight.
 - 3. Water-Cement Ratio: Maximum 50 percent by weight.
 - 4. Total Air Content: 4-6 percent, determined in accordance with ASTM C 173/C 173M.
 - 5. Maximum Aggregate Size: 3/4 inch.

2.8 MIXING

- A. Transit Mixers: Comply with ASTM C 94/C 94M.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.2 PREPARATION

- A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
- B. Verify that forms are clean and free of rust before applying release agent.
- C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- D. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
 - 1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
 - 2. Use latex bonding agent only for non-load-bearing applications.

3.3 INSTALLING REINFORCEMENT

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.4 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. Notify Engineer not less than 24 hours prior to commencement of placement operations.

- D. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- E. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- F. Place concrete continuously between predetermined expansion, control, and construction joints.
- G. Do not interrupt successive placement; do not permit cold joints to occur.

3.5 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height.

3.6 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 1. Normal concrete: Not less than 7 days.
- C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.
- D. Surfaces Not in Contact with Forms:
 - 1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by saturated burlap.
 - 2. Final Curing: Begin after initial curing but before surface is dry.
 - a. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

3.7 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Submit proposed mix design to inspection and testing firm for review prior to commencement of concrete operations.
- D. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
- E. Compressive Strength Tests: ASTM C 39/C 39M. For each test, mold and cure three concrete test cylinders. Obtain test samples for every 50 cu yd or less of each class of concrete placed.
- F. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

- G. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C 143/C 143M.

3.8 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Engineer and Contractor within 24 hours of test.
- B. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- C. Repair or replacement of defective concrete will be determined by the Engineer. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.

END OF SECTION

SECTION 03451 - ARCHITECTURAL PRECAST CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Architectural precast concrete wall caps.
- B. Supports, anchors, and attachments.
- C. Intermediate joint seals.
- D. Grouting under panels.

1.2 RELATED REQUIREMENTS

- A. Section 03300 - Cast-in-Place Concrete: Admixtures.

1.3 REFERENCE STANDARDS

- A. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2008.
- B. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel; 2005.
- C. ASTM A 123/A 123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2002.
- D. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2005.
- E. ASTM A 325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2009.
- F. ASTM A 325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Tensile Strength (Metric); 2009.
- G. ASTM A 563 - Standard Specification for Carbon and Alloy Steel Nuts; 2007a.
- H. ASTM A 563M - Standard Specification for Carbon and Alloy Steel Nuts [Metric]; 2007.
- I. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2007.
- J. ASTM C 31/C 31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field; 2008.
- K. ASTM C 33 - Standard Specification for Concrete Aggregates; 2007.
- L. ASTM C 150 - Standard Specification for Portland Cement; 2007.
- M. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete; 2006.
- N. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2010.
- O. AWS D1.4/D1.4M - Structural Welding Code - Reinforcing Steel; American Welding Society; 2005.
- P. PCI MNL-117 - Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products; Precast/Prestressed Concrete Institute; 2005.
- Q. PCI MNL-120 - PCI Design Handbook - Precast and Prestressed Concrete; Precast/Prestressed Concrete Institute; Sixth Edition, 2004.

- R. PCI MNL-122 - Architectural Precast Concrete; Precast/Prestressed Concrete Institute; 2007, Third Edition.
- S. PCI MNL-123 - Design and Typical Details of Connections for Precast and Prestressed Concrete; Precast/Prestressed Concrete Institute; 1988, Second Edition.
- T. PCI MNL-135 - Tolerance Manual for Precast and Prestressed Concrete Construction; Precast/Prestressed Concrete Institute; 2000.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's information on accessory products, including pigments, admixtures, inserts, plates, etc.
- B. Shop Drawings: Indicate layout, unit locations, configuration, unit identification marks, reinforcement, connection details, support items, location of lifting devices, dimensions, openings, and relationship to adjacent materials. Provide erection drawings.
- C. Samples: Submit two caps, 12x12 inch in size, illustrating surface finish, color and texture.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications:
 - 1. Firm having at least 5 years of experience in production of precast concrete of the type required.
 - 2. Plant certified under Precast/Prestressed Concrete Institute Plant Certification Program; product group and category A1 - Architectural Precast Concrete.
- B. Welder: Qualified within previous 12 months in accordance with AWS D1.1 and AWS D1.4.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Handling: Lift and support precast units only from support points.
- B. Blocking and Lateral Support During Transport and Storage: Use materials that are clean, non-staining, and non-harmful to exposed surfaces. Provide temporary lateral support to prevent bowing and warping.
- C. Protect units to prevent staining, chipping, or spalling of concrete.
- D. Mark units with date of production in location that will be concealed after installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Architectural Precast Concrete:
 - 1. Any manufacturer holding a PCI Group A Plant Certification for the types of products specified; see www.pci.org.

2.2 PRECAST UNITS

- A. Precast Architectural Concrete Units: Comply with PCI MNL-120, PCI MNL-122, PCI MNL-123, PCI MNL-135, and ACI 318.
 - 1. Concrete: Minimum 5000 psi, 28 day strength, air entrained to 5 to 7 percent; comply with ACI 301.

2. Design Loads: Static loads, anticipated dynamic loading, including positive and negative wind loads, thermal movement loads, and erection forces as defined by 2005 ASCE 7.
3. Calculate structural properties of units in accordance with ACI 318.
4. Accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.
5. Provide connections that accommodate building movement and thermal movement and adjust to misalignment of structure without unit distortion or damage.

2.3 REINFORCEMENT

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 60 (420).
 1. Deformed billet-steel bars.
 2. Unfinished.

2.4 CONCRETE MATERIALS

- A. Cement: ASTM C 150, Type I - Normal Portland type.
- B. Fine and Coarse Structural Aggregates: ASTM C 33.
- C. Surface Finish Aggregate: Clean, washed natural gravel; 3/8 inch size, gray color (as approved by owner), from single source throughout conforming to ASTM C 33.
- D. Water: Clean and not detrimental to concrete.
- E. Air Entrainment Admixture: ASTM C 260.

2.5 SUPPORT DEVICES

- A. Connecting and Support Devices: ASTM A 36/A 36M steel; hot-dip galvanized in accordance with ASTM A153/A 153M.
 1. Clean surfaces of rust, scale, grease, and foreign matter.
 2. Galvanize after fabrication in accordance with requirements of ASTM A 123/A 123M.
- B. Bolts, Nuts, and Washers: ASTM A 325 (A 325M) heavy hex structural bolts, Type 1, plain, with matching ASTM A 563 (A 563M) nuts, and washers as follows:

2.6 FABRICATION

- A. Fabricate in conformance with PCI MNL-117 and PCI MNL-135.
- B. Maintain plant records and quality control program during production of precast units. Make records available upon request.
- C. Use rigid molds, constructed to maintain precast unit uniform in shape, size, and finish.
- D. Maintain consistent quality during manufacture.
- E. Fabricate connecting devices, plates, angles, items fit to steel framing members, inserts, bolts, and accessories. Fabricate to permit initial placement and final attachment.
- F. Embed reinforcing steel, anchors, inserts plates, angles, and other cast-in items.
- G. Locate hoisting devices to permit removal after erection.

- H. Cure units to develop concrete quality, and to minimize appearance blemishes such as non-uniformity, staining, or surface cracking.
- I. Minor patching in plant is acceptable, providing structural adequacy and appearance of units is not impaired.
- J. Manufacture wall caps with grooved joints at 4 ft on center. Place construction joints at 4 ft intervals.

2.7 FABRICATION TOLERANCES

- A. Conform to PCI MNL-117 and PCI MNL-135.

2.8 SOURCE QUALITY CONTROL

- A. Provide testing of concrete mix.
- B. Take 3 concrete test cylinders for every 50 cu yd of concrete placed; make and cure in accordance with ASTM C 31/C 31M.
- C. Take one air entrainment test cylinders for each set of exterior concrete test cylinders taken.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that building structure, anchors, devices, and openings are ready to receive work of this section.

3.2 PREPARATION

- A. Provide for erection procedures and induced loads during erection. Maintain temporary bracing in place until final support is provided.

3.3 ERECTION

- A. Erect units without damage to shape or finish. Replace or repair damaged panels.
- B. Erect units level and plumb within allowable tolerances.
- C. Align and maintain uniform horizontal and vertical joints as erection progresses.
- D. When units require adjustment beyond design or tolerance criteria, discontinue affected work; advise Engineer.
- E. Fasten units in place with mechanical connections.
- F. Set vertical units dry, without grout, attaining joint dimension with lead or plastic spacers. Pack grout to base of unit.
- G. Exposed Joint Dimension: 3/4 inch. Adjust units so that joint dimensions are within tolerances.
- H. Seal joints with Polyurethane joint sealant with thickness as recommended by sealant manufacturer. Tool all joints after sealing. Provide backer rod as recommended by sealant manufacturer.

END OF SECTION

SECTION 05550 - REMOVABLE FLOOD WALLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Design, fabricate, and construct a demountable flood control system.

1.2 REFERENCES

- A. American Society of Civil Engineers (ASCE): ASCE 7-05 Minimum Design Loads for Buildings and Other Structures.
- B. American Welding Society (AWS): Structural Welding Code D1.1.
- C. American Society for Testing and Materials (ASTM)
- D. U.S. Army Corps of Engineers Engineering Design Manuals EM 1110-2-2502 & 1110-2-2105 9 (as they relate to inland stoplog closure structures) Allowable Stress Provisions

1.3 SYSTEM DESIGN REQUIREMENTS

- A. Design, fabricate, and construct a demountable flood control system to the extent shown, complying with the following design requirements.
 - 1. Hydrostatic Pressure: As determined by ASCE 7 for heights and lengths shown.
 - 2. Impact Force: As determined by ASCE 7 and as shown on the drawings.
 - 3. Seepage/Leakage; Minimal leakage (0.05 gph/square foot) when subjected to hydrostatic and hydrodynamic pressure determined above.
 - 4. All joints will have gaskets.
 - 5. Demountable flood control system shall establish watertight infill at areas shown by means of a modular system requiring minimal labor force. After foundation, sidewalls, base plates, and other permanent features are installed, system shall be designed to permit complete installation of demountable components by hand labor, to the extent possible.
- B. System component modular design shall permit use of each similar component at every similar location (accept as specifically noted on drawings).
- C. Each section of demountable floodwall, closures barrier, and dike system shall be independent of adjacent sections, allowing erectors to install demountable system components either continuously or in sections.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's complete catalog file, including material and component list.
- B. Samples: Samples of the following materials which the Contractor proposes for use shall be submitted to the Engineer for approval at least thirty (30) days prior to use:
 - 1. 1 S.S.Coil Loop Anchor
 - 2. 1 Coil Threaded Bolt
 - 3. S.S.“Headless” Coil Threaded Bolt
 - 4. Sample of Aluminum Panel with installed gaskets
 - 5. Sample EPDM with HAT Adhesive applied.

- C. Shop Drawings: Submit complete shop drawings demonstrating compliance of flood control system with Contract Documents. Drawings shall include shop and erection details, wall details, bulkheads, base, and end conditions, including system components.
- D. Operation and Maintenance Manual: Submit operation and maintenance manuals for flood control system.

1.5 QUALIFICATIONS

- A. The work shall be performed by a U.S. based manufacturer, specializing in the specified flood control system, having experience supplying and installing the specified system under similar conditions for a minimum of ten (10) years in the United States.
- B. Compliance with Federal Contract & Labor Laws
- C. Federal Supplementary Conditions [includes "BUY AMERICAN"]

1.6 QUALITY CONTROL TEST

- A. Test Reports: Certified test reports may be submitted in lieu of performing project specific tests.
- B. The Contractor shall demonstrate installation procedure to interested parties upon completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Components shall be undamaged when delivered to site and shall be handled and stored so as to prevent damage, including attention to gaskets.
- B. Protect from exposure to damaging liquids, oils and greases.

1.8 WARRANTY

- A. Furnish the manufacturer's warranty for system and for component repair or replacement. The warranty shall be issued directly to the Owners. The warranty period shall be for one (1) year from the date of Owners acceptance of work.

1.9 SPARE PARTS

- A. Furnish spare gaskets for maintenance and replacement in the amount of ten percent of each type of gasket.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Beam Material: ASTM A-572
- B. Angle Brace: ASTM A-36
- C. Plate and Bar: ASTM A-36
- D. Sole Plate Material: ASTM A-569 Commercial quality Hot rolled 36 KSI minimum yield
- E. Bolts and Nuts: ASTM A-325
- F. Anchor Bolts: Meadow-Burke (or equivalent) CB- 2, 1" Diameter x 6" length; "Headless" 6" long.
- G. Anchors: Meadow - Burke (or equivalent) CX - 8, 1" diameter, stainless steel.
- H. Steel Plate, Shapes, and Bars at Steel Support Components: ASTM A-36M (A36). Hot dip galvanize per ASTM A-123.

- I. Fabricate galvanized steel support members with gasket for use with 3-M adhesive (HAT) for vertical gaskets.
- J. Aluminum Extrusions: ASTM B-221M (B221). Alloy 6063-T6. Extrude aluminum tubes for demountable flood control system, with profiles for receiving and locking replaceable gaskets. Tube profiles shall establish nesting of tubes for vertical interlocking.
- K. Gaskets: Each portion of extrusion shall be configured to form seal between:
 - 1. Base gasket - 70 Durometer Pero. EPDM PRE-SET BULB
 - 2. Standard gasket between planks - Closed Cell EPDM Custom Sponge Gasket
 - 3. Vertical supports - Closed Cell EPDM Sponge Gasket with 1" 3M 4987 Heat Activated Tape Applied.
- L. Gaskets shall be custom fabricated for flood control applications, easily replaceable in extrusions and at support channels, free from cracks, burns, warp, checks, chipped or blistered surfaces, and shall have a smooth surface.
- M. EPDM gasket material meets "Typical Performance Characteristics" as defined in the following ASTM specification:
 - 1. Compression/Deflection -D - 1056
 - 2. Compression Set - D- 395 (Method B)
 - 3. Dimensional Stability - D- 1056 (Method D865)
 - 4. Ozone Resistance - D - 1149
 - 5. Brittleness - D - 746
 - 6. Water Absorption - D - 1056
 - 7. Flame Propagation - C - 509 (Option II)

2.2 FABRICATION

- A. The metals used in fabrication shall be free from kinks, sharp bends and other conditions which would be detrimental to the finished product. Manufacturing processes shall be done (in the U.S. made of domestic materials) neatly and accurately, make bends by control means to insure uniformity of size and shape.
- B. Vertical hold down clamps and all fabricated steel shall be galvanized.
- C. Anchor Assembly: Typical manufactured concrete anchor to include bolts for erection and "headless" bolts for protecting hole during period when wall is not in use.

2.3 MANUFACTURER

- A. Acceptable Manufacturers:
 - 1. Flood Control America, LLC. Removable Flood Control Wall (RFCW)
 - 2. Or approved equal

END OF SECTION

SPECIAL PROVISIONS

2010 H.H.I.C Area Flood Mitigation Project

Engr. No 09-A13-2G

Legal No. A13-2G-09

1. **Specifications:** The Minnesota Department of Transportation (MnDOT) Standard Specification for Construction, 2005 Edition, shall govern all work on this project except as noted in City specifications or special provisions included in this contract. Where the terms "City", "Department", "Contracting Authority" and "Commissioner" appear in the MnDOT specifications, they shall be construed to mean "City of Moorhead".
2. **Permits, Licenses and Taxes (MnDOT 1702):** MnDOT 1702 is modified as follows: The City has applied for the following permits:

- a.) MPCA – NPDES General Stormwater Permit

The Contractor shall comply with the construction requirements of the above permits. The Contractor shall become a co-permittee with the City for the General Storm Water Permit in accordance with the Special Provisions and Section 00900 of these specifications. The Contractor shall procure all other permits required for the completion of the work.

3. **Subletting of Contract (MnDOT 1801):** MnDOT 1801 is modified as follows: The contractor may sublet up to 50 percent of the total original contract cost without obtaining written consent from the Engineer. However, the Engineer reserves the right to consider the qualifications of the subcontractors prior to awarding the bid.
4. **Prosecution of Work (MnDOT 1803):** MnDOT 1803 is modified as follows: The contractor will not be required to prepare a bar chart or critical path diagram progress schedule for this contract as specified in MnDOT specification 1803.1. However, the Contractor shall commence work and continue to work on site with adequate personnel and equipment to make significant progress (as determined by the Engineer) within 15 days after the "Notice to Proceed" is issued. Critical dates for the completion of significant stages of the work will be discussed at the Preconstruction Conference, and these dates shall be updated when requested by the Engineer.
5. **Determination and Extension of Contract Time (MnDOT 1806) and Failure to Complete the Work on Time (1807):** MnDOT 1806 and 1807 are modified as follows:

The City of Moorhead will receive bids on **August 18, 2010**. Upon validation of bids and identification of lowest responsible bidder, the city intends to award the contract on **August 23, 2010**. It is anticipated that the Notice-to-Proceed will be issued between August 30 and September 3, 2010. The substantial completion date for all work shall be on or before **October 29, 2010**.

The project shall be fully completed by **November 19, 2010**, including punch list items.

Liquidated damages in the amount of **\$500** per calendar day will be assessed for each day that either the substantial completion or the final completion dates are not satisfied.

6. **Preconstruction Conference:** The contractor and the Engineer shall arrange a preconstruction conference involving all interested parties to this project. This conference will include discussion of the proposed method of construction, construction schedule, coordination between contractors, traffic signing and routing, existing and proposed utilities, effect of construction on area residents and other problems that may be encountered.
7. **Partial Payments (MnDOT 1906):** MnDOT 1906 is modified as follows: Partial payment requests shall be submitted to the Engineer for review and approval a **minimum of 12 days** prior to the City Council meeting at which the payment will be considered. The City will withhold a **retainage in the amount of 5%** of the total work completed and materials on hand until the project is fully complete. However, the City may reduce the amount retained upon substantial completion provided that the amount retained is sufficient to protect the City's interests. Partial payments **will not** be processed until the MPCA General Storm Water Permit inspection and maintenance forms for the time period covered in the estimate have been submitted.
8. **Exemption from Surety Deposits for Out-of-State Contractors:** The contractor shall provide to the City a completed form SD-E, Exemption from Surety Deposit for Out-of-State Contractor. Upon receipt of this form, the City will forward to the Department of Revenue for Certification. **FAILURE BY THE OUT-OF-STATE CONTRACTOR TO PROVIDE THIS COMPLETED FORM WILL RESULT IN AN 8% RETAINAGE ON ALL PAY VOUCHERS UNTIL COMPLETION OF THE PROJECT.**
9. **Erosion and Pollution Control:** The Contractor shall sign the NPDES Application for Permit Transfer/Modification and become a co-permittee with the City of Moorhead for this project. The City will submit the completed permit application to the MPCA. The application form and the Inspection Log for the General Storm Water Permit for Construction Activity (MN R100001) are included in these specifications. The erosion and pollution control specifications for this project are located in section 00900 of the specifications, except as modified below.

The Contractor shall be solely responsible for complying with the Construction Activity Requirements (Part IV) of the General Permit until the permit has been transferred to another responsible party or a Notice of Termination has been completed and accepted. Wherever Part IV refers to Permittee, Owner and/or Operator, it shall be interpreted to mean "Contractor". This includes site inspections, documentation, record keeping, maintenance, remedial actions and repairs required by the Permit. Copies of all erosion control inspection and maintenance forms used on this project shall be submitted to the Engineer at least every two weeks. Pay requests will not be processed until the inspection and maintenance forms for the time period covered in the estimate have been submitted.

If the Contractor fails to perform the requirements as listed herein, the Engineer will issue a Work Order detailing the required action. The Contractor shall start the required action within 24 hours of receipt of the Work Order and continue the required action until the Project is brought into compliance with the permit. Failure to perform the required action as specified shall subject the Contractor to a \$1,000 per calendar day deduction.

Upon mobilization, the Contractor shall be responsible to maintain the in-place erosion control devices installed by others, to update them or modify them as necessary during construction, and to remove them upon final completion unless specified otherwise. This work shall be incidental to construction unless there is a specific bid item for the work. The Contractor shall be required to install the erosion control devices in advance of construction operations, where possible, and to install the remaining devices at the appropriate times in accordance with the MPCA General Storm Water Permit. Once installed, the Contractor shall be responsible to maintain the devices until they are no longer needed or until final completion of the contract and transfer of the Permit to another responsible party, or a Notice of Termination has been completed and approved. The Contractor shall be required to clean up material that is washed, tracked or otherwise eroded off site due to negligence in maintaining the erosion and pollution control devices. The Type C Inlet Protection devices shall be left in place upon final completion at which point they shall become the property and responsibility of the Developer.

Erosion Control devices installed as shown on the Erosion and Pollution Control Plan and as directed by the Engineer shall be measured and paid for in accordance with the contract unit prices. Inlet protection shall be measured once per inlet. Payment shall be considered full compensation for all labor, materials and equipment necessary to maintain inherited devices, and to upgrade the devices from one "Type" to another in accordance with the construction schedule and the plan details. Silt fence used for Inlet Protection, Type A, shall be incidental to the inlet protection bid item. All other erosion and pollution control devices shown on the plans but not included on the proposal form shall be incidental to construction. Maintenance of the devices shall be incidental.

10. **Final Payment (MnDOT 1908):** MnDOT 1908 is modified as follows: Final contract payment will not be processed until the City of Moorhead has received the State-Certified IC-134 Form.
11. **Designated Haul Roads (MnDOT 2051):** MnDOT 2051 is modified as follows: The Contractor shall be required to access the construction site from 1st Avenue North. Construction entrances must be provided at all locations where construction vehicles enter and exit the site, and drainage must be maintained at any temporary entrances. No construction traffic shall be permitted on any other adjacent existing City streets unless approved by the Engineer.
12. **Excavation and Embankment (MnDOT 2105):** MnDOT 2105 is modified as follows:

Subgrade Excavation (P):

This work shall consist of scarifying and recompacting the first 12 (twelve) inches of the subgrade below the aggregate base. Shaping of the subgrade shall occur prior to the placing of the Geotextile and aggregate base for the newly constructed street. The work shall be accomplished according to MnDOT 2105, these special provisions, and as directed by the engineer.

Compaction shall be as per the provisions of 2105 "Specified Density Method": The subgrade at the bottom of the subcut shall be compacted to 95% of the maximum density with maximum moisture content of 115% of optimum. The subcut shall be compacted to 98% of maximum density with a moisture content not to exceed 104% of the optimum moisture content. Subgrade excavation shall be paid for by the Contract Plan Quantity (P).

Measurement and Payment:

Volume is based on the width of the street from back of curb to back of curb plus 1 foot beyond the curb. "Subgrade Excavation" shall be paid for at the Contract Plan Quantity (P) at the unit price per Cubic Yard (CY).

Inspection Trench:

The quantity of excavation to be paid for shall be the number of cubic yards (CY) measured in its original position as determined by the average end area method. Measurements shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

Measurement & Payment:

Payment shall be made at the contract unit price per cubic yard (CY) as called out in the schedule of prices. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Unsuitable Excavation:

Any material containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in the construction of the levee embankment. Material, when approved, by the Engineer, as suitable to support vegetation, may be used on the embankment slope.

Measurement & Payment:

The quantity of excavation to be paid for shall be the number of cubic yards (CY) measured in its original position as determined by the average end area method. Measurements shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

Common Borrow:

Item shall consist of materials approved, by the Engineer, for use in the embankment construction or other specified purposes, as the Engineer considers suitable. Common borrow shall only be used, if on site materials are unsuitable for embankment or insufficient quantities exist.

Materials:

Material used to shape area to desired cross section shall be fat clay (CH) or lean clay (CL). Embankment shall be free of concrete, roots, stumps and rubbish, and shall have 100% passing the No. 4 sieve, a liquid limit is excess of 40% and a plasticity index in excess of 10% but not more than 50% and be classified by ASTM D2487.

BORROW EXCAVATION

- A. Borrow excavation shall be the responsibility of the contractor to obtain borrow material from an offsite location.

- B. Borrow sources, off site, shall be subject to the approval of the Engineer. Contractor shall give Engineer seven (7) days notice prior to beginning the excavation. Contractor shall obtain approval and agreement from landowner at borrow site.
- C. Expose vertical face of various strata to obtain a uniform product.
- D. Excavate to regular lines to permit accurate measurements.
- E. Borrow site shall be left neat and drained with slopes dressed uniformly. The restoration of all borrow sites shall be considered incidental.

EMBANKMENT COMPACTION – LEVEE SUBGRADE PREPARATION

- A. The placement and compaction of embankment material shall be by the Specified Density Method. Embankment shall be compacted to not less than ninety-five (95) percent of maximum density and no more than ninety-eight (98) percent of maximum density, as determined by ASTM D698. Moisture content shall be zero (0) to plus three (3) percent of optimum, as determined by ASTM D698.
- B. The final shaping and compacting of the levee embankment shall be done just prior to turf establishment operations.
- C. At the time subgrade preparation operations have been completed, the prepared surface shall be in reasonably close conformity with the cross sections shown on the drawings and the lines and grades, as directed by the Engineer.

Measurement and Payment:

Measurement will be made by the compacted volume (CV), cubic yard (CY) as called out in the Schedule of Prices. The volume placed will be determined by a field survey of the embankment area and calculated using the average end area method. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to haul, place and compact all offsite embankment materials to the cross sections show on the construction drawings.

Salvaged Topsoil:

The Contractor shall strip 100% of the topsoil in areas that will be graded, filled, or used for a staging area for construction operations. The stripped topsoil shall be salvaged and placed in stockpiles in areas approved by the engineer and owner. The Salvaged volume shall be determined by the depth of topsoil existing in areas where utilities and street will be constructed. **The assumed plan depth for this project is 12 inches.** Upon completion of excavation, grading and embankment, a minimum of 8 inches of topsoil shall be replaced from the stockpiles to all areas that will be seed or sod.

Topsoil stripping, stockpiling and replacement beyond the limits shown on the plans shall be incidental. The Contractor shall exercise care in salvaging the topsoil to minimize waste. The Engineer may order that different equipment or salvaging methods be used if the Engineer determines that the salvage operations being used are inadequate.

Measurement and Payment:

“Salvaged Topsoil” shall be paid for by the Contract Plan Quantity (P) at the unit price bid per Cubic Yard (CY). Payment shall include all work necessary to strip, stockpile, and replace topsoil.

13. **Geotextile Fabric:**

Geotextile fabric shall be installed for separation, stabilization and reinforcement of the subgrade as shown on the typical section and in accordance with the Manufacturer’s recommendations. Geotextile shall be woven geotextile **Mirafi type HP 465**, or approved equal. The geotextile shall meet the requirements of geotextile fabric, Type 5, in accordance with MnDOT 3733, except as modified herein. The geotextile shall have a minimum Grab Tensile Strength of 600 lbs, a minimum Grab Tensile Elongation of 15%, and a minimum Wide Width Tensile Strength of 3600 lbs/ft.

Construction Requirements:

The prepared surface shall be relatively smooth and free of stones, sticks, or other debris that would tend to puncture or tear the Geotextile. Geotextile shall be sewn using a “double spool” machine capable of sewing federal Type 401 locking stitch. Seam type “J” seam, thread strength 25 pounds minimum, number of rows of stitching (1 or 2) and stitches per inch (typical 5-7) shall be consistent with achieving the required seam strength and as recommended by the manufacturer. Fabric may be installed parallel with or perpendicular to the street centerline, in accordance with the manufacturer’s recommendations.

The Geotextile shall be adequately secured so that it is not displaced during subsequent construction. No traffic or construction equipment shall be permitted directly on the geotextile. Any damaged textile shall be repaired to the satisfaction of the engineer by patching and sewing.

Measurement and Payment:

Measurement of the area of Geotextile placed is under avenues are based on the width of the street from back of curb to back of curb plus 1.5 feet beyond the back of curb. Geotextile placed under sidewalk shall be a width of 12 feet. No allowances will be made for overlaps and seams.

Payment shall be made under item 2105.604 (Geotextile Fabric Type V) for the contract plan quantity (P) at the unit price bid per square yard (SY), which shall be compensation in full for all work including, but not limited to, Geotextile, sewing, placement, anchoring, and repairs.

14. **2211.503 – Aggregate Base, (CV), Class 5 (P):**

No substitutes for MnDOT Class 5 will be considered with this project.

Compaction shall be achieved by the “Specified Density Method” described in MnDOT 2211.3C. Water shall be applied to the base material during the mixing and spreading operations so that at the time of compaction the moisture content is not less than 5 percent of the dry weight.

MnDOT 2211.3C3a is hereby deleted in its entirety.

MnDOT 2211.3F2(d) is revised to read as follows:

(d) Samples for gradation testing will be taken randomly by the Engineer prior to compaction, in accordance with the random sampling method described in the Grading and Base Manual. All gradation tests will be reported to the nearest one-tenth of one percent for the specified sieves.

MnDOT 2211.3F2(f) is revised to read as follows:

(f) Each lot will be divided into four sublots.

MnDOT 2211.3F2(j) is revised to read as follows:

(j) One gradation sample will be taken from each subplot and tested. Payment will be based on the average results from the four subplot samples (to the nearest one-tenth of one percent) for each specified sieve.

The first paragraph after MnDOT 2211.3F2(k) is revised to read as follows:

The Engineer will have each sample tested in the field by a MnDOT Certified Tester or submit them to the laboratory approved by the Project Engineer for testing. A delay of at least 3 working days is anticipated before laboratory test results are available but a maximum of 8 working hours delay is anticipated for field gradations.

The following is hereby inserted after the second paragraph after MnDOT 2211.3F2(k):

A 5.0% price reduction will be assessed to both individual or averaged test lots for each test result that fails to meet specified gradations for sieve sizes not listed in Tables 2211-B and 2211-C by more than 2.0%. These price reductions are cumulative and shall be analyzed both separately and averaged by lot when applicable.

Tables 2211-B and 2211-C in MnDOT 2211.3F2 are hereby deleted and replaced with the following:

**Table 2211-B
AGGREGATE BASE PAYMENT SCHEDULE
(4 Sublots/4 Samples)**

% Passing Outside Specified Limits*		
4.75 mm (#4), 2.00 mm (#10), and 425 μ m (# 40) Sieves	75 μ m (#200) Sieve	Acceptance Method
0.1-1.0	0.1-0.3	5.0% price reduction
1.1-2.0	0.4-0.6	15.0% price reduction
>2.0	>0.6	Corrective action
<p>*Based on average of 4 tests Price reductions for more than one failing sieve size shall be cumulative. The compensation due to the Contractor for the quantity of material represented by the failing test results shall be reduced by the sum of the respective percentages.</p>		

**Table 2211-C
AGGREGATE BASE PAYMENT SCHEDULE
(Individual Test)**

% Passing Outside Specified Limits*		
4.75 mm (#4), 2.00 mm (#10), and 425 μ m (# 40) Sieves	75 μ m (#200) Sieve	Acceptance Method
0.1-1.0	0.1-1.0	Substantial compliance**
1.1-2.0	1.1-1.5	5.0% price reduction
2.1-3.0	1.6-2.5	15.0% price reduction
>3.0	>2.5	Corrective action
<p>* Based on individual sample test results. ** To be applied to occasional failure. If the material consistently fails to meet specification requirements, it will be subject to price reduction as determined by the Engineer. Price reductions for more than one failing sieve size shall be cumulative. The compensation due to the Contractor for the quantity of material represented by the failing test results shall be reduced by the sum of the respective percentages; however, the reduction will not exceed 50 percent.</p>		

Measurement and Payment:

10000-8

Payment for "Aggregate Base, Class 5" shall be at the contract unit price bid per Cubic Yard - Compacted Volume (CV) based on plan quantity (P).

15. **Bituminous Tack Coat (MnDOT 2357):** MnDOT 2357 is modified as follows: Bituminous material shall be applied at a rate of 0.035 gallons per square yard. This shall be incidental to paving operations.
16. **Plant Mixed Asphalt Pavement (MnDOT 2360):** MnDOT 2360 is modified as follows: Bituminous mixture shall be type SPNONWEA340B for base course mixtures, and type SPWEA340B for the wearing course. Only virgin materials shall be used for aggregates – no scrap asphalt shingles, crushed concrete, salvaged aggregate, sewage sludge ash or recycled asphaltic pavement shall be allowed.

Mixture Design (MnDOT 2360.3): The Contractor will be responsible for supplying a bituminous mixture that meets the requirements of these specifications. At least 7 days prior to the start of asphalt production, the contractor shall submit in writing a proposed Job Mix formula (JMF) for each combination of aggregates to the City-approved Bituminous Engineer for review and approval. The city will accept Job Mix design approval from any of the following; the MnDOT Bituminous Engineer or District Materials Engineer, or Braun Intertec, or Midwest Testing Labs. A copy of this Job mix design and approval shall be provided to the City of Moorhead 3 days prior to any asphaltting operations commencing. Modified Mixture Design (Option 2) shall be used for this project.

Mixture Quality Management (MnDOT 2360.4): All bituminous mixture provided for this project shall be supplied from a Contractor Certified Plant. The Contractor shall be responsible for testing the materials as necessary to ensure quality control / quality assurance. The Engineer will conduct verification testing in accordance with 2360.4N. The cost of failed test results shall be deducted from the contract. Price adjustments for material failures will be determined in accordance with 2360.4L.

Payment Schedule for Maximum Density: Table 2360.6-B4 is deleted and replaced with the following modified table. This modification is intended to eliminate incentive payments for pavement density.

Percent of Max. Specific Gravity ⁽²⁾ SP Wear (≤ 100 mm (4 inches) from Surface All MV & LV, SP Shld (4% Void)	Percent of Max. Specific Gravity ⁽²⁾ SP Non-Wear (> 100 mm (4 inches) from Surface) SP Shoulders (3% Void)	Percent Payment
93.6 and above	94.6 and above	100
93.1 to 93.5	94.1 to 94.5	100
92.0 to 93.0	93.0 to 94.0	100
91.0 to 91.9	92.0 to 92.9	98
90.5 to 90.9	91.5 to 91.9	95
90.0 to 90.4	91.0 to 91.4	91
89.5 to 89.9	90.5 to 90.9	85
89.0 to 89.4	90.0 to 90.4	70
Less than 89.0	Less than 90.0	(4)

(2) In calculating the percent of maximum specific gravity, report to the nearest tenth.

(4) The HMA material represented by the lot shall be paid at a 70% pay factor, unless a single core density is less than 87.0% of the maximum specific gravity (Gmm). If a single core density is than 87.0% of Gmm, the material shall be removed and replaced by the Contractor at their expense with mixture that meets the density requirements; or the Engineer may permit the unacceptable material to remain in place with a 50% pay factor. The limits of the area to be removed will be determined by additional core samples. These additional core samples shall be taken at the same offset from centerline as the original core; unless the original low density core was taken within 0.45 m [1.5 feet] of an edge of the paver pass. In that case, the additional cores shall be taken 0.45 m [1.5 feet] from the edge of the paver pass. The densities shall be determined at 15 m [50 foot] intervals, both ahead and back of the point of unacceptable core density (less than 87.0% of Gmm), until a point of acceptable core density (87.0% of Gmm or greater) is found. If the incremental core density testing extends into a previously accepted lot, removal of the unacceptable material will be required; however, the results of these tests shall not be used to recalculate the previously accepted lot density. All costs incurred from additional coring and testing, resulting from unacceptable core density, will be paid by the Contractor. The unacceptable pavement area is to be computed as the product of the longitudinal limits so determined by the 15 m [50 foot] cores and the full width of the paver pass, laying in the traffic lane or lanes. Shoulders shall be exempt from this calculation unless density failure occurred in the shoulder area.

After the unacceptable material (core density less than 87.0% of Gmm) has been removed and replaced, the density of the replacement material will be determined by the average of two cores. Payment for the replacement material will be in accordance with Tables 2360.6-B4 or 2360.6-B4A, whichever applies. There will be no payment for the material removed. The remainder of the original lot shall have a 70% pay factor.

Thickness and Surface Smoothness Requirements (MnDOT 2360.7): Asphalt surfaces adjacent to manhole and gate valve castings shall be 5/8" +/- 1/8" higher than the top of the casting. Profilograph testing will not be required for this project.

17. **Density Requirements:**

Density requirements for asphalt courses shall be MnDOT Maximum Density Method (MnDOT 2360.6B). The subgrade and class 5 aggregate base shall be compacted in accordance with the specified density method per MnDOT 2105.3F1 and MnDOT 2211.3C1, respectively, except that the use of a nuclear gage will be permitted.

18. **Subsurface Drains (MnDOT 2502):**

MnDOT 2502 is modified as follows: Fine Filter Aggregate shall be incidental to draitile installation.

19. **Traffic Control:**

The Contractor shall furnish and maintain all construction signs, barricades, and barricade weights, traffic marking tape, and warning lights which are needed for the detour guidance, warning and control of traffic through this project. All traffic control devices shall conform to

the "Minnesota Manual on Uniform Traffic Control devices" and Standard Signs Manual Part I and Part II.

20. **Traffic Signs and Devices (MnDOT 2564):**
MnDOT 2564 is modified as follows:
21. **Storm Sewer Construction:** See specification "Section 02720 – Storm Sewer Systems" for contract requirements for the following items:
 - 2501.515 – 12" RC Pipe Apron
 - 2503.541 – 12", RC Pipe Sewer Class III
 - 2503.541 – 6" HDPE Storm Sewer
 - 2506.601 – Construct Drainage Structure 48" - MH
 - 2506.601 – Construct Drainage Structure 27", – Inlet
 - 2506.601 – 6'x6' RC Control Structure
23. **Plant & Relocate Tree (2571.601):** See specification "Section 2941 – Boulevard Tree" for contract requirements.
24. **Adjust Casting (2506.601):** See "Section 02735 Casting Adjustments" for contract requirements.
25. **Turf Establishment (2575.501):**
Measurement shall be based on 300 SY of turf establishment. Seed mixture shall be MnDOT Mix 250
26. **Sod, Type Lawn (2575.505):**
Prior to delivery, contractor shall furnish the engineer with certification from the grower for approval. No sod shall be placed prior to approval.
27. **Machine Time:** See specification "Section 1750 – Machine Time" for requirements
28. **Project Funding sign:** See section 850 in specifications for requirements and wage rate determination.
29. **Relocate Sprinkler System:**
Work shall include all labor and materials required to relocate underground sprinkler systems to locations outside the permanent easement for the individual properties. The number of sprinkler heads, valves and locations are unknown. Contractor shall request a meeting with property owners to verify location of system. Written permission to enter property and coordinate construction activities will be determined at this time. Components shall match individual existing system components.
30. **Purple Martin Birdhouse**
Work shall include a white Purple Martin birdhouse, support pole and concrete footing.

-END OF SECTION-

10000-12

SECTION 11285 - SLUICE GATES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sluice gate, anchor bolts, operator, operating stem and other appurtenances.

1.2 UNIT PRICES (Not Used)

1.3 SUBMITTALS

- A. Submit name of manufacturer and supplier.
- B. Submit Shop Drawings.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Sluice gates shall be H. Fontaine LTD, Series 20 - Model 202 or approved equal.

2.2 SLUICE GATE

- A. 304 stainless steel.
- B. Neoprene seals attached to seating surface.
- C. Operator – Non-rising stem with 2" square nut operator.
- D. One (1) stainless steel T-handle wrench for operation.

PART 3 EXECUTION

1.1 GENERAL

- A. Install in accordance with manufacturer's recommendations and as shown on Drawings.

END OF SECTION

!! CAUTION !!
 UTILITIES IN THE AREA, BEFORE CONSTRUCTION
 UTILIZE 1 CALL 1-800-252-1166

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL "B". THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CIGASC 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

EXISTING PLAN SYMBOLS

SYMBOL LEGEND

---+900.00	EXISTING SPOT ELEVATION
---	EXISTING CONTOUR
---	EXISTING RIGHT OF WAY LINE
---	EXISTING PROPERTY LINE
---	CURB & GUTTER
⊙	MANHOLE
⊞	INLET
⊞	INLET
⊞	INLET
⊞	FIRE HYDRANT
⊞	GATE VALVE
⊞	SPRINKLER HEAD
⊞	IRRIGATION CONTROL VALVE
⊞	POWER POLE
⊞	POWER POLE WITH LIGHT
⊞	GUY POLE
⊞	ANCHOR
⊞	TELEPHONE PEDESTAL
⊞	TELEVISION PEDESTAL
⊞	HEADSTONE
⊞	STREET LIGHT
⊞	STREET SIGN
⊞	GUARD POST
⊞	TREES/BUSHES
⊞	CHAIN LINK FENCE
⊞	WOOD FENCE
⊞	SANITARY SEWER
⊞	STORM SEWER
⊞	GAS LINE
⊞	UNDERGROUND TELEPHONE
⊞	UNDERGROUND POWER
⊞	OVERHEAD POWER
⊞	UNDERGROUND TELEVISION

BENCHMARKS
 BM #1: 60' NORTH OF 1ST AVENUE NORTH BY RIVERVIEW PARKING LOT.
 ELEVATION = 903.44 (NAVD 89)
 BM #2: 105' NE OF RIVERVIEW BUILDING.
 ELEVATION = 901.09 (NAVD 89)
 BM #3: 25' NORTH OF RIVERSIDE BUILDING.
 ELEVATION = 903.94 (NAVD 89)
 BM #4: IN CONCRETE SIDEWALK 40' NORTH OF HJEMKOMST CENTER.
 ELEVATION = 902.09 (NAVD 89)

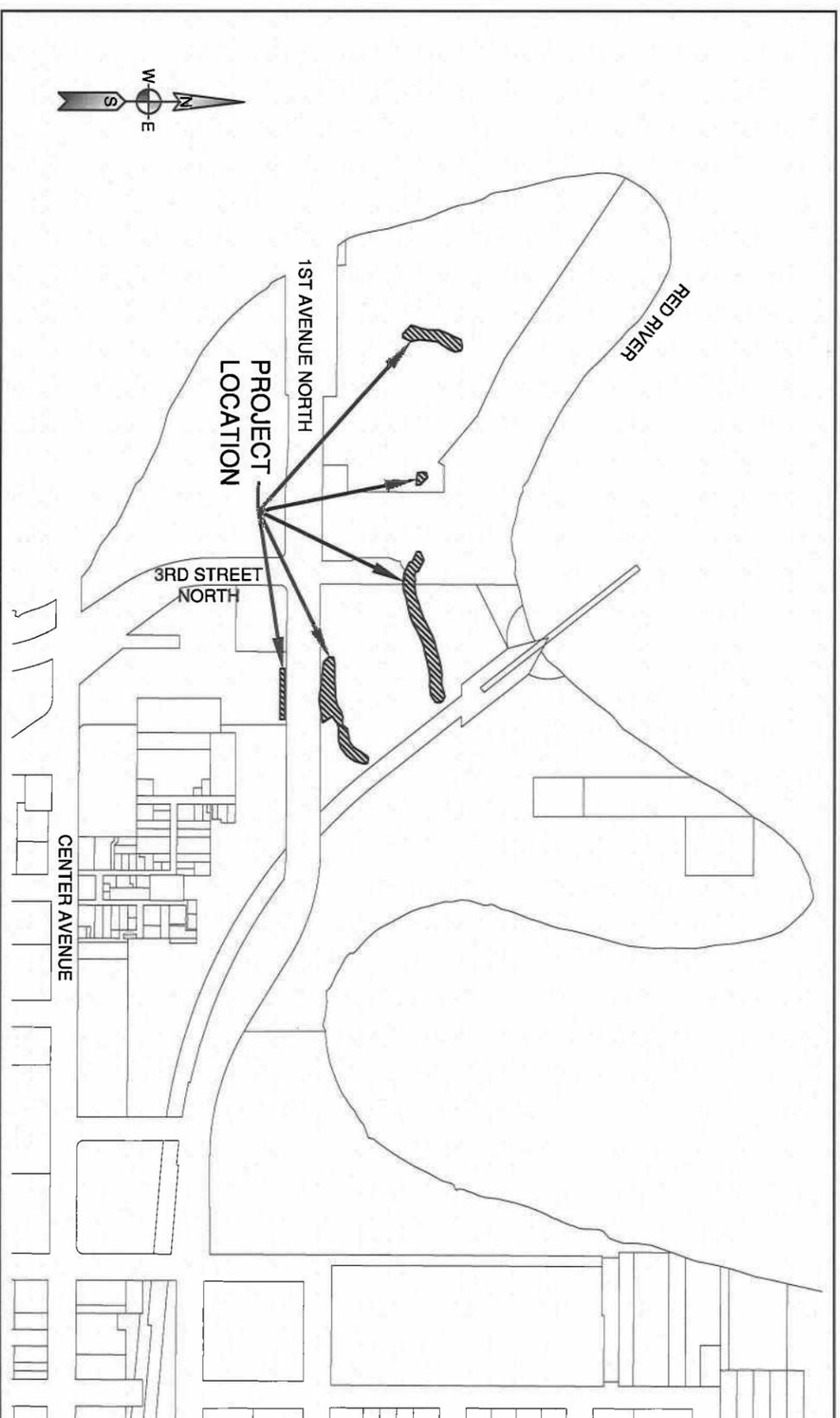
Construction Plans
 for

H.H.I.C. Area Flood Mitigation
Moorhead, MN

500 Year Flood Protection = Elevation 905 & 905.60 (NAVD 88)

UEI Project Number: 10.00209
 City Engineering Number: 09-A13-2G
 City Legal Number: A13-2G-2009

This Project is made possible in part by a grant provided by the Minnesota State Department of Natural Resources through an appropriation by the Minnesota State Legislature



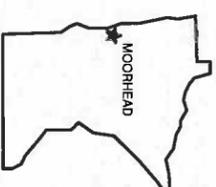
LOCATION MAP

SPECIFICATION REFERENCE

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION SHALL GOVERN, AS MODIFIED BY THE CITY OF MOORHEAD SPECIFICATIONS AND SPECIAL PROVISIONS.
 ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL DATED MAY 2005 AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS (FIELD MANUAL) DATED JANUARY 2007.

PROJECT LOCATION

PART OF SECTION:	1st Avenue North
SECTION No.:	S 1/2
TOWNSHIP:	5-6
RANGE:	139 N 48 W



CITY OF
MOORHEAD
 MINNESOTA
 ENGINEERING DEPARTMENT
 H.H.I.C.
 Flood Mitigation

Moorhead, Minnesota

INDEX

SHEET NO.	TITLE
1	Title Sheet & Location
2	Project Scope
3	Estimated Quantities
4	Earthwork Summary/General Construction Notes
5-8	Details
9	Existing Conditions & Removal Plans
10-14	Plan & Profile Drawing
15-18	Floodwall Plans
19	Detour Plan
20	SWPPP
21	Erosion Control
22	Cross Sections

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Brian Klein

Signed: [Signature]

Date: 8/5/2010 License Number: 45021



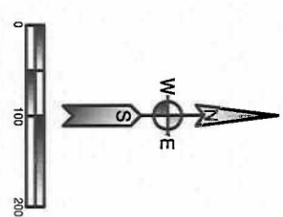
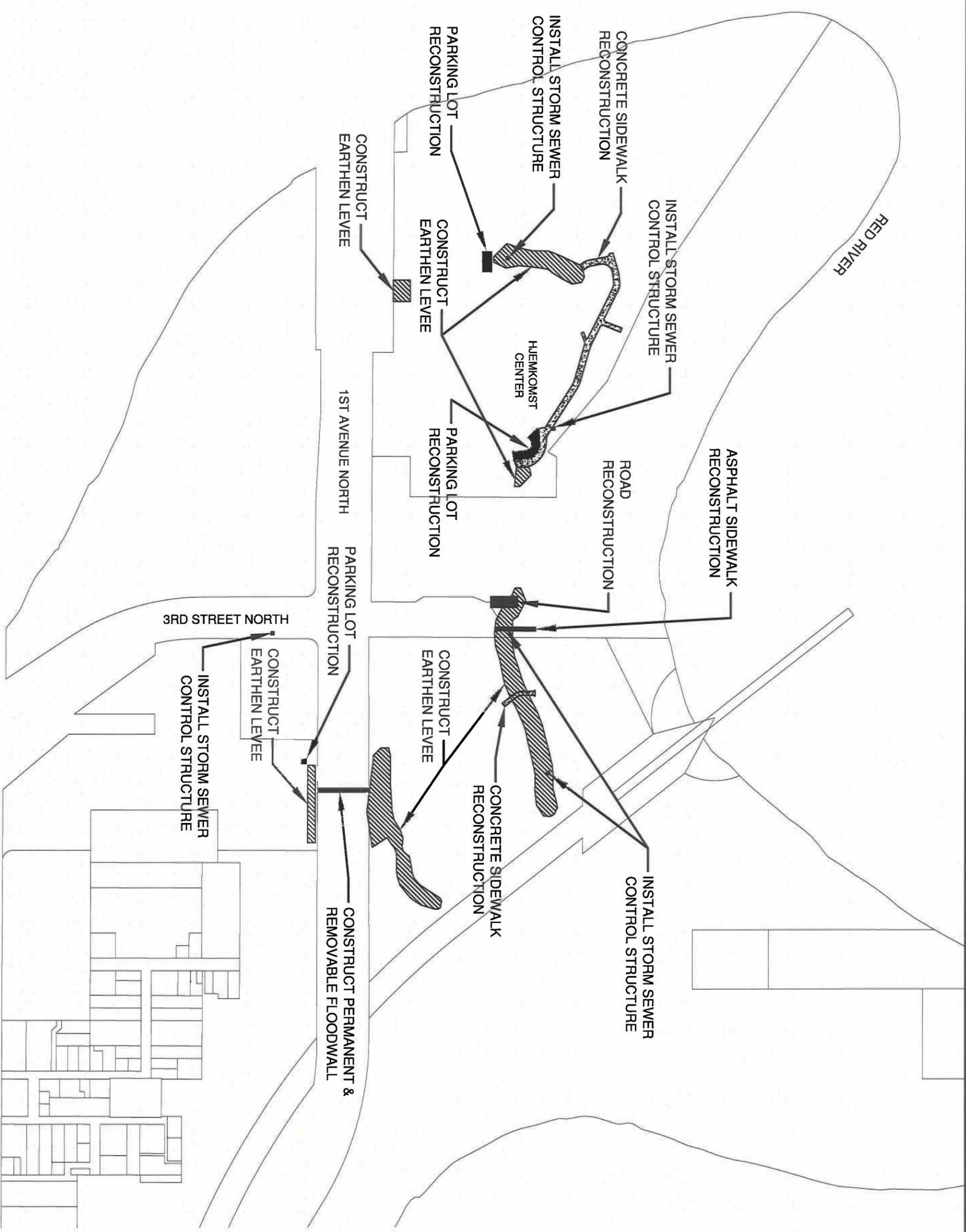
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 Drawn By: KSH
 Checked By: DLM
 Approved By: BLK

TITLE SHEET & LOCATION

Project Number: 10.00209
 Date: August 5, 2010
 Sheet: 1 of 22

H.H.I.C.
 Flood Mitigation

Moorhead, Minnesota



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Brian J. King

Signed: 

Date: 8/5/2010 License Number: 45021



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SCOPE OF WORK

STATEMENT OF ESTIMATED QUANTITIES

H.H.I.C.
Flood Mitigation
Moorhead, Minnesota

Spec. No.	Item Description	Amount	Unit
2021.501	Mobilization	1	Lump Sum
2101.502	Clearing	22	Each
2101.507	Grubbing	22	Each
2104.501	Remove Pipe Culvert	265	LF
2104.501	Remove Fence	40	LF
2104.501	Remove Curb & Gutter	308	LF
2104.505	Remove Concrete Pavement	105	SY
2104.505	Remove Concrete Sidewalk	169	SY
2104.505	Remove Bituminous Pavement	706	SY
2104.505	Remove Bituminous Sidewalk	548	SY
2104.509	Remove Birdhouse	2	Each
2104.509	Remove Concrete Bollard	2	Each
2104.523	Salvage Sign	1	Each
2105.501	Inspection Trench (P)	1,145	CY
2105.507	Unsuitable Excavation	2,100	CY
2105.523	Common Borrow (CV)	3,123	CY
2105.535	Salvage Topsoil (P)	2,082	CY
2105.601	Temporary Rock Construction Entrance	4	Each
2105.604	Geotextile Fabric Type V (P)	510	SY
2211.503	Aggregate Base, Class 5, (CV), (P)	120	CY
2360.503	Type SP B Wearing Course Mixture (B), 3" Thick	493	SY
2360.503	Type SP B Non-Wearing Course Mixture (B), 4" Thick	493	SY
2501.511	12" RC Pipe Storm Apron	3	Each
2502.541	6" PE Perf. Pipe Drain tile	174	LF
2503.511	12" RC Pipe Storm CL III	452	LF
2506.601	Construct Drainage Structure, 27" Inlet	5	Each
2506.601	Construct Drainage Structure, 48" MH	3	Each
2506.601	6" PE Area Drain	2	Each
2506.601	6' x 6' RC Control Structure	5	Each

Spec. No.	Item Description	Amount	Unit
2506.601	Connect to Existing Storm Sewer	4	Each
2506.601	Adjust Valves & Castings	8	Each
2521.501	6" Concrete Sidewalk	1,370	SF
2531.501	Concrete Curb & Gutter	217	LF
2557.601	Install Fence	40	LF
2564.602	Install Sign	1	Each
2571.601	Plant & Relocate Trees	3	Each
2573.502	Silt Fence (Machine Sliced)	1,769	LF
2573.530	Inlet Protection	10	Each
2573.540	Bio Roll	309	LF
2575.501	Turf Establishment, Seeding	1	Lump Sum
2575.505	Sod, Type Lawn	4,240	SY
Spec	Machine Time	30	Hour
Spec	Purple Martin Birdhouse & Support	1	Lump Sum
Spec	Project Funding Sign	1	Lump Sum
Spec	Flood Wall Closure System	1	Lump Sum
Spec	Relocate Sprinkler System	3	Each

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Brian J. King

Signature: 

Date: 8/5/2010 License Number: 48221



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Drawn By: KSH
Checked By: DJM
Approved By: BLK

ESTIMATED QUANTITIES

EARTHWORK SUMMARY

GENERAL CONSTRUCTION NOTES



H.H.I.C.
Flood Mitigation
Moorhead, Minnesota

- 1.) TOPSOIL EXCAVATION
EXISTING QUANTITY IS BASED UPON A TOPSOIL DEPTH OF 12" OVER THE ENTIRE CONSTRUCTION LIMITS. ESTIMATED TOPSOIL QTY 3,082 CY
- 2.) INSPECTION TRENCH
ESTIMATED QUANTITY IS BASED UPON THE TYPICAL INSPECTION TRENCH X-SECTION (4' DEPTH) AVERAGE FOR THE ENTIRE CENTERLINE LENGTH OF THE LEVEE.
ESTIMATED QUANTITY 1,145 CY
- 3.) COMMON BORROW
ESTIMATED QUANTITY IS BASED UPON THE COMPARISON BETWEEN THE EXISTING GROUND PROFILE AND FINISHED GROUND PROFILE, PLUS 12" FOR THE TOPSOIL EXCAVATION AND COMMON EXCAVATION, LESS 4" FOR THE TOPSOIL REPLACEMENT.
ESTIMATED QUANTITY 3,123 CY

ALL FINAL QUANTITIES WILL BE MEASURED IN THE FIELD AND PAID FOR IN ACCORDANCE TO SECTION 02223-EXCAVATION, EMBANKMENT, AND COMPACTION OF THE PROJECT SPECIFICATIONS.

EXISTING UTILITIES
EXISTING UTILITIES ARE SHOWN ON THE DRAWINGS AS LOCATED BY THE UTILITY COMPANIES AT THE TIME OF THE DESIGN SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING GOPHER ONE CALL SYSTEM TO HAVE EACH AND EVERY UTILITY FIELD LOCATED PRIOR TO CONSTRUCTION COMMENCEMENT. THE CONTRACTOR SHALL PRESERVE AND PRESERVE UTILITY MARKINGS
GOPHER STATE ONE CALL: 1-800-252-1166

THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND COORDINATE THEIR EFFORTS TO COINCIDE WITH UTILITY WORKS BY OTHERS IN ORDER TO MINIMIZE INCONVENIENCE TO THE PUBLIC AND UTILITY COMPANY.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY LEVEL B. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

TEMPORARY DRAINAGE AND EROSION CONTROL
MAINTAINING DRAINAGE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL ABIDE BY ALL CURRENT MPCA AND NPDES GENERAL STORM WATER PERMITS FOR THIS PROJECT. THE CONTRACTOR SHALL BE AWARE OF EXISTING DRAINAGE CONDITIONS AND FACILITIES AND SHALL PROVIDE FOR DRAINAGE DURING ALL PHASES OF CONSTRUCTION. ANY DAMAGE, EROSION, AND SEDIMENTATION CAUSED BY IMPROPER TEMPORARY FACILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER. THE PLANS INCLUDE EROSION CONTROL DEVICES TO ASSIST THE CONTRACTOR WITH THIS RESPONSIBILITY.

TRAFFIC CONTROL
ALL TRAFFIC CONTROL DEVICE AND PLACEMENT SHALL COMPLY WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS. PAYMENT SHALL BE INCIDENTAL TO MOBILIZATION.

BITUMINOUS PAVEMENT
40 S.Y. OF BITUMINOUS PAVEMENT ARE INCLUDED FOR PARKING LOT PATCH REPAIRS TO BE DETERMINED BY ENGINEER.

FENCE
INSTALL FENCE SHALL INCLUDE CONCRETE FOOTINGS AND POSTS REQUIRED TO INSTALL 8' DOG-EARED GREEN TREATED PRIVACY FENCE.

BOLLARDS
CONCRETE BOLLARDS SHALL BE PLACED AT BIKEPATH ENTRANCE.

UTILITIES
CONTRACTOR TO COORDINATE WITH MOORHEAD PUBLIC SERVICE AND OTHER UTILITIES REGARDING EXISTING UTILITIES RELOCATION IN AREA WHERE UTILITIES CROSS THE FLOODWALL SYSTEM.

SAFETY
SAFETY FENCE INSTALLATION AND MAINTENANCE SHALL BE INCIDENTAL TO MOBILIZATION.

REMOVE BITUMINOUS PAVEMENT
PAYMENT WILL BE BASED ON PLAN QUANTITY (P) OF SQUARE YARDS. SAWING SHALL BE NEAT LINED AND FULL DEPTH AND SHALL BE INCIDENTAL TO THE BITUMINOUS REMOVAL.

PLANT & RELOCATE TREE
PROPOSED LOCATION OF RELOCATED TREES ARE APPROXIMATE. FINAL LOCATIONS SHALL BE DETERMINED BY THE OWNER. TREE SHALL BE LOCATED PRIOR TO TOPSOIL EXCAVATION.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Brian J. King

Signed: 

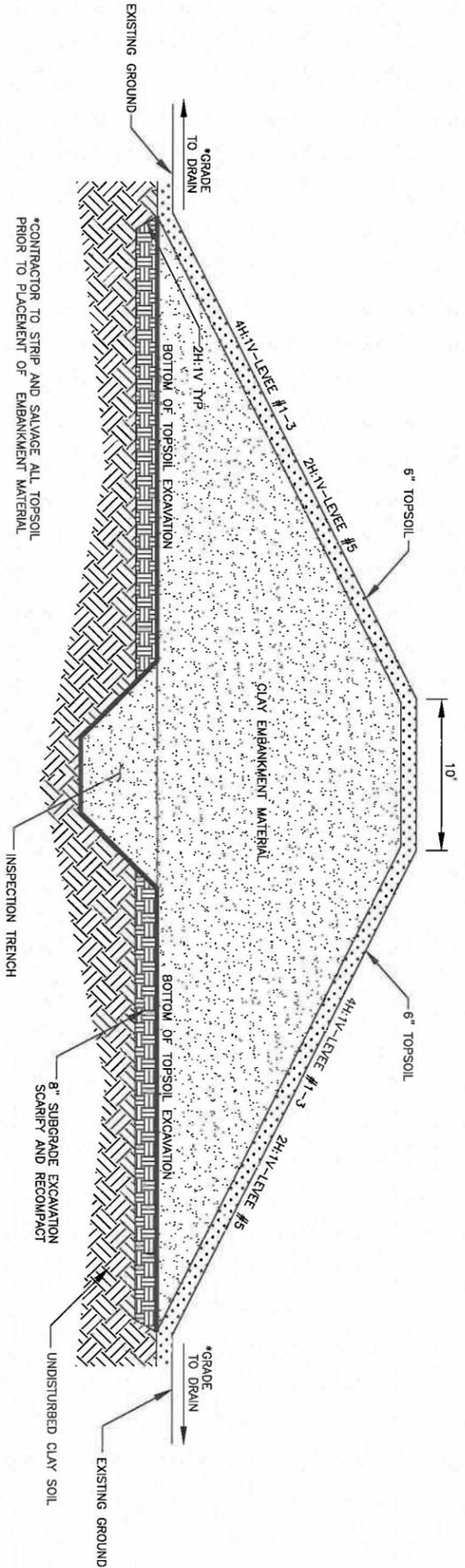
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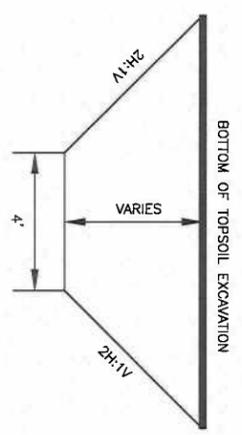
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Checked By: DLM
Approved By: BJK

**EARTHWORK SUMMARY/
GENERAL CONSTRUCTION
NOTES**

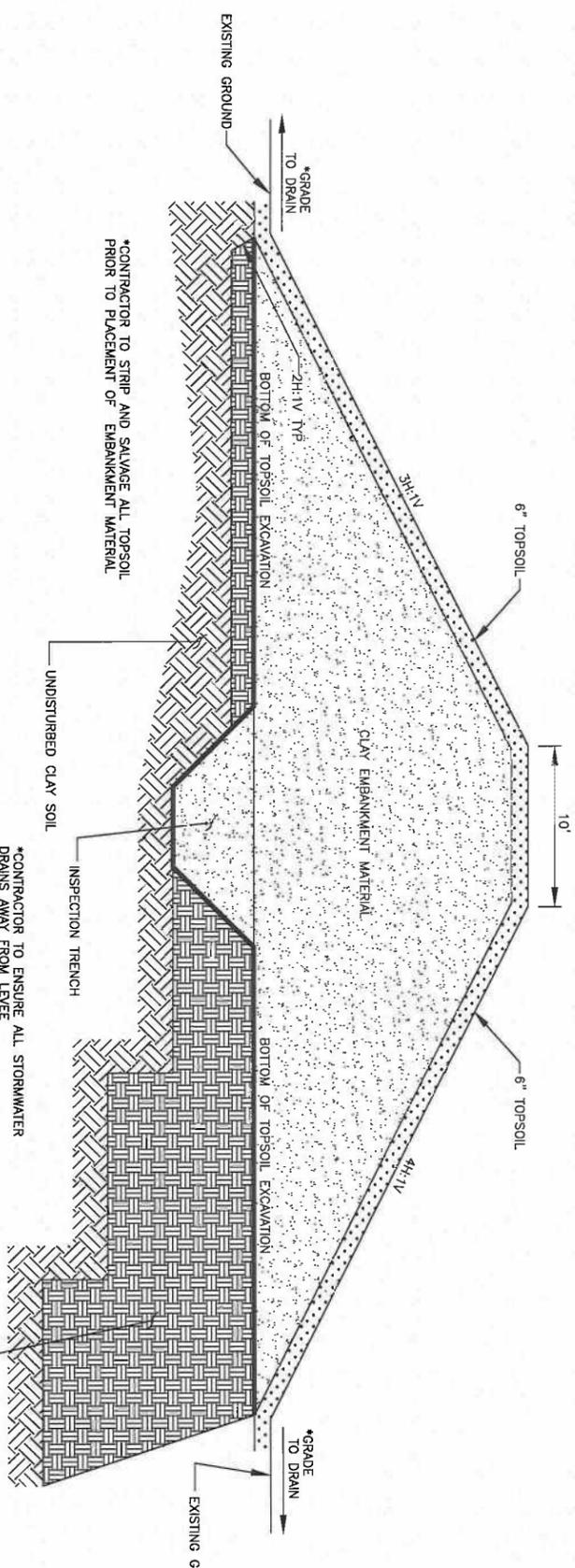
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Date: August 5, 2010
Sheets: 4 of 12



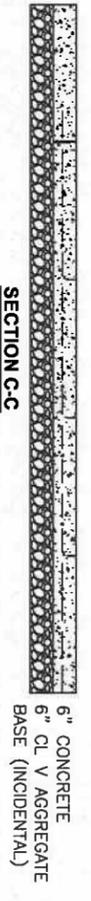
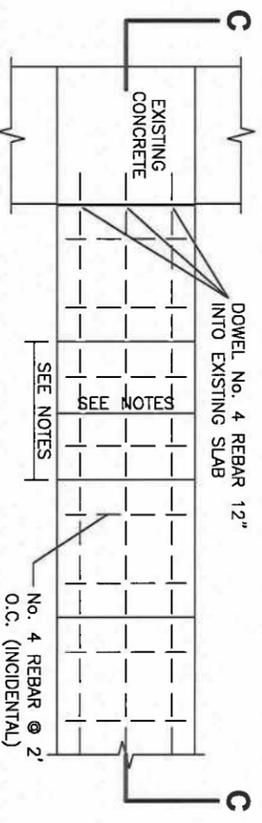
TYPICAL LEVELLEVEE SECTION
NO SCALE



INSPECTION TRENCH DEPTH	DEPTH	EQUAL TO HEIGHT OF LEVEE
0' TO 6'		
6' OR MORE	6'	

