



## LOWER PLATTE SOUTH natural resources district

3125 Portia Street | P.O. Box 83581 • Lincoln, Nebraska 68501-3581 | P: 402.476.2729 • F: 402.476.6454 | [www.lpsnrd.org](http://www.lpsnrd.org)

### Memorandum

**Date:** May 9, 2019  
**To:** Board of Directors  
**From:** Ed Ubben &  
**Subject:** Urban Subcommittee Minutes

The Urban Subcommittee met on May 8, 2019 at the District office at 5:30 pm. There was three items on the agenda. Present at the meeting was Mike DeKalb, (Chair), Bob Andersen, Debora Eagan, Luke Peterson, Milt Schmidt, Anthony Schutz and Ray Stevens. There was a quorum. Staff present was; Paul Zillig, Jared Nelson, Bryce Jensen, Dave Potter and Ed Ubben. Also present was Ross Lawrence with JEO Consulting.

- a. **Consideration of the Stormwater Interlocal Agreement with the City of Lincoln** -- Ubben stated that the City and the NRD have put in place an interlocal agreement to list the activates the entities cooperate on. This year's activities are very similar to the past. Zillig stated that two of the paragraphs that include construction projects are different. Those are #7, Master Plan Implementation and #8 Other Projects. The new projects are Little Salt Creek Stream Stability #2, Beal Slough Stream Stability at Gapp Park and Antelope Creek Trail Undercrossing projects at 84<sup>th</sup> & Old Cheney. The Interlocal Agreement is attached. **It was moved by Andersen, seconded by Stevens, and unanimously approved by the subcommittee to recommend the Board of Directors approve the Fiscal Year 2019-2020 Work Plan for the Interlocal Agreement on Stormwater Management with the City of Lincoln.**
- b. **Consideration of proposal from JEO Consulting to design replacement of four corrugated metal pipe draining into Antelope Creek, upstream and near Randolph Street** --- Jensen reported that during spring inspections two new corrugated metal pipe were found to be rusted out. Two other pipe were noted in last year's inspection. These pipe are located between Randolph Street and 27<sup>th</sup> Street. The new pipe will be High Density Polyethylene Plastic (HDPP) pipe. We received a proposal from JEO Consulting to do design, permitting and bid preparation for a fee of \$18,885. See proposal enclosed. **It was moved by Eagan, seconded by Stevens, and unanimously approved by the subcommittee to recommend the Board of Directors approve an engineering services agreement for design, permitting and bidding with JEO Consulting Group, Inc. for the Antelope Creek**



**Pipe Replacement Project from Randolph to 27<sup>th</sup> Street, in an amount not to exceed \$18,885.**

- c. Consideration of a proposed agreement with UNL to Complete the DMR Railroad Bridge Flume Physical Modeling Project** – Zillig reported that as part of the Deadmans Run flood reduction project, the University of Nebraska submitted a proposal to construct a physical scale model of a required flume under two Railway lines upstream of Cornhusker. The model will be 1/23<sup>rd</sup> scale. The scale model will be 65' long and 16' wide. The model will assist with the design of the project. The University's fee is \$85,000. See agreement. **It was moved by Stevens, seconded by Eagan, and unanimously approved by the subcommittee with Schutz abstaining, to recommend the Board of Directors authorize the General Manager to approve an Agreement with the University of Nebraska – Lincoln to complete the Deadmans Run Physical Model Flume Proposal at a cost not to exceed \$85,000, pending legal counsel review.**

With no other business the meeting was adjourned at 5:55 pm.



**AGREEMENT  
BETWEEN OWNER AND ENGINEER  
FOR  
PROFESSIONAL SERVICES**

THIS IS AN AGREEMENT effective as of May 8, 2019 ("Effective Date") between Lower Platte South Natural Resources District ("Owner") and JEO Consulting Group, Inc. ("Engineer").

Owner's project, of which Engineer's services under this Agreement are a part, is generally identified as follows:

Antelope Creek Pipe Replacement ("Project").

JEO Project Number: 190582.00

Owner and Engineer further agree as follows:

**ARTICLE 1 - SERVICES OF ENGINEER**

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**1.01 Scope**

- A. Engineer shall provide, or cause to be provided, the services set forth herein and in Exhibit A.

**ARTICLE 2 - OWNER'S RESPONSIBILITIES**

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**2.01 Owner Responsibilities**

- A. Owner responsibilities are outlined in Section 3 of Exhibit B.

**ARTICLE 3 - COMPENSATION**

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**3.01 Compensation**

- A. Owner shall pay Engineer as set forth in Exhibit A and per the terms in Exhibit B.
- B. The hourly not-to-exceed fee for the Project is: \$18,885
- C. The Standard Hourly Rates Schedule shall be adjusted annually (as of approximately January 1st) to reflect equitable changes in the compensation payable to Engineer. The current hourly rate schedule can be provided upon request.

## ARTICLE 4 - EXHIBITS AND SPECIAL PROVISIONS

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### 4.01 Exhibits

Exhibit A – Scope of Services

Exhibit B – General Conditions

### 4.02 Total Agreement

- A. This Agreement (consisting of pages 1 to 2 inclusive, together with the Exhibits identified as included above) constitutes the entire agreement between Owner and Engineer and supersedes all prior written or oral understandings. This Agreement may only be amended, supplemented, modified, or canceled by a duly executed written instrument.

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

Owner:

Lower Platte South NRD

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date Signed: \_\_\_\_\_

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Engineer:

JEO Consulting Group, Inc.

By: Ross Lawrence 

Title: Project Engineer

Date Signed: May 6, 2019

Address for giving notices:

JEO Consulting Group, Inc.  
2700 Fletcher Ave  
Lincoln, NE 68504  
\_\_\_\_\_

**Scope of Services**  
**Lower Platte South NRD – Antelope Creek Pipe Replacement**  
**JEO Project No. 190582.00**

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**Project Understanding:**

JEO proposes to provide engineering services to assist the Lower Platte South NRD (Owner) with design and bidding assistance for replacement of four (4) existing storm water drainage structures along Antelope Creek near Capitol Parkway and Randolph Street in Lincoln, NE. It is our understanding the project extents will be limited to the property that is operated and maintained by the NRD, generally defined as the Antelope Creek channel, outside of the City of Lincoln street right-of-way (ROW). Four existing corrugated metal pipe (CMP) drainage structures have aged and deteriorated to the point they are needing replacement. The attached map shows the structure locations. The CMP structures will be removed to the point of connection to city owned concrete sections and replaced with HDPE pipe. Design drawings and specifications will be sealed and signed by a professional engineer and associated permits will be obtained. It is understood that the NRD intends to construct the improvements under one construction contract (one bid package). Construction services are not included in this Scope of Services and can be added at a later date.

**Scope of Services:**

JEO proposes to provide the following Scope of Services

**Task 100 – Project Management & Stakeholder Coordination**

- Perform routine project management tasks
- Prepare and update a project schedule
- Prepare progress reports
- Attend one (1) NRD board meeting
- Communicate with Owner's representative to collaborate and collect data and key input, outside of formal meetings

**Meetings:**

- One (1) NRD board meeting

**Task Deliverables:**

- Project schedule
- Project invoices
- Meeting support material

**Key Understandings/Assumptions:**

- Project invoices will be provided monthly
- Project duration is expected to be seven months. Project duration in excess of 7 months (beyond control of JEO) may require an amendment to the Scope of Services.

## Exhibit A

### **Task 200 – Survey**

- Perform topographic field survey of the four project sites to collect elevation and location of the landscape and drainage feature data necessary to design improvements and develop construction quantities
- Request a utility locate and survey underground utilities that are marked in the field by others
- Research and survey property corners necessary to plot the City street ROW

#### **Meetings:**

- None

#### **Task Deliverables:**

- Topographic survey data to be included on design drawings
- Existing ground survey data will be used to determine construction quantities and cost opinion

#### **Key Understandings/Assumptions:**

- Easement research and/or legal description preparation is not included

### **Task 300 – Permitting**

#### **Task 310 – Floodplain**

- JEO will prepare a floodplain development permit application and the necessary supporting information and will submit to the City of Lincoln/Lancaster County Building & Safety Department
- The project improvements are within a regulatory floodway and will require a 'no-rise certification'

#### **Task 320 – City of Lincoln ROW**

- JEO will facilitate the City ROW permitting process, according to the Right-of-Way Procedures Manual
- ROW application and supporting documents will be submitted through the City Citizen Access online portal

#### **Meetings:**

- None

#### **Task Deliverables:**

- Floodplain development permit
- City ROW permit

#### **Key Understandings/Assumptions:**

- It will not be necessary to prepare a hydraulic model to obtain a floodplain permit
- It will not be necessary to conduct flow calculations, capacity analysis, and delineate ponding areas

## Exhibit A

- City review comments will be minor in nature and will require up to four hours to address
- ROW permitting services do not include the construction phase. The construction phase tasks (e.g. site visits) will be included in a future amendment.
- It is anticipated that the project area is considered non-jurisdictional by USACE (i.e. a USACE Section 404 permit is not required)
- If it is determined the project area contains Waters of the U.S. (WOUS), an amendment to the Scope of Services will be necessary to perform a wetland delineation and 404 permitting
- NEPA will not be required
- Disturbed area will be less than 1.0 acre and therefore National Pollution Elimination System (NPDES) permitting will not be required.

### **Task 400 – Design**

- Prepare engineering design drawings. Drawings are anticipated to include:
  - o Topographic survey information
  - o Existing site plan
  - o Pipe plan and profile
  - o Survey control
  - o Details and typical cross sections
- Develop budgetary quantities and opinions of construction cost
- Develop final quantities and opinions of construction cost
- Meet with Owner's representative at the project site to review draft design documents
- Incorporate Owner's comments into final design drawings and specifications

### **Meetings:**

- Attend one (1) meeting

### **Task Deliverables:**

- Draft (60%) design drawings and special provisions section of the specifications
- Draft (60%) quantities and opinion of probable construction cost
- Final design drawings and specifications
- Final quantities and opinion of probable construction cost

### **Key Understandings/Assumptions:**

- Geotechnical exploration/testing is not included
- Changes to pipe size or other modifications are not anticipated. Design does not include any flow calculations; pipe capacity, hydrology, hydraulics, etc. If desired, an amendment to this Scope of Services will be necessary.
- No modifications will be made to City of Lincoln owned facilities and City reviews will be limited to floodplain and ROW permitting activities
- Design, specifications, and bid documents will be for one bid package for all sites

### **Task 500 – Bidding and Advertising**

- Assist the Owner in advertising and letting the project
- Prepare bidding documents and facilitate delivery to prospective bidders

**Exhibit A**

- Prepare forms for contract documents including proposals, advertisements for bids, construction contracts, and payment and performance bonds as required (subject to approval by Owner)
- Respond to questions from potential bidders
- Attend bid letting; attended by JEO Project Manager or Project Engineer

**Meetings:**

- Bid letting

**Task Deliverables:**

- Bid documents
- Bid recommendation

**Key Understandings/Assumptions:**

- There will be one bid package for all project sites

**Project Fee**

JEO proposes to perform the described services at an hourly not-to-exceed fee as included in the following schedule:

Task 100 – Project Management & Stakeholder Coordination.....	\$2,160
Task 200 – Survey.....	\$2,000
Task 300 – Permitting.....	\$2,860
Task 400 – Design.....	\$9,480
Task 500 – Bidding and Advertising.....	\$2,385

