MEMORANDUM

TO: Programs, Projects, and Operations Subcommittee
FROM: Lori Ann Laster, Stormwater Management Engineer
SUBJECT: Final Design Contract with HDR for DS-12 Project
DATE: March 3, 2025

In May 2017, the Board selected HDR Engineering, Inc. (HDR) for the preliminary design of West Papillion Regional Basin Number 4 (WP4), Dam Site 19 (DS-19), and Dam Site 12 (DS-12) Projects. Preliminary design was completed in 2018. District staff has worked with HDR to prepare a scope to complete the final design, bidding services, and complete a Water Sustainability Fund application for DS-12.

A summary of the proposed tasks included in the contract is as follows:

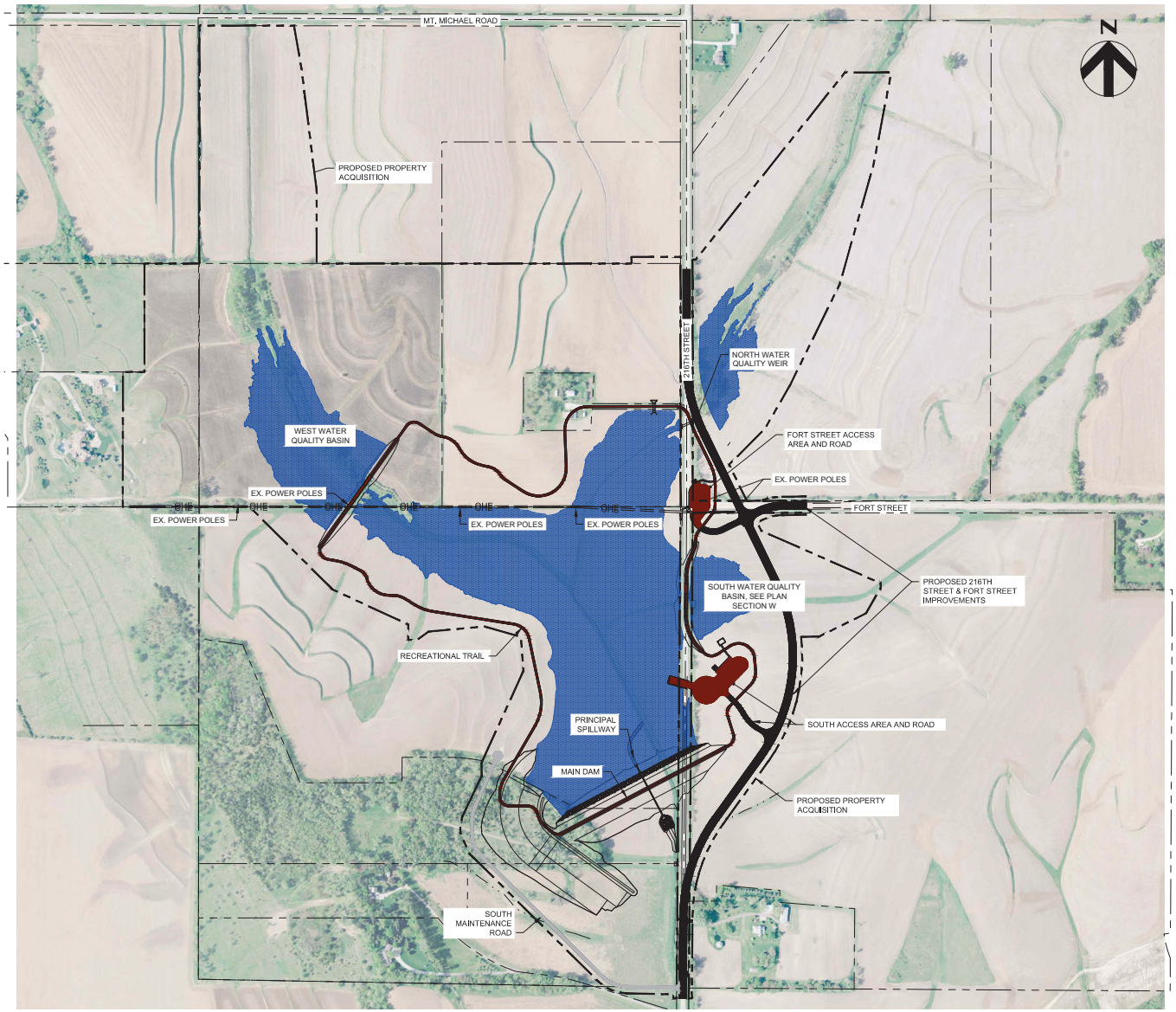
- Project management through final completion of the project.
- Environmental permitting.
- Geotechnical investigation and design.
- Final site design.
- Preparation of bidding and construction contract documents.
- Construction observation.
- Development of a maintenance and operation plan and an emergency action plan.
- Preparation of a Water Sustainability Fund application.

The proposed scope of work, cost estimate and schedule are attached. HDR will provide the professional services on an hourly basis not to exceed the amount of $844,999. Since the preliminary design contract for DS-12 contains work for other reservoirs, District staff is recommending a new contract be executed for this work in order to keep accurate cost records for each project. A new contract requires the Board to waive District Policy 15.2 Purchasing Professional Services.

Management recommends that the Subcommittee recommend to the Board that District Policy 15.2 Purchasing-Professional Services be waived and the General Manager be authorized to execute a contract with HDR Engineering, Inc. for Professional Engineering Services for the Final Design of the Dam Site 12 Project in an amount not to exceed $844,999 (eight hundred forty four thousand nine hundred ninety nine), subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.

KEY DAM SITE 12 HYDRAULIC DATA

1. DRAINAGE AREA 2.6 SM
2. NORMAL POOL EL. 1206.0 (41 ACRES)
3. AUXILLIARY SPILLWAY CREST EL. 1217.0
4. TOP OF DAM EL. 1222.0
5. 100-YEAR POOL EL. 1213.6
6. 500-YEAR POOL EL. 1216.3



PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT

PRELIMINARY DESIGN OF DAM SITE 12

This is **EXHIBIT A**, consisting of 14 pages and **Attachment 1** (9 pages), referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated _____ 2025.

Engineer's Services

PART 1 – BASIC SERVICES

A1.03 Final Design

Papio-Missouri River Natural Resources District
Final Design Services for DS-12
Papillion Creek Watershed, DouglasCounty, NE

ENGINEERING PROPOSAL

BACKGROUND AND BASIS OF PROPOSAL

HDR Engineering, Inc. and JEO Consulting Group, Inc (Team) was selected by the P-MRNRD to provide engineering services for Dam Site 12, 19 and regional detention basin WP-4 in 2017. Phase 1 generally consisted of preliminary design of each site and was completed in May of 2018. The Papio-Missouri River Natural Resources District (P-MRNRD) is prepared to move forward with the final design and construction phases for the DS-12 project. DS-12 is a proposed dam site located on West Papillion Creek near 216th and Fort Streets with a drainage area of 2.6 square miles.

The project includes the design and construction of a Main Dam, two water quality basins, recreational features with a trail, two public access areas, including a boat ramp, in-lake fisheries and the realignment of 216th Street.

This Scope of Services is to document professional services to the P-MRNRD for a final design of DS-12 (Project). The scope is for Phase II – Final Design with Phase III – Construction Management Services to follow as a separate amendment.

The Phase II scope of work is segmented into 12 task series:

- Task Series 100 – Project Management
- Task Series 200 – Permitting
- Task Series 300 – Geotechnical Investigation and Design
- Task Series 400 – Main Dam and Water Quality Basin Design
- Task Series 500 – General and Site Civil Design
- Task Series 600 – 216th Street & Fort Street Roadway Design
- Task Series 700 – Water Sustainability Fund Application
- Task Series 800 – Project Drawings
- Task Series 900 – Specifications and Project Documents
- Task Series 1000 – Contract Document Submittals
- Task Series 1100 – Bidding Services
- Task Series 1200 – Survey and ROW

The Team proposes to provide the following professional services over an anticipated 13 – month project period from the time of contract authorization. The Water Sustainability Fund application period is one month, design phase is estimated at 11 months, and bidding phase at one month.

TASK SERIES 100 –PROJECT MANAGEMENT

Task Objective: Develop effective project communication; confirm that Project elements are being completed. Discover and disseminate project information to improve quality and efficiency.

HDR Activities:

Task 110 General Project Management. Conduct general project management tasks. Includes development of project initiation forms including the development of a project management plan, monthly invoicing, monthly progress report, project close out activities and other project administrative activities.

Task 120 Coordination Meetings.

120.1 Field Visit – Verify Site Conditions. Project staff to complete one (1) site visit to confirm site conditions prior to beginning design as well as to gain additional familiarity with the proposed site.

120.2 Project Kickoff and Progress Meetings (2). Coordination kickoff and progress meetings will be conducted with P-MRNRD, City of Omaha, and Douglas County officials during the Project. At the kickoff meeting, project details and project scope will be reviewed.

120.3 P-MRNRD Board Meeting. Conduct a presentation to the P-MRNRD Board/Subcommittee to provide the results of the final design efforts. A PowerPoint presentation will be prepared.

Task 130 Quality Control Review.

130.1 Geotechnical. Conduct independent review of the geotechnical design elements using appropriate Engineering senior staff.

130.2 Hydrology and Hydraulics. Conduct independent review of the H&H design elements using appropriate Engineering senior staff.

130.3 Roadway. Conduct independent review of the roadway design elements using appropriate Engineering senior staff.

130.4 Civil. Conduct independent review of the civil site design elements using appropriate Engineering senior staff.

130.5 Structural. Conduct independent review of the structural design elements using appropriate Engineering senior staff.

Task Deliverables:

- Monthly invoices and progress reports
- Meeting agenda and minutes
- PowerPoint presentation for P-MRNRD Board/Subcommittee Presentation
- Quality Control Review documentation

Key Understandings:

- Project duration for design and bidding is assumed to be 13 months. Water Sustainability Fund application period is March 2025. Design period from April 2025 through February 2026 and bidding period is estimated to be March 2026.
- One (1) P-MRNRD Board/Subcommittee meeting presentation is assumed.

TASK SERIES 200 – PERMITTING

Task Objectives: To coordinate with permitting agencies and prepare and submit appropriate permits necessary for project construction.

HDR Activities:

Task 210 NDNR - 'Application for Approval of Plans for Dams' and 'Permit to Impound Water'. Prepare documentation to complete a NDNR Application for a "Permit to Impound Water" and "Application for Approval of Plans for Dams" for the dam. The water quality basins are exempt from dam design regulations.

210.1 Coordination with NDNR. One phone meeting with NDNR relevant to the dam design.

210.2 Plan Approval Application and Comment Response. Preparation of approval of dam plan permit application, including:

- Permit Drawings
- Technical Specifications
- Geotechnical Investigation and Evaluation Report
- Basis of Design Report
- Completed permit application.

210.3 Impound Water Permit. Preparation and submittal of permit to store water.

210.4 Draft Emergency Action Plan. Develop a draft emergency action plan based on the current NDNR template. Comments from NDNR will be solicited and a draft emergency action plan submitted.

Task 220 Douglas County and City of Omaha Roadway and Right to Occupy ROW. Coordination with Douglas County and Omaha Public Works Departments on the design of the realigned 216th Street. Prepare Douglas County Public Works Department permit to occupy or use county road right-of-way.

Task 230 NPDES Construction Activity Permits. This task is to complete the NPDES construction activity permit and Papillion Creek Watershed Partnership grading permit.

230.1 SWPPP Narrative Preparation. Coordinate with the City of Omaha on the preparation of Papillion Creek Watershed Partnership (Partnership) Grading permit.

230.2 NDEE and Permix Applications. Prepare narrative plan, application, and NDEE NPDES Notice of Intent (NOI) to comply with NPDES stormwater associated with construction activity. Upload appropriate documentation to Permix Portal and NDEE on-line website. Erosion and sediment control drawings for various design elements are included in the respective design tasks.

Task Deliverables:

- NDNR Permit Applications
- Draft Emergency Action Plan
- Douglas County ROW Permit
- SWPPP Documentation for Partnership Permit and NDEE
- Permit and Approval Tracking Matrix

Key Understandings:

- P-MRNRD is responsible for payment of all permit fees.

TASK SERIES 300 – GEOTECHNICAL INVESTIGATION AND DESIGN

Task Objectives: Supplement the Preliminary Design geotechnical investigation to evaluate the subsurface conditions at the Main Dam, the water quality basins, recreation access areas, and 216th Street.

HDR Activities: **Task 310 Field Investigation Coordination and Data Collection.**
Thiele Geotech will be performing field exploration and lab testing. HDR activities include:

- Coordinate field investigation.
- Site visits to observe drilling at selected boring locations.
- Review field boring logs.
- Revise preliminary geologic profile for Main Dam and principal spillway.
- Develop geologic profile for West and South Water Quality Basins.
- Assign laboratory testing.

Task 320 Geotechnical Design and Analysis. Supplement the Preliminary Design geotechnical design and analysis to finalize main dam design, evaluate the subsurface conditions along the water quality basins, 216th Street embankment, and recreation access areas.

320.1 Final Main Dam Geotechnical Engineering Design and Analysis. Final geotechnical engineering design and analysis will be performed for the Main Dam. The design and analyses include:

- Review of slope stability analysis.
- Perform slope stability analysis of auxiliary spillway side slope (1 section).
- Review of seepage analysis.
- Perform embankment settlement analysis.
- Define camber diagram for principal spillway.
- Evaluate embankment overbuild.
- Analysis of principal spillway joint extensibility requirements.
- Set finger drain elevations for settlement.
- Provide geotechnical recommendations for principal spillway inlet and outlet structures.
- Develop temporary and permanent instrumentation program.
- Evaluate subgrade preparation.
- Review of internal drainage system including refining size, and location of chimney drain, horizontal blanket drain and drain outlets.
- Develop gradation of filter and drain materials.

320.2 West Water Quality Basin Geotechnical Engineering Design and Analysis. Final geotechnical engineering design and analysis will be performed for the West Water Quality Basin which becomes the embankment for the perimeter trail section. The following design and analyses are planned:

- Perform slope stability analysis (1 section).
- Perform embankment settlement analysis (1 section).
- Provide geotechnical design and construction recommendations for reinforced concrete pipe culvert.
- Evaluate embankment overbuild.
- Develop temporary instrumentation program.
- Evaluate subgrade preparation.

320.3 South Water Quality Basin Geotechnical Engineering Design and Analysis. Geotechnical engineering analysis will be performed for the South Water Quality Basin which becomes the embankment for the perimeter trail section. The following analyses are planned:

- Perform slope stability analysis (1 section)
- Perform embankment settlement analysis (1 section).
- Provide geotechnical design and construction recommendations for the reinforced concrete pipe culvert.
- Evaluate embankment overbuild.
- Develop temporary instrumentation program.
- Evaluate subgrade preparation.

320.4 216th Street Geotechnical Engineering Design and Analysis. Final geotechnical engineering design and analysis will be performed for the 216th & Fort Street roadway realignments. The following design and analyses are planned:

- Perform slope stability analysis (4 sections).
- Perform embankment settlement analysis (2 sections).
- Evaluate subgrade preparation.
- Provide pavement section recommendations.

Task 330 Geotechnical Design Review and Discipline Coordination. Review drawings for geotechnical elements. Provide information required by staff of other design disciplines for the completion of their design work.

Task 340 Geotechnical Investigation and Evaluation Documentation. Prepare geotechnical evaluation report documenting the results of the geotechnical investigation and design.

- Draft Geotechnical Investigation and Design Report. Document geotechnical evaluation.
- Geotechnical Investigation and Design Report. Incorporate review comments and revise geotechnical report.

Task Deliverables:

- Geotechnical Investigation and Design Reports
- Plan sheets for Main Dam drainage, drain layout, instrumentation plan and details.

Key Understandings:

- Thiele Geotech, as a subconsultant to HDR, will conduct field investigation tasks.
- Fee estimate is based on a total of 1,300 feet of borings. Thirty-five (35) borings are anticipated (5 borings for the Main Dam and principal spillway, 2 borings for pool area borrow, 6 borings for water quality basins, 19 borings for the 216th Street and Fort Street realignment, and 3 borings for the Recreation Access Areas).
- Geotechnical design of the earthen dam features will be designed in accordance with current Nebraska Dam Safety criteria and NRCS standards.
- The final geotechnical report for the Main Dam will be included in the NDNR dam safety permit application.

TASK SERIES 400 – MAIN DAM AND WATER QUALITY BASIN DESIGN

Task Objective: This task includes the process of using the existing 60% design to finalize hydrology and hydraulic calculations and routings and for the creation of final design plans stamped by a qualified engineer. Prepare detailed drawings and technical specifications for the proposed construction work.

HDR Activities:

Task 410 Hydrology and Hydraulic Modeling. Finalize HEC-HMS and SITES modeling. Utilize geotechnical analysis to finalize integrity analysis of the auxiliary spillway. Perform wave setup/erosion protection analysis, breach analysis, and downstream impact analysis.

410.1 Data Collection and Updates.
410.2 Dam and Water Quality Hydrology and Hydraulic Modeling.
410.3 Wave Setup and Erosion Protection Analysis
410.4 Dam Breach Analysis
410.5 Impact Analysis
410.6 Hydrology and Hydraulics Design Review and Discipline Coordination
410.7 Hydrology and Hydraulics Design Report

Task 420 Main Embankment and Auxiliary Spillway Final Design. Finalize dam embankment, and auxiliary spillway alignments, plan and profile designs. Finalize dam and auxiliary spillway grading, and shoreline protection, and outlet channel.

Task 430 Principal Spillway Design. Finalize hydraulic and structural design for the drawdown inlet, principal spillway riser and impact basin.

430.1 Principal Spillway Alignment and Profile
430.2 Principal Spillway Pipe Design and Camber
430.3 Structural Design – Principal Spillway Riser
430.4 Structural Design – Impact Stilling Basin
430.5 Structural Design – Drawdown Headwall

Task 440 Water Quality Basin Design. Two Water Quality basins were proposed in the 60% design. The two proposed water quality basins will be designed to reduce sediment and nutrient loads to the main reservoir. The proposed trail will cross over the top of these two structures.

430.1 Embankments. Finalize embankment and profile of water quality basins..
430.2 Structural Design - West. The outlet structure requirements will be further evaluated to determine if culverts will be adequate and if there are any additional needs for risers or other inlet controls.
430.3 Structural Design - South. The outlet structure requirements will be further evaluated to determine if culverts will be adequate and if there are any additional needs for risers or other inlet controls.

Task Deliverables:

- Final Basis of Design Report

Key Understandings:

- No significant design modifications from 60% dam design layout and spillway elevations.
- Design of the dam and its components will utilize current Nebraska Dam Safety and NRCS standards for hydrology and hydraulics.
- Breach analysis will include two scenarios: a normal pool (sunny day) breach and a breach at one foot above the auxiliary spillway crest elevation.
- The impact analysis will address baseline conditions (future hydrology with no dam) and proposed (with dam) conditions. Two flow scenarios will be evaluated: 500-year and FBH (PMP) storm events.

TASK SERIES 500 – GENERAL AND SITE CIVIL DESIGN

Task Objective: Design of non-dam related items, including roadways, utilities, sanitary sewer, recreation features, fishery enhancements, and water quality basins.

HDR Activities:

Task 510 Data Collection and Updates. Compile and review preliminary design documentation and drawings.

Task 520 Recreational Trail. Progress current preliminary trail plan to final design.

520.1 Grading and Profile Updates.
- Finalize plan and profile design.
- Finalize trail typical section sheet(s).
- Prepare trail cross section sheets (50 ft station intervals).

520.2 Culverts Hydrology and Hydraulics Updates. Finalize trail drainage design needs.
- Finalize sizing of culverts and outlet dissipation measures.
- Complete build notes that will be included on plan and profile sheets.

520.3 Structural RCB and Weir Design.

520.4 Trail Signage. Prepare trail signage layout and details. Coordinate with City and NRD on signage standards.

Task 530 In-Pool Fisheries Enhancements. Final design of the fishery enhancements will be based upon the 60% design recommendations. The fishery enhancements will include breakwater jetties, groin structures, and other in-lake enhancements.

530.1 National Game and Parks Commission Coordination. Hold up to (2) coordination meetings with NGPC to review proposed in-lake fisheries and boat ramp and recreation access area.

530.2 Enhancement Design and Modeling. Refine preliminary fishery enhancements design in- and along the shoreline to promote fisheries and provide access to anglers.

Task 540 Pavements including Drainage.

540.1 Boat Ramp. Finalize design of boat ramp with considerations for change of slope and distance out into the permanent pool.

540.2 Fort Street Access Area Parking Lot. Finalize pavement and drainage design for the Access Area parking lot including water quality measures at the drainage outlet points.

540.3 South Access Area Parking Lot. Finalize pavement and drainage design for the Access Area parking lot including water quality measures at the drainage outlet points.

Task 550 404 Permit Mitigation. Wetland and stream mitigation is achieved through grading and seeding for wetland creation and channel enhancements for stream loss mitigation.

550.1 Permit Coordination. Coordinate final mitigation designs with requirements of permit.

550.2 West Water Quality Basin Channel Mitigation. Hydrology and Hydraulics analysis of incoming channel to determine best options for mitigation. Design of selected mitigation option.

550.3 Northeast Channel Mitigation. Hydrology and Hydraulics analysis of incoming channel to determine best options for mitigation. Design of selected mitigation option.

550.4 Pool Fringe Wetland Mitigation. Design of wetland seeding to be constructed along the fringe of the permanent pool.

Task 560 Erosion Control & Seeding. Prepare sediment and erosion control plans for all site civil work elements for inclusion as SWPPP with NPDES permit and identify seeding locations for various seed mixtures.

Task 570 Fencing and Location of Gates. Identify location and details for ROW fence and maintenance access gates along project property lines.

Task 580 Recreational Amenities Design. Design recreational amenities including product determination, layout, site grading for a shelter, water service, solar lighting and vault restroom at each access area.

Task Deliverables:

- Design Documentation
- Compilation and submittal of Pre-Final and final drawings, specifications and opinion of probable construction costs are included in Task Series 1000.

Key Understandings:

- It is assumed design will be based on the 60% preliminary design with only minimal changes.
- Water service to be stubbed for future connection to public water system.

TASK SERIES 600 – 216th Street, Fort Street and South Maintenance Road Final Design.

Task Objective: Design roadway elements for 216th Street and Fort Street. 216th Street is to be relocated to the east to provide room for the main dam construction, public access areas and the south water quality basin. The relocation of 216th Street will require a realignment of Fort Street and the intersection with 216th Street. The access roads to the South Access Area, the Fort Street Access Area and the South Maintenance Road are from the relocated 216th Street.216th Street is to be graded to ultimate 4-lane section width, paved as an interim three-lane rural section from South Maintenance Road to approximately 1,500 ft north of the Fort Street Access Area Road. Roadway surfacing for 216th Street will be asphalt and, Fort Street, South Access Area, and Fort Street Access Area will be concrete. Roadway surfacing for the South Maintenance Road will be gravel.

HDR Activities: **Task 610 60% Roadway Design Update.** Pre-Final design of roadway elements for 216th Street, Fort Street, and the South Maintenance Road will be developed based on City of Omaha checklist. The design elements required for the checklist 75% submittal will be followed

- Design Checklist is included
- Update roadway cross section sheets for 216th Street (25 ft station intervals), Fort Street (25 ft station intervals), and for the South Maintenance Road (100 ft station intervals).
- Roadway design will follow City of Omaha standard design criteria, specifications and standard plates.

Task 620 Culvert Hydrology and Hydraulics Analysis. H&H analysis of upstream drainage paths that will be obstructed by the new road alignment to provide necessary information and recommendations for culvert design. Analyze roadway surface drainage for necessary improvements.

Task 630 Structural Reinforced Concrete Box and Weir Design. Finalize drainage design of reinforced concrete culvert structures with weirs including culvert sizing and outlet dissipation measures. Build notes to be included on plan and profile sheets.

Task 640 Utility Coordination

640.1 General Utilities. Determine impacts and coordinate with local utility companies including OPPD, MUD and any communication companies in the area.

640.2 OPPD Power Pole Relocations and Coordination. The existing OPPD distribution poles on the Fort Street corridor has been planned to be raised by OPPD per Preliminary Design coordination activities. This task will include all direct coordination with OPPD to determine location and timing of the relocations/raise. It is expected that two meetings with two staff each, including the preparation of an agenda and meeting minutes will be required.

Task 650 90% Roadway Design and Douglas County Review Submittal and Meeting. Completion of 90% roadway design plans for review and comment by the Douglas County Public Works Department. It is expected that a single coordination meeting including two staff along with the preparation of an agenda and minutes will be required to complete this task.

Task Deliverables:

- Design documentation.
- Meeting agenda and minutes
- Compilation and submittal of Pre-Final and Final drawings, specifications and opinion of probable construction costs are included in Task Series 1000.

Key Understandings:

- It is assumed design will be based on the 60% preliminary design with only minimal changes.
- Four (4) utility coordination meetings will be required with two (2) staff attending, including the preparation of an agenda and meeting minutes.
- The 90% roadway design will follow City of Omaha checklist for 90% submittal. Checklist is attached.
- The roadway design will follow City of Omaha standard design criteria, specifications and standard plates.

TASK SERIES 700 – WATER SUSTAINABILITY FUND APPLICATION

Task Objective: Prepare Nebraska Water Sustainability Fund (WSF) application.

Activities: **Task 710 Coordination Meetings.** Coordination meeting on the development of the WSF application. Two (2) meetings are anticipated. The first meeting with P-MRNRD will be to define and strategize on the elements of the project that may be eligible under the Water Sustainability Fund guidelines with the goal of maximizing eligibility. The HDR team will develop the application and provide a draft application to the P-MRNRD for review prior to March 19 to allow adequate time for review and comments by P-MRNRD. The HDR team will then meet with the P-MRNRD in advance of the March 2025 application period.

Task 720 Administrative Information. Complete Section A, Administrative of the WSF application. This section includes:

- General information regarding the project
- Level of funding requested and the basis for that level of funding
- Permitting requirements

Task 730 Engineering & Technical Feasibility Information. Complete Section B, DNR Director's Findings (Prove Engineering & Technical Feasibility) of the WSF application.

730.1 Engineering Feasibility. Compile information from the 60% design to demonstrate compliance with Title 261, CH 2-004. This section includes:

- Description of plan of development
- Description of field investigations utilized to substantiate the feasibility report
- Provide maps, drawings, charts, tables, etc. used as a basis for the feasibility report
- Description of the water and/or land rights required for the project
- Discussion of each component of the final plan
- Summarize and include geologic investigation
- Summarize and include the hydrologic data investigation
- Summarize and include the criteria for final design, including soil mechanics, hydraulic, hydrologic, structural, embankments and foundation criteria.

730.2 Economic Feasibility. Prepare economic feasibility requirements. This section includes:

- Documentation of all sources, methodologies, assumptions, and report all cost-benefit analysis results.
- Description of any relevant cost information, including but not limited to: engineering, inspection, construction, annual operations, annual maintenance, and replacement costs.
- For a multi-purpose project such as this, estimate benefits for each purpose or benefit category. The benefit categories include avoided flood damages, avoided floodplain insurance premiums, avoided displacement costs, and avoided output losses.
- Description of non-monetized benefits including, but not limited to ecosystem services, water quality, and other environmental quality benefits.
- Develop annual cash flow table presenting all cost and benefit data.

730.3 Financial Feasibility. Work with P-MRNRD staff to complete financial feasibility requirements. This section includes:

- Evidence that sufficient funds are available to complete the project.
- Evidence that sufficient annual revenue is available to repay reimbursable costs and to cover OM&R.
- Description of how plan of development minimizes impacts on the natural environment.
- Explanation that NRD is qualified, responsible and legally capable of carrying out the project for which you are seeking funds.
- Explanation on how project considers plans and programs of the state and resources development plans of the political subdivisions of the state.
- Document land rights to be obtained including list of all lands involved, proof of existing land held, and provide assurance that you can acquire title to land not currently held.

- Identification of how NRD possess all necessary authority to undertake or participate in the project.
- Identification of probable consequences (environmental and ecological) that may result if the project is or is not completed.

Task 740 Natural Resources Commission Scoring. Complete Section C, NRC Scoring of the WSF application. Review the 16 possible criteria (15 general criteria plus 1 federal mandate bonus) and provide information to support criteria requirements. The following criteria will be reviewed and evaluated if applicable:

- 1. Remediates or mitigates threats to drinking water
- 2. Meets the goals and objectives of an approved integrated management plan or ground water management plan
- 3. Contributes to water sustainability goals by increasing aquifer recharge, reducing aquifer depletion, or increasing streamflow
- 4. Contributes to multiple water supply goals, including, but not limited to, flood control, agricultural use, municipal and industrial uses, recreational benefits, wildlife habitat, conservation of water resources, and preservation of water resources
- 5. Maximizes the beneficial use of Nebraska's water resources for the benefit of the state's residents
- 6. Is cost-effective
- 7. Helps the state meet its obligations under interstate compacts, decrees, or other state contracts or agreements or federal law
- 8. Reduces threats to property damage or protects critical infrastructure that consists of the physical assets, systems, and networks vital to the state or the United States such that their incapacitation would have a debilitating effect on public security or public health and safety
- 9. Improves water quality
- 10. Has utilized all available funding resources of the local jurisdiction to support the program, project, or activity
- 11. Has a local jurisdiction with plans in place that support sustainable water use
- 12. Addresses a statewide problem or issue
- 13. Contributes to the state's ability to leverage state dollars with local or federal government partners or other partners to maximize the use of its resources
- 14. Contributes to watershed health and function
- 15. Uses objectives described in the Annual Report and Plan of Work for the State Water Planning and Review Process (Annual Report) issued by the department
- 16. Federal Mandate Bonus.

Task 750 Final Application. Incorporate all comments from the draft review meeting and the application package will be finalized for electronic submittal to the NDNR prior to the March 31st, 2025 deadline.

Task Deliverables:

- Draft application
- Final application

Key Understandings:

- Two (2) meeting with P-MRNRD.
- The application is due March 31st, 2025.
- Application will utilize past P-MRNRD WSF applications and BRIC funding application for WP-4.

- Utilize existing information prepared for other P-MRNRD WSF dam applications and DS-12's 60% design document prepared and Benefit Cost Analysis (BCA).
- P-MRNRD will provide necessary supporting information for application.

TASK SERIES 800 – Pre-Final and Final Design Drawings.

Task Objective: Completion of a pre-final design drawings for review by all necessary entities and the completion of final, bid drawings based upon on any comments received.

HDR Activities: **Task 810 Pre-Final Drawings. Prepare pre-final drawing package.**

Task 820 Bid Drawings. Update pre-final drawings based upon comments received during the pre-final review to complete a final, bid set of drawings.

Task Deliverables:

- Pre-Final and Final Drawings
- Compilation and submittal of pre-final and bid drawings, specifications and opinion of probable construction costs are included in Task Series 900

Key Understandings:

- One bid package and contract for construction of the project.

TASK SERIES 900 – Specifications and Project Documents.

Task Objective: Prepare non-technical specifications and frontend contract documents. Compile technical specifications from various design groups, complete final quantities, bid form and final OPCC.

HDR Activities: **Task 910 Non-Technical (Front End Documents).** Prepare non-technical front end documents, specifications, and contract documents.

910.1 Division 00 – Procurement. Revise P-MRNRD Division 00 specifications, including general conditions and bidding requirements for NGPC funding.

910.2 Division 01 – General Requirements. Prepare general requirements of the specifications. Conditions will be used along with CSI 3-part format specifications.

Task 920 Technical Specifications. Develop and compile technical specifications for geotechnical, roadway, civil and structural designs.

Task 930 Quantities, Bid Form and OPCC. Compile quantities from all design disciplines for including in plans, creation of a bid form and development of a final OPCC.

Task Deliverables:

- Deliverables for this task are included in Task Series 900

Key Understandings:

- P-MRNRD's modified EJCDC contract documents will be used for Division 00 and 01 documents.

TASK SERIES 1000 – Contract Document Submittals.

Task Objective: Compile the various elements of the Project into a single deliverable. Following review by P-MRNRD, and Douglas County, a review meeting will be held. Planned submittals are at the Pre-Final, and the Final Issue for Bid stages.

HDR Activities: **Task 1010 Design Report.** Compile final design report from the various elements into a single deliverable.

Task1020 Pre-Final Submittal Package.

1020.1 Compile Submittal. Compile construction drawing, specifications, and design documentation into a single deliverable.

1020.2 Pre-Final Design Review Meeting. Conduct a design review meeting with P-MRNRD staff of pre-final design drawings, documentation, and cost estimates.

Task 1030 Bid Package Submittal. Compile construction drawings, specifications, bid form, OPCC, and design documentation into a single deliverable.

Task Deliverables:

- Final Design Report
- Pre-Final Submittal Package including plans, specifications and opinion of probable construction cost. Review meeting addressed in Task Series 710.
- Bid Package Submittal Package including plans, specifications, bid form and opinion of probable construction cost.

Key Understandings:

- One bid package and contract for the construction of the project.
- P-MRNRD and Douglas County will provide comments following the Pre-Final Submittal Package for incorporation into the Bid Package.

TASK SERIES 1100 – Bidding Services.

Task Objective: Assist P-MRNRD in navigating the bid phase of the DS-12 project.

HDR Activities: **Task 1110 Pre-Bid Site Showing.** Attendance at a pre-bid site showing to provide technical support for questions that may come up during the site visit.

Task 1120 Bidding Assistance. Response to RFIs during the bidding process and assistance in the compilation of necessary addenda for responses as needed.

Task 1130 Bid Opening & Award Recommendation. Attendance at the public bid opening and reading, completion of a bid tabulation and award recommendation letter to P-MRNRD?

Task Deliverables:

- Addenda and RFI responses
- Bid Tabulation
- Award Recommendation Letter

Key Understandings:

- Two addenda are assumed. Contractor RFI period assumed to be limited to two weeks and responses to be included in addenda responses.

- 3 project staff will attend the pre-bid site showing.
- 2 project staff will attend the bid opening that will be held at the offices of P-MRNRD.

TASK SERIES 1200 – SURVEY AND RIGHT-OF-WAY

Task Objective: To obtain supplemental topographic survey to representative changes to the project area from recent development activities. Prepare legal deceptions for easement and right-of-way (ROW).

Activities: **Task 1210 Topographical Survey Updates & Boring Survey.** Collect updated base mapping elements including topographic data, parcels, and boring hole locations.

Task 1220 ROW Descriptions and Exhibits. Continue to assist the P-MRNRD in obtaining the necessary ROW and easements. Provide legal descriptions and exhibits for additional acquisitions.

Task 1240 Section 404 Baseline Surveys. Survey before and after construction downstream channel cross section (3 locations) downstream of the dam and along the stream mitigation reaches (3 locations) to evaluate potential erosion impacts in the channel.

Task Deliverables:

- Updated Acquisition/Boundary Plans documents for public ROW hearings and subsequent appraisal and fee title searches activities (if necessary).

Key Understandings:

- P-MRNRD will provide title documentation for the properties affected by this project.
- P-MRNRD is responsible for securing appraisals along with acquisition and easement negotiations.
- No permanent monuments will be set.
- It is assumed that legal descriptions will be required for 1 parcel and a maximum of 5 easements and/or ROW dedications.

APPENDIX 2
PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT
PHASE II: DS-12 FINAL DESIGN
FEE ESTIMATE - FEBRUARY 2025

		HDR Engineering, Inc. Estimated Hours/Costs													Est. Total Cost
	TASKS	Project Manager/Principal	Senior Staff	Technical Staff	Tech Support	Admin/ Clerical	Total Hours	Total Labor Cost	Printing	Travel	Total Expenses	Totals	JEO Consulting Group, Inc	Thiele Geotech	Total Sub-Consult.	
TASK SERIES 100	**PROJECT MANAGEMENT**															
Task 110	**Project Management (13 months)**	26	26	16		26	94	$21,216	$500		$500	$21,716			$0	$21,716
Task 120	**Coordination Meetings (3)**															
Subtask 120.1	Field Visit - Verify Site Conditions		4	4	4		12	$2,412		$300	$300	$2,712			$0	$2,712
Subtask 120.2	Coordination Review Meetings (2)	2	2	6			10	$2,364		$150	$150	$2,514			$0	$2,514
Subtask 120.3	P-MRNRD Board Presentation (1)	2		2	2		6	$1,298		$50	$50	$1,348			$0	$1,348
Task 130	**Quality Control Review**															
Subtask 130.1	Geotechnical Engineering		12	4			16	$3,904			$0	$3,904			$0	$3,904
Subtask 130.2	Hydrology and Hydraulics Engineering	2	12	4			18	$4,508			$0	$4,508			$0	$4,508
Subtask 130.3	Roadway Engineering		12	4	2		18	$4,182			$0	$4,182			$0	$4,182
Subtask 130.4	Civil Engineering	2	16	6	2		26	$6,226			$0	$6,226			$0	$6,226
Subtask 130.5	Structural Engineering		8	4	2		14	$3,158			$0	$3,158			$0	$3,158
	Estimated Task Hours Subtotal	**34**	**92**	**50**	**12**	**26**	**214**									
	Estimated Task Cost Subtotal	**$10,268**	**$23,552**	**$10,400**	**$1,668**	**$3,380**		**$49,268**	**$500**	**$500**	**$1,000**	**$50,268**	**$0**	**$0**	**$0**	**$50,268**
TASK SERIES 200	**PERMITTING**															
Task 210	**NDNR - 'Application for Approval of Plans for Dams and 'Permit to Impound Water'**															
Subtask 210.1	NDNR Coordination	2	2				4	$1,116			$0	$1,116			$0	$1,116
Subtask 210.2	Plan Approval Application & Comment Response	1	4	8	4		17	$3,546			$0	$3,546			$0	$3,546
Subtask 210.3	Permit to Impound			2			2	$416			$0	$416			$0	$416
Subtask 210.4	Emergency Action Plan		16	2	2		20	$4,790			$0	$4,790			$0	$4,790
Task 220	**Douglas County Right to Occupy ROW**		4				4	$1,024			$0	$1,024			$0	$1,024
Task 230	**NPDES Construction Activity Permit**															
Subtask 230.1	SWPPP Narrative Preparation		1	8			9	$1,920			$0	$1,920			$0	$1,920
Subtask 230.2	Permix and NDEE Applications		1	8			9	$1,920			$0	$1,920			$0	$1,920
	Estimated Task Hours Subtotal	**3**	**28**	**28**	**6**	**0**	**65**									
	Estimated Task Cost Subtotal	**$906**	**$7,168**	**$5,824**	**$834**	**$0**		**$14,732**	**$0**	**$0**	**$0**	**$14,732**	**$0**	**$0**	**$0**	**$14,732**
TASK SERIES 300	**GEOTECHNICAL INVESTIGATION AND EVALUATION**															
Task 310	**Field Investigation Coordination and Data Collection**		34	76	32		142	$28,960		$25	$25	$28,985		$102,020	$102,020	$131,005
Task 320	**Geotechnical Design and Analysis**															
Subtask 320.1	Geotechnical Engineering - Main Dam		50	112	12		174	$37,764			$0	$37,764			$0	$37,764
Subtask 320.2	Geotechnical Engineering - West WQ Basin		8	40	4		52	$10,924			$0	$10,924			$0	$10,924
Subtask 320.3	Geotechnical Engineering - South WQ Basin		8	40	4		52	$10,924			$0	$10,924			$0	$10,924
Subtask 320.4	Geotechnical Engineering - 216th Street & Accesses		24	64			88	$19,456			$0	$19,456			$0	$19,456
Task 330	**Geotechnical Design Review/Discipline Coordination**		20	20			40	$9,280			$0	$9,280			$0	$9,280
Task 340	**Geotechnical Investigation and Evaluation Documentation**		16	40	16		72	$14,640			$0	$14,640			$0	$14,640
	Estimated Task Hours Subtotal	**0**	**160**	**392**	**68**	**0**	**620**									
	Estimated Task Cost Subtotal	**$0**	**$40,960**	**$81,536**	**$9,452**	**$0**		**$131,948**	**$0**	**$25**	**$25**	**$131,973**	**$0**	**$102,020**	**$102,020**	**$233,993**
TASK SERIES 400	**MAIN DAM AND WATER QUALITY BASIN DESIGN**															
Task 410	**Hydrology and Hydraulics Modeling**															
Subtask 410.1	Data Collection and Updates		4	12			16	$3,520		$25	$25	$3,545			$0	$3,545
Subtask 410.2	Dam and Water Quality H&H Modeling		24	96	4		124	$26,668			$0	$26,668			$0	$26,668
Subtask 410.3	Wave Setup and Erosion Protection Analysis		8	24	8		40	$8,152			$0	$8,152			$0	$8,152
Subtask 410.4	Dam Breach Analysis		8	40			48	$10,368			$0	$10,368			$0	$10,368
Subtask 410.5	Impact Analysis		4	28			32	$6,848			$0	$6,848			$0	$6,848
Subtask 410.6	H&H Design Review and Discipline Coordination		16	16			32	$7,424			$0	$7,424			$0	$7,424
Subtask 410.7	Hydrology and Hydraulics Design Report		12	24	8		44	$9,176			$0	$9,176			$0	$9,176
Task 420	**Main Dam Emankment & Auxiliary Spillway Final Design**		8	8			16	$3,712			$0	$3,712			$0	$3,712
Task 430	**Principal Spillway Design**															

APPENDIX 2
PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT
PHASE II: DS-12 FINAL DESIGN
FEE ESTIMATE - FEBRUARY 2025

		HDR Engineering, Inc. Estimated Hours/Costs													Est. Total Cost
	TASKS	Project Manager/Principal	Senior Staff	Technical Staff	Tech Support	Admin/ Clerical	Total Hours	Total Labor Cost	Printing	Travel	Total Expenses	Totals	JEO Consulting Group, Inc	Thiele Geotech	Total Sub-Consult.	
Subtask 430.1	Principal Spillway Alignment and Profile	2	8	12	2		24	$5,426			$0	$5,426			$0	$5,426
Subtask 430.2	Principal Spillway Pipe Design and Camber	2	2	2			6	$1,532			$0	$1,532			$0	$1,532
Subtask 430.3	Structural Design - Principal Spillway Riser		4	60	8		72	$14,616			$0	$14,616			$0	$14,616
Subtask 430.4	Structural Design - Impact Stilling Basin		4	60	8		72	$14,616			$0	$14,616			$0	$14,616
Subtask 430.5	Structural Design - Drawdown Headwall		2	4			6	$1,344			$0	$1,344			$0	$1,344
Task 440	**Water Quality Basins**															
Subtask 440.1	Embankments		2	4	4		10	$1,900			$0	$1,900			$0	$1,900
Subtask 440.2	Structural Design - West WQ Basin		4	8	2		14	$2,966			$0	$2,966			$0	$2,966
Subtask 440.3	Structural Design - South WQ Basin		4	8	2		14	$2,966			$0	$2,966			$0	$2,966
	Estimated Task Hours Subtotal	4	114	406	46	0	570									
	Estimated Task Cost Subtotal	$1,208	$29,184	$84,448	$6,394	$0		$121,234	$0	$25	$25	$121,259	$0	$0	$0	$121,259
TASK SERIES 500	**GENERAL CIVIL AND SITE CIVIL DESIGN**															
Task 510	**Data Collection and Updates**		4	8	4		16	$3,244			$0	$3,244			$0	$3,244
Task 520	**Recreational Trail**															
Subtask 520.1	Grading and Profile Update		4	8	4		16	$3,244			$0	$3,244			$0	$3,244
Subtask 520.2	Culverts Hydrology and Hydraulics Update		4	16			20	$4,352			$0	$4,352			$0	$4,352
Subtask 520.2	Structural RCB & Weir Design		16	40			56	$12,416			$0	$12,416			$0	$12,416
Subtask 520.2	Trail Signage			4			4	$832			$0	$832			$0	$832
Task 530	**In-Pool Fisheries Enchancements**															
Subtask 530.1	NGPC Coordination		4	4			8	$1,856			$0	$1,856			$0	$1,856
Subtask 530.2	Enhancement Design & Modeling		2	8	20		30	$4,956			$0	$4,956			$0	$4,956
Task 540	**Pavements including Drainage**															
Subtask 540.1	Boat Ramp		2	2			4	$928			$0	$928			$0	$928
Subtask 540.2	Fort Street Access Area Parking Lot		10	20	4		34	$7,276			$0	$7,276			$0	$7,276
Subtask 540.2	South Access Area Parking Lot		10	20	4		34	$7,276			$0	$7,276			$0	$7,276
Task 550	**404 Permit Mitigation**															
Subtask 560.1	Permit Coordination		4	4			8	$1,856			$0	$1,856			$0	$1,856
Subtask 560.2	West WQ Basin Channel Mitigation		2	8			10	$2,176			$0	$2,176			$0	$2,176
Subtask 560.1	NE Channel Mitigation		2	8			10	$2,176			$0	$2,176			$0	$2,176
Subtask 560.2	Pool Fringe Wetland Mitigation		2	2			4	$928			$0	$928			$0	$928
Task 560	**Erosion Control and Seeding**		2	10	16		28	$4,816			$0	$4,816			$0	$4,816
Task 570	**Recreational Amenities Design**		2	16	16		34	$6,064			$0	$6,064			$0	$6,064
Task 580	**Fencing and Gate Locations**		2	4			6	$1,344			$0	$1,344			$0	$1,344
	Estimated Task Hours Subtotal	0	72	182	68	0	322									
	Estimated Task Cost Subtotal	$0	$18,432	$37,856	$9,452	$0		$65,740	$0	$0	$0	$65,740	$0	$0	$0	$65,740
TASK SERIES 600	**216TH STREET AND FORT STREET DESIGN**															
Task 610	**60% Roadway Design Update**	2	28	32	60		122	$22,768			$0	$22,768			$0	$22,768
Task 620	**Culvert Hydrology and Hydraulics Analysis**		6	16			22	$4,864			$0	$4,864			$0	$4,864
Task 630	**Structural RCB & Weir Design**		16	40			56	$12,416			$0	$12,416			$0	$12,416
Task 640	**Utility Coordination**		8	16	8		32	$6,488			$0	$6,488			$0	$6,488
Subtask 640.1	General Utilities		4	4	2		10	$2,134			$0	$2,134			$0	$2,134
Subtask 640.2	OPPD Power Pole Relocation Coordination	2	16	8	2		28	$6,642			$0	$6,642			$0	$6,642
Task 650	**90% Roadway Design and Douglas County Review Submittal and Meeting**	2	50	50	200		302	$51,604			$0	$51,604			$0	$51,604
	Estimated Task Hours Subtotal	6	128	166	272	0	572									
	Estimated Task Cost Subtotal	$1,812	$32,768	$34,528	$37,808	$0		$106,916	$0	$0	$0	$106,916	$0	$0	$0	$106,916
TASK SERIES 700	**WATER SUSTAINABILITY FUND APPLICATION**															
Task 710	**Coordination Meetings**		2		2		4	$790			$0	$790			$0	$790
Task 720	**Administrative Information**		4		16		20	$3,248			$0	$3,248			$0	$3,248
Task 730	**Engineering & Technical Feasibility Information**															
Subtask 730.1	Engineering Feasibility		2	4	16		22	$3,568			$0	$3,568			$0	$3,568

APPENDIX 2
PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT
PHASE II: DS-12 FINAL DESIGN
FEE ESTIMATE - FEBRUARY 2025

		HDR Engineering, Inc. Estimated Hours/Costs														Est. Total Cost
	TASKS	Project Manager/Principal	Senior Staff	Technical Staff	Tech Support	Admin/ Clerical	Total Hours	Total Labor Cost	Printing	Travel	Total Expenses	Totals	JEO Consulting Group, Inc	Thiele Geotech	Total Sub-Consult.	
Subtask 730.2	Economic Feasibility		2	2	40		44	$6,488			$0	$6,488			$0	$6,488
Subtask 730.3	Financial Feasibility			2	16		18	$2,640			$0	$2,640			$0	$2,640
Task 740	Natural Resources Commission Scoring		2		4		6	$1,068			$0	$1,068			$0	$1,068
Task 750	Final Application	1	8	4	16	20	49	$8,006	$100		$100	$8,106			$0	$8,106
	Estimated Task Hours Subtotal	1	20	12	110	20	163									
	Estimated Task Cost Subtotal	$302	$5,120	$2,496	$15,290	$2,600		$25,808	$100	$0	$100	$25,908	$0	$0	$0	$25,908
TASK SERIES 800	PROJECT DRAWINGS															
Task 810	Pre-Final Drawings	1	40	100	600		741	$114,742			$0	$114,742			$0	$114,742
Task 820	Bid Drawings	1	32	32	160		225	$37,390			$0	$37,390			$0	$37,390
	Estimated Task Hours Subtotal	2	72	132	760	0	966									
	Estimated Task Cost Subtotal	$604	$18,432	$27,456	$105,640	$0		$152,132	$0	$0	$0	$152,132	$0	$0	$0	$152,132
TASK SERIES 900	SPECIFICATIONS AND PROJECT DOCUMENTS															
Task 910	Non-Technical (Front End Documents)															
Subtask 910.1	Division 00 - Procurement		2	2		1	5	$1,058			$0	$1,058			$0	$1,058
Subtask 910.2	Division 01 - General Requirements		2	2		1	5	$1,058			$0	$1,058			$0	$1,058
Task 920	Technical Specifications	1	36	36	36	8	117	$23,050			$0	$23,050			$0	$23,050
Task 930	Quantities, Bid Form & OPCC	1	4	8	2		15	$3,268			$0	$3,268			$0	$3,268
	Estimated Task Hours Subtotal	2	44	48	38	10	142									
	Estimated Task Cost Subtotal	$604	$11,264	$9,984	$5,282	$1,300		$28,434	$0	$0	$0	$28,434	$0	$0	$0	$28,434
TASK SERIES 1000	CONTRACT DOCUMENT SUBMITTALS (2026 TASK)															
Task 1010	Design Report	1	2	8	4	2	17	$3,459			$0	$3,459			$0	$3,459
Task 1020	Pre-Final Submittal Package		2		4	2	8	$1,394	$50		$50	$1,444			$0	$1,444
Task 1030	Bid Package Submittal	1	2	2	4	2	11	$2,148			$0	$2,148			$0	$2,148
	Estimated Task Hours Subtotal	2	6	10	12	6	36									
	Estimated Task Cost Subtotal	$634	$1,613	$2,184	$1,751	$819		$7,001	$50	$0	$50	$7,051	$0	$0	$0	$7,051
TASK SERIES 1100	BIDDING SERVICES (2026 TASK*)															
Task 1110	Pre-Bid Site Showing		2	8	4		14	$2,869			$0	$2,869			$0	$2,869
Task 1120	Bidding Assistance		4	12	8		24	$4,864	$50		$50	$4,914			$0	$4,914
Task 1130	Bid Opening & Award	1	4	4			9	$2,266		$26	$26	$2,292			$0	$2,292
	Estimated Task Hours Subtotal	1	10	24	12	0	47									
	Estimated Task Cost Subtotal	$317	$2,688	$5,242	$1,751	$0		$9,998	$50	$26	$76	$10,074	$0	$0	$0	$10,074
TASK SERIES 1200	SURVEY AND ROW															
Task 1210	Topographical Survey Updates and Boring Survey			1			1	$208			$0	$208	$25,550		$25,550	$25,758
Task 1220	ROW Descriptions and Exhibits			1			1	$208			$0	$208	$2,525		$2,525	$2,733
	Estimated Task Hours Subtotal	0	0	2	0	0	2									
	Estimated Task Cost Subtotal	$0	$0	$416	$0	$0		$416	$0	$0	$0	$416	$28,075	$0	$28,075	$28,491
	TOTAL HOURS	55	746	1,452	1,404	62	3,719									
	TOTAL COST (ROUNDED)	$ 16,655	$ 191,181	$ 302,370	$ 195,323	$ 8,099		$ 713,628	$ 700	$ 576	$ 1,276	$ 714,904	$ 28,075	$ 102,020	$ 130,095	$ 844,999

* Task Labor Costs on 2026 Tasks includes 5% excalation factor.

February 21, 2025

Troy Meyer, PE
HDR Inc.
1917 South 67th Street
Omaha, NE 68106
D: 402-399-1185
M: 402-507-96296

PNRD Dam Site 12 Final Design Survey Work

Mr. Meyer,

We appreciate the opportunity to submit our proposal to complete the survey work you have requested for the final design of PNRD Dam Site 12, near 216th St. and Fort St., in an email received February 14, 2025.

Scope of Services:

- Perform the necessary field and office work to complete a legal description and exhibit for one parcel purchase.
- Perform the necessary field and office work to complete legal descriptions and exhibits for five easement or right-of-way dedications.
- 100-foot-wide topographic survey on 216th St. and Fort St. Topographic survey is approximately 1.25 miles in length as shown on attached PDF.
- Stake approximately 25 bore hole locations.
- Locate actual location and elevation of approximately 25 bore holes.
- Additional 25 field hours for miscellaneous survey requests.

Not to exceed fee: $28,075

If further discussion concerning this scope of services or fees is necessary, please contact me by email (njensen@jeo.com) or by phone (402-990-3694). If our proposal and attached general conditions are acceptable to you, please sign below and return to me.

Sincerely,

Noah M. Jensen, LS
JEO Consulting Group, Inc

AUTHORIZATION
The undersigned hereby agrees to the scope of services proposed above, general conditions, and authorizes JEO Consulting Group, Inc., to provide services as described.

By:_____

Title:_____

Date:_____

JEO CONSULTING GROUP, INC.
JEO ARCHITECTURE, INC.
p: 402.934.3680
f: 402.934.3681
11213 Davenport Street, Suite 200
Omaha, Nebraska 68154
jeo.com

Thiele Geotech Inc

13478 Chandler Road
Omaha, NE 68138
402.556.2171 Fax 402.556.7831
www.thielegeotech.com

January 29, 2025

Mr. Stephen Matychuk, P.E.
HDR Engineering, Inc.
1917 S. 67th Street
Omaha, Nebraska 68106

RE: PROPOSAL FOR GEOTECHNICAL EXPLORATION
DAM SITE NO. 12
NEAR NORTH 216TH STREET & FORT STREET
DOUGLAS COUNTY, NEBRASKA

Dear Mr. Matychuk:

Enclosed is our proposal for geotechnical exploration related to the proposed Dam Site No. 12 project located near North 216th Street & Fort Street in Douglas County, Nebraska. The accompanying proposal describes our approach and proposed scope of services, and the estimated cost of the study.

Thiele Geotech (TG) is a service-oriented firm offering geotechnical, material, and environmental engineering. Our focus is on providing quality engineering solutions based on each individual client's needs. Our professional staff has extensive experience with similar projects, and we have the equipment and resources available to complete this study.

We look forward to working with you and your design team on this project. If you have any questions, please call. If the accompanying proposal is acceptable, please return an executed copy to our office.

Respectfully,
Thiele Geotech, Inc.

Broc Burmeister, P.G.
Project Geologist

Enclosure

Geotechnical Exploration Proposal
Dam Site No. 12
North 216th Street & Fort Street
Douglas County, Nebraska
January 29, 2025

Thiele Geotech, Inc. is pleased to submit our proposal for geotechnical exploration related to the referenced project. The following sections detail our understanding of the project, our proposed scope of services, and the estimated cost of the study. A Geotechnical Exploration Estimate Worksheet is attached in Exhibit A. This proposal will be held open for a period of 45 days from the above date.