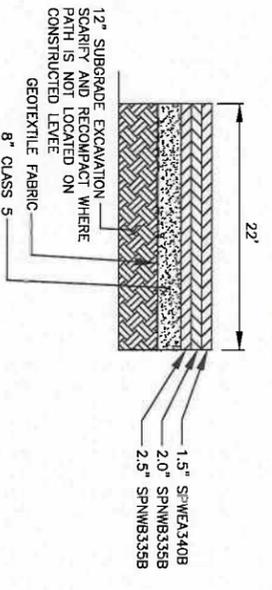


TYPICAL LEVELLEVEE SECTION - #4
NO SCALE

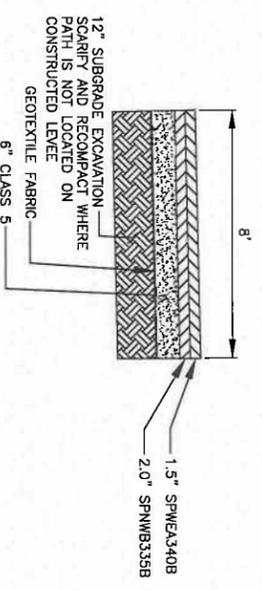


CONTRACTION JOINTS:
1. 12' BIKE PATH - 6'x6' O.C.
(4) - 4' No. 4 REBAR PER TRANSVERSE JOINT

NOTES:
1. WALK SHALL HAVE A LONGITUDINAL SAWED JOINT DOWN THE CENTER
2. ALL REINFORCEMENT, AGGREGATE BASE, AND JOINTS SHALL BE INCIDENTAL TO CONSTRUCTION
SIDEWALK TYPICAL CONCRETE SECTION DETAIL
NOT TO SCALE



FIRE LANE REPLACEMENT TYPICAL SECTION
NO SCALE



BIKE PATH TYPICAL BITUMINOUS SECTION
NO SCALE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Brian J. Kinon

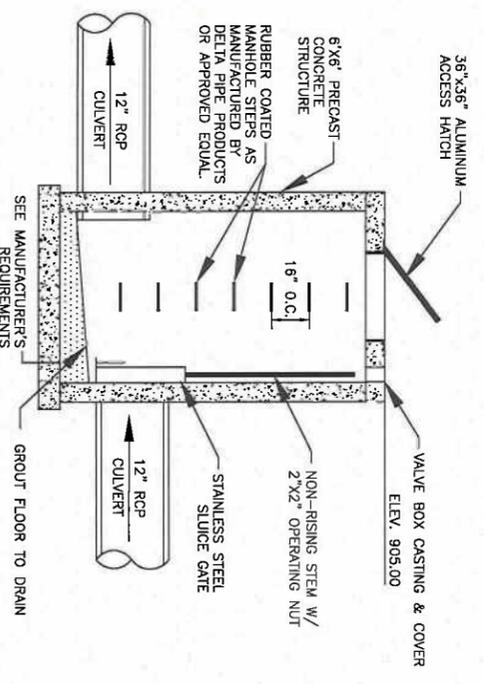
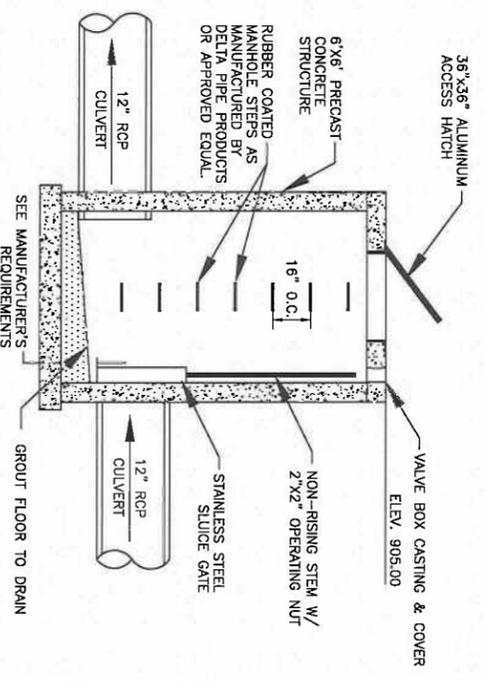
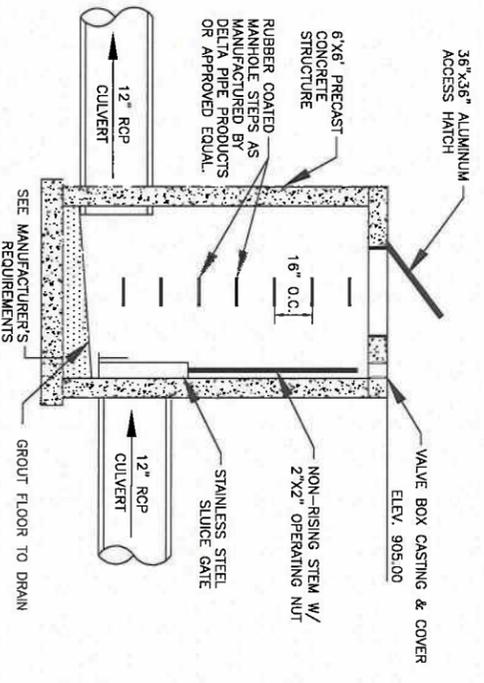
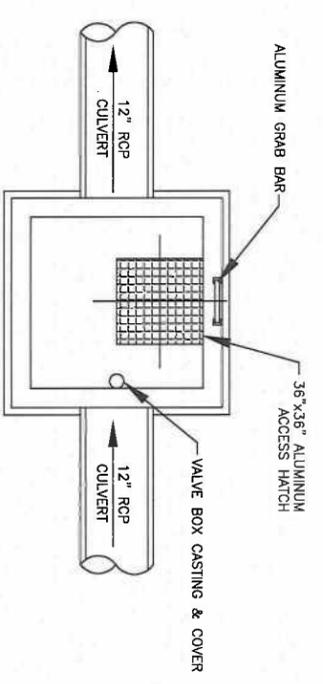
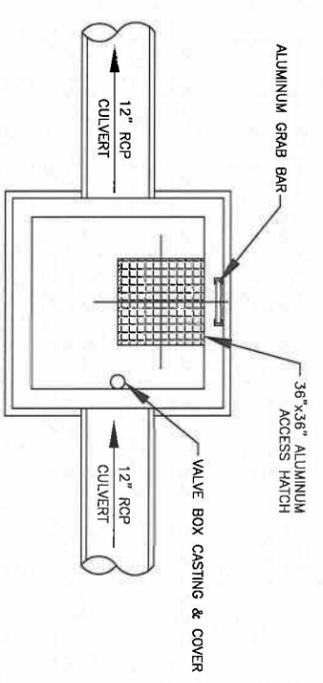
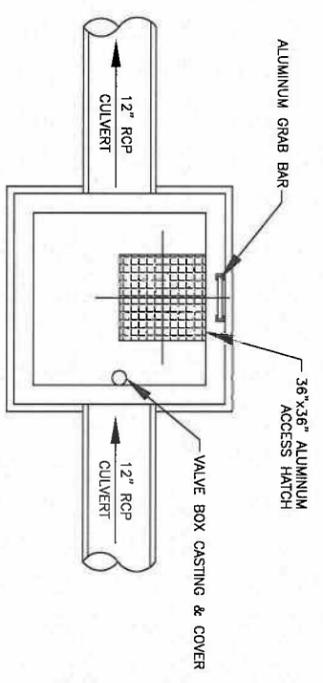
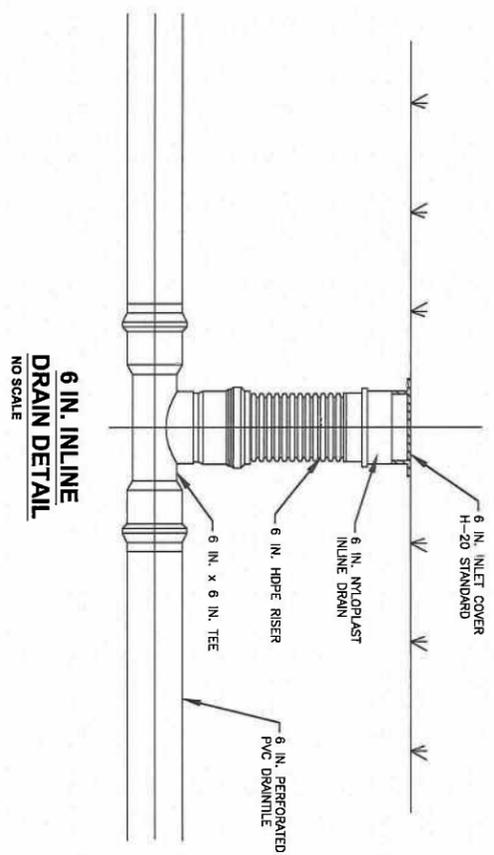
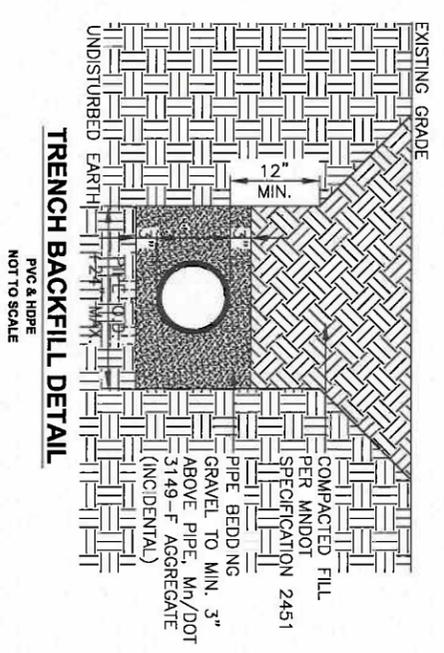
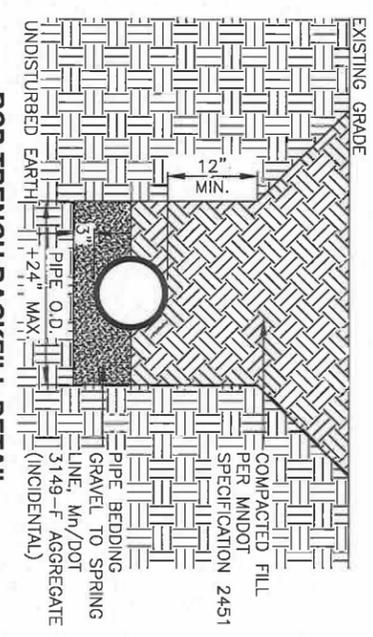
Signed:

Date: 8/5/2010 License Number: 45921



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Checked By: DLM
Approved By: BLK

LEVEE DETAILS



6"x6" PRECAST CONTROL STRUCTURE #1

NO SCALE

*CONTRACTOR TO VERIFY SLUICE GATE DIMENSIONS AND INSTALLATION PROCEDURES PRIOR TO ORDERING MANHOLE STRUCTURE

*ALL WORK SHOWN ABOVE INCLUDING BUT NOT LIMITED TO STAINLESS STEEL SLUICE GATE, ALUMINUM ACCESS HATCH, VALVE CASTING & COVER AND PRECAST CONCRETE STRUCTURE SHALL BE PAID UNDER THE BID ITEM "6"x6" PRECAST CONTROL STRUCTURE"

6"x6" PRECAST CONTROL STRUCTURE #2

NO SCALE

*CONTRACTOR TO VERIFY SLUICE GATE DIMENSIONS AND INSTALLATION PROCEDURES PRIOR TO ORDERING MANHOLE STRUCTURE

*ALL WORK SHOWN ABOVE INCLUDING BUT NOT LIMITED TO STAINLESS STEEL SLUICE GATE, ALUMINUM ACCESS HATCH, VALVE CASTING & COVER AND PRECAST CONCRETE STRUCTURE SHALL BE PAID UNDER THE BID ITEM "6"x6" PRECAST CONTROL STRUCTURE"

6"x6" PRECAST CONTROL STRUCTURE #3

NO SCALE

*CONTRACTOR TO VERIFY SLUICE GATE DIMENSIONS AND INSTALLATION PROCEDURES PRIOR TO ORDERING MANHOLE STRUCTURE

*ALL WORK SHOWN ABOVE INCLUDING BUT NOT LIMITED TO STAINLESS STEEL SLUICE GATE, ALUMINUM ACCESS HATCH, VALVE CASTING & COVER AND PRECAST CONCRETE STRUCTURE SHALL BE PAID UNDER THE BID ITEM "6"x6" PRECAST CONTROL STRUCTURE"

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Edwin L. King

Signature:

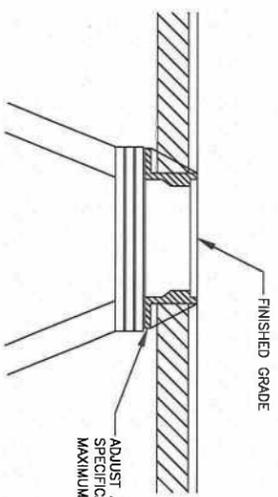
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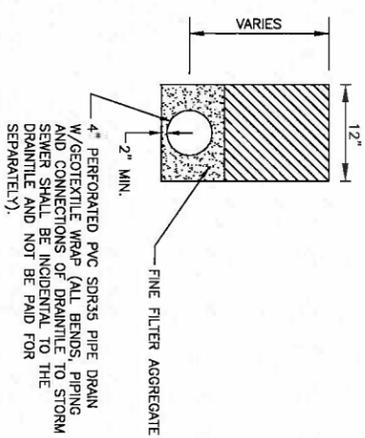
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3350 38th Avenue South
Fargo, North Dakota 58104
Phone: 701.280.8500 Fax: 701.280.8739
Web: www.uiteig.com
Drawn By: KSH
Checked By: DLM
Approved By: BLK

STORM SEWER DETAILS

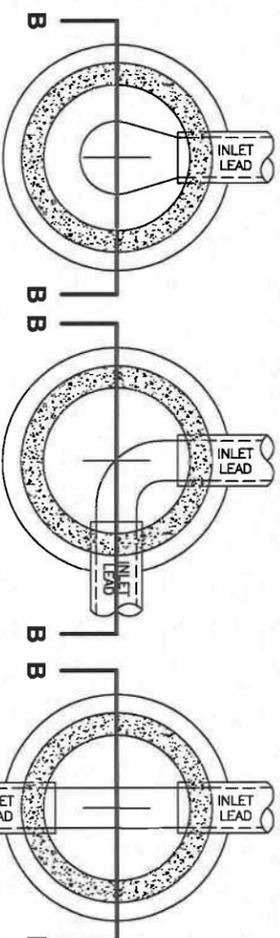
Project Number: 10.02298
Date: August 5, 2010
Sheets: 6 of 22



ADJUST MANHOLE TO GRADE
NO SCALE



DRAIN TILE
NO SCALE



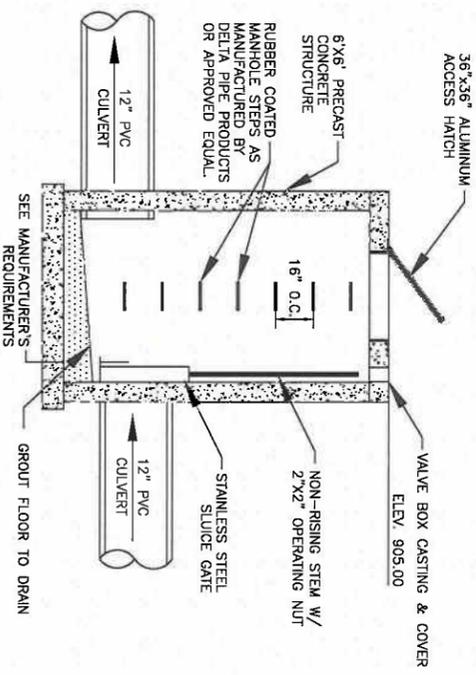
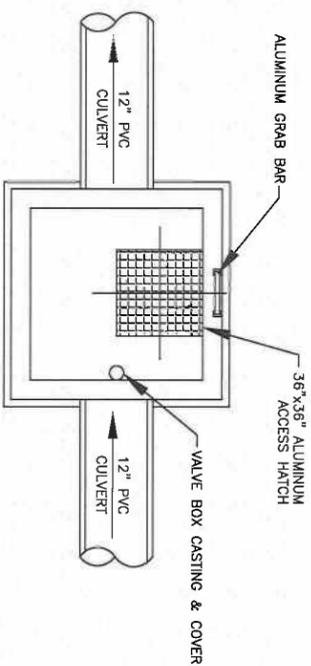
TYPE "A" TOP VIEW
NOT TO SCALE

TYPE "B" TOP VIEW
NOT TO SCALE

TYPE "C" TOP VIEW
NOT TO SCALE

INLET DETAILS
PIPE SPECIFICATIONS - REINFORCED CONCRETE SPEC. 14-1.1

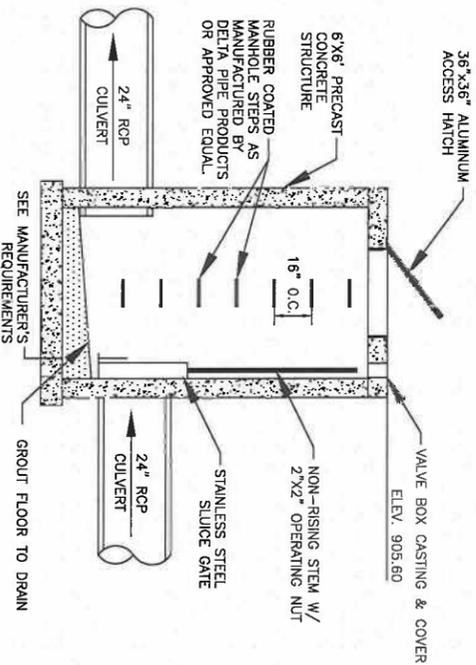
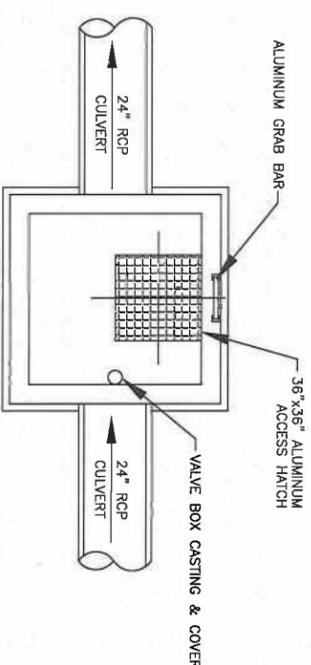
- NOTES:**
1. REINFORCEMENT NOT SHOWN
 2. TYPE "A" CASTING ASSEMBLY TO BE USED FOR STORM AND SANITARY MANHOLES
 3. TYPE "B" CASTING ASSEMBLY TO BE USED FOR REAR YARD DRAINAGE
 4. TYPE "C" CASTING ASSEMBLY TO BE USED IN TYPE "C" MOUNTABLE CURB AND GUTTER
 5. TYPE "D" CASTING ASSEMBLY TO BE USED IN B-624 CURB AND GUTTER
 6. INLET PIPE OPENINGS SHALL BE GROUTED ON THE INSIDE AND OUTSIDE OF EACH STRUCTURE
 7. HOPE RINGS SHALL BE INSTALLED VERTICALLY; STAGGERING OF ADJUSTMENT RINGS SHALL NOT BE ALLOWED, CONTRACTOR SHALL ADJUST STRUCTURE PLACEMENT OR CURB ALIGNMENT AS NECESSARY



6'x6' PRECAST CONTROL STRUCTURE #4
NO SCALE

*CONTRACTOR TO VERIFY SLUICE GATE DIMENSIONS AND INSTALLATION PROCEDURES PRIOR TO ORDERING MANHOLE STRUCTURE

*ALL WORK SHOWN ABOVE INCLUDING BUT NOT LIMITED TO STAINLESS STEEL SLUICE GATE, ALUMINUM ACCESS HATCH, VALVE CASTING & COVER AND PRECAST CONCRETE STRUCTURE SHALL BE PAID UNDER THE BID ITEM "6'x6' PRECAST CONTROL STRUCTURE"

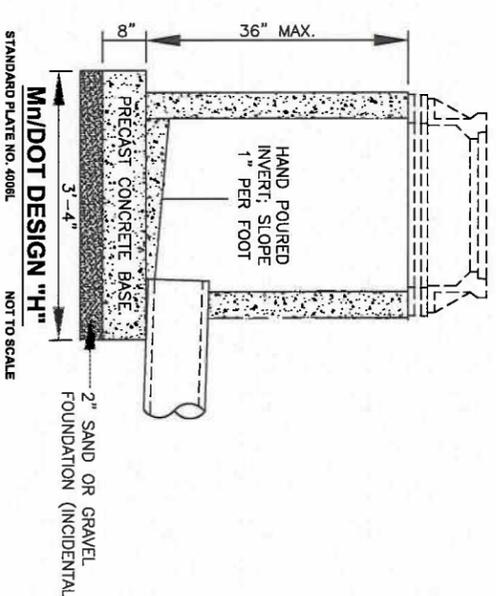


6'x6' PRECAST CONTROL STRUCTURE #5
NO SCALE

*CONTRACTOR TO VERIFY SLUICE GATE DIMENSIONS AND INSTALLATION PROCEDURES PRIOR TO ORDERING MANHOLE STRUCTURE

*ALL WORK SHOWN ABOVE INCLUDING BUT NOT LIMITED TO STAINLESS STEEL SLUICE GATE, ALUMINUM ACCESS HATCH, VALVE CASTING & COVER AND PRECAST CONCRETE STRUCTURE SHALL BE PAID UNDER THE BID ITEM "6'x6' PRECAST CONTROL STRUCTURE"

TYPE "A" CASTING ASSEMBLY FRAME M/ DOT 700-7 SAN. GRATE M/ DOT 716 SIS. GRATE M/ DOT 715	TYPE "C" CASTING ASSEMBLY FRAME NEENAH 3508-A2 GRATE NEENAH TYPE C
TYPE "B" CASTING ASSEMBLY FRAME NEENAH 1733 GRATE NEENAH TYPE C	TYPE "D" CASTING ASSEMBLY FRAME NEENAH 3250-DVSP GRATE NEENAH TYPE VANE CURB BOX INCLUDED



Hand Poured Invert
NOT TO SCALE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Brian J. King

Signed:

Date: 8/5/2010 License Number: 45021



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Checked By: DLJM
Approved By: BLK

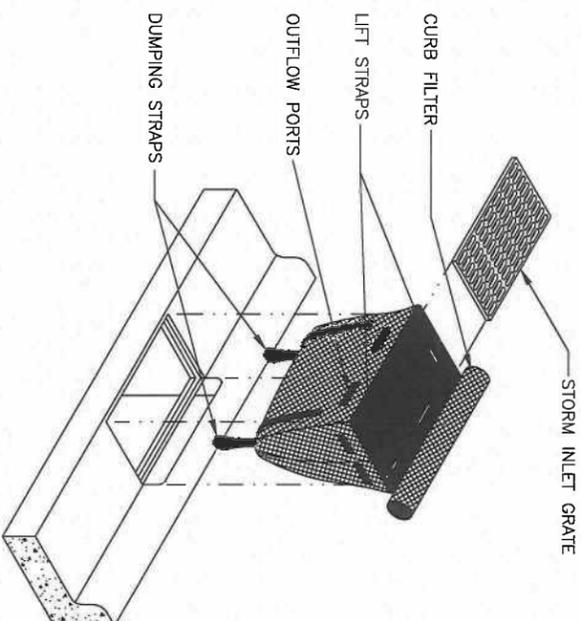
STORM SEWER DETAILS

Project Number: 10.00209
Date: August 5, 2010
Sheet: 7 of 22

H.I.I.C.
Flood Mitigation
Moorhead, Minnesota

NOTES

1. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE RESTORED BY THE CONTRACTOR AS SOON AS PRACTICAL AND IN ACCORDANCE WITH THE NPDES PERMIT. MULTIPLE MOBILIZATIONS WILL BE REQUIRED.
2. IN THE EVENT PERMANENT RESTORATION CAN NOT BE PERFORMED WITHIN THE PERMITTED TIME FRAMES THE CONTRACTOR WILL BE RESPONSIBLE FOR TEMPORARY STABILIZATION CONSISTING OF HYDROMULCH.
3. ALL TEMPORARY STOCKPILES SHALL BE STABILIZED WITH HYDRO MULCH AND SEED AND BE CONTAINED WITH SILT FENCE AT NO EXPENSE TO THE OWNER.
4. LOCATION, LIMITS, AND TYPES OF EROSION CONTROL DEVICES (SUCH AS SILT FENCE, BIOROLLS, AND BLANKETS) ARE DEPENDENT ON FIELD CONDITIONS AND MAY BE MODIFIED IN THE FIELD BY THE ENGINEER.
5. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES.
6. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MINIMIZING AREAS OF DISTURBANCE AND MUST ESTIMATE THE AREA THAT WILL REQUIRE TURF RESTORATION BASED ON THE PROPOSED WORK AND HIS/HER CONSTRUCTION METHODS. THE LUMP SUM BID PRICE SHALL BE FULL COMPENSATION FOR ALL TURF RESTORATION. ADDITIONAL COMPENSATION WILL ONLY BE PAID FOR CHANGES TO THE ORIGINAL PROJECT SCOPE.



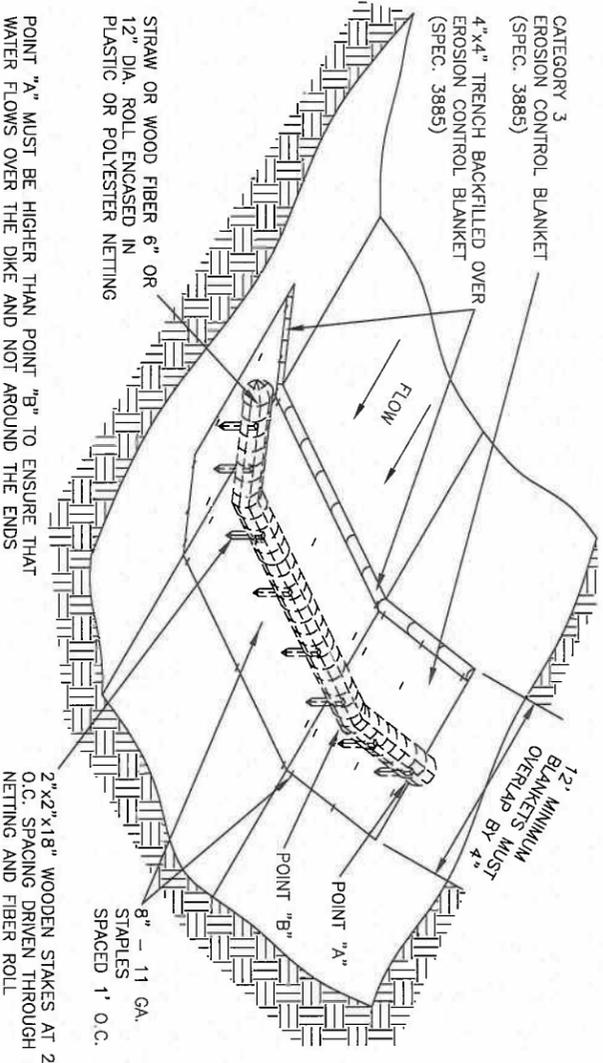
HI-FLOW DANDY CURB SACKS

SAFETY ORANGE

TYPE "C" INLET PROTECTION

NOT TO SCALE

- NOTES:**
- DANDY SACKS OR AN EQUAL APPROVED BY THE ENGINEER SHALL BE USED
 - INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER
 - REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF INLET AFTER EACH STORM EVENT
 - AFTER EACH STORM EVENT AND AT REGULAR INTERVALS CHECK THE DANDY SACK FOR SEDIMENT, IF 1/3 FULL OR GREATER, THE UNIT MUST BE EMPTIED AT AN APPROPRIATE LOCATION
 - CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED IN THE DANDY SACK DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY

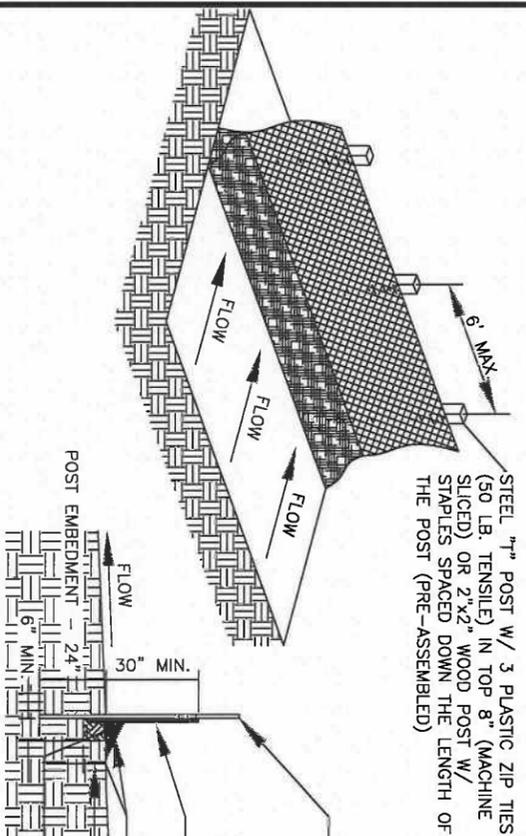


BIOROLL BLANKET SYSTEM

TYPE 3 SPEC. 3888

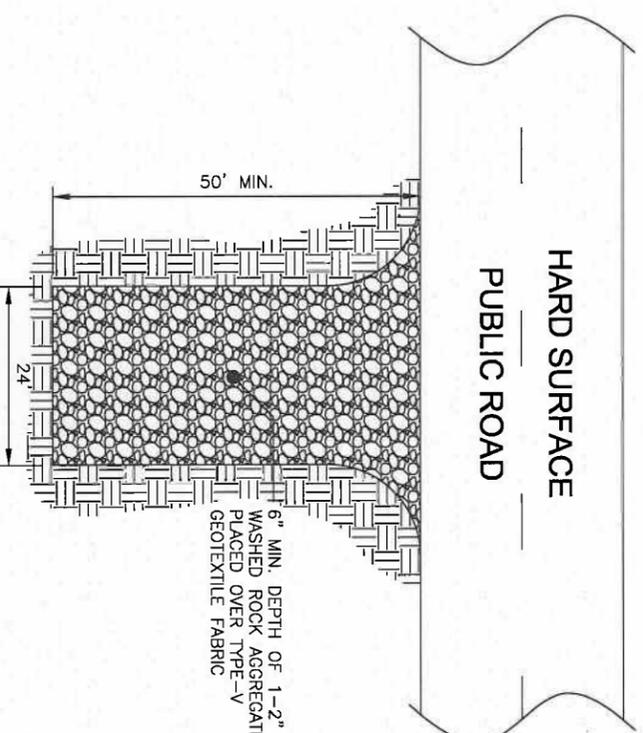
NOT TO SCALE

- NOTES:**
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY
 2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED
 3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY
 4. INSTALLATION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH Mn/DOT 3886 FOR THE TYPE OF SILT FENCE INSTALLED (PRE-ASSEMBLED OR MACHINE SLICED)



SILT FENCE

NOT TO SCALE



TEMPORARY ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE

EROSION CONTROL DETAILS

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Checked By: DLM
Approved By: BLK

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Print Name: Siljan J. King

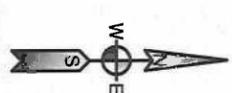
Signed:

Date: 8/5/2010 License Number: 45021

H.I.I.C.
Flood Mitigation

Moorehead, Minnesota

LEGEND	
	REMOVE TREE
	REMOVE BUSH/STUMP
	REMOVE BITUMINOUS PAVEMENT
	REMOVE CONCRETE PAVEMENT



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Print Name: Brian J. King

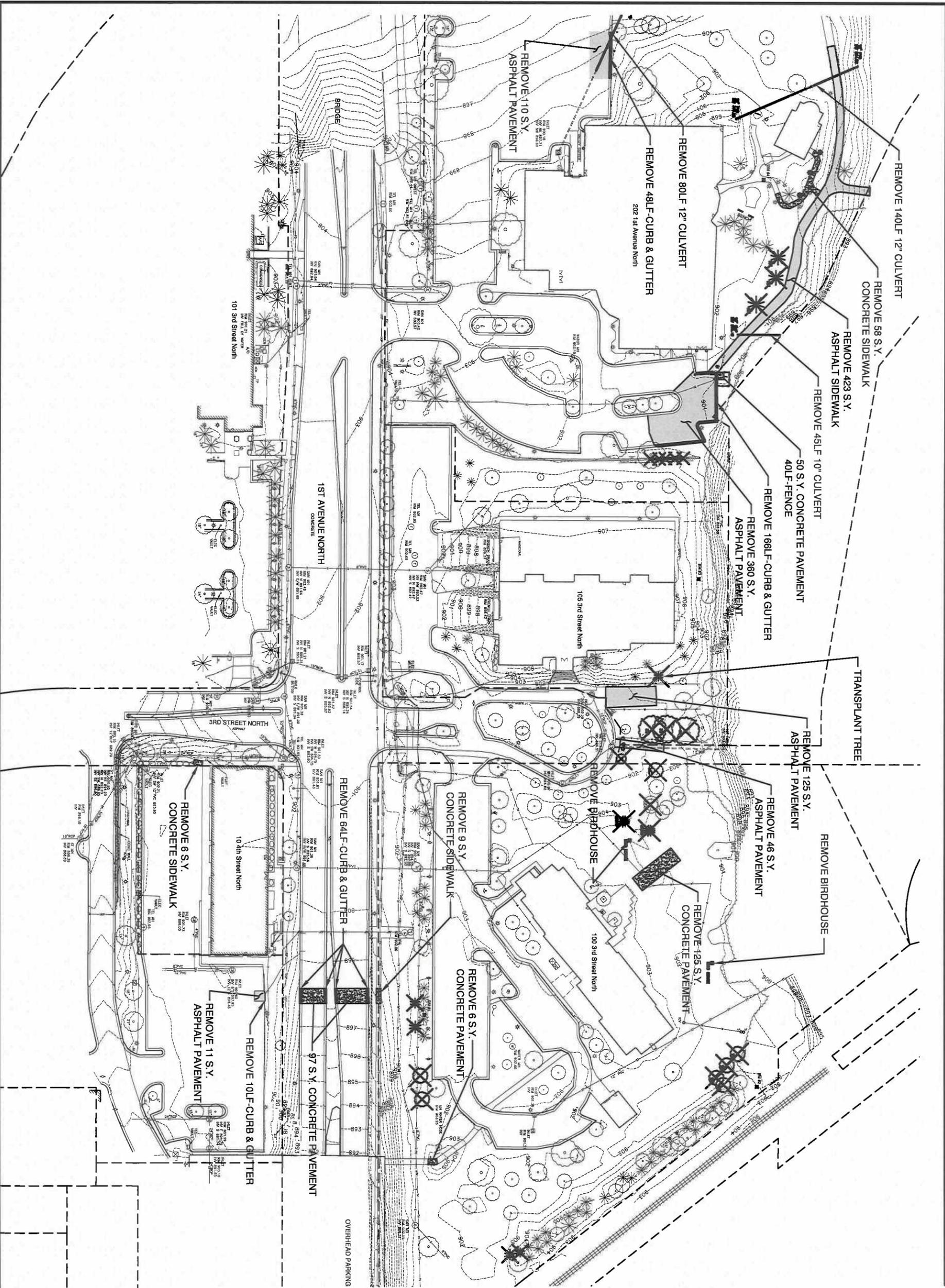
Signed:

Date: 8/5/2010 License Number: 45921



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Phone: 701.280.8500 Fax: 701.280.8739
Web: www.uiteig.com
Drawn By: KSH
Checked By: DLM
Approved By: BLK

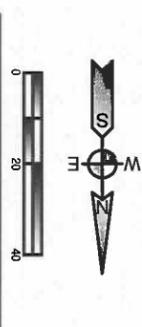
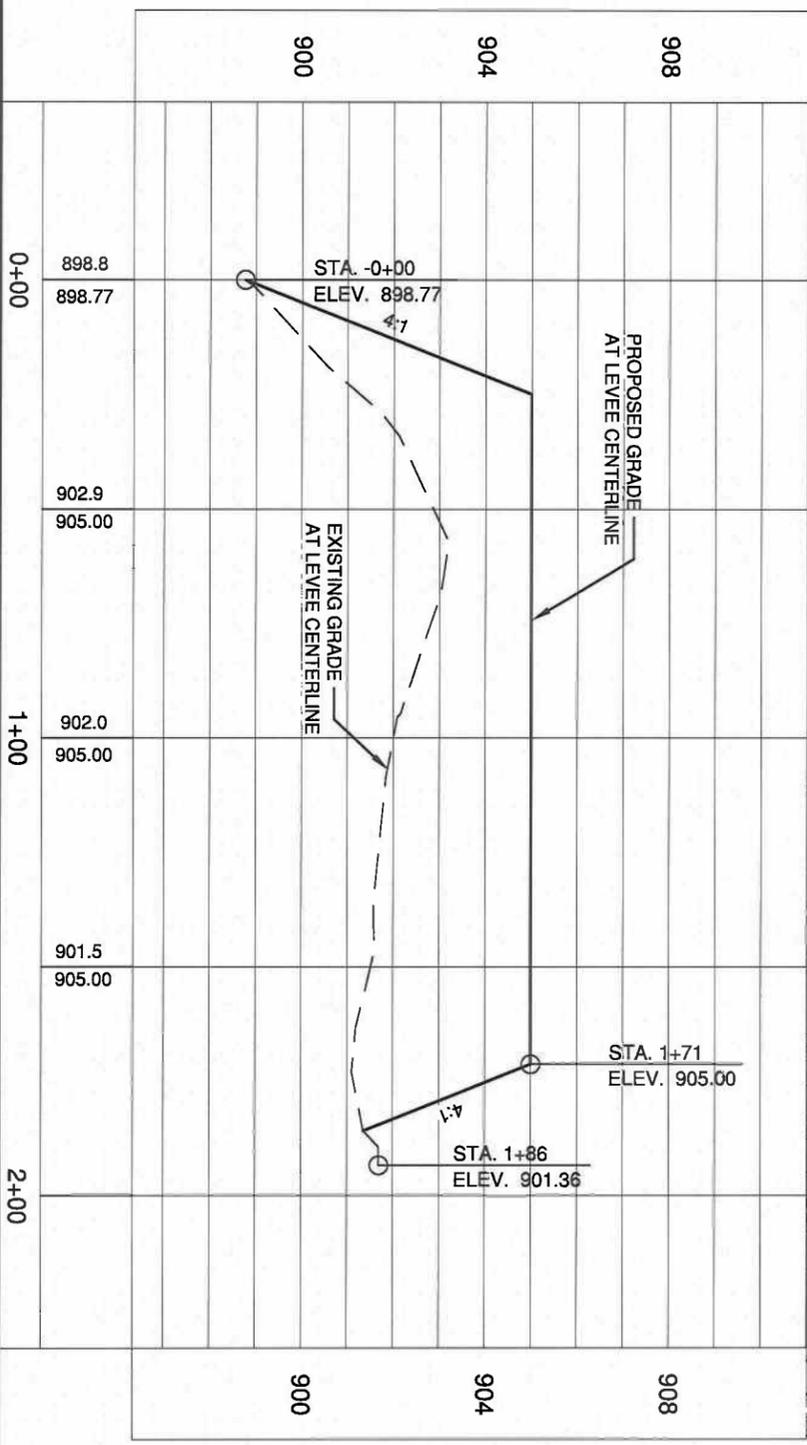
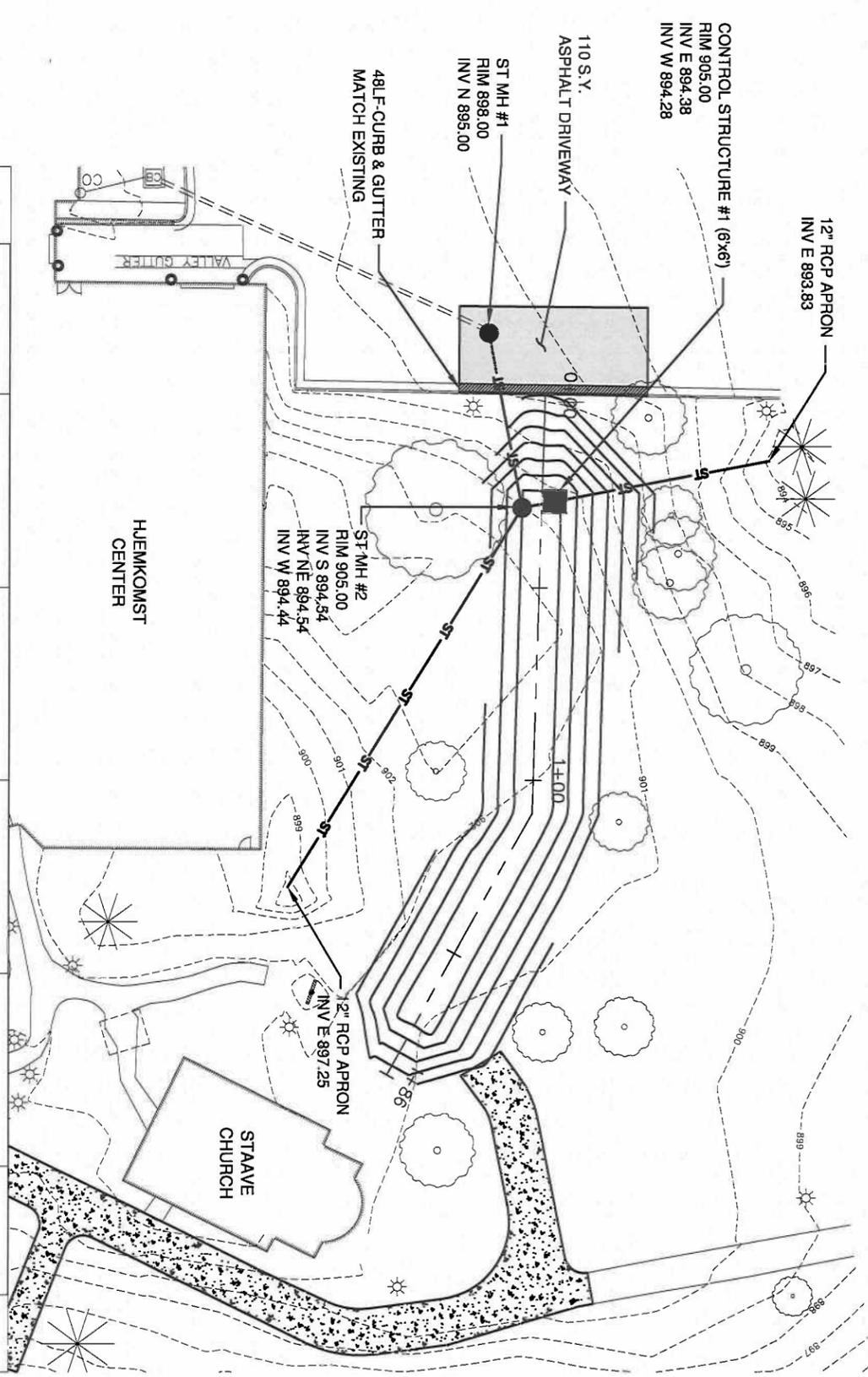
EXISTING CONDITIONS & REMOVALS PLAN



H.H.I.C.
Flood Mitigation

Moorehead, Minnesota

- LEGEND
- ST— NEW STORM SEWER
 - 900— NEW CONTOUR
 - [Pattern] NEW CONCRETE PAVEMENT
 - [Pattern] NEW BITUMINOUS PAVEMENT
 - [Pattern] NEW CONTROL STRUCTURE
 - NEW MANHOLE



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Print Name: Brian J. King

Signed: [Signature]

Date: 8/5/2010 License Number: 45021

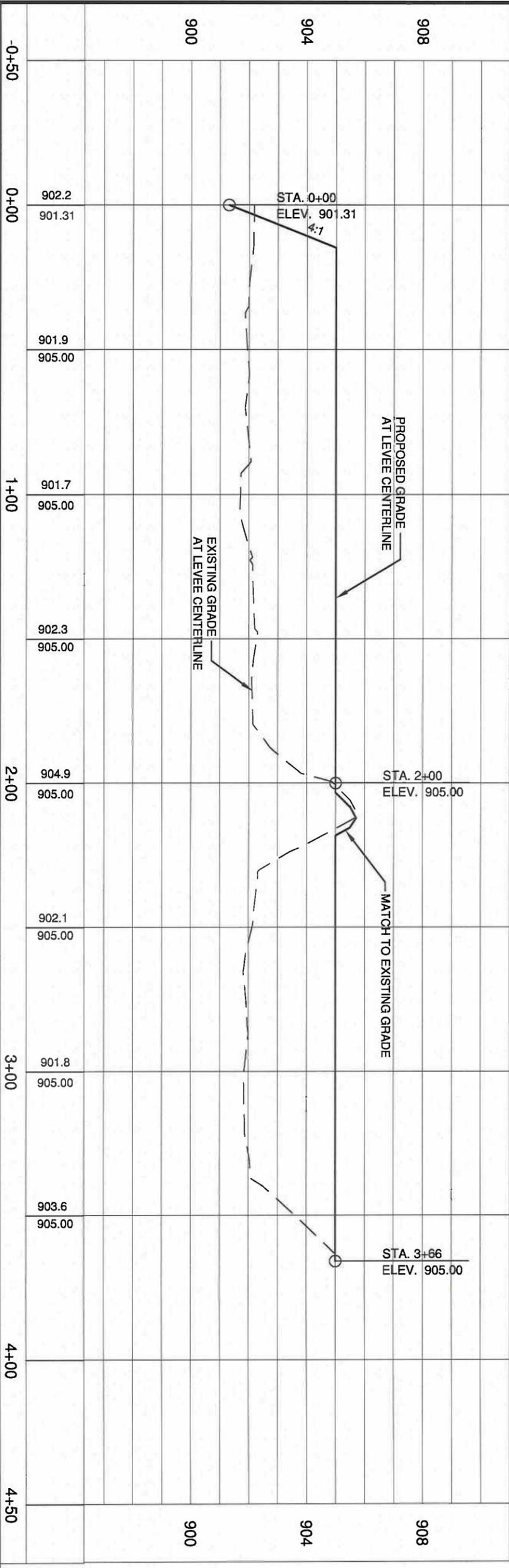
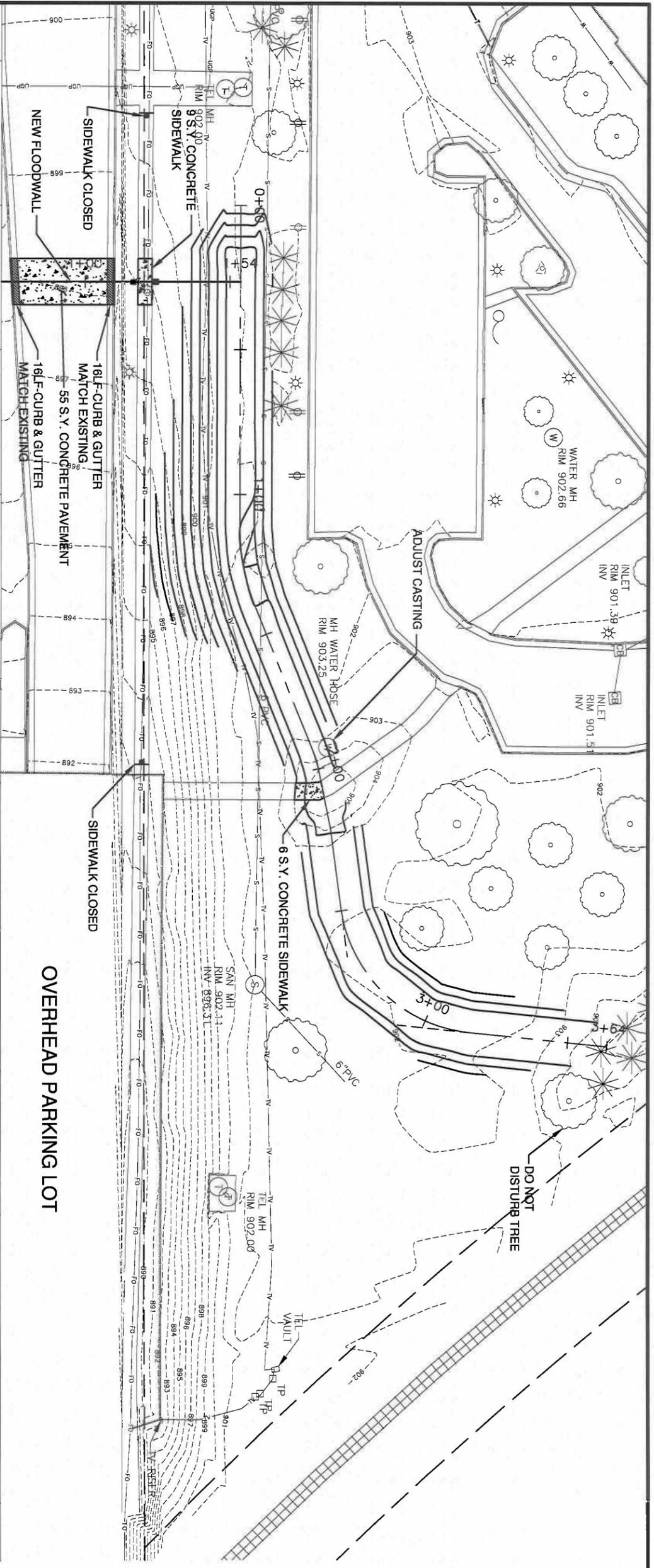
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 Drawn By: KSH
 Checked By: DLM
 Approved By: BJK

PLAN & PROFILE
LEVEE #1

H.H.I.C.
Flood Mitigation

Moorhead, Minnesota

- LEGEND**
- ST — NEW STORM SEWER
 - 900 — NEW CONTOUR
 - ▨ NEW CONCRETE PAVEMENT
 - ▩ NEW BITUMINOUS PAVEMENT
 - NEW CONTROL STRUCTURE
 - NEW MANHOLE



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Brian L. King
 Signed:

Date: 8/5/2010 License Number: 45021



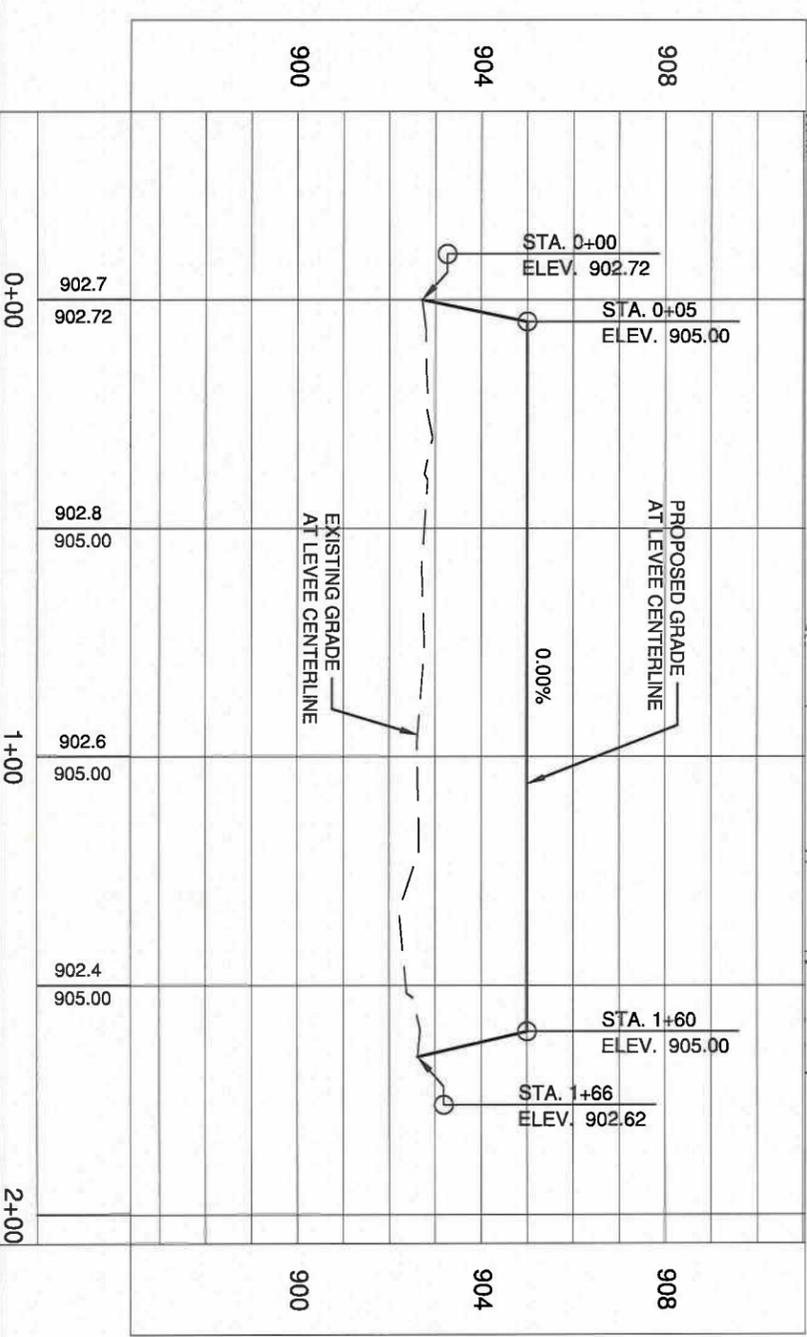
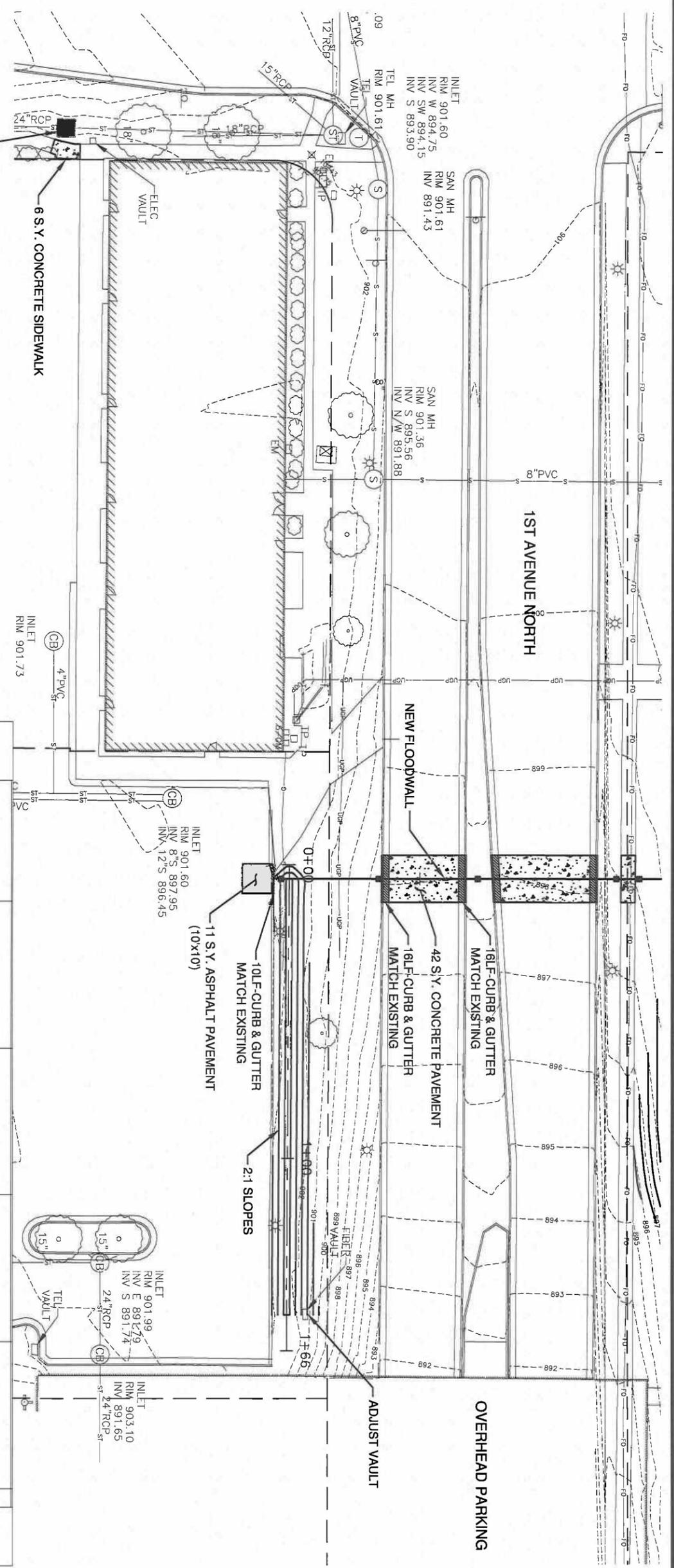
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PLAN & PROFILE
LEVEE #4

Project Number: 10.00209
 Date: August 5, 2010
 Sheets: 13 of 22

H.H.I.C.
Flood Mitigation
Moorehead, Minnesota

- LEGEND**
- ST — NEW STORM SEWER
 - 900 — NEW CONTOUR
 - ▨ NEW CONCRETE PAVEMENT
 - ▨ NEW BITUMINOUS PAVEMENT
 - NEW CONTROL STRUCTURE
 - NEW MANHOLE



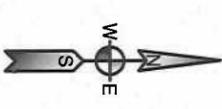
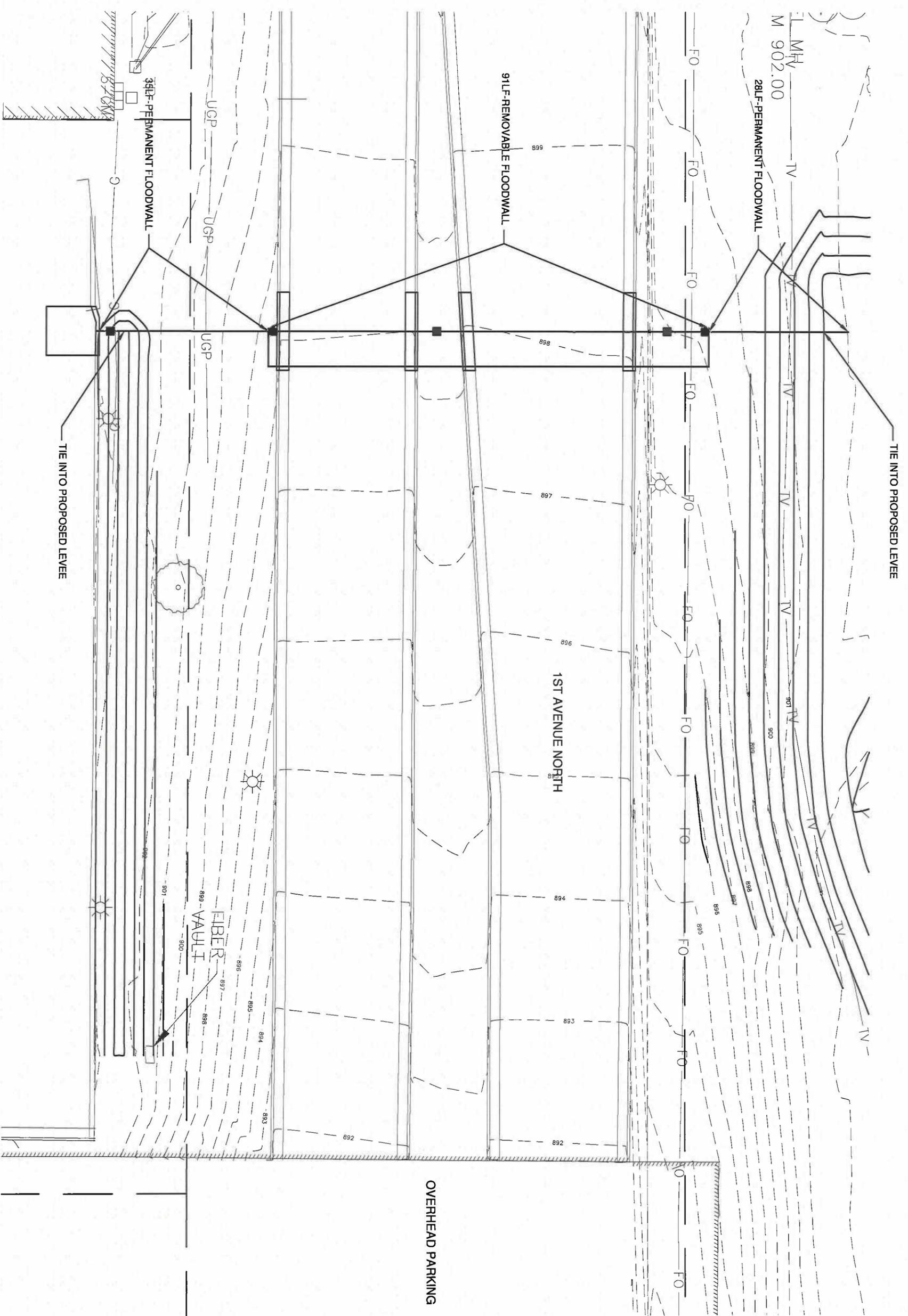
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Print Name: Brian J. King
 Signed: [Signature]
 Date: 6/5/2010 License Number: 45021



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PLAN & PROFILE
LEVEE #5



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Print Name: Brian J. Kinn

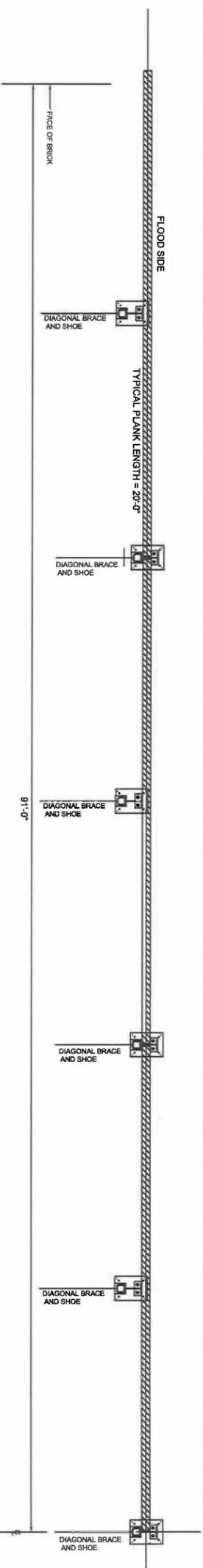
Signed:

Date: 8/5/2010 License Number: 45021



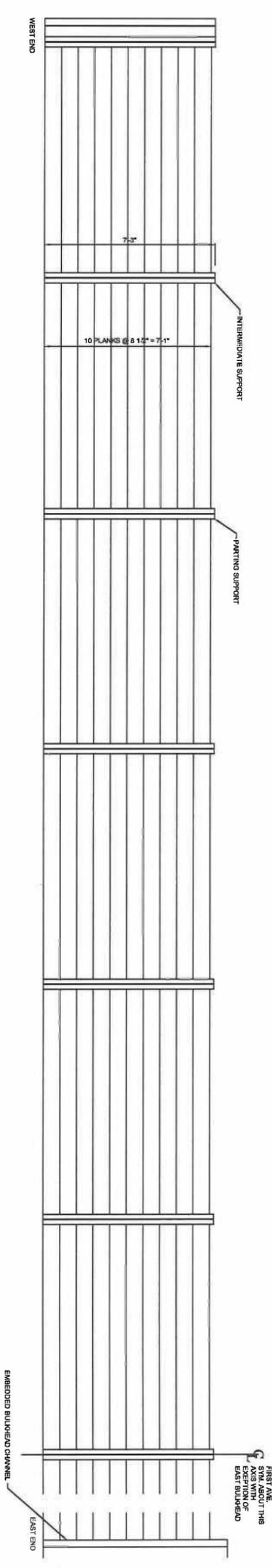
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FLOODWALL PLAN

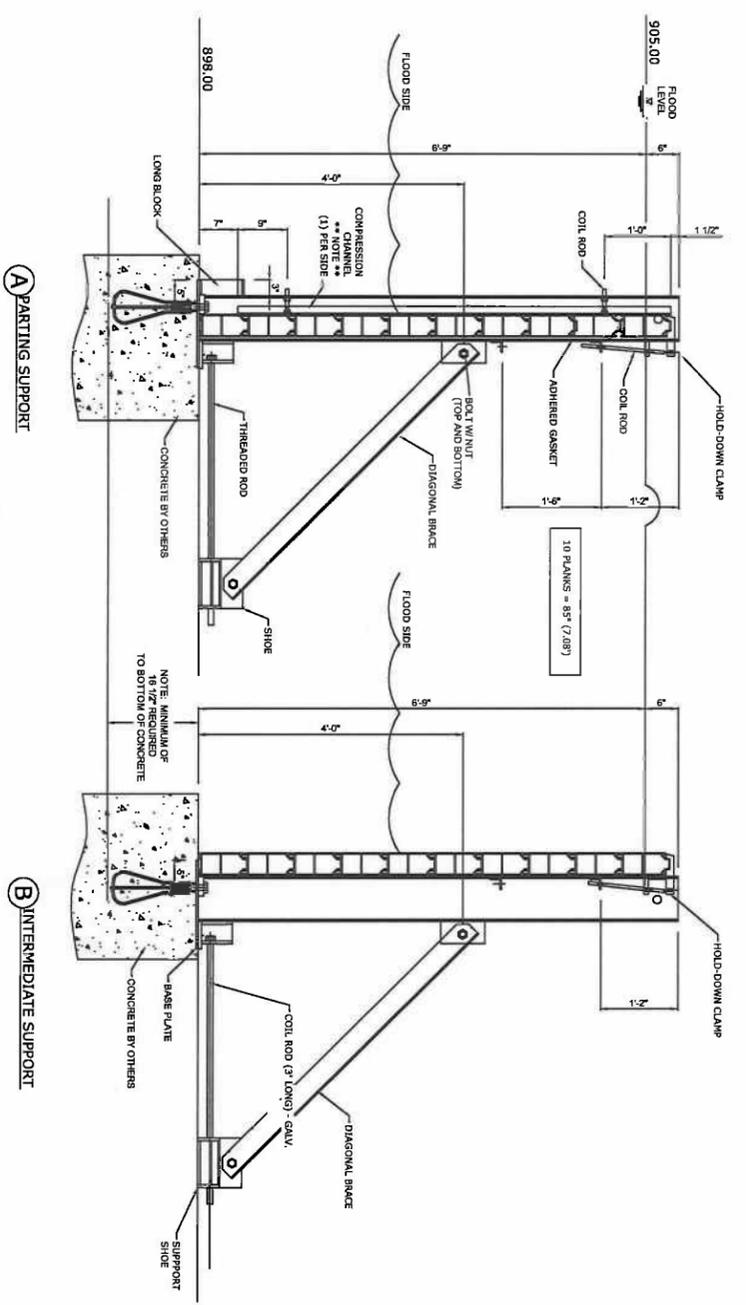


CITY OF
MOORHEAD
 MINNESOTA
 ENGINEERING DEPARTMENT
 H.H.I.C.
 Flood Mitigation
 Moorhead, Minnesota

A FLOODWALL PLAN VIEW



A FLOODWALL PROFILE VIEW
 VIEW FROM DRY SIDE



- NOTES:**
1. REMOVABLE FLOODWALL FOOTING TO THE INTO PERMANENT FLOODWALL FOOTING AND COLUMNS.
 2. CONCRETE FOOTING TO THE INTO CONCRETE APPROACH PAVEMENT. CONCRETE DETAILS TO BE SUBMITTED AS PART OF SHOP DRAWING REVIEW PROCESS. FOOTING SHALL SUPPORT APPROACH SLABS.
 3. FLOODWALL TO BE DESIGNED PER APPLICABLE ASTM, MNDOT, AND AISC STANDARDS.
 4. THE COST TO CONSTRUCT THE CONCRETE FOOTING SHALL BE INCLUDED IN THE PRICE BID FOR THE REMOVABLE FLOODWALL. ALL CONNECTIONS TO THE PROPOSED CONCRETE FLOODWALL, CONCRETE APPROACH PANELS, AND OTHER CONNECTIONS NEEDED TO PROVIDE A UNIFORM AND CONTINUOUS WALL AND FOOTING SHALL BE INCLUDED IN THE PRICE BID FOR THE REMOVABLE FLOODWALL.

REMOVABLE FLOODWALL SUPPLIERS

- A. FLOOD CONTROL AMERICA (FCA), ATTN: GEORGE FRYKLUND:
 PHONE: 978-440-8902
- B. DUE TO SPECIAL REQUIREMENTS FOR DESIGN AND MANUFACTURE OF REMOVABLE FLOODWALLS, THE FLOODWALL SHALL BE OBTAINED FROM FCA OR OTHER QUALIFIED MANUFACTURER WITH AN APPROVED EQUIVALENT PRODUCT. A REQUEST TO SUBSTITUTE ANY OTHER MANUFACTURED FLOODWALL PRODUCT MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW NOT LESS THAN SEVEN (7) CALENDAR DAYS PRIOR TO THE BID DATE. THE REQUEST MUST INCLUDE:

1. PRODUCT DRAWINGS, DETAILS, AND ALL NECESSARY TECHNICAL DATE SUFFICIENT TO QUALIFY THE PROPOSED SUBSTITUTION.
2. EVIDENCE OF COMPETENCE IN THE MANUFACTURE OF REMOVABLE FLOODWALLS SHALL BE PROVIDED TO THE OWNERS SATISFACTION AND MAY INCLUDE ANY OR ALL OF THE FOLLOWING:

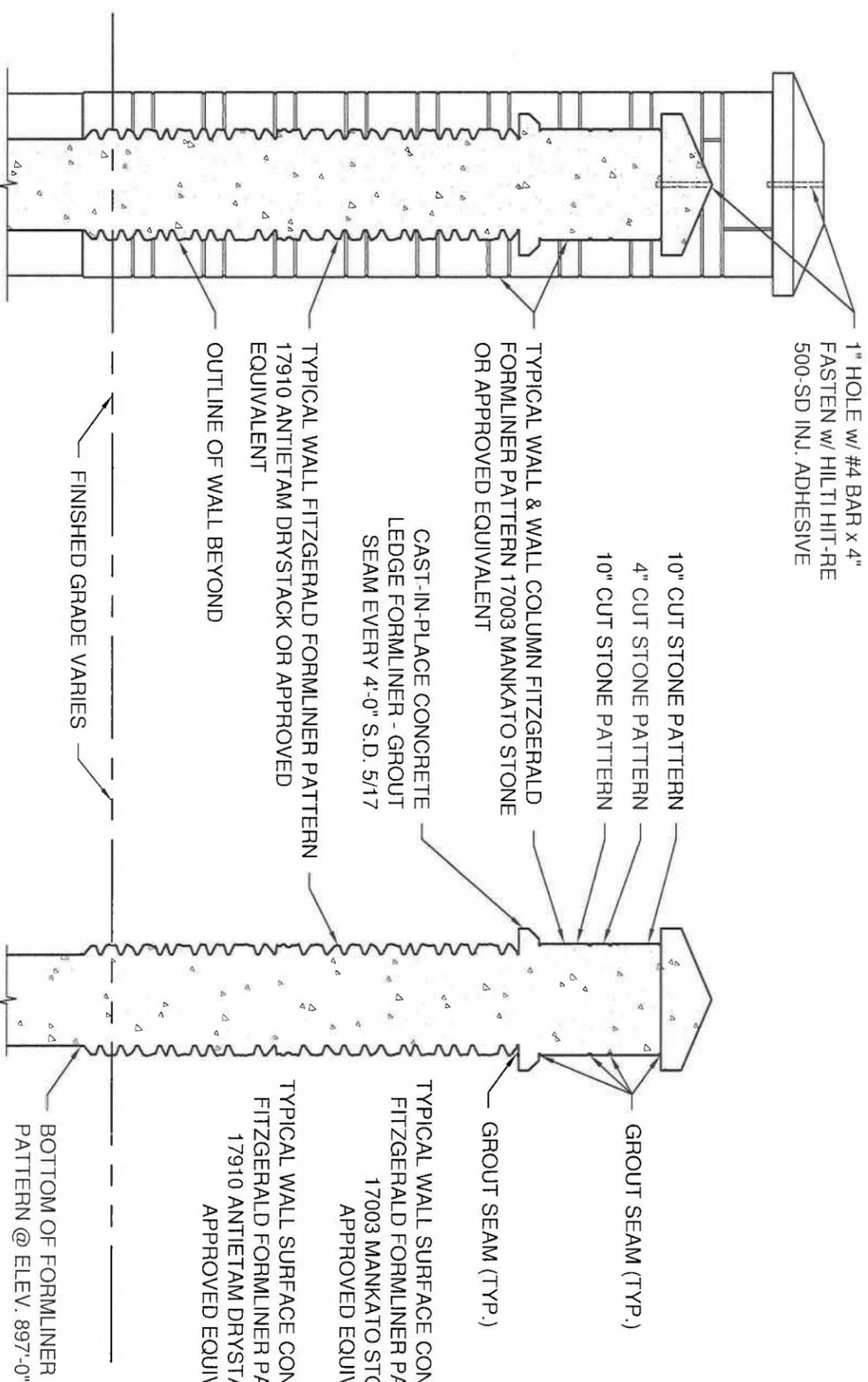
- A. AT LEAST THREE YEARS OF PRODUCTION EXPERIENCE MAKING REMOVABLE FLOODWALL, OR
- B. THE MANUFACTURER'S REMOVABLE FLOODWALLS HAVE BEEN USED SUCCESSFULLY IN AT LEAST THREE ENGINEERED CONSTRUCTION PROJECTS WITHIN THE LAST THREE YEARS, OR
- C. PRODUCT ACCEPTANCE BY THE LOCAL BUILDING CODE OFFICIAL(S) HAVING JURISDICTION OVER THE PROJECT.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: Brian J. King
 Signed: [Signature]
 Date: 8/5/2010 License Number: 45021

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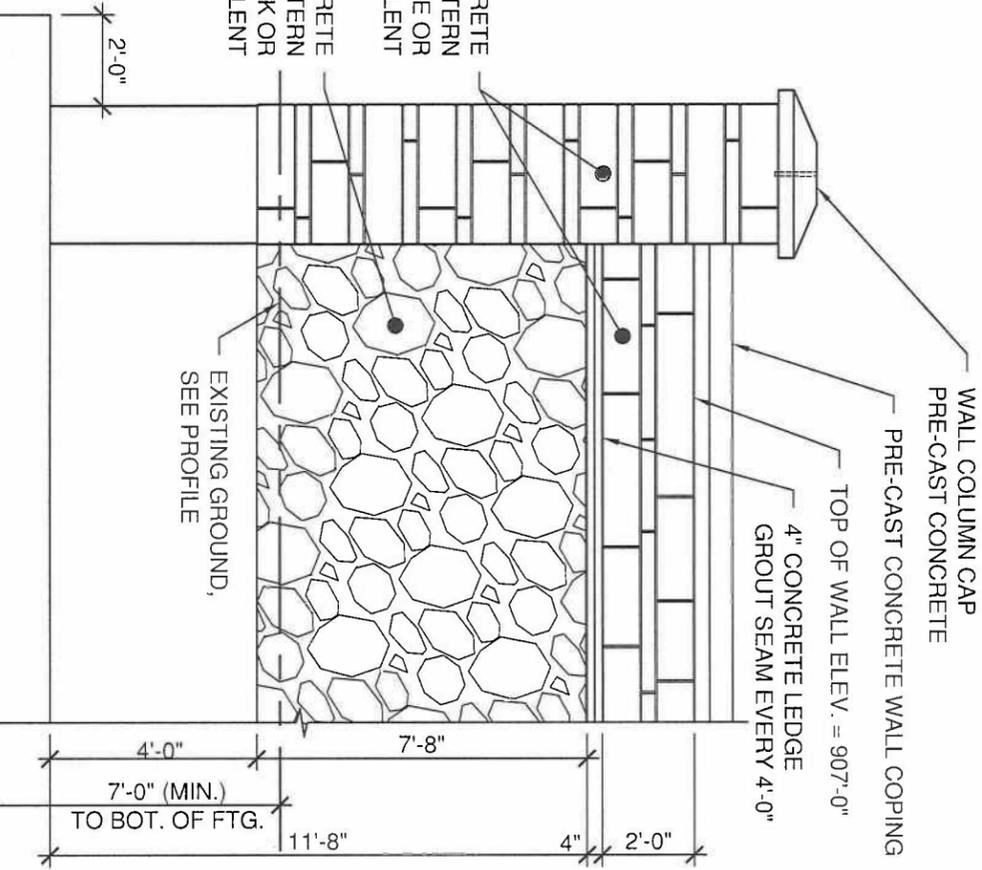
FLOODWALL DETAILS

1" HOLE w/ #4 BAR x 4"
FASTEN w/ HILTI HIT-RE
500-SD INJ. ADHESIVE

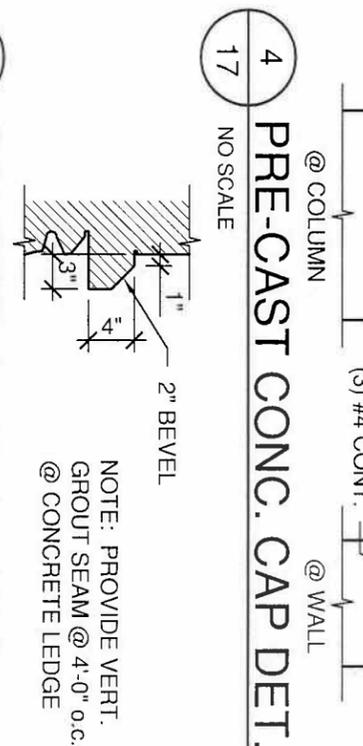


1 TYPICAL COLUMN PROFILE
NO SCALE

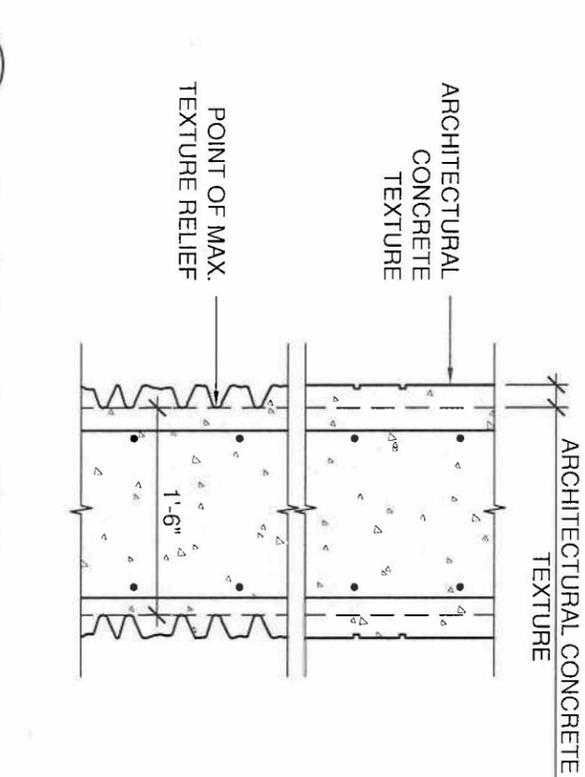
2 TYPICAL WALL PROFILE
NO SCALE



3 FLOOD WALL PROFILE
NO SCALE



4 PRE-CAST CONC. CAP DET.
NO SCALE



6 FORMLINER DETAIL
NO SCALE

5 CONCRETE LEDGE DETAIL
NO SCALE

- NOTES:
- FORMLINER SURFACES SHALL EXTEND 1'-0" BELOW FINISHED GRADE (TYP.)
 - ALL SECTIONS REQUIRE A MINIMUM COVER OF 7'-0" TO THE BOTTOM OF FOOTING FOR FROST PROTECTION. REGRADE & BACKFILL AREAS WHERE REQUIRED. SEE PROFILE SHEETS FOR FINAL GROUND LINE.

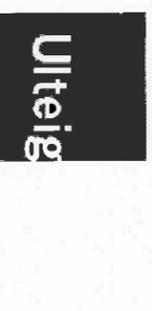
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Print Name: Cassin McManus
Signed: *Cassin McManus*
Date: 8/05/2010 License Number: 46031

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Drawn By: RCM
Checked By: CLM
Approved By: CLM

FLOOD WALL - STRUCTURAL

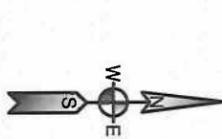
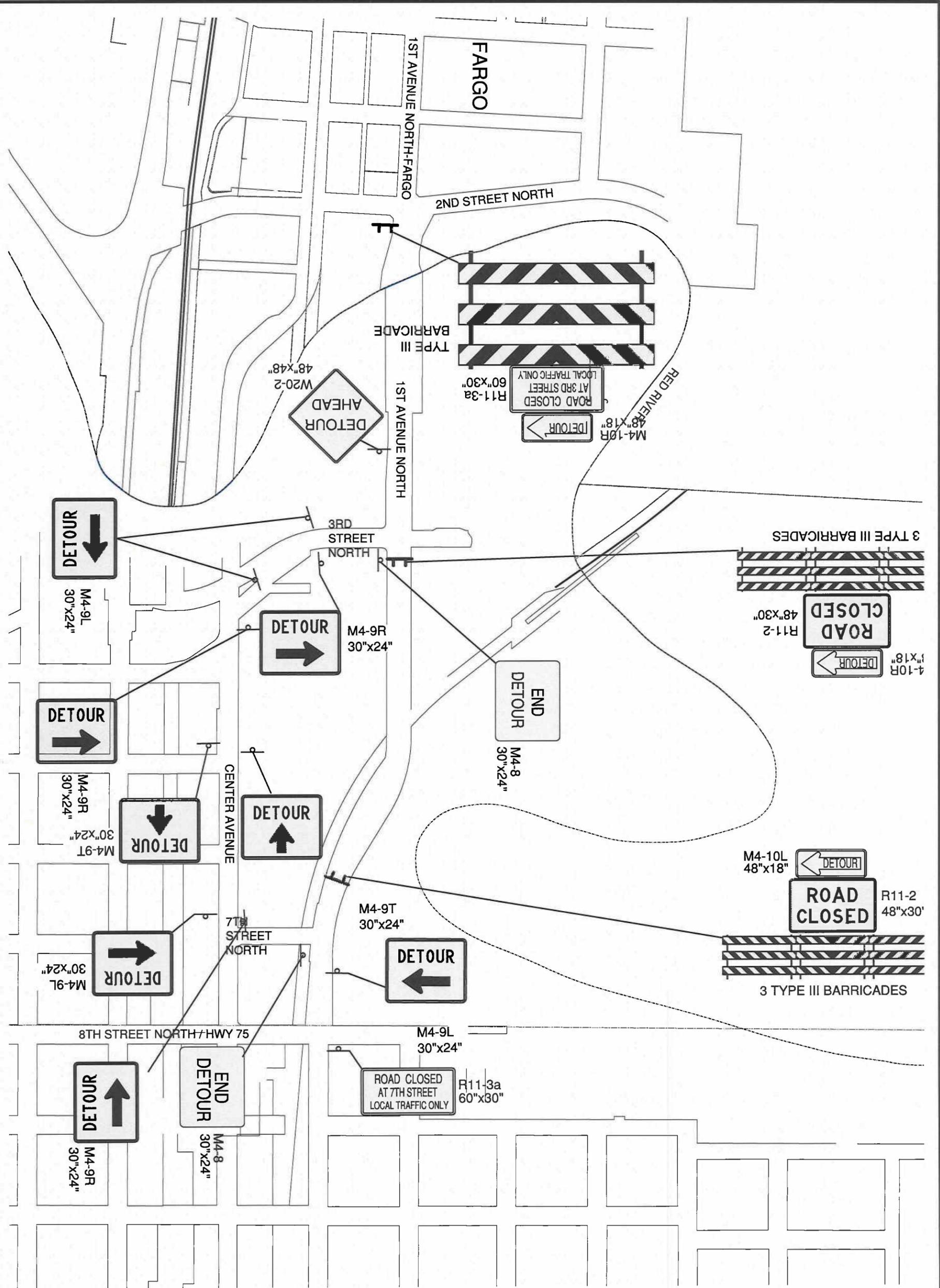
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Print Name: Brian J. King
Signed: 
Date: 8/5/2010 License Number: 45021



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Checked By: DJM
Approved By: BLK

DETOUR PLAN

Project Number: 10.0209
Date: August 5, 2010
Sheet: 19 of 22



PROJECT DESCRIPTION

1. THIS PROJECT INVOLVES THE INSTALLATION OF APPROXIMATELY 1,240 LF OF EARTHEN LEVES AND FLOOD CONTROL MEASURES. THE NATURE OF THIS WORK WILL RESULT IN DISTURBANCE TO EXISTING SOILS, RESULTING IN THE NEED FOR EROSION/SEDIMENT CONTROL MEASURES.
2. EXISTING SITE CONDITIONS: THE PROJECT SITE CONSISTS OF PREVIOUSLY DEVELOPED LAND AND RIGHT-OF-WAYS ABUTTING RESIDENTIAL AND COMMERCIAL PROPERTIES. THE PROJECT AREAS CONSIST OF BOTH IMPERVIOUS SURFACES AND PervIOUS SURFACES.
3. DRAINAGE CHARACTERISTICS: RUNOFF FROM THE EXISTING PROJECT AREAS IS PRIMARILY OVERLAND FLOW TO THE RED RIVER OF THE NORTH. A PORTION OF THE AREA DRAINS IN A STORM SEWER SYSTEM WHICH ALSO CONVEYS THE STORM RUNOFF TO THE RED RIVER OF THE NORTH. THE DRAINAGE WILL NOT BE AFFECTED BY THIS PROJECT.

CONTRACTOR'S RESPONSIBILITIES

1. THE CONSTRUCTION SITE SWPPP EROSION CONTROL (EC) SUPERVISOR FOR THE PROJECT WILL BE PROVIDED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITIES. THE EC SUPERVISOR WILL BE IDENTIFIED BY NAME AT THE PRECONSTRUCTION CONFERENCE AND A CONTACT CELL PHONE NUMBER WILL BE MADE AVAILABLE. THE CONTRACTOR SHALL SUPPLY A COPY OF THE COMPLETED EC TRAINING PROGRAM. ISSUES THAT ARISE DURING CONSTRUCTION THAT IMPACT THE WATERS OF THE STATE OF MINNESOTA WILL BE ADDRESSED AND THE EC SUPERVISOR WILL NOTIFY THE PROPER REGULATORY OFFICIAL AS LISTED BELOW:
2. IT WILL BE THE RESPONSIBILITY OF THE EC SUPERVISOR TO IMPLEMENT THE SWPPP PLAN DURING CONSTRUCTION AND TO MAINTAIN A QUALITY CONTROL PROGRAM. IN ADDITION, THE EC SUPERVISOR WILL: 1) OVERSEE MAINTENANCE PRACTICES IDENTIFIED AS BMPs IN THE SWPPP; 2) IMPLEMENT AND OVERSEE SWPPP AND BMP TRAINING FOR ALL PARTIES THAT WILL BE CONSTRUCTING THE PROJECT; 3) CONDUCT OR PROVIDE FOR INSPECTION AND MONITORING ACTIVITIES AS NECESSARY; 4) IDENTIFY OTHER POTENTIAL POLLUTANT SOURCES AND MAKE SURE THEY ARE ADDED TO THE PLAN; 5) IDENTIFY ANY DEFICIENCIES IN THE SWPPP AND MAKE SURE THEY ARE CORRECTED; 6) ENSURE THAT ANY CHANGES IN CONSTRUCTION PLANS ARE ADDRESSED IN THE SWPPP; AND 7) TO AID IN THE IMPLEMENTATION OF THE SWPPP PLAN, THE PROJECT WILL HAVE RANDOM SITE VISITS BY THE DESIGN TEAM AS WELL AS A FULL TIME INSPECTOR(S) ON SITE.

