

8 July 2026

TECHNICAL MEMORANDUM

TO: Drew ten Bensel, UBBNRD Engineering Technician

FROM: Robb Lutz, EA Project Manager

SUBJECT: Recharge Lake Sediment Retention Project
EA Project No. 64377-01-00-LS

Mr. ten Bensel,

EA Engineering, Science, and Technology, Inc., PBC (EA) is pleased to submit this technical memorandum summarizing the 75% design for the Recharge Lake Sediment Retention Project. Attached to this memorandum are the 75% Engineering Drawings (Attachment A), 75% Technical Specifications (Attachment B), 75% Construction Cost Estimate for Base Bid Items (Attachment C), 75% Cost Estimate for Alternate Bid items (Attachment D) and 75% Project Feature Cost Breakdown (Attachment E). The following sections provide relevant background information and describe the design.

1. EXECUTIVE SUMMARY

EA has prepared this technical memorandum to present the 75% design for the Recharge Lake Sediment Retention Project, located approximately 2 miles west of York, Nebraska. Recharge Lake is a 44-acre waterbody currently classified as a Category 5 impaired water due to elevated nutrient concentrations, with sediment loading estimated between approximately 4,650 and 6,040 tons per year or equivalently 3,940 and 5,130 cubic yards (CY) per year. Existing conditions within the sediment basin upstream of Road K indicate reduced treatment efficiency due to short-circuiting of stormwater flows which limits sediment settling time resulting in continued sediment delivery to the main body of the lake.

The proposed design is intended to improve sediment capture, enhance hydraulic performance, and support long-term maintenance of the system. Key design features include five rock baffle structures, three overflow weir structures, and targeted excavation areas to increase sediment storage capacity and hydraulic retention time (HRT). Optional in-lake treatment wetlands are also included as alternative bid items; however, due to the prevalence of reed canary grass (RCG) and associated long-term maintenance concerns, these features are not recommended as part of the base design.

Sediment evaluations indicate that the project area currently captures approximately 22–24% of incoming sediment. The proposed improvements are projected to increase HRT, resulting in a proposed sediment trapping efficiency of 29%. Under post-construction conditions, the project area is estimated to capture approximately 1,456 cubic yards (CY) of sediment per year. With an estimated total sediment storage capacity of approximately 39,900 CY, the system is anticipated to provide a service life of approximately 27 years before significant maintenance dredging is required.

Additional analysis was performed to evaluate the relative performance of individual project components. Results indicate that the upstream features (Baffles 1 and 2 and Weir 1) provide the greatest benefit in increasing sediment retention, achieving an estimated improvement to a 27% trapping efficiency. These features intercept the majority of inflow to the lake and represent the most effective components of the system on a cost-to-benefit basis.

An opinion of probable construction cost has been developed using RSMeans 2026 data and experience from similar projects. The total estimated project cost is approximately \$3.89 million, including base bid items, alternative bid items, and contingency. Of this total, approximately \$1.01 million is associated with the construction of the in-lake treatment wetland improvements, which are not recommended due to the significant risk of reed canary grass re-establishment and associated long-term maintenance requirements.

Recognizing that full project implementation may exceed available or planned funding, the design allows for phased construction such that individual components can be implemented independently while still achieving measurable water quality improvements. Constructing only the upstream features would reduce initial project cost to approximately \$1.55 million while still providing a substantial improvement in sediment trapping efficiency. This phased approach allows Upper Big Blue Natural Resources District (UBBNRD) to achieve meaningful near-term water quality benefits while deferring downstream improvements to a later phase as funding becomes available. Additional cost reduction opportunities include refinement of excavation limits and exclusion of alternative bid items.

Overall, the project has been structured to allow UBBNRD to balance performance and cost by prioritizing the most effective sediment retention features. The results of this analysis are intended to support informed decision-making regarding project phasing, prioritization, and advancement to final design and construction.

2. BACKGROUND

Recharge Lake was constructed in 1990 as a part of a 5-year groundwater recharge study. The lake has approximately 44 surface acres of water and a maximum depth of 15 feet, and is located approximately 2 miles west of York, Nebraska. On the western side of Recharge Lake, Road K intersects the lake, providing a constriction for stormwater runoff entering the lake. Upstream of Road K, or West of Road K, is a sediment basin. This sediment basin has a permanent pool of water throughout the year and serves to remove sediment and nutrients through particle settling. Currently, the sediment basin provides minimal water quality benefits as stormwater flows short-circuit the larger pool area, minimizing particle settling. Representative site photos of Recharge Lake are provided in **Figure 1-1** and **Figure 1-2** below.



Figure 1-1: Recharge Lake East of Road K after Storm Event



Figure 1-2: Sediment Basin West of Road K after Storm Event

The lake is classified as a Category 5 impaired waterbody due to nutrients, with an estimated annual sediment load ranging between 4,650 tons and 6,040 tons (The Flatwater Group Inc. [TFG], 2024). The Recharge Lake Sediment Retention Project addresses sediment management challenges at Recharge Lake.

To support design development, EA coordinated with the UBBNRD to compile and evaluate existing datasets. Primary sources of data included the 2020 District Wide Water Quality Management Plan (WQMP) and the 2024 Water Quality Improvement Study (WQIS). These datasets were used to evaluate sediment loading conditions within Recharge Lake and inform design decisions. The project design includes rock baffle structures, targeted excavation areas, rock weir overflow structures, and in-lake treatment wetlands to help improve water quality within Recharge Lake.

3. SEDIMENT EVALUATION

The following evaluations were performed using survey data from 2018 and 2024, and information provided in the WQMP and WQIS. The purpose of these evaluations is to quantify the sediment trapping efficiency of the project area prior to implementing the proposed design and determine an approximate increase in removal efficiency after construction of the proposed design.

3.1 SEDIMENT VOLUME AND ACCUMULATION RATE

Sediment volumes presented in the WQIS (Table 2-1) were used to determine the overall sediment accumulation rate for Recharge Lake.

Table 2-1. Sediment Accumulation Volumes

Sediment Thickness Comparison	Sediment Volume (CY)	Sediment Accumulation Rate (CY/year)
2018 – 2024 Sediment Thickness Comparison	21,400	3,570
1990 – 2024 Sediment Thickness Comparison	134,000	3,940

To estimate the pre-project sediment accumulation rate within the proposed sediment basin improvement area, the WQIS Sediment Depth Map (Figure 3 of 4) was used. This figure illustrates approximate sediment depths from the time of the lake's construction in 1990 through the 2024 survey.

This data was digitized to estimate the proportion of total lake sediment accumulation occurring within the project area compared to the downstream portion of the lake. Based on this analysis, approximately 30% of Recharge Lake's total sediment accumulation occurs within the proposed project area.

This percentage was then applied to the calculated lake-wide sediment accumulation rate to derive a project area accumulation rate. A summary of these calculations is provided in **Table 2-2**.

Table 2-2. Sediment Accumulation Rates

Sediment Thickness Comparison	Sediment Accumulation Rate (CY/YR) – Entire Lake	Sediment Accumulation Rate (CY/YR) – Project Area
2018 – 2024 Sediment Thickness Comparison	3,570	1,080
1990 – 2024 Sediment Thickness Comparison	3,940	1,190

3.2 EXISTING TRAPPING EFFICIENCY

The existing sediment trapping efficiency within the project area was estimated by comparing the amount of sediment deposited each year to the total sediment entering the lake annually.

According to the WQMP, Recharge Lake receives approximately 6,040 tons of sediment per year. Using the bulk density value of 1.18 tons per cubic yard calculated from values provided in the WQIS, this corresponds to an annual sediment load of about 5,130 cubic yards.

Most of the watershed drains to the lake through the project area; however, approximately 4% enters the lake from an area north of the RV camping area. To account for this, the sediment load to the project area was reduced by 4%, resulting in a project area specific loading rate.

Sediment trapping efficiency within the project area was then estimated by comparing sediment accumulation rates presented in the previous section to the sediment loading rates. The results are summarized in Table 2-3.

Table 2-3. Existing Sediment Trapping Efficiency – Project Area

Sediment Comparison	Sediment Loading Rate (CY/YR)	Sediment Accumulation Rate (CY/YR)	Sediment Trapping Efficiency (%)
2018 – 2024 Sediment Comparison	4,940	1,080	22
1990 – 2024 Sediment Comparison	4,940	1,190	24

4. DESIGN

This section summarizes the proposed design for improvements within the project area. The design focuses on enhancing sediment capture, improving hydraulic performance, and supporting long-term maintenance. Key components include rock baffles, targeted excavation areas, overflow weir structures, in-lake treatment wetlands, and designated spoil areas. The locations and details of all proposed features are shown on the 75% Engineering Drawings provided in Attachment A.

4.1 ROCK BAFFLES

The design includes five rock baffle structures (Baffles 1, 2, 3, 4 and 5 as shown on the drawings) to increase HRT and sediment retention. An extended excavation area is included near four of the five baffles aimed at maximizing the water depth near each baffle to allow for sediment accumulation and more efficient future removal. The key design components for each rock baffle are outlined below:

- **Structure Composition:**
 - **Top of Baffle Width and Elevation:** Each baffle's top width is designed to be 14-feet wide with an elevation of 1617'. This top width was selected to allow for a long reach excavator to access the top of the baffle, with a foot of clearance on either side. The top elevation provides approximately 1 foot of separation above normal water elevations (1616' to 1614').
 - **Crushed Rock Base:** A half foot-thick crushed rock base is included to provide a stable area for riprap placement and to limit the erosion of underlying soil particles.
 - **Sand and Gravel Fill:** A half foot-thick sand-gravel layer is included to provide additional stability and erosion control to protect the underlying soil.
 - **Type A/B Riprap Mix:** A two-foot-thick layer of Type A/B Riprap mix is included on top of the crushed rock base as an armoring layer. Riprap will be placed at a 2.5:1 slope extending to a bottom elevation of 1610'.
 - **3 to 6-inch Rock Infill:** 3 to 6-inch rock infill is included on the 14-foot-wide baffle top and extends down the 2.5:1 armored slope to elevation 1615'. Rock infill provides a safer walking surface as opposed to solely using riprap and provides added stability by filling voids.
 - **Baffle Material Selection (Riprap vs. Earthen):** Riprap was selected for baffle construction in lieu of earthen embankments to improve durability, sediment storage efficiency, and long-term maintenance performance. The use of riprap allows for steeper side slopes (2.5:1), enabling each baffle and associated excavation area to extend deeper into the lake over a shorter horizontal distance compared to an earthen structure, which would typically require flatter slopes (e.g., 5:1) for stability. This geometry increases available sediment storage within a more compact footprint.
 - The steeper slopes also enhance constructability and long-term maintenance by improving access for long-reach excavators. With riprap baffles, excavation equipment can reach farther into adjacent sediment storage areas from the baffle crest, allowing for more efficient sediment removal during both initial construction and future maintenance dredging operations. In contrast, flatter earthen slopes would reduce the effective reach of excavation equipment, limiting dredging efficiency and require additional excavator access measures.

- Additionally, riprap provides resistance to erosion under fluctuating water levels, flow conditions, and wave action, eliminating reliance on vegetation establishment for slope stability. Earthen baffles would be more vulnerable to erosion, particularly prior to vegetation establishment, and may require ongoing maintenance, repair, or regrading over time.
- From an operational standpoint, riprap also provides a more stable and durable working surface. The baffle crests are designed to support repeated use by long-reach excavators without significant degradation, whereas earthen embankments may be prone to rutting, softening, and surface deterioration under repeated equipment loading.
- **Excavation**
 - **Excavation adjacent to Baffles 1, 2, 3, 4, and 5:** Excavation adjacent to all five baffles extends to an approximate water depth of 6 feet (bottom elevation – 1610') and 5:1 non-armored side slopes. Refer to the Engineering Drawings for more details on the deepening near each baffle.
- **Construction Considerations**
 - Temporary rock placement could be used to support a 45-foot long reach excavator during excavation activities in the deepest portions of the lake.
 - Dredge materials will be hauled and placed on one of the three spoil areas as shown on the 75% Design Drawings (Attachment A).

Table 3-1 details the construction quantities for each rock baffle.

Table 3-1 – Rock Baffle Quantities

Structure	Length from Contour 1615' (LF)	Excavation (CY)	Type "A/B" Riprap (TONS)	Crushed Rock (TONS)	Sand Gravel Fill (TONS)	3-6" Rock (TONS)
Baffle 1	210	9,266	1,963	466	425	163
Baffle 2	160	5,810	1,919	421	384	232
Baffle 3	80	4,514	1,015	233	213	93
Baffle 4	90	2,850	955	215	197	94
Baffle 5	120	2,093	1,112	258	236	151

4.2 EXTENDED EXCAVATION AREAS

The design includes three extended excavation areas aimed at removing accumulated sediment. Excavation Areas 1, 2, and 3 as shown on the drawings include a flat bottom extending from the bottom elevation of adjacent baffles and a 5:1 slope daylighting to the existing grade. The baffles are designed with a top width of 14 feet to provide adequate space for long-reach excavator access for construction and future maintenance of these areas. Key features of the proposed excavation areas are summarized below:

- **Side Slopes:** 5:1 non-armored side slopes extending from the existing grade are included for stability.
- **Bottom elevation:** The bottom elevation of each excavation area matches the elevation of adjacent baffles (1610') to provide additional sediment storage.

- **Excavation Area Placement:** Excavation area locations were selected to target locations of high sediment deposition, as seen in the WQIS (TFG 2024) and survey data provided by UBBNRD.
 - For example, Excavation Area 3 (adjacent to Baffle 4) is excavated to an elevation of 1610' to target the sediment depths reaching up to 6.5 feet as seen in the WQIS (TFG 2024) and to tie in with the bottom elevation of Baffle 4.
- **Excavation Area 1 Stream Channel Tie-In:** Excavation Area 1 is extended to transition flow from the existing creek bed around the proposed baffle to slow incoming water velocities and provide additional sediment capacity. This prevents orthogonal flow at the base of Baffle 1, which could cause erosion and other potential issues. This proposed flow path also provides a wider, deepened area upstream of Baffle 1, allowing for more sediment deposition to occur prior to water traveling downstream.

4.3 OVERFLOW WEIR STRUCTURES

The design includes three rock weir overflow structures. Each weir is designed to slow water velocities while avoiding an increase in flooding. The key design components of the overflow weir structures are described below:

- **Weir crest elevation:** Each weir crest elevation was selected by evaluating site topography and cross-sections within the lake to determine an elevation that slows water velocities while not significantly altering flood conditions. Weir 1, 2, and 3's crest elevations were set at 1616', 1615.75', and 1615.5' respectively. The determination of each weir's crest elevation is described in greater detail below:
 - Weir crest elevations were determined based on existing contours and normal water elevations. Individual crest elevations were selected to not pond water outside of the current lake operating area (based on aerial imagery and topography), to not cause water to pond above an upstream weir, and to not induce additional flooding.
 - HydroCAD was used to compare the effect the proposed weirs have on flow velocities. Peak flows for storm events were estimated using regional regression equations (Soenksen 1999, Beckman 1976, Strahm 2005). These peak flows were input into HydroCAD using a manually defined ramp-up hydrograph.
 - Comparison of model results indicated that Weir 1 produced the most significant reduction in velocities. Weir 2 and Weir 3 also indicated reduced velocities, as shown in Table 3-2.

Table 3-2. HydroCAD Weir Velocities

Storm Event	Weir 1		Weir 2		Weir 3	
	Existing Velocity (ft/s)	Proposed Velocity (ft/s)	Existing Velocity (ft/s)	Proposed Velocity (ft/s)	Existing Velocity (ft/s)	Proposed Velocity (ft/s)
25-year	6.75	5.82	5.44	4.49	4.73	4.2
50-year	7.55	6.72	6.26	5.21	5.43	4.84
100-year	8.01	7.82	6.89	5.82	5.99	5.39

- **Weir Breadth:** The breadth of each weir is sized to be three times the size of the maximum diameter (D_{100}) of Type 'B' Riprap, following established design guidance (Natural Resources Conservation Science, 2001). The D_{100} of Type 'B' Riprap is 1.61 feet, resulting in a weir breadth of 5 feet.
- **Weir Width:** Each weir is designed to tie in with the existing grade and extend up the existing bank (at the existing bank slope) to alleviate erosion concerns around the structure. The elevation at which each weir ties into the existing grade was determined based on the weir crest elevation and nearby trails or road embankments. Riprap placement at Weir 1 extends to elevation 1619', tying into the embankment adjacent to the bridge. Weir 2 and 3 both extend riprap placement to elevation 1617', avoiding the placement of rock over existing trails.
- **Deepening Upstream of Weir 1:** The design includes additional excavation in the area upstream of Weir 1, extending to a bottom elevation of 1612'. This provides additional sediment capacity upstream of the weir. Additionally, this deepened area upstream of Weir 1 ties in with the bottom elevation of Baffle 2, which maximizes the excavation area surrounding the baffles.

4.4 IN-LAKE TREATMENT WETLANDS

Following discussion with the project team wetland scientists, pictures of the proposed wetland areas were examined, and it was determined that reed canary grass (RCG) was dominant in all three proposed wetland areas. RCG is an invasive perennial grass that typically outcompetes most native species in natural wetlands. RCG poses a major issue for establishing native emergent wetland species because it spreads aggressively and produces an extensive root structure. It expands rapidly through both dense clumping and long rhizomes that form a thick impenetrable mat below the soil surface. These mats contain thousands of dormant buds, allowing RCG to quickly regrow even after disturbance. Its early spring growth and dense litter layer further suppress native plants, making it hard for them to establish or survive (Wisconsin Reed Canary Grass Management Working Group 2009).

Given the presence of RCG at all three proposed wetland locations, the in-lake treatment wetlands are proposed as alternative bid items, subject to UBBNRD review. These alternative bid items include the management of RCG to ensure native wetland species success. To manage RCG, an early spring prescribed burn paired with herbicide application can reduce or eliminate RCG seed development, allowing native vegetation to compete with subsequent re-growth. However, these management practices would need to be implemented onsite for a minimum of 3 to 5 years (Wisconsin Reed Canary Grass Management Working Group 2009). Another

alternative management practice includes the excavation of the RCG rhizome mat, to allow native species to compete. It's important to note that RCG can rapidly re-colonize in disposed soil, such that onsite disposal could lead to potential recolonization. Excavation of areas containing RCG was used as the proposed wetland establishment method, which required offsite disposal of excavated material, leading to significantly increased disposal costs.

Given the finding of RCG in the project area, EA recommends against the inclusion of in-lake treatment wetlands in the current design. There is concern that, within a few years, native vegetation could be overtaken by RCG, resulting in reduced ecological function and diminished project value. This outcome could also lead to increased long-term maintenance costs to manage RCG regrowth or, if unmanaged, a loss of biodiversity as native emergent wetland species are outcompeted. However, if UBBNRD elects to proceed with the inclusion of these wetlands, the following design elements are described below.

The design includes three emergent in-lake treatment wetland areas as alternate design items, subject to UBBNRD review. The extents of Wetland Area 1, 2, and 3 can be found on Figure 3-1.



Figure 3-1. Proposed In-Lake Treatment Wetland Areas.

The use of native emergent wetland vegetation provides aquatic habitat along with nutrient uptake capabilities. The design places these wetlands in areas with maximum ponded water depths of 2 feet. This is to allow emergent species to be periodically to semi-permanently inundated. Key design elements are summarized below:

- **RCG Management:** To manage the presence of RCG onsite, the proposed in-lake treatment wetland design includes the excavation of the proposed wetland areas to a depth of 2-feet to remove the RCG rhizome extents, per U.S. Army Corps of Engineers (USACE) guidance. This excavation extends to upland regions adjacent to the proposed wetland areas, to avoid RCG recolonization of excavated areas.
- **Emergent Planting Plugs:** Five plant species were selected for emergent planting plugs that allow for low-cost and low-maintenance in-lake treatment wetlands. The species selected for planting are soft-stem bulrush (*Schoenoplectus tabernaemontani*), river bulrush (*Bolboschoenus fluviatilis*), common three-square bulrush (*Schoenoplectus pungens*), broadleaf arrowhead (*Sagittaria latifolia*), and common spikerush (*Eleocharis palustris*).
- **Shoreline seeding:** A minimum 20-foot-wide offset from the waterline (~1615' elevation) is proposed to be seeded with a water's edge mixture from Stock Seed Farms. This seeding provides a transition zone from the emergent wetland plugs to upland regions. Additionally, using seed in these areas provides a low-cost alternative in comparison to use of planting plugs.
- **Vegetation Establishment:** To help reduce costs associated with planting wetland plugs and establishing vegetation, percent vegetation coverage or establishment for upland and in-water regions are only required to reach 70% and 60% respectively. This follows guidance from the Nebraska Construction Stormwater General Permit (Nebraska Department of Environment and Energy 2021).

4.5 SPOIL AREAS

Three potential spoil areas have been identified and are shown on the Drawings in **Attachment A**. Table 3-3 provides the available area, estimated maximum thickness of sediment disposal, and an estimated available storage volume for sediment in each spoil area. The total available spoil material storage volume is estimated to be 22,000 CY and is expected to provide sufficient storage for the total volume of sediment removal in this conceptual plan, assuming compaction decreases this sediment removal volume by approximately 30 percent.

Table 3-3. Spoil Areas.

Spoil Area	Area (AC)	Estimated Available Thickness (ft)	Estimated Available Volume (CY)
Spoil Area 1	0.6	10	5,000
Spoil Area 2	1.0	12	8,800
Spoil Area 3	1.0	11	8,400
Total	2.6	-	22,200

4.6 TRAPPING EFFICIENCY

To estimate sediment trapping efficiency under proposed conditions, the change in HRT between existing and post-project conditions was evaluated. HRT was calculated using existing and proposed flow paths.

The analysis indicates that implementation of the proposed baffles and weirs would increase total HRT by approximately 35%. Using the most recent pre-project sediment trapping efficiency

(2018–2024) of 22% (equivalent to approximately 1,080 CY/year), the post-project sediment accumulation rate within the project area is estimated to increase to approximately 1,456 CY/year, increasing sediment trapping efficiency to 29%.

It should be noted that this estimate is approximate and based on several simplifying assumptions. The analysis does not account for sediment size distribution or variability in sediment characteristics, as these data were not available from previous studies. Additionally, the method assumes a linear relationship between flow path length and HRT, and that increases in retention time directly translate to proportional increases in sediment capture. While detailed sediment transport modeling was outside the project scope, this approach provides a reasonable planning-level estimate of sediment accumulation and anticipated maintenance intervals.

AutoCAD Civil3D was used to estimate the total available sediment storage volume after construction of the proposed improvements. The sediment storage volume was calculated using a surface comparison between the proposed conditions surfaces (baffles and excavation areas) and the downstream weir crest elevation in each respective area. Based on the surface comparison, approximately 39,700 CY of storage is available for incoming sediment within the project area. Using this storage capacity in conjunction with the previously calculated sediment accumulation rate post-construction, the project is anticipated to have a service life of approximately 27 years. Table 3-4 provides a summary of the results of this calculation.

Table 3-4. Trapping Efficiency and Service Life Scenarios

Sediment Capacity (CY)	Sediment Trapping Efficiency (%)	Sediment Loading Rate (CY/YR)	Sediment Accumulation rate (CY/YR)	Service Life (Years)
39,700	29	4,490	1,456	27

In addition to evaluating overall project performance, the relative contribution of individual design components was considered. Based on the HRT analysis, the project features located upstream of Road K (Baffles 1 and 2 and Weir 1) provide the greatest increase in sediment retention efficiency. These upstream features intercept most of the inflow to the lake and significantly increase flow path length and residence time prior to water reaching downstream areas.

HRT calculations indicate that implementation of only the upstream features would increase sediment trapping efficiency to approximately 27%. This demonstrates that a substantial portion of the overall project benefit can be achieved within the upstream portion of the system.

If only the features upstream of Road K are constructed, it is estimated that approximately 17,500 CY of storage would be available for incoming sediment within this portion of the project area. Using this storage capacity in conjunction with the estimated post-construction sediment accumulation rate, the upstream-only configuration is anticipated to provide a service life of approximately 12 years prior to requiring sediment removal.

Compared to the full project buildout (including all five baffles and three weirs), constructing only the upstream features would result in an estimated additional 116 CY per year of sediment

being delivered to the main body of the lake. This represents the portion of sediment that would otherwise be captured by the downstream improvements under the full project configuration.

This analysis is provided to allow UBBNRD to evaluate how individual project components contribute to overall performance, and to assess whether the benefits of each set of features are commensurate with their associated construction costs.

5. CONSTRUCTION COST ESTIMATE

A construction cost estimate was developed for the Recharge Lake Sediment Retention Project using unit prices from RSMeans Online 2026 and previous project bids. The estimate reflects anticipated construction costs associated with the proposed sediment retention improvements, including rock baffles, excavation, weir structures, and associated earthwork.

A detailed construction cost estimate for the recommended project components is provided in Attachment C, including itemized costs by individual bid item. This detailed breakdown is intended to support review of quantities, unit costs, and total costs for each component of the proposed project.

Because in-lake treatment wetlands are not recommended for implementation due to reed canary grass (RCG) establishment concerns and associated long-term maintenance requirements, these features have been developed as alternative bid items. A separate cost estimate for the optional in-lake treatment wetland improvements is provided in Attachment D to allow UBBNRD to evaluate the additional cost associated with including these features.

5.1 CONSTRUCTION COST SUMMARY

A summary-level construction cost estimate is provided below. Costs are separated between the recommended project components (base bid items) and the optional in-lake treatment wetland improvements (alternative bid items).

Table 4-1: Construction Cost Estimate Summary

Base Bid Items Subtotal	\$2,402,730
Alternative Bid Items Subtotal	\$838,980
Contingency (20%)	\$648,400
Total Cost	\$3,890,100

The base bid items represent the recommended project improvements described in this memorandum. The alternative bid items represent the optional in-lake treatment wetland improvements discussed in Section 4.4. If the alternative bid items are excluded, the estimated construction cost of the recommended project would be approximately \$2.88 million, including contingency. This summary table is intended to complement the detailed construction cost estimates provided in Attachments C and D.

5.2 FEATURE-BASED COST BREAKDOWN

In addition to the bid item estimate provided in Attachment C, construction costs have been summarized by major project feature groupings to support evaluation of cost relative to sediment retention benefits. This project feature cost breakdown allows for comparison of individual project components and provides a framework for considering phased implementation, project prioritization, and value engineering alternatives.

A detailed Project Feature Cost Breakdown is provided in Attachment E. This attachment summarizes construction costs by major project features and project areas to facilitate evaluation of project benefits relative to implementation costs.

The estimated construction costs by feature grouping are as follows:

Table 4-2: Upstream of Road K

Feature	Cost
Baffle 1 and Associated Excavation Costs	\$637,400
Baffle 2 and Associated Excavation Costs	\$495,000
Weir 1 and Associated Excavation Costs	\$161,700
Contingency (20%)	\$257,700
Total	\$1,545,800

Table 4-3: Upstream of Weir 2

Feature	Cost
Baffle 3 and Associated Excavation Costs	\$315,700
Weir 2 and Associated Excavation Costs	\$128,000
Contingency (20%)	\$88,800
Total	\$532,500

Table 4-4: Upstream of Weir 3

Feature	Cost
Baffle 4 and Associated Excavation Costs	\$244,000
Baffle 5 and Associated Excavation Costs	\$242,000
Weir 3 and Associated Excavation Costs	\$185,000
Contingency (20%)	\$134,200
Total	\$805,200

This project feature cost breakdown is provided to allow UBBNRD to compare construction costs for individual portions of the project with the corresponding sediment retention benefits described in Section 4.6, and to support informed decision-making regarding project prioritization, phased implementation, and future funding opportunities.

5.3 COST REDUCTION AND PHASED IMPLEMENTATION CONSIDERATIONS

Given the estimated total project cost of approximately \$3.89 million, it is recognized that full implementation of all proposed improvements may exceed available or planned funding. As such, evaluation of cost reduction measures and phased implementation approaches is recommended.

The design allows for phased construction, such that individual components can be implemented independently while still achieving measurable water quality improvements. Based on the sediment trapping efficiency analysis presented in Section 3.6, the upstream features (Baffles 1 and 2 and Weir 1) provide the greatest increase in HRT and sediment capture. These features intercept the majority of inflow to the lake and represent the most cost-effective portion of the project on a cost-to-benefit basis.

Constructing only the upstream features would reduce initial project costs to approximately \$1.46 million while still achieving a improvement in sediment trapping efficiency. This phased approach would allow UBBNRD to realize near-term water quality benefits while deferring downstream improvements to a later phase as additional funding becomes available.

Additional potential cost reduction considerations include:

- **Phased Construction Approach:**
Implement upstream improvements as an initial phase, followed by downstream baffles and weirs in subsequent phases as funding allows.
- **Refinement of Excavation Limits:**
Excavation represents a significant portion of project cost. Adjustments to excavation depths, side slopes, or extents in lower-priority areas may reduce costs while maintaining core functionality.
- **Exclusion of Alternative Bid Items:**
In-lake treatment wetlands are included as alternative bid items and are not recommended due to reed canary grass (RCG) presence and associated long-term maintenance requirements. Excluding these elements reduces both initial construction cost and long-term maintenance commitments.

Overall, the project has been structured to allow UBBNRD to balance performance and cost by prioritizing the most effective sediment retention features. The cost breakdown and performance analysis presented herein are intended to support informed decision-making regarding project phasing, prioritization, and potential value engineering alternatives.

6. REFERENCES

- Beckman, EW. 1976. *Magnitude and Frequency of Floods in Nebraska*. Water-Resources Investigations 76-109. October.
- City of Lincoln (COL). 2014. Drainage Criteria Manual: Chapter 8, City of Lincoln Public Works and Utilities Department, Lincoln, Nebraska, 27 January.
- CAT. Material Density Tables To Help Estimate Earthwork Volumes.
https://www.cat.com/en_US/articles/ci-articles/earthwork-volumes-reference-tables.html
- JEO Consulting Group Inc. 2020. *District Wide Water Quality Management Plan, Upper Big Blue NRD*. March.
- Nebraska Department of Environment and Energy. 2021. Nebraska Construction Storm Water General Permit. December.
- Soenksen, PJ, LD Miller, JB Sharpe, and JR Watton. 1999. *Peak-Flow Frequency Relations and Evaluation of the Peak-Flow Gaging Network in Nebraska*. Water-Resources Investigations Report 99-4032.
- Strahm BJ and DM Admiraal. 2005. *Regression Equations*. Nebraska Department of Roads Research Project Number SPR-1(2) P541. August.
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). 2001. *Engineering Technical Note No. 13*. https://efotg.sc.egov.usda.gov/references/Delete/2010-1-23/eng_tn13.pdf
- Wisconsin Reed Canary Grass Management Working Group. 2009. Reed Canary Grass (*Phalaris arundinacea*) Management Guide: Recommendations for Landowners and Restoration Professionals. PUB-FR-428 2009. https://www.nrcs.usda.gov/sites/default/files/2022-09/Reed%20Canary%20Grass%20Management%20Guide_0.pdf

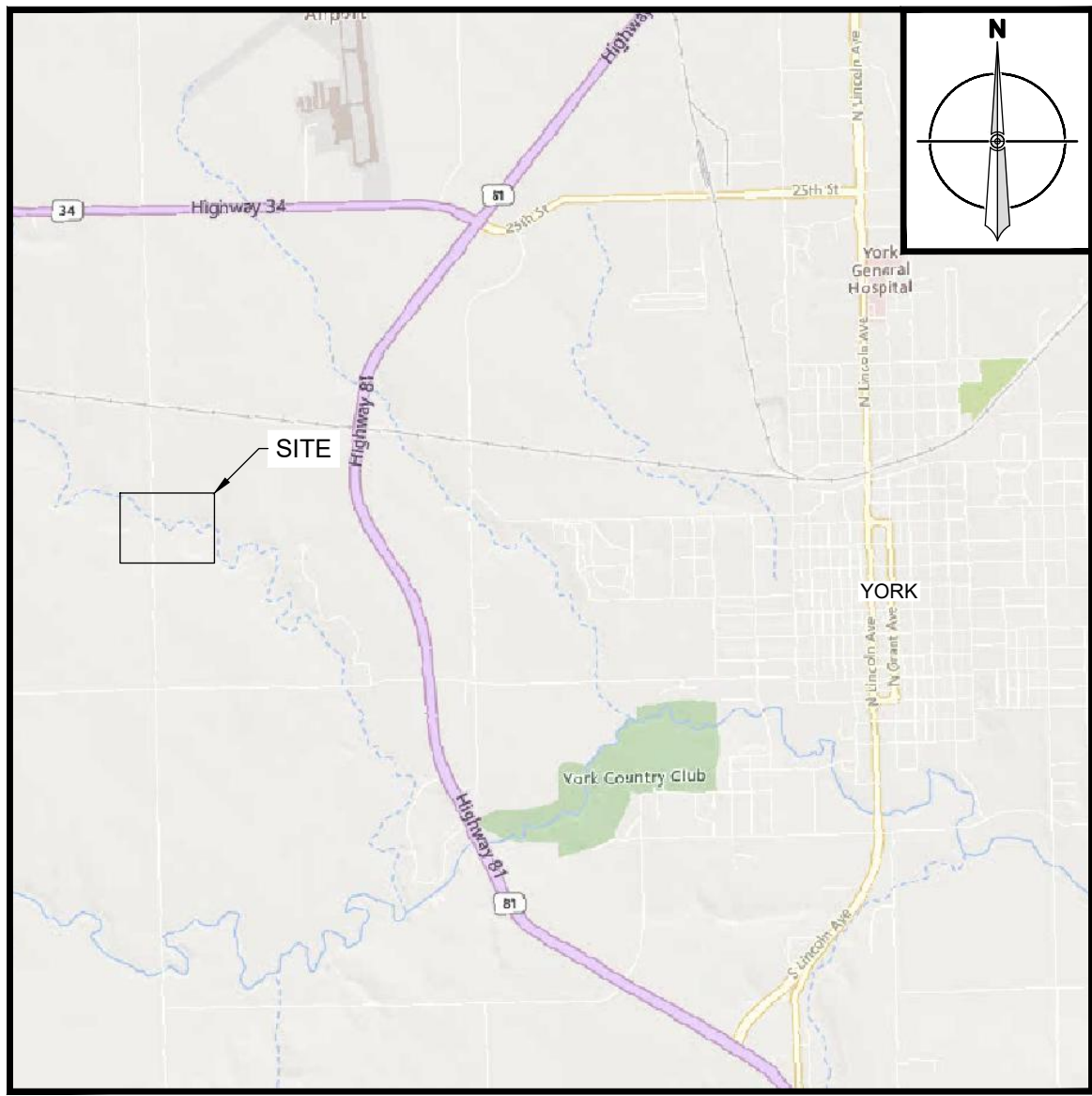
Attachments

- | | |
|---|---|
| A | 75% Engineering Drawings |
| B | 75% Technical Specifications |
| C | 75% Construction Cost Estimate – Base Bid Items |
| D | 75% Construction Cost Estimate – Alternate Bid Items 75% |
| E | Construction Cost Estimate – Project Feature Cost Breakdown |

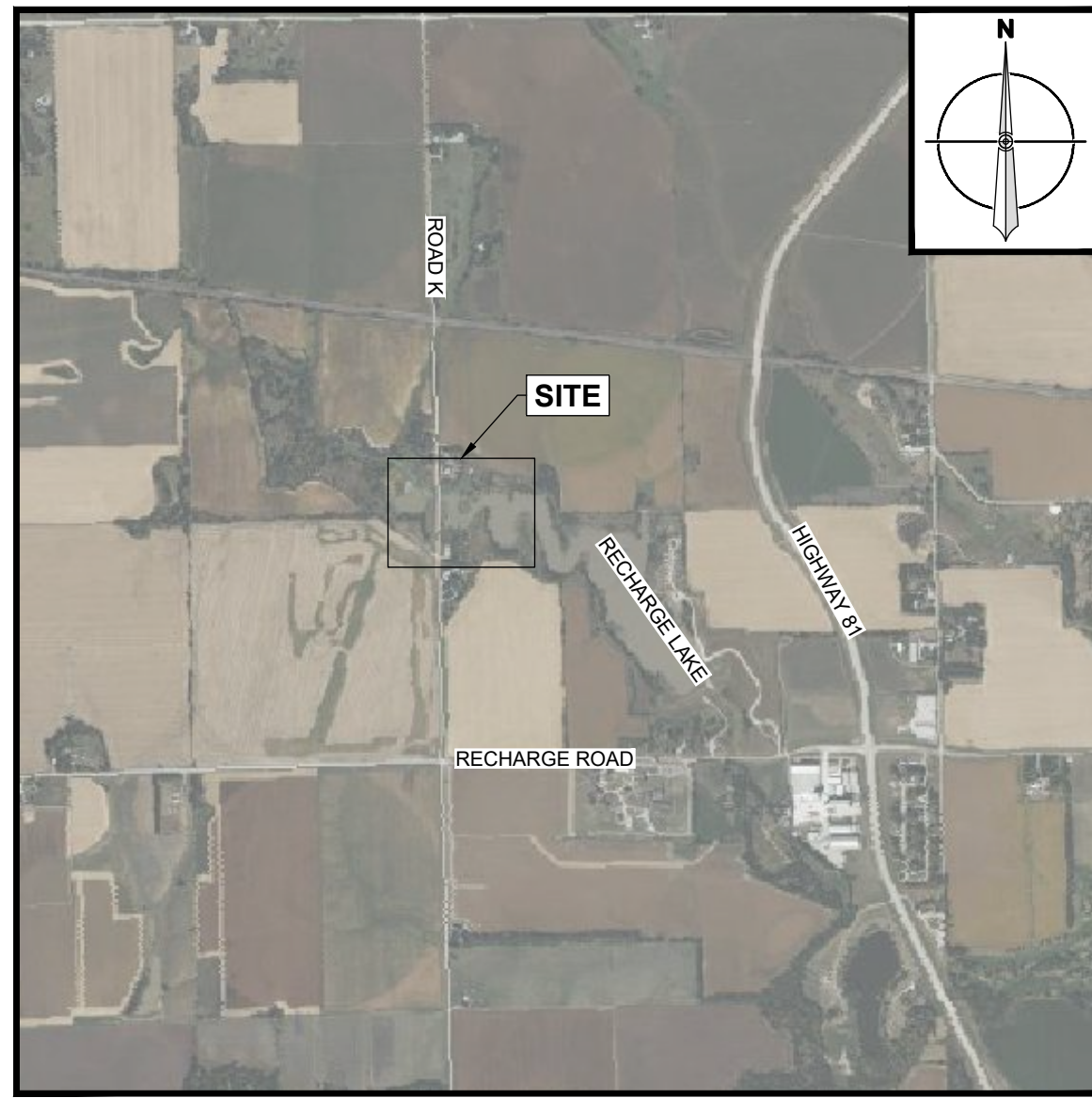
Attachment A
75% Engineering Drawings

RECHARGE LAKE SEDIMENT RETENTION PROJECT

YORK, NEBRASKA



VICINITY MAP
NO SCALE



SITE LOCATION MAP
NO SCALE

SHEET LIST		
DRAWING NO.	SHEET NO.	DRAWING TITLE
G-001	1	TITLE SHEET
G-002	2	GENERAL NOTES AND LEGEND
C-101	3	EXISTING CONDITIONS INDEX MAP
C-201	4	PROPOSED IMPROVEMENTS - AREA 1
C-202	5	PROPOSED IMPROVEMENTS - AREA 2
C-203	6	SPOIL AREA PLAN
C-501	7	DETAILS I
C-502	8	DETAILS II
C-503	9	STAKING PLAN



EA Engineering, Science, and
Technology, Inc., PBC

221 Sun Valley Blvd, Suite D
Lincoln, Nebraska 68528
(402) 476-3766

www.eaest.com

HORIZONTAL DATUM:
NAD83 NEBRASKA STATE
PLANES, U.S. FOOT

VERTICAL DATUM:
NAVD88, FT

SCALE AS SHOWN

FULL SIZE PLOT: 24" x 36"

REVISIONS

NO.	DESCRIPTION	DATE

SEAL

PROJECT NAME
RECHARGE LAKE SEDIMENT
RETENTION PROJECT

PROJECT ADDRESS
YORK, NEBRASKA

DRAWING TITLE
TITLE SHEET

DRAWING INFORMATION

DRAWN BY: JRM DESIGNED BY: CM

CHECKED BY: JMT PROJECT MANAGER: RJL

PROJECT NUMBER: 6437701

DRAWING NO.

G-001

DATE: JULY 2026 SHEET: 1 OF 9

FILE PATH: L:\ASSTV - RECHARGE LAKE\CD\PROJECT\CONSTRUCTION\SET\ASSTV - TITLE SHEET.DWG (0:00) BAKES: CAMRYN 1/26/2018 1:12 AM

PROJECT INFORMATION

SITE LOCATION:
114 RECHARGE ROAD
YORK, NE 68467

CLIENT:
UPPER BIG BLUE NATURAL RESOURCES DISTRICT
319 E 25TH STREET
YORK, NE 68467

ENGINEER:
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC., PBC
221 SUN VALLEY BLVD, SUITE D
LINCOLN, NEBRASKA 68528
410-584-7000

DATUM:
HORIZONTAL: NAD83 NEBRASKA STATE PLANES, U.S FOOT
VERTICAL: NAVD88, FT

SITE DATA

- TOPOGRAPHY AND EXISITING CONDITIONS DATA SHOWN HEREON ARE BASED ON A BATHYMETRIC SURVEY PERFORMED BY THE FLATWATER GROUP (2024), 2019 SURVEY DATA, AND 1-METER LIDAR FROM THE UNITED STATES GEOLOGIC SURVEY (2017).
- PROPERTY LINES ARE BASED ON THE NEBRASKA STATEWIDE PARCEL DATABASE FROM NEBRASKAMAP.GOV (2025).
- THE SITE IS LOCATED WITHIN ZONE A PER FEMA FIRM MAP PANEL 31185C0300C, MAP EFFECTIVE DATE 8/1/2019.

GENERAL NOTES

- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, AND PROCEDURES UTILIZED FOR THE CONSTRUCTION UNDER THE SCOPE OF WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND STANDARD CONSTRUCTION PRACTICES.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH WORK.
- THE CONTRACTOR SHALL NOTIFY THE LOCAL 811 CENTER OR MISS UTILITY AT 800-257-7777 AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL VERIFY THE PRESENCE, LOCATION, AND DEPTH OF ANY EXISTING UTILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS CONCERNING SAFETY AND PRESERVATION OF EXISTING UTILITIES ADJACENT TO ANY WORK AND SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING STRUCTURES BELOW AND ABOVE GRADE DURING THE COURSE OF DEMOLITION AND CONSTRUCTION. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RE PAIRED IMMEDIATELY AND THE COSTS OF SUCH REPAIR SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. THE CONTRACTOR SHALL NOTE THAT IN CASE OF DISCREPANCY BETWEEN THE SCALED AND FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ENGINEER AT 402-476-3766 IN THE EVENT OF ANY DISCREPANCIES IN THE PLANS OR IN THE RELATIONSHIPS OF EXISTING SITE CONDITIONS AND FEATURES TO PROPOSED SITE CONDITIONS AND FEATURES PRIOR TO BEGINNING WORK.
- ALL SAFETY MEASURES TO BE IMPLEMENTED DURING THE CONSTRUCTION OF THIS PROJECT ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS AS APPLICABLE, AND IN ACCORDANCE WITH CURRENT OSHA REGULATIONS.
- THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR SUBMITTAL TO ALL APPROPRIATE STATE AND LOCAL JURISDICTIONS FOR REVIEW AND APPROVAL PRIOR TO MOBILIZATION. ROADWAYS SHALL REMAIN OPEN AT ALL TIMES THROUGHOUT CONSTRUCTION WITH ALL NECESSARY TRAFFIC CONTROL MEASURES. ANY ROAD OR LANE CLOSURES MUST BE COORDINATED AND APPROVED PRIOR TO THE START OF CONSTRUCTION.

PROJECT QUANTITIES		
BASE BID ITEMS		
MOBILIZATION	1	LS
SITE CLEARING	1	LS
SITE ACCESS AND HAUL ROADS	1	LS
EROSION AND SEDIMENT CONTROL	1	LS
SEDIMENT EXCAVATION AND DISPOSAL	27,000	CY
SAND GRAVEL FILL	2,030	TON
CRUSHED ROCK	2,250	TON
3-6" ROCK	870	TON
RIPRAP	9,700	TON
SEEDING	4	AC
ALTERNATE BID ITEMS		
MOBILIZATION - ALTERNATE BIDS	1	LS
SEDIMENT EXCAVATION AND DISPOSAL	4,380	CY
EMERGENT WETLAND PLUG PLANTINGS	14,940	EA
MIXED WETLAND SEEDING	1	AC

ABBREVIATIONS	
AC	ACRES
APPROX	APPROXIMATELY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BC	BOTTOM OF CURB
BGS	BELOW GROUND SURFACE
BLDG	BUILDING
BW	BOTTOM OF WALL
CATV	CABLE TELEVISION
CL - C/L	CENTER LINE
COMM	COMMUNICATIONS
CONC	CONCRETE
CY - CU YDS	CUBIC YARDS
DA	DRAINAGE AREA
DIA	DIAMETER
DOT	DEPARTMENT OF TRANSPORTATION
ECOP	ENVIRONMENTAL CONCEPT PLAN
EL - ELEV	ELEVATION
EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY
ESC	SOIL EROSION AND SEDIMENT CONTROL
ESD	ENVIRONMENTAL SITE DESIGN
EX - EXST	EXISTING
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
FT	FEET
GPS	GLOBAL POSITIONING SYSTEM
INV	INVERT
MHW	MEAN HIGH WATER
MLW	MEAN LOW WATER
MSL	MEAN SEA LEVEL
NA	NOT APPLICABLE
NAD83	NORTH AMERICAN DATUM OF 1983
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
NGS	NATIONAL GEODETIC SURVEY
NO.	NUMBER
NRCS	NATIONAL RESOURCE CONSERVATION SERVICE
OH - OVHD	OVERHEAD OR ABOVEGROUND
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PR - PROP	PROPOSED
RCP	REINFORCED CONCRETE PIPE
RTK	REAL-TIME KINEMATIC
SCH	SCHEDULE
SD	STORM DRAIN
SF - SQ FT	SQUARE FEET
SS	SANITARY SEWER
SWM	STORMWATER MANAGEMENT
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL
UG - UGND	UNDERGROUND
UNK	UNKNOWN
U.S.	UNITED STATES
USACE	U.S. ARMY CORPS OF ENGINEERS
USDA	U.S. DEPARTMENT OF AGRICULTURE
USGS	U.S. GEOLOGICAL SURVEY
W/	WITH
WSEL	WATER SURFACE ELEVATION

LEGEND	
DESCRIPTION	EXISTING
COMM MANHOLE	Ⓢ
COMM VAULT	Ⓢ
COMM CATV PEDESTAL	□ C
COMM CATV WITNESS POST	Ⓢ C
COMM FIBER OPTIC MANHOLE	Ⓢ
COMM FIBER OPTIC WITNESS POST	Ⓢ F0
COMM FIBER OPTIC VAULT	Ⓢ
COMM TELEPHONE MANHOLE	Ⓢ
COMM TELEPHONE VAULT	Ⓢ
COMM TELEPHONE PEDESTAL	□ T
COMM TELEPHONE WITNESS POST	Ⓢ T
COMM CATV UTILITY MARKING	--- C --- C ---
COMM FIBER OPTIC UTILITY MARKING	--- F0 --- F0 ---
COMM TELEPHONE UTILITY MARKING	--- T --- T ---
COMM OVHD LINE	--- OH --- OH ---
COMM OVHD CATV LINE	--- OH C --- OH C ---
COMM OVHD TELEPHONE LINE	--- OHT --- OHT ---
COMM UGND CATV LINE	--- C --- C ---
COMM UGND FIBER OPTIC LINE	--- F0 --- F0 ---
COMM UGND TELEPHONE LINE	--- T --- T ---
ELECTRIC MANHOLE	Ⓢ
ELECTRIC HANDHOLE	Ⓢ
ELECTRIC PULL BOX	Ⓢ
ELECTRIC METER	Ⓢ
ELECTRIC VAULT	Ⓢ
ELECTRIC TRANSFORMER	Ⓢ
ELECTRIC SUBSTATION	Ⓢ
ELECTRIC LIGHT POST	Ⓢ
ELECTRIC UTILITY POLE	Ⓢ
ELECTRIC GUY WIRE	→
ELECTRIC GUY POLE	Ⓢ
ELECTRIC WITNESS POST	Ⓢ
ELECTRIC UTILITY MARKING	--- E --- E ---
ELECTRIC OVHD LINE	--- OH E --- OH E ---
ELECTRIC UGND LINE	--- E --- E ---
FUEL MANHOLE	Ⓢ
FUEL OIL VAULT	Ⓢ
FUEL WITNESS POST	Ⓢ
FUEL UTILITY MARKING	--- F --- F ---
FUEL OVHD LINE	--- OH F --- OH F ---
FUEL UGND LINE	--- F --- F ---
LANDFILL GAS VENT	Ⓢ
LANDFILL GAS MONITORING PROBE	Ⓢ
LANDFILL GAS WELL	Ⓢ
LANDFILL GAS VALVE	Ⓢ
LANDFILL MONITORING WELL	Ⓢ
LANDFILL PIEZOMETER	Ⓢ
LANDFILL CELL BOUNDARY	---
LANDFILL GAS COLLECTION	--- LFG --- LFG ---
LANDFILL LEACHATE LINER BOUNDARY	---
LANDFILL LEACHATE COLLECTION	--- LCP --- LCP ---
NATURAL GAS MANHOLE	Ⓢ
NATURAL GAS METER	Ⓢ
NATURAL GAS VALVE VAULT	Ⓢ
NATURAL GAS PLANT	Ⓢ
NATURAL GAS WITNESS POST	Ⓢ
NATURAL GAS UTILITY MARKING	--- G --- G ---
NATURAL GAS OVHD LINE	--- OHG --- OHG ---
NATURAL GAS UGND LINE	--- G --- G ---
PROPERTY MARKER	○
PROPERTY BOUNDARY	---
PROPERTY BOUNDARY ADJOINER	---
PROPERTY EASEMENT	---
PROPERTY RIGHT-OF-WAY	---
PROPERTY SETBACK	---
SANITARY SEWER MANHOLE	Ⓢ
SANITARY SEWER CLEANOUT	Ⓢ
SANITARY SEWER METER	Ⓢ
SANITARY SEWER LIFT STATION	Ⓢ
SANITARY SEWER VALVE VAULT	Ⓢ
SANITARY SEWER WITNESS POST	Ⓢ
SEPTIC TANK	Ⓢ
SANITARY SEWER UTILITY MARKING	--- SS --- SS ---
SANITARY SEWER UTILITY MARKING FM	--- FM --- FM ---
SANITARY SEWER LINE	---
SANITARY SEWER FORCE MAIN	---
SITE CONTROL POINT	Ⓢ
SITE BENCHMARK	Ⓢ
SITE SOIL BORING	Ⓢ
SITE MONITORING WELL	Ⓢ
SITE PERCOLATION TEST	Ⓢ
SITE PIEZOMETER	Ⓢ
SITE WATER LEVEL MARKER	Ⓢ
SITE FLOW ARROW	→
SITE MANHOLE UNKNOWN UTILITY	Ⓢ
SITE SIGN	○
SITE FENCE POST	○
SITE GATE POST	○
SITE BOLLARD	●
SITE UNKNOWN FEATURE	○ UNK
SITE SPOT ELEVATION	+ EL
SITE HANDICAP PARKING SPACE	Ⓢ
SITE TRAFFIC ARROW	→
SITE TREE	Ⓢ
SITE CONTOUR	---
SITE CONCRETE	---
SITE DEMOLITION	---
SITE FEMA FLOODPLAIN	---
SITE FENCE	---
SITE GRADE BREAK	---

LEGEND	
DESCRIPTION	EXISTING
SITE RAIL ROAD TRACK	---
SITE GUARD RAIL	---
SITE GRAVEL	---
SITE STEEP SLOPE 15-25%	---
SITE STEEP SLOPE >25%	---
SITE SOIL BOUNDARY	---
SITE SOIL CLASSIFICATION	---
SITE TREE/BRUSH LINE	---
SITE ZONING	---
SITE WETLAND	---
SITE WETLAND BUFFER	---
SITE WATERS OF THE U.S.	---
SITE LIMIT OF FIELD RUN SURVEY	---
SITE UNKNOWN UTILITY LINE	---
STORM DRAIN MANHOLE	Ⓢ
STORM DRAIN CATCH BASIN	Ⓢ
STORM DRAIN HEADWALL	Ⓢ
STORM DRAIN FLARED END SECTION	Ⓢ
STORM DRAIN WITNESS POST	Ⓢ
STORM DRAIN UTILITY MARKING	---
STORM DRAIN RIP RAP	---
TRAFFIC MANHOLE	Ⓢ
TRAFFIC VAULT	Ⓢ
TRAFFIC CABINET	Ⓢ
TRAFFIC PEDESTAL	Ⓢ
TRAFFIC SIGNAL POLE	Ⓢ
TRAFFIC WITNESS POST	Ⓢ
TRAFFIC UTILITY MARKING	---
TRAFFIC SIGNAL OVHD LINE	---
TRAFFIC SIGNAL UGND LINE	---
WATER MANHOLE	Ⓢ
WATER METER	Ⓢ
WATER TANK	Ⓢ
WATER VALVE VAULT	Ⓢ
WATER WELL	Ⓢ
WATER FIRE HYDRANT	Ⓢ
WATER WITNESS POST	Ⓢ
WATER UTILITY MARKING	---
WATER LINE	---
WATERWAY CRITICAL AREA	---
WATERWAY EDGE OF WATER	---
WATERWAY MEAN HIGH WATER	---
WATERWAY MEAN HIGHER HIGH WATER	---
WATERWAY MEAN LOW WATER	---
WATERWAY MEAN LOWER LOW WATER	---
WATERWAY POND	---
WATERWAY STREAM CHANNEL	---
WATERWAY STREAM CHANNEL BUFFER	---
PLAN NORTH ARROW	---
PLAN NUMBER CALLOUT	---
PLAN KEYNOTE CALLOUT	---
PLAN REVISION CALLOUT	---
PLAN STRUCTURE NAME/NUMBER	---
PLAN SECTION CUT VIEW BEGIN	---
PLAN POINT OF INVESTIGATION	---
ESC LIMIT OF DISTURBANCE	---
ESC STABILIZED CONSTRUCTION ENTRANCE	---
ESC DIVERSION FENCE	---
ESC SILT FENCE	---
ESC SUPER SILT FENCE	---
ESC TREE PROTECTION FENCE	---
ESC STONE CHECK DAM	---
ESC STANDARD INLET PROTECTION	---
ESC REMOVABLE PUMPING STATION	---
ESC SLUMP PIT	---
ESC PORTABLE SEDIMENT TANK	---
ESC FILTER BAG	---
ESC CONCRETE WASHOUT STRUCTURE	---



EA Engineering, Science, and
Technology, Inc., PBC

221 Sun Valley Blvd, Suite D
Lincoln, Nebraska 68528
(402) 476-3766

www.eaest.com

HORIZONTAL DATUM:
NAD83 NEBRASKA STATE
PLANES, U.S. FOOT

VERTICAL DATUM:
NAVD88, FT

SCALE AS SHOWN

FULL SIZE PLOT: 24" x 36"

REVISIONS

SEAL

PROJECT NAME
RECHARGE LAKE SEDIMENT
RETENTION PROJECT

PROJECT ADDRESS
YORK, NEBRASKA

DRAWING TITLE
GENERAL NOTES
AND LEGEND

DRAWING INFORMATION

DRAWN BY: JRM DESIGNED BY: CM

CHECKED BY: JMT PROJECT MANAGER: RJL

PROJECT NUMBER: 6437701

DRAWING NO.

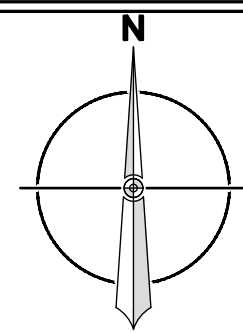
G-002

DATE: JULY 2026 SHEET: 2 OF 9



EA Engineering, Science, and Technology, Inc., PBC

221 Sun Valley Blvd, Suite D
Lincoln, Nebraska 68528
(402) 476-3766
www.eaest.com



HORIZONTAL DATUM:
NAD83 NEBRASKA STATE
PLANES, U.S. FOOT

VERTICAL DATUM:
NAVD83, FT

0 25 50 100
GRAPHIC SCALE IN FEET

FULL SIZE PLOT: 24" x 36"

REVISIONS

NO.	DESCRIPTION	DATE

SEAL

PROJECT NAME
RECHARGE LAKE SEDIMENT
RETENTION PROJECT

PROJECT ADDRESS
YORK, NEBRASKA

DRAWING TITLE
EXISTING CONDITIONS
INDEX MAP

DRAWING INFORMATION

DRAWN BY: JRM DESIGNED BY: CM
CHECKED BY: JMT PROJECT MANAGER: RJL
PROJECT NUMBER: 6437701

DRAWING NO.

C-101

DATE: JULY 2026 SHEET: 3 OF 9

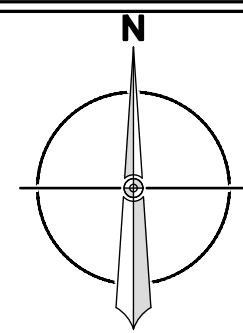
- NOTES:
1. ANY NECESSARY TEMPORARY EXCAVATION ACCESS STRUCTURES ARE CONSIDERED SUBSIDIARY TO THE EXCAVATION AND DISPOSAL COST.
 2. ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF IN THE ON-SITE SPOIL AREAS.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING DISTURBED AREAS AS PART OF CONSTRUCTION ACTIVITIES. DISTURBED AREAS SHALL BE SEEDED ACCORDING TO THE SPECIFICATIONS.
 4. THE CONTRACTOR SHALL CONSTRUCT EACH WEIR PRIOR CONSTRUCTING ANY UPSTREAM STRUCTURES TO PROVIDE SEDIMENT AND EROSION CONTROL DURING CONSTRUCTION.



EA Engineering, Science, and
Technology, Inc., PBC

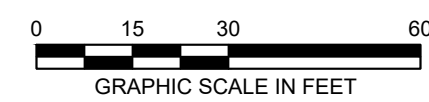
221 Sun Valley Blvd, Suite D
Lincoln, Nebraska 68528
(402) 476-3766

www.eaest.com



HORIZONTAL DATUM:
NAD83 NEBRASKA STATE
PLANES, U.S. FOOT

VERTICAL DATUM:
NAVD88, FT



FULL SIZE PLOT: 24" x 36"

REVISIONS

NO.	DESCRIPTION	DATE

SEAL

PROJECT NAME

RECHARGE LAKE SEDIMENT
RETENTION PROJECT

PROJECT ADDRESS

YORK, NEBRASKA

DRAWING TITLE

PROPOSED IMPROVEMENTS -
AREA 1

DRAWING INFORMATION

DRAWN BY: JRM DESIGNED BY: CM

CHECKED BY: JMT PROJECT MANAGER: RJL

PROJECT NUMBER: 6437701

DRAWING NO.

C-201

DATE: JULY 2026

SHEET: 4 OF 9



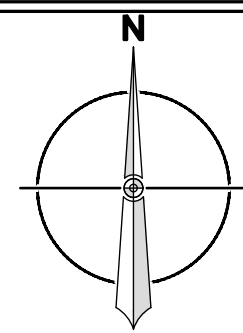
MATCHLINE - SEE DWG C-202 FOR CONTINUATION

ROAD K



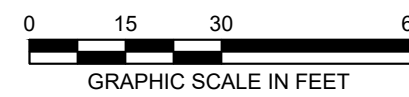
EA Engineering, Science, and
Technology, Inc., PBC

221 Sun Valley Blvd, Suite D
Lincoln, Nebraska 68528
(402) 476-3766
www.eaest.com



HORIZONTAL DATUM:
NAD83 NEBRASKA STATE
PLANES, U.S. FOOT

VERTICAL DATUM:
NAVD88, FT



FULL SIZE PLOT: 24" x 36"

REVISIONS

NO.	DESCRIPTION	DATE

SEAL

PROJECT NAME
RECHARGE LAKE SEDIMENT
RETENTION PROJECT

PROJECT ADDRESS
YORK, NEBRASKA

DRAWING TITLE
PROPOSED IMPROVEMENTS -
AREA 2

DRAWING INFORMATION

DRAWN BY: JRM DESIGNED BY: CM

CHECKED BY: JMT PROJECT MANAGER: RJL

PROJECT NUMBER: 6437701

DRAWING NO.

C-202

DATE: JULY 2026

SHEET: 5 OF 9

NOTES:

- ANY NECESSARY TEMPORARY EXCAVATION ACCESS STRUCTURES ARE CONSIDERED SUBSIDIARY TO THE EXCAVATION AND DISPOSAL COST.
- ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF IN THE ON-SITE SPOIL AREAS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING DISTURBED AREAS AS PART OF CONSTRUCTION ACTIVITIES. DISTURBED AREAS SHALL BE SEEDED ACCORDING TO THE SPECIFICATIONS.
- THE CONTRACTOR SHALL CONSTRUCT EACH WEIR PRIOR CONSTRUCTING ANY UPSTREAM STRUCTURES TO PROVIDE SEDIMENT AND EROSION CONTROL DURING CONSTRUCTION.





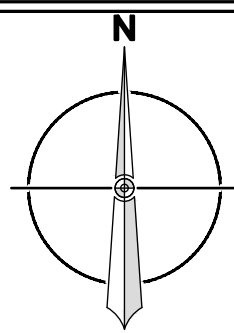
- NOTES:
1. CONTRACTOR WILL CONSULT WITH ENGINEER AND OWNER FOR FINAL HAUL ROUTE LOCATION.
 2. SEDIMENT SPOIL CAPACITY IS ESTIMATED FROM 2019 SURVEY DATA AND LIDAR CONTOURS. ACTUAL CAPACITY MAY VARY.
 3. LIMITS OF DISTURBANCE SHALL INCLUDE AREAS WITHIN 15 FEET OF CONTRACTOR'S SELECTED HAUL ROAD AND WITHIN 15 FEET OF THE TOE OF SPOIL AREAS.
 4. ADJUST HAUL ROADS TO MINIMIZE THE REMOVAL OF NON-RED CEDAR TREES. AVOID REMOVAL OF MATURE NON-RED CEDAR TREES TO THE MAXIMUM EXTENT POSSIBLE.
 5. CONTRACTOR SHALL CLEAR AND GRUB, AND REMOVAL ALL TREES WITHIN SPOIL AREAS. SEE TECHNICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 6. TOPSOIL SHALL BE STRIPPED FROM ALL SPOIL AREAS, STOCKPILED, AND REUSED TO DRESS THE TOP OF ALL SPOIL AREAS.
 7. ALL DISTURBED AREAS, INCLUDING FINAL SURFACE OF SPOIL AREAS, SHALL BE RE-SEEDING IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.



EA Engineering, Science, and
Technology, Inc., PBC

221 Sun Valley Blvd, Suite D
Lincoln, Nebraska 68528
(402) 476-3766

www.eaesl.com



HORIZONTAL DATUM:
NAD83 NEBRASKA STATE
PLANES, U.S. FOOT

VERTICAL DATUM:
NAVD88, FT

0 25 50 100
GRAPHIC SCALE IN FEET

FULL SIZE PLOT: 24" x 36"

REVISIONS

NO.	DESCRIPTION

SEAL

PROJECT NAME
RECHARGE LAKE SEDIMENT
RETENTION PROJECT

PROJECT ADDRESS
YORK, NEBRASKA

DRAWING TITLE
SPOIL AREA PLAN

DRAWING INFORMATION

DRAWN BY: JRM DESIGNED BY: CM

CHECKED BY: JMT PROJECT MANAGER: RJL

PROJECT NUMBER: 6437701

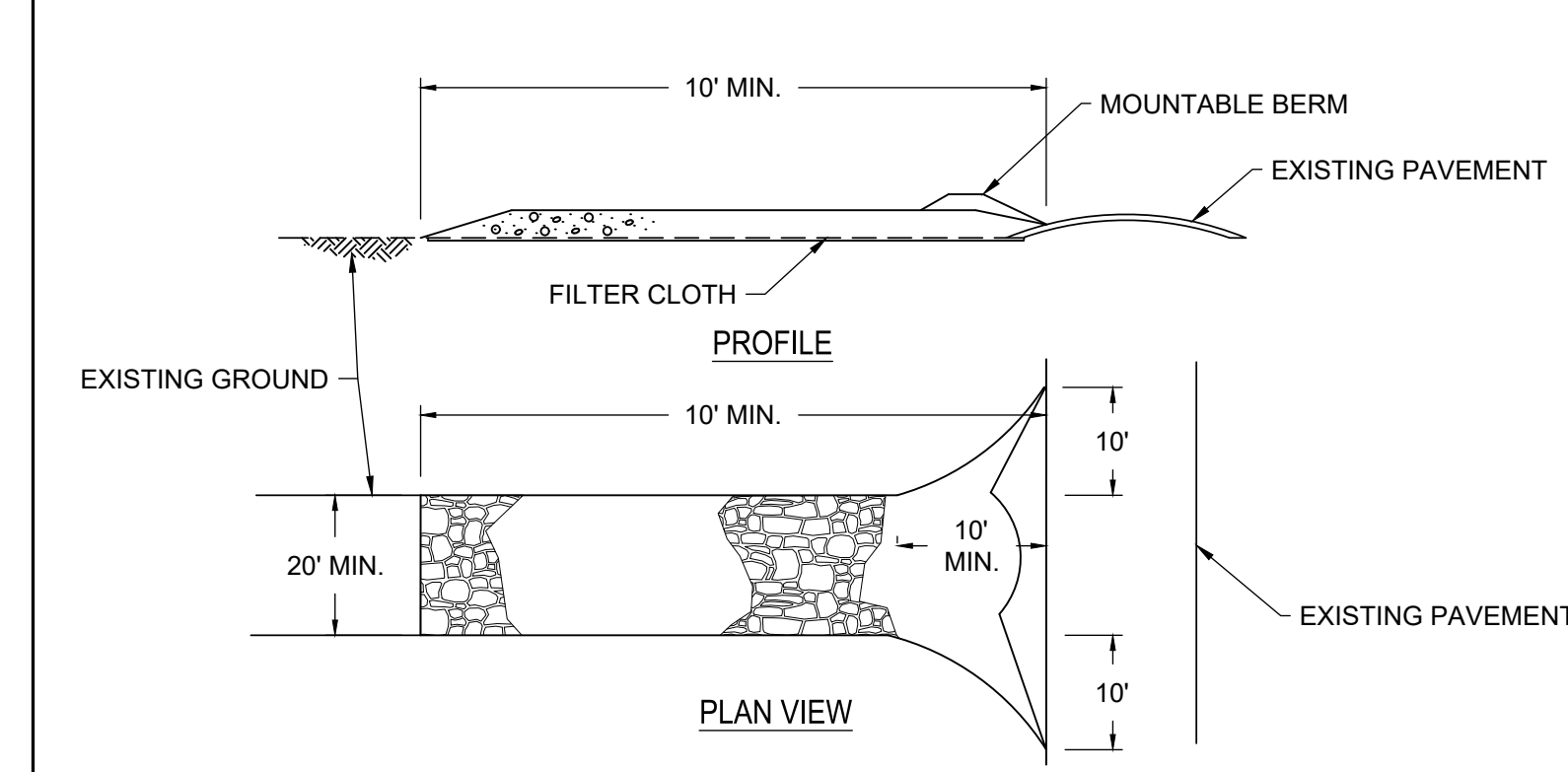
DRAWING NO.

C-203

DATE: JULY 2026

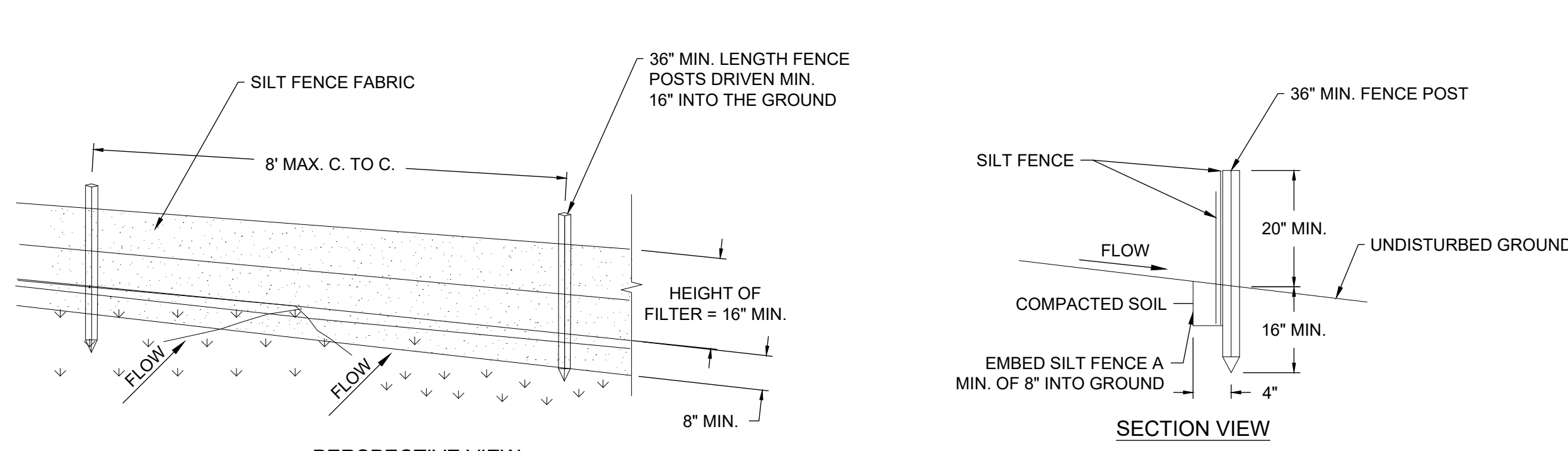
SHEET: 6 OF 9

FILE PATH: L:\01771 - RECHARGE LAKE\CD\PRODUCTION\DESIGN SET\05171 - DETAIL.DWG (C-501) ISSUED: 08/2028 11:15 AM



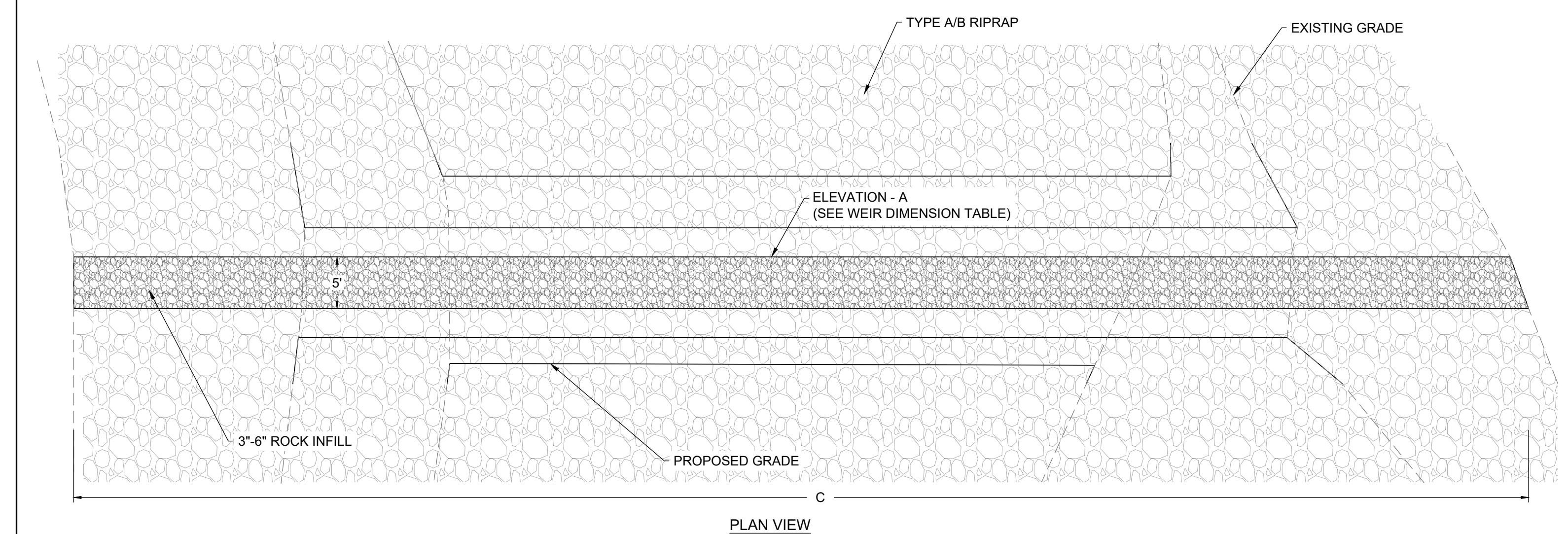
1 **STABILIZED CONSTRUCTION ENTRANCE DETAIL**
C-106 NOT TO SCALE

- CONSTRUCTION SPECIFICATIONS**
1. STONE SIZE - USE 2" TO 3.5" CLEAN CRUSHED ROCK.
 2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 10 FEET.
 3. THICKNESS - NOT LESS THAN SIX (6) INCHES. (COMPACTED)
 4. WIDTH - TWENTY (20) FOOT MIN., BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
 5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
 6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
 7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ADJACENT ROADS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO ROADS MUST BE REMOVED IMMEDIATELY.
 8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO ROADS. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A WASH PAD.
 9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN AND OTHER TIMES WHEN STONE VOIDS HAVE BEEN FILLED WITH SOIL.
 10. ACCESS ROADS TO STABILIZED ENTRY POINTS SHALL BE MAINTAINED.
 11. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATORY REQUIREMENTS.



- NOTES:**
1. FENCE SHALL BE INSTALLED WITH SILT FENCE PLOW AND FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD WITH A MINIMUM CROSS-SECTIONAL AREA OF 3 SQUARE INCHES.
 2. WHEN TWO SECTIONS OF SILT FENCE FABRIC ADJOIN EACH OTHER THEY SHALL BE LAPPED BY SIX INCHES AND FOLDED. SILT FENCE FABRIC SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
 3. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
 5. ANY TORN SILT FENCE CLOTH SECTIONS SHALL BE REPLACED BY THE CONTRACTOR IMMEDIATELY.

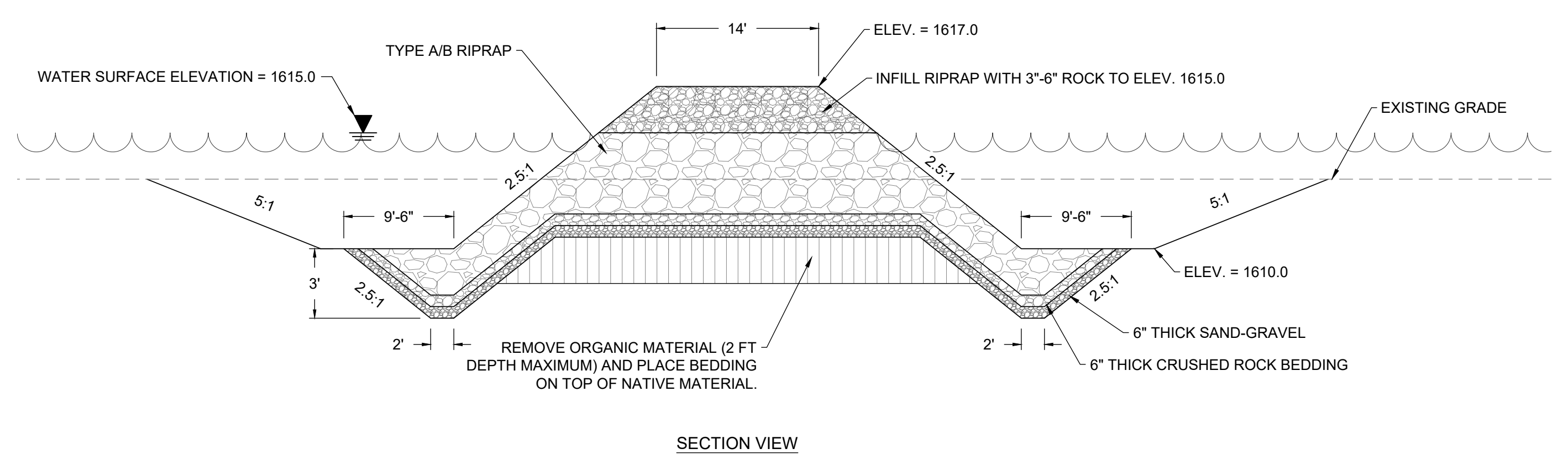
2 **TEMPORARY SILT FENCE DETAIL**
C-106 NOT TO SCALE



3 **OVERFLOW WEIR TYPICAL DETAIL**
C-201 NOT TO SCALE
C-202

PROPOSED WEIR DIMENSIONS		
STRUCTURE	DIMENSION A ELEVATION (FT)	DIMENSION B (FT)
WEIR 1	1616	153
WEIR 2	1615.75	118
WEIR 3	1615.5	136

ROCK BAFFLE QUANTITIES						
STRUCTURE	LENGTH FROM CONTOUR 1615' (LF)	EXCAVATION (CY)	TYPE "A/B" RIPRAP (TONS)	CRUSHED ROCK (TONS)	SAND GRAVEL FILL (TONS)	3-6" ROCK (TONS)
BAFFLE 1	210	9,266	1,963	466	425	163
BAFFLE 2	160	5,810	1,919	421	384	232
BAFFLE 3	80	4,514	1,015	233	213	93
BAFFLE 4	90	2,850	955	215	197	94
BAFFLE 5	120	2,093	1,112	258	236	151



4 **ROCK BAFFLE TYPICAL DETAIL**
C-201 NOT TO SCALE
C-202



EA Engineering, Science, and Technology, Inc., PBC

221 Sun Valley Blvd, Suite D
Lincoln, Nebraska 68528
(402) 476-3766
www.eaest.com

HORIZONTAL DATUM:
NA83 NEBRASKA STATE
PLANES, U.S. FOOT

VERTICAL DATUM:
NAVD88, FT

SCALE AS SHOWN

FULL SIZE PLOT: 24" x 36"

REVISIONS

SEAL

PROJECT NAME
RECHARGE LAKE SEDIMENT
RETENTION PROJECT

PROJECT ADDRESS
YORK, NEBRASKA

DRAWING TITLE
DETAILS

DRAWING INFORMATION
DRAWN BY: JRM DESIGNED BY: CM
CHECKED BY: JMT PROJECT MANAGER: RJL
PROJECT NUMBER: 6437701
DRAWING NO.
C-501
DATE: JULY 2028 SHEET: 7 OF 9

75% DESIGN PLANS - NOT FOR CONSTRUCTION



EA Engineering, Science, and
Technology, Inc., PBC

221 Sun Valley Blvd, Suite D
Lincoln, Nebraska 68528
(402) 476-3766
www.eaest.com

HORIZONTAL DATUM:
NAD83 NEBRASKA STATE
PLANES, U.S. FOOT

VERTICAL DATUM:
NAVD88, FT

SCALE AS SHOWN

FULL SIZE PLOT: 24" x 36"

REVISIONS

NO.	DESCRIPTION

SEAL

PROJECT NAME
RECHARGE LAKE SEDIMENT
RETENTION PROJECT

PROJECT ADDRESS
YORK, NEBRASKA

DRAWING TITLE
DETAILS

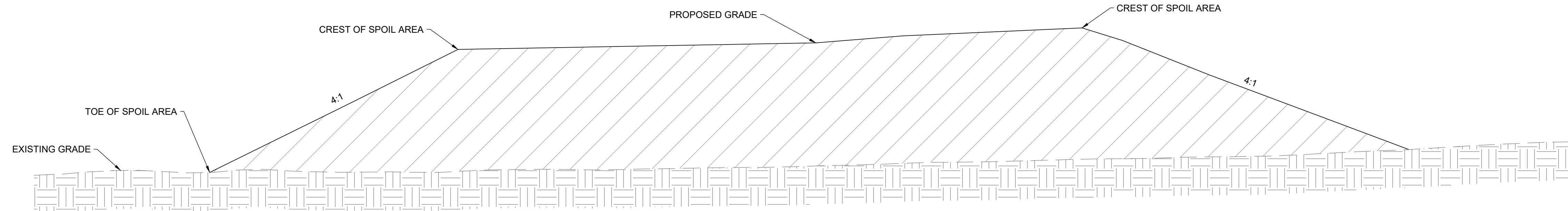
DRAWING INFORMATION

DRAWN BY: JRM DESIGNED BY: CM
CHECKED BY: JMT PROJECT MANAGER: RJL
PROJECT NUMBER: 6437701

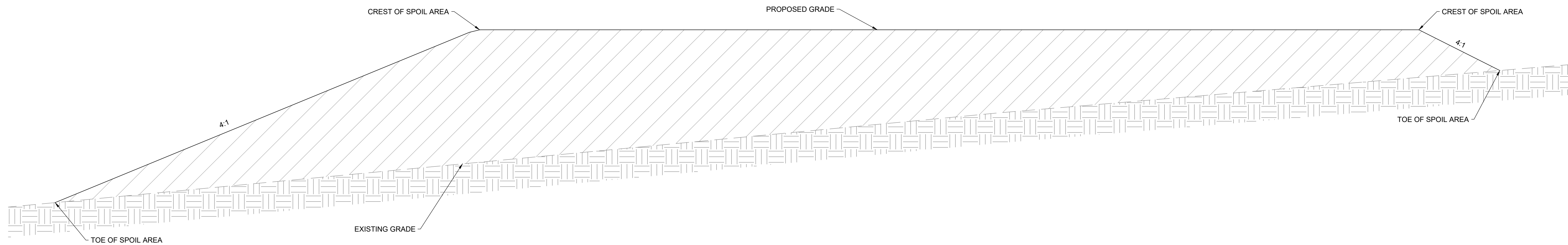
DRAWING NO.

C-502

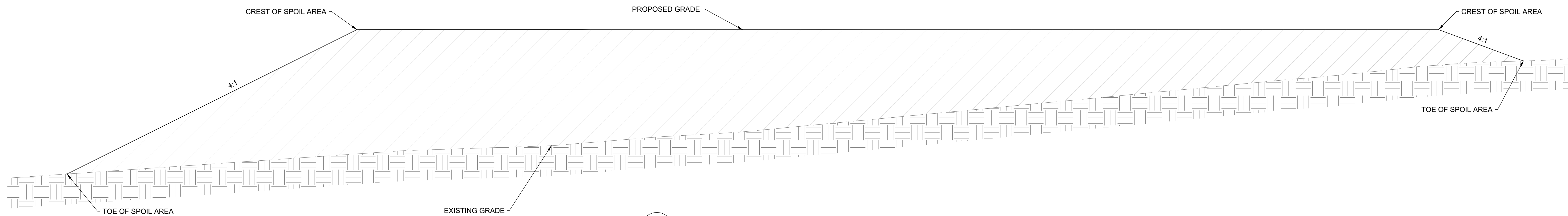
DATE: JULY 2026 SHEET: 8 OF 9



5 SPOIL AREA 1 SECTION VIEW
C-203 NOT TO SCALE



6 SPOIL AREA 2 SECTION VIEW
C-203 NOT TO SCALE



7 SPOIL AREA 3 SECTION VIEW
C-203 NOT TO SCALE

FILE PATH: L:\A01771 - RECHARGE LAKE\A01771\PROJECT\DRAWING\SET\A01771 - STAKING.DWG (C:\OS) JAMES CAMRYN 7/25/2025 2:15 PM

NOTE: STAKING PLANS TO BE COMPLETED FOR 90% SUBMITTAL



EA Engineering, Science, and Technology, Inc., PBC

221 Sun Valley Blvd, Suite D
Lincoln, Nebraska 68528
(402) 476-3766
www.eaest.com

HORIZONTAL DATUM:
NAD83 NEBRASKA STATE
PLANES, U.S. FOOT

VERTICAL DATUM:
NAVD88, FT

SCALE AS SHOWN

FULL SIZE PLOT: 24" x 36"

REVISIONS

SEAL

PROJECT NAME

RECHARGE LAKE SEDIMENT
RETENTION PROJECT

PROJECT ADDRESS

YORK, NEBRASKA

DRAWING TITLE

STAKING PLAN

DRAWING INFORMATION

DRAWN BY: JRM DESIGNED BY: CM

CHECKED BY: JMT PROJECT MANAGER: RJL

PROJECT NUMBER: 6437701

DRAWING NO.

C-503

DATE: JULY 2026 SHEET: 9 OF 9

75% DESIGN PLANS - NOT FOR CONSTRUCTION

Attachment B
75% Technical Specifications



DRAFT
Bidding and Contract Documents
Recharge Lake Sediment Retention Project
York, York County, Nebraska

Prepared for

*Upper Big Blue Natural Resources District
319 E 25th St
York, NE 68467*

Prepared by

*EA Engineering, Science, and Technology, Inc., PBC
221 Sun Valley Blvd. Suite D
Lincoln, Nebraska 68528
(402) 476-3766*

JULY 2026
Version: DRAFT
EA Project No.: 6437701

TABLE OF CONTENTS

BIDDING REQUIREMENTS

C-111	ADVERTISEMENT FOR BIDS
C-200	INSTRUCTIONS TO BIDDERS
C-410	BID FORM
C-430	BID BOND
C-510	NOTICE OF AWARD

CONTRACT FORM AND GENERAL CONDITIONS

C-520	AGREEMENT BETWEEN OWNER AND CONTRACTOR
C-550	NOTICE TO PROCEED
C-610	PERFORMANCE BOND
C-615	PAYMENT BOND
C-700	GENERAL CONDITIONS
C-800	SUPPLEMENTARY CONDITIONS

TECHNICAL SPECIFICATIONS

DIVISION 1 – GENERAL REQUIREMENTS

Section 01 10 00	Summary
Section 01 20 00	Price and Payment Procedures
Section 01 30 00	Administrative Requirements
Section 01 33 00	Submittal Procedures
Section 01 40 00	Quality Requirements
Section 01 50 00	Temporary Facilities and Controls
Section 01 57 00	Temporary Erosion and Sedimentation Controls
Section 01 70 00	Execution and Closeout Requirements
Section 01 71 23	Field Engineering
Section 01 78 39	Project Record Documents

DIVISION 31 – EARTHWORK

Section 31 05 16	Aggregate Materials
Section 31 10 00	Site Clearing
Section 31 23 16	Excavation
Section 31 23 23	Fill

DIVISION 32 – EXTERIOR IMPROVEMENTS

Section 32 92 19	Seeding
------------------	---------

BIDDING REQUIREMENTS

ADVERTISEMENT FOR BIDS

July 2026

The Upper Big Blue Natural Resources District will receive sealed bids for RECHARGE LAKE SEDIMENT RETENTION PROJECT, until 2:00 PM Central Time, at the office of the Upper Big Blue Natural Resources District, 319 East 25th St., York, Nebraska 68467 on the XX day of MONTH, 2026 at which time and place all bids will be publicly opened and read aloud.

The work required for the project is briefly described as follows:

All equipment, material, and labor for sediment excavation, rock baffle and rock weir construction and future sediment removal maintenance as described in the Construction Drawings and Specifications. The site is located at Recharge Lake approximately 0.7 miles northwest of the Bruce L Anderson Recreation Area. The site can be accessed from Road K in York, Nebraska. Work at the Site will include; site clearing and installation of sediment controls, excavation and grading for subgrade preparation, the placement of geotextile fabric, crushed rock, and riprap for baffle and weir construction, and site restoration.

Construction Drawings and Specifications will be on file DAY MONTH 2026 in the office of the Upper Big Blue Natural Resources District. Digital copies may be obtained from the Engineer, EA Engineering, Science, and Technology, Inc., upon request via email. All unsuccessful bidders are requested to return the plans and specifications.

A pre-bid meeting will be held at the office of the Upper Big Blue Natural Resources District at 2:00 pm on DAY MONTH, 2026.

Envelopes containing the bids shall be sealed and must be accompanied by a certified check or bidder's bond in an amount of not less than five percent of the amount bid. The check or bond shall be made payable to the Treasurer, Upper Big Blue Natural Resources District as security that the bidder to whom the award is made will enter into a contract to build the improvements bid upon and furnish the required bond. Envelopes containing the bids shall be marked as follows:

Upper Big Blue Natural Resources District
c/o Drew ten Bensel, Engineering Technician

Proposal For: Recharge Lake Sediment Retention Project
York, Nebraska

Bids Received: DAY MONTH 2026
2:00 P.M., Central Time
319 E 25th St
P.O. Box #83581
Lincoln, NE 68501-3581

No bids shall be withdrawn after opening the bids without consent of the Upper Big Blue Natural Resources District for a period of forty-five days after the scheduled time for closing bids. The District reserves the right to reject any or all bids and to waive any informalities in bidding.

The successful bidder shall supply a Performance and Maintenance Bond executed by a Corporate Surety licensed in the State of Nebraska in an amount equal to 100% of its contract price.

Upon acceptance of a bid and notice to contract award, the bidder will execute and file the proposed contract within ten days from the date of the notice of award. A Notice to Proceed will then be issued, with a condition of the Contract to be commencement of work within fifteen days after a notice to proceed is issued.

By order of the Board of Directors, Upper Big Blue Natural Resources District, Lincoln, Nebraska

Drew ten Bensel

INSTRUCTIONS TO BIDDERS

TABLE OF CONTENTS

	Page
Article 1 – Defined Terms.....	1
Article 2 – Copies of Bidding Documents.....	1
Article 3 – Qualifications of Bidders	1
Article 4 – Examination of Bidding Documents, Other Related Data, and Site	2
Article 5 – Pre-Bid Conference.....	4
Article 6 – Site and Other Areas	4
Article 7 – Interpretations and Addenda.....	4
Article 8 – Bid Security	5
Article 9 – Contract Times	5
Article 10 – Liquidated Damages	5
Article 11 – Substitute and “EQUIVALENT” Items	5
Article 12 – Subcontractors, Suppliers and Others.....	6
Article 13 – Preparation of Bid	6
Article 14 – Basis of Bid; Comparison of Bids	7
Article 15 – Submittal of Bid	8
Article 16 – Modification and Withdrawal of Bid	8
Article 17 – Opening of Bids	8
Article 18 – Bids to Remain Subject to Acceptance	8
Article 19 – Evaluation of Bids and Award of Contract	9
Article 20 – Contract Security and Insurance	9
Article 21 – Signing of Agreement	9
Article 22 – Sales and Use Taxes.....	10
Article 23 – Retainage	10
Article 24 – Statement of Compliance	10
Article 25 – William-Steiger Safety AcT	10

ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Bidder*—The individual or entity who submits a Bid directly to OWNER.
 - B. *Issuing Office* – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered. EA Engineering, Science, and Technology, Inc., PBC, 221 Sun Valley Blvd., Suite D, Lincoln, Nebraska, 68528
 - C. *Successful Bidder*—The lowest responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided) makes an award.
 - D. *Bidding Documents*—Includes the Advertisement or Invitation to Bid, Instructions to Bidders, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the advertisement or invitation to bid may be obtained from the Issuing Office.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, within 5 days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.
- A. Proof of Contractor's registration with the Nebraska Department of Labor.
 - B. Subcontractor and Supplier qualification information; coordinate with provisions of Article 12 of these Instructions, "Subcontractors, Suppliers, and Others."

- 3.02 Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.
- 3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *Subsurface and Physical Conditions*

A. The Supplementary Conditions identify:

- 1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.
- 2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.02 *Underground Facilities*

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.03 *Hazardous Environmental Condition*

A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.

B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

- 4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions.
- 4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.
- 4.06 A. Reference is made to Article 7 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.
- B. Paragraph 6.13.C of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.
- 4.07 It is the responsibility of each Bidder before submitting a Bid to:
- A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;
- B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Paragraph 4.06 of the Supplementary Conditions as containing reliable "technical data";
- E. consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1)

the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;

- F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

- 4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – PRE-BID CONFERENCE

- 5.01 A non-mandatory pre-bid conference will be held at the office of the UBBNRD at 1:00 PM Central Time on DAY MONTH, 2026.

ARTICLE 6 – SITE AND OTHER AREAS

- 6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer

as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

- 7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.
- 8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.
- 8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND "EQUIVALENT" ITEMS

- 11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer,

application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute,

In which case apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

- 12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.
- 12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from Engineer for cost of duplication and postage.
- 13.02 All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternative, adjustment unit price item, and unit price item listed therein. In the case of optional alternatives the words "No Bid," "No Change," or "Not Applicable" may be entered.
- 13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.06 A Bid by an individual shall show the Bidder's name and official address.
- 13.07 A Bid by a joint venture shall be executed by each member in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.08 All names shall be printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID; COMPARISON OF BIDS

14.01 *Lump Sum*

- A. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

14.02 *Unit Price*

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.
- B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.03 *Allowances*

- A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any,

named in the Contract Documents, in accordance with Paragraph 11.02.B of the General Conditions.

14.04 *Completion Time Comparisons*

- A. Bid prices will be compared after adjusting for differences in the time designated by Bidders for Substantial Completion. The adjusting amount will be determined at the rate set forth in the Contract Documents for liquidated damages for failing to achieve Substantial Completion for each day before or after the desired date appearing in Article 9 above.

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the following documents:
- 15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation “BID ENCLOSED.” A mailed Bid shall be addressed as indicated in the advertisement or invitation to Bid.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- 16.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.
- 19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.
- 19.06 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Project.

ARTICLE 20 – CONTRACT SECURITY AND INSURANCE

- 20.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed

counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 22 – SALES AND USE TAXES

22.01 Owner is exempt from Nebraska state sales and use taxes on materials and equipment to be incorporated in the Work because the owner is a government entity. Said taxes shall not be included in the Bid.

ARTICLE 23 – RETAINAGE

23.01 Provisions concerning Contractor's rights to deposit securities in lieu of retainage are set forth in the Agreement.

ARTICLE 24 – STATEMENT OF COMPLIANCE

24.01 Successful Bidder shall file with the OWNER a Statement of Compliance with Fair Labor Standards of Nebraska Statutes.

ARTICLE 25 – WILLIAM-STEIGER SAFETY ACT

25.01 This Contract is subject to the provisions of the William-Steiger Occupational Safety and Health Act of 1970.

BID FORM

PROJECT IDENTIFICATION: Recharge Lake Sediment Retention Project

CONTRACT NUMBER: EA Project No. 6437701

TABLE OF CONTENTS

	Page
Article 1 – Bid Recipient.....	1
Article 2 – Bidder’s Acknowledgements.....	1
Article 3 – Bidder’s Representations	1
Article 4 – Bidder’s Certification.....	2
Article 5 – Basis of Bid	3
Article 6 – Time of Completion.....	7
Article 7 – Attachments to This Bid	4
Article 8 – Defined Terms.....	4
Article 9 – Bid Submittal.....	5

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Upper Big Blue Natural Resources District
c/o Drew ten Bensel, Engineering Technician
319 East 25th Street
Lincoln, Nebraska 68467

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 45 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner. BIDDER will sign and submit the Agreement with the Bonds and other documents required by the Bidding Documents within fifteen days after the date of OWNER’s Notice of Award.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.

Addendum Date

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in SC-4.02 as containing reliable "technical data," and (2) reports and drawings of Hazardous

Environmental Conditions, if any, at the Site that have been identified in SC-4.06 as containing reliable "technical data."

- E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- 1. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

RECHARGE LAKE SEDIMENT RETENTION PROJECT					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Estimated Price
1	Mobilization / Demobilization	LS	1	\$	\$
2	Site Clearing	LS	1	\$	\$
3	Site Access and Haul Roads	LS	1	\$	\$
4	Erosion and Sediment Control	LF	XXX	\$	\$
5	Sediment Excavation and Disposal	CY	XXX	\$	\$
6	Sand Gravel Fill	TON	XXX	\$	\$
7	Crushed Rock	TON	XXX	\$	\$
8	3-6” Rock	TON	XXX	\$	\$
9	Riprap	TON	XXX	\$	\$
10	Seeding	AC	XXX	\$	\$
Total of All Bid Prices					\$

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
 - A. Required Bid security in the form of Bid bond or Certified check.

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in [State where Project is located] is
____/____/____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

Phone No. _____ Fax No. _____

E-mail _____

SUBMITTED on _____, 20____.

State Contractor License No. _____. *[If applicable]*

BID BOND

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

BIDDER (*Name and Address*):

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

OWNER (*Name and Address*):

BID

Bid Due Date:

Description (*Project Name and Include Location*):

BOND

Bond Number:

Date (*Not earlier than Bid due date*):

Penal sum _____ \$ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Notice of Award

Date: _____

Project: Recharge Lake Sediment Retention Project

Owner: Upper Big Blue Natural Resources District

Owner's Contract No.:

Contract:

Engineer's Project No.: 6437701

Bidder:

Bidder's Address: *[send Notice of Award Certified Mail, Return Receipt Requested]*

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for _____

[Indicate total Work, alternates, or sections of Work awarded.]

The Contract Price of your Contract is _____ Dollars (\$_____).

[Insert appropriate data if unit prices are used. Change language for cost-plus contracts.]

_____ copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

_____ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner [_____] fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security [Bonds] as specified in the Instructions to Bidders (Article 20), General Conditions (Paragraph 5.01), and Supplementary Conditions (Paragraph SC-5.01).
3. Other conditions precedent:

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

Owner

By:

Authorized Signature

Title

Copy to Engineer

**CONTRACT FORMS
AND
GENERAL CONDITIONS**

**AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and
between UBBNRD (“Owner”) and
_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ARTICLE 2 – THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows:

- A. All equipment, material, and labor for erosion repair and future erosion protection as described in the Construction Drawings and Specifications. The site is located at Recharge Lake approximately 0.7 miles northwest of the Bruce L Anderson Recreation Area. The site can be accessed from Road K in York, Nebraska. Work at the Site will include; site clearing and installation of sediment controls, excavation and grading for subgrade preparation, the placement of geotextile fabric, crushed rock, and riprap for baffle and weir construction, and site restoration.

All equipment, material, and labor as described in the Contract Drawings and Technical Specifications. _____

ARTICLE 3 – ENGINEER

- 3.01 The Project has been designed by *EA Engineering, Science, and Technology, Inc., PBC, 221 Sun Valley Boulevard, Suite D, Lincoln, NE 68528*, which is to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.
- 3.02 The Owner has retained EA, Engineering, Science, and Technology, Inc., PBC (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

- 4.01 *Time of the Essence*
- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Dates*

- A. The Work will be substantially completed on or before _____, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before _____.

4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
 - 1. Substantial Completion: Contractor shall pay Owner \$_____ for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
 - 2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$_____ for each day that expires after such time until the Work is completed and ready for final payment.
 - 3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

ARTICLE 5 – CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:
 - A. For all Work other than Unit Price Work, a lump sum of: \$_____.

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.
 - B. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the _____ day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
 - a. 90 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage.
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 All amounts not paid when due shall bear interest at the rate of percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
 - E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

- F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to , inclusive).
 - 2. Performance bond (pages to , inclusive).
 - 3. Payment bond (pages to , inclusive).
 - 4. Other bonds.
 - a. (pages to , inclusive).
 - 5. General Conditions (pages to , inclusive).
 - 6. Supplementary Conditions (pages to , inclusive).
 - 7. Technical Specifications as listed in the table of contents of the Project Manual.
 - 8. Drawings (not attached but incorporated by reference) consisting of sheets with each sheet bearing the following general title: [or] the Drawings listed on the attached sheet index.
 - 9. Addenda (numbers to , inclusive).
 - 10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages to , inclusive).
 - 11. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.

- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents 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.

10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

By: _____

Title: _____

Attest: _____

Title: _____

Address for giving notices:

By: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Title: _____

Address for giving notices:

License No.: _____
(where applicable)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

NOTE TO USER: Use in those states or other jurisdictions where applicable or required.

EXHIBIT DAS
DOCUMENTATION OF AUTHORITY TO SIGN FOR CONTRACTOR

Complete Section A *or* B, as applicable:

Section A.

I _____ certify that I am the Secretary of the corporation named as Contractor herein; that _____ who signed this contract on behalf of the Contractor was then _____ (Title) of said corporation; that said contract was duly signed for and on behalf of the said corporation by authority of its governing body and is within the scope of its corporate powers.

IN WITNESS WHEREOF, I have hereunto affixed my hand and the seal of said corporation this day of _____, 20____.

(Corporate Seal)

Corporate Secretary

Section B.

We hereby certify that the undersigned are the sole owners of the company named as the Contractor herein; and hereby attest that _____, who signed this Agreement on behalf of said Contractor, is authorized to legally bind the Contractor to the obligations of this Agreement.

By _____

NOTARIZATION

STATE OF NEBRASKA

COUNTY OF _____

The foregoing was acknowledged before me this ____ day of _____, 20____,
by

_____.

Notary Public

**EXHIBIT TIN
REQUEST FOR TAXPAYER IDENTIFICATION NUMBER
AND CERTIFICATION**

[Insert Tax Form W-9 (Rev. 12-88)]

Notice to Proceed

Date: _____

Project: Recharge Lake Sediment Retention Project

Owner: Upper Big Blue Natural Resources District

Owner's Contract No.:

Contract:

Engineer's Project No.: 6437701

Contractor:

Contractor's Address:

You are notified that the Contract Times under the above Contract will commence to run on _____. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the number of days to achieve Substantial Completion is **XXX**, and the number of days to achieve readiness for final payment is **XXX**.

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Owner: Upper Big Blue Natural Resources
District
Given by:

Authorized Signature

Title

Date

Copy to Engineer

PERFORMANCE BOND

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

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

OWNER *(Name and Address):*

CONTRACT
Effective Date of Agreement:
Amount:
Description *(Name and Location):*

BOND
Bond Number:
Date *(Not earlier than Effective Date of Agreement):*
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	SURETY
_____ Contractor's Name and Corporate Seal	_____ Surety's Name and Corporate Seal
By: _____ Signature	By: _____ Signature (Attach Power of Attorney)
_____ Print Name	_____ Print Name
_____ Title	_____ Title
Attest: _____ Signature	Attest: _____ Signature
_____ Title	_____ Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

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

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.
2. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 2.1 Owner has notified Contractor and Surety, at the addresses described in Paragraph 9 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor, and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and
 - 2.2 Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 2.1; and
 - 2.3 Owner has agreed to pay the Balance of the Contract Price to:
 1. Surety in accordance with the terms of the Contract; or
 2. Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.
3. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:
 - 3.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
 - 3.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 3.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
 - 3.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
 2. Deny liability in whole or in part and notify Owner citing reasons therefor.
4. If Surety does not proceed as provided in Paragraph 3 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 3.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.
5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2, or 3.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

- 5.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;
- 5.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 3; and
- 5.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

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

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

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

9. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

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

11. Definitions.

- 11.1 Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
- 11.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
- 11.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
- 11.4 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – *(Name, Address and Telephone)*

Surety Agency or Broker:

Owner's Representative *(Engineer or other party)*:

PAYMENT BOND

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

CONTRACTOR (*Name and Address*):

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

OWNER (*Name and Address*):

CONTRACT

Effective Date of Agreement:

Amount:

Description (*Name and Location*):

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with Contractor:
 1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:
 - 6.1 Send an answer to that Claimant, with a copy to Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2 Pay or arrange for payment of any undisputed amounts.
7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.
8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.
9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated

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

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

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

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

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

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

15. Definitions

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

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

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

FOR INFORMATION ONLY – (*Name, Address, and Telephone*)

Surety Agency or Broker:

Owner's Representative (*Engineer or other*):

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1 – Definitions and Terminology	1
1.01 Defined Terms.....	1
1.02 Terminology	5
Article 2 – Preliminary Matters	6
2.01 Delivery of Bonds and Evidence of Insurance.....	6
2.02 Copies of Documents.....	6
2.03 Commencement of Contract Times; Notice to Proceed	6
2.04 Starting the Work.....	7
2.05 Before Starting Construction	7
2.06 Preconstruction Conference; Designation of Authorized Representatives	7
2.07 Initial Acceptance of Schedules	7
Article 3 – Contract Documents: Intent, Amending, Reuse	8
3.01 Intent.....	8
3.02 Reference Standards	8
3.03 Reporting and Resolving Discrepancies	8
3.04 Amending and Supplementing Contract Documents	9
3.05 Reuse of Documents	10
3.06 Electronic Data.....	10
Article 4 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions; Reference Points	10
4.01 Availability of Lands	10
4.02 Subsurface and Physical Conditions	11
4.03 Differing Subsurface or Physical Conditions.....	11
4.04 Underground Facilities	13
4.05 Reference Points	14
4.06 Hazardous Environmental Condition at Site.....	14
Article 5 – Bonds and Insurance	16
5.01 Performance, Payment, and Other Bonds	16
5.02 Licensed Sureties and Insurers	16
5.03 Certificates of Insurance	16
5.04 Contractor’s Insurance.....	17
5.05 Owner’s Liability Insurance	18
5.06 Property Insurance	18
5.07 Waiver of Rights	20
5.08 Receipt and Application of Insurance Proceeds	21
5.09 Acceptance of Bonds and Insurance; Option to Replace.....	21

5.10	Partial Utilization, Acknowledgment of Property Insurer	21
Article 6 – Contractor’s Responsibilities		22
6.01	Supervision and Superintendence	22
6.02	Labor; Working Hours.....	22
6.03	Services, Materials, and Equipment	22
6.04	Progress Schedule	23
6.05	Substitutes and “Or-Equals”	23
6.06	Concerning Subcontractors, Suppliers, and Others	25
6.07	Patent Fees and Royalties	26
6.08	Permits.....	27
6.09	Laws and Regulations	27
6.10	Taxes	28
6.11	Use of Site and Other Areas	28
6.12	Record Documents.....	29
6.13	Safety and Protection	29
6.14	Safety Representative	30
6.15	Hazard Communication Programs	30
6.16	Emergencies	30
6.17	Shop Drawings and Samples	30
6.18	Continuing the Work	32
6.19	Contractor’s General Warranty and Guarantee.....	32
6.20	Indemnification	33
6.21	Delegation of Professional Design Services	34
Article 7 – Other Work at the Site.....		34
7.01	Related Work at Site	34
7.02	Coordination.....	35
7.03	Legal Relationships.....	35
Article 8 – Owner’s Responsibilities		36
8.01	Communications to Contractor.....	36
8.02	Replacement of Engineer.....	36
8.03	Furnish Data	36
8.04	Pay When Due	36
8.05	Lands and Easements; Reports and Tests	36
8.06	Insurance	36
8.07	Change Orders.....	36
8.08	Inspections, Tests, and Approvals	36
8.09	Limitations on Owner’s Responsibilities	36
8.10	Undisclosed Hazardous Environmental Condition.....	37
8.11	Evidence of Financial Arrangements	37
8.12	Compliance with Safety Program.....	37
Article 9 – Engineer’s Status During Construction		37
9.01	Owner’s Representative.....	37
9.02	Visits to Site	37
9.03	Project Representative	38

9.04	Authorized Variations in Work	38
9.05	Rejecting Defective Work	38
9.06	Shop Drawings, Change Orders and Payments	38
9.07	Determinations for Unit Price Work	38
9.08	Decisions on Requirements of Contract Documents and Acceptability of Work	39
9.09	Limitations on Engineer's Authority and Responsibilities.....	39
9.10	Compliance with Safety Program.....	40
Article 10 –	Changes in the Work; Claims	40
10.01	Authorized Changes in the Work	40
10.02	Unauthorized Changes in the Work	40
10.03	Execution of Change Orders.....	40
10.04	Notification to Surety.....	41
10.05	Claims.....	41
Article 11 –	Cost of the Work; Allowances; Unit Price Work.....	42
11.01	Cost of the Work	42
11.02	Allowances	44
11.03	Unit Price Work	45
Article 12 –	Change of Contract Price; Change of Contract Times	45
12.01	Change of Contract Price.....	45
12.02	Change of Contract Times	47
12.03	Delays.....	47
Article 13 –	Tests and Inspections; Correction, Removal or Acceptance of Defective Work.....	48
13.01	Notice of Defects	48
13.02	Access to Work	48
13.03	Tests and Inspections	48
13.04	Uncovering Work.....	49
13.05	Owner May Stop the Work.....	49
13.06	Correction or Removal of Defective Work.....	49
13.07	Correction Period.....	50
13.08	Acceptance of Defective Work	51
13.09	Owner May Correct Defective Work	51
Article 14 –	Payments to Contractor and Completion.....	52
14.01	Schedule of Values	52
14.02	Progress Payments	52
14.03	Contractor's Warranty of Title	54
14.04	Substantial Completion.....	55
14.05	Partial Utilization	55
14.06	Final Inspection.....	56
14.07	Final Payment	56
14.08	Final Completion Delayed.....	57
14.09	Waiver of Claims	58

Article 15 – Suspension of Work and Termination	58
15.01 Owner May Suspend Work	58
15.02 Owner May Terminate for Cause	58
15.03 Owner May Terminate For Convenience.....	59
15.04 Contractor May Stop Work or Terminate	60
Article 16 – Dispute Resolution	60
16.01 Methods and Procedures.....	60
Article 17 – Miscellaneous.....	61
17.01 Giving Notice.....	61
17.02 Computation of Times	61
17.03 Cumulative Remedies	61
17.04 Survival of Obligations.....	61
17.05 Controlling Law	61
17.06 Headings.....	61

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of

the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. 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 will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party 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 the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the

Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

- 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
- 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

- 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
- 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
- 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

- 1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
- 2. is of such a nature as to require a change in the Contract Documents; or
- 3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

- B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments*:

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to

permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 - 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 - 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
 - 1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners,

employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of

them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
 - 1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or

entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its

use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner

and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

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

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts

any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.

- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.
- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

- 1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
- 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
- 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

- 1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
- 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the

Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe

access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER’S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner’s duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner’s Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws

and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations

on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of,

and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of

executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
 - 1. deny the Claim in whole or in part;
 - 2. approve the Claim; or
 - 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
 - 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 - 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 - 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in

the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 2. there is no corresponding adjustment with respect to any other item of Work; and
 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers,

architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's

review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and

- d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 Final Completion Delayed

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
3. Contractor's repeated disregard of the authority of Engineer; or
4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other

dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or
3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

Supplementary Conditions

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2007 Edition). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

SC-2.02 Copies of Documents

SC-2.02 Delete Paragraphs 2.02.A in its entirety and insert the following:

- A. Owner shall furnish to Contractor up to three copies of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

SC-2.03 Commencement of Contract Time; Notice to Proceed

SC-2.03 Delete Paragraphs 2.03.A in its entirety and insert the following:

- A. The contract document forms establish a schedule of events from the opening of bids to the date when Contract Time starts to run. Based on these documents, the contract time will start no later than 75 days after bid opening, 30 days after the effective date of the Agreement, or on the day indicated in the Notice to Proceed. It is the intent of the Owner to issue a Notice of Award and Notice to Proceed at the earliest possible date.

SC-4.02 *Subsurface and Physical Conditions*

SC-4.02 Delete Paragraphs 4.02.A and 4.02.B in their entirety and insert the following:

- A. No reports of explorations or tests of subsurface conditions at or contiguous to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

SC-4.06 *Hazardous Environmental Conditions*

SC-4.06 Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following:

A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.

B. Not Used.

SC-5.03 *Certificates of Insurance*

SC-5.03 Delete Paragraph 5.03.B in its entirety.

SC-5.04 *Contractor's Liability Insurance*

SC-5.04 Add the following new paragraph immediately after Paragraph 5.04.B:

A. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions:

- | | |
|--|-----------------------|
| a. State: | Statutory |
| b. Applicable Federal
(e.g., Longshoreman's): | Statutory |
| c. Employer's Liability: | <u>\$1,000,000.00</u> |

2. Contractor's General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor:

a. General Liability

☐ Each Occurrence	<u>\$1,000,000.00</u>
--	-----------------------

b. Damage to Rented Premises

☐ Each Occurrence	<u>\$300,000.00</u>
--	---------------------

c. Medical Expenses

☐ Any One Person	<u>\$10,000.00</u>
---	--------------------

- EJCDC C-800 Guide to the Preparation of Supplementary Conditions
Copyright © 2007 National Society of Professional Engineers for EJCDC. All rights reserved.
Page 3 of 6

SC-5.05 Owner's Liability Insurance

SC-5.05 Delete Paragraphs 5.05.A in its entirety and insert the following:

- A. The Owner will not procure additional liability insurance for the construction project. The Owner and ENGINEER shall each be named as additional insureds on the insurance certificate provided by the Contractor.

SC-5.07 Waiver of Rights

SC-5.07 Add a new paragraph immediately after Paragraph 5.07.C:

- D. Contractor shall furnish a certificate of insurance with liability limits shown, and Owner to be named as an additional insured and a Waiver of Subrogation in favor of Owner.

SC-5.08 Receipt and Application of Insurance Proceeds

SC-5.08 Add a new paragraph immediately after Paragraph 5.08.B:

- C. Contractor agrees to indemnify, defend and hold harmless Owner for bodily injury, personal injury and property damage arising from or in connection with their work to the extent the loss of damage is caused by them or their subcontractor. Further, Contractor agrees to waive its rights of subrogation from its insurance carrier in relation to any loss or damage.

SC-6.02 Labor; Working Hours

SC-6.02 Delete Paragraphs 6.02.B in its entirety and insert the following:

- B. The CONTRACTOR will be allowed to work any overtime, weekends, or holiday hours allowed by law provided that such work will not result in any added cost to the OWNER and the OWNER is given timely verbal notice.

SC-6.06 *Concerning Subcontractors, Suppliers, and Others*

SC-6.06 Add a new paragraph immediately after Paragraph 6.06.G:

- H. OWNER or ENGINEER may furnish to any such subcontractor, supplier or other person or organization to the extent practicable, evidence of amounts paid to CONTRACTOR in accordance with CONTRACTOR'S Application for Payment.

SC-7.01 *Work by Owner*

SC-7.01 Add a new paragraph immediately after Paragraph 7.01.C:

- D. No work, products, or materials for the construction required under this contract will be conducted or provided by the Owner. However, Owner may need access to the site or to areas in the vicinity of the site to perform maintenance activities.

SC-9.03 *Project Representative*

SC-9.03 Add the following new paragraphs immediately after Paragraph 9.03.A:

- B. The Resident Project Representative (RPR) will be Engineer's employee or agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall be through or with the full knowledge and approval of Contractor. The RPR shall:

1. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
2. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.
3. *Liaison:*
 - a. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
4. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
5. *Shop Drawings and Samples:*

- a. Record date of receipt of Samples and approved Shop Drawings.
 - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
6. *Modifications:* Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
7. *Review of Work and Rejection of Defective Work:*
- a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
8. *Inspections, Tests, and System Startups:*
- a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
 - b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.
9. *Records:*
- a. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
 - b. Maintain records for use in preparing Project documentation.

10. *Reports:*

- a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.
- b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
- c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental Condition.

11. *Payment Requests:* Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

12. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

13. *Completion:*

- a. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.
- b. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied.
- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).
2. Exceed limitations of Engineer’s authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor’s superintendent.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor’s work unless such advice or directions are specifically required by the Contract Documents.
5. Advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
8. Authorize Owner to occupy the Project in whole or in part.

SC-14.07 Final Payment

SC-14.07 Delete Paragraphs 14.07.A.2.b in its entirety and insert the following:

- b. documentation for consent of the Surety to final payment and certificates as required to comply with Nebraska legal requirements.



DRAFT
Technical Specifications

Recharge Lake Sediment Retention Project
York, Nebraska
Upper Big Blue Natural Resources District

Prepared for

*Upper Big Blue Natural Resources District
319 E 25th St
York, NE 68467*

Prepared by

*EA Engineering, Science, and Technology, Inc., PBC
221 Sun Valley Blvd. Suite D
Lincoln, Nebraska 68528
(402) 476-3766*

JULY 2026
Version: DRAFT
EA Project No.: 6437701

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Description.
2. Work Covered by the Contract Documents
3. Work Sequence
4. References
5. Site Description and Location
6. Work by Owner
7. Owner Supplied Products
8. Contractor Requirements
9. Contractor's Use of Premises
10. Other Requirements

1.2 DESCRIPTION

- A. This section summarizes the scope of work and explains how individual elements relate to one another. It must be used in conjunction with the referenced Specification sections and Contract Drawings. While it does not include detailed technical requirements for specific work activities, it provides an overall description of the project and, together with all other sections, establishes the full requirements of the work.

1.3 WORK COVERED BY THE CONTRACT DOCUMENTS

- A. The primary work to be completed under this contract consists of, but is not limited to, the following major items:
1. Site clearing and tree removal within the limits of disturbance.
 2. Installation of silt fencing for sediment control during construction.
 3. Excavation, aggregate placement, and grading for baffle and weir sloping and subgrade preparation.
 4. Seeding graded and disturbed areas.
 5. Installation of geosynthetic soil reinforcement and matting for erosion prevention and vegetation establishment.
 6. Site restoration, including additional seeding of disturbed areas and repairing the existing trails and parking lot to preconstruction conditions.

1.4 WORK SEQUENCE

- A. The work shall be planned, scheduled, and performed in stages to complete the work within the requirements of this contract document. Work shall be scheduled to be of as little inconvenience to the Owner as possible and shall be conducted in such a manner as to have as little impact on existing land use as possible.

1.5 REFERENCES

A. U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

1. 29 CFR 1926: Safety and Health Regulations for Construction.

1.6 SITE DESCRIPTION AND LOCATION

- A. The Project site is located at Recharge Lake located approximately 0.7 miles west of the Bruce L Anderson Recreation Area and campground. The site can be accessed from Road K in York, Nebraska.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 WORK BY OWNER

- A. No work for the construction required under this contract will be conducted by the Owner.

3.2 OWNER SUPPLIED PRODUCTS

- A. No products or materials for the construction required under this contract will be provided by the Owner.

3.3 CONTRACTOR REQUIREMENTS

- A. Health and Safety - The Contractor shall conduct all work in accordance with OSHA Safety and Health Requirements. A site-specific Health and Safety Plan is not required for this project.
- B. Compliance with Rules and Regulations - The Contractor shall comply with all applicable Federal, State, and local rules and regulations, whether or not specifically referenced in the contract documents, as a matter of standard practice. In the event of a conflict, applicable rules and regulations shall take precedence over Drawings and Specifications.
- C. Work shall be conducted as specified in these Specifications and as illustrated on the Drawings. In the event there is a discrepancy between the Specifications and the Drawings, the Engineer shall be notified prior to conducting the work for which there is a discrepancy.

3.4 CONTRACTOR'S USE OF PREMISES

- A. The Contractor shall limit onsite operations to the portion of the site designated as "limits of disturbance" as shown on the Contract Drawings and shall minimize the use of the site area for storage, unless the Engineer approves work in additional areas. If limits of disturbance are not shown, limits of disturbance shall extend 15 feet from proposed Work. Storage and laydown areas are to be agreed upon and approved by the Engineer. Storage and laydown areas are to be agreed upon and approved by the Engineer. The Contractor shall be responsible for repairing or making compensation for damage caused by the Contractor to land outside the construction limits or approved work limits.

- B. The Contractor shall assume full responsibility for the protection and safekeeping of products under this contract that are stored onsite during the construction activities.
- C. The Contractor shall move, without additional compensation, any material or equipment that interferes with the operations of the Owner or any separate contractor or utility company.
- D. The Contractor shall be responsible for all additional costs for the use of additional storage or work areas needed for operations to execute the work.

3.5 OTHER REQUIREMENTS

- A. Notification of Property Owners - The Contractor shall be responsible for contacting property owners, utility companies, and agencies concerning information regarding underground utilities, hookups, structures, and other facilities they may own or operate which may be encountered in the execution of the work. It is the responsibility of the Contractor to notify owners and operators of utilities (overhead and underground) when construction, excavation, demolition, or other work may affect such facilities.
- B. Protection of Property - For any work performed in close proximity to the properties of businesses, utilities, or other parties, the Contractor shall utilize every precaution to protect the property, utility lines, and other structures from damage. Any damage that the Contractor may inflict shall be repaired or replaced in a prompt manner as directed by the Engineer.
- C. Special Considerations - The Contractor is responsible for using special care and/or special considerations that may be necessary for proper execution of the work, but which may not be identified in this subsection. The Contractor shall comply with the entire requirements of the contract documents and shall exercise special care wherever required for proper execution of the intended work of the contract.
- D. Permits - The Contractor shall be responsible for obtaining all required construction permits and approvals. The Contractor shall be responsible for obtaining all permits and approvals required to complete the work that is temporary in nature (e.g. building permits, etc.).
 - 1. The Owner will provide the following documents/permits:
 - a. Nebraska Game and Parks Commission Threatened or Endangered Species Review.
 - b. Construction Storm Water Notice of Intent Construction Permit from Nebraska Department of Environmental Quality
 - c. Floodplain Permit
 - 2. The Contractor shall comply with and execute requirements in all permits.
 - 3. The Contractor shall control storm water runoff and maintain inspection reporting in accordance with the NPDES stormwater permit and Specification Section 01 57 00 – Temporary Erosion and Sedimentation Controls.
- E. Testing - The Contractor shall be responsible for conducting testing as specified herein, including providing all labor, materials, and services necessary including collecting samples and obtaining the services of certified independent laboratory, if required, unless otherwise directed by the Engineer or Owner. The Contractor shall coordinate with Engineer to ensure specified testing and sampling is conducted per Specification Section 31 05 16 – Aggregate Materials and Section 31 23 23 – Fill.
- F. Utilities. The Contractor shall be responsible for the following regarding utilities:

1. Verification of Utilities - There are no known utilities in the immediate vicinity of the work. However, the Contractor is responsible for verifying that no public and private utilities exist by calling the Diggers Hotline (811) prior to any excavation.
 2. Protection of Existing Utilities - The Contractor shall not relocate or cause disruption to existing utilities unless prior authorization is obtained from the appropriate authority, agency, or owner of the respective utilities. The Contractor shall protect all existing utilities and improvements and shall restore temporary relocated utilities, all in accordance with the requirements of the Contract Documents. Damage to utility lines shall be immediately reported to the Engineer and repaired within 24 hours.
 3. Temporary Connections. Temporary connections to existing utilities (e.g, water and electricity) will not be available onsite.
- G. Security. The Contractor shall be responsible for providing security and controlling access to the site, as necessary. This may include, but is not limited to:
1. Installing temporary fencing around the job site.
 2. Installing barricades and warning signs, as required.

END OF SECTION

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Description.
 - 2. Submittals.
 - 3. Measurement.
 - 4. Payment.
 - 5. Change procedures.
 - 6. Measurement and payment.

1.2 DESCRIPTION

- A. The items listed in this section refer to and are the same pay items listed on the Bid Form. They constitute all of the pay items for the completion of the Work. Compensation for all such services and materials shall be included in the prices stipulated for the lump sum and unit price pay items listed herein. Items of Work not specifically included in this Section for measurement and payment as described herein will not be measured for payment but will be considered incidental to the Contract.

1.3 SUBMITTALS

- A. The Contractor shall submit to the Owner a completed Bid Form including unit prices for each bid item. This Bid Form shