



## 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)

Agenda Item #10

### Memorandum

**Date:** May 15, 2020  
**To:** Each Director  
**From:** Paul D. Zillig, General Manager  
**RE:** Water Resources Subcommittee Meeting Minutes.

The Water Resources Subcommittee met via video/teleconference at 5:30 p.m. on Thursday, May 14, 2020. Subcommittee members participating included Bob Andersen, Greg Osborn, David Landis, Vern Barrett, and Dan Steinkruger. Others accessing the meeting included Larry Ruth, Gary Hellerich, Nathan Kuhlman, Katie Cameron, Dick Ehrman, Dan Schulz, Mike Murren, David Potter, Jared Nelson, and myself.

Chair Andersen opened the meeting and called on Dick Ehrman to report on the proposed test hole drilling agreement with UNL. Ehrman referred to the attached memo explaining the work to be done and the copy of the proposed agreement. Both Ehrman and Katie Cameron expressed support for the work. It was moved by Osborn, seconded by Landis, and unanimously approved by the Subcommittee to **recommend the Board of Directors approve the Cooperative Agreement with the University of Nebraska-Lincoln Conservation & Survey Division to provide test hole drilling and logging services for Fiscal Years 2021, 2022, and 2023, in an amount not to exceed \$45,000, pending legal counsel review.**

The second action item was to consider proposals to restore the top of dam on North Oak 1-A/Wildwood. Jared Nelson reported that we've been working with Nebraska Dept. of Natural Resources on a project to restore the top of dam to its original elevation. Nelson reviewed the attached memo, plans, and proposal received from Gana Trucking & Excavating Inc. It was moved by Landis, seconded by Barrett to **recommend the Board of Directors approve the proposal of \$36,700 from Gana Trucking & Excavating Inc. for the North Oak 1-A/Wildwood Top of Dam Restoration Project.**

There being no additional business the meeting adjourned at 5:50 pm.

PDZ/pz

cc: Steve Seglin & Corey Wasserburger



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### MEMO

**TO:** Water Resources Subcommittee  
**FROM:** Dick Ehrman, Water Resources Specialist  
**DATE:** May 14, 2020  
**RE:** Proposed 3-year cooperative agreement with UNL-CSD for geologic test-hole drilling services

LPSNRD is continuing to develop its data sources regarding the ground water resources of the District. A vital part of this effort is drilling of geologic test holes by the University of Nebraska-Lincoln's Conservation & Survey Division (CSD). CSD's test hole drilling program dates back to 1930, and at present about 6,000 such test holes have been drilled across Nebraska (about 250 of them in LPSNRD). These high-quality, detailed test hole logs have always been critical components in understanding Nebraska's geology and ground water resources, as they provide detailed geologic descriptions of the materials encountered as well as several forms of down-hole geophysical logs which provide a wealth of geologic and ground water data. These test holes have taken on additional importance with the recent push to obtain airborne electromagnetic (AEM) data across LPSNRD and Nebraska as they represent an additional quality check on that data.

The attached draft cooperative agreement with CSD proposes to drill nine test holes in LPSNRD (three each in FYs 2021, 2022, and 2023) with a maximum estimated footage of 3,000 to 5,000 feet. This estimate is based upon recent drilling activities in LPSNRD and the likely target areas for drilling. Although precise drilling locations have yet to be identified, CSD and LPSNRD personnel will cooperate to identify such locations based on parameters such as, but not limited to:

- Ground water management priority areas as identified by LPSNRD (e.g. DVB SMA, other GWRs, areas of proposed development, etc.)
- Unique or interesting geologic/ground water features as identified by AEM or other techniques
- Filling in "gaps" in the AEM data due to ground interference experienced during data collection
- Property access (i.e. willingness of landowner to cooperate)

Based upon current drilling costs, the agreement proposes a total cost not to exceed \$45,000 (about \$15,000 for each of the three FYs), which is well within what LPSNRD has budgeted for test hole drilling for the past several years. Also, LPSNRD is scheduled for a dues credit of \$9,150 for FY2021 for hydrogeologic assessment activities which could be used toward this program (but is not required to be used for this particular activity).

**SUGGESTED MOTION:** The Water Resources Committee recommends that the Board of Directors approve the Cooperative Agreement with the University of Nebraska-Lincoln Conservation & Survey Division to provide test hole drilling and logging services for Fiscal Years 2021, 2022, and 2023, in an amount not to exceed \$45,000, pending legal counsel review.