PROJECT CONTACTS

STORM WATER ENGINEER	MPCA	STATE DUTY OFFICER
ANDREA GRABTREE	JOYCE GIELLUCH	MPCA
CITY OF MOORHEAD	MPCA DETROIT LAKES	(800) 422-0798
(218) 299-5386	(218) 846-7387	

CRITICAL AREAS

1. THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO OVERLAND DRAINAGE TOWARDS THE RED RIVER AND OVER THE GOLF COURSE GROUNDS & PRIVATE PROPERTY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE COURSE AND RIVER ARE PROTECTED AT ALL TIMES.
- EROSION AND SEDIMENT CONTROL**

1. EXPOSED SOILS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
2. TEMPORARY OR PERMANENT DRAINAGE DITCHES OR SWALES WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO A SURFACE WATER, SHALL BE STABILIZED WITHIN 24 HOURS OF CONNECTION TO DISCHARGE POINT OR SURFACE WATER.
3. ENERGY DISSIPATION (RIPRAP) SHALL BE INSTALLED WITHIN 24 HOURS AFTER CONNECTION TO DISCHARGE POINT.
4. EXPOSED SLOPES ARE TO BE LEFT ROUGH, NOT SMOOTH, UNTIL PERMANENT STABILIZATION IS IMPLEMENTED.
5. EXCAVATIONS AND OTHER SOIL DISTURBING ACTIVITIES SHALL BE KEPT TO PRACTICAL MINIMUMS. NATURAL VEGETATION SHALL BE PRESERVED WHEN POSSIBLE.
6. THE CONTRACTOR SHALL MINIMIZE DUSTY CONDITIONS BY REGULARLY WATERING EXPOSED SOILS.
7. SILT FENCE SHALL BE INSTALLED PRIOR TO CONSTRUCTION AS SHOWN ON EROSION CONTROL (EC) PLAN SHEET. IF SILT FENCE BECOMES DAMAGED IT SHALL BE IMMEDIATELY REPAIRED OR REPLACED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCE PERIODICALLY AND/OR UPON THE COLLECTION OF SEDIMENT TO A POINT OF 1/2 THE FENCE HEIGHT. SILT FENCE SHALL REMAIN IN PLACE UNTIL FINAL TURF ESTABLISHMENT HAS OCCURRED.
8. BIOHOLLS SHALL BE USED AS PROVIDED ON THE EROSION CONTROL PLAN SHEET OR AS DETERMINED NECESSARY IN THE FIELD.
9. TEMPORARY STOCKPILES ARE NOT TO BE PLACED IN STORM WATER CONVEYANCES OR SURFACE WATERS AND THEY ARE TO BE SURROUNDED BY SILT FENCE.
10. ALL EQUIPMENT AND VEHICLES LEAVING THE SITE SHALL BE CLEANED OF LOOSE DEBRIS AND SOIL. EXCESSIVE TRACKING AS A RESULT OF SITE OR WEATHER CONDITIONS WILL RESULT IN THE CONSTRUCTION OF A ROCK ENTRANCE PAD. ALL SOIL AND OTHER DEBRIS TRACKED ONTO ADJACENT ROADWAYS (OUTSIDE THE PROJECT LIMITS) IS TO BE REMOVED REGULARLY AND BY THE END OF EACH DAYS WORK.
11. ALL STORM SEWER INLETS AND CULVERT INLETS ARE TO BE PROTECTED BY APPROPRIATE MANDOT APPROVED BMPs DURING CONSTRUCTION AND UNTIL ALL SOURCES OF POTENTIAL SEDIMENT PRODUCTION ARE STABILIZED. BMPs MUST BE IN PLACE PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES.

DEWATERING

1. THE INSTALLATION OF UNDERGROUND UTILITIES MAY REQUIRE DEWATERING AT VARIOUS AREAS THROUGHOUT THE PROJECT. A DEPARTMENT OF NATURAL RESOURCES (DNR) WATER APPROPRIATION PERMIT MUST BE OBTAINED PRIOR TO DEWATERING ACTIVITY. ALL DEWATER DISCHARGE WILL BE SUBJECT TO THE APPROVALS AND STIPULATIONS OF THESE PERMITS.
2. TURBID OR SEDIMENT FILLED DISCHARGE MUST BE DISCHARGED TO A TEMPORARY SEDIMENTATION BASIN OR IT MUST BE TREATED BY AN APPROPRIATE BMP BEFORE SITE DISCHARGE. DISCHARGE FROM SEDIMENTATION BASINS MUST BE PROTECTED FROM EROSION AND SCOURING BY AN ACCEPTABLE ENERGY DISSIPATION METHOD, SUCH AS ROCK RIPRAP, OR SAND BAGS.

POLLUTION PREVENTION

1. WASTE RECEPACLES WITH COVERS ARE REQUIRED ON SITE FOR ANY SOLID WASTE GENERATED DURING THE CONSTRUCTION PROCESS. THESE RECEPACLES MUST BE EMPTIED PERIODICALLY AND THE TRASH MUST BE DISPOSED OF PROPERLY.
2. HAZARDOUS MATERIALS WILL BE LIMITED TO GASOLINE, DIESEL, FUEL, AND MOTOR OIL. THE CONTRACTOR MUST MAKE THE NECESSARY ARRANGEMENTS TO STORE THESE HAZARDOUS MATERIALS IN A MANNER THAT IS COMPLIANT WITH THE MPCA REGULATIONS. SPILLS MUST BE REPORTED TO THE MPCA DUTY OFFICER AT 800-422-0798.
3. EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES WILL NOT BE ALLOWED ON THE PROJECT SITE. CONCRETE TRUCKS SHALL BE WASHED ONLY IN DESIGNATED AREAS.
4. THE CONTRACTOR SHALL PROVIDE PORTABLE REST ROOM FACILITIES AND SHALL BE CLEANED PERIODICALLY. PORTABLE RESTROOM FACILITIES AND COSTS NECESSARY TO PROPERLY MAINTAIN ARE INCIDENTAL TO MOBILIZATION.

INSPECTION AND MAINTENANCE

1. VISUAL INSPECTIONS OF ALL CLEARED AND GRADED AREAS OF THE CONSTRUCTION SITE WILL BE PERFORMED DAILY. FORMAL INSPECTIONS WILL BE DONE ONCE PER WEEK OR WITHIN 24 HOURS OF THE END OF A RAINFALL 0.5 INCHES OR GREATER, IN ACCORDANCE TO THE NPDES PERMIT. THE INSPECTIONS WILL BE CONDUCTED BY THE EC SUPERVISOR OR HIS/HER DOCUMENTED DESIGNATED STORM WATER TEAM MEMBERS. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:
 - a. DATE AND TIME OF INSPECTIONS
 - b. NAME OF PERSON(S) CONDUCTING INSPECTION; 3) FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS
 - c. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES;
 - d. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 1/2 INCH (0.5 INCHES) IN 24 HOURS
 - e. DOCUMENTATION OF CHANGES TO THE EC PLAN OR TO THE SWPPP.
2. WHEN PARTS OF THE CONSTRUCTION SITE HAVE UNDERGONE FINAL STABILIZATION, BUT WORK REMAINS ON OTHER PARTS OF THE SITE, INSPECTIONS OF THE STABILIZED AREAS MAY BE REDUCED TO ONCE PER MONTH, WHERE WORK HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS. THE REQUIRED INSPECTIONS AND MAINTENANCE MUST TAKE PLACE AS SOON AS RUNOFF OCCURS AT THE SITE OR PRIOR TO RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.
3. ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPs NECESSITATED AS A RESULT OF THIS PROJECT MUST BE INSPECTED TO ENSURE INTEGRITY AND EFFECTIVENESS. ALL NON-FUNCTIONAL BMPs MUST BE REPAIRED, REPLACED OR SUPPLEMENTED WITH FUNCTIONAL BMPs AT THE CONTRACTOR'S EXPENSE.
4. IF THE EROSION CONTROL SUPERVISOR IS UNABLE TO PERFORM THESE DUTIES DUE TO ILLNESS, VACATION OR SOME UNFORESEEN EVENT, AN EC SUPERVISOR DESIGNATE SHALL BE RESPONSIBLE FOR ALL PARTS OF THIS DOCUMENT IN THEIR REGULAR PERFORMANCE OF DUTIES.

FINAL STABILIZATION

1. ALL DISTURBED AREAS ARE TO BE RESTORED AND PERMANENTLY STABILIZED AS SPECIFIED IN THE PROJECT PLANS AND SPECIFICATIONS. FINAL RESTORATION WILL INCLUDE SEED, HYDRO MULCH, AND OTHER PRODUCTS. THE CONTRACTOR SHALL SUBMIT THE NPDES NOTICE OF TERMINATION TO THE ENGINEER WITHIN THIRTY (30) DAYS OF FINAL STABILIZATION. FINAL STABILIZATION IS CONSIDERED ACHIEVED WHEN THE FOLLOWING GUIDELINES ARE MET:
 - a. FINAL TURF ESTABLISHMENT HAS REACHED 70 PERCENT VEGETATIVE GROWTH IN ALL AREAS.
 - b. UPON FINAL TURF ESTABLISHMENT ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPs ARE REMOVED.
 - c. ALL SEDIMENT COLLECTED FROM TEMPORARY EROSION AND SEDIMENT CONTROL BMPs IS REMOVED.
 - d. ALL SEDIMENT AND OTHER DEBRIS THAT HAS COLLECTED IN THE STORM SEWER SYSTEM IS REMOVED.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Brian L. King

Signed: 

Date: 8/5/2010 License Number: 45021



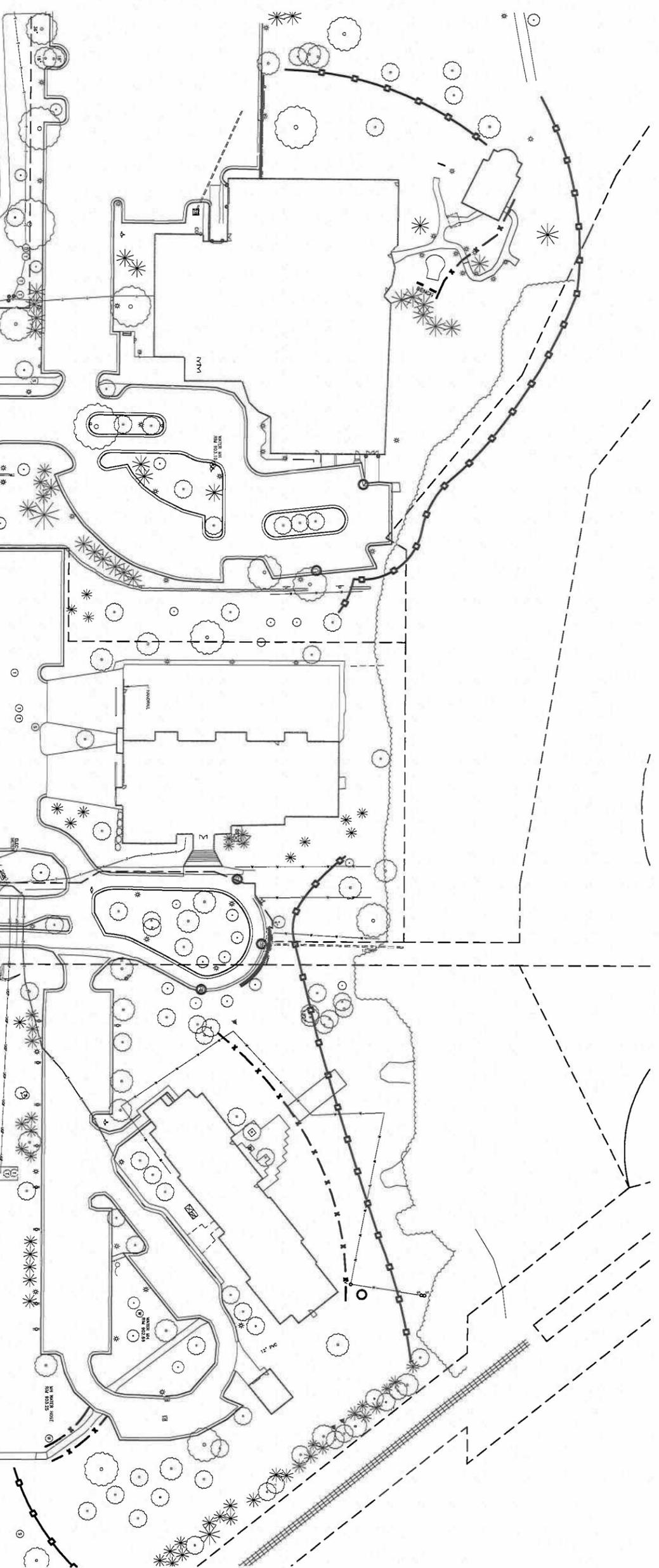
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Web: www.ulteig.com
Drawn By: KSH
Checked By: DLM
Approved By: BLK

SWPPP

H.I.C.
Flood Mitigation

Moorehead, Minnesota

- LEGEND**
- SILT FENCE
 - *— SAFETY FENCE
 - SAFETY FENCE
 - BIOROLL
 - TYPE 'C' INLET PROTECTION

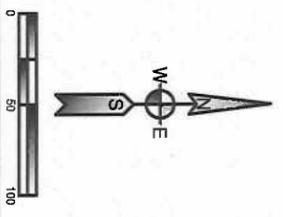


1ST AVENUE NORTH

3RD STREET NORTH

CENTER AVENUE

(4) INLET PROTECTION
 UNDER UNDERPASS



I hereby certify that this plan, specification or report was prepared by me or under direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Brian J. Kier

Signed:

Date: 8/5/2010 License Number: 45021

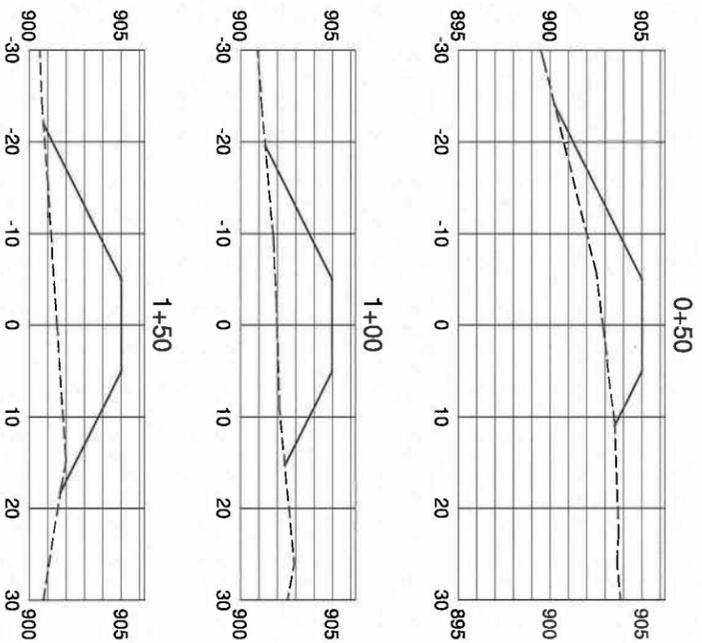


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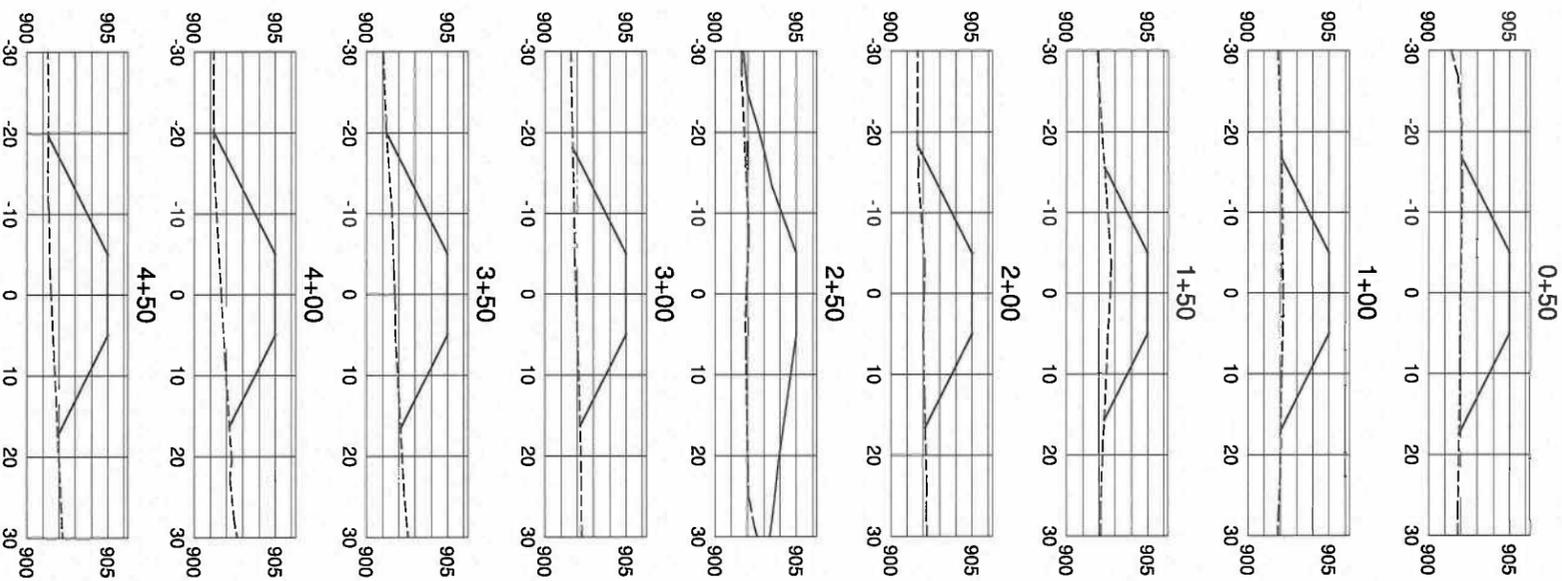
EROSION CONTROL

Project Number: 10.02298
 Date: August 5, 2010
 Streets: 21.0122

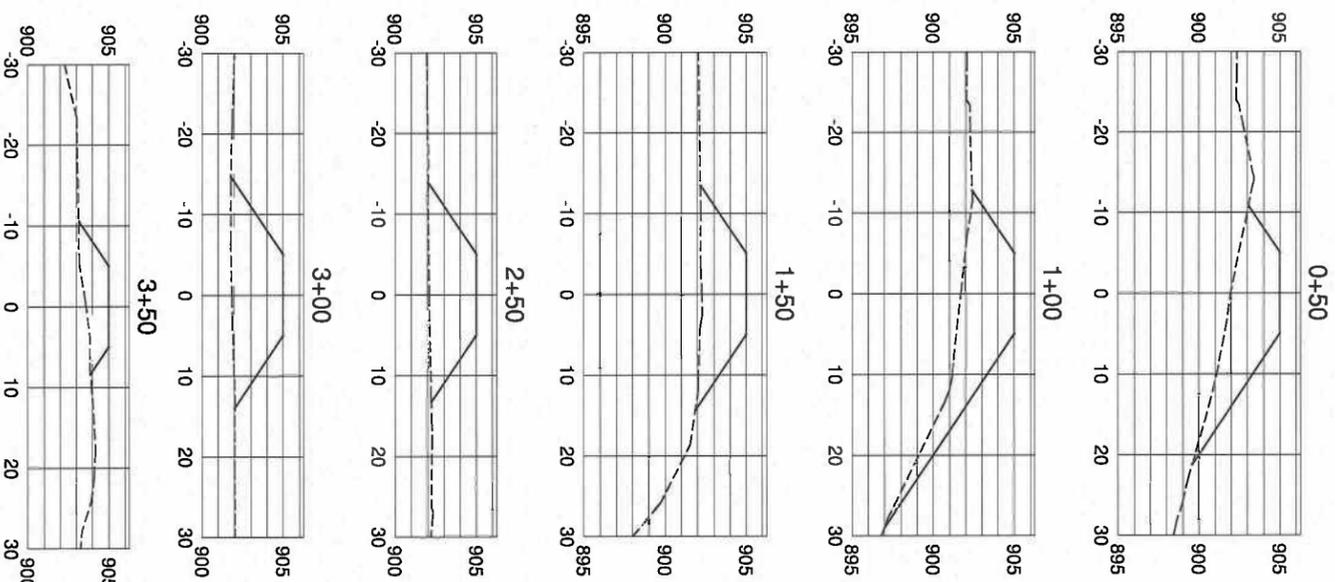
CROSS-SECTIONS - LEVEE #1



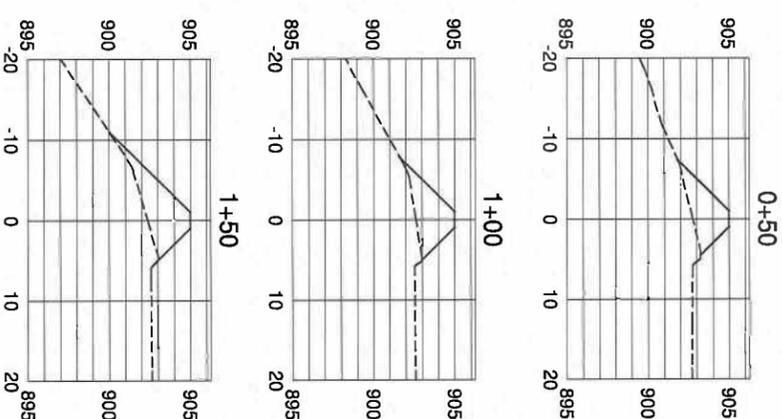
CROSS-SECTIONS - LEVEE #3



CROSS-SECTIONS - LEVEE #4



CROSS-SECTIONS - LEVEE #5



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Brian J. King

Signed:

Date: 8/5/2010 License Number: 45021



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CROSS SECTIONS