**Project Total      \$18,885**

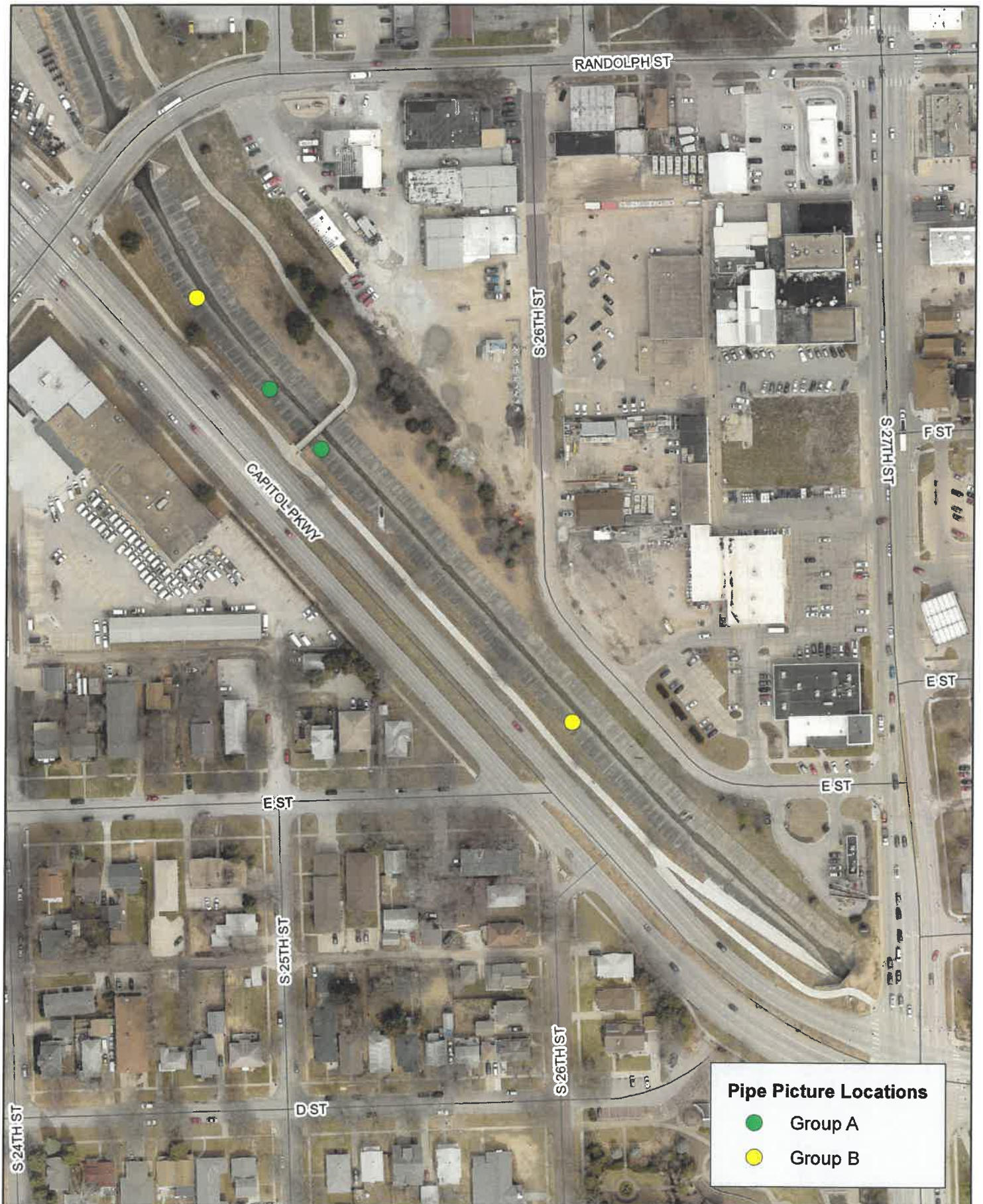
\*The Project Fee schedule is an estimate of the fee distribution between tasks. JEO reserves the right to invoice in excess of the individual task amount, provided the total fee does not exceed the project total.

**Project Schedule**

The proposed project is expected to take approximately seven (7) months upon receipt of Notice to Proceed. Project duration in excess of 7 months (beyond control of JEO) may require an amendment to the Scope of Services.



# Antelope Creek Digital Picture Location Review





## JEO CONSULTING GROUP INC ■ JEO ARCHITECTURE INC

**1. SCOPE OF SERVICES:** JEO Consulting Group, Inc. (JEO) shall perform the services described in Exhibit A. JEO shall invoice the owner for these services at the fee stated in Exhibit A.

**2. ADDITIONAL SERVICES:** JEO can perform work beyond the scope of services, as additional services, for a negotiated fee or at fee schedule rates.

**3. OWNER RESPONSIBILITIES:** The owner shall provide all criteria and full information as to the owner's requirements for the project; designate and identify in writing a person to act with authority on the owner's behalf in respect to all aspects of the project; examine and respond promptly to JEO's submissions; and give prompt written notice to JEO whenever the owner observes or otherwise becomes aware of any defect in work.

Unless otherwise agreed, the owner shall furnish JEO with right-of-access to the site in order to conduct the scope of services. Unless otherwise agreed, the owner shall also secure all necessary permits, approvals, licenses, consents, and property descriptions necessary to the performance of the services hereunder. While JEO shall take reasonable precautions to minimize damage to the property, it is understood by the owner that in the normal course of work some damage may occur, the restoration of which is not a part of this agreement.

**4. TIMES FOR RENDERING SERVICES:** JEO's services and compensation under this agreement have been agreed to in anticipation of the orderly and continuous progress of the project through completion. Unless specific periods of time or specific dates for providing services are specified in the scope of services, JEO's obligation to render services hereunder shall be for a period which may reasonably be required for the completion of said services.

If specific periods of time for rendering services are set forth or specific dates by which services are to be completed are provided, and if such periods of time or date are changed through no fault of JEO, the rates and amounts of compensation provided for herein shall be subject to equitable adjustment. If the owner has requested changes in the scope, extent, or character of the project, the time of performance of JEO's services shall be adjusted equitably.

**5. INVOICES:** JEO shall submit invoices to the owner monthly for services provided to date and a final bill upon completion of services. Invoices are due and payable within 30 days of receipt. Invoices are considered past due after 30 days. Owner agrees to pay a finance charge on past due invoices at the rate of 1.0% per month, or the maximum rate of interest permitted by law.

If the owner fails to make any payment due to JEO for services and expenses within 30 days after receipt of JEO's statement, JEO may, after giving 7 days' written notice to the owner, suspend services to the owner under this agreement until JEO has been paid in full all amounts due for services, expenses, and charges.

**6. STANDARD OF CARE:** The standard of care for all services performed or furnished by JEO under the agreement shall be the care and skill ordinarily used by members of JEO's profession practicing under similar circumstances at the same time and in the

same locality. JEO makes no warranties, express or implied, under this agreement or otherwise, in connection with JEO's services.

JEO shall be responsible for the technical accuracy of its services and documents resulting therefrom, and the owner shall not be responsible for discovering deficiencies therein. JEO shall correct such deficiencies without additional compensation except to the extent such action is directly attributable to deficiencies in owner furnished information.

**7. REUSE OF DOCUMENTS:** Reuse of any materials (including in part plans, specifications, drawings, reports, designs, computations, computer programs, data, estimates, surveys, other work items, etc.) by the owner on a future extension of this project, or any other project without JEO's written authorization shall be at the owner's risk and the owner agrees to indemnify and hold harmless JEO from all claims, damages, and expenses including attorney's fees arising out of such unauthorized use.

**8. ELECTRONIC FILES:** Copies of Documents that may be relied upon by the owner are limited to the printed copies (also known as hard copies) that are signed or sealed by JEO. Files in electronic media format of text, data, graphics, or of other types that are furnished by JEO to the owner are only for convenience of the owner. Any conclusion or information obtained or derived from such electronic files shall be at the user's sole risk.

a. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it shall perform acceptance tests or procedures within 30 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 30 day acceptance period shall be corrected by the party delivering the electronic files. JEO shall not be responsible to maintain documents stored in electronic media format after acceptance by the owner.

b. When transferring documents in electronic media format, JEO makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by JEO at the beginning of the project.

c. The owner may make and retain copies of documents for information and reference in connection with use on the project by the owner.

d. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

e. Any verification or adaptation of the documents by JEO for extensions of the project or for any other project shall entitle JEO to further compensation at rates to be agreed upon by the owner and JEO.

**9. SUBCONSULTANTS:** JEO may employ consultants as JEO deems necessary to assist in the performance of the services. JEO shall not be required to employ any consultant unacceptable to JEO.

**10. INDEMNIFICATION:** To the fullest extent permitted by law, JEO and the owner shall indemnify and hold each other harmless and their respective officers, directors, partners, employees, and consultants from and against any and all claims, losses, damages, and expenses (including but not limited to all fees and charges of

## JEO CONSULTING GROUP INC ■ JEO ARCHITECTURE INC

engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) to the extent such claims, losses, damages, or expenses are caused by the indemnifying parties' negligent acts, errors, or omissions. In the event claims, losses, damages, or expenses are caused by the joint or concurrent negligence of JEO and the owner, they shall be borne by each party in proportion to its negligence.

**11. INSURANCE:** JEO shall procure and maintain the following insurance during the performance of services under this agreement:

- a. Workers' Compensation: Statutory
- b. Employer's Liability
  - i. Each Accident: \$500,000
  - ii. Disease, Policy Limit: \$500,000
  - iii. Disease, Each Employee: \$500,000
- c. General Liability
  - i. Each Occurrence (Bodily Injury and Property Damage): \$1,000,000
  - ii. General Aggregate: \$2,000,000
- d. Auto Liability
  - i. Combined Single: \$1,000,000
- e. Excess or Umbrella Liability
  - i. Each Occurrence: \$1,000,000
  - ii. General Aggregate: \$1,000,000
- f. Professional Liability:
  - i. Each Occurrence: \$1,000,000
  - ii. General Aggregate: \$2,000,000
- g. All policies of property insurance shall contain provisions to the effect that JEO and JEO's consultants' interests are covered and that in the event of payment of any loss or damage the insurers shall have no rights of recovery against any of the insureds or additional insureds thereunder.
- h. The owner shall require the contractor to purchase and maintain general liability and other insurance as specified in the Contract Documents and to cause JEO and JEO's consultants to be listed as additional insured with respect to such liability and other insurance purchased and maintained by the contractor for the project.
- i. The owner shall reimburse JEO for any additional limits or coverages that the owner requires for the project.

**12. TERMINATION:** This agreement may be terminated by either party upon 7 days prior written notice. In the event of termination, JEO shall be compensated by owner for all services performed up to and including the termination date. The effective date of termination may be set up to thirty (30) days later than otherwise provided to allow JEO to demobilize personnel and equipment from the site, to complete tasks whose value would otherwise be lost, to prepare notes as to the status of completed and uncompleted tasks, and to assemble project materials in orderly files.

**13. GOVERNING LAW:** This agreement is to be governed by the law of the state in which the project is located.

**14. SUCCESSORS, ASSIGNS, AND BENEFICIARIES:** The owner and JEO each is hereby bound and the partners, successors, executors, administrators and legal representatives of the owner and JEO are hereby bound to the other party to this agreement and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, with respect to all covenants, agreements and obligations of this agreement.

a. Neither the owner nor JEO may assign, sublet, or transfer any rights under or interest (including, but without limitation, monies that are due or may become due) in this agreement without the written consent of the other, except to the extent that any assignment, subletting, or transfer is mandated or restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment shall release or discharge the assignor from any duty or responsibility under this agreement.

b. Unless expressly provided otherwise in this agreement: Nothing in this agreement shall be construed to create, impose, or give rise to any duty owed by the owner or JEO to any contractor, contractor's subcontractor, supplier, other individual or entity, or to any surety for or employee of any of them.

c. All duties and responsibilities undertaken pursuant to this agreement shall be for the sole and exclusive benefit of the owner and JEO and not for the benefit of any other party.

