

**STUHR ROAD – BISMARK ROAD TO BURLINGTON NORTHERN SANTA FE  
RAILROAD CROSSING; PAVING PROJECT NO. 2013-P-4**

**FOR**

**CITY OF GRAND ISLAND, NEBRASKA**

**CONTRACT DOCUMENTS  
AND  
SPECIFICATIONS**

**JUNE 2013**



A handwritten signature in cursive script that reads "Terry A. Brown".

**ENGINEERING DIVISION  
DEPARTMENT OF PUBLIC WORKS  
GRAND ISLAND, NEBRASKA**

**BIDDER CHECKLIST FOR**

**STUHR ROAD – BISMARCK ROAD TO BURLINGTON NORTHERN STANTA FE  
RAILROAD CROSSING; PAVING PROJECT NO. 2013-P-4**

**CITY OF GRAND ISLAND, NEBRASKA**

**Bids must be received by the City Clerk before 2:00 p.m., (local time) on Tuesday, June 18, 2013.**

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

- 1 A completed bidder checklist form.
- 1 A signed original and one copy of the Contractor's Bid. (Pages CB-1 through CB-4)
- 1 Acknowledgment of Addenda Number(s)\_\_\_\_\_.
- 1 Firm unit pricing; or lump sum pricing as applicable. (See bid Form)
- 1 A certified check, cashiers check or bid bond in a separate envelope attached to the **outside of the envelope containing the bid**. Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information in clearly marked and separate envelopes will result in your bid not being opened.

---

Bidder Company Name

Date

---

Print – Name of Person Completing Bid

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Signature

**STUHR ROAD – BISMARK ROAD TO BURLINGTON NORTHERN SANTA FE  
RAILROAD CROSSING; PAVING PROJECT NO. 2013-P-4**

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**CITY OF GRAND ISLAND, NEBRASKA**

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# **ADVERTISEMENT TO BIDDERS**



**ADVERTISEMENT TO BIDDERS  
for**

**STUHR ROAD – BISMARK ROAD TO BURLINGTON NORHERN SANTA FE  
RAILROAD CROSSING; PAVING PROJECT NO. 2013-P-4**

for  
CITY OF GRAND ISLAND, NEBRASKA

Sealed bids will be **received at the office of the City Clerk**, 100 E. First Street., Grand Island, NE 68801 or P.O. Box 1968, Grand Island, Nebraska 68802 until **2:00 p.m., (Local Time), Tuesday, June 18, 2013**, for the construction of **Stuhr Road – Bismark Road to Burlington Northern Santa Fe Railroad (BNSFRR) Crossing; Paving Project No. 2013-P-4** for the City of Grand Island. Bids will be publicly opened at this time in the Conference Room #1 located on 1st floor of City Hall. Bids received after specified time will be returned unopened to sender.

Bids shall be submitted on forms which will be furnished by the City. Each bidder shall submit with their bid a certified check, a cashiers check or bid bond payable to the City Treasurer in an amount no less than five percent (5%) of the bid price which shall guarantee good faith on the part of the bidder and the entering into a contract within 15 days, at the bid price, after acceptance by the City. **“Your certified check, cashiers check or bid bond must be submitted in a separate envelope attached to the outside of the envelope containing the bid.”** Each envelope must be clearly marked indicating its contents. **Failure to submit the necessary qualifying information in clearly marked and separate envelopes will result in your bid not being opened or considered.** Bid bonds must be issued by surety companies authorized to do business in the State of Nebraska. **Please return one original and one copy of each bid sheet.**

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

Successful bidder shall comply with the City's insurance requirements, and supply performance and payment bonds. Successful bidder shall maintain a Drug Free Workplace Policy.

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

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

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

No bidder may withdraw their bid for a period of forty-five (45) days after date of opening bids.

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

**SECTION 504/ADA NOTICE TO THE PUBLIC:** The City of Grand Island does not discriminate on the basis of disability in admission of its programs, services, or activities, in access to them, in treatment of individuals with disabilities, or in any aspect of their operations. The City of Grand Island also does not discriminate on the basis of disability in its hiring or employment practices.

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

Mary Lou Brown  
308-385-5444, extension 140  
100 East First Street, Grand Island, NE 68801  
Monday through Friday; 8:00 a.m. to 5:00 p.m.

Plans and specifications for use in preparing bids may be obtained from the office of the City Engineer, Second Floor, City Hall, 100 East First Street, Grand Island, NE.

RaNae Edwards  
City Clerk

# **CONTRACTOR'S BID**

**STUHR ROAD – BISMARCK ROAD TO BURLINGTON NORTHERN SANTA FE  
RAILROAD CROSSING; PAVING PROJECT NO. 2013-P-4**

CITY OF GRAND ISLAND, NEBRASKA

**CONTRACTOR'S BID**

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

THE UNDERSIGNED BIDDER, having examined the plans, specifications, general and special conditions, and other proposed contract documents, and all addenda thereto and being acquainted with and fully understanding (a) the extent and character of the work covered by this Bid, (b) the location, arrangement, and specified requirements for the proposed work, (c) the location, character, and condition of existing streets, roads, highways, railroad, pavements, surfacing, walks, driveways, curbs, gutters, trees, sewers, utilities, drainage courses and structures, and other installations, both surface and underground which may affect or be affected by the proposed work, (d) the nature and extent of the excavations to be made and the handling and re-handling of excavated materials, (e) the location and extent of necessary or probable dewatering requirements, (f) the difficulties and hazards to the work which might be caused by storm and flood water, (g) local conditions relative to labor, transportation, hauling and rail delivery facilities, and (h) all other factors and conditions affecting or which may be affected by the work.

HEREBY PROPOSES to furnish all required materials, supplies, equipment, tools and plans, to perform all necessary labor and supervision, and to construct, install, erect, equip and complete all work stipulated in, required by and in accordance with the contract documents and the plans, specifications and other documents referred to therein (as altered, amended or modified by all addenda thereto) for and in consideration of the following prices:

**BASE BID SECTION**

<b>No.</b>	<b>Description</b>	<b>Estimated Quantity</b>	<b>Firm Unit Price</b>	<b>Total Price</b>
1	Mobilization	1.0 l.s.	\$	\$
2	Construction Staking & Surveying	1.0 l.s.	\$	\$
3	General Clearing & Grubbing	1.0 l.s.	\$	\$
4	Earthwork Measured in Embankment	392.0 c.y.	\$	\$
5	Remove Driveway	195.0 s.y.	\$	\$
6	Cold Milling	5,349.0 s.y.	\$	\$
7	Bituminous Foundation Course 12"	1,912.0 s.y.	\$	\$
8	Preparation of Intersections & Driveways	694.0 s.y.	\$	\$
9	Asphaltic Concrete	12.0 ton	\$	\$
10	Labor for Concrete Overlay and Dowels for Doweled Concrete Pavement, Class 47B-3500 and	6,033.0 s.y.	\$	\$

	47B-HE-3500			
11	Class 47B-3500 PCC for Overlay	1,500.0 c.y.	\$	\$
12	Class 47B-HE-3500 PCC for Overlay	60.0 c.y.	\$	\$
13	Concrete 47B-3500 Driveway	300.0 s.y.	\$	\$
14	Concrete 47B-3500 Driveway 8"	395.0 s.y.	\$	\$
15	Mailbox Post	2.0 ea.	\$	\$
16	Crushed Rock Surface Course	85.5 ton	\$	\$
17	Crushed Rock for Temporary Surfacing	25.0 ton	\$	\$
18	Earth Shoulder Construction	38.9 sta.	\$	\$
19	4" White Preformed Pavement Marking, Type 4, Grooved	3,660.0 lin. ft.	\$	\$
20	4" Yellow Preformed Pavement Marking, Type 4, Grooved	980.0 lin. ft.	\$	\$
21	Railroad Crossing Symbol Preformed Pavement Marking, Type 4, Grooved	2.0 ea.	\$	\$
22	Seeding, Type B	1.2 acre	\$	\$
23	Mulch	2.4 ton	\$	\$
24	Temporary Mulch	2.4 ton	\$	\$
25	Sodding	2,500.0 s.f.	\$	\$
26	Temporary Sign Day	600.0 ea.	\$	\$
27	Barricade, Type II	2,300.0 BDay	\$	\$
28	Barricade, Type III	300.0 BDay	\$	\$
23	Flagging	20.0 day	\$	\$
30	Railroad Coordination	1.0 l.s.	\$	\$

**TOTAL BASE BID \$ \_\_\_\_\_**

**ALTERNATE BID ITEMS**

10A	Labor for Concrete Overlay and Dowels for Doweled Concrete Pavement, Class 47B-3500 and 47B-HE-3500	6,033.0 s.y.	\$	\$
11A	Class 47B-HE-3500 PCC for Overlay	1,560.0 c.y.	\$	\$

**TOTAL ALTERNATE BID** \$ \_\_\_\_\_

**EXPERIENCE DATA:**

Each bidder shall supply the following data on their experience:

Name of Bidder: \_\_\_\_\_

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Additional Data: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

**ADDENDA:**

Bidder acknowledges that the following Addendums were received and considered in Bid preparation.

ADDENDUM NO.

DATE

SIGNATURE

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Exceptions shall be listed in the following blanks. If additional space is required for exception explanation, please reference and attach a letter to bid. Reference shall not be made to other attachments for exceptions and supplementary terms. Failure to outline such exceptions as specifically stated herein will require the successful bidder to comply with these specifications. In case of conflict between the bid and these specifications, these specifications shall govern unless specific exceptions are listed by the bidder.

Exceptions to specifications, pages \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The undersigned bidder agrees to furnish the required performance & payment bond and to enter into a contract within 15 days after acceptance of this Bid, and further agrees to complete all work covered by the foregoing bid in accordance with specified requirements. **No work shall commence until the Certificate of Insurance and bonds (when required) are approved by the City and the contract is executed.** The proposed work can commence after the contract is signed and the required bond is approved. **Work on this contract is to be substantially complete no later than September 12, 2013. All work is to be completed no later than October 31, 2013.**

Enclosed herewith is the required bid guarantee in the amount of

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

which the undersigned bidder agrees is to be forfeited to and become the property of the City of Grand Island, Nebraska, as liquidated damages should this Bid be accepted and a contract be awarded to them and they fail to enter into a contract in the form prescribed and to furnish the required bond within 15 days, but otherwise the aforesaid bid guarantee will be returned upon signing the contract and delivering the approved bond

In submitting the bid it is understood that the right is reserved by the City to reject any and all bids; to waive irregularities therein and to accept whichever bid that may be in the best interest of the City. It is understood that this bid may not be withdrawn by the bidder until after 45 days from bid opening.

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

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

DATED \_\_\_\_\_

**SIGNATURE OF BIDDER:**

If an Individual: \_\_\_\_\_ doing business

as \_\_\_\_\_

If a Partnership: \_\_\_\_\_

by \_\_\_\_\_, member of firm.

If a Corporation: \_\_\_\_\_

by \_\_\_\_\_ (Seal)

Title

\_\_\_\_\_

**BUSINESS ADDRESS OF BIDDER**

\_\_\_\_\_

\_\_\_\_\_

**TELEPHONE NUMBER OF BIDDER**

**FAX NUMBER OF BIDDER**

\_\_\_\_\_



# **INSTRUCTIONS TO BIDDERS**

## INSTRUCTIONS TO BIDDERS

### **STUHR ROAD – BISMARK ROAD TO BURLINGTON NORTHERN SANTA FE RAILROAD CROSSING; PAVING PROJECT NO. 2013-P-4**

#### **CITY OF GRAND ISLAND, NEBRASKA**

**EXCEPTIONS TO SPECIFICATIONS:** Each bidder shall carefully check all requirements herein set forth and shall offer items which fully comply with these requirements or shall plainly set forth all points, features, conditions, specifications.

**SUBMISSION OF BIDS:** All bids shall be submitted using the City's bid form. Bids shall **be addressed to the City Clerk** and plainly marked, "**BID FOR STUHR ROAD – BISMARK ROAD TO BURLINGTON NORTHERN SANTA FE RAILROAD CROSSING; PAVING PROJECT NO. 2013-P-4**".

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

**BASE BID:** The bidder is expected to base their bids on materials and items complying fully with these specifications, and in the event the contractor names in the bid materials items which do not conform, they will be responsible for furnishing materials and items which fully conform at no change in the bid price.

**BIDDER QUALIFICATION:** Bids will be received only from qualified bidders. A bidder will be considered qualified if they are a recognized manufacturer or supplier of materials and items similar to that specified herein with complete factory facilities in the United States and has had experience in the design and manufacture of items of equal or greater size than that specified herein. If requested, the Bidder shall supply experience data. Such data will be used to assist in determining the qualifications of the Bidder. Bidder must comply with all applicable Federal, State and Local rules and regulations.

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

**CHECKS OR BID BONDS:** Checks or bid bonds of the unsuccessful bidders will be returned when their bids have been rejected and not to exceed 45 days from the date bids are opened. All bids shall remain in force for this 45-day Period. The check or bid bond of the successful bidder will be returned when the Contracts are signed by both parties and necessary bonds supplied. Should the

Purchaser make an award to a Contractor who refuses to enter into Contract and furnish the required bonds within 15 days after notification of acceptance, then the bid security which has been deposited with the Purchaser will be forfeited to the Purchaser as liquidated damages.

**PERFORMANCE BOND:** When required, on award of the Contract, the successful Contractor shall furnish a Performance Bond which shall be in an amount equal to the full Contract price, guaranteeing faithful compliance with all requirements of the Contract Documents and complete fulfillment of the Contract, and payment of all labor, material and other bills incurred in carrying out this Contract. According to Nebraska Law, the surety company executing the Performance Bond must be authorized to do business in the State of Nebraska.

**PAYMENT BOND:** When required, on award of the Contract, the successful Contractor shall furnish a Payment Bond which shall be in an amount equal to the full Contract price, guaranteeing protection of all persons supplying labor and materials to the Contractor or its subcontractors for the performance of the work provided for in the Contract. In accordance with Nebraska Law, the surety company executing the Payment Bond must be authorized to do business in the State of Nebraska.

**TAXES:** The City of Grand Island is exempt from paying local City and State Sales Tax for materials incorporated into the work. Refer to Exempt Sale Certificate enclosed for your information. Contractor must pay any other tax which might be applicable.

**REQUESTS FOR PAYMENT:** The City of Grand Island will make payments only after approval at regularly scheduled City Council meetings. These meetings typically occur the second and fourth Monday each month. Requests for payment must be received no less than ten working days prior to the designated meeting to allow proper review and consideration. Progress Payments will be permitted during the project, so long as work is being done to the City's satisfaction unless otherwise stated in bidding documents.

**REQUEST FOR INTERPRETATION:** If any person, contemplating submitting a bid for this Contract is in doubt as to the true meaning of any part of the specifications or other proposed Contract documents, they may submit to the Purchasing Department a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addendum only issued and/or delivered to each person receiving a set of such documents. The addenda upon closing shall become a part of the Contract. The Purchasing Department will not be responsible for any other explanation or interpretation of the proposed documents.

**TIME OF COMPLETION:** Work on this contract is to be substantially complete no later than September 12, 2013. All work is to be completed no later than October 31, 2013.

**CLEANING UP:** Contractor shall maintain a clean and safe work area while on site.

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

**MODIFICATION OF BIDS:** Bids may be modified or withdrawn by an appropriate document duly executed in the manner that a bid must be executed and delivered to the place where bids are to be submitted at any time prior to the final time set for receiving bids. Bidders may modify or withdraw bids by Fax communication at any time prior to the time set for receiving bids provided this instruction is positively identified. Any Fax modification should not reveal the amended bid price but should provide only the addition, subtraction or other modifications. A duly-executed document confirming the Fax modification shall be submitted within three days after bids are opened.

**BID DATA:** Bidders shall submit bid data, if required, on items offered in the Bid by **furnishing one original and one copy of the completed Contractor's Bid form**. The bid sheets shall be filled out legibly in ink to permit reproduction.

**BIDDER SECURITY:** Bidder security, when required, shall be enclosed in a special envelope marked, **"BIDDER SECURITY/BID FOR STUHR ROAD – BISMARK ROAD TO BURLINGTON NORTHERN SANTA FE RAILROAD CROSSING; PAVING PROJECT NO. 2013-P-4"**. The envelope shall contain only a cashier's check, certified check or bidder's bond.

**This special envelope shall be attached to a sealed envelope containing the bid and any other bid materials. This second envelope shall be "BID FOR STUHR ROAD – BISMARK ROAD TO BURLINGTON NORTHERN SANTA FE RAILROAD CROSSING; PAVING PROJECT NO. 2013-P-4" and be addressed to the City Clerk.** Bids of an incomplete nature or subject to multiple interpretation may, at the option of the Purchaser, be rejected as being irregular.

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

**DRUG FREE WORKPLACE POLICY:** Bidders shall furnish, upon request, a copy of their Drug Free workplace Policy.

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

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

**TITLE VI:** The City of Grand Island, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office the Secretary, Part 21, Nondiscrimination in Federally assisted programs of the Department of Transportation issued pursuant to such Act, hereby notified all bidden that it will affirmatively insure that in any contact entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity

to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin, sex, age and disability/handicap in consideration for an award.

**SECTION 504/ADA NOTICE TO THE PUBLIC:** The City of Grand Island does not discriminate on the basis of disability in admission of its programs, services, or activities, in access to them, in treatment of individuals with disabilities, or in any aspect of their operations. The City of Grand Island also does not discriminate on the basis of disability in its hiring or employment practices.

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

Mary Lou Brown  
308-385-5444, extension 140  
100 East First Street, Grand Island, NE 68801  
Monday through Friday; 8:00 a.m. to 5:00 p.m.

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

**CORRESPONDENCE:** Correspondence regarding drawings, instruction manuals, and other engineering data shall be clearly marked "FOR ENGINEERING DEPARTMENT" and sent through:

City of Grand Island  
Public Works Department/Engineering Division  
P.O. Box 1968  
Grand Island, NE 68802-1968  
(308) 385-5444, Extension 260  
Attn: Terry Brown

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

1. To those bidders who manufacture their products within the limits of the City of Grand Island.
2. To those bidders who manufacture their products within the limits of the County of Hall.
3. To those bidders who package, process, or through some other substantial operation have employees and facilities for these purposes in the City of Grand Island.
4. To those bidders who package, process, or through some other substantial operation have employees and facilities for these purposes in the County of Hall.
5. To those bidders who maintain a bona fide business office in the City of Grand Island, whose products may be made outside the confines of the City of Grand Island.
6. To those bidders who maintain a bona fide business office in the County of Hall, whose products may be made outside the confines of the County of Hall.
7. To those bidders whose commodities are manufactured, mined, produced, or grown within the State of Nebraska, and to all firms, corporations, or individuals doing business as Nebraska firms, corporations or individuals, when quality is equal or better, and delivered price is the same or less than the other bids received.
8. To those bidders whose commodities are manufactured, mined, produced, or grown within the United States of America, and to all firms, corporations, or individuals doing business as firms registered in states other than Nebraska, when quality is equal or better, and delivered price is the same or less than the other bids received.

# **INSURANCE REQUIREMENTS**

## MINIMUM INSURANCE REQUIREMENTS

### STUHR ROAD – BISMARCK ROAD TO BURLINGTON NORTHERN SANTA FE RAILROAD CROSSING; PAVMING PROJECT NO. 2013-P-4

CITY OF GRAND ISLAND, NEBRASKA

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

The successful bidder shall obtain insurance from companies authorized to do business in Nebraska of such types and in such amounts as may be necessary to protect the bidder and the interests of the City against hazards or risks of loss as hereinafter specified. This insurance shall cover all aspects of the Bidder's operations and completed operations. Failure to maintain adequate coverage shall not relieve bidder of any contractual responsibility or obligation. Minimum insurance coverage shall be the amounts stated herein or the amounts required by applicable law, whichever are greater.

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

This insurance shall protect the Bidder against all claims under applicable State workers compensation laws. This insurance shall provide coverage in every state in which work for this project might be conducted. The liability limits shall not be less than the following:

Workers Compensation	Statutory Limits
Employers Liability	\$100,000 each accident
	\$100,000 each employee
	\$500,000 policy limit

#### **2. BUSINESS AUTOMOBILE LIABILITY**

This insurance shall be written in comprehensive form and shall protect the Bidder, Bidder's employees, or subcontractors from claims due to the ownership, maintenance, or use of a motor vehicle. The liability limits shall be not less than the following:

Bodily Injury & Property Damage	\$ 500,000 Combined Single Limit
---------------------------------	----------------------------------

#### **3. COMPREHENSIVE GENERAL LIABILITY**

The comprehensive general liability coverage shall contain no exclusion relative to explosion, collapse, or underground property. The liability limits shall be not less than the following:

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

#### **4. UMBRELLA LIABILITY INSURANCE**

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

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

## **5. ADDITIONAL REQUIREMENTS**

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

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

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

## **6. CERTIFICATE OF INSURANCE**

Satisfactory certificates of insurance shall be filed with the City prior to starting any work on this Contract. **The certificates shall show the City as an additional insured on all coverage except Workers Compensation. The certificate shall state that thirty (30) days written notice shall be given to the City before any policy is cancelled (strike the "endeavor to" wording often shown on certificate forms). If the bidder cannot have the "endeavor to" language stricken, the bidder may elect to provide a new certificate of insurance every 30 days during the contract. Bidder shall immediately notify the City if there is any reduction of coverage because of revised limits or claims paid which affect the aggregate of any policy.**



**EXEMPT SALE CERTIFICATE**

**TAX FORM 13**



# Nebraska Resale or Exempt Sale Certificate for Sales Tax Exemption

FORM  
13

• Read instructions on reverse side/see note below

NAME AND MAILING ADDRESS OF PURCHASER			NAME AND MAILING ADDRESS OF SELLER		
Name City of Grand Island			Name Larry's Appliance		
Street or Other Mailing Address PO Box 1968			Street or Other Mailing Address 518 W. 3rd		
City Grand Island	State NE	Zip Code 68802	City Grand Island	State NE	Zip Code 68801

**Check Type of Certificate**

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

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

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

### SECTION A—Nebraska Resale Certificate

Description of Item or Service Purchased

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

I further certify that we are engaged in business as a:     Wholesaler     Retailer     Manufacturer     Lessor  
of Description of Product Sold, Leased, or Rented

If None, State Reason

and hold Nebraska Sales Tax Permit Number    01-

or Foreign State Sales Tax Number    State

### SECTION B—Nebraska Exempt Sale Certificate

The basis for this exemption is exemption category    1    (Insert appropriate category as described on reverse of this form.)

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

Description of Item(s) Purchased    Intended Use of Item(s) Purchased

If exemption categories 3 or 4 are claimed, enter the Nebraska Exemption Certificate number.    05-

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

Description of Item(s) Sold    Date of Seller's Original Purchase    Was Tax Paid when Purchased by Seller?    Was Item Depreciable?  
 YES     NO     YES     NO

### SECTION C—For Contractors Only

**1. Purchases of Building Materials or Fixtures:**

As an Option 1 or Option 3 contractor, I hereby certify that purchases of building materials and fixtures from the above seller are exempt from Nebraska sales tax. My Nebraska Sales or Consumer's Use Tax Permit Number is:    01-

**2. Purchases Made Under Purchasing Agent Appointment on behalf of \_\_\_\_\_:**  
(exempt entity)

Pursuant to an **attached** Purchasing Agent Appointment and Delegation of Authority for Sales and Use Tax, Form 17, I hereby certify that purchases of building materials, and fixtures are exempt from Nebraska sales tax.

Any purchaser, or their agent, or other person who completes this certificate for any purchase which is other than for resale, lease, or rental in the regular course of the purchaser's business, or is not otherwise exempted from the sales and use tax under Neb. Rev. Stat. §§77-2701 through 77-27,135, shall in addition to any tax, interest, or penalty otherwise imposed, be subject to a penalty of \$100 or ten times the tax, whichever amount is larger, for each instance of presentation and misuse. With regard to a blanket certificate, this penalty shall apply to each purchase made during the period the blanket certificate is in effect. Under penalties of law, I declare that I am authorized to sign this certificate, and to the best of my knowledge and belief, it is correct and complete.

**sign  
here**

Authorized Signature

Title

Date

**NOTE: Sellers must keep this certificate as part of their records. DO NOT SEND TO THE NEBRASKA DEPARTMENT OF REVENUE.**

**Incomplete certificates cannot be accepted.**

**www.revenue.ne.gov, (800) 742-7474 (toll free in NE and IA), (402) 471-5729**

## INSTRUCTIONS

**WHO MAY ISSUE A RESALE CERTIFICATE.** Form 13, Section A, is to be issued by persons or organizations making purchases of property or taxable services in the **normal** course of their business for the purpose of resale either in the form or condition in which it was purchased, or as an ingredient or component part of other property.

**WHO MAY ISSUE AN EXEMPT SALE CERTIFICATE.** Form 13, Section B can only be issued by persons or organizations exempt from payment of the Nebraska sales tax by qualifying for one of the six enumerated **Categories of Exemption** (see below). Nonprofit organizations that have a 501(c) designation and are exempt from federal and state income tax are **not** automatically exempt from **sales** tax. Only the entities listed in the referenced regulations are exempt from paying Nebraska sales tax on their purchases when the exemption certificate is properly completed and provided to the seller. Organizations claiming a sales tax exemption may do so only on items purchased for their own use. For health care organizations, the exemption is limited to the specific level of health care they are licensed for. The exemption is not issued to the entire organization when multiple levels of health care or other activities are provided or owned by the organization. Items purchased by an exempt organization that will be resold must be supported by a properly completed Nebraska Resale Certificate, Form 13, Section A.

Indicate the category which properly reflects the basis for your exemption. Place the corresponding number in the space provided in Section B. If category 2 through 6 is the basis for exemption, you must complete the information requested in Section B.

Nebraska Sales and Use Tax Reg-1-013, Sale for Resale – Resale Certificate, and Reg-1-014, Exempt Sale Certificate, provide additional information on the proper issuance and use of this certificate. These and other regulations referred to in these instructions are available on our Web site: [www.revenue.ne.gov/legal/regs/slstaxregs](http://www.revenue.ne.gov/legal/regs/slstaxregs).

**Use Form 13E for purchases of energy sources which qualify for exemption. Use Form 13ME for purchases of mobility enhancing equipment on a motor vehicle.**

**CONTRACTORS.** Form 13, Section C, Part 1, must be completed by contractors operating under Option 1 or Option 3 to document their tax-free purchase of building materials or fixtures from their suppliers. Section C, Part 2, may be completed to exempt the purchase of building materials or fixtures pursuant to a Purchasing Agent Appointment, Form 17. See the contractor information guides on our Web site [www.revenue.ne.gov](http://www.revenue.ne.gov) for additional information.

**WHERE TO FILE.** Form 13 is given to the seller at the time of the purchase of the property or service or when sales tax is due. The certificate must be retained with the seller's records for audit purposes. Do not send to the Department of Revenue.

**SALES TAX NUMBER.** A purchaser who completes Section A and is engaged in business as a wholesaler or manufacturer is not required to provide an identification number. Out-of-state purchasers can provide their home state sales tax number. Section B does not require an identification number when exemption category 1, 2, or 5 is indicated.

**PROPERLY COMPLETED CERTIFICATE.** A purchaser must complete a certificate before issuing it to the seller. To properly complete the certificate, the purchaser must include: (1) identification of the purchaser and seller, (2) a statement whether the certificate is for a single purchase or is a blanket certificate,

(3) a statement of basis for exemption including completion of all information for the basis chosen, (4) the signature of an authorized person, and (5) the date the certificate was issued.

**PENALTIES.** Any purchaser who gives a Form 13 to a seller for any purchase which is other than for resale, lease, or rental in the **normal** course of the purchaser's business, or is not otherwise exempted from sales and use tax under the Nebraska Revenue Act, shall be subject to a penalty of \$100 or ten times the tax, whichever amount is larger, for each instance of presentation and misuse.

Any purchaser, or their agent, who fraudulently signs a Form 13 may be found guilty of a Class IV misdemeanor.

### CATEGORIES OF EXEMPTION

**1.** Purchases made directly by certain governmental agencies identified in Nebraska Sales and Use Tax Reg-1-012, Exemptions; Reg-1-072, United States Government and Federal Corporations; and Reg-1-093, Governmental Units, are exempt from sales tax. A list of specific governmental units are provided in the above regulations. Governmental units are not assigned exemption numbers.

Sales to the United States government, its agencies, and corporations wholly owned by the United States government are exempt from sales tax. However, sales to institutions chartered or created under federal authority, but which are not directly operated and controlled by the United States government for the benefit of the public, generally are taxable. Construction projects for federal agencies have specific requirements, see Reg-1-017 Contractors.

Purchases that are **not** exempt from Nebraska sales and use tax include, but are not limited to, governmental units of other states, sanitary and improvement districts, urban renewal authorities, rural water districts, railroad transportation safety districts, and county historical or agricultural societies.

**2.** Purchases when the intended use renders it exempt as set out in paragraph 012.02D of Reg-1-012, Exemptions. Complete the description of the item purchased and the intended use as required on the front of Form 13. Sellers of **repair parts** for agricultural machinery and equipment cannot accept a Form 13 to exempt such sales from tax.

**3.** Purchases made by organizations that have been issued a Nebraska Exempt Organization - Certificate of Exemption are exempt from sales tax. Reg-1-090, Nonprofit Organizations; Reg-1-091, Religious Organizations; and Reg-1-092, Educational Institutions, identify such organizations. These organizations will be issued a Nebraska state exemption identification number. This exemption number must be entered in Section B of the Form 13.

**4.** Purchases of common or contract carrier vehicles and repair and replacement parts for such vehicles.

**5.** Purchases of manufacturing machinery or equipment by a taxpayer engaged in business as a manufacturer for use predominantly in manufacturing. This includes the installation, repair, or maintenance of such qualified manufacturing machinery or equipment (see Revenue Ruling 01-08-2).

**6.** A sale that qualifies as an occasional sale, such as a sale of depreciable machinery and equipment productively used by the seller for more than one year and the seller previously paid tax on the item. The **seller** must sign and give the exemption certificate to the purchaser. The certificate must be retained by the purchaser for audit purposes (see Reg-1-014, Exempt Sale Certificate).