**COOPERATIVE AGREEMENT**  
between the  
**LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT**  
and  
**THE BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA ON BEHALF OF**  
**THE UNIVERSITY OF NEBRASKA-LINCOLN THROUGH ITS**  
**CONSERVATION AND SURVEY DIVISION,**  
**SCHOOL OF NATURAL RESOURCES**

**THIS AGREEMENT**, is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2020, by the Lower Platte South Natural Resources District (hereinafter referred to as the LPSNRD) and the Conservation and Survey Division, School of Natural Resources of the University of Nebraska-Lincoln (hereinafter referred to as the CSD).

The LPSNRD and the CSD, in accord with their ongoing program responsibilities, desire to participate in a CSD test-hole drilling program to (1) Provide test-hole drilling equipment, supplies and expertise for obtaining subsurface geologic and hydrogeologic information within the LPSNRD boundaries and (2) Provide bore-hole geophysical logging equipment, supplies and expertise for obtaining measurements of physical and electrical properties within test-holes.

**THEREFORE, IT IS MUTUALLY AGREED THAT:**

- (1) **COOPERATION:** The LPSNRD and the CSD desire to cooperate and collaborate to accomplish the study objectives mutually agreed upon.
- (2) **PERIOD:** This agreement shall begin upon approval by LPSNRD and will continue for a period through the fiscal year end three (3) years following signature (June 30, 2023).
- (3) **STATEMENT OF WORK:** Certain portions of the study require a significant level of technical expertise and interpretation from the CSD. These include elements as listed in the attached proposal, herein referred to as Attachment #1.
- (4) **LPSNRD CONTRIBUTIONS:** As hereinafter limited, the LPSNRD shall contribute such of its funds, facilities, equipment, materials and personnel as it deems suitable and appropriate to accomplish the objectives of the study. The LPSNRD shall provide funds to the CSD to support costs directly related to test-hole drilling and geophysical logging expenditures. The costs include CSD logging services for approximately 3 test-hole locations per year for the next three years totaling approximately 3,000 to 5,000 feet. Costs will depend on the depths drilled and conditions encountered but shall not exceed the amount of forty five thousand dollars (\$45,000). LPSNRD policies do not allow payment of indirect costs. A breakdown of estimated costs is included in Attachment #1.
- (5) **CSD CONTRIBUTION:** The CSD shall utilize funds provided by the LPSNRD and such of its own funds for facilities, equipment, materials and personnel as it deems suitable to conduct the investigation and analysis called for in this Agreement. Hydrogeological expertise will be contributed to the project for sampling, logging, and potential well designs (if applicable).

- (6) **PRINCIPAL INVESTIGATORS:** Kathleen Cameron, Eastern Nebraska Water Resources Assessment (ENWRA) Coordinator/CSD Hydrogeologist shall be the principal investigator for the project (30%), Matt Marxsen lead driller of CSD (30%), Michele Waszgis CSD Curator (20%), Jesse Korus CSD Assistant Professor (10%), and Dana Divine CSD Hydrogeologist (10%) will be co-principal investigators for the project.
- (7) **PUBLICATION:** Both parties shall have the right to announce and publish the results, facts, or conclusions of cooperative work under the terms of the Agreement, provided such announcement or publication shall expressly recognize the cooperation of the other party and provided such publication shall not indicate approval of the results, facts or conclusions by the other party. It is recognized that the CSD is obligated to maintain public access to data obtained in this study.
- (8) **LIABILITY:** Each party agrees that it will be responsible for its own acts and the results thereof and shall not be responsible for the acts of the other parties and the results thereof. Each party therefore agrees that it will assume all risk and liability to itself, its agents or employees, for any injury to persons or property resulting in any manner from the conduct of its own operations, and the operations of its agents or employees, under this Agreement, and for any loss, cost, damage, or expense resulting at any time from any and all causes due to any act or acts, negligence, or the failure to exercise proper precaution of or by itself or its own agents or its own employees while occupying or visiting the premises under and pursuant to this Agreement.
- (9) Attachment #1 is hereby incorporated in and made a part of this Agreement the same as if it had been specified herein verbatim.

LOWER PLATTE SOUTH  
NATURAL RESOURCES DISTRICT

By \_\_\_\_\_

Date \_\_\_\_\_

CONSERVATION & SURVEY DIVISION  
OF THE UNIVERSITY OF NEBRASKA

By \_\_\_\_\_

Date \_\_\_\_\_

THE BOARD OF REGENTS OF THE  
UNIVERSITY OF NEBRASKA, UNL

By \_\_\_\_\_

Date \_\_\_\_\_

## ATTACHMENT #1

### Test-hole Drilling, Sampling, and Logging Program for the Lower Platte South Natural Resources District

The Lower Platte South Natural Resources District (LPSNRD) has a complex assemblage of aquifers which supply most of the water used for drinking and irrigation. The LPSNRD has future plans to drill test-holes and record down-hole data to establish baseline information about groundwater quality, quantity, and aquifer composition.

Conservation and Survey Division (CSD) scientists will perform preliminary hydrogeologic analyses to determine the most appropriate drilling sites. These will be reviewed with the LPSNRD staff that will be responsible for obtaining landowner permission for site access for test-hole drilling.

CSD will drill the test-holes. The LPSNRD will provide staff on-site during drilling to interact with the public and assist the geologists as needed. At the time of drilling, samples will be collected by CSD geologists to adequately represent the types of material encountered during the drilling operation. These samples will be described both in the field and in the laboratory to determine the lithologic composition and stratigraphic nomenclature of the test-hole. Once the interpretation phase is complete, the samples will be placed in CSD's test-hole repository future use and the information obtained will be entered into the statewide test-hole database maintained by the CSD. Some locations may be wire-line cored in lieu of rotary drilling depending on schedule, budget and depth of drilling.

At the completion of drilling operation for each rotary test-hole, a geophysical log suite will be obtained using CSD's equipment and personnel. Measurements will include natural gamma, single-point resistance, spontaneous potential, 16- and 64-inch normal resistivity, lateral resistivity, fluid resistivity and fluid temperature. The geophysical log suite will aid in the interpretation of lithology and, in some instances, provide information on hydraulic properties of various units encountered within the test-hole.

#### Budget

Year	Budget Category	Estimated Quantity	Cost
3 years (FY21, FY22, FY23)	Equipment (Test-hole Drilling and Geophysical Logging)	9 test-holes (~3,000 to 5,000 feet)	\$30,000.00
	Labor (Drill Crew)		\$13,000.00
	Expenses (Crew Travel and Drill Supplies)		\$2,000.00
	Total (depending on the specific holes drilled annual costs could range between \$10,000 to \$21,000 per fiscal: \$15,000/year for budgeting)		\$45,000.00

**Note:** CSD equipment, crew labor and personnel travel costs will be invoiced according to the actual quantities accomplished at current CSD rates (estimated around \$10/foot). **Invoice amounts will not exceed \$45,000.** LPSNRD is scheduled for a **\$9,150.00 dues credit** from ENWRA in fiscal year (FY) 2021 for hydrogeologic assessment activities.



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### Memorandum

**Date:** May 13, 2020  
**To:** Water Resources Subcommittee  
**From:** Jared Nelson, District Engineer  
**Subject:** North Oak 1-A (Wildwood) Top of Dam Restoration – Construction Proposal

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North Oak 1-A (Wildwood) is a high hazard dam the NRD owns which has settled since originally built in 1977. It is located three miles south of Valparaiso and one mile west of HWY 79. The Nebraska Department of Natural Resources (DNR), in their annual inspection of the dam, found the dam to be in 'poor' condition because the dam is hydraulically inadequate. They recommended improving the structural condition of the dam to reduce overtopping potential at the low point of the dam.

The District Engineer (myself) had the top of dam surveyed and then developed plans to restore the top of dam elevation to a uniform grade, and estimated the construction cost of these repairs to be approximately \$34,500. The DNR reviewed the plans and concurred the work would satisfy the hydraulic inadequacy and remove the 'poor' rating. Attached you will find the cover plan sheet.

For construction of this work, we followed Operating Policy G-5: Competitive Bidding, informal competitive bids. I sent the plans and requested proposals from the following contractors: M.E. Collins, Gana Trucking & Excavating, Goes Construction, and Pankoke Construction. See attached for the proposal received from Gana Trucking & Excavating with a low bid of \$36,700. Staff recommends approval of Gana's proposal of \$36,700.

Construction is slated to begin upon Board approval in late May and to be finished in June, 2020.

JN/jn

Enclosures (2)



# NORTH OAK 1A TOP OF DAM RESTORATION LANCASTER COUNTY, NE 2020

SUMMARY OF QUANTITIES		
ITEM	UNIT	QUANTITIES
MOBILIZATION & DEMOBILIZATION	LS	1
COMPACTED EARTHFILL	CY	1,170
SALVAGING AND SPREADING TOPSOIL (6")	SY	5,130
REMOVE AND RESET RAILROAD-TIE STAIRS	LS	1
SEEDING AND MULCHING	AC	0.98

HORIZONTAL & VERTICAL CONTROL - NAD83 STATEPLANE NEBRASKA US FEET NAVD 1988 ELEVATIONS				
POINT NAME	NORTHING	EASTING	ELEV	DESCRIPTION
BM1	453171.061	7512295.698	1317.037	TOP OF CONCRETE RISER (SOUTHWEST CORNER)
CP1	452832.158	7512139.312	1303.709	5/8" REBAR 1' NW OF NW WOOD PARKIN LOT POST
CP2	452682.775	7511422.343	1321.35	5/8" REBAR W END DAM IN EMERGENCY SPILLWAY



RESTORATION OF TOP OF DAM ELEVATION  
(SEE SHEET 2 FOR PLAN)  
(SEE SHEET 3 FOR PROFILE)  
(SEE SHEET 4-5 FOR CROSS-SECTIONS)

## GENERAL NOTES:

1. THE INTENT OF THIS PROJECT IS TO RESTORE THE TOP OF DAM ELEVATION, WHICH HAS SETTLED SINCE BUILT IN 1977.
2. THE LOCATIONS OF ALL OVERHEAD AND UNDERGROUND UTILITIES MAY NOT BE INDICATED IN THESE PLANS. UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT, SHALL BE LOCATED AND FLAGGED BY THE CONTRACTOR AND UTILITY COMPANIES 48 HOURS BEFORE WORK IS STARTED. VERIFY UTILITY LOCATIONS BY CONTACTING THE NEBRASKA DIGGERS HOTLINE (ONLINE AT [WWW.MEICAL.COM](http://WWW.MEICAL.COM) AND/OR CALL 800-333-9666 OR 833). THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY AND COORDINATE ALL NECESSARY UTILITY SERVICE INTERRUPTIONS WITH THE OWNERS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES, PAVEMENT, STRUCTURES, FENCES, POLES, SIGNS, TREES, IRRIGATION LINES, AND OTHER IMPROVEMENTS NOT DESIGNATED FOR REMOVAL. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
3. ELEVATIONS AND CONTOURS SHOWN AND CALLED OUT ON THE PLANS ARE REFERENCED TO NAVD 88 VERTICAL DATUM.
4. THE CONTRACTOR SHALL CONDUCT ALL OPERATIONS AND MAINTAIN CONSTRUCTION WORK AREA IN A SAFE MANNER IN ACCORDANCE WITH OSHA COMPLIANCE.
5. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAINAGE PATTERNS AND SHALL NOT ALLOW THE PONDING OF WATER WITHIN THE SITE AT ANY TIME.
6. THE CONTRACTOR SHALL LIMIT CONSTRUCTION OPERATIONS WITHIN THE LIMITS OF CONSTRUCTION, APPROVED ACCESS ROUTES, AND BORROW AREA LOCATIONS SHOWN ON PLANS. STAGING PLAN AND ACCESS ROUTES SHALL BE SUBMITTED BY CONTRACTOR AND APPROVED BY ENGINEER PRIOR TO START OF CONSTRUCTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL GRADIS, ELEVATIONS, DIMENSIONS, LOCATIONS AND OTHER FIELD MEASUREMENTS. ANY ERRORS DUE TO CONTRACTORS FAILURE TO VERIFY THESE SHALL BE PROMPTLY RECTIFIED BY THE CONTRACTOR WITHOUT ANY ADDITIONAL COSTS TO THE RSD OR EXTENSIONS OF CONTRACT TIME.
8. CONSTRUCTION STAKING TO BE DONE BY OTHERS AND WILL CONSIST OF LATHE AT 330 FT INTERVALS ALONG SECTION A-A ALIGNMENT CENTERLINE AND AT LIMITS OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL STAKING. ADDITIONAL STAKING DATA (NORTHINGS/EASTINGS) AT EACH CROSS-SECTION SHOWN ON SHEETS 4 THROUGH 5 WILL BE MADE AVAILABLE TO THE CONTRACTOR.
9. TOP OF DAM ELEVATION SHALL BE FINISHED TO A UNIFORM GRADE TO WITHIN +/- 0.1 FT OF PROPOSED FINISHED GRADE. UPON COMPLETION, AN AS-BUILT SURVEY WILL BE COMPLETED BY OTHERS TO ENSURE THIS IS REACHED.

LOWE PLATE SOUTH  
3125 Pulte Blvd  
Lincoln, NE 68502  
402-471-2128

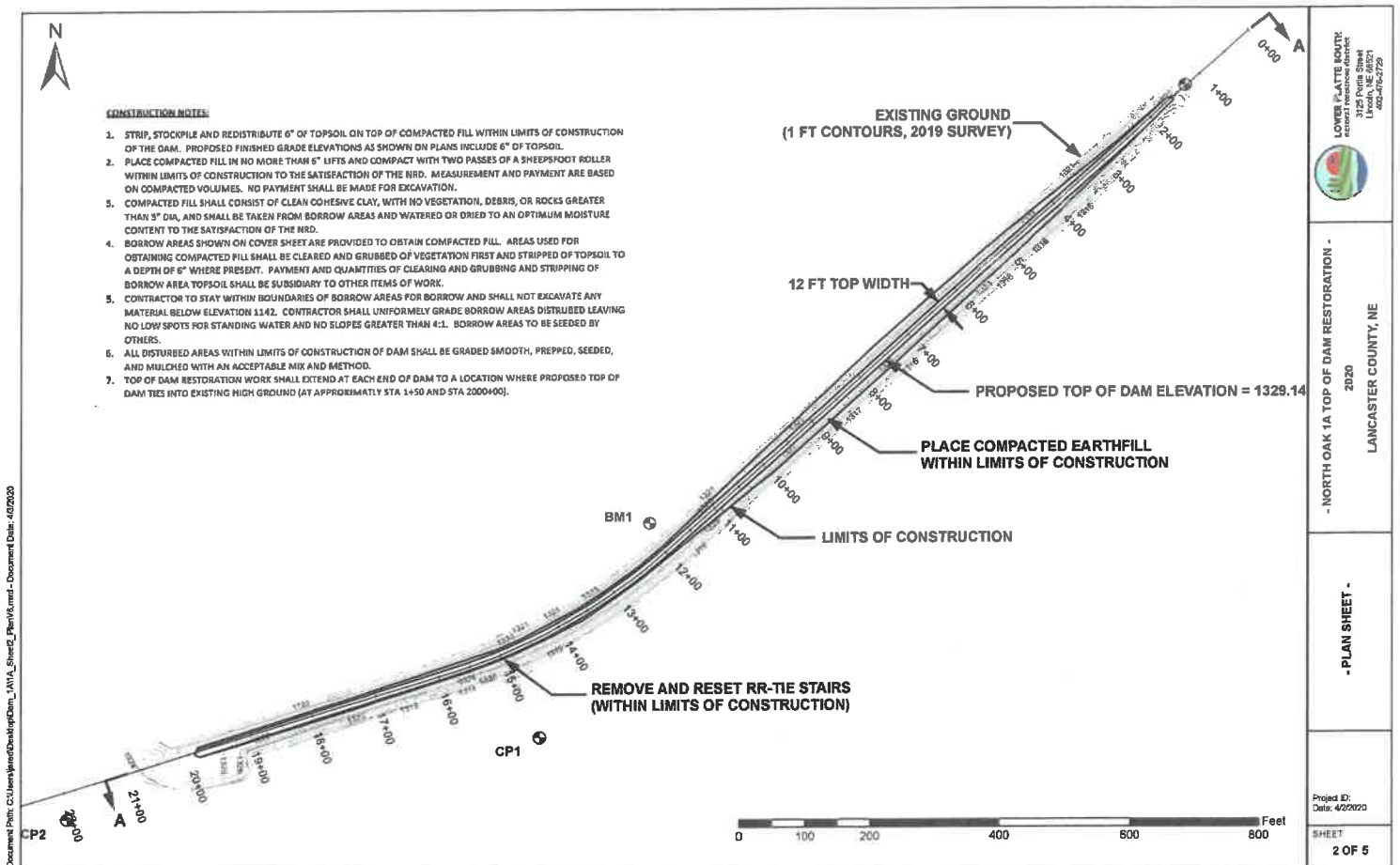


- NORTH OAK 1A TOP OF DAM RESTORATION -  
2020  
LANCASTER COUNTY, NE

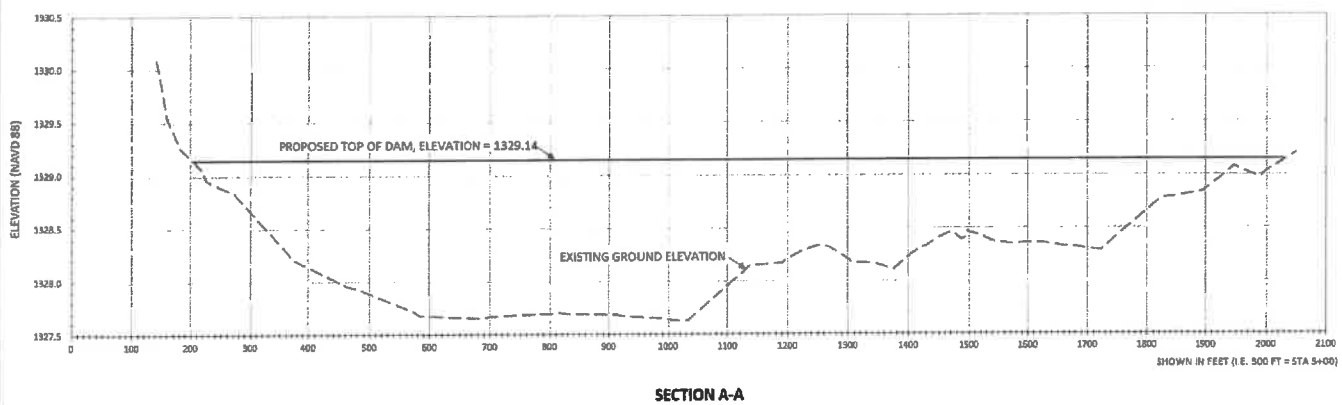
- COVER SHEET -

Project ID:  
Date: 4/27/2020

SHEET  
1 OF 5







**PROFILE NOTES:**

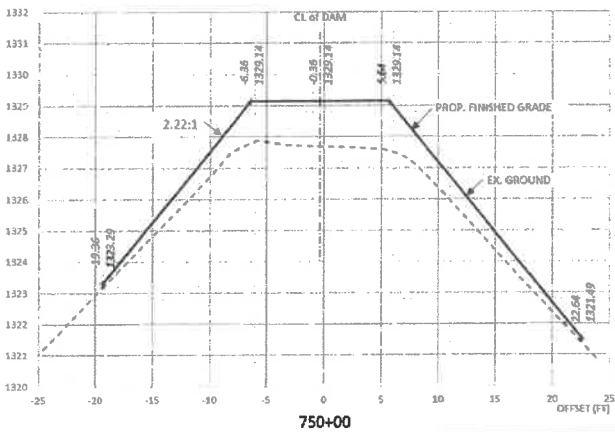
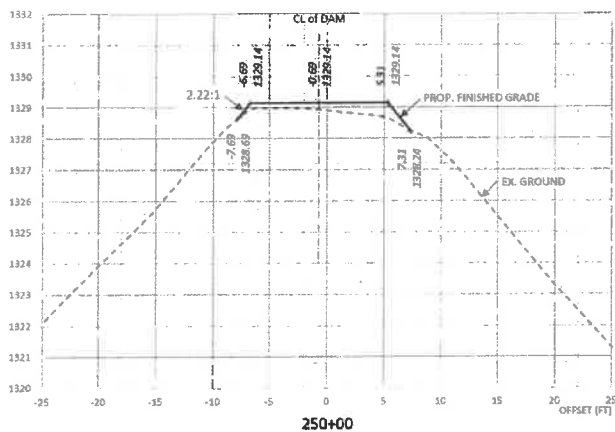
1. SECTION A-A PROFILE ALIGNMENT TAKEN ALONG TOP OF DAM.
2. PROPOSED TOP OF DAM CENTERLINE VARIES SLIGHTLY FROM THIS ALIGNMENT.  
SEE CROSS-SECTIONS FOR OFFSET DISTANCES.



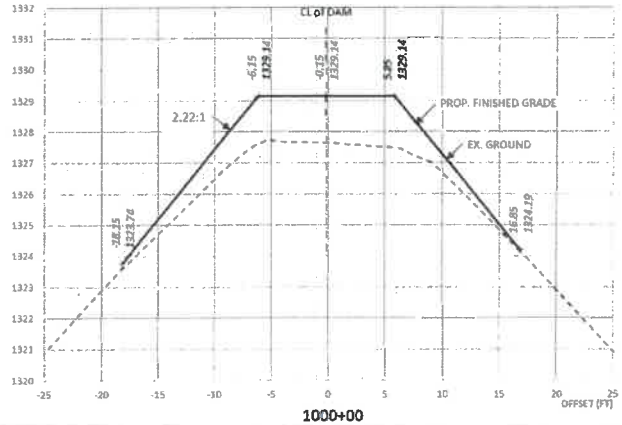
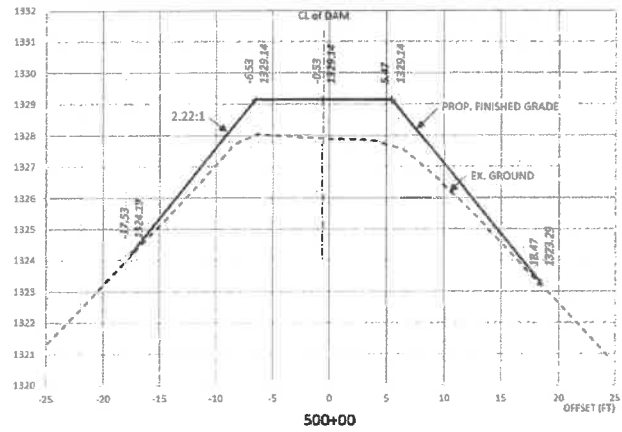
**LOWER PLATTE ROSTER**  
Incorporated members: 4/1/1911

2020  
LANCASTER COUNTY, NE  
PAK 1A TOP OF DAM RESTORATION -

**- PROFILE SHEET -**



**CROSS-SECTION NOTE:**  
1. CROSS-SECTIONS CUT LOOKING IN SW DIRECTION WITH UPSTREAM/LAKE TO THE RIGHT.  
2. OFFSETS, SHOWN IN FEET, ARE MEASURED FROM SECTION A-A ALIGNMENT CENTERLINE.



LOWES PLATTS SOUTH  
3125 South Street  
Lancaster, NE 68601  
602-476-2729

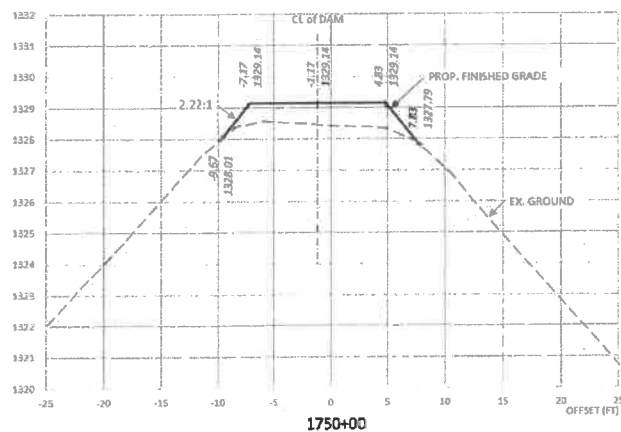
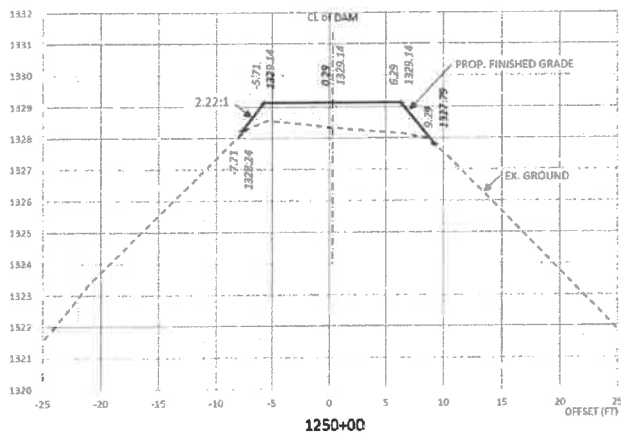


- NORTH OAK 1A TOP OF DAM RESTORATION -  
2020  
LANCASTER COUNTY, NE

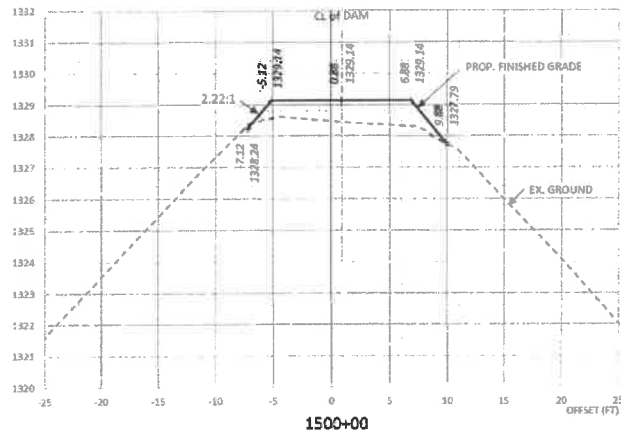
- CROSS SECTIONS -

Project ID:  
Date: 4/2/2020

SHEET  
4 OF 5



**CROSS-SECTION NOTES:**  
1. CROSS-SECTIONS CUT LOOKING IN SW DIRECTION WITH UPSTREAM/LAKE TO THE RIGHT.  
2. OFFSETS, SHOWN IN FEET, ARE MEASURED FROM SECTION A-A ALIGNMENT CENTERLINE.



LOWER PLATE SOUTH  
natural resources district  
3125 Poplar Street  
Lincoln, NE 68503  
402.476.9273



- NORTH OAK 1A TOP OF DAM RESTORATION -  
2020  
LANCASTER COUNTY, NE

- CROSS SECTIONS -

Project ID:  
Date: 4/2/2020

SHEET  
5 OF 5

# PROPOSAL

Lower Platte South Natural Resources District  
3125 Portia Street, P.O. Box 83581  
Lincoln, Nebraska 68501-3581  
(402) 476-2729  
Fax: (402) 476-6454

Email: adamr@ganatrucking.com

## PROPOSAL SUBMITTED BY:

Phone: 402-794-4314

Date: 5/12/2020

Company: Gana Trucking & Excavating Inc.

Job Name: North Oak 1A Top of Dam Restoration

Street: 2200 W Panama Road

Street/Location: NW 84<sup>th</sup> & W. Little Salt Road

City: Martell

City/County: Agnew, Lancaster County

State: NE

State: Nebraska

Zip: 68404

Architect/Engineer License (circle one) ☒ Yes ☐ No

Date of Plans: 4/2/2020

We hereby submit specifications and estimates for:

North Oak 1A Top of Dam Restoration

We hereby propose to furnish labor and materials – complete in accordance with the above specifications, for the sum of:

dollars (\$36,700)

with payment to be made as follows:

At Completion of the project.

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. All alteration or deviation from above specifications involving extra costs, will be executed only upon written orders and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond submitter's control. Submitter to carry all necessary insurance s required by law. All workers must be covered by Workers Compensation Insurance.

THIS CONTRACT IS NOT SUBJECT TO CANCELLATION

Authorized Signature:

Adam Root

Digitally signed by Adam Root  
DN: C=US,  
E=adamr@ganatrucking.com, O=Gana  
Trucking & Excavating Inc., CN=Adam  
Root  
Date: 2020.05.12 07:05:28-0500

Title: Estimator/Project Manager

NOTE: This proposal may be withdrawn by the submitter if not accepted within 30 days.

## TIME OF COMPLETION

The work to be performed under this Agreement shall be commenced within 1 calendar days after receipt of written notice to proceed and shall be completed in 20 days. For each calendar day beyond the applicable completion date or construction period that the authorized work remains uncompleted, a liquidated damage cost of **one-hundred dollars (\$100.00)** per calendar day will be charged the Contractor by the Owner as compensation of damages and expenses incurred. To the extent applicable, any charge for liquidation damages will be deducted from the final payment.

## Acceptance of Proposal

The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Accepted:

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

Contractor's Signature: \_\_\_\_\_

LPSNRD Signature: \_\_\_\_\_