**15. PRECEDENCE:** These standards, terms, and conditions shall take precedence over any inconsistent or contradictory language contained in any proposal, contract, purchase order, requisition, notice to proceed, or like document regarding JEO's services.

**16. SEVERABILITY:** Any provision or part of the agreement held to be void or unenforceable shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon the owner and JEO, who agree that the agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

**17. NON-DISCRIMINATION CLAUSE:** Pursuant to Neb. Rev. Stat. § 73-102, the parties declare, promise, and warrant that they have and will continue to comply fully with Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C.A § 1985, et seq.) and the Nebraska Fair Employment Practice Act, Neb. Rev. Stat. § 48-1101, et seq., in that there shall be no discrimination against any employee who is employed in the performance of this agreement, or against any applicant for such employment, because of age, color, national origin, race, religion, creed, disability or sex.

**18. E-VERIFY:** JEO shall register with and use the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee pursuant to the Immigration Reform and Control Act of 1986, to determine the work eligibility status of new employees physically performing services within the state where the work shall be performed. Engineer shall require the same of each consultant.

Client#: 11183

JEOCO

ACORD™

## CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

5/01/2019

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

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

<b>PRODUCER</b> <b>INSPRO Insurance</b> <b>P.O. Box 336</b> <b>Wahoo, NE 68066</b> <b>402 443-3742</b>		<b>CONTACT NAME:</b> Dee Kabourek <b>PHONE (A/C, No, Ext):</b> 402 443 3742 <b>FAX (A/C, No):</b> 402 443 3571 <b>E-MAIL ADDRESS:</b> dkabourek@insproins.com	
		<b>INSURER(S) AFFORDING COVERAGE</b>	
		<b>INSURER A:</b> Travelers Insurance Company	
		<b>INSURER B:</b>	
		<b>INSURER C:</b>	
		<b>INSURER D:</b>	
		<b>INSURER E:</b>	
		<b>INSURER F:</b>	

**INSURED**  
**JEO Consulting Group, Inc.**  
**P.O. Box 207**  
**Wahoo, NE 68066**

## COVERAGES

## CERTIFICATE NUMBER:

## REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:		P630382R7536	09/01/2018	09/01/2019	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$100,000 MED EXP (Any one person) \$5,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 \$
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY		810432K8651	09/01/2018	09/01/2019	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB EXCESS LIAB DED <input checked="" type="checkbox"/> RETENTION \$10000	<input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE	CUP7J603455	09/01/2018	09/01/2019	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000 \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input checked="" type="checkbox"/> N / A	UB4J623381	09/01/2018	09/01/2019	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
A	Professional Liability		105368866	11/28/2018	11/28/2019	\$3,000,000 ea claim \$3,000,000 all claims \$100,000 deduct.

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

RE: Salt Creek Flood Reduction Levees Project

Lower Platte South Natural Resource Distirct is included as additional insured on a primary and non contributory basis, including completed operations for any and all projects. Waiver of Subrogation is included for General Liability and Workers Compensation Insurance.

## CERTIFICATE HOLDER

## CANCELLATION

Lower Platte South Natural  
 Resource District  
 PO Box 83581  
 Lincoln, NE 68501-3581

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

AUTHORIZED REPRESENTATIVE

*Michael J. Chantel*

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## Deadmans Run Flood Reduction Project

### Railroad bridges between 33<sup>rd</sup> & Cornhusker Highway

#### OL&B RR

- Single track (upstream)
- Multiple steel pilings with cross supports

#### BNSF RR (downstream)

- Double tracks
- Two Concrete piling supports





A photograph of a large concrete flume structure for water measurement. The flume is a long, narrow channel with high concrete walls. Water is flowing through it, creating a white, turbulent flow in the center. The structure is supported by large concrete piers. In the background, there are hills and some buildings under a clear blue sky. The foreground is a grassy slope.

**Big Papillion Creek Flume  
(just south of 83<sup>rd</sup> & I-80, Omaha)**



## Railroad Bridge Flume Physical Modeling Project

### Preliminary Estimate of Work

#### Introduction

Deadmans Run is one of several similar sized tributaries of Salt Creek located in Lincoln, NE. The channel has been straightened and lined to help convey high flows through the city. Additional work to the channel can be done to improve conveyance and functionality of the channel. Existing infrastructure will require additional consideration if the channel is to be improved. A railroad crossing located immediately upstream of the Highway 6 bridge is the immediate example. This crossing consists of two bridges: a main-line double-track bridge and a spur single-track bridge. These two bridges cannot be elevated and must be left structurally intact. As such, they present an impediment to channel improvements. The solution that is currently being explored is to develop a flume below the structures to help improve flow conveyance.

#### Objective

As part of a Section 205 Flood Risk Management project, the United States Army Corps of Engineers (USACE), Omaha District intends to design a flume to allow high flows to pass a pair of railroad bridges over Deadmans Run. The flume must convey the 100-year design flood without causing a backwater that is deleterious to the surrounding neighborhood. The objective of this study is then:

***To delineate the optimal characteristics of a flume designed to convey flow past an existing set of railroad bridges that span Deadmans Run.***

This physical model flume could potentially be completed at the Walter Scott Engineer Center at University of Nebraska-Lincoln (UNL) under the supervision of Dr. David M. Admiraal. UNL would develop a physical model of the flume, utilizing information provided by USACE (to include a 1D HEC-RAS model) and information collected on site to support the physical model. The physical model would then be used to explore the conveyance characteristics of flume alternatives and resulting velocity conditions upstream and downstream of the study area (to assess channel lining requirements).

#### Tasks

To meet the study objective, the part of the project assigned to UNL will entail the following tasks:

1. Survey - A survey of railroad bridge and railroad spur bridge will be conducted to include the low steel and location of piers. Additionally, the size of structural members, spacing and orientation of piers on the spur bridge should also be collected. USACE will try to obtain as-built drawings during their coordination with the railroad. Cross-sections for the proposed conditions of the upstream and downstream flood control channel will be





provided by USACE. Any survey data collected will be in the datum specified by USACE.

2. **1-D Model** – An unsteady state HEC-RAS model of the reach between 48<sup>th</sup> Street and the mouth of Deadmans Run (Salt Creek) will be provided by the Omaha District. The model will include existing and proposed cross-section geometry scenarios to be used in constructing the physical model.
3. **Gauging** – A USGS stream gage was placed on the 38<sup>th</sup> Street Bridge in 2014. It is possible that high water events may occur between now and before the conclusion of the physical model flume study. If possible, the high water events may be incorporated into the model analysis at the discretion of USACE.
4. **Physical Model** – A physical model of the channel will be designed and built. USACE will provide designs for all proposed geometries that will be incorporated into the hydraulic model. The model will be a 1:23 scale model and will have cross-sections based on the improved channel design provided by USACE (Section 205 study). The prototype extent of the model will be from 700 feet upstream of the railroad spur bridge to 850 feet downstream of the main railroad bridge. At a 1:23 scale the model discharge would be 4.7 cfs and dimensions would be close to 65 ft by 16 ft. The bank-full depth would be approximately 10.5 inches. The section of the model that is 150 feet upstream of the bridges to 150 feet downstream of the bridges (in prototype dimensions) will be reconfigurable to include different scenarios, with the following scenarios in mind:
  - a. Existing conditions for the main and spur railroad bridges. The bridges themselves will be modeled with careful attention to geometric detail collected during the survey task and provided by USACE.
  - b. Different flumes according to the following matrix:

	Entrance Condition	Width 1 (37 ft)	Width 2 (34 ft)	Width 3 (40 ft)
Spur Bridge Intact	Elliptical	SB-E-1	SB-E-2	SB-E-3
	Ramp	SB-R-1	SB-R-2	SB-R-3
Spur Bridge Removed	Elliptical	NB-E-1	NB-E-2	NB-E-3
	Ramp	NB-R-1	NB-R-2	NB-R-3

For each test case, the following information will be recorded for discharges that represent the 500-year, 100-year, 50-year, and 10-year return periods and for three outlet stages per discharge:

- Water surface profiles – these profiles will consist of piezometric head measurements at the model channel centerline at 46-ft intervals (model scale) and at 11.5-ft intervals 100ft upstream and 250ft downstream of the flume.
- Discharges – a calibrated Venturi or a v-notch weir will be used to measure the flow rate into the model for each test.





- Velocities – point velocities will be measured at regular intervals upstream and downstream of the model bridges to aid with channel lining assessment. Velocity profiles will be measured in more detail downstream of the flume to determine extent-of-influence of the flume. Due to instrument limitations, these measurements may be limited to flows that result in a model depth of more than about 0.25 ft.
  - Temperature (for water viscosity)
5. Rating Curve Analysis – A rating curve will be developed for each tested configuration based on data collected in the physical model. The rating curve will be for the cross section located immediately upstream of the spur bridge or the main bridge, depending on the scenario. Head loss characteristics of the flume alternatives will be measured and reported.

### Model Description

The region to be modeled with the physical model is shown in Figure 1 on the right. The region is approximately 1550 feet in length and 360 feet in width. The corresponding model will be about 65 feet long and 16 feet wide. The section of model in the vicinity of the bridge will be reconfigurable to handle different bridge, flume entrance, and flume width conditions.

### Scope and Responsibilities

This section defines the scope and responsibility of each of the participants.

#### UNL

The role of UNL in this project will be to:

1. Do a site visit, do a channel survey and railroad bridge survey (may need to coordinate with railroad), and provide relevant existing conditions of Deadmans Run.
2. Build a physical model to represent proposed flood control channel, existing conditions of the railroad bridge and spur bridge and alternatives for the proposed flume.
3. Determine total head loss through the existing and proposed alternative structures.
4. Determine the effect of Salt Creek backwater conditions on flume conveyance (develop rating curves for a range of flow rates and backwater conditions).



*Figure 1 Physical Model  
Region*



5. Channel velocities for sizing riprap.
6. A comparison of physical model results to those of the 1-D HEC-RAS Model. A description of differences and confidence in the two models.
7. A report of model results to USACE.

### **USACE**

USACE will contribute the following information to the modeling project:

1. Define parameters for optimizing flume design. These parameters will include:
  - Roughness – preferably a Manning's roughness
  - Geometry of the entrance and exit transitions
  - Flume lengths
  - Pier geometries for existing bridges
  - Flume slope
  - Boundary conditions
2. Define parameters of the new channel design. These parameters will include:
  - Roughness – preferably a Manning's roughness
  - Channel geometry: cross-sections at key locations and channel bed slope (if different from existing channel geometry). Cross sections should be at least to bank-full
  - Information about bridge crossings if they are changed in the new design
  - Any other proposed geometric changes to the channel
3. Define the flow conditions that need to be tested in the physical model and the 1-D model. Tested flows may include both design and historic flows. USACE will also provide Salt Creek backwater elevations. Historic high water mark conditions will also be provided.
4. Define the alternatives to be evaluated. This includes flume geometric considerations, consideration of spur bridge removal, and flows. Preliminary alternatives are assumed in this preproposal but can be adjusted. Future alternatives may also be considered, but could require additional resources if they are not added at the start of the proposal.
5. USACE Engineer Research and Development Center (ERDC) expertise will be provided for oversight.

### **Timeline**

A tentative timeline is provided in Table 1, below. The survey can be done in September.

Model design will require computer entry of survey data and printing of paper templates. Once the templates are printed, they can be attached to steel sheeting and cut into steel templates. Then the foundation of the model will be placed (including placement of templates and installation of piezometers), a sublayer of sand will be added, and concrete will be poured to fill



in between templates. Appropriately sized roughness elements (glued sand or other material) will be added as necessary to match prototype roughness conditions. The entire process is expected to take three to four months. The model construction process will continue throughout the testing period since after each scenario the flume section will have to be reconstructed.

Model testing can begin after the initial model is constructed. The model testing will take a significant amount of time. Each scenario is expected to take about a week – this time includes collection of piezometric head, flow, and velocity data for the multiple return periods and reconstruction of the model between scenarios. Rating curves will be developed as the model is being tested, with the last set of rating curves following the last model runs.

A final report and presentation will be given at the end of the project, detailing the results of the model tests.

*Table 1 UNL Preliminary Timeline*

Task		Description	2019				2020				
			S	O	N	D	J	F	M	A	M
			1	2	3	4	5	6	7	8	9
1	Survey	Survey existing conditions railroad bridges									
2,3,4,5	Model Design										
	Model Construction										
	Model Testing										
4	Rating Curves	Develop rating curves									
6,7	Report	Final report									
7	Presentation										

#### **Preliminary Budget Estimate for Physical Flume Model:**

##### **OMAHA DISTRICT: \$30,000**

##### **Travel - \$1000**

Trips to Lincoln

##### **Coordination w/ UNL and ERDC - \$15,000**

Gathering needed data for UNL and ERDC (bridge data, boundary conditions, hydrographs, flow parameters, etc).

##### **Design - \$14,000**

Developing alternatives for flume design

##### **UNL \$85,000**

##### **Labor**

Graduate student, faculty time, and lab technician fees.

##### **Materials & Other Direct Costs**



Printing costs for templates, steel templates, concrete blocks, platforms, soil, surface  
concrete, paint, detail materials, distribution pipe, instrumentation support, shop time, travel.

**Indirect (F&A)**

**ERDC \$25,000**

**Travel** - \$5000

Trips to Omaha/Lincoln

**Oversite and Review of work** - \$20,000

**TOTAL: \$140,000**

**Labor - \$39,715**

Graduate student: \$26,503 (9 months at 0.49FTE – salary, tuition remission, health)  
Faculty Time: \$10,712 (0.75 summer months)  
Lab Technician: \$2,500 (0.40 calendar months)

**Materials - \$15,800**

Printing Costs for Templates -\$1,800  
Steel Templates - \$2,925  
Concrete blocks - \$1,800  
Platforms: \$1,400  
Soil \$350  
Surface Concrete - \$1,400  
Paint - \$600  
Materials for flume/bridge models - \$1,900  
PVC Distribution pipes - \$1,600  
Instrumentation Support - \$1,200  
Weir box - \$825

**Other Direct Costs – \$1,200**

Shop Technician: \$1,200

**Travel - \$150**

5 Trips to Omaha at \$30 per trip

**Indirect (F&A) - \$27,764**

UNL's federally negotiated indirect rate is 55.5% MTDC for organized research.



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**FISCAL YEAR 2019-2020 Work Plan**  
**For the Interlocal Agreement on Stormwater Management**  
**May 2019**

**1) NPDES Administration:** The City of Lincoln (City) and the Lower Platte South Natural Resources District (NRD) will continue to explore enhancements to provide comprehensive, effective and consistent review, inspection, implementation and enforcement of National Pollutant Discharge Elimination System (NPDES) items, especially related to erosion and sediment control and Post Construction standards (i.e. water quality Best Management Practices). City is the lead agency.

- Cost share from the NRD is \$30,000

- Cost share from the City for current Erosion and Sediment Control staff is \$145,000

**2) Regional Storage Facilities:** The City and NRD will explore alternatives to study significant flood reduction projects where feasible with the cooperation of landowners and developers and to cooperate where practical and feasible with other entities to design and construct storage facilities. Once a funding mechanism is developed and facilities are built the NRD may operate and maintain the facilities in cooperation with City.

**3) Ordinance and Standards Updating:** The City and the NRD will examine the need to update the floodplain and stormwater standards and propose revisions as necessary. Such items may include updating the Lincoln Municipal Code, Drainage Criteria Manual, Lincoln Standard Plans, Lincoln Design Standards and Post Construction Standards.

- The cost share is \$5,000 each (City lead)

**4) Legislative Issues and Grant Writing:** The City and NRD will work with other agencies, communities, citizens and legislators to coordinate on state legislative and funding issues related to floodplain and stormwater.

**5) Floodplain and Stormwater Education:** The City and NRD will jointly work on public education and involvement programs to educate city staff, contractors, developers, engineers, and the public regarding floodplains and stormwater, especially related to erosion and sediment control and Post Construction standards. The City will continue to provide floodplain information at public events, to potential home buyers and on our websites. Floodplain information will also be provided at public meetings or open houses for projects involving the floodplain for both the City and NRD. Both the City and NRD will continue to provide erosion and sediment control and Post Construction standards information to developers, builders, engineers and contractors during builder training and safety workshops. Training to city staff will continue to be provided during inspections and training workshops. Information regarding erosion and sediment control, general stormwater items, stormwater quality and Post Construction standards will continue to be available to the general public on our websites.

- The cost share from the NRD is \$5,000

- The cost share from the City is \$15,000 (City lead)

**6) Water Quality Monitoring:** The City will continue water quality monitoring and other stormwater monitoring as required. It is planned for the City to do dry weather monitoring for 2019 and this is the second year of wet weather monitoring for the proposed 2018-23 NPDES cycle where wet weather monitoring is being planned for years 2 –5.

- The cost share is \$10,000 each (City lead)

**7) Master Plan Implementation:** The City and the NRD will contribute toward improvement projects for Master Planned basins. These improvement projects are anticipated to include such projects as stream bed and bank stability measures, stormwater storage facilities, wetlands, floodplain preservation, engineering, easements and land acquisition as generally identified in and consistent with the goals in basin plans (e.g. Watershed Master/Basin Plans/Conservation Plans) approved by the City and NRD. The City and NRD will continue to develop a plan and schedule for design, right-of-way and implementation of projects.

Master Plan Implementation projects are anticipated to include some or all the projects and project areas listed below and may include additional projects to be developed jointly by the City and NRD during the Work Plan period. City funds are from stormwater bond funds.

- Deadmans Run Flood Reduction Project is a COE lead with NRD as the principal partner. This project involves an approximate \$14.5M federal project with a 35% local match, and a local project for approximately \$10M. Projected expenditures for FY19-20 include the following with the City and NRD sharing equally:

- \$340,000 for the local cost share on the federal project (NRD lead)
- \$140,000 for the flume physical model and study with UNL (NRD lead)
- \$900,000 for preliminary engineering on 33<sup>rd</sup> Street bridge and engineering design on 48<sup>th</sup> Street bridge (City lead)
- \$63,000 for hydraulic calculations on the tributary and main stem and funding application (NRD lead)
- \$400,000 for future amendments for design on 33<sup>rd</sup> Street Bridge (City lead) and detention (NRD lead)
- \$500,000 for ROW appraisals and acquisitions (shared City/NRD responsibility)
- \$400,000 for engineering design on 38<sup>th</sup> Street bridge (NRD coordinating with UNL)
- total for Deadmans Run Flood Reduction project for this fiscal year is \$1,372,000 each.

- Salt Creek Stream Stability Project SSC #4 near Old Cheney. Construction start Fall 2019 (City lead), \$350,000 each

- Little Salt Creek grade stabilization project #2, 14<sup>th</sup> and Little Salt Creek (NRD lead), \$70,000 each

- Beal Slough stream stability at Gapp Park (NRD lead), \$230,000 each

- Others as identified before or during this interlocal, with cost shares and the lead agency decided on a case by case basis

**8) Other Projects:** The City and the NRD will contribute toward improvement projects that are not included in an approved Stormwater Master Plans. These projects could include water quality, water quantity and/or floodplain projects. City funds are from stormwater bond funds.

- N. 56<sup>th</sup> Street & Morton Drainage Way construction. Construction started 2018 (City lead), \$550,000 each for the local 25% cost share



- Antelope Creek trail undercrossing projects at 84<sup>th</sup> Street and at Old Cheney. Construction start 2019 (City lead), \$220,000 NRD, \$440,000 City
- Others as identified before or during this interlocal, with cost shares and lead agency decided on a case by case basis

**9) Watershed Master Planning:** The City and the NRD have finalized work on the drainage Master Plan studies for all creeks draining through Lincoln. The City and NRD will work on the Unified Watershed Master Plan for Lincoln.

- Cost share from the City and NRD is \$300,000 each (City lead)
- Salt Creek Floodplain Resiliency Study initiated February 2019 (City lead), \$80,000 each

**10) Floodplain/Floodprone Easements and Projects:** The City and the NRD will consider purchase of easements or fee title on floodplain/floodprone areas and other structural and nonstructural measures for flood control and preservation. The lead agency will be coordinated on a project by project basis.

- Any projects to be identified before or during this interlocal, with cost shares and the lead agency decided on a case by case basis

**11) Flood Warning System:** The NRD will cooperate with Lincoln and Lancaster County to operate and enhance the Salt Creek Flood Warning System.

- The cost share from the NRD is \$35,000 (lead agency)
- The cost share from the City is \$25,000

**12) Watershed Best Management Practice Rehabilitation:** The city and the NRD will continue to coordinate and provide services to rehabilitate public Best Management Practices. The City will provide funds to rehabilitate selected Best Management Practices and the NRD will provide funds and services to keep selected Best Management Practices maintained over the course of the fiscal year. Best Management Practices for rehabilitation and on-going maintenance will be mutually coordinated between the City and NRD.

- The cost share from the NRD is \$25,000
- The cost share from the City is \$25,000

**13) Stormwater BMP Demonstration Projects:** The City and the NRD will consider opportunities for demonstration projects of stormwater best management practices on a case-by-case basis with developers, non-profits, business or similar type entities and Rainscaping with individual owners.

- Rainscaping Sustainable Landscaping cost share, \$20,000 each (City lead)
- Any projects to be identified before or during this interlocal, with cost shares and the lead agency decided on a case by case basis

**14) Watershed Master Plan Project Inspection, Operation & Maintenance:** It is planned that the City and NRD will periodically inspect, operate, and maintain all completed Watershed Master Plan Projects and conservation easements.

- Cost share is \$5,000 each (typically City lead within City Limits and NRD lead outside City limits)



**15) City of Lincoln Wetland Bank Annual Maintenance by the NRD:** Maintenance activities will include mowing, noxious weed control, controlling woody vegetation, and maintaining stop logs for a fee of \$4,500 from the City.

**16) Cost Summary:** The total cost to the City and NRD according to this work plan in FY 2019-2020 is estimated to be \$6,952,500.

- The cost share from the NRD for 2019-20 is estimated to be \$3,306,500 and is subject to NRD Board approval of the proposed NRD FY 2019-20 Budget (NRD Fiscal year for FY2019-20 starts July 1, 2019)

- The cost share from the City for 2019-20 is estimated to be \$3,646,000 and is subject to the City approval of the general budget for FY2019-20. The City fiscal year for FY2019-20 starts September 1, 2019

**17) Summary Report:** The City in September 2020 will prepare an annual report of activities and accomplishments to be reviewed by the NRD.

IN WITNESS WHEREOF, the District and the City have caused these presents to be executed by their duly authorized officials as of the date below indicated.

Executed by the City this \_\_\_\_\_ Day of \_\_\_\_\_ 2019  
CITY OF LINCOLN, NEBRASKA

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
Mayor

STATE OF NEBRASKA                    )  
  ) ss.

COUNTY OF LANCASTER                )

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 2019, by \_\_\_\_\_, Mayor of the **City of Lincoln, Nebraska**, a municipal corporation, on behalf of the municipal corporation.

(Seal)

\_\_\_\_\_  
Notary Public

Executed by the NRD this \_\_\_\_\_ Day of \_\_\_\_\_ 2019  
LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT

\_\_\_\_\_  
Paul Zillig, General Manager

STATE OF NEBRASKA )

) ss.

COUNTY OF LANCASTER )

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_  
2019, by Paul Zillig, General Manager of the **Lower Platte South Natural Resources District.**

(Seal)

\_\_\_\_\_  
Notary Public