**PURCHASING AGENT  
APPOINTMENT**

**TAX FORM 17**

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

**PURCHASING AGENT APPOINTMENT**

Name and Address of Prime Contractor			Name and Address of Governmental Unit or Exempt Organization		
Name			Name		
Street or Other Mailing Address			Street or Other Mailing Address		
City	State	Zip Code	City	State	Zip Code
			City of Grand Island		
			Street or Other Mailing Address		
			PO BOX 1968		
			Grand Island		
			NE		
			68802-1968		
Name and Location of Project			Appointment Information		
Name			Effective Date (see Instructions)		
Street or Other Mailing Address			Expiration Date		
City	State	Zip Code	Nebraska Exemption Number (Exempt Organizations Only)		
Identify Project					

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

**sign  
here** ▶

Authorized Signature of Governmental Unit or Exempt Organization

Title

Date

**DELEGATION OF PRIME CONTRACTOR'S AUTHORITY**

Name and Address of Subcontractor			Delegation Information		
Name			Effective Date		
Street or Other Mailing Address			Expiration Date		
City	State	Zip Code	Portion of Project		

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

**sign  
here** ▶

Signature of Prime Contractor or Authorized Representative

Title

Date

## INSTRUCTIONS

**WHO MUST FILE.** Any governmental unit or organization that is **exempt** from sales and use tax may appoint as its agent a prime contractor to purchase building materials and/or fixtures that will be annexed to property that belongs to or will belong to the governmental unit or exempt organization pursuant to a construction contract with the governmental unit or exempt organization. The appointment of the prime contractor as its agent is completed by issuing a Purchasing Agent Appointment and Delegation of Authority for Sales and Use Tax, Form 17, to the prime contractor. The Form 17 is required to be given to the contractor **BEFORE** he or she annexes building materials. The governmental unit or exempt organization must identify the project (e.g., east wing, chapel construction, or new school auditorium). Most

nonprofit organizations are **NOT** exempt from sales tax in Nebraska. In addition, not all governmental units are exempt from Nebraska sales tax. Refer to Contractor Information on our Web site for additional information on exempt entities. A contractor can confirm the exempt status of a governmental unit or exempt organization by contacting the Nebraska Department of Revenue.

The exemption from the payment of the Nebraska and local option sales and use taxes only applies if the governmental unit or exempt organization directly, or through its contractor, pays for the building materials. **IMPORTANT NOTE:** When an organization that requires licensure in order to be exempt (i.e., nonprofit hospitals), but is not licensed at the time of the construction project, the exempt organization **CANNOT**

issue either a purchasing agent appointment or an exemption certificate. If the exempt organization becomes licensed upon completion of the project, it may apply for a refund of the tax paid or collected by the contractors.

**WHEN TO FILE.** A prime contractor engaging in a construction project with a governmental unit or exempt organization must receive a properly completed and signed Form 17 **BEFORE** any building materials are annexed. If Form 17 is not issued, the contractor must pay the sales and use taxes and the governmental unit or exempt organization may obtain a refund of the taxes paid by the contractor.

**WHERE TO FILE.** A copy of the completed form should be retained by the governmental unit or exempt organization issuing the Form 17. The original is to be retained by the prime contractor. Copies of this form must be made by the prime contractor for delegation purposes to any subcontractors working on the project identified on this form.

**APPOINTMENT INFORMATION.** Enter the dates the purchasing agent appointment will become effective and when it will expire. This appointment will not allow any purchases without payment of the tax by the prime contractor or subcontractor before the effective date or after the expiration date. The dates the delegation becomes effective and the expiration dates must be completed. The phrase “upon completion” or similar phrase is not acceptable as an expiration date. The governmental unit or exempt organization may need to issue another Form 17 if the project is not completed within the prior “effective” and “expiration” dates. Exempt organizations must enter their Nebraska Sales and Use Tax Exemption number.

**DELEGATION OF PRIME CONTRACTOR’S AUTHORITY.** The prime contractor may delegate his or her authority to act as the purchasing agent of the governmental unit or exempt organization to a subcontractor. The prime contractor must complete his or her copy of Form 17 for each subcontractor who is delegated authority to act as a purchasing agent. Reproductions of this delegation must be provided to the subcontractor, who must retain a copy for his or her records, and to the governmental unit or exempt organization.

Enter the dates the delegation of the subcontractor will become effective, when it will expire, and the portion of the project delegated. This delegation will not allow any purchases without payment of the tax by the subcontractor before the delegation date or after the expiration date. Any further delegation from a subcontractor to additional subcontractors must be delegated by providing a copy of the Form 17 that they received from the prime contractor and attaching it to a separate Form 17 with any further delegation to other subcontractors. The purchasing agent appointment is limited to the contractor’s purchase of building materials and/or fixtures for the specific project and is only valid during the appointment dates shown on the Form 17.

**EXEMPT SALE CERTIFICATE.** A prime contractor who has been appointed to act as a purchasing agent by a governmental unit or exempt organization, and who hires a subcontractor operating as an Option 1 contractor, must provide to that subcontractor a completed copy of Form 17 and a Nebraska Resale or Exempt Sale Certificate, Form 13, with Section C,

Part 2, completed. The subcontractor will retain these forms in his or her records, and will not charge the contractor sales tax on any portion of the invoice involving the annexation of materials to the specific project identified on the Form 17. If these forms are not provided to the subcontractor operating under Option 1, the subcontractor must collect and remit sales tax on the charge for the separately stated building materials portion of the invoice. If the Option 1 subcontractor does not separately state the charge for the building materials from contractor labor, then the entire charge is taxable to the prime contractor.

Contractors operating under Option 2 (maintaining a tax-paid inventory) who have been issued a Form 17 from a governmental unit or an exempt organization, must furnish each vendor a copy of the Form 17 and a Form 13, completing Section C, Part 2, when purchasing building materials that will be annexed to real estate. Forms 13 and 17 must be retained with the vendor’s and contractor’s records for audit purposes. A contractor or subcontractor may reproduce copies of these documents which will be furnished to the vendors for each invoice or order made by them.

Invoices from vendors for the purchase of building materials by the contractor as purchasing agent, or the authorized subcontractor, must clearly identify that such purchase is for the specific Form 17 project.

**CREDIT/REFUND OF SALES AND USE TAX.** A contractor or subcontractor who has been appointed as a purchasing agent before any materials are annexed, may withdraw sales or use tax-paid materials from inventory that will be annexed to real estate or used to repair property annexed to real estate and receive a credit for the sales or use tax amount previously paid on those materials.

The contractor or subcontractor may take a credit either against his or her current tax liability, or file a Claim for Overpayment of Sales and Use Tax, Form 7, and receive a refund of the sales or use tax paid on those materials.

**TOOLS, EQUIPMENT, AND SUPPLIES.** The purchase, rental, or lease of tools, supplies, or equipment (i.e., scaffolding, barricades, machinery, etc.) by a contractor for use in the completion of an exempt project CANNOT be purchased tax free, even if the contractor has been issued a Form 17. These items do not become annexed to the real estate.

**OPTION 1 CONTRACTOR ONLY.** If an Option 1 contractor is the **only** contractor involved in performing work for a governmental unit or exempt organization, a Form 17 is NOT required. The Option 1 contractor must only obtain a Form 13, Section B, from the exempt project owner.

**PENALTY.** Any person who signs this document with the intent to evade payment of tax is liable for the sales and use tax, interest, and penalty, and may be found guilty of a misdemeanor.

**AUTHORIZED SIGNATURE.** The purchasing agent appointment must be signed by an officer of the exempt organization or proper government official. The delegation of prime contractor’s authority must be signed by the owner, partner, corporate officer, or other individual authorized to sign by a power of attorney on file with the Nebraska Department of Revenue.

# **CONTRACT AGREEMENT**

**CONTRACT AGREEMENT**

THIS AGREEMENT made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2013, by and between \_\_\_\_\_, hereinafter called the Contractor, and the City of Grand Island, Nebraska, hereinafter called the City.

WITNESSETH:

THAT, WHEREAS, in accordance with law, the City has caused contract documents to be prepared and an advertisement calling for bids to be published, for construction of **Stuhr Road – Bismark Road to Burlington Northern Santa Fe Railroad (BNSFRR) Crossing; Paving Project No. 2013-P-4**; and

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

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

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

ARTICLE II. That the City shall pay to the contractor for the performance of the work embraced in this contract and the contractor will accept as full compensation therefore the sum (subject to adjustment as provided by the contract) of \_\_\_\_\_ **AND XX/100 DOLLARS (\$\_\_\_\_\_)**

for all services, materials, and work covered by and included in the contract award and designated in the foregoing Article I; payments thereof to be made in cash or its equivalent in the manner provided in the General Specifications.

ARTICLE III. The contractor hereby agrees to act as agent for the City in purchasing materials and supplies for the City for incorporation into the work of this project. The City shall be obligated to the vendor of the materials and supplies for the purchase price, but the contractor shall handle all payments hereunder on behalf of the City. The vendor shall make demand or claim for payment of the purchase price from the City by submitting an invoice to the contractor. Title to all materials and supplies purchased hereunder shall vest in the City directly from the vendor. Regardless of the method of payment, title shall vest immediately in the City. The contractor shall not acquire title to any materials and supplies incorporated into the project. All invoices shall bear the contractor's name as agent for the City. This paragraph will apply only to these materials and supplies actually incorporated into and becoming a part of the finished product of **Stuhr Road – Bismark Road to Burlington Northern Santa Fe Railroad (BNSFRR) Crossing; Paving Project No. 2013-P-4**.



ARTICLE IV. Work on this contract is to be substantially complete no later than **September 12, 2013**. All work is to be completed no later than **October 31, 2013**.

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

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

ARTICLE VII. The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

ARTICLE VIII. FAIR EMPLOYMENT PRACTICES: Each proposer agrees that they will not discriminate against any employee or applicant for employment because of age, race, color, religious creed, ancestry, handicap, sex or political affiliation.

ARTICLE IX. LB 403: Every public contractor and his/her or its subcontractors who are awarded an agreement by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

IN WITNESS WHEREOF, the parties hereto have executed this Contract Agreement as of the date and year first above written.

**CONTRACTOR**

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

**CITY OF GRAND ISLAND, NEBRASKA,**

By \_\_\_\_\_

Mayor

Date \_\_\_\_\_

Attest: \_\_\_\_\_

City Clerk

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

\_\_\_\_\_

Attorney for the City

Date \_\_\_\_\_

**APPENDIX A – TITLE VI NON-DISCRIMINATION -**

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

- (1) **Compliance with Regulations:** The contractor shall comply with the Regulation relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, and the Federal Highway Administration (hereinafter "FHWA") Title 23, Code of Federal Regulations, Part 200 as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
- (2) **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin, sex, age, and disability/handicap in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by 49 CFR, section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.
- (3) **Solicitations for Subcontractors, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin, sex, age, and disability/handicap.
- (4) **Information and Reports:** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the City of Grand Island or the FHWA to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the City of Grand Island, or the FHWA as appropriate, and shall set forth what efforts it has made to obtain the information.
- (5) **Sanctions for Noncompliance:** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the City of Grand Island shall impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
  - (a.) withholding of payments to the contractor under the contract until the contractor complies, and/or
  - (b.) cancellation, termination or suspension of the contract, in whole or in part.
- (6) **Incorporation of Provisions:** The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

The contractor shall take such action with respect to any subcontract or procurement as the City of Grand Island or the FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the City of Grand Island to enter into such litigation to protect the interests of the City of Grand Island, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

# **DIVISION I**

## **GENERAL SPECIFICATIONS**

**APPLICABLE TO ALL  
CONSTRUCTION CONTRACTS**

**DIVISION I  
GENERAL SPECIFICATIONS**

C O N T E N T S

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Revised 1-25-2011

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**DIVISION I  
GENERAL SPECIFICATIONS**

**SECTION 1 - DEFINITIONS OF WORDS AND TERMS**

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

1.01      Abbreviations.

AASHTO	American Association of State Highway And Transportation Officials
ASTM	American Society for Testing and Materials
ANSI	American National Standards Institute
AWWA	American Water Works Association
AREA	American Railway Engineering Association
AWS	American Welding Society
AAN	American Association of Nurserymen

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

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

1.04      Backslope. The sloping surface of a cut, the downward inclination of which is toward the roadbed.

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

1.06      Calendar Day. Every day shown on the calendar, Sundays and holidays included.

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

1.08      City. The word "City" as used in these specifications refers to the City of Grand Island, Nebraska, acting through its City Council.

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

The contract shall include the "Notice to Bidders", these specifications, the Contractor's bond, the general and detailed plans, the bid, special provisions, and supplemental agreements.



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

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

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

1.13 Contractor. The party of the second part to the contract; the individual, firm, or corporation undertaking the execution of the work under the terms of the contract and acting directly or through Contractor's agents or authorized employees.

1.14 Cul-de-sac Street. A local street open at one end only and with special provision for turning around.

1.15 Culvert. Any structure not classified as a bridge which provides an opening under any street.

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

1.17 Employee. Any person working on the project mentioned in the contract of which these specifications are a part, and who is under the direction or control or receives compensation from the Contractor or Contractor's subcontractor.

1.18 Engineer. The City Engineer, acting either directly or through an assistant or other representative duly authorized by the City Engineer, such assistant or representative acting within the scope of the particular duties assigned or with the authority given.

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

1.20 Holidays. In the State of Nebraska, holidays occur on: January 1, Martin Luther King, Jr. Day in January, Presidents' Day in February, Arbor Day in April, Memorial Day in May, July 4, Labor Day in September, Columbus Day in October, Veterans Day and Thanksgiving Day in November, and December 25. If any of said dates fall on Sunday, the following Monday shall be a holiday. If any of said dates fall on Saturday, the previous Friday shall be a holiday.

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

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

- 1.23 Notice to Bidders. The provisions, requirements, and instructions pertaining to the work to be awarded, manner and time of submitting bids, quantities of the major items or work required, as prepared for the information of bidders.
- 1.24 Plans. The official plans, profiles, typical cross sections, general cross sections, working drawings, and supplemental drawings, or exact reproductions thereof, approved by the Engineer, which show the location, character, dimensions, and details of the work to be done, and which are to be considered as a part of the contract supplementary to these specifications.
- 1.25 Project. All work necessary to be performed under the contract.
- 1.26 Bid. The offer of the bidder, submitted on the prescribed bid form, to perform the work and to furnish the labor and materials at the prices quoted by the bidder.
- 1.27 Bid Form. The approved form on which the City requires formal bids be prepared and submitted.
- 1.28 Bid Guarantee. The security furnished by the Bidder with Bidder's bid for a project as a guarantee that Bidder will enter into a contract for the work if said bid is accepted.
- 1.29 Right-of-way. The land area which is reserved or secured by the City for constructing the work or for obtaining material therefor.
- 1.30 Special Provisions. Special directions, provisions, or requirements peculiar to the project under consideration and not otherwise thoroughly or satisfactorily detailed or set forth in the specifications.
- 1.31 Specifications. The general term comprising all the directions, provisions, and requirements contained herein, together with such as may be added or adopted as supplemental specifications or special provisions, all of which are necessary for the proper performance of the contract.
- 1.32 Subcontractor. Any individual, firm, or corporation to whom the Contractor, with the written consent of the City, sublets any part of the contract.
- 1.33 Superintendent. The representative of the Contractor, present on the work at all times during progress, authorized to receive and fulfill instructions from the Engineer and capable of superintending the work efficiently.
- 1.34 Supplemental Agreements. Written agreements executed by the Contractor and the City subsequent to having entered into the contract, covering alterations in the plans or unforeseen items of construction.
- 1.35 Supplemental Specifications. Specifications adopted subsequent to the publication of this book. They generally involve new construction items or substantial changes in the approved specifications. Supplemental specifications shall prevail over those published in this book whenever in conflict therewith.
- 1.36 Surety. The corporate body bound with and for the Contractor for the acceptable performance of the contract, the completion of the work, and for payment of all just claims arising therefrom.

1.37 Work. Work shall be understood to mean the furnishing of all labor, materials, equipment, and other incidentals necessary or convenient to the successful completion of the project by the Contractor and the carrying out of all the duties and obligations imposed by the contract.

1.38 Working Day. Any day, except Saturdays, Sundays, and Nebraska holidays, on which the Contractor is not prevented by weather, soil conditions, or other conditions beyond the Contractor's control, adverse to the current controlling operation or operations, as determined by the Engineer, from proceeding with at least 80 percent of the labor and equipment force normally engaged in such operation or operations for at least 50 percent of the full number of hours in Contractor's normal daily schedule. Also, a Saturday, Sunday, or Nebraska holiday on which any work is performed on the current controlling operation or operations unless the Contractor is prevented by weather, soil conditions, or other conditions beyond the Contractor's control as determined by the Engineer, from proceeding for at least 50 percent of the full number of hours in their normal schedule with 80 percent of the normal working force.

1.39 Working Drawings. Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans for similar data which the Contractor is required to submit to the Engineer for approval.

1.40 Work Order. A written order signed by the Engineer, of a contractual status requiring performance by the Contractor without negotiation of any sort and may involve starting, resuming, or the suspension of work. (Not to be confused with extra work order).

1.41 Completion of the Work and Formal Acceptance by the City. Whenever the term "completion of the work and formal acceptance by the City" is used, it refers to and means the formal acceptance of the work by the Engineer and the City at the time the Contractor has all work under the contract completed and in place.

1.42 Final Acceptance of the Work. Whenever the term "final acceptance of the work" is used, it refers to and means the time when the Engineer and the City finally accept the work. The contractor guarantee shall remain in force from the City's final acceptance for a period of one year.

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## **SECTION 2 – BID REQUIREMENTS AND CONDITIONS**

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

2.02 Interpretation of Quantities in Bid Forms. The quantities listed in the bid forms are to be considered as approximate, unless otherwise provided by special provision. It is understood that the quantities of work to be done and materials to be furnished may each be increased, diminished, or omitted as hereinafter provided without in any way invalidating the unit bid prices, except as provided in the section in these specifications entitled Increased or Decreased Quantities of Work.

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

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

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

No oral, telegraphic, or telephonic bids or modifications will be considered.

When certain alternative prices, for both increasing and decreasing the cost, are required, as called for in the bid sheet, it must be understood that all materials and workmanship required shall be the best of their respective kinds and in all cases shall correspond with similar work herein specified and, if accepted, the work shall be done under the general terms of the specifications.

2.05 Statement of Bidder's Plant and Financial Conditions. Each bidder may submit with bid and, in any event, the City may, after bids are opened and prior to award of contract, require any bidder to submit the following data:

1. A statement that the bidder maintains a permanent place of business and address thereof;
2. A statement of equipment which the bidder proposes to use on the project, together with a statement noting that equipment previously mentioned which the bidder owns and that which bidder does not own but is certain bidder will be able to rent or otherwise procure for use on the project;
3. A financial statement, duly sworn to in a form approved by the City, listing assets and liabilities;
4. Statement listing projects of similar nature which the bidder has constructed or in the construction of which the bidder was actively engaged in a responsible capacity. Any bidder may be required by the City to submit additional data to satisfy the City that such bidder is prepared to fulfill the contract if it is awarded to them.

2.06 Certified Check, Cashier's Check, or Bid Bond. Each bidder must submit with the bid a certified check, cashier's check, or bid bond in the amount of not less than five percent (5%) of the amount bid, drawn to the order of the City Treasurer, Grand Island, Nebraska, guaranteeing the execution of the contract and bond required within ten (10) days of the notification of award. Any certified check must be issued by a bank in the State of Nebraska.

2.07 Filing of Bid. Bidders shall submit bid data on items offered in the Bid by filling in one set of data sheets supplied by the Engineering Department. The bid sheets shall be filled out legibly in black ink to permit reproduction.

Bidder security, when required, shall be enclosed in a special envelope marked, "BIDDER SECURITY/BID FOR \_\_\_\_\_." The envelope shall contain only a cashier's check or bidder's bond. This special envelope shall be attached to a sealed envelope containing the bid, filled out specifications, descriptive information drawings, qualification list and any other bid materials. This second envelope shall be marked "BID FOR \_\_\_\_\_." Bids of an incomplete nature or subject to multiple interpretations may, at the option of the Purchaser, be rejected as being irregular.

All bids shall be filed with the City at the place designated in the Notice to Bidders, prior to the time advertised for the opening of bids.

2.08 Withdrawal of Bid. A bidder will be permitted to withdraw said bid unopened after it has been submitted, if bidder's request for withdrawal is made in writing and delivered personally by the bidder or bidders' authorized representative prior to the time specified for opening of bids.

2.09 Public Opening of Bids. Bids will be publicly opened and read at the time and place stipulated in the Notice to Bidders.

2.10 Material Guarantee. Before any contract is awarded, the bidder may be required to furnish a complete statement of the origin, composition, and manufacture of any or all materials to be used in the construction of the work together with samples, which samples may be subjected to the test provided for in these specifications to determine their quality and fitness for the work.

### **SECTION 3 - AWARD AND EXECUTION OF THE CONTRACT**

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

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

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

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

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

3.04 Return of Bid Guarantee. Bid guaranties will be returned to the unsuccessful bidders by mail promptly after the signing of the contract has been made. Return to the successful bidder will be made after the signing of the contract and filing of the contract bond.

3.05 Performance Bond. The Contractor shall furnish a performance bond with a company having the approval of the City in an amount of 100 percent of the contract price guaranteeing complete and faithful performance of the contract, payment of all bills of whatever nature which could become a lien against the property, and guaranteeing replacement of defective materials and workmanship for a period of one year after completion of the contract.

3.06 Contract Documents. Three (3) copies of Contract Documents shall be made, executed, and distributed as follows:

One copy to City Clerk  
One copy to Contractor                      One copy to Engineer

The following documents are a part of the contract:

*Notice to Bidders	*General Specifications
*Instructions to Bidders	*Special Provisions
*Bid	*Supplemental Specifications
*Detailed Specifications	*Performance Bond
*Contract	*Additional Drawings as required to make clear the intent of the contract

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

#### **SECTION 4 - SCOPE OF WORK**

4.01 Intent of Plans and Specifications. The intent of the plans and specifications is to provide for the construction and completion of every detail of the work described therein. It shall be understood by the Contractor that Contractor will furnish all labor, materials, tools, transportation, and supplies required for all or any part of the work to make each item complete in accordance with the spirit of the contract. It is understood that the apparent silence of the specifications as to any detail or the apparent omission of a detailed description concerning any point shall be regarded as meaning that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used.

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

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

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

In making such additional investigation, the bidder is directed to the Engineer for information relating to available right-of-way. If there are, at that time, any parcels of land over which the City does not have jurisdiction, right of entry must be secured by the prospective bidder from those authorized to grant such permission. Investigational work, performed by a prospective bidder on existing streets open to traffic, shall be performed in compliance with the

requirements of the current Manual on Uniform Control Devices for Street and Highways. All such additional investigational work shall be performed without costing or obligating the City in any way.

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

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

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4.04 Extra Work. The City reserves the right to order the performance of work of a class not contemplated in the bid but which may be considered necessary to complete satisfactorily the work included in the contract. Such extra work will be paid for as provided in these specifications under section entitled Payment for Extra Work.

4.05 Maintenance of Detours. Unless so required by the plans or the special provisions, the Contractor will not be required to assume any responsibility in connection with the maintenance or marking of suitable detours.

4.06 Temporary Traffic Control. Part VI of the Manual of Uniform Traffic Control Devices (MUTCD) is the national standard for work zone traffic control. The current version that has been adopted by the Nebraska Department of Roads is also applicable to the City of Grand Island and shall be followed.

Any City crews, contractors, utility company, or any other person, firm or corporation performing work within the right-of-way of any public street, public way, or alley in the City of Grand Island shall install and maintain Temporary Traffic Control (TTC) in accordance with the standards of the MUTCD.

The Public Works Director or their representative shall have the authority to direct corrective actions for any TTC not in compliance with the MUTCD and these provisions. These actions may include suspending operations and requiring removal of all equipment or materials from the right-of-way.

If the TTC is left in place longer than four (4) hours and no personnel are on the site, the individual responsible for installing the TTC shall provide telephone numbers of personnel who will be available on a 24 hours per day, seven days per week basis to the Public Works Director. These individuals shall be responsible for repair, correction, replacement and maintenance of the traffic control devices. These individuals shall perform inspections of the TTC at the site a minimum of twice during the day and once during the night every day until the work is completed and the right-of-way is cleared.

Subsidiary: Unless contract pay items are included with the bid specifications, direct payment for providing, installing, maintaining, and performing site inspections of TTC devices will not be made but are considered subsidiary to other items for which direct payment is

provided. When the contract contains a pay item for TTC, the NDOR standard items, specifications, etc. will be used.

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

4.08 Street Closing. In the event it is deemed necessary for the Contractor to close any streets during the execution of said work, the Contractor shall notify the owner of such street closing 72 hours in advance, prior to any street closing due to open cut street crossing.

4.09 Miscellaneous Removal Items. The Contractor shall inform the Engineer sufficiently ahead of construction so landowners can be notified to remove small trees, shrubs, and fences from the construction limits if the landowners desire to save them.

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

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

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

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



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

4.13 Construction and Demolition Debris. Debris from any City awarded project, as well as Municipal Solid Waste (that is not recycled), shall be disposed of at the City's Solid Waste facilities.

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

When required in the plans, the Contractor shall, at Contractor's expense, replace waste material or stripping back into borrow and material pits as directed by the Engineer. Trees, tree stumps and material placed on property adjacent to the street during the execution of the work shall be disposed of by the Contractor.

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

4.16 Railroad Crossings. Whenever the work involves construction with which railroad companies are concerned, the performance of the work is contingent upon arrangements with the railroad companies for the proposed construction. No claims will be allowed for loss or damage caused by failure to complete such arrangements.

4.17 Safety and Health Regulations for Construction. Occupational Safety and Health Standards for the Construction Industry (29 CFR Part 1926) with amendments as of February 1, 1999 promulgated by the Occupational Safety and Health Administration, United States Department of Labor, Washington, D.C. are incorporated herein as a part of the contract documents.

## **SECTION 5 - CONTROL OF WORK**

5.01 Authority of Engineer. The Engineer will have general supervision of the work and will decide any questions that arise with reference to the intent of the contract documents and compliance therewith. Said Engineer will relay all questions relating to materials, work, progress, disputes and mutual rights between contractors, fulfillment of contract, and compensation, in accordance with the provisions of these specifications.

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

Working drawings for any structure shall consist of such detailed plans as may be required of the Contractor for the prosecution of the work. These are not included in the plans

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

No changes shall be made in any plan or drawing after it has been approved except by consent or direction of the Engineer in writing. It is expressly understood that the approval by the Engineer of the Contractor's working drawings will not relieve the Contractor from any responsibility.

The contract price shall include the cost of furnishing all working drawings, and the Contractor will be allowed no extra compensation for such drawings.

Shop plans shall be made on 22"x36" sheet with 1/2" margin on all sides except the left which shall be 2". The margin lines shall measure 21"x33 1/2". The marking shall be in accordance with the special plans or as may be required by the Engineer. All blueprint plans which are furnished to the Engineer shall be clear and distinct and acceptable to the Engineer and shall be neatly trimmed. The Contractor shall furnish the Engineer as many extra copies of working drawings as the Engineer may direct.

The Engineer may require reproducible prints of all approved shop plans, which shall be furnished by the Contractor without cost to the Engineer. Such reproducible prints shall not be folded but shall be mailed in tubes sized to accommodate these plans without injuring them. No preliminary working drawings will be accepted by the Engineer unless they have been carefully checked by the Contractor. Drawings showing gross errors will be returned for recheck before examination by the Engineer. The name of the shop or company furnishing the drawings shall be on the tracing.

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

5.04 Coordination of Plans, Specifications, Special Provisions, and Supplemental Specifications. These specifications, the supplemental specifications, the plans, special provisions, and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, figured dimensions shall govern over scaled dimensions, plans shall govern over specifications, special plans shall govern over standard plans, supplemental specifications shall govern over standard specifications, and special provisions shall govern over specifications, supplemental specifications, and the plans.

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

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

The Contractor shall at all times have at the work site, as Contractor's agent, a competent superintendent capable of reading and thoroughly understanding the plans and specifications, thoroughly experienced in the type of work being performed, who shall receive

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

5.06 Surveys. Lines and elevations shall be established by the Engineer before the work commences and the Contractor shall obtain lines and elevations from the points so set by the Engineer. The Contractor shall furnish all stakes necessary for lines and elevations and cooperate with the Engineer in setting same.

5.07 Authority and Duties of Inspector. The City may appoint inspectors to represent the Engineer in the inspection of all materials used in and all work done under the contract. Such inspection may extend to any part of the work and to the preparation or manufacture of the materials to be used. The inspector will not be permitted to modify in any way the provisions of the contract documents, nor to delay the work by failing to inspect materials and work with reasonable promptness. An inspector is placed at the work site to keep the Engineer informed as to its progress and the manner in which it is being done and to call the Contractor's attention to any infringements of the contract documents. The inspector will not act as foreman or perform other duties for the Contractor nor improperly interfere with the management of the work. They will not be authorized to approve or accept any portion of the work. In case of dispute between the Contractor and the inspector as to quality of materials or the manner of performing the work, the inspector shall have the authority to reject materials or suspend the work until the question at issue can be decided by the Engineer. Written notice of the suspension of work will be given to the Engineer and the Contractor.

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

If the work thus exposed or examined proves acceptable, the uncovering or removing and replacing of the covering or the restoring of the parts removed shall be paid for as extra work, except that no payment will be made for the work involved in checking the smoothness of pavement surfaces. If the work thus exposed and examined proves unacceptable, the Contractor shall replace the defective work in accordance with the specifications and will be paid only the contract price for the work as finally accepted. Work done or materials used without the Engineer having been afforded ample opportunity to provide suitable inspection may be ordered removed and replaced at the Contractor's expense or may be excluded from the quantities measured for payment.

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

5.10 Final Inspection. Upon notification by the Contractor or Contractor's authorized representative that the work is completed, the Engineer shall make prompt final inspection of each item of work included in the contract. If the work is found to not be in accordance with the contract documents, the Contractor will be advised as to the particular defects to be remedied.

## **SECTION 6 - CONTROL OF MATERIALS**

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

6.02 Methods of Sampling and Testing, and Cited Specifications. Sampling and testing of all materials and the laboratory methods and testing equipment required under these specifications shall be in accordance with the latest published standard method of the AASHTO, except as otherwise provided.

The sampling and testing of all materials not covered by the AASHTO, but not otherwise provided for, shall conform to the latest published standard or tentative methods of the ASTM.

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

6.04 Unacceptable Materials. All materials not conforming to the requirements of the specifications at the time they are to be used shall be considered as unacceptable, and all such materials will be rejected and shall be removed immediately from the site of the work unless otherwise instructed by the Engineer. No rejected materials, the defects of which have been corrected, shall be used until approval has been given.

6.05 Guarantee. The Contractor shall be responsible for any and all defects which may develop in any part of the entire installation furnished by said Contractor and, upon receipt of written notice from the Engineer, shall immediately replace and make good without expense to the City any such faulty part or parts and damage done by reason of same during a period of one (1) year from the date of formal acceptance of the installation (except when specific guarantee for another length of time is elsewhere specified).

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

Upon completion and formal acceptance of the work, the Contractor may furnish a satisfactory bond in an amount of fifteen percent (15%) of contract price to insure the provisions of this guarantee. Otherwise, the original bond shall remain in full force and effect until final acceptance of the work, which acceptance shall be made one (1) year after the formal acceptance of the work as provided herein.

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

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

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

7.02 State and City Fair Labor Standards. The Contractor agrees to comply with all applicable State and City fair labor standards in the execution of the contract, including compliance with Section 73-102, R.R.S. 1943. The Contractor further agrees to comply with the provisions of Section 48-657, R.R.S. 1943, pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. In addition, the Contractor agrees to comply with the provisions of Section 52-118, R.R.S. 1948, pertaining to payment of all labor performed and for payment for materials and equipment rental which is actually used in performing this contract.

7.03 Anti-discrimination. During the performance of the work, the Contractor agrees not to discriminate against any employee or application for employment because of race, color, age, religion, sex, or national origin.

7.04 Permits. The Contractor shall procure and pay for all permits, licenses, and bonds necessary for the prosecution of Contractor's work and/or required for municipal, State, and Federal regulations and laws.

7.05 Patents. The Contractor and the surety in all cases shall indemnify and save harmless the City for any costs, expenses, and damages which it may be obligated to pay by reason of any such infringement at any time during the prosecution of or after the completion of the project.

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

7.07 Safety, Health, and Sanitation. In the performance of the contract, the Contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation. The Contractor shall furnish such additional safeguards, safety devices, and protective equipment and shall take actions as the Engineer may determine as being reasonably necessary to protect the life and health of Contractor's employees and the public.

7.08 Barricades and Warning Signs. Except as otherwise provided specifically in this section, the Contractor shall provide and maintain barricades, danger and warning signs, and suitable and efficient lights, and shall take every reasonable precaution to prevent accidents. The name of the Contractor shall be clearly visible on the barricades. The Contractor shall provide, at their own expense, such watchmen as are necessary to protect their equipment and to maintain proper lights.

Watchmen who may be necessary to direct traffic or prevent travel on any portion of the street shall be provided by the Contractor on written order from the Engineer. Unless the contract specifically provides that such watchmen are to be furnished by the Contractor, this expense shall be paid for as provided in "Extra Work."

7.09 Use of Explosives. When the use of explosives is necessary for the prosecution of the work, the Contractor shall use the utmost care not to endanger life or property. All explosives shall be stored in a secure manner, and storage places shall be clearly marked "DANGER--EXPLOSIVES."

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

7.11 Contractor's Insurance. The Contractor shall secure and maintain throughout the duration of this contract insurance, from companies authorized to do business in Nebraska, of such types and in such amounts as may be necessary to protect themselves and the interests of the City against all hazards or risks of loss as hereinafter specified. This insurance shall cover all aspects of the Contractor's operations and completed operations. The form and limits of such insurance, together with the underwriter thereof in each case, shall be approved by the City, but regardless of such approval it shall be the responsibility of the Contractor to maintain adequate insurance coverage at all times. Failure of the Contractor to maintain adequate coverage shall not relieve them of any contractual responsibility or obligation. Minimum insurance coverage shall be the amounts stated herein or the amounts required by applicable law, whichever are greater.

1. "Worker's Compensation and Employer's Liability." This insurance shall protect the Contractor against all claims under applicable State worker's compensation laws. This insurance shall provide coverage in every state in which work for this project might be conducted. The Contractor shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a worker's compensation

law. This policy shall include an "all states" endorsement. The liability limits shall be not less than the following:

Worker's Compensation	Statutory Limits
Employer's Liability	\$100,000 each accident
	\$100,000 each employee
	\$500,000 policy limit

2. "Business Automobile Liability." This insurance shall be written in comprehensive form and shall protect the Contractor, Contractor's employees, or subcontractors from claims due to the ownership, maintenance, or use of a motor vehicle. The liability limits shall be not less than the following:

Bodily Injury & Property Damage	\$500,000 Combined Single Limit
---------------------------------	---------------------------------

3. "Comprehensive General Liability." The comprehensive general liability coverage shall contain no exclusion relative to explosion, collapse, or underground property. The liability limits shall be not less than the following:

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

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

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

5. Additional Requirements. The City may require insurance covering a Contractor or Subcontractor more or less than the standard requirements set forth herein depending upon the character and extent of the work to be performed by such Contractor or Subcontractor.

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

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

6. Certificate of Insurance. Satisfactory certificates of insurance shall be filed with the City prior to starting any work on this contract. The certificates shall show the City as an additional insured on all coverage except Workers Compensation. The certificate shall state that thirty (30) days written notice shall be given to the City before any policy is cancelled (strike the "endeavor to" wording often shown on certificate forms). If the Contractor cannot have the "endeavor to" language stricken, the Contractor may elect to provide a new certificate of insurance every thirty (30) days during the contract. The Contractor shall immediately notify the City if there is any reduction of coverage because of revised limits or claims paid which affect the aggregate of any policy.

7.12 Proof of Carriage of Insurance. Satisfactory certificates of insurance shall be filed with the City prior to starting any construction work on this contract. The certificates shall show the City as "Additionally Insured." The certificates shall state that thirty (30) days written notice shall be given to the City before any policy covered thereby is changed or canceled (strike the "endeavor to" wording often shown on certificate forms).

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

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

In the event of interruption to water or utility services as a result of accidental breakage or as result of being exposed or unsupported, the Contractor shall promptly notify the proper authority. Contractor shall cooperate with said authority in the restoration of service as promptly as possible. In no case shall interruption to water service be allowed to exist outside of working hours. Fire hydrants shall be kept accessible to the Fire Department at all times and no materials shall be kept or stockpiled within fifteen (15) feet of any fire hydrant.

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

7.14 No Waiver of Legal Rights. The City shall not be precluded or estopped by any measurement, estimate, or certificate made either before or after the completion and acceptance of the work and payment therefor from showing the true amount and character of the work performed and materials furnished by the Contractor, nor from showing that such measurement, estimate, or certificate is untrue or is incorrectly made, nor that the work or materials do not in fact conform to the contract. The City shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor or Contractor's sureties, or both, such damage as it may sustain by reason of Contractor's failure to comply with the terms of the contract. Neither the acceptance by the City or any representative of the City, nor any payment for or acceptance of the whole or any part of the work, nor any extension of time, nor any possession taken by the City shall operate as a waiver of any portion of the contract or of any power herein reserved or of any right to damages. A waiver of any breach of the contract shall not be held to be a waiver of any other or subsequent breach.

7.15 Exposure of Pipe or Manholes. The Contractor shall conduct the work at all times in such a manner as will insure no disruption to the normal function of the sanitary sewer collection system. Particular attention shall be paid to the threat of introduction of storm water or other waters to the piping and manholes of the collection system. The Contractor shall take whatever precautions are necessary, such as, but not limited to installation of plugs in exposed pipes and manholes when work is not in progress or when leaving the work site. The Contractor will be held responsible for damages which may occur to either the collection system or to private property through introduction of storm water or other waters to exposed piping or manholes relating to the construction work.



## SECTION 8 - PROSECUTION AND PROGRESS

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

8.02 Prosecution of Work. The bid for each project will show the contract period. The progress of the work shall be at a rate sufficient to complete the contract within the contract period. If it appears that the rate of progress is such that the contract will not be completed within the contract period or if the work is not being executed in a satisfactory and workmanlike manner, the City may order the Contractor to take such steps as it considers necessary to complete the contract within the period of time specified or to prosecute the work in a satisfactory manner. If the Contractor fails to comply with such order within two (2) weeks after receipt of the order, Contractor shall automatically be disqualified from receiving any additional contract awards, and the City shall have the right to declare the contract in default and to complete the work in accordance with these specifications under section entitled Abrogation.

The Contractor's sequence of operations shall be such as to cause as little inconvenience to the general public as possible.

The Contractor will be granted additional and suitable time for the prosecution of the work, as was lost by reason of a delay or delays attributable to other parties authorized to do work on the project over which the Contractor had no control or jurisdiction, as provided in these specifications under section entitled Extension of Contract Period.

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

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

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

When the contract specifies that the construction be performed by the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than those specified in the contract, a request may be made to the Engineer for authority to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it will be on the condition that the contractor will be fully responsible for producing construction work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not

meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining construction with the specified methods and equipment. The Contractor shall remove the deficient work and replace it with work of specified quality or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the construction items involved nor in contract time as result of authorizing a change in methods or equipment under these provisions.

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

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

For each calendar day that any work shall remain uncompleted after the end of the contract period, the amount per calendar day specified in the bid form will be assessed, not as a penalty but as predetermined and agreed liquidated damages. The City will prepare and forward to the Contractor an invoice for such liquidated damages. The final payment will be withheld until payment shall have been made of this invoice.

Due account shall be taken of any adjustment of the contract period granted under the section of these specifications entitled Extension of Contract Period.

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

8.07 Extension of Contract Period. An extension of the contract period may be granted by the City for any of the following reasons:

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

No extension of contract period will be allowed for variations between contract quantities and actual quantities which cannot be predetermined and which amount to less than twenty percent (20%) of the contract quantities.

8.08 Abrogation. If the Contractor abandons, sublets, or assigns the work under this contract without the consent of the City, or if Contractor fails to give - personal attention to it, or if it is the Engineer's opinion, and is so certified in writing to the Contractor and the City, that the Contractor is violating any of the provisions of this contract or that Contractor is not prosecuting the work in good faith or at the rate of progress specified, or that Contractor has unnecessarily or unreasonably delayed or neglected the work or any part of it, written notice to that effect is to be given to the Contractor by the Engineer. After such notice, no materials or equipment shall be removed from the work. If, within five (5) days thereafter, the Contractor does not take steps, which in the judgment of the Engineer will insure the satisfactory completion of the work, then the City may declare this contract null and void and the security forfeited and may notify the Contractor in writing to discontinue the work or any part of it; thereupon ceasing the Contractor's right of possession of the ground and of all materials and equipment thereon. The City then, at

their option, may enter upon and take possession of the work with all materials, supplies, and equipment remaining thereon and by contract or otherwise, as the City may determine, may complete the work or the part of it designated and charge the expense thereof to the Contractor using any materials or equipment found on the site. The expense so charged, together with all damages incurred, will be deducted from any funds due or to become due under this contract and, should the unexpended balance of these funds be insufficient, the excess shall be at the cost of the Contractor and sureties on the Contractor's bond. Neither completion of a part of the work nor the extension for any reason of the time of the completion of the work is to be considered a waiver of this right to abrogate the contract for abandonment, delay, or unsatisfactory work.

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

## **SECTION 9 - MEASUREMENT AND PAYMENT**

9.01 Payments. Payments for estimated work completed will be made only on certificates of the Engineer at a regular City Council meeting.

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

The City will retain five percent (5%) of the estimated amount of work executed in an approved manner and of the approved materials and apparatus suitably stored on the site.

Payment of the retained five percent (5%) will be made within sixty (60) days after the formal approval and acceptance by the Engineer of all apparatus, materials, and work embraced in the contract.

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

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

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

9.03 Acceptance and Final Payment. If final inspection reveals that all details of the work have been completed satisfactorily, the Engineer shall tentatively accept the work, in writing, relieving the Contractor of further responsibility for the care and maintenance of the completed work and, provided that all equipment and materials have been removed from the right-of-way, shall also relieve the Contractor of further public liability. As soon as possible after tentative

acceptance of the work, the Engineer shall measure the completed work and compute the quantities of work for which payment is to be made. Before final settlement is made, the City shall be satisfied with the completed work. When the Engineer is satisfied that all items of the work have been found to be consistent with the terms of the contract and specifications, a final estimate including the retained percentage due the Contractor shall be released for payment. Release of the final estimate shall constitute final acceptance of the work.

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

Extra work - See these specifications under section entitled Extra Work.

9.04 Payment for Extra Work. The Contractor will receive and accept payment for work performed under the contract as follows:

1. Items of work performed which are covered by definite prices stipulated in the contract. For all items of work performed which are covered by definite unit prices or lump sum amounts specified in the contract, the Contractor shall receive and accept compensation at the rate specified in the contract.

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

**Revised 1-25-2011**

**DIVISION IA -  
SPECIAL PROVISIONS**

**STUHR ROAD – BISMARK TO BNSF CROSSING**  
**PROJECT 2013-P-3**

**DIVISION IA - SPECIAL PROVISIONS**

**SECTION 100 - GENERAL**

**100.01 General Description of Work.** The work to be performed under the terms of this contract consists of furnishing all materials, equipment, tools, labor and plant necessary to perform placement of concrete surfacing and other related work as shown on the program plans.

The bid shall reflect a grand total for the entire program. The City may add or delete up to 25% of the contract dollar value based upon estimated quantities and bid unit prices without adjustment of unit prices.

**100.02 Completion.** Work on this contract is to substantially complete no later than September 12, 2013. All work is to be completed no later than October 31, 2013.

**100.03 Location and Description of Work.**

**Stuhr Road – Bismark Road - BNSF Railroad Crossing**

The existing 24' wide roadway shall be milled 5" to 8" and overlaid with 28' wide 8" Doweled Concrete Pavement and 27' wide 8" Doweled Concrete Pavement with integral curb. Embankment will be placed to construct 5' wide turf shoulders.

Stuhr Road will be closed for milling and concrete overlay operations. The contractor will stage their operations to prevent damage to the existing asphalt roadway and to accommodate access to businesses and residents. Traffic will be detoured east to Shady Bend Road.

There is an internal time allowance for the period when Stuhr Road is closed for paving operations. The contractor will be required to maintain traffic on Stuhr Road while performing certain operations, including placement of embankment, construction of driveways, shouldering, seeding operations, and placement of pavement marking.

**100.04 Specifications.** The specifications which govern the materials and equipment to be furnished and the work to be performed under this contract are listed herein and in Division I – General Provisions, Division IA – Special Provisions, Division II Portland Cement Concrete Pavement and Division III – Curb and Gutter, Sidewalk and Driveways. If there is information described in any of the divisions that is in conflict with information in Division IA – Special Provisions, the information in the Special Provisions shall govern the contract.

**100.05 Liquidated Damages.** The Contractor shall perform the work within the period of time stipulated in the Contract Agreement, unless an extension of time is granted by the Engineer. Liquidated damages shall be assessed per working day as per the formula shown in the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 108.08; Paragraph 2.

**100.06 Contractor's Insurance.** In addition to the insurance required under Division I, Section 7.11, Contractor's Insurance, the insurance policy shall include completed operations coverage.

**100.07 Schedule.** (Schedule of Operations) The Contractor shall present a detailed schedule at the Pre-Construction meeting.

Full width pavement removal by milling and placement of 8" doweled concrete pavement will be allowed upon Contractor provided construction sequence, as approved by the Engineer.

**100.08 Special Prosecution and Progress**

The Contractor shall conduct operations to reduce heavy construction equipment, including loaded or unloaded dump trucks on the existing roadway after more than 3" has been removed by milling. Contractor to be responsible for any damage done to the subgrade before pavement placement. The Contractor can perform the milling operations and placement of 8" Doweled Concrete Pavement in the following sequence, for partial width paving operations.

- 1) Mill west lane
- 2) Pave west lane
- 3) Mill east lane
- 4) Pave east lane – leave gap for Driveway, 8+01.09
- 5) Pave gap at Driveway, 8+01.09 0 – 47B-HE-3500 Concrete

**Access for Residents**

The Contractor shall provide access at all times to residents at the properties located at 605 South Stuhr Road and 609 South Stuhr Road during the prosecution of the work. In order to provide access to these properties when the east lane is paved, the Contractor shall initially provide a gap for access at the driveway at 8+01.09, or provide landowners with adequate and acceptable access during construction. After the concrete pavement has gained sufficient strength for the residents to access their properties, the Contractor may pave the east lane at the gap at 8+01.09.

**Road Closure – Liquidated Damages**

Working Days shall be referenced from the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 101.04.04 except as described herein.

The Contractor shall close the roadway for milling operations and placement of "8" Doweled Concrete Pavement." The maximum number of Working Days the roadway may remain closed for the milling and concrete placement operations shall be twenty-one (21). Working Days will not be assessed during the following periods.

After "8" Doweled Concrete Pavement" has been placed from 4+00 to 21+34, LT, and the concrete pavement has not reached the minimum compressive strength to allow the Contractor's equipment onto the concrete pavement.

After "8" Doweled Concrete Pavement" has been placed from 4+00 to 21+34, RT, and the concrete pavement has not reached the minimum compressive strength to allow the Contractor's equipment onto the concrete pavement.

All "8" Doweled Concrete Pavement" has been placed and the concrete pavement has not reached the minimum compressive strength to allow traffic onto the concrete pavement.

The Contractor shall re-open the roadway after all "8" Doweled Concrete Pavement" has gained sufficient strength for opening and all "Asphaltic Concrete" has been placed. Failure to re-open the roadway within the prescribed working day time limit shall be cause for the assessment of liquidated damages of \$1,000.00 per working day.

**100.09 Mobilization.** This work shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; and for all other work and operations which must be performed or costs incurred before beginning work at the project site.

The Contractor must include all costs that he/she expects to incur for all movements of his/her equipment and personnel. Additional payments will not be made should the Contractor elect to move his/her equipment and/or crew to another project site before the contracted work is complete or if the Contractor fails to adequately assess the actual cost of Mobilization for the contracted work.

**100.10 Storm Water Discharges.** The Contractor shall understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site. Bidders may contact the City of Grand Island Public Works Department to request a copy of the general permit.

Additionally, the Contractor agrees and understands that, if awarded the contract on this project:

- 1) becomes a co-permittee, along with the City of Grand Island, to the Nebraska Department of Environmental Quality NPDES General Permit for Storm Water Discharges from construction sites on this project;
- 2) is legally bound to comply with the Clean Water Act to ensure compliance with the terms and conditions of the Storm Water Pollution Prevention Plan developed under the NPDES permit and the terms of the NPDES permit; and
- 3) will hold the owners harmless for damages or fines arising as a result of noncompliance with the terms of the storm water permits and authorizations associated with the work on this project.

The City of Grand Island will prepare the project Storm Water Pollution Prevention Plan for construction activities causing a land disturbance within the right-of-way of one acre or more. Bidders may contact the City of Grand Island Public Works Department to request a copy of the Storm Water Pollution Prevention Plan.

No additional payment shall be made for work required to comply with the general National Pollutant Discharge Elimination System permit and the Storm Water Pollution Prevention Plan. This work is subsidiary to other items for which direct payment is made.

**100.11 Construction Staking and Surveying** Contractor shall provide all necessary construction staking and surveying to construct the project to the lines and grades shown on the plans. Control point information will be provided to the Contractor, but Contractor shall verify all coordinates and elevation before staking. Establishment of removal limits, string lines, grades, and all detailed measurements and staking shall be included in this bid item.

Contractor shall clearly mark all construction stakes in the field with pertinent station, offset, and cut/fill information so that grades can be checked by the City's inspector.

Payment for all work and costs associated with Construction Staking and Surveying will be paid for on a lump sum basis under the bid item Construction Staking and Surveying.

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## **SECTION 101 – RAILROAD COORDINATION**

**101.01 General** Coordination with the BNSF Railway Company (BNSF) is required for grading, milling, concrete overlay, shouldering and seeding activities on railroad right-of-way. The Contractor is required to execute a Roadway Surfacing/Resurfacing Agreement with BNSF prior to entering railroad property.

Contractors and subcontractors shall meet the General Terms and Conditions, Insurance Requirements and Minimum Safety Requirements as required pursuant to the Roadway Surfacing/Resurfacing Agreement.



Immediately upon award of the construction contract, the Contractor shall complete the BNSF Railway Application for Roadway Surfacing/Resurfacing. The Contractor shall submit the application, along with pertinent plan sheets and the \$600.00 processing fee to the Permit Services at the following address.

Jones Lang LaSalle Brokerage, Inc.  
Attn: Permit Services  
4300 Amon Carter Blvd.  
Suite 100  
Ft. Worth, TX 76155

Instructions for obtaining the Roadway Surfacing/Resurfacing permit are located online at <http://www.bnsf.com/communities/faqs/pdf/roadway.doc>. **The City of Grand Island will assist in expediting the process so that work may begin within BNSF Railroad Right-of-Way no later than 30 days after the application is submitted.**

The Contractor will have the option to participate in the BNSF Railroad Protective Liability Insurance Blanket Policy for this project. The fee for participating in the Railroad's blanket policy is \$600.00.

A partially completed application with information acquired by the City of Grand Island is included with these Special Provisions. An example agreement is included with these Special Provisions.

**It is critical that the Legal Name of the Contractor performing work as shown on the application is exactly the same as shown on the Contractor's Insurance Policy.**

**101.02 Method of Measurement and Basis of Payment** Payment for all work and costs associated with executing the Roadway Surfacing/Resurfacing Agreement, including insurance costs and application fees, and all work and costs associated with coordination of work activity with BNSF, except for the costs for BNSF Flagging services, shall be paid for under the item "Railroad Coordination."

The Contractor shall be responsible for paying any invoice for BNSF Flagging services. Upon receipt of payment, the Contractor shall submit costs for BNSF Flagging services to the City's Project Manager for reimbursement.

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## **SECTION 201 – GENERAL CLEARING AND GRUBBING**

**201.01 General Description of Work.** General Clearing and Grubbing" requires the Contractor to remove all living or dead vegetation, including trees, and trash from within the limits of construction and the lateral obstacle clearance zone, including borrow pits and channel changes unless designated to remain. Live trees, hedges, shrubs, or grass designated to remain shall be protected as shown in the plans. Work within the right-of-way and outside the limits of construction or lateral obstacle clearance zone shall be performed in a manner as to preclude injury or damage to live trees in excess of 3 inches (75 mm) in diameter.

Trash, dead trees and vegetation in the right-of-way limits and beyond the limits of construction shall be disposed of by the Contractor.

**201.02 Construction Methods.** Construction Methods shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 202.02.

**201.03 Method of Measurement and Basis of Payment.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Sections 202.03 and 202.04.

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**SECTION 202 – EARTHWORK MEASURED IN EMBANKMENT**

**202.01 General.** The Contractor shall construct and shape embankment as shown in the plans and as required by these specifications.

This work shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 205.01, and 205.02 Section; Paragraphs 1 through 6.

**202.02 Construction Methods.** Construction Methods shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 205.03; Paragraphs 1, 3, 4, 7 and 13. Compaction of Embankment shall be in accordance with Paragraph 14.b.(3), Class III Embankment.

For silt-clay soil types, compaction requirements at depths greater than 2’ below finish grade shall be minimum 95% of maximum dry density as determined by AASHTO Method T-99, and moisture requirements shall be within 3% below and 2% above optimum moisture. Compaction requirements in the upper 2’ shall be minimum 95%, and moisture requirements shall be within 2% below and 1% above optimum moisture. For granular soil types, compaction requirements shall be 100% minimum at all depths.

**202.03 Method of Measurement and Basis of Payment.** The method of measurement shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 205.04; Paragraph 3. The basis of payment shall be in accordance with Section 205.05; Paragraphs 1 and 7.

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**SECTION 203 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

**203.01 General.** This work consists of clearing all tracts and the removal and disposal of all items not designated to remain as required to complete this contract. It includes salvaging the designated materials and backfilling the resulting cavities.

**203.02 Construction Methods.** The Contractor shall excavate as necessary to perform any removal. Concrete pavement, sidewalks, curbs, gutters, and similar structures to be left in place shall be sawed to a true vertical line or removed to an existing joint. Resulting voids caused by removal shall be backfilled with approved soil and compacted to 95 percent of maximum density as determined by NDR T 99.

**203.03 Method of Measurement and Basis of Payment.** The removal of all pavement structure, including base courses, gutters, intersections, and driveways will be surface measured. The unit of payment will be square yards (square meters). Driveway, intersection, and pavement removal shall include the underlying base course regardless of thickness or number of layers.

Removal and disposal of fence and mailboxes located within the construction limits shall not be measured and paid for, but are considered subsidiary to other items for which direct payment is made.

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**SECTION 204 – MAILBOX POSTS**

**204.01 General.** The Contractor shall install and assemble mailbox posts and brackets. The Contractor will not be required to install the mailbox.

**204.02 Material Requirements.** The City of Grand Island will furnish the posts, brackets, and fasteners. The Contractor will be required to pick up the post assembly at the City of Grand Island Streets Division Headquarters.

#### **204.02 Construction Methods.**

The post assembly shall be installed as shown in the plans. The Contractor will be required to use a follower block to protect the post during driving.

**204.03 Method of Measurement and Basis of Payment.** Mailbox posts are measured by the each. The basis of payment is Each (ea).

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### **SECTION 205 – DOWELED CONCRETE PAVEMENT, CLASS 47B**

**205.01 General.** This work consists of providing all labor, equipment, material, concrete, and reinforcement to construct the 8" doweled concrete overlay.

**205.02 Construction Methods.** General construction procedures shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 603.

**Site Preparation:** Once milling is complete, the Contractor shall sweep and clean the milled surface before constructing the concrete overlay. The existing surface shall be proof rolled by the contractor and inspected by the City to locate areas of severe deflection or random cracking. Areas deemed unacceptable shall be saw cut, removed full depth, and repaired with asphaltic concrete pavement. All cracks and joints greater than ¼" wide shall be cleaned out and filled with hot pour joint sealant in accordance with specification Section 1014.

A Bond Breaker shall be applied to the milled asphalt surface prior to placement of the concrete overlay. Curing compound shall be applied at twice the recommended application rate to act as the bond breaker.

Surface temperature shall be 120 degrees or less during placement of the concrete overlay.

Contractor may elect to use water to help cool the surface prior to placing the concrete overlay. If this option is utilized, no additional compensation will be made for water, equipment, or labor.

**Placement of Concrete:** Concrete shall be placed to the lines and grades as shown on the plans. The street will be reconstructed half width at a time. Contractor will be required to establish string lines, or a digital surface model for a string less paver, in order to assure consistent grades and a smooth driving surface.

During placement of concrete pavement, the Contractor will be required to unload concrete trucks from the adjacent lane. A concrete placer shall be used to ensure concrete is evenly distributed in front of the paver.

Concrete shall be NDOR 47B-3500 and conform to specification Section 1002. Use of class "C" fly ash will not be allowed. All other materials contained in the concrete mix design shall be from NDOR approved product list, and shall conform to material requirements as specified in the 2007 Edition of Nebraska Dept. of Roads Standard Specifications for Highway Construction.

**Dowels:** 1 ¼" diameter dowel bars shall be placed at 12" centers along all transverse joints.

Dowel baskets shall be set so that the center of each bar is 4" above the milled surface. Dowel bars shall conform to the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 1022.

**Tie Bars:** Epoxy coated tie bars shall be installed along all longitudinal construction joints and along the sawed joint 2' or 1.5' from pavement edge. Tie bars shall be #5 rebar, 30" long, and will be installed at 2'-9" on center. Standard NDOR construction practices shall be used and bars will be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 1021.

**Joints:** Transverse construction joints shall be sawed at a maximum spacing of 12'. All joints shall be saw cut to a minimum depth of T/4. Due to the nature of concrete overlays, it is imperative that the Contractor saw cut as soon as possible after placement. If soft cut saw

methods are utilized, the minimum saw cut depth shall be 1 ¼", with the joints being cut to full T/4 depth once concrete has obtained sufficient strength.

The contractor shall have the option on constructing a key type joint on the longitudinal centerline joint as shown in the Longitudinal Joints detail on sheet 2 of 4 of NDOR Standard Plan No. 329-R9.

**Pay Factor:** Table 603.04 in the 2007 Edition of Nebraska Dept. of Roads Standard Specifications for Highway Construction will be applied, but shall be amended as follows:

Payment Deductions Based on Deficient Pavement Thickness	
English Average Thickness Deficiency	Percent of Contract Unit Price
0 to 0.50 inch	100
Greater than 0.50 to 0.55 inch	85
Greater than 0.55 to 0.60 inch	80
Greater than 0.60 to 0.65 inch	75
Greater than 0.65 to 0.70 inch	70
Greater than 0.70 to 0.75 inch	65
Greater than 0.75 inch	Remove and Replace
When the thickness of the pavement is deficient by more than 0.75 inch, the Engineer will evaluate the pavement's expected use and may allow it to be left in place at 40 percent pay.	

Pavement smoothness will be evaluated according to Section 603.03, Paragraph 9b of the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction.

**205.03 Method of Measurement and Basis of Payment.** Doweled Concrete Pavement Class 47B-3500 will be field measured to verify actual quantity constructed.

"Labor for and Dowels for Doweled Concrete Pavement, Class 47B-3500 and 47B-HE-3500" will be measured for payment by the square yards (SY) of pavement placed as determined by field measurements. "Class 47B-3500 PCC for Overlay" shall be measured for payment by the cubic yards (CY) of concrete placed based on truck load tickets.

Contractor is to control quantity overruns by profile milling the existing asphalt as described in Section 207 of these Special Provisions.

The cleaning and filling of cracks with hot pour joint sealant, and the application of the Bond Breaker shall not be paid for directly, but are considered subsidiary to the item "Labor for and Dowels for Doweled Concrete Pavement, Class 47B-3500 and 47B-HE-3500."

Repair of areas deemed unacceptable, of which damage is not due to the Contractor's operations, shall be paid for as extra work as per the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 104.

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**SECTION 205A – DOWELED CONCRETE PAVEMENT – CLASS 47B-3500-HIGH EARLY**

**205A.01 General.** This work consists of providing all labor, equipment, material, concrete, and reinforcement to construct the 8" doweled high early concrete overlay.

**205A.02 Construction Methods.** General construction procedures shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 603.

**Site Preparation:** Once milling is complete, the Contractor shall sweep and clean the milled surface before constructing the concrete overlay. The existing surface shall be proof rolled and inspected by the City for to locate areas of severe deflection or random cracking. Areas deemed unacceptable shall be saw cut, removed full depth, and repaired with asphaltic concrete pavement. All cracks and joints greater than ¼" wide shall be cleaned out and filled with hot pour joint sealant in accordance with specification Section 1014.

A Bond Breaker shall be applied to the milled asphalt surface prior to placement of the concrete overlay. Curing compound shall be applied at twice the recommended application rate to act as the bond breaker.

Surface temperature shall be 120 degrees or less during placement of the concrete overlay.

**Placement of Concrete:** Concrete shall be placed to the lines and grades as shown on the plans. The street will be reconstructed half width at a time. Contractor will be required to establish string lines, or a digital surface model for a string less paver, in order to assure consistent grades and a smooth driving surface.

During placement of concrete pavement, the Contractor will be required to unload concrete trucks from the adjacent lane. A concrete placer shall be used to ensure concrete is evenly distributed in front of the paver.

Concrete shall be NDOR 47B-3500-HE and conform to specification Section 1002. Use of class "C" fly ash will not be allowed. All other materials contained in the concrete mix design shall be from NDOR approved product list, and shall conform to material requirements as specified in the 2007 Edition of Nebraska Dept. of Roads Standard Specifications for Highway Construction.

**Dowels:** 1 ¼" diameter dowel bars shall be placed at 12" centers along all transverse joints. Dowel baskets shall be set so that the center of each bar is 4" above the milled surface. Dowel bars shall conform to the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 1022.

**Tie Bars:** Epoxy coated tie bars shall be installed along all longitudinal construction joints and along the sawed joint 2' or 1.5' from pavement edge. Tie bars shall be #5 rebar, 30" long, and will be installed at 2'-9" on center. Standard NDOR construction practices shall be used and bars will be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 1021.

**Joints:** Transverse construction joints shall be sawed at a maximum spacing of 12'. All joints shall be saw cut to a minimum depth of T/4. Due to the nature of concrete overlays, it is imperative that the Contractor saw cut as soon as possible after placement. If soft cut saw methods are utilized, the minimum saw cut depth shall be 1 ¼", with the joints being cut to full T/4 depth once concrete has obtained sufficient strength.

**Pay Factor:** High early concrete shall achieve a minimum compressive strength of 3500 psi at 48 hours. Pay factors from Table 603.03 in the 2007 Edition of Nebraska Dept. of Roads Standard Specifications for Highway Construction will apply.

Table 603.04 in the 2007 Edition of Nebraska Dept. of Roads Standard Specifications for Highway Construction will be applied, but shall be amended as follows:

Payment Deductions Based on Deficient Pavement Thickness	
English Average Thickness Deficiency	Percent of Contract Unit Price
0 to 0.50 inch	100
Greater than 0.50 to 0.55 inch	85
Greater than 0.55 to 0.60 inch	80
Greater than 0.60 to 0.65 inch	75
Greater than 0.65 to 0.70 inch	70
Greater than 0.70 to 0.75 inch	65
Greater than 0.75 inch	Remove and Replace
When the thickness of the pavement is deficient by more than 0.75 inch, the Engineer will evaluate the pavement's expected use and may allow it to be left in place at 40 percent pay.	

Pavement smoothness will be evaluated according to Section 603.03, Paragraph 9b of the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction.

**205A.03 Method of Measurement and Basis of Payment.** Doweled Concrete Pavement Class 47B-3500 will be field measured to verify actual quantity constructed.

“Labor for and Dowels for Doweled Concrete Pavement, Class 47B-3500 and 47B-HE-3500” will be measured for payment by the square yards (SY) of pavement placed as determined by field measurements. “Class 47B-HE-3500 PCC for Overlay” shall be measured for payment by the cubic yards (CY) of concrete placed based on truck load tickets.

Contractor is to control quantity overruns by profile milling the existing asphalt as described in Section 207 of these Special Provisions.

The cleaning and filling of cracks with hot pour joint sealant, and the application of the Bond Breaker shall not be paid for directly, but are considered subsidiary to the item “Labor for and Dowels for Doweled Concrete Pavement, Class 47B-3500 and 47B-HE-3500.”

Repair of areas deemed unacceptable, of which damage is not due to the Contractor's operations, shall be paid for as extra work as per the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 104.

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## **SECTION 206 – CONCRETE DRIVEWAY – 6” AND 8”**

**206.01 General** This work shall include all forming, reinforcement, and placement of concrete driveways of the thickness and concrete type as shown on the plans. All work shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 609.

**206.02 Construction Methods** Contractor shall construct driveways in accordance with Section 609 of the with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction.

Contractor shall construct the drives to the thickness and size as shown on the plans. In some cases, High Early concrete may be utilized for driveway construction to provide access for the property owners. Contractor shall install ½" preformed joint filler along back of curb at all driveway locations. Driveway joints shall match existing drive, but in no case shall panels exceed 12' in size.

Contractor will need to coordinate driveway construction with property owners to ensure access to the drive. In some cases, the driveways will need to be constructed half width in order to maintain access. Tie bars shall be installed along cold joints in driveways. Bars shall be #4, 30" long, and be installed at 36" centers.

**206.03 Method of Measurement and Basis of Payment.** The method of measurement shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 609. No additional payment will be made for tie bars or joint construction.

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## **SECTION 207 – MILLING AND INLAYS**

**207.01 Milling - General** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 510.01.

**207.02 Milling - Equipment** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 510.03.

**207.03 Milling – Construction Methods** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 510.04.

Milling shall be controlled to the lines, grades, and profile as shown on the plans. Surface shall be milled to within ¼" of the proposed grade.

The contractor shall provide and operate the mechanical broom to perform the initial sweeping and cleaning immediately following the milling operation.

The contractor shall effectively clean the pavement surface of all dirt, foreign materials, loose surfacing material, and any residue before placement of bond breaker.

Hauling of all milled materials shall be performed by the Contractor. All bituminous material produced from the cold milling operation shall become the property of the Contractor. Contractor is responsible for proper disposal or stockpiling of material off site. All expenses associated with removal and disposal of the millings is the responsibility of the Contractor.

**207.04 Milling – Method of Measurement** Milling will be measured and paid by the Square Yard of milled surface.

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## **SECTION 208 – SUBGRADE PREPARATION, PREPARATION OF INTERSECTIONS AND DRIVEWAYS, AND SHOULDERING**

**208.01 Subgrade Preparation and Preparation of Intersections and Driveways - General.** This work shall consist of preparing subgrade for the concrete pavement in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 302.01 and 302.02

**208.02 Subgrade Preparation and Preparation of Intersections and Driveways - Construction Methods.** Construction Methods shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 302.03.

For silt-clay soil types, compaction requirements shall be minimum 95% of maximum dry density as determined by AASHTO Method T-99, and moisture requirements shall be within 2% below and 1% above optimum moisture. For granular soil types, compaction requirements shall be 100% minimum.

**208.03 Subgrade Preparation and Preparation of Intersections and Driveways - Method of Measurement and Basis of Payment.** The method of measurement shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 302.04, except that Water will not be measured. The basis of payment shall be in accordance with Section 302.05, except that Water will not be measured and shall be considered subsidiary to the item "Subgrade Preparation" and "Subgrade Preparation for Intersections and Driveways."

**208.04 Earth Shoulder Construction General.** This work shall consist of blading, shaping and compacting embankment material to conform to the plan's typical cross sections and compaction requirements. Soils shall meet the requirements prescribed in the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 205.

**208.05 Earth Shoulder Construction Methods.** Construction Methods shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 304.03; Paragraphs 1, 2, 3, 4.a, 5, 6 and 7.

**208.06 Earth Shoulder Construction Method of Measurement and Basis of Payment.** The method of measurement shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 304.04, except that Water will not be measured. The basis of payment shall be in accordance with Section 304.05, except that Water will not be measured and shall be considered subsidiary to the item "Earth Shoulder Construction."

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## **SECTION 209 – CRUSHED ROCK SURFACE COURSE AND CRUSHED ROCK FOR TEMPORARY SURFACING**

**209.01 Crushed Rock Surface Course – General.** This work shall consist of furnishing, delivering, and spreading aggregate for surfacing on an approved roadbed surface in accordance with these Special Provisions.

**209.02 Crushed Rock Surface Course – Material Requirements Construction Methods.** Construction Methods shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 310.02.

**209.03 Crushed Rock Surface Course – Construction Methods.** Construction Methods shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 310.03.

**209.04 Crushed Rock Surface Course – Method of Measurement and Basis of Payment.** The method of measurement shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 310.04. The basis of payment shall be in accordance with Section 310.05.

**209.05 Crushed Rock for Temporary Surfacing – General.** This work shall consist of furnishing, delivering, and spreading aggregate for temporary surfacing on an approved roadbed surface in order to provide private dwellings, businesses and public facilities access to and from a paved surface.



**209.06 Crushed Rock Surface Course – Material Requirements Construction Methods.**

Construction Methods shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 310.02.

**209.07 Crushed Rock for Temporary Surfacing – Construction Methods.** The Contractor shall deliver crushed rock to the site specified in the plans or as directed by the Engineer. The Contractor shall spread crushed rock as shown in the plans or as directed by the Engineer.

When temporary surfacing is no longer needed to provide access as described above, the Contractor shall remove the crushed rock to the satisfaction of the Engineer. The crushed rock shall become the property of the Contractor.

**209.08 Crushed Rock for Temporary Surfacing – Method of Measurement and Basis of**

**Payment.** The method of measurement shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 310.04. The basis of payment shall be in accordance with Section 310.05.

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**SECTION 210 – PREFORMED PAVEMENT MARKING** This special provision covers the furnishing and installation of permanent preformed pavement markings. The preformed pavement markings shall be applied to the pavement in contractor installed grooves.

The pavement marking tape shall be Preformed Pavement Marking, Type IV according Section 423 of the 2007 Edition of Nebraska Department of Roads Specifications for Highway Construction.

The grooves shall be made in a single pass dry cut using stacked diamond cutting heads. The equipment used shall be self-vacuuming and leave the cut groove ready for tape installation. The equipment and method used shall be approved by the tape manufacturer. The bottom of the groove shall have a fine corduroy finish. If a course, tooth pattern is present, increase the number of blades and decrease the spacers on the cutting head. The pavement marking tape shall be placed in the grooves the same day as the cut. Grooves shall be clean and dry prior to tape application. All conflicting pavement markings remaining after tape installation shall be removed. This removal shall be subsidiary to the pavement marking.

Groove width:	tape width + 1 inch ± 1/8 inch.
Groove width:	50 mils ± 10 mils
Groove length:	full length of tape + required grooving transition
Groove position:	2 inches left of joint line

The preformed pavement marking, Type IV installed in grooves shall be measured and paid for by the linear foot of actual pavement marking material installed, for the item “ \_\_\_ Inch White / Yellow, Preformed Pavement Marking, Type IV Grooved”, and by each for the item “Railroad Crossing Symbol Preformed Pavement Marking, Type IV Grooved”. This price shall be full compensation for grooving, furnishing and installing the markings, primer, and for all equipment, tools, labor, materials and incidentals necessary to complete the work.

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**SECTION 301 – ASPHALTIC CONCRETE**

**301.01 Asphaltic Concrete.** The asphalt thickness shall be as indicated on the details in the construction plans. All base preparation including cleaning shall be done by the Contractor. No separate payment shall be made for cleaning.

**301.02 Asphalt Cement.** Asphaltic Cement shall meet or exceed both the upper and lower temperature targets for Performance Graded Binder 64-34.

The performance graded binder to be used on this project shall be supplied by a Certified Supplier. The supplier must be certified by the Nebraska Department of Roads to be allowed to supply Performance Graded Binder in Nebraska. A certified supplier must be a participant in one or more of the following PG Binder groups.

1. AASHTO Materials Reference Laboratory (AMRL)
2. Western Cooperative Testing Group
3. Combined States Binder Group

A Material Certification from the PG Binder Supplier shall be submitted prior to construction, stating the type of polymer modifier being used and the recommended mixing and compaction temperatures for the Hot Mix Asphalt. The Material Certification must state that acid has not been used. The Material Certification must also state that the material has not been air blown or oxidized.

Asphalt Cement will not be paid for separately, but is subsidiary to the item "Asphaltic Concrete."

**301.03 Placement of Asphaltic Concrete During Cool Weather.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 503.04; Paragraph 3.

**301.04 Preparation of Existing Surface.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 503.04; Paragraph 1.

**301.05 Hauling and Spreading Asphalt Concrete Mixtures.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 503.04; Paragraphs 4 and 5.

**301.06 Compacting and Finishing Asphalt Concrete Mixtures.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 503.04; Paragraphs 6 and 7. When a break in the cross slope of the pavement is specified in the plans, the Contractor shall provide compacting equipment of appropriate width to compact and finish the surface as specified.

**301.07 Tack Coat.** Diluted emulsified asphalt shall be used for Tack Coat for this project and shall conform to the requirements of Section 504 of the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction. Tack Coat shall be SS-1-H or CSS-1-H applied at the rate of 0.10 to 0.20 gallon per square yard when applied to existing or freshly milled surfaces and from 0.05 to 0.10 gallon per square yard when applied to freshly laid Asphaltic Concrete.

Documentation from the supplier certifying that the materials used for tack coat meet these requirements shall be provided to the Engineer. Addition of potable water to dilute emulsified asphalt must be performed under observation from the Engineer or their representative.

**301.08 Asphaltic Concrete.** The asphaltic concrete shall be Type "SPL (A)" as per these specifications.

**301.09 Compacting.** Areas where rollers cannot be properly operated shall be compacted with appropriate equipment.

## SECTION 302 DESIGN OF ASPHALTIC CONCRETE MIXTURES – SPL (A) and SPL (B)

Asphaltic Concrete, Type SPL (A) and SPL (B) shall conform to the AASHTO T 245 test for a 50 blow mix criteria.

Prior to production of the asphaltic concrete the contractor shall submit in writing a tentative job-mix for the mixture to the Public Works Director for their approval. Mix shall be designed in accordance with MS-2 "Mix design methods for asphalt concrete and other hot mix types". The latest Nebraska Department of Roads aggregate specifications and gradation specifications shall be used, except as indicated below.

Payment for designing an acceptable job-mix, including all associated testing, shall be paid for under the item "Job Mix Design for Asphaltic Concrete, Type \_\_\_."

The blended aggregate for Type SPL shall conform to the gradation requirements specified below:

English (Metric) Sieve	Gradation Control Points			
	SPL (A)		SPL (B)	
	(Percent Passing)		(Percent Passing)	
	Min.	Max.	Min.	Max.
1 inch (25 mm)	100.0			
3/4 inch (19 mm)	98.0	100.0	100.0	
1/2 inch (12.5 mm)	-	-	98.0	100.0
3/8 inch (9.5 mm)	81.0	89.0	85.0	100.0
No. 8 (2.36 mm)	46.0	56.0	46.0	56.0
No. 50 (300 µm)	12.0	21.0	12.0	21.0
*No. 200 (75 µm)	4.0	9.0	4.0	9.0

\* This requirement is based on a specific gravity range of 2.55 to 2.75 for the material passing the No. 200 (75 µm) sieve. For specific gravities outside the limits shown, the range may be adjusted to maintain an equivalent volume of material passing the No. 200 (75 µm) sieve.

The Fine Aggregate Angularity (FAA) value of the blended aggregate material for both Type SPL (A) and SPL (B) shall be a minimum of 43. The specific gravity for calculation of the FAA shall be based on material passing the No. 8 (2.36 mm) sieve and retained on the No. 100 (150 µm) sieve.

The Coarse Aggregate Angularity (CAA) value of the blended aggregate material for Type SPL (A) shall be a minimum of 83. The Coarse Aggregate Angularity (CAA) value of the blended aggregate material for Type SPL (B) shall be a minimum of 65.

The plasticity index of the portion of the combined mineral aggregate passing the No. 200 (75 µm) sieve of the materials submitted for experimental bituminous mixtures shall not exceed six for approval of the mixture design.

The target field air voids shall be 3 percent. Field control target air voids shall be 3 percent plus or minus one percent, based on the moving average of three tests.

Mineral aggregates shall comply with the quality requirements of Paragraph 4. of Subsection 1033.02 of the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction for mineral aggregate other than crushed rock for asphaltic concrete.

The Contractor may approach the City with a proposal to supplement the virgin aggregates of the asphaltic concrete mix with a Contractor specified percentage of recycled asphalt pavement (RAP). The City may accept or reject the proposal based on whether the mix design meets the specified criteria of the asphaltic concrete proposed. The RAP may come from the project or an existing stockpile. The Contractor is responsible for investigating the quality of the RAP material.

Mix design changes shall be made in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 1028.03; Paragraphs 2 and 3. Payment shall not be made for establishing additional job mix designs.

**SECTION 303 – QUALITY CONTROL – SPL (A) and SPL (B)**

Testing of Asphaltic Concrete shall be performed by the City Of Grand Island through an independent testing facility. Tests shall be performed to determine material properties and applicable pay factors. One sample shall be acquired for each day's production or as determined by the Engineer. Additional sampling and testing for the Contractor's information may be performed at the Contractor's discretion. Any additional testing shall not be used in pay factor determination.

Additional testing performed for the Contractor's information or to correlate test results between the Contractor's testing facility and the independent testing facility shall not be provided by the City of Grand Island.

The sample shall be taken from the roadway before compaction. The samples shall be approximately 20 pounds and split according to NDR T-248. Testing procedures shall be in accordance with the latest Nebraska Department of Roads Standard Specifications.

When any single test result, on the same mix property, from two consecutive samples falls outside the allowable production tolerances in the following tests, the material represented by these tests shall be accepted with a 20% penalty or rejected, as determined by the Engineer.

Course Aggregate Angularity	-5% below minimum
Fine Aggregate Angularity	-0.50% below minimum
Minimum Binder Content = 5.0%	None

These tolerances are applied to the mix design specification values, not the submitted mix design targets.

**SECTION 304 – DENSITY TESTS**

Density tests on each days production shall be performed by an independent testing facility in accordance with AASHTO T-166 or ASTM D-2041. Test results shall be used to determine the final pay factor for "Asphaltic Concrete "as shown in the Table for Density of Compacted Asphaltic Concrete.

**DENSITY OF COMPACTED ASPHALTIC CONCRETE**

<u>Percent of Laboratory Density</u>	<u>Pay Factor</u>
92.5 or Greater	1.00
Greater than 91.9 to 92.4	0.95
Greater than 91.4 to 91.9	0.90
Greater than 90.9 to 91.4	0.85
Greater than 90.4 to 90.9	0.80
Greater than 89.9 to 90.4	0.70
89.9 or less	0.40 or Reject

**SECTION 305 – MEASUREMENT AND PAYMENT**

The method of measurement shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 503.05, except that Tack Coat and Performance Graded Binder are subsidiary to the item “Asphaltic Concrete.”

The unit price for “Asphaltic Concrete” will be multiplied by the product of the pay factor for density. Applicable penalties for material properties as described in Section 203 shall also be applied.

The final pay factor for total project tonnage for any one type of Asphaltic Concrete, expressed as a percentage, shall be computed as follows:

$$\frac{P1(T1) + P2(T2) + P3(T3)...}{T1 + T2 + T3...}$$

Where P1, P2, P3 = % pay factor for each daily sample  
 T1, T2, T3 = tons at respective pay factor

Deductions shall be made for materials which have been damaged by overheating, which have been allowed to cool excessively before laying, which are required to be removed because of defective work, which have been wasted, or which have not been used as directed by the Engineer.

If the temperature exceeds 350°F but does not exceed 400°F immediately after discharge from the mixer, the pay factor shall be 0.90. If the temperature of the mixture exceeds 400°F (204°C), the material may be rejected or, if used on the project, the pay factor for the material may be 0.40.

**SECTION 400 – ROADSIDE DEVELOPMENT**

**400.01 Seeding, Type “B” - General.** This work shall consist of placing seed and mulch at locations disturbed by grading and shouldering operations and as directed by the Engineer. The seed mixture shall comply with the following.

Type “B”	Minimum Purity	Approved Mechanical Drill Application Rate in lb. of Pure Live Seed/Acre
Perennial ryegrass – Linn	85	7
Slender Wheatgrass	85	6
Western Wheatgrass – Flintlock, Barton	85	8
Blue grama – NE, KS, CO, MN	30	2.5
Buffalograss – Bison, Cody, Texoka, Sharp's Improved	80	4
Sideoats grama – Butte, El Reno, Trailway	75	4
Sand dropseed (Sporobolus cryptandrus)	75	0.2
Oats/Wheat*	90	16

\* Wheat in the fall

All seed shall be origin Nebraska, adjoining states, or as specified. A contractor proposing to use a substitute variety, or origin shall submit for the engineer's consideration a seed tag representing the seed which shows the variety, origin and analysis of the seed.

No seed shall be mixed until the Engineer provides the Contractor a seed order list. The Engineer will determine the total seed requirement, usually near the end of the construction period. Where practicable, a single seed order will be provided.

The Contractor shall obtain from the seed dealer and furnish to the City a laboratory analysis of the lot of seed proposed for use. The analysis shall provide complete information on the seed as required by State and Federal laws. The City may approve use of the seed if the information on the analysis is satisfactory. If the seed is approved by the City, the seed shall be mixed, bagged, and tagged at the seed company after the City gives the seed company authorization.

Fertilizer will be provided and applied by City Forces.

**400.02 Seeding, Type "B" – Construction Methods.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 803.02; Paragraphs 1, 3, 4 and 6.

**400.03 Seeding, Type "B" – Method of Measurement and Basis of Payment.** The method of measurement shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 803.04. The basis of payment shall be in accordance with Section 803.05.

**400.04 Mulch – General.** This work shall consist of providing, placing, and crimping mulch on areas shown in the plans or identified by the Engineer as being seeded in accordance with these specifications. Material requirements shall be as specified in the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 805.02.

**400.05 Mulch – Construction Methods.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 805.03.

**400.06 Mulch - Method of Measurement and Basis of Payment.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Sections 805.04 and 805.05.

**400.07 Temporary Mulch – General.** After grading operations are completed, the Contractor shall apply temporary mulch within seven days. This work shall consist of providing, placing, and crimping mulch on areas disturbed by grading operations or as directed by the Engineer. Material requirements shall be as specified in the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 814.02; Paragraph 2.

**400.08 Temporary Mulch – Construction Methods.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 814.03; Paragraph 2.

**400.09 Mulch - Method of Measurement and Basis of Payment.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Sections 814.04; Paragraph 2, and Section 814.05.

**400.10 Sodding – General.** This work shall consist of furnishing, transporting, fertilizing, watering, and placing bluegrass sod in accordance with these special provisions. Sodding operations shall not be performed between May 1 and September 10, when the ground is frozen, or when weather conditions are not favorable for growth as determined by the Engineer.

**400.11 Sodding – Material Requirements.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 806.02.

**400.12 Sodding – Construction Methods.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Section 806.03. The Contractor shall coordinate replacement of underground sprinkler systems with adjacent property owners, whenever applicable.

**400.13 Sodding - Method of Measurement and Basis of Payment.** Shall be in accordance with the 2007 Edition of the Nebraska Dept. of Roads Standard Specifications for Highway Construction, Sections 806.04 and 806.05.

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## **SECTION 500 – TRAFFIC CONTROL**

**500.01 Temporary Sign Day** This work consists of furnishing, installing at locations as directed, operating, maintaining, and when signs are not required, removing temporary signs. General requirements shall be as specified in the 2007 Edition of the Nebraska Department of Roads Standard Specifications for Highway Construction, Section 422.01; Paragraphs 2 and 5.

Material shall be in accordance with the 2007 Edition of the Nebraska Department of Roads Standard Specifications for Highway Construction, Section 422.02; Paragraph 1.b.

Temporary Signs shall be installed and maintained in accordance with the Manual on Uniform Traffic Control Devices and with Grand Island City Code Section 32-31. Prior to placement of any temporary signs, the Contractor shall acquire approval from the Engineer for each situation.

“Temporary Sign Day” is the pay item for temporary signs and “Temporary Sign Day” shall be paid by the each.

**500.02 Type II and Type III Barricades** This work consists of furnishing, installing at locations as directed, operating, maintaining, and removing Type II and Type III Barricades. Barricades shall meet the requirements prescribed in the current *Manual on Uniform Traffic Control Devices*.

Type II and Type III Barricades shall be provided, installed, maintained and removed in accordance with the 2007 Edition of the Nebraska Department of Roads Standard Specifications for Highway Construction, Section 422.03; Paragraph 2., with the Manual on Uniform Traffic Control Devices and with Grand Island City Code Section 32-31. Prior to placement of any Barricades, the Contractor shall acquire approval from the Engineer for each situation.

Type II and Type III Barricades shall be measured for payment by the number of calendar days each is in place as per these specifications.

“Barricade, Type II” and “Barricade, Type III” are the pay items for temporary barricades. “Barricade, Type II” and “Barricade, Type III” shall be paid by the Barricade-Day (BDay).

**500.03 Flagging** “Flagging” shall be in accordance with the 2007 Edition of the Nebraska Department of Roads Standard Specifications for Highway Construction, Section 422.03; Paragraphs 3.a.(1) and 3.b. The method of measurement and basis of payment for “Flagging” shall be in accordance with the 2007 Edition of the Nebraska Department of Roads Standard Specifications for Highway Construction, Section 422.04; Paragraph 3.

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**EXHIBIT 1  
BNSF RAILWAY**

**APPLICATION FOR ROADWAY  
SURFACING/RESURFACING AGREEMENT**





## **ROADWAY SURFACING/RESURFACING PROCESS INSTRUCTIONS**

### **Licensing Process:**

1. Once application package is received by Jones Lang LaSalle Brokerage, Inc. (JLL), the application and drawing will be forwarded to the engineering firm to prepare the Exhibit "A" drawings for the contract. **This process takes approximately 10 to 15 working days.**
2. When the Exhibit "A" is completed, information will be forwarded to the local BNSF Roadmaster for approval. Once approved, a contract will be prepared and two (2) copies will be forwarded to you for an original signature. A letter will be sent to you that will provide directions regarding insurance and any additional fees.
3. Return the signed contracts (2 contracts with original signatures), along with the appropriate **payment and Certificates of Insurance** to JLL's Permit Department.
4. The final contracts, with original signatures, are presented for execution provided payment has been received and insurance has been approved.
5. Once the contract is executed, one original will be returned to you for your files.
6. Prior to commencing any work on the Premises, Licensee shall complete and shall require its contractor (all parties who will be working on the site) to complete the safety training program at Internet Website <http://www.contractororientation.com>. This training must be completed no more than one year in advance of Licensee's entry on the Premises.
7. The cover letter and the executed contract will list the Roadmaster's name and phone number. **You will need to contact the Roadmaster thirty (30) days prior to beginning work.**

### **Process Time:**

Please be advised that the average time period for completion of this process is 4 weeks from the time that the application is received. Every effort will be made to complete this process in a timely manner

### **Insurance Requirements for the following Agreement:**

	<b>Temporary Occupancy</b>
<b>Commercial General Liability Insurance</b>	Contractual Liability with a combined single limit of a minimum of \$2,000,000 each occurrence and an aggregate limit of at least \$4,000,000.
<b>Business Automobile Insurance</b>	Combined single limit of at least \$1,000,000 per occurrence.
<b>Workers Compensation and Employers Liability Insurance</b>	Employers' Liability with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.
<b>Railroad Protective Liability Insurance</b>	Coverage of at least \$2,000,000 per occurrence and \$6,000,000 in the aggregate, with the exception of New Mexico in which coverage is \$5,000,000 per occurrence and \$10,000,000 in the aggregate
<b>Note:</b> These limits are subject to change without notice. An Agreement will be provided to you, which contains details concerning insurance requirements.	

**Please send the following so we may process your License request:**

1. If License is for a Seismic Survey send a copy of your **Lease Agreement**.
2. **Completed Application**.
3. **\$600 non-refundable processing fee**. Check should be made payable to BNSF Railway Company.
4. **One set of drawings** ( no larger than 11 x 17) for the area to be occupied. (Include: streets, distance from tracks and streets, mileposts if available and any distinguishing land marks.) Please ensure all information is accurate, as each change will add an additional \$600 to the processing fee.

Forward application and payments to:  
Jones Lang LaSalle Brokerage, Inc.  
Attn: Permit Services  
4300 Amon Carter Blvd.  
Suite 100  
Ft. Worth, TX 76155



APPLICATION FOR ROADWAY SURFACING/RESURFACING

Jones Lang LaSalle Brokerage, Inc.
Attn: Permit Services
4300 Amon Carter Blvd.
Suite 100
Fort Worth, TX 76131-2800

Applicants Tax ID #
or SS #

We submit for your approval the following application for temporary occupancy on BNSF Railway Company's right of way as shown on the enclosed sketch.

Legal Name of Contractor performing work:
If a corporation State in which incorporated (If not incorporated, attach name(s) of owners or partners.)
Contact Name: Phone # FAX
Mailing Address:
Email Address:

Legal Name of Roadway Authority that will occupy the property:
If a corporation State in which incorporated NE (If not incorporated, attach name(s) of owners or partners.)
Contact Name: Scott A. Griepenstroh Phone # 308-385-5444 FAX
Mailing Address: PO Box 1968 Grand Island, NE 68802-1968
Email Address: scottg@grand-island.com

Is this project ARRA funded? Yes No
Is this a condemning authority? Yes No
Is Applicant a Railroad Shipper? Yes No
If yes, BNSF Marketing Rep Name Phone #
Was this service requested by BNSF? Yes No
If yes, BNSF person requesting service Phone #
Is this in conjunction with a track or track expansion project? Yes No
If yes, BNSF contact name Phone #

Scope of Services to be performed? Mill and Concrete Overlay of Stuhr Road (4' wide Asphaltic Concrete at Crossing)
Name of nearest town on RR Grand Island County Hall State NE
Name of nearest roadway crossing RR Stuhr Road
Location of proposed occupancy SW 1/4 Section 14 Township 11-N Range 9-W
Railroad Milepost 0095.12 Latitude 40.9216520 Longitude -98.3206600
Is the work to be performed within 50 ft. of the track? Yes No
Area to be occupied 100 ft. (x) 50 ft.
Length of time for Project: Date from: June 24, 2013 Date to: August 21, 2013
Will a crossing under the railroad tracks be required? Yes No
If yes, location of railroad mileposts
Percentage of project to be conducted on RR property: 5.7 % Total Cost of Project: \$ RR PROP ONLY

Attached to this sheet is a location plan and a detailed sketch. Shown on the sketch are exact dimensions of the project area and distances to the centerline of nearest railroad track and road crossing, bridge or other railroad structure.

I understand that submission of this application does not authorize occupancy of the property. Exact fees and insurance requirements will be forwarded after the application has been reviewed and approved by the BNSF.

Date: Signed:
Print Name:
Title:
Phone #: FAX

If you require additional assistance, please contact your Jones Lang LaSalle Brokerage, Inc. representative.

**EXHIBIT 2  
BNSF RAILWAY**

**STANDARD ROADWAY  
SURFACING/RESURFACING AGREEMENT**

# BNSF Railway Roadway Surfacing/Resurfacing Agreement Requirements

## 1.1 General

**1.1.1** The Contractor must cooperate with **BNSF RAILWAY COMPANY**, hereinafter referred to as "Railway" where work is over or under on or adjacent to Railway property and/or right-of-way, hereafter referred to as "Railway Property", during the reconstruction of \_\_\_\_\_.

**1.1.2** The Contractor is responsible for determining and complying with all Federal, State and Local Governmental laws and regulations, including, but not limited to environmental laws and regulations (including but not limited to the Resource Conservation and Recovery Act, as amended; the Clean Water Act, the Oil Pollution Act, the Hazardous Materials Transportation Act, CERCLA), and health and safety laws and regulations. The Contractor hereby indemnifies, defends and holds harmless Railway for, from and against all fines or penalties imposed or assessed by Federal, State and Local Governmental Agencies against the Company which arise out Contractor's work under this Agreement.

**1.1.3** Except as otherwise agreed to between Railway and State, the Contractor must notify the (County) at \_\_\_\_\_ and Railway's Manager of Public Projects; telephone number ( 913 ) 551-4964 at least thirty (30) calendar days before commencing any work on Railway Property. Contractor's notification to Railway must refer to Railroad's file \_\_\_\_\_.

**1.1.4** For any false work above any tracks, any excavations located within twenty-five (25) feet of the nearest track, and any intersecting slope from the plane of the top of rail on a 1½ horizontal to 1 vertical slope beginning at eleven (11) feet from centerline of the nearest track, both measured perpendicular to center line of track, the Contractor must furnish the Railway five sets of working drawings showing details of construction affecting Railway Property and tracks. The working drawing must include the proposed method of installation and removal of false work, shoring or cribbing, not included in the contract plans and two sets of structural calculations of any false work, shoring or cribbing. All calculations must take into consideration railway surcharge loading and must be designed to meet American Railway Engineering and Maintenance-of-Way Association (previously known as American Railway Engineering Association) Coopers E-80 live loading standard. All drawings and calculations must be stamped by a registered professional engineer licensed to practice in the state the project is located. The Contractor must not begin work until notified by the Railway that plans have been approved. The Contractor will be required to use lifting devices such as, cranes and/or winches to place or to remove any false work over Railway's tracks. In no case will the Contractors be relieved of responsibility for results obtained by the implementation of said approved plans.

**1.1.5** Subject to the movement of Railway's trains, Railway will cooperate and make reasonable effort to assist the Contractor so that the work may be handled and performed in an efficient manner. The Contractor will have no claim whatsoever for any type of damages or for extra or additional compensation in the event his work is delayed by necessary Railway operations.

## **1.2 Contractor Safety**

**1.2.1** No employee of the Contractor, its subcontractors, agents or invitees may enter Railway Property without first having completed Railway's Engineering Contractor Safety Orientation, found on the web site [www.contractororientation.com](http://www.contractororientation.com). The Contractor must ensure that each of its employees, subcontractors, agents or invitees completes Railway's Engineering Contractor Safety Orientation through internet sessions before any work is performed on the Project. Additionally, the Contractor must ensure that each and every one of its employees, subcontractors, agents or invitees possesses a card certifying completion of the Railway Contractor Safety Orientation before entering Railway Property. The Contractor is responsible for the cost of the Railway Contractor Safety Orientation. The Contractor must renew the Railway Contractor Safety Orientation annually. Further clarification can be found on the web site or from the Railway's Representative.

**1.2.2** Each Contractor that will perform work within 25 feet of the centerline of a track must develop and implement a Roadway Worker Protection/On Track Safety Program and work with Railway Project Representative to develop an on track safety strategy as described in the guidelines listed in the on track safety portion of the Safety Orientation. This Program must provide Roadway Worker protection/on track training for all employees of the Contractor, its subcontractors, agents or invitees. This training is reinforced at the job site through job safety briefings. Additionally, each Contractor must develop and implement the Safety Action Plan, as provided for on the web site [www.contractororientation.com](http://www.contractororientation.com), which will be made available to Railway prior to commencement of any work on Railway Property. During the performance of work, the Contractor must audit its work activities. The Contractor must designate an on-site project Supervisor who will serve as the contact person for the Railway and who will maintain a copy of the Safety Action Plan, safety audits, and Material Safety Datasheets (MSDS), at the job site.

## **1.3 Railway Requirements**

**1.3.1** The Contractor must take protective measures as are necessary to keep Railway facilities, including track ballast, free of sand, debris, and other foreign objects and materials resulting from his operations. The Railway shall notify the Contractor of any damage to the Railway facilities resulting from Contractor's operations. The Railway will repair such damages and the cost of such repairs or replacement must be paid for the Contractor.

**1.3.2** The Contractor must notify the Railway's Division Superintendent and provide blasting plans to the Railway for review seven (7) calendar days prior to conducting any blasting operations adjacent to or on Railway's Property.

**1.3.3** The Contractor must abide by the following clearances during construction:

- ◆ 25'-0" Horizontally from centerline of nearest track
- ◆ 23'-3 1/2" Vertically above top of rail (Temporary False work Clearance may be reduced to 21'-6" subject to Railway approval)
- ◆ 27'-0" Vertically above top of rail for electric wires carrying less than 750 volts
- ◆ 28'-0" Vertically above top of rail for electric wires carrying 750 volts to 15,000 volts
- ◆ 30'-0" Vertically above top of rail for electric wires carrying 15,000 volts to 20,000 volts
- ◆ 34'-0" Vertically above top of rail for electric wires carrying more than 20,000 volts

**1.3.4** Any infringement within the clearances provided above due to the Contractor's operations must be submitted to Railway and must not be undertaken until approved in writing by the Railway. No extra compensation will be allowed in the event the Contractor's work is delayed pending Railway approval.

**1.3.5** The details of construction affecting the Railway's property and tracks not included in the contract plans must be submitted to the Railway by the contractor for approval before work is undertaken and this work must not be undertaken until approved by the Railway.

**1.3.6** At other than public road crossings, the Contractor must not move any equipment or materials across Railway's tracks until permission has been obtained from the Railway. The Contractor must obtain a "Temporary Private Crossing Agreement" (substantially in the form of Exhibit "F" of this agreement and in the form hereof) from the Railway prior to moving his equipment or materials across the Railway's tracks. The temporary crossing must be gated and locked at all times when not required for use by the Contractor. The temporary crossing for use of the Contractor will be at the expense of the Contractor.

**1.3.7** Discharge, release or spill on the Railway Property of any hazardous substances, oil, petroleum, constituents, pollutants, contaminants, or any hazardous waste is prohibited and Contractor must immediately notify the Railway's Resource Operations Center at 1 (800) 832-5452, of any discharge, release or spills in excess of a reportable quantity. Contractor must not allow Railway Property to become a treatment, storage or transfer facility as those terms are defined in the Resource Conservation and Recovery Act or any similar state law.

**1.3.8** In the event the contractor shall in any manner move or disturb other property of the Railway, in connection with the use of the said property, then, and in that event, the contractor shall, as soon as possible and at its sole expense, restore such property to the same condition as it was in before such property was moved or disturbed.

**1.3.9** In addition to Subsection 104.08 of the Standard Specification, the Contractor upon completion of the work covered by this contract, must promptly remove from the Railway's Property all of Contractor's tools, equipment, implements and other materials whether brought upon said property by said Contractor or any Sub contractor, employee or agent of contractor or of any Subcontractor, and must cause Railway's Property to be left in a condition acceptable to the Railway's representative.

#### **1.4 Protection of Railway Facilities and Railway Flagger Services:**

**1.4.1** The Contractor must give Railway's Roadmaster, \_\_\_\_\_, (telephone \_\_\_\_\_) a minimum of thirty (30) calendar days advance notice when flagging services will be required so that the Roadmaster can make appropriate arrangements (i.e., bulletin the flagger's position). If flagging services are scheduled in advance by the Contractor and it is subsequently determined by the parties hereto that such services are no longer necessary, the Contractor must give the Roadmaster five (5) working days advance notice so that appropriate arrangements can be made to abolish the position pursuant to union requirements.

**1.4.2** Unless determined otherwise by Railway's Project Representative, Railway flagger and protective services and devices will be required and furnished when Contractor's work activities are located over, under and/or within twenty-five (25) feet measured horizontally from centerline of the nearest track and when cranes or similar equipment positioned beyond 25-feet from the track centerline could foul the track in the event of tip over or other catastrophic occurrence, but not limited thereto for the following conditions:

a- When in the opinion of the Railway's Representative it is necessary to safeguard Railway's Property, employees, trains, engines and facilities.

b- When any excavation is performed below the bottom of tie elevation, if, in the opinion of Railway's representative, track or other Railway facilities may be subject to movement or settlement.

c- When work in any way interferes with the safe operation of trains at timetable speeds.

d- When any hazard is presented to Railway track, communications, signal, electrical, or other facilities either due to persons, material, equipment or blasting in the vicinity.

e- Special permission must be obtained from the Railway before moving heavy or cumbersome objects or equipment which might result in making the track impassable.

f- Flagging services will be performed by qualified Railway flaggers.

g- A flagging crew generally consists of one employee. However, additional personnel may be required to protect Railway Property and operations, if deemed necessary by the Railway Representative.

h- Each time a flagger is called, the minimum period for billing will be the eight (8) hour basic day.

**1.4.3** The cost of flagger services provided by the Railway, when deemed necessary by the Railway's representative, will be borne by the Contractor. The estimated cost for one (1) flagger is \$1200 for an eight (8) hour basic day with time and one-half or double time for overtime, rest days and holidays. The estimated cost for each flagger includes vacation allowance, paid holidays, Railway and unemployment insurance, public liability and property damage insurance, health and welfare benefits, transportation, meals, lodging and supervision. Negotiations for Railway labor or collective bargaining agreements and rate changes authorized by appropriate Federal authorities may increase actual or estimated flagging rates. The flagging rate in effect at the time of performance by the Contractor hereunder will be used to calculate the actual costs of flagging pursuant to this paragraph.

**1.4.4** The average train traffic on this route is \_\_\_ freight trains per 24-hour period at a timetable speed 60 MPH and \_\_\_ passenger trains at a timetable speed of \_\_\_\_\_ MPH.

## **1.5 Contractor General Safety Requirements**

**1.5.1** Work in the proximity of railway track(s) is potentially hazardous where movement of trains and equipment can occur at any time and in any direction. All work performed by contractors within 25 feet of any track must be in compliance with FRA Roadway Worker Protection Regulations.

**1.5.2** Before beginning any task on Railway Property, a thorough job safety briefing must be conducted with all personnel involved with the task and repeated when the personnel or task changes. If the task is within 25 feet of any track, the job briefing must include the Railway's flagger, as applicable, and include the procedures the Contractor will use to protect its employees, subcontractors, agents or invitees from moving any equipment adjacent to or across any Railway track (s).

**1.5.3** Workers must not work within 25 feet of the centerline of any track without an on track safety strategy approved by the Railway's Project Representative. When authority is provided, every contractor employee must know: (1) who the Railway flagger is, and how to contact the flagger, (2) limits of the authority, (3) the method of communication to stop and resume work, and (4) location of the designated places of safety. Persons or equipment entering flag/work limits that were not previously job briefed, must notify the flagger immediately, and be given a job briefing when working within 25 feet of the center line of track.



**1.5.4** When Contractor employees are required to work on the Railway Property after normal working hours or on weekends, the Railroad's representative in charge of the project must be notified. A minimum of two employees must be present at all times.

**1.5.5** Any employees, agents or invitees of Contractor or its subcontractors under suspicion of being under the influence of drugs or alcohol, or in the possession of same, will be removed from the Company's Property by Contractor and subsequently released to the custody of a representative of Contractor management. Future access to the Railway's Property by that employee will be denied.

**1.5.6** Any damage to Railway Property, or any hazard noticed on passing trains must be reported immediately to the Railway's representative in charge of the project. Any vehicle or machine which may come in contact with track, signal equipment, or structure (bridge) and could result in a train derailment must be reported immediately to the Railway representative in charge of the project and to the Railway's Resource Operations Center at 1(800) 832-5452. Local emergency numbers are to be obtained from the Railway representative in charge of the project prior to the start of any work and must be posted at the job site.

**1.5.7** For safety reasons, all persons are prohibited from having pocket knives, firearms or other deadly weapons in their possession while working on Railway's Property.

**1.5.8** All personnel protective equipment (PPE) used on Railway Property must meet applicable OSHA and ANSI specifications. Current Railway personnel protective equipment requirements are listed on the web site, [www.contractororientation.com](http://www.contractororientation.com), however, a partial list of the requirements include: a) safety glasses with permanently affixed side shields (no yellow lenses); b) hard hats c) safety shoe with: hardened toes, above-the ankle lace-up and a defined heel; and d) high visibility retro-reflective work wear. The Railroad's representative in charge of the project is to be contacted regarding local specifications for meeting requirements relating hi-visibility work wear. Hearing protection, fall protection, gloves, and respirators must be worn as required by State and Federal regulations. **(NOTE – Should there be a discrepancy between the information contained on the web site and the information in this paragraph, the web site will govern.)**

**1.5.9** The Contractor must not pile or store any materials, machinery or equipment closer than 25'-0" to the center line of the nearest Railway track. Materials, machinery or equipment must not be stored or left within 250 feet of any highway/rail at-grade crossings, where storage of the same will interfere with the sight distances of motorists approaching the crossing. Prior to beginning work, the Contractor must designate any proposed areas with concurrence of the Railroad's representative.

**1.5.10** Machines or vehicles must not be left unattended with the engine running. Parked machines or equipment must be in gear with brakes set and if equipped with blade, pan or bucket, they must be lowered to the ground. All machinery and equipment left unattended on Railway's Property must be left inoperable and secured against movement. (See internet Engineering Contractor Safety Orientation program for more detailed specifications)

**1.5.11** Workers must not create and leave any conditions at the work site that would interfere with water drainage. Any work performed over water must meet all Federal, State and Local regulations.

**1.5.12** All power line wires must be considered dangerous and of high voltage unless informed to the contrary by proper authority. For all power lines the minimum clearance between the lines and any part of the equipment or load must be; 200KV or below – 15 feet; 200 to 350 KV – 20 feet; 350 to 500 KV – 25 feet; 500 to 750 KV – 35 feet; and 750 to 1000 KV – 45 feet. If capacity of the line is not know, a minimum clearance of 45 feet must be maintained. A person must be designated to observe clearance of the equipment and give a timely warning for all operations where it is difficult for an operator to maintain the desired clearance by visual means.

## **1.6 Excavation**

**1.6.1** Before excavating, the Contractor must investigate to determine whether any underground pipe lines, electric wires, or cables, including fiber optic cable systems are present and located within the Project work area. The Contractor must determine whether excavation on Railway's Property could cause damage to buried cables resulting in delay to Railway traffic and disruption of service to users. Delays and disruptions to service may cause business interruptions involving loss of revenue and profits. Before commencing excavation, the Contractor must contact Railway's Field Engineering Representative (913-551-4434). All underground and overhead wires will be considered HIGH VOLTAGE and dangerous until verified with the company having ownership of the line. It is the Contractor's responsibility to notify any other companies that have underground utilities in the area and arrange for the location of all underground utilities before excavating.

**1.6.2** The Contractor must cease all work and notify the Railway immediately before continuing excavation in the area if obstructions are encountered which do not appear on drawings. If the obstruction is a utility and the owner of the utility can be identified, then the Contractor must also notify the owner immediately. If there is any doubt about the location of underground cables or lines of any kind, no work must be performed until the exact location has been determined. The Railway will grant no exceptions to the requirements of this section.

**1.6.3** All excavations must be conducted in compliance with applicable OSHA regulations and, regardless of depth, must be shored where there is any danger to tracks, structures or personnel.

**1.6.4** Any excavations, holes or trenches on the Railway's Property must be covered, guarded and/or protected when not being worked on. When leaving work site areas at night and over weekends, the areas must be secured and left in a condition that will ensure that Railway employees and other personnel who may be working or passing through the area are protected from all hazards. All excavations must be back filled as soon as possible.

## **1.7 Hazardous Waste, Substances and Material Reporting**

**1.7.1** If Contractor discovers any hazardous waste, hazardous substance, petroleum or other deleterious material, including but not limited to any non-containerized commodity or material, on or adjacent to Railway's Property, in or near any surface water, swamp, wetlands or waterways, while performing any work under this Agreement, Contractor must immediately: (a) notify the Railway's Resource Operations Center at 1(800) 832-5452, of such discovery; (b) take safeguards necessary to protect its employees, subcontractors, agents and/or third parties; and (c) exercise due care with respect to the release, including the taking of any appropriate measure to minimize the impact of such release.

## **1.8 Personal Injury Reporting**

**1.8.1** The Railway is required to report certain injuries as a part of compliance with Federal Railroad Administration (FRA) reporting requirements. Any personal injury sustained by an employee of the Contractor, subcontractor or Contractor's invitees while on the Railway's Property must be reported immediately (by phone mail if unable to contact in person) to the Railway's representative in charge of the project. The Non-Employee Personal Injury Data Collection Form contained herein is to be completed and sent by Fax to the Railway at 1(817) 352-7595 and to the Railway's Project Representative no later than the close of shift on the date of the injury.

**NON-EMPLOYEE PERSONAL INJURY DATA COLLECTION**

INFORMATION REQUIRED TO BE COLLECTED PURSUANT TO FEDERAL REGULATION. IT SHOULD BE USED FOR COMPLIANCE WITH FEDERAL REGULATIONS ONLY AND IS NOT INTENDED TO PRESUME ACCEPTANCE OF RESPONSIBILITY OR LIABILITY.

1. Accident City/St \_\_\_\_\_ 2. Date: \_\_\_\_\_ Time: \_\_\_\_\_  
County: \_\_\_\_\_ 3. Temperature: \_\_\_\_\_ 4. Weather \_\_\_\_\_  
(if non-Railway location)
5. Social Security # \_\_\_\_\_
6. Name (last, first, mi) \_\_\_\_\_
7. Address: Street: \_\_\_\_\_ City: \_\_\_\_\_ St: \_\_\_\_\_ Zip: \_\_\_\_\_
8. Date of Birth: \_\_\_\_\_ and/or Age \_\_\_\_\_ Gender: \_\_\_\_\_  
(if available)
9. (a) Injury: \_\_\_\_\_ (b) Body Part: \_\_\_\_\_  
(i.e. (a) Laceration (b) Hand)
11. Description of Accident (To include location, action, result, etc.): \_\_\_\_\_

12. Treatment:  
? First Aid Only  
? Required Medical Treatment  
? Other Medical Treatment

13. Dr. Name \_\_\_\_\_ 30. Date: \_\_\_\_\_
14. Dr. Address:  
Street: \_\_\_\_\_ City: \_\_\_\_\_ St: \_\_\_\_\_ Zip: \_\_\_\_\_
15. Hospital Name: \_\_\_\_\_
16. Hospital Address:  
Street: \_\_\_\_\_ City: \_\_\_\_\_ St: \_\_\_\_\_ Zip: \_\_\_\_\_
17. Diagnosis: \_\_\_\_\_

**FAX TO  
RAILWAY AT (817) 352-7595  
AND COPY TO  
RAILWAY ROADMASTER FAX**

## 2. INSURANCE

The Contractor shall carry the following insurance coverage:

A. **Commercial General Liability** insurance. This insurance shall contain broad form contractual liability with a single limit of at least \$2,000,000 each occurrence or claim and an aggregate limit of at least \$4,000,000. Coverage must be purchased on a post 1998 ISO or equivalent form, including but not limited to coverage for the following:

- Bodily injury including death and personal injury
- Property damage
- Fire legal liability
- Products and completed operations

The policy shall also contain the following endorsements **which shall be indicated on the certificate of insurance:**

- The employee and workers compensation related exclusions in the above policy apply only to Contractor's employees."
- The exclusions for railroads (except where the Job Site is more than fifty feet (50') from any railroad including but not limited to tracks, bridges, trestles, roadbeds, terminals, underpasses or crossings), and explosion, collapse and underground hazard shall be removed.
- Waiver of subrogation

B. **Business Automobile Coverage** insurance. This insurance shall contain a combined single limit of at least \$1,000,000 per occurrence or claim, including but not limited to coverage for the following:

- Bodily injury and property damage
- Any and all motor vehicles including owned, hired and non-owned

The policy shall also contain the following endorsements **which shall be indicated on the certificate of insurance:**

- The employee and workers compensation related exclusions in the above policy apply only to Contractor's employees
- The exclusions for railroads (except where the Job Site is more than fifty feet (50') from any railroad including but not limited to tracks, bridges, trestles, roadbeds, terminals, underpasses or crossings), and explosion, collapse and underground hazard shall be removed.
- Motor Carrier Act Endorsement- Hazardous materials clean up (MCS-90) **if required by law.**

C. **Workers Compensation and Employers Liability** insurance including but not limited to:

- Contractor's statutory liability under the workers' compensation laws of the state(s) affected by this Agreement
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee

If Workers Compensation insurance will not cover the liability of Contractor in states that require participation in state workers' compensation fund, Contractor shall comply with the laws of such states. If Contractor is self-insured, evidence of state approval must be provided along with evidence of excess workers compensation coverage. Coverage shall include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

**D** **Umbrella or Excess Policies** In the event Contractor utilizes Umbrella or excess policies, these policies shall "follow form" and afford no less coverage than the primary policy.

**E** **Railroad Protective Liability** insurance naming only the Railway as the insured with a combined single limit of \$2,000,000 per occurrence with a \$6,000,000 aggregate. The policy shall be broad form coverage for "Physical Damage to Property" (ISO Form CG 00 35 07 98 or equivalent). A binder stating the policy is in place must be submitted to the Railroad until the original policy is forwarded to the Railroad.

### **Other Requirements**

**F.** Punitive damage exclusion must be **deleted, which deletion shall be indicated on the certificate of insurance.**

**G.** Contractor agrees to waive its right of recovery, and its insurers, through policy endorsement, agree to waive their right of subrogation against Railway. Contractor further waives its right of recovery, and its insurers also waive their right of subrogation against Railway for loss of its owned or leased property or property under its care, custody and control. With the exception of the umbrella or excess policies, Contractor's insurance shall be primary with respect to any insurance carried by the railroad, other than a Railway Protective Policy. All waivers of subrogation **shall be indicated on the certificate of insurance.**

**H.** All policy(ies) required above (excluding Workers Compensation) shall provide severability of interests and shall name Railway as an additional insured. **Severability of interest and naming Railway as an additional insured shall be indicated on the certificate of insurance.**

**I.** Prior to commencing the Work, Contractor shall furnish to Railway original certificate(s) of insurance evidencing the required coverage, endorsements, and amendments. The certificate(s) shall contain a provision that obligates the insurance company(ies) issuing such policy(ies) to notify Railway in writing of any cancellation or material alteration. **Upon request from Railway, a certified duplicate original of any required policy shall be furnished.**

**J.** Any insurance policy shall be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provided.

**K.** Contractor **WARRANTS** that this Agreement has been thoroughly reviewed by Contractor's insurance agent(s)/broker(s), who have been instructed by Contractor to procure the insurance coverage required by this Agreement and acknowledges, with the exception of the umbrella or excess policies, that Contractor's insurance shall be primary with respect to any insurance carried by the railroad, other than a Railroad Protective Policy.

**L.** If Contractor fails to procure and maintain insurance as required, Railway may elect to do so at the cost of Contractor plus 25% administration fee.

**M.** The fact that insurance is obtained by Contractor or Railway on behalf of Contractor shall not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railway shall not be limited by the amount of the required insurance coverage.

**EXHIBIT 3**

**GEOTECHNICAL INVESTIGATION**

# MEMO

	Overnight
	Regular Mail
	Hand Delivery
	Other: _____

<b>TO:</b>	Scott Griepenstroh, City of Grand Island
<b>FROM:</b>	Andrew Phillips, P.E., Olsson Associates
<b>RE:</b>	Grand Island-Stuhr Road Resurfacing Project Bismark Road to BNSF
<b>DATE:</b>	April 5, 2013
<b>PROJECT #:</b>	013-0221

## INTRODUCTION

This memorandum presents the results of the subsurface exploration completed for the Stuhr Road resurfacing project proposed in Grand Island, Nebraska. This resurfacing project includes a 2,000-foot section of Stuhr Road. The intent of this geotechnical investigation was to evaluate existing subsurface conditions and provide appropriate pavement design recommendations for the soil and site conditions encountered. This geotechnical investigation included the following:

- A site reconnaissance and review of existing geologic subsurface conditions.
- Completion of four (4) soil test borings to depths of 10 feet below the existing pavement surfaces.
- Completion of two (2) dynamic cone penetration tests to depths of 5.2 feet below the existing pavement surfaces.
- Laboratory testing on soil samples obtained during the subsurface exploration.
- Reviewed pavement core data dated 11/20/12 obtained by Olsson Associates.
- Completion of a geotechnical engineering evaluation using information obtained from our field observations, soil borings, laboratory test results, and available project information.



- Preparation of this memorandum presenting the results of our subsurface investigation, laboratory test results, engineering evaluations, and geotechnical design and construction recommendations.

This memorandum was prepared by a Professional Engineer registered in the State of Nebraska with the firm of **OLSSON ASSOCIATES (Olsson)**. The conclusions and recommendations contained herein are based on generally accepted, professional geotechnical engineering practices at the time of this report, within this geographic area.

## PROJECT INFORMATION

This project includes the resurfacing of the existing pavements on sections of Stuhr Road. The locations of the specific soil/pavement borings, as well as the limits of the pavement sections evaluated during this investigation, are identified on the Boring Location Map included in Appendix A of this report.

*Olsson* understands that the primary purpose of this investigation is to provide options and recommendations for extending the design life of the existing pavements in the referenced areas.

The recommendations presented in this memorandum were developed to generally balance construction and maintenance cost versus pavement longevity, however a specific cost/benefit analysis was not included in the scope of services for this geotechnical evaluation.

## SITE DESCRIPTION

### Pavements

During the field observations, *Olsson* personnel observed various cracking and distress patterns along the length of the pavement sections evaluated. Moderate transverse asphalt cracks were noted across Stuhr Road that varied in severity from low to high. Medium to high severity alligator cracks were also noted across the roadways. The cracks and patterns appeared consistent with typical thermal expansion and contraction of asphalt pavement.

Asphalt rutting was also observed in the traffic lanes of Stuhr Road. Typically, asphalt rutting can be attributed to a number of design or construction related issues; including insufficient compaction during original placement, inadequate subgrade support, improper mix design (low stability), high oil content, or an insufficient amount of angular aggregates. Moderate weathering was observed in the traffic lanes. Construction materials, snowplows, weather, and traffic elements can all contribute to weathering.

Based on a review of the data obtained during the subsurface exploration, it appears that the typical pavement profile in the investigated area includes multiple asphalt overlays. Based on a visual evaluation, the existing overlay materials consisted of sand and non-crushed gravel aggregate, typical of Type A and B mixes. Refer to Appendix D Core Results for specific information pertaining to the pavement sections identified at each boring location.

### Subgrade

The drilling observations, consisting of the 4 soil test borings in the proposed roadway areas (Attachment B), encountered varying soils conditions.

Cohesive fill soils were encountered below the existing pavement in soil test borings B-3 and B-4 and extended to a depth 3.5 feet below the existing ground surface. The cohesive fill material generally consisted of firm to very stiff, light gray to dark brown, moist, silty lean clay with varying amounts of sand. The laboratory tests performed on the cohesive fill indicated moisture contents ranging from 16.2 to 23.7 percent, dry densities ranging from 84.9 to 108.4 pounds per cubic foot (pcf), and unconfined compressive strengths ranging from 0.9 to 1.8 tons per square foot (tsf). The unconfined compressive strength values indicate a firm to stiff consistency for the existing fill soils. A standard Proctor compaction test on a composite bulk

sample of the cohesive fill soils indicated a maximum dry density of 116.2 pcf and an optimum moisture content of 11.8 percent. An Atterberg limits test was completed on a sample of the existing fill indicated a liquid limit of 29 and a plastic limit of 18.

Cohesionless fill soils were encountered below the existing pavement in soil test borings B-1 and B-2 and extended to depths ranging from 3.0 to 4.5 feet below the existing ground surface. The cohesionless fill material generally consisted of medium dense, light gray to dark brown, moist, mostly fine sand with varying amounts of silt. The laboratory tests performed on the cohesionless fill indicated moisture contents ranging from 11.6 to 14.2 percent and a percentage passing the #200 sieve ranging from 37.1 to 37.6 percent.

Beneath the fill soils, cohesionless alluvial soils were encountered in every soil test borings and extended to the base of the soil test boring. The cohesionless alluvial material generally consisted of light gray to dark brown, dry to very moist, poorly graded sand with varying amounts of silt and clay. The laboratory tests performed on the cohesionless alluvium indicated moisture contents ranging from 3.8 to 26.2 percent and a percentage of material passing the #200 sieve ranging from 2.2 to 26.2 percent. The standard penetration resistance "N" values obtained in cohesionless alluvium ranged from 12 to 31 blows per foot (bpf). The standard penetration resistance "N" values indicate a medium dense to dense relative density for the cohesionless alluvial soils.

## EVALUATION AND ANALYSES

### Pavement Analysis

Based on the subsurface data obtained during this investigation and the results of our pavement analyses, **Olsson** has estimated the design parameters for the existing pavement sections within the project area as shown in Appendix D Core Results.

The pavement parameters were developed utilizing WinPAS pavement analysis software and are expressed in “equivalents” to new pavement sections with an initial serviceability coefficient of 4.4. Pavement analysis was performed based on the average daily traffic counts (ADT) obtained by **Olsson** can be found in Appendix E Average Daily Traffic Counts. The ADT values used in our analysis are shown in Table 1.

TABLE 1  
PROPOSED STREET IMPROVEMENT AREAS

Location	Design Extents	Current Average Daily Traffic (ADT)	% Trucks
Stuhr Road	BNSF Rail Line to Bismark Road	3,802	23

Based on the above traffic count parameters, **Olsson** has developed 18-kip equivalent single axle loads (ESAL) for Stuhr Road. ESALs were developed with a 1.5% growth rate per year.

### Anticipated Design Life

Using the above pavement parameters and traffic count data, **Olsson** analyzed select options for rehabilitating the existing pavements to increase their design life. These options range from complete subgrade reconstruction and full-depth pavement replacement, to milling and repairing existing pavements in conjunction with a new asphalt and concrete overlay. The corresponding anticipated design life for the various repair/replacement methods are outlined below in Table 1.

**TABLE 1**  
**REFINISH METHOD vs. DESIGN LIFE**

LOCATION	
Stuhr Road	
TYPICAL EXISTING PAVEMENT	
10.25 to 12" Asphalt	
RESURFACE METHOD	ANTICIPATED DESIGN LIFE
3" Mill and 7" Asphalt Overlay <sup>(1)</sup>	10 years
3" Mill and 6" Concrete <sup>(1)</sup>	13 year
6" Mill and 6" Flyash Incorporation into remaining asphalt and 8" Concrete	4 year
5" Mill and 8" Doweled Concrete(see * note below)	20 year
6" Mill and 8" Doweled Concrete(see ** note below)	20 year
Full-Depth Replacement <sup>(2)</sup>	20 years

NOTES: (1) Anticipated design life is based on proper crack repair and complete replacement of all isolated failed areas  
(2) 11.0 inches of asphalt or 9 inches of doweled concrete

\*This would be the preferred white-topping method for a 20 year design life. After milling, most of the roadway would have at least 5 inches of remaining asphalt. Phased construction would not likely be needed for this white-topping alternative. This option would result in a net increase in pavement elevation of 3 inches.

\*\* After milling, most of the roadway would have approximately 4 inches of remaining asphalt. Phased construction would be needed for this white-topping alternative. Concrete trucks and trucks associated with the milling process would not be allowed on the milled surface. This option does increase the chance for issues during construction related to pavement failures from construction traffic and variability of the existing asphalt section. This option would result in a net increase in pavement elevation of 2 inches.

The pavement design life estimates above are based on the limited findings of the seven pavement cores and subsurface borings. The pavement sections evaluated during this investigation have been repaired and overlaid several times in the past, and it is therefore difficult to estimate the condition and support characteristics of pavement sections below the asphalt overlay. Due to the highly variable nature of the pavement sections encountered at each specific boring location, it is possible that the actual design life may vary substantially between the boring locations.

## RECOMMENDATIONS AND CONCLUSIONS

### ***Mill and Overlay Recommendations:***

#### Milling Recommendations

For proper pavement repair and resurfacing, ***Olsson*** typically recommends a minimum milling depth of 3 inches. In the event that the design overlay thickness is less than the noted values, it is likely that the pavement design life will be less than the anticipated maximum values reported.

#### Repair and Replace Isolated Damaged Pavement Sections

To achieve the anticipated maximum design life, the overlay design is contingent on complete and proper repair and/or replacement of isolated damaged pavement sections. While we anticipate that the majority of the underlying asphalt pavements will be acceptable for placement of an asphalt overlay, it should be noted that isolated pavement repair and/or replacement should be conducted in areas prominent for reoccurring pavement distress.

Isolated pavement sections that exhibit potholes, ruts, or cracks greater than 1½-inch width should be completely removed. ***Olsson*** recommends minimum removal dimensions of 4 feet by 4 feet to allow for proper pavement replacement and subgrade rehabilitation (as necessary). A representative of the geotechnical engineer should observe the resultant soil subgrade after pavement removal to determine if subgrade reconstruction is necessary. If necessary, subgrade reconstruction would typically include scarifying, air drying, and recompacting the upper 12 inches of soil subgrade to at least 98% of the material's maximum standard Proctor dry density at a moisture content within -3% to +3% of the material's optimum. If inclement weather or other site factors prohibit air drying and surface compaction of the soil subgrade, ***Olsson*** would typically recommend that the soft subgrade be overexcavated and stabilized with compacted crushed aggregate. After the necessary subgrade stabilization procedures are completed, the removed pavement section may be replaced with asphalt or concrete paving materials to match the elevation of the adjacent milled pavement surface.



Pavements sections that exhibit surface cracking only (less than 1½ inch width) will not necessarily require removal and replacement, although consideration should be given to performing full-depth replacement of pavement sections that have multiple large cracks within close vicinity. For areas with relatively isolated linear cracks with widths of 1 to 1½ inches, **Olsson** recommends the cracks be cleaned and filled with appropriate patching materials then covered with either a layer of Nebraska Department of Roads (NDOR) approved fiberglass fabric reinforcement or a Leveling Course. At a minimum, we recommend that the reinforcement fabric extend at least 18 inches on each side of the cracks.

For linear cracks with widths ranging from ½ inch to 1 inch, we recommend the cracks be repaired by routing and cleaning to approximately 2 to 3 inches below the milled pavement surface. We recommend cracks of this width be filled with a slurry mixture of emulsified asphalt, water, and sand, then covered with a layer of NDOR approved fiberglass fabric reinforcement or a Leveling Course. At a minimum, we recommend that the reinforcement fabric extend at least 18 inches on each side of the cracks.

If the leveling course option is selected, it will reduce the severity of the reflective cracking that extends into in the new asphalt overlay. The leveling course should be approximately 5/8" thick. The leveling course can be used on either concrete and heavily patched asphalt or composite pavements. The leveling course should be consistent with Nebraska Department of Roads specifications for Leveling Courses.

Linear cracks that are smaller than ½-inch width may be sealed by applying a heavy tack coat prior to placement of the asphalt overlay or Leveling Course.

#### Leveling Course (if used) and Asphalt Overlay

We recommend the Leveling Course and asphalt overlay consist of a mixture of well-graded aggregate, mineral filler, and bituminous materials based on a job mix formula developed according to the Nebraska Department of Roads specifications for SPR (PG 70.34).

Prior to Leveling Course or overlay construction, we recommend that the entire pavement surface be thoroughly cleaned and a "tack coat" be applied. This recommendation is made to both seal the exposed pavement surface and to provide a good bond with the Leveling Course or asphalt overlay. If the Leveling Course or asphalt overlay cannot be completed within twelve (12) hours of the initial tack coat application, a second tack coat application is recommended.

For asphalt overlays, **Olsson** typically recommends the use of either a Leveling Course or a fiberglass reinforcement fabric to minimize reflective cracking from the existing variable pavement to the new overlay. **Olsson** recommends that the reinforcement fabric be installed and bonded to the existing pavements after milling and prior to placement of the new overlay. If feasible, the reinforcement fabric should be installed along the entire milled pavement surface; however, at a minimum **Olsson** recommends that reinforcement fabric be installed in areas of noted pavement distress, as described above. The Leveling Course or reinforcement fabric system will assist in delaying the transfer of reflective cracking from the in situ pavements to the new overlay. The additional reinforcement provided by the Leveling Course or reinforcement fabric could lengthen the design life of the overlay.

#### Concrete Overlay (Whitetopping)

We recommend that a "bond breaker" be utilized between the existing and proposed pavement. The "bond breaker" will allow for the two pavements to act independently of each other and will aid in preventing reflective cracking to occur in the "white top". It is recommended that the "bond breaker" utilize a curing compound that is applied at no less than twice the standard application rate prior to the placement of the concrete. The additional amount of compound will create a smooth layer that will allow for an adequate break between the existing asphalt and proposed concrete, thus minimizing reflective cracking.

Please note that the application of the "bond breaker" compound is also very critical in the existing pavement cracks. In these areas it is important the existing crack be properly cleaned and treated prior to application of the curing compound.

#### **Full Depth Replacement Recommendations:**

##### Full Depth Replacement

The full-depth removal and replacement of the pavement section should include complete removal of all existing asphalt and concrete pavements; and removal of all existing granular ballast or sand fill materials.

After complete removal of the pavement section, the upper 12 inches of resultant soil subgrade below the granular pavement base should be reworked to achieve 98% of the material's maximum standard Proctor dry density at a moisture content within -3% to +3% of the material's optimum. Based on **Olsson's** previous experience with similar projects, the Client and contractor should anticipate soft and very moist subgrade conditions in areas of full-depth

pavement removal. If favorable weather conditions persist at the time of construction, it may be possible to scarify the subgrade and allow it to dry to within acceptable tolerances of the soil's optimum moisture content prior to recompaction. If natural air-drying of the subgrade is not feasible due to inclement weather or other factors, it may become necessary to dry and stabilize the subgrade with fly ash or other similar soil amendments, or overexcavate the soft soils and stabilize the subgrade with compacted crushed aggregate.

In areas where full-depth pavement replacement will be implemented, **Olsson** recommends the following "typical" pavement section design to achieve a 20 year design life, based on the anticipated traffic conditions:

- Subgrade: 12-inches for concrete and asphalt, compacted to at least 98% of ASTM D698, at a moisture content between -3 and +3 percent of optimum
- CBR value: 4.0
- Working stress (PCC) 550 psi

**Asphalt Pavement**

Depth (in)	Material Designation	Material Specification
2.0		Surface Course: NDOR Section 1028, Asphaltic Concrete, Type SPR
9.0		Base Course: NDOR Section 1028, Asphaltic Concrete, Type SPR
12.0		Subgrade: NDOR Section 302, Subgrade Preparation

**Concrete Pavement (Doweled)**

Depth (in)	Material Designation	Material Specification
9.0		Concrete: NDOR Section 1002, Doweled Portland Cement Concrete
12.0		Subgrade: NDOR Section 302, Subgrade Preparation

The pavement recommendations are based on a design life of 20 years, terminal serviceability = 2.5, reliability = 85%, initial serviceability = 4.4, drainage coefficient = 1.0, and standard deviation = 0.45 for flexible pavements and 0.35 for rigid pavements.

\*\*\*\*\*

The discussions presented in this memorandum are based on the available information regarding the existing and proposed construction, the results obtained from our soil test borings and laboratory tests, and our experience with similar projects. Because the test borings represent a very small statistical sampling of subsurface conditions, it is possible that conditions may be encountered during construction that are substantially different from those indicated by the test borings. In these instances, adjustments to design and construction may be necessary.

**Olsson** appreciates the opportunity to provide our services on this project. Should you have any questions, please do not hesitate to contact us.

Respectfully submitted,  
**Olsson Associates**

Prepared By:



Andrew M. Phillips, P.E.  
Geotechnical Engineer

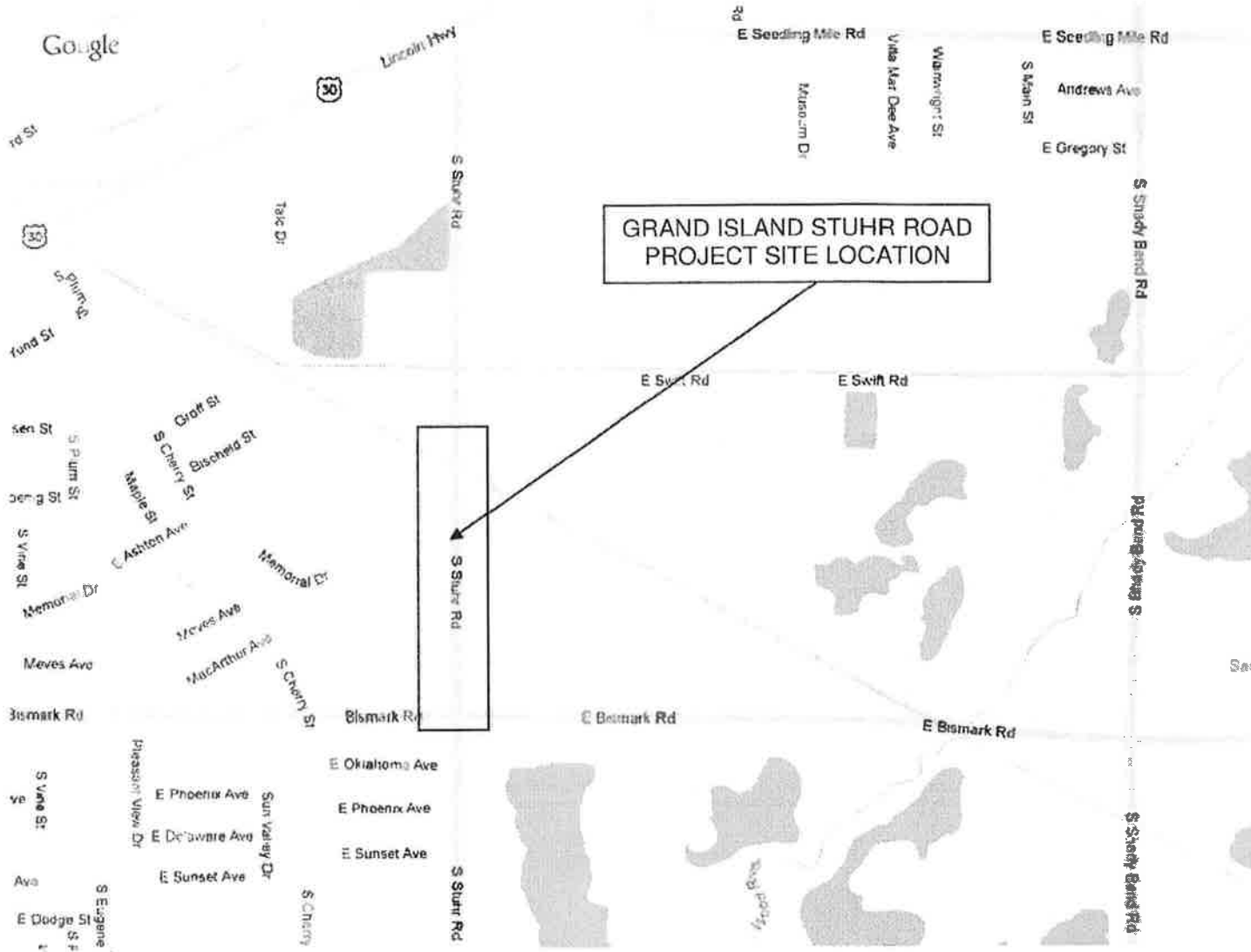
**ATTACHMENTS**

- Attachment A: Site Location Plan  
Boring Location Map
- Attachment B: Symbols and Nomenclature  
Boring Logs  
DCP Test Data
- Attachment C: Summary of Laboratory Test Results
- Attachment D: Pavement Core Results
- Attachment E: Average Daily Traffic Counts (ADT)

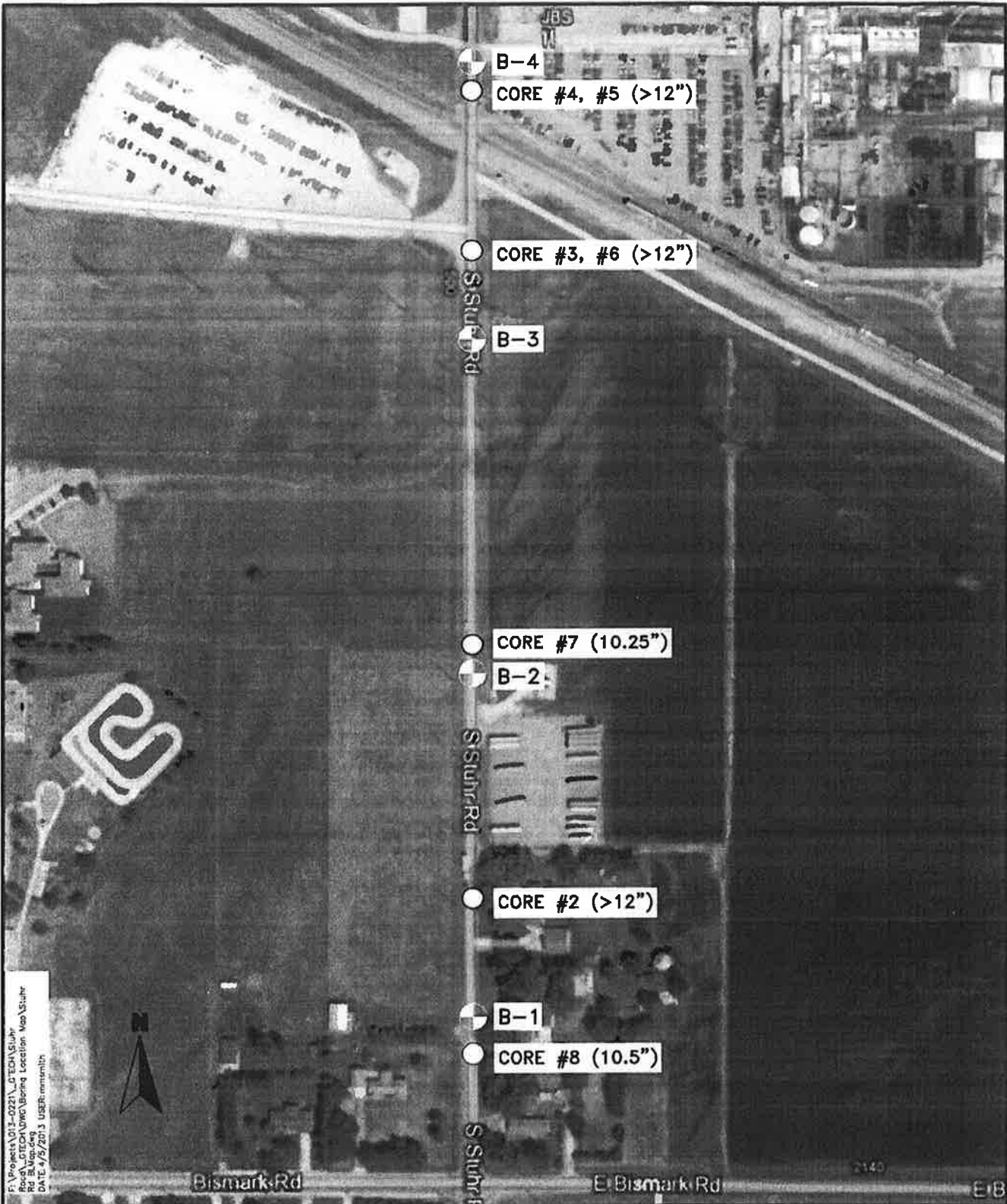
F:\Projects\013-0221\GTECH\Stuhr Road\GTECH\REPORT\FINAL\Grand Island-Stuhr Road.docx

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**ATTACHMENT A**  
**SITE LOCATION PLAN**  
**BORING LOCATION MAP**

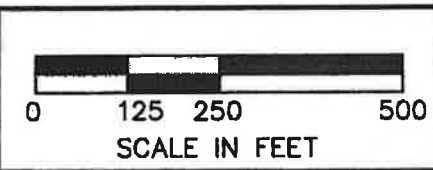


**SITE LOCATION PLAN  
 GRAND ISLAND STUHR ROAD  
 GRAND ISLAND, NEBRASKA  
 OA PROJECT NO. 013-0221**



<b>LEGEND</b>	
●	CORE LOCATION (EXISTING ASPHALT THICKNESS)
⊕	SOIL BORING LOCATION

PROJECT: 013-0221	
DRAWN BY: SVJ	REVISIONS: XXX
DATE: 3/8/13	



**MOLSSON**<sup>®</sup>  
 ASSOCIATES

1111 Lincoln Mall, Suite 111 TEL 402.474.6311  
 P.O. Box 84608 P.O. Box 84608  
 Lincoln, NE 68501-4608 FAX 402.474.5160  
[www.olssonassociates.com](http://www.olssonassociates.com)

**BORING LOCATION MAP**  
 GRAND ISLAND, NEBRASKA

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**ATTACHMENT B**  
**SYMBOLS AND NOMENCLATURE**  
**BORING LOGS**  
**DCP TEST DATA**



## SYMBOLS AND NOMENCLATURE

### DRILLING NOTES

#### DRILLING AND SAMPLING SYMBOLS

SS: Split-Spoon Sample (1.375" ID, 2.0" OD)	HSA: Hollow Stem Auger	NE: Not Encountered
U: Thin-Walled Tube Sample (3.0" OD)	CFA: Continuous Flight Auger	NP: Not Performed
CS: Continuous Sample	HA: Hand Auger	NA: Not Applicable
BS: Bulk Sample	CPT: Cone Penetration Test	% Rec: Percent of Recovery
MC: Modified California Sampler	WB: Wash Bore	WD: While Drilling
GB: Grab Sample	FT: Fish Tail Bit	IAD: Immediately After Drilling
SPT: Standard Penetration Test Blows per 6.0"	RB: Rock Bit	AD: After Drilling
		CI: Cave-In

#### DRILLING PROCEDURES

Soil samples designated as "U" samples on the boring logs were obtained in using Thin-Walled Tube Sampling techniques. Soil samples designated as "SS" samples were obtained during Penetration Test using a Split-Spoon Barrel sampler. The standard penetration resistance 'N' value is the number of blows of a 140 pound hammer falling 30 inches to drive the Split-Spoon sampler one foot. Soil samples designated as "MC" were obtained in using Thick-Walled, Ring-Lined, Split-Barrel Drive sampling techniques. Recovered samples were sealed in containers, labeled, and protected for transportation to the laboratory for testing.

#### WATER LEVEL MEASUREMENTS

Water levels indicated on the boring logs are levels measured in the borings at the times indicated. In relatively high permeable materials, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels is not possible with only short-term observations.

### SOIL PROPERTIES & DESCRIPTIONS

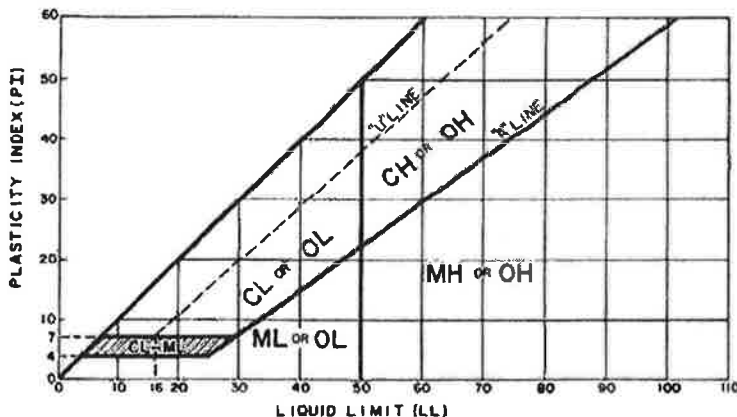
Descriptions of the soils encountered in the soil test borings were prepared using Visual-Manual Procedures for Descriptions and Identification of Soils.

#### PARTICLE SIZE

Boulders	12 in. +	Coarse Sand	4.75mm-2.0mm	Silt	0.075mm-0.005mm
Cobbles	12 in.-3 in.	Medium Sand	2.0mm-0.425mm	Clay	<0.005mm
Gravel	3 in.-4.75mm	Fine Sand	0.425mm-0.075mm		

<b>COHESIVE SOILS</b>	<b>COHESIONLESS SOILS</b>	<b>COMPONENT %</b>
<u>Consistency</u>	<u>Relative Density</u>	<u>Description</u>
<u>Unconfined Compressive Strength (Qu) (tsf)</u>	<u>'N' Value</u>	<u>Percent (%)</u>
Very Soft	Very Loose	Trace
Soft	Loose	Few
Firm	Medium Dense	Little
Stiff	Dense	Some
Very Stiff	Very Dense	Mostly
Hard		

#### PLASTICITY CHART



#### ROCK QUALITY DESIGNATION (RQD)

<u>Description</u>	<u>ROD (%)</u>
Very Poor	0 - 25
Poor	25 - 50
Fair	50 - 75
Good	75 - 90
Excellent	90 - 100



PROJECT NAME: **Stuhr Road Pavement Analysis** CLIENT: **City of Grand Island Nebraska**

PROJECT NUMBER: **013-0221** LOCATION: **Grand Island Nebraska**

ELEVATION (ft)	Shelby Tube      Split Spoon  <b>MATERIAL DESCRIPTION</b>  APPROX. SURFACE ELEV. (ft): N/A	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE RQD	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS
	<b>ASPHALT</b>		0								
	<b>FILL</b>										
	Clayey sand (SC) Medium dense, dark brown mottled with light grey, dry to moist, mostly fine sand, some clay			U 1				11.9	110.9		P-200 = 37.2%
	Clayey sand (SC) Medium dense, dark brown mottled with light grey, dry to moist, mostly fine sand, some clay			U 2							
	<b>ALLUVIUM</b>		5								
	Silty sand (SM) Loose, dark brown mottled with yellow, wet, mostly fine sand, some silt		10.0'	SS 3		2-3-3 N=6		26.2			P-200 = 26.2%

**BASE OF BORING AT 10.0 FEET**

WATER LEVEL OBSERVATIONS		<b>OLSSON ASSOCIATES</b>	STARTED	2/11/13	FINISHED	2/11/13
WD	8.0 ft		DRILL CO.	OLSSON	DRILL RIG	CME 45
IAD	Not Encountered		DRILLER	DAL	LOGGED BY	CMM
AD	Not Performed		METHOD	CONTINUOUS FLIGHT AUGER		

PROJECT NAME **Stuhr Road Pavement Analysis** CLIENT **City of Grand Island Nebraska**

PROJECT NUMBER **013-0221** LOCATION **Grand Island Nebraska**

ELEVATION (ft)	<input checked="" type="checkbox"/> Shelby Tube <input checked="" type="checkbox"/> Split Spoon  <b>MATERIAL DESCRIPTION</b>  APPROX. SURFACE ELEV. (ft): N/A	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE RQD	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS
	<b>ASPHALT</b>		0								
	<b>FILL</b>  Silty sand (SM) Medium dense, light grey mottled with yellowish brown, moist, mostly fine sand, some silt		3.0'	U 1				14.2			P-200 = 37.1%
	<b>ALLUVIUM</b>  Poorly graded sand (SP) Dense, light grey, moist, mostly fine sand		5	SS 2		11-11-20 N=31					
	  Poorly graded sand (SP) Medium dense, light grey, dry to moist, mostly fine to coarse sand		10.0'	SS 3		8-8-8 N=16		11.1			P-200 = 2.2%

**BASE OF BORING AT 10.0 FEET**

WATER LEVEL OBSERVATIONS		<b>OLSSON ASSOCIATES</b>	STARTED	2/11/13	FINISHED	2/11/13
WD	<input checked="" type="checkbox"/> Not Encountered		DRILL CO.	OLSSON	DRILL RIG	CME 45
IAD	<input checked="" type="checkbox"/> Not Encountered		DRILLER	DAL	LOGGED BY	CMM
AD	<input checked="" type="checkbox"/> Not Performed		METHOD	CONTINUOUS FLIGHT AUGER		

PROJECT NAME: **Stuhr Road Pavement Analysis** CLIENT: **City of Grand Island Nebraska**

PROJECT NUMBER: **013-0221** LOCATION: **Grand Island Nebraska**

ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE RQD	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS
	<b>ASPHALT</b>		0								
	<b>FILL</b>										
	<i>Silty lean clay (CL/ML) Stiff, dark brown, moist, mostly silty lean clay, few fine sand</i>			U 1			1.8	16.2	108.4		
			3.5'								
	<b>ALLUVIUM</b>										
	<i>Silty lean clay (CL/ML) Firm, dark brown, moist, mostly silty lean clay, few fine sand</i>		4.0'	U 2				16.7	94.1		
			5								
	<i>Poorly graded sand (SP) Medium dense, light grey, moist, mostly fine sand, few silt</i>										
	<i>Poorly graded sand (SP) Medium dense, light grey, wet, mostly fine to coarse sand</i>										
			10.0'	SS 3		3-4-8 N=12					

**BASE OF BORING AT 10.0 FEET**

WATER LEVEL OBSERVATIONS		<b>OLSSON ASSOCIATES</b>	STARTED	2/11/13	FINISHED	2/11/13
WD	▽ 7.0 ft		DRILL CO.	OLSSON	DRILL RIG	CME 45
IAD	▼ Not Encountered		DRILLER	DAL	LOGGED BY	CMM
AD	▽ Not Performed		METHOD	CONTINUOUS FLIGHT AUGER		

PROJECT NAME: **Stuhr Road Pavement Analysis** CLIENT: **City of Grand Island Nebraska**

PROJECT NUMBER: **013-0221** LOCATION: **Grand Island Nebraska**

ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE RQD	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/REMARKS
	<b>ASPHALT</b>		0								
	<b>FILL</b>										
	<i>Silty lean clay (CL/ML) Stiff, dark brown mottled with light grey, moist, mostly silty lean clay, few fine sand</i>		3.5'	U 1							
	<b>ALLUVIUM</b>										
	<i>Silty lean clay (CL/ML) Firm, light grey mottled with yellow, moist, mostly silty lean clay, few fine sand</i>		4.5'	U 2			0.9	23.7	85.0		
	<i>Poorly graded sand (SP) Medium dense, light grey, moist, mostly fine sand, few silt</i>		7.5'								
	<i>Poorly graded sand (SP) Medium dense, light grey, moist, mostly fine to medium sand</i>		10.0'	SS 3		9-9-9 N=18		3.8			P-200 = 2.4%

**BASE OF BORING AT 10.0 FEET**

WATER LEVEL OBSERVATIONS		<b>OLSSON ASSOCIATES</b>	STARTED	2/11/13	FINISHED	2/11/13
WD	▽ 7.5 ft		DRILL CO.	OLSSON	DRILL RIG	CME 45
IAD	▽ Not Encountered		DRILLER	DAL	LOGGED BY	CMM
AD	▽ Not Performed		METHOD	CONTINUOUS FLIGHT AUGER		

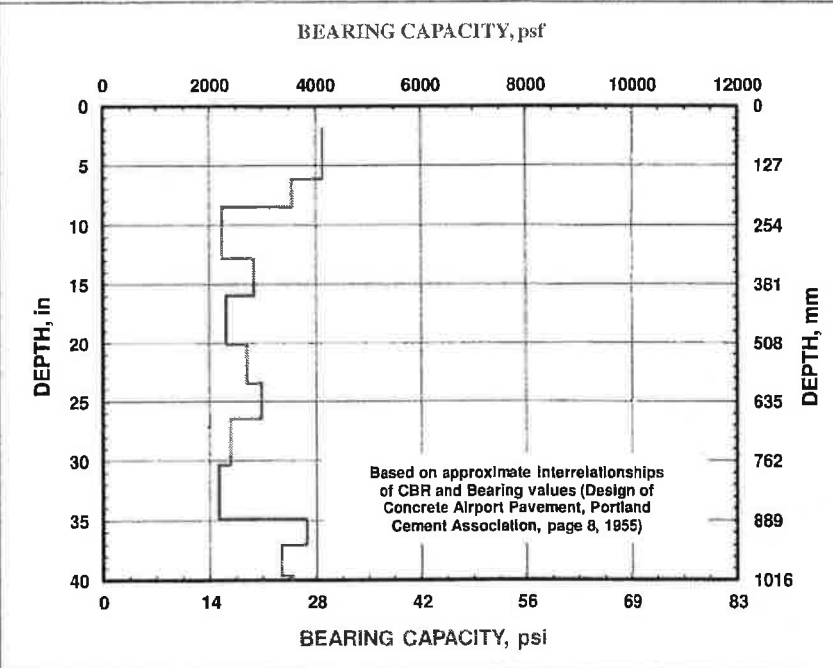
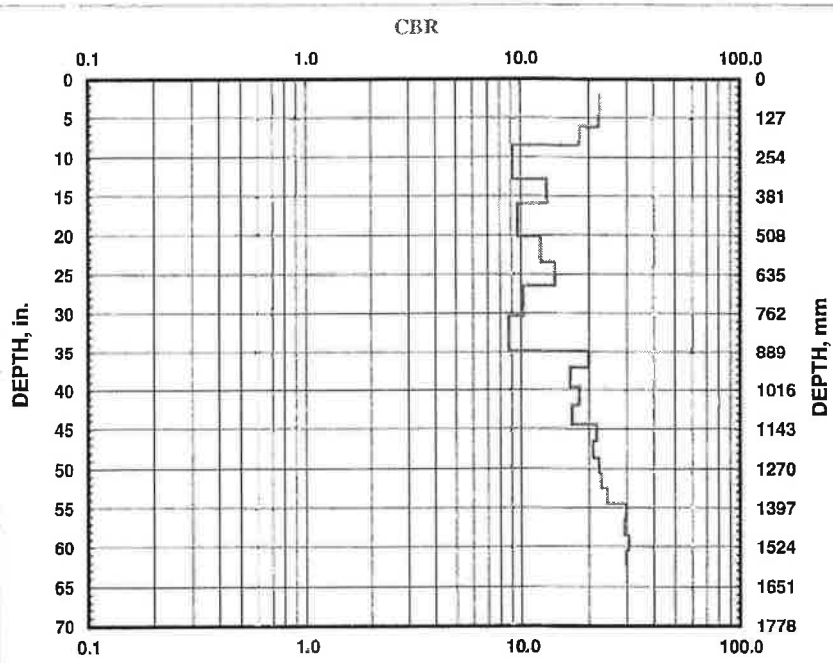
## DCP-1 TEST DATA

**Project:** Stuhr Road
**Date:** 11-Feb-13

**Location:** Grand Island, Nebraska
**Soil Type(s):** Type in the soil type

Hammer <input type="radio"/> 10.1 lbs. <input type="radio"/> 17.6 lbs. <input type="radio"/> Both hammers used	Soil Type <input type="radio"/> CH <input type="radio"/> CL <input type="radio"/> All other soils
---	--

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
12	50	2
11	105	2
10	155	2
10	215	2
10	325	2
10	405	2
10	510	2
10	595	2
10	670	2
10	770	2
10	885	2
10	940	2
10	1005	2
10	1065	2
10	1129	2
10	1180	2
10	1233	2
10	1283	2
10	1332	2
11	1383	2
13	1433	2
13	1484	2
13	1533	2
13	1583	2
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# DCP-3 TEST DATA

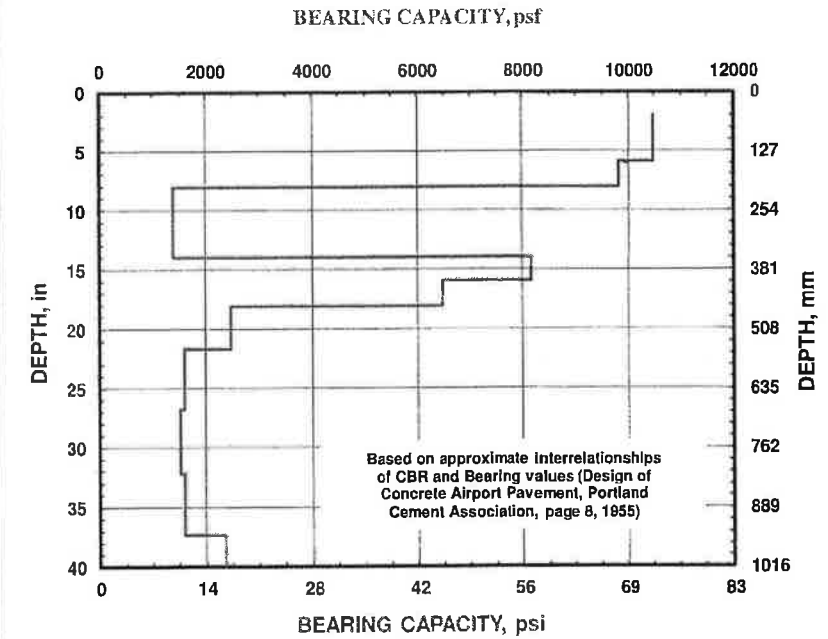
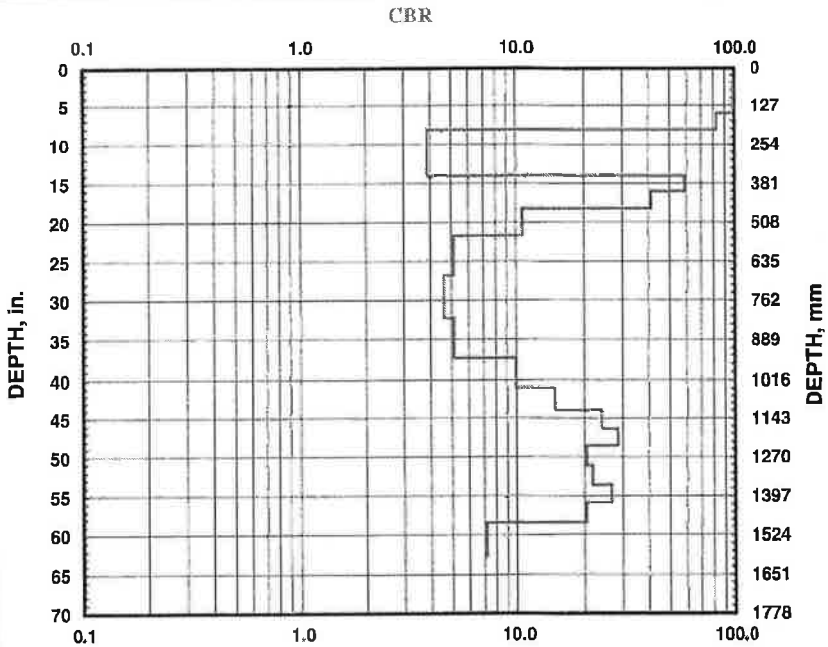
**Project:** Stuhr Road  
**Location:** Grand Island, Nebraska

**Date:** 11-Feb-13  
**Soil Type(s):** Low plasticity Clay with CBR<10

Hammer  
 10.1 lbs.  
 17.6 lbs.  
 Both hammers used

Soil Type  
 CH  
 CL  
 All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
19	50	2
28	100	2
18	150	2
17	205	2
10	355	2
13	405	2
12	460	2
10	550	2
10	680	2
10	817	2
10	947	2
10	1040	2
10	1117	2
10	1177	2
10	1232	2
10	1297	2
10	1360	2
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**ATTACHMENT C**  
**SUMMARY OF LABORATORY TEST RESULTS**

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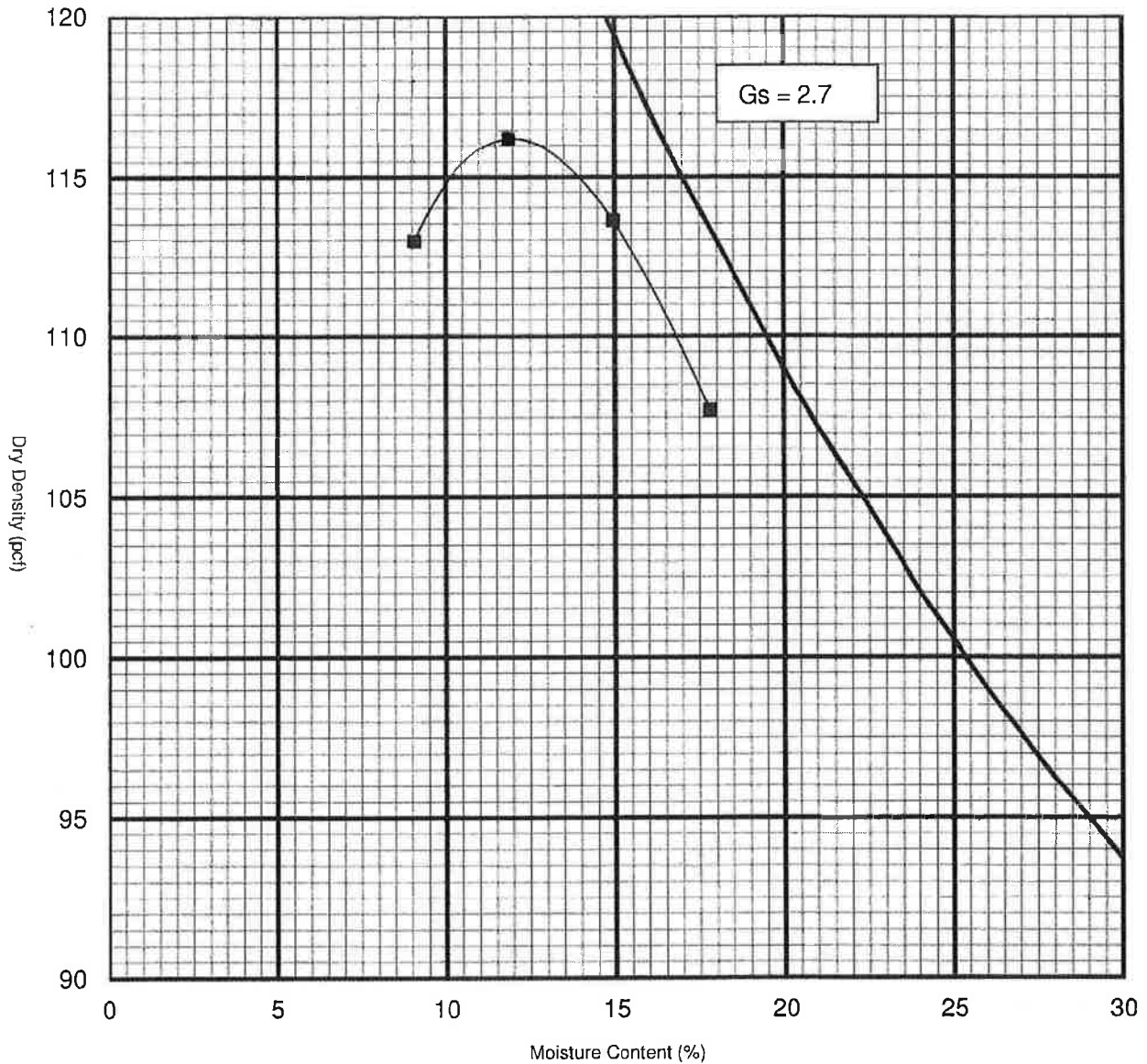


## MOISTURE - DENSITY RELATIONSHIP

Sample Identification: Bulk Sample: B-1, B-2, B-3, and B-4 (1-5.0')

Sample Description: Fill: Dark brown to light grey, Silty lean clay (CL/ML)

Liquid Limit	<u>28</u>	Plastic Limit	<u>18</u>	Plasticity Index	<u>11</u>	Classification	<u>CL</u>
Type of Test	<u>D-698</u>	Maximum Dry Density	<u>116.2</u>	pcf	Optimum Moisture Content	<u>11.8%</u>	



Project: Stuhr Road

Location: Grand Island, Nebraska

Job Number: 013-0221

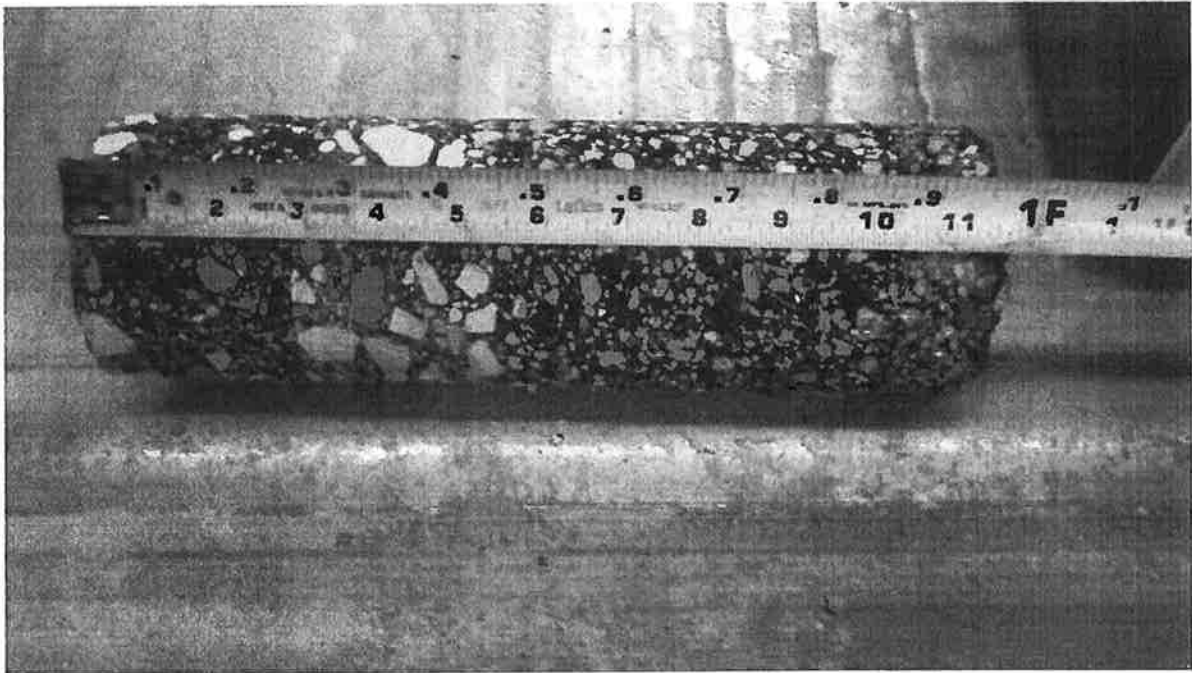
Date: 03/01/13

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**ATTACHMENT D**  
**PAVEMENT CORE RESULTS**

Olsson Associates  
Project Number: 2012-2497  
Date: 11/20/2012

**City of Grand Island**  
**Asphalt Cores 2012**



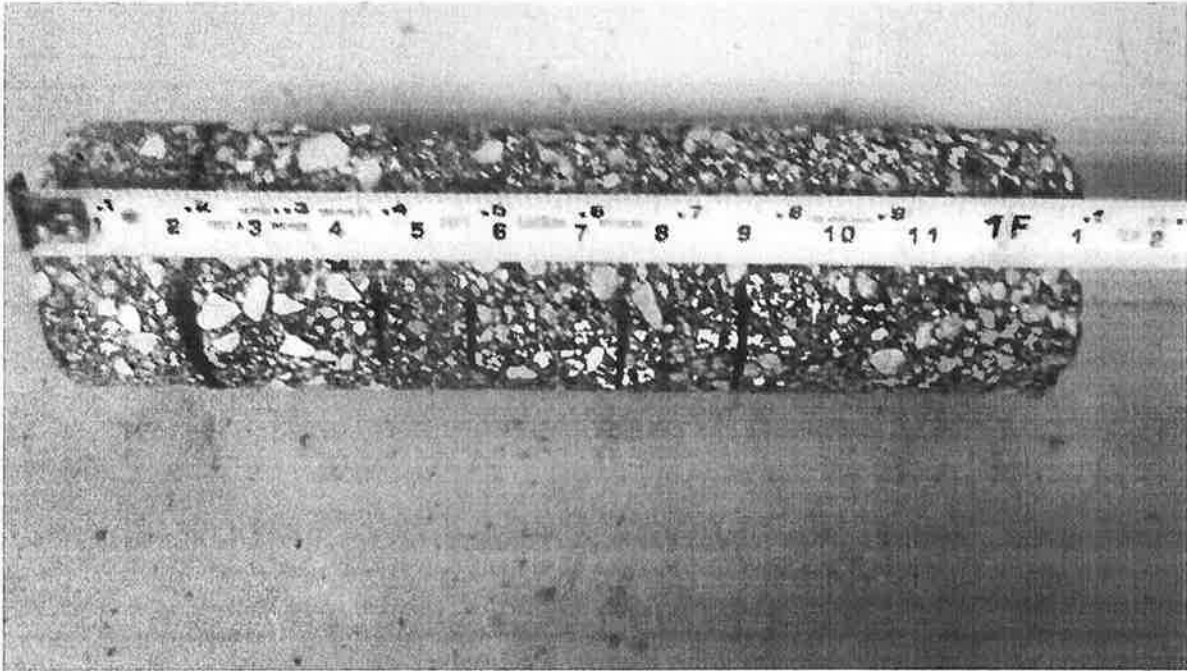
**Core #2**

**Location: North Bound Lane of Stuhr Road, 500' North of Bismark**

**Length: >12"**

**Notes: Did not reach subgrade**

**Top 5-3/4" Type A, Rest Type B**



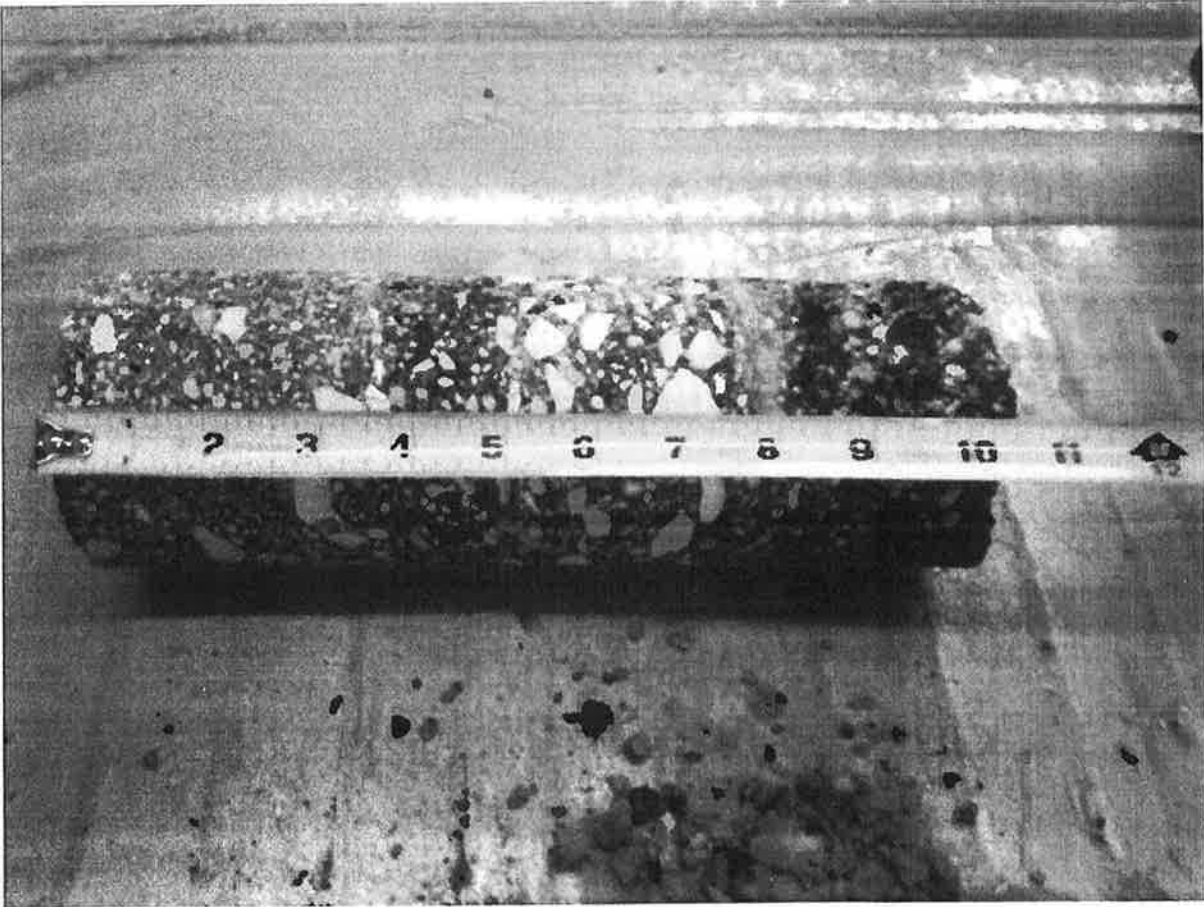
Core #3

Location: North Bound Lane of Stuhr Road, 200' South of BNSF

Length: >12"

Notes: Did not reach subgrade

Top 4-1/2" Type A, Rest Type B



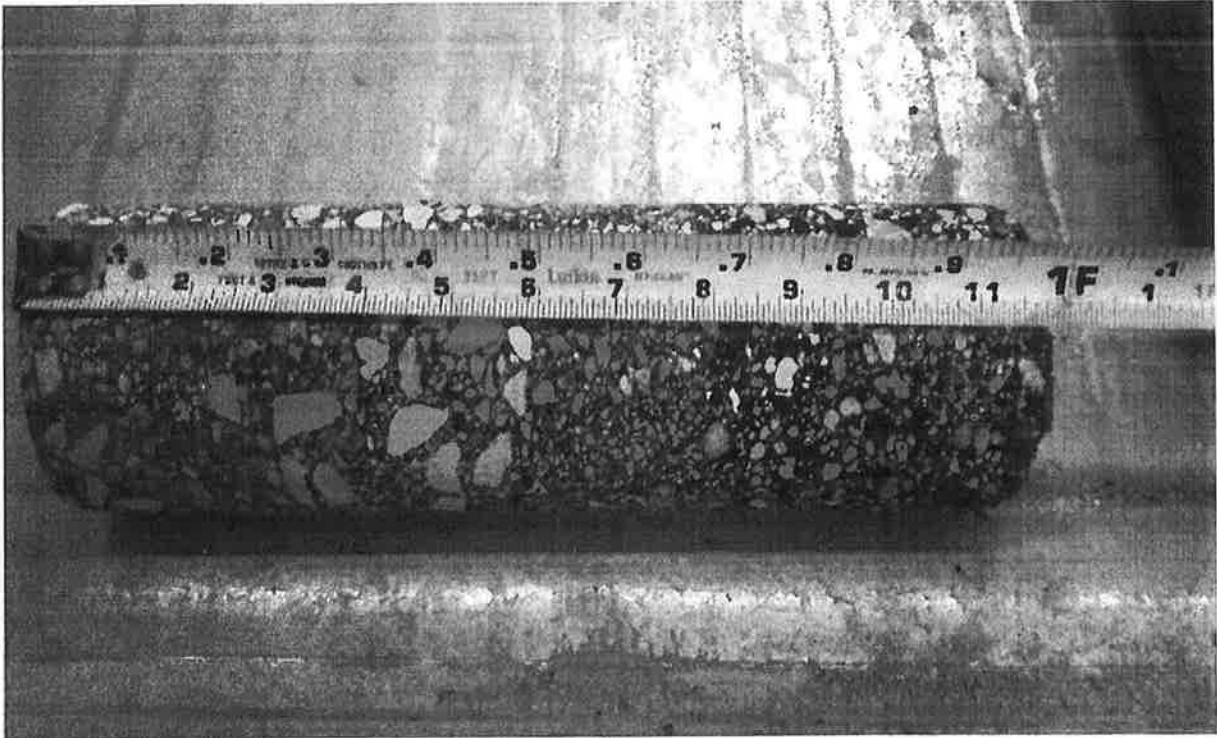
Core #4

Location: North Bound Lane of Stuhr Road, 100' North of BNSF

Length: >12"

Notes: Did not reach subgrade

Top 7-1/2" Type A, Rest Type B



Core #5

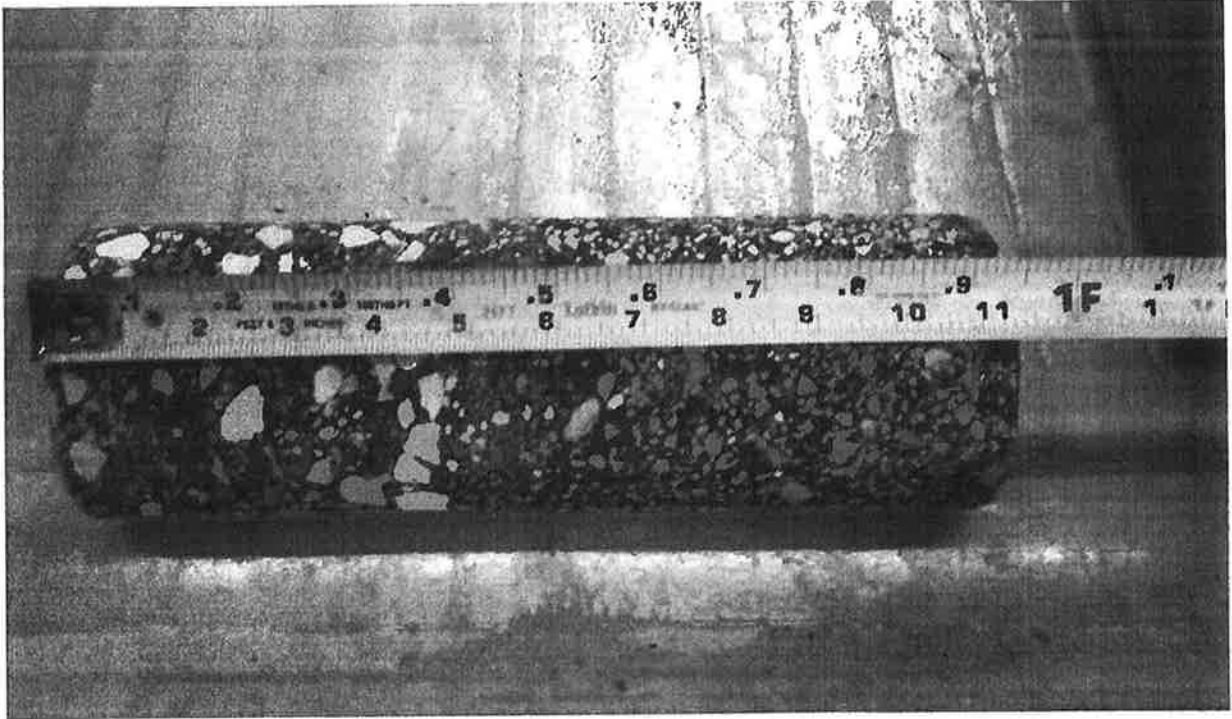
Location: South Bound Lane of Stuhr Road, 100' North of BNSF

Length: >12"

Notes: Did not reach subgrade

Top 6" Type A, Rest Type B





Core #6

Location: South Bound Lane of Stuhr Road, 200' South of BNSF

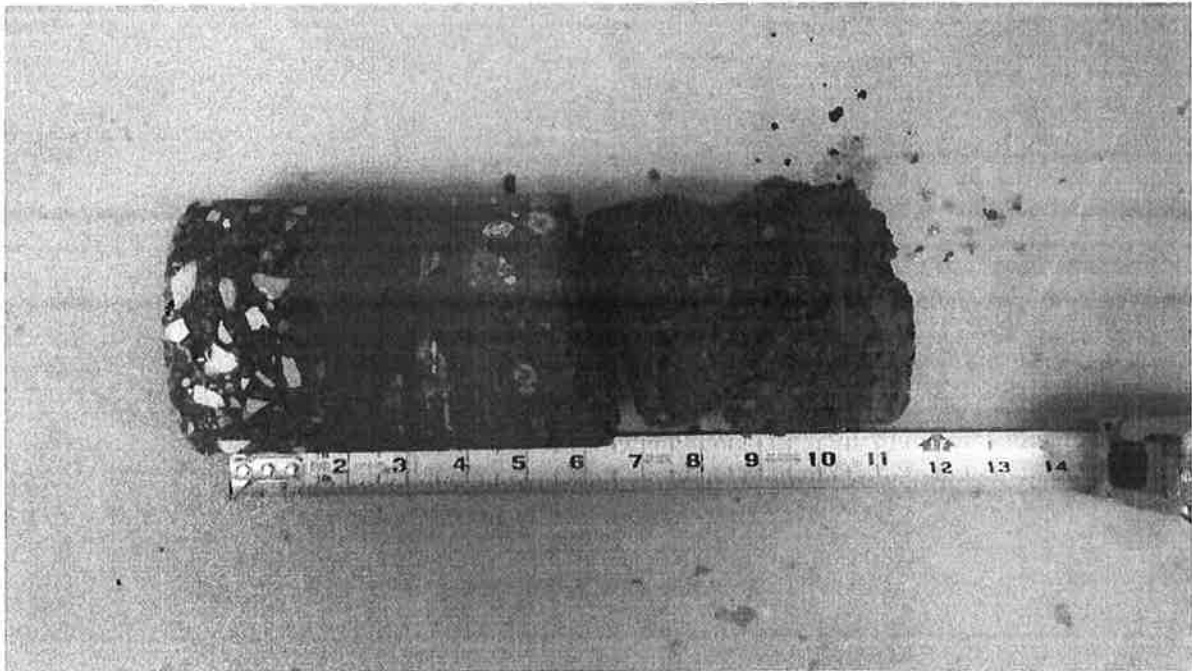
Length: >12"

Notes: Did not reach subgrade

Top 4-3/4" Type A, Rest Type B



#7. 10.25"



#8. 10.5"

## **DIVISION II**

# **PORTLAND CEMENT CONCRETE PAVEMENT**

**DIVISION II  
PORTLAND CEMENT CONCRETE PAVEMENT**

C O N T E N T S  
Description

Section	Description
<b>10</b>	<b>SCOPE OF WORK</b>
<b>11</b>	<b>MATERIALS</b>
11.04	Cement--47-B (Modified) and ABX (Modified) Concrete
11.02	Portland Cement
11.03	Mixing Water
11.04	Fine Aggregate for 47-B (Modified) Concrete
11.05	Coarse Aggregate for 47-B (Modified) Concrete
11.06	Aggregate for ABX (Modified) Concrete
11.07	Granular Foundation Course
11.08	Joint Filler
11.09	Joint Sealing Material
11.10	Curing Compound
<b>12</b>	<b>CONSTRUCTION METHODS</b>
12.01	Clearing and Grubbing
12.02	Site Preparation
	<b>Revised 1-18-2010</b>
12.03	Subgrade Preparation
12.04	Water Main and Sanitary Sewer Pipe Bedding and Backfill
12.05	Granular Foundation Course
12.06	Surplus Earth
12.07	Adjustment of Manholes
	<b>Revised 1-18-2010</b>
12.08	Adjustment of Storm Sewer Inlets
12.09	Integral Curb
<b>13</b>	<b>CONCRETE CONSTRUCTION</b>
13.01	Forms and Form Setting
13.02	Air Entraining
13.03	Consistency
13.04	Mixing
13.05	Placing and Finishing
13.06	Surface Test
13.07	Headers
13.08	Transverse Construction Joints
13.9	Transverse Expansion Joints
13.10	Transverse Contraction Joints
13.11	Longitudinal Joints
13.12	Curing
13.13	Sealing of Joints
13.14	Protection
13.15	Opening to Traffic
13.16	Acceptance

Section	Description
<b>14</b>	<b>METHOD OF MEASUREMENT AND BASIS OF PAYMENT</b>
14.01	Clearing and Grubbing
14.02	Site Preparation
14.03	Grading, Surplus Earth, Embankment
14.04	Granular Foundation Course
14.05	Manholes
14.06	Storm Sewer Inlets
14.07	Integral Cub
14.08	Concrete Pavement
14.09	Beams
14.10	Headers
14.11	Transverse Expansion and Miscellaneous Joints
14.12	Concrete Test Cylinders
14.13	Testing
14.14	Miscellaneous

**DIVISION II  
PORTLAND CEMENT CONCRETE PAVEMENT**

**SECTION 10 - SCOPE OF WORK**

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

**SECTION 11 - MATERIALS**

11.01 Cement - 47-B (Modified) and ABX (Modified) Concrete. The specifications for 47-B (Modified) and ABX (Modified) concrete shall be as specified in Section 1002 "Portland Cement Concrete" of the most current State of Nebraska Department of Roads Standard Specifications for Highway Construction with the following exceptions.

1. Paragraph 1 of Section 1002.04 is deleted and the following added:

For 47-B (Modified) concrete no more than 50 lbs. of total water will be added for each 100 lbs. of cement (water to cement ratio not to exceed 0.50). For ABX (Modified) concrete no more than 47 lbs. of total water will be added for each 100 lbs. of cement (water to cement ratio not to exceed 0.47).

Concrete with water to cement ratios greater than specified above will be rejected. If any water is added to the concrete at any time without the permission of the Engineer, the concrete will be rejected.

2. Portland Cement Concrete for pavement shall meet the following requirements:

<u>Class of Concrete</u>	<u>Compressive Strength Requirements in Pounds per Square Inch</u>	
	<u>7 days</u>	<u>28 days</u>
47-B (Modified)	2100	3600
ABX (Modified)	2300	3800

11.02 Portland Cement. Shall be as specified in Section 1004 "Portland Cement" of the most current Nebraska Department of Roads specifications.

11.03 Mixing Water. Shall be as specified in Section 1005 "Water for Concrete" of the most current Nebraska Department of Roads specifications.

11.04 Fine Aggregate for 47-B (Modified) Concrete. Shall be as specified in Section 1033 "Aggregates", Table 1033.02A "Gradation Limits" of the most current Nebraska Department of Roads specifications.

11.05 Coarse Aggregate for 47-B (Modified) Concrete. Shall be as specified in Section 1033 "Aggregates", Table 1033.03A, of the most current Nebraska Department of Roads specifications.

11.06 Aggregate for ABX (Modified) Concrete. Shall be as specified in Section 1033 "Aggregates" of the most current Nebraska Department of Roads specifications with below noted additions.

It shall be the responsibility of the Contractor to submit test results conforming to ASTM C295 that indicate the aggregate to be used in ABX Modified concrete is non-reactive with the alkalis in cement. If the results of this test are not conclusive, then results shall be submitted that conform to ASTM C227 (Mortar Bar) which remove all doubt as to the acceptability of the aggregate for Portland cement concrete.

These results must be submitted prior to any concrete being used from any source of aggregate. New test results must be submitted each time the aggregate comes from a new source or for each 700 cubic yards of concrete poured.

In the event that non-reactive aggregate is not available, the Contractor will not be allowed to use the sand-gravel mix but will be required to use 47-B Modified Portland cement concrete as specified in these specifications under section entitled Cement - 47-B (Modified) and ABX (Modified) Concrete.

11.07 Granular Foundation Course. The granular materials shall be sand from local pits that are shown on the plans, or it may be a coarse sand, fine sand, loamy soil, or any mixture of any of these materials that conforms to the following requirements:

	<u>Minimum</u>	<u>Maximum</u>
Total Percent Retained on #200 Sieve	80	92
Plasticity Index		6

11.08 Joint Filler. Joint filler shall consist of premoulded bituminous fiber uniformly impregnated with between 35% and 50% durable asphalt by weight and be furnished in strips of the dimensions specified in the plans. A one (1) inch thick sample when compressed to 50% of original thickness at rate of 1/10 inch per minute and released shall show at least 70% recovery within one hour after compression and shall not have required more than 500 pounds per square inch compression load and extrusion of not more than 1/8 inch.

11.09 Joint Sealing Material. The hot pour joint material shall be of the rubber-asphalt type and shall be melted in a double jacket kettle equipped with an agitator for stirring the material during melting and pouring. The rubber-asphalt shall meet Federal Specification SS-S-164 or subsequent revisions.

11.10 Curing Compound. The curing compound shall consist of a nonbituminous pigmented liquid conforming to AASHTO Designation M148-49 or subsequent revisions.

## **SECTION 12 - CONSTRUCTION METHODS**

12.01 Clearing and Grubbing. Except for trees, shrubs, and grasses which are to be preserved as indicated on the plans or as designated by the Engineer, all trees, stumps, hedges, shrubs, weeds, grass, other herbaceous vegetation, and rubbish shall be removed from the right-of-way and from borrow pits furnished by the contracting authority. This work shall be classified as follows:

Clearing shall consist of the cutting, removal, and disposal of trees six (6) inches or more in diameter.

Grubbing shall consist of the removal and disposal of stumps, including roots. Hedge removal shall consist of the pulling or grubbing and disposal of hedges or other shrubs planted close together in rows. If any individual tree of those composing a hedge has a diameter greater than four (4) inches, it shall be measured separately as a tree.

Weed and rubbish removal shall consist of the removal and disposal of all weeds, grass, other herbaceous vegetation, and all rubbish encountered on the work.

12.02 Site Preparation. This work shall consist of removal and disposal of all crosswalks, private walks, driveway approaches, curbs, curb and gutter, and headers as indicated on the plans or as directed by the Engineer.

Topsoil shall be carefully removed and deposited in storage piles convenient to the area which will subsequently receive topsoil. Topsoil shall be kept separate from other excavated materials and shall be piled free from roots, stones, and other undesirable materials.

The backfill over all existing utility lines shall be consolidated when shown on the plans or directed by the Engineer. This shall be done by water jetting and vibration to the full depth of the utility lines unless other methods are approved by the Engineer. When compaction over existing utility lines is not shown on the plans or is not a bid item and is directed to be done by the Engineer, the work shall be negotiated for in writing before any work is commenced and will be paid for as a single unit.

All sanitary and storm sewers will be televised before a street is paved or repaved to insure that the street will not have to be torn up to repair the sewer in the near future.

**Revised 1-18-2010**

12.03 Subgrade Preparation. All paving subgrade shall be brought to the exact lines, grades, and cross sections shown on the plans or as directed by the Engineer.

The subgrade shall be constructed to have a uniform density throughout its entire width. All soft or yielding material and other portions of the subgrade which will not compact readily shall be removed as directed. All hollow places, settlements, or other imperfections shall be filled with approved material and compacted.

In all places where embankment may be required to bring the subgrade to the required height, it shall be constructed in horizontal layers not to exceed six (6) inches in depth before rolling. Each successive layer of material placed as described shall be wetted to within 3% of the optimum moisture content and compacted to at least 95% of the maximum dry density obtained at optimum moisture content as determined by AASHTO Method T99.

In all embankment areas where highly expansive soils are encountered, materials shall be wetted at one percent (1%) to three percent (3%) above optimum moisture.

In cuts when the undisturbed earth is suitable for the subgrade, manipulation other than rolling will not be required, provided the upper three (3) inches is at 95% maximum dry density as called for in embankments.

12.04 Water Main, Storm and Sanitary Sewer Pipe Bedding and Backfill. The pipe bedding and backfill shall be Type "C" as required by Division V, Pipe Bedding, Trench Backfill, and Nonshrinkable Backfill. The completion of the trench backfill under pavement shall be adequate to provide 95% of maximum dry density and shall be wetted to within 3% optimum moisture as specified in this division under Subgrade Preparation.



12.05 Granular Foundation Course. This work shall consist of the construction of a compacted foundation course of granular material to the lines, grade, and dimensions shown on the plans on a previously prepared and approved subgrade.

12.06 Surplus Earth. All surplus earth shall be stockpiled by the Contractor at the location or locations designated on the plans or as the Engineer shall direct.

12.07 Adjustment of Manholes. All manholes encountered whether shown on the plans or not shall be brought to the proper grade by removing the castings and adjusting the tops of the existing manholes by removal or addition of concrete or brick, as the case may be, and resetting the frames and covers.

Brick masonry shall consist of the type of brick satisfactory to the Engineer, laid in 1:2 cement mortar. All brick must be wetted before being laid. All joints shall be completely filled with mortar and shall not be less than 1/4 inch and not more than 1/2 inch in thickness.

Contractors are instructed to use plastic or concrete risers to bring manhole ring and covers to grade. Using pieces of wood, concrete or bricks and then filing with concrete mortar will no longer be accepted.

All manholes will be inspected before and after a concrete or asphalt street is laid down to insure that no foreign material is in the flow line or at the bottom of a manhole.

**Revised 1-18-2010**

12.08 Adjustment of Storm Sewer Inlets. All storm sewer inlets shall be adjusted to line and grade by removing the castings and adjusting the tops of the existing storm sewer inlets by removing or adding concrete or bricks, as the case may be, and resetting the castings.

Brick masonry shall consist of the type of brick satisfactory to the Engineer, laid in 1:2 cement mortar. All brick must be wetted before being laid. All joints shall be completely filled with mortar and shall not be less than 1/4 inch and not more than 1/2 inch in thickness.

12.09 Integral Curb. Integral curb shall be constructed on the edge of the concrete slab in accordance with the plans and typical cross section. This curb shall be placed immediately after the concrete on the pavement has been placed and finished and before it takes its initial set. That part of the pavement which is to be covered by the integral curb shall be cleaned of all laitance and shall be roughened. Integral Curb will be required on all new pavement construction. If construction is a very short section, the Director of Public Works may allow an exception upon written request.

## SECTION 13 - CONCRETE CONSTRUCTION

13.01 Forms and Form Setting. On all new mainline pavement construction, slip form process will be required. If the Contractor wants to use standard forms rather than slip forms because the area is small, they must submit a written request to the Director of Public Works for an exception. If the request is granted, the contractor will be required to meet certain requirements as listed herein. Outside forms shall be metal, of depth equal to the design thickness of the pavement at its edge, and straight and free from warp. When integral curb is required, the additional height represented by the curb may be obtained by bolting extra forms upon the top of the main form. Wood forms or flexible or curbed metal forms of proper radii shall be used for curves having radii of less than 100 feet. The forms shall be neatly, tightly, and securely pinned and staked to the line and grade furnished by the Engineer. They shall not at any time show a variation of more than 1/8 inch in a ten (10) foot length from the true plane of top of forms. Shimming with loose earth, pebbles, etc. will not be permitted.

Forms shall be cleaned and oiled before concrete is placed against them. When pavement is being laid contiguous to previously finished concrete pavement of the same finish grade elevation or contiguous to previously finished independent curb and gutter, such finished pavement or curb and gutter may be made to serve as side forms and as a guide for striking, tamping, and finishing equipment.

13.02 Air Entraining. When using specifications for State of Nebraska 47-B concrete, the total air content shall be 6% plus or minus 1-1/2% by volume of the wet concrete as determined by AASHTO Standard Method T-121 or ASTM Method C-231 and up to 9% for sand and gravel mix.

13.03 Consistency. The quantity of water shall be determined by the Engineer in accordance with these specifications under section entitled Cement - 47-B (Modified) and ABX (Modified) Concrete and not varied without the Engineer's consent. The Contractor shall furnish and use with the mixer an approved adjustable water measuring device which will prevent excess water flowing into the mixer so the consistency may be under positive control and all batches may be of the same consistency.

In general, the minimum amount of water shall be used which will produce the required workability. The mortar shall cling to the coarse aggregate and shall show no free water when removed from the mixer. The upper surface of the set concrete shall show a cement film upon the surface and shall be free from all laitance. In no case shall an amount of water be used sufficient to cause the collection of a surplus on the surface or to cause segregation during the transportation to place of deposit. The concrete must be of workable consistency when placed.

13.04 Mixing. The mixing shall be done in a batch-mixer of approved type which will insure the uniform distribution of the material throughout the mass so the mixture is uniform in color and smooth in appearance. No mixer which has a capacity of less than one-sack batch shall be used on any work. The concrete shall be mixed in quantities required for immediate use. Concrete which has developed initial set or is not in place within thirty (30) minutes after the water has been added shall not be used. Retempering concrete by adding water or by other means will not be permitted.

The concrete shall be mixed for a period of at least one (1) minute after all the ingredients are assembled in the drum with the drum revolving at a rate for which the mixer was designed but, in no case, shall it be less than twelve (12) nor more than twenty (20) revolutions per minute. The mixer shall be equipped with an attachment for satisfactorily locking the discharging device to prevent the emptying before the minimum time required. The entire contents of the drum shall be discharged before any materials for the succeeding batch are placed therein.

No concrete shall be mixed while the air temperature is at or below 40 degrees Fahrenheit, except when specifically permitted by the Engineer. In such case, all water used for mixing concrete shall be heated to a temperature of at least 70 degrees but not over 150 degrees Fahrenheit. When artificial heat is applied and the air temperature is above 32 degrees Fahrenheit, the mixed concrete shall not be less than 70 degrees Fahrenheit at the time of the placing in the forms, and no concrete shall be placed in the forms when the air temperature is below 32 degrees Fahrenheit. In no case shall material containing frost or lumps of hardened material be used. When ready-mixed concrete is to be produced, the Contractor shall notify the Engineer in writing at least fourteen (14) days in advance of mixing operations as to location, type of plant and equipment which they propose to use in proportioning, mixing, and hauling concrete.

The Contractor shall furnish at least eight (8) standard 50 pound weights for calibrating and testing scales used in weighing aggregates and cement.

Ready-mixed concrete shall be mixed and delivered to the site of work by means of one of the following combinations of operations:

1. Mixed completely at a central mixing plant and the mixed concrete transported to the point of delivery in a truck agitator or in a truck mixer operating at agitator speed or in approved non-agitating equipment (known as central-mixed concrete).
2. Mixed partially at a central mixing plant and mixing completed in a truck mixer (known as transit-mixed concrete).
3. Aggregates and cement proportioned in a central plant and mixed completely in a truck mixer (known as transit-mixed concrete).

All mixers and agitators shall be operated within the limits of the manufacturer's rated capacity. They shall be operated at the speed of rotation for which the equipment was designed. Attached to each truck mixer and truck agitator shall be a metal plate on which is stated the manufacturer's capacities in terms of volume of mixed concrete and the manufacturer's stated speed of rotation for both mixing and agitation.

The truck mixer or agitator shall consist of a closed water-tight revolving drum suitably mounted and fitted with adequate revolving blades. Truck mixers shall be capable of combining aggregates, cement, and water into a thoroughly mixed and uniform mass of concrete and of discharging the concrete without segregation. Truck agitators shall be capable of transporting and discharging concrete without segregation.

For revolving drum type mixers the mixing speed shall not be less than seven (7) revolutions per minute of the drum nor greater than that which will produce a peripheral velocity of more than 225 feet per minute. For revolving blade type mixers, the mixer speed shall not be less than six (6) nor more than sixteen (16) revolutions per minute of the mixing blades. Agitation speed shall not be less than two (2) nor more than six (6) revolutions per minute of the drum or mixing blades.

Concrete transported without agitation shall not be used if the period elapsed between the time the concrete is discharged from the mixer and the time it is placed is greater than thirty (30) minutes. Concrete transported with agitation shall not be used when the cement has been in contact with the aggregate more than 1-1/2 hours before it is placed.

13.05 Placing and Finishing. The concrete shall be deposited on the prepared subgrade or on the granular foundation course so there shall be no separation of the mortar and the aggregate, and then shall be spread to the required depth and for the entire width of the pavement by approved methods, struck off, and finished. The subgrade templet shall be drawn over the subgrade or foundation course ahead of the point where concrete is being placed and shall be kept in position while the concrete is being placed. The concrete shall be deposited on the subgrade or granular foundation course between the forms in position and in such quantity as to make a uniform layer of about one (1) inch greater than the required thickness. During the operation of striking off the concrete, a uniform ridge of concrete at least three (3) inches in depth shall be maintained ahead of the vibratory strike-off screed for its entire length. After being deposited, it shall be consolidated along the forms and along all joints. At the end of the day or in case of unavoidable interruption of more than thirty (30) minutes, a transverse construction joint shall be placed at the point of stopping work, provided the section on which the work has been suspended shall not be less than ten (10) feet in length. The working edge of the screed shall be shaped to the required cross section of the pavement. After the concrete has been properly consolidated and struck off, the entire surface shall be floated longitudinally, from bridges, with a float at least twelve (12) feet long and twelve (12) inches wide. If made of wood, this float shall be two (2) inches thick. If made of metal, it shall have a weight approximately equal to a similar float made of two (2) inch plank and shall be lined on its bottom face with wood, having rounded edges. The float shall be operated by two men, one at each end, each man standing on a bridge spanning the pavement. The longitudinal and transverse motion shall be passed slowly from one side of the pavement to the other a sufficient number of times, at least twice, until the float on its last passage shall show contact with the concrete throughout its entire length. The bottom surface of the float shall remain flat on the surface of the concrete during the entire operation of longitudinal floating. The next section to be floated shall overlap the one previously floated by half the length of the float.

After the concrete has been floated longitudinally, the surface shall be floated transversely using a float of 1"x12" material three (3) to four (4) feet in length and fitted with a handle of sufficient length to permit the float to reach just beyond the center line. Any high or low areas exposed as a result of this floating shall be corrected prior to belt finishing.

After the concrete has been floated transversely and the water sheen has disappeared from the surface of the pavement, the final finish shall be given with a canvas or rubber belt, burlap drag or brooming, or any combination of the above as directed by the Engineer.

If belting is selected, it shall be accomplished with a belt of two to four ply having a width of not less than six (6) inches and a length at least two (2) feet greater than the width of the pavement. The belt shall be operated with a combined crosswise and longitudinal motion, care being taken not to work the crown out of the pavement or to permit the edges of the belt to dip into the surface of the concrete.

If a broom finish is selected, it shall be accomplished by drawing a broom across the surface from the center line toward each side with the broom held perpendicular to the surface with only one stroke of the broom on each portion of the surface. (If the pavement is being constructed lane-at-a-time, the broom shall be drawn across the full width of each lane in one operation.) The broom shall be of the push broom type not less than 18" wide made from bass or bassine fiber not more than five (5) inches long and with a handle at least one (1) foot longer than the width of pavement being broomed in one operation. The brooming operations shall be executed so the corrugation will be uniform in appearance and not more than 1/16 inch in depth.

If a burlap drag finish is selected, it shall be accomplished by drawing a wet burlap, carpet, or canvas drag over the surface in a longitudinal direction. The drag shall be at least two (2) feet longer than the width of the slab being placed and shall be wide enough so about three (3) feet will be in contact with the pavement while it is in use. If burlap is used, the drag shall consist of not less than two (2) layers. Drags shall be rinsed or washed as often as necessary to remove hardened particles which would mar the uniform surface that would be obtained with a clean drag.

13.06 Surface Test. Before final finishing and previous to initial set, the surface of the pavement shall be tested under the supervision of the Engineer. All irregularities or undulations not within the tolerance of the following test shall be corrected with fresh concrete and the affected surface brought within the requirement of the test and refinished if necessary. The test shall be made with a transverse testing templet and straightedge at least ten (10) feet long. The templet shall be accurately shaped in conformity with the typical cross section and shall be subject to the approval of the Engineer. The templet shall be used to test the shape of the surface transversely, the straightedge for longitudinal trueness. The straightedge shall be placed parallel to the center line so as to bridge any depressions and touch any high spots. Ordinates exceeding one fourth inch measured from the face of the templet or straightedge when in position at any point shall be eliminated by means of a long-handled wood float.

As soon as the pavement has set sufficiently to permit walking on it and not later than 10:00 a.m. of the day following the placing of the concrete, it shall be thoroughly checked by the inspector with a straightedge. All variations in excess of one fourth inch measured from the surface of the straightedge when it is placed parallel to the center line shall be plainly marked. The Contractor shall at once eliminate such variations by the use of approved grinding tools or carborundum brick and water. The work of grinding or rubbing shall not be performed in such manner or carried to such extremes that the bond of the concrete shall be broken. The use of brush hammer or similar device to remove irregularities after the concrete has taken its final set will not be permitted. All templates, straightedges, and other testing devices shall be furnished by the Contractor.

13.07 Headers. Concrete headers extending to full depth and width of the pavement shall be constructed at locations shown on the plans. They shall be constructed to the dimensions and design called for in the plans.

13.08 Transverse Construction Joints. Whenever concreting is stopped for a period of over thirty (30) minutes, a transverse construction joint shall be formed by finishing the concrete to a bulkhead made of two (2) inch material cut to the exact cross section of the pavement slab, as shown in the plans. When the concreting is resumed, the bulkhead shall be moved taking care not to disturb any concrete placed. The joints shall be constructed perpendicular to both the center line and the surface of the pavement. In no case shall an emergency construction joint be allowed within ten (10) feet after placing a regular expansion or construction joint. If the joint falls within this limit, the concrete shall be removed back to the previously installed joint.

When a construction joint is placed at a location where integral curb is being constructed, a piece of pre-formed joint material one half inch in thickness and conforming to the cross section of the curb shall be placed through the curb at the construction joint. The edges of the concrete shall be rounded to a radius of not more than one fourth inch.

13.9 Transverse Expansion Joints. Expansion joints shall be of a premoulded bituminous fiber type conforming to these specifications under the section entitled Joint Filler.

The joint shall extend entirely through the pavement and the joint filler shall be placed so the top edge will be one half inch below the surface of the finished pavement. No section of the joint material shall be shorter than the width of pavement strip between longitudinal joints. Before the pavement is opened to traffic, this space shall be swept, cleaned, and filled with approved joint sealing material.

The pre-formed expansion joint material shall be held securely by means of a special metal joint holder and removable cap, perpendicular to both the center line and the surface of the pavement. The metal joint holder and cap shall remain in place until after the passage of the concrete spreader. After the concrete has been finished, the metal joint holder and cap shall be removed and the edge of the concrete rounded to a radius of not more than one fourth inch. When integral curb is being constructed, an additional piece of pre-formed material of the same cross section as the curb shall be extended through the curb and to the top surface of the pavement. The joints shall be so installed and finished to insure complete separation of the slabs.

13.10 Transverse Contraction Joints. Transverse contraction joints shall be constructed at intervals of not less than ten (10) feet or more than sixteen (16) feet. The joints shall be true and straight to the center line and surface of the pavement. Variation of more than one half inch in ten (10) feet from a straight line will not be permitted. The joint shall be placed so its junction with the longitudinal joint will be a neat fitting connection. All transverse contraction joints shall be done by the saw cut method. To prevent the development of random cracks, joints at approximately eighty (80) feet intervals shall be sawed the same day as the pour is made. All other transverse contraction joints shall be sawed the following afternoon.

13.11 Longitudinal Joints. Longitudinal contraction joints, when required, shall be in accordance with the requirements for transverse contraction joints.

All sawed longitudinal joints shall be sawed before the concrete has attained an age of seven (7) days and before the pavement is opened to any vehicular traffic.

13.12 Curing. As soon as the concrete has hardened sufficiently to prevent excessive marring of the surface or adherence thereto, the concrete shall be protected with a single covering of burlap, placed and kept saturated for at least twelve (12) hours. As soon as the burlap is removed, the top surface and the edges of the pavement shall be covered with a continuous uniform nonbituminous impervious coating. The curing compound may be applied in either one or two applications in accordance with the directions of the manufacturer. However, if applied in two coatings, the second shall be applied not later than thirty (30) minutes after the first. In no case shall the rate of application be less than one (1) gallon per fifteen (15) square yards of surface area.

The sides of the pavement slab or back side of integral curb shall be covered with the curing compound within thirty (30) minutes after removal of the form.

When wet cotton mats, wet jute felt mats, paper, or any other method than curing compound is to be used for curing, the Contractor shall notify the Engineer in writing at least fourteen (14) days in advance giving the type and specifications of material and method to be used.

When it is expected that during the progress of the work the temperature may fall below 40 degrees Fahrenheit, a sufficient supply of straw, hay, grass, or other material suitable, in the judgment of the Engineer, must be maintained on hand to cover the concrete and to sufficiently protect the surface and edges against freezing until it is at least ten (10) days old. In such case, at the discretion of the Engineer, wetting and spraying may be omitted. Manure shall not be used as a protection for green concrete. Whenever the temperature falls below 40 degrees Fahrenheit, freshly finished concrete shall be protected by frames enclosed by canvas or other type of housing and the temperature of the air surrounding the concrete shall be maintained at not less than 45 degrees Fahrenheit. Sufficient heating apparatus, such as lanterns, suitable stoves, or steam equipment, shall be furnished and maintained by the Contractor. Any concrete showing injury by freezing on uncovering shall be removed and replaced at the expense of the Contractor.

13.13 Sealing of Joints. Joint sealing operations shall not be started until after final curing is completed. All joints which require sealing shall be thoroughly cleaned by a jet of compressed air. Any excess mortar or concrete shall be cut out with chisels. Joints shall be filled only when completely dry. The filler used shall be material as specified in these specifications under the section entitled Joint Sealing Material. The cleaning and filling shall be carefully done with proper equipment and a neat workmanlike joint obtained, free from excess and unsightly filler.

The joint sealing material shall be melted uniformly and with constant stirring in an asphalt kettle of such design that direct flames are not applied to the immediate surfaces of the kettle which are in contact with the joint sealing material. The material shall be furnished or prepared in pieces of such size and shape that the material can be melted readily to the proper pouring consistency. The heating of the material shall be arranged to minimize the length of time during which the temperature of the material exceeds 350 degrees Fahrenheit. In no case shall the temperature exceed the maximum recommended by the manufacturer. The joints shall be filled with the use of a pouring device which is satisfactory to the Engineer. Precautions shall be taken to prevent spilling material on surfaces of the pavement adjacent to the joint.

13.14 Protection. The Contractor shall provide and maintain substantial barricades, warning signs, and flares to provide the public and the construction work adequate protection and keep all traffic off the pavement.

13.15 Opening to Traffic. Before any traffic is permitted on the concrete, all curing and protecting materials other than membrane shall be carefully removed from the finished work and the concrete shall be swept clean. No section of pavement shall be opened to traffic until the concrete has reached a minimum age of fourteen (14) days or compression strength of 3000 psi.

The Contractor's forces may be allowed on the pavement for the purpose of clean up work any time after the concrete has reached a minimum age of seven (7) days.

13.16 Acceptance. The Contractor shall furnish a minimum of two (2) cores at locations designated by the Engineer for each 1000 square yards of pavement placed, and the acceptance of the pavement may be governed by the quality and thickness as shown by the cores. Slabs of pavement which are found to be more than one half inch short of the specified thickness shall be removed and replaced at the Contractor's expense with concrete of specified quality and thickness. If, however, in the opinion of the Engineer, there is no probability of immediate failure of such deficient slabs, they may allow the Contractor the choice of leaving the defective slabs in place and receiving no compensation or payment for the same or of replacing the pavement slab as provided above.

If the average strength of test cores or test cylinders, cured at a temperature within the range of 60 to 80 degrees Fahrenheit, is more than ten percent (10%) below the required strength, the Engineer may elect either to permit such pavement to remain in place and limit the payment for such defective work to a maximum of 90% of the contract unit price or require the Contractor, at Contractor's expense, to remove the pavement area deficient in the specified strength and replace it with pavement of satisfactory quality.

## **SECTION 14 - METHOD OF MEASUREMENT AND BASIS OF PAYMENT**

14.01 Clearing and Grubbing. Clearing and grubbing of trees larger than six (6) inches in diameter will be measured for payment by counting the actual number of trees removed. The diameters of trees will be computed by measuring the circumference and dividing by 3.14. Payment shall be made at the contract unit price per each tree at the diameter or group of diameters shown in the bid.

Stumps will be measured for payment by taking the average diameter at cutoff. Payment shall be made at the contract unit price per each stump at the diameter or group of diameters shown in the bid.

Hedge removal will be measured for payment in lineal feet of a row of hedges.

Weeds, rubbish, and other herbaceous vegetation will not be measured for payment but will be considered as subsidiary to the contract work.

14.02 Site Preparation. Crosswalks and private walks to be removed within the area between construction lines will be measured for payment in square feet in their original position. Driveway approaches will be measured for payment in square yards in their original position.

Existing straight curb and curb and gutter to be removed will be measured for payment by length in lineal feet. Measurements for the straight curb will be made along the front face of the curb. Measurements for curb and gutter will be made along the flow line of the gutter.



Removal of existing pavement headers will be measured for payment by length in lineal feet.

Compaction over all existing utility lines will be measured for payment as a single unit except when in clay soil. In clay soil, excavation, additional materials, and recompaction over utility lines will be paid for as additional excavation.

14.03 Grading, Surplus Earth, Embankment. All grading, removal of surplus earth, and embankment will not be measured for payment but shall be subsidiary to the paving.

14.04 Granular Foundation Course. Granular foundation course will be measured for payment by area in square yards or cubic yards.

14.05 Manholes. Adjusting manholes to grade will be measured for payment as a single unit for each manhole that is adjusted to grade as shown in the plans or as directed by the Engineer.

14.06 Storm Sewer Inlets. Adjusting storm sewer inlets to line and grade will be measured for payment as a single unit.

14.07 Integral Curb. Integral curb will be measured for payment by length in lineal feet. Measurement will be made along the back side of the curb.

14.08 Concrete Pavement. Concrete pavement will be measured for payment by area in square yards. Concrete pavement shall include all joints, curing, sealing, etc. not specifically designated as separate items.

14.09 Beams. Concrete pavement beams will be measured for payment by length in lineal feet.

14.10 Headers. Concrete headers constructed as part of the project will be measured for payment by length in lineal feet.

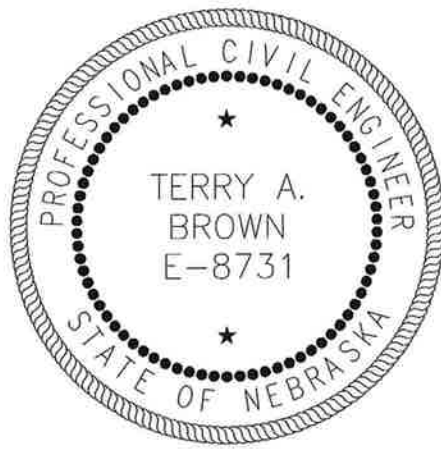
14.11 Transverse Expansion and Miscellaneous Joints. Transverse expansion joints and all miscellaneous joints using premoulded bituminous fiber will be considered incidental to the paving construction and not as a separate pay item.

14.12 Concrete Test Cylinders. Three (3) concrete test cylinders shall be required for each block of concrete pavement placed or as directed by the Engineer.

14.13 Testing. The Engineer may require testing of coarse and fine aggregates and cement before they are used in the work. If so ordered, the Contractor shall pay the cost thereof.

The testing of cylinders shall be paid for by the Contractor.

14.14 Miscellaneous. Any item listed in the Engineer's Estimate and not covered in the specifications will be measured in the most workmanlike manner for payment according to the designation listed such as cubic yards, square feet, square yards, lineal feet, gallons, each, etc.



*Terry A. Brown*