PROJECT DESCRIPTION

Our understanding of the project is based upon information provided by HDR Engineering, Inc.

In general, this project consists of final design of a new regional detention basin.

Based on previous experience in the area, the soils on the site are expected to consist of alluvium.

SCOPE OF SERVICES

Our proposed geotechnical exploration will consist of conventional geotechnical test borings to obtain geologic information and samples of the site soils, laboratory tests to determine the relevant engineering properties of the various soil strata, and a data report of the boring logs and laboratory test data.

As requested by HDR, we propose obtaining subsurface information at 35 conventional boring locations. The boring locations will be provided by HDR and staked by Thiele Geotech; however, these locations may be field adjusted due to access and conflicts with existing utilities. Drilling footage of 1,255 lineal feet is proposed. We have also included a 10% contingency which brings the total drilling footage to 1,380 feet.

Thiele Geotech will prepare and submit a Quality Management Plan and Health and Safety Plan for this project.

Thiele Geotech will be responsible for obtaining necessary authorization and permits to execute the drilling program including contacting Nebraska One-Call for public utility locates and coordination of access with private property owners and businesses. Upon completion of drilling, borings will be restaked for final survey. Ground surface elevations and final as-drilled boring locations will be determined and documented by Thiele Geotech. Boring coordinates and elevations will be recorded on typed boring logs. No crop damage is anticipated for this project.

The borings will be sampled at 2.5 foot intervals in the top 10 feet and every 5 feet thereafter. A descriptive log of the test borings will be prepared by an experienced drill crew member. Pocket penetrometer readings will be taken on cohesive soil samples and will be noted on the logs. Soil samples will be protected from damage, extreme temperature, or moisture change both before and during transportation, and Shelby tube samples will be extruded in the laboratory prior to testing and within 3 days after sampling. Shelby tube samples will be obtained in cohesive soils and split-spoon samples will be obtained in cohesionless soils and rubble fills, where tube sample recovery is less than 6 inches, and where tube samples encounter sand. The automatic hammer will have been calibrated within the last 12 months. Observation wells will be installed within 4 of the borings.

Groundwater depth will be measured during drilling, at the end of drilling, and 24 hours after completion of drilling. The borings will be backfilled in accordance with state and USACE requirements and excess cuttings will be thin-spread around the borings. Pavement or rock coring is not included in this scope. The site will be restored to initial conditions as much as practical upon completion of the field work.

Thiele Geotech will supply the scanned field logs within two days of drilling completion. Based on the results of the test borings, a laboratory testing program will be established by HDR to evaluate the engineering properties of the various soil strata. In accordance with the request for proposal, laboratory testing may include the following:

Soil Test	Estimated Units
Moisture Content	24
Dry Density	40
Unconfined Compression	16
Unconsolidated Undrained Triaxial	18
Atterberg Limits	40
Sieve Analysis w/ Hydrometer	30
One-Dimensional Consolidation	20
Standard Proctor	6
Pinhole Dispersion	4

Thiele Geotech will prepare a data report after completion of the field work and laboratory testing. Engineering evaluations or analyses are not included in this scope.

The proposed scope of services does not include an evaluation of potential contamination on or near the site. If the environmental condition of the property is a concern, an environmental site assessment can be provided as an additional service.

ESTIMATED COST & SCHEDULE

Estimated quantities and costs are shown in the attached Geotechnical Exploration Estimate Worksheet. Based on the indicated work scope, the cost is estimated at $102,017.80. This maximum amount will not be exceeded for the geotechnical exploration unless additional work is authorized.

We estimate 10 to 12 rig days will be required to complete this effort. The schedule is somewhat dependent on weather, site access conditions, and other factors including the actual subsurface conditions identified in the test borings. Lab testing can be conducted concurrently with field work if lab requests are provided by HDR. The data report will be submitted within 2 weeks following completion of lab testing.

ADDITIONAL SERVICES

Subsequent to completion of the geotechnical exploration data report, additional services are often required that are not included in the above estimate. Construction phase quality control testing is an additional service not included in the above estimate. An environmental assessment, if required, can also be performed as an additional service. If we are requested to provide additional services including, but not limited to the above, you will be billed in accordance with Exhibit A or our normal fee schedule. We would be happy to provide cost estimates for any additional services at your request.

EXHIBITS

Exhibit A – Geotechnical Exploration Estimate Worksheet

THIELE GEOTECH, INC.

By: _____

Robert K. Lapke, P.E.

13478 Chandler Road

Omaha, NE 68138

402/556-2171 Fax 402/556-7831

216th & Fort, Douglas County, Nebraska

Description		Estimated Quantity	Unit Rate	Estimated Cost
Pre-Exploration Services				
Project Geologist (/hr.)	*coordination/property owners/utilities*	15.0	175.00	2,625.00
Trip Charge - Zone 1 Metro Area (.	*site visit/staking*	2.0	87.00	174.00
Exploratory Borings				
Mobilization (Zone 1)		11.0	220.00	2,420.00
Mobilization (Zone 1)	*contingency*	1.0	220.00	220.00
Exploratory Drilling (flight augers) (/ft.)		70.0	18.50	1,295.00
Exploratory Drilling (hollow stem augers) (/ft.)		1,115.0	25.00	27,875.00
Exploratory Drilling (hollow stem a	*contingency*	125.0	25.00	3,125.00
Grout boreholes (/ft)		1,255.0	13.50	16,942.50
Grout boreholes (/ft)	*contingency*	125.0	13.50	1,687.50
Trip Charge - Zone 1 Metro Area (.	*support truck*	11.0	87.00	957.00
Trip Charge - Zone 1 Metro Area (.	*contingency*	1.0	87.00	87.00
Project Geologist (/hr.)	*extruding/logging soil*	30.0	175.00	5,250.00
Project Geologist (/hr.)	*contingency*	3.0	175.00	525.00
Trip Charge - Zone 1 Metro Area (.	*survey*	1.0	87.00	87.00
Project Geologist (/hr.)	*GPS survey of borings*	8.0	175.00	1,400.00
Reimbursable Expenses	*Shelby tubes*	1.0	3,830.00	3,830.00
Piezometers				
2" PVC Well Screen (/10' stick)		4.0	92.00	368.00
2" PVC Well Riser (/5' stick)		3.0	46.00	138.00
2" PVC Well Riser (/10' stick)		4.0	60.00	240.00
2" PVC End Cap (ea.)		4.0	28.00	112.00
2" Locking Cap (ea.)		4.0	48.00	192.00
Well Pack (/bag)		32.0	28.00	896.00
Bentonite Chips (/bag)		16.0	38.00	608.00
Stick-up Cover (ea.)		4.0	200.00	800.00
Sack-Crete (/bag)		16.0	24.00	384.00
Well Registration Fees [State] (/well)		4.0	100.00	400.00
Environmental Technician (/hr.)		1.5	130.00	195.00
Senior Project Geologist (/hr.)		1.0	224.00	224.00
Laboratory Analysis				
Moisture Content (ea.)		24.0	11.20	268.80
Atterberg Limits (/set)		40.0	115.00	4,600.00
Hydrometer Analysis (ea.)		30.0	160.00	4,800.00
Unit Weight Test (ea.)		40.0	30.00	1,200.00
Unconfined Compression Test (ea.)		16.0	46.00	736.00
Standard Proctor (ea.)		6.0	235.00	1,410.00
Pinhole Test on undisturbed sample (ASTM D4647) (ea.)		4.0	190.00	760.00
One-Dimensional Consolidation Test (ea.)		20.0	450.00	9,000.00
UU Triaxial Compression Test (ea.)		18.0	182.00	3,276.00
Geotechnical Report				
Project Geologist (/hr.)	*Geotechnical Exploration Data Report*	12.0	175.00	2,100.00
Senior Engineer (/hr.)	*Data Report Review*	3.0	270.00	810.00
			Total	102,017.80

T h i e l e G e o t e c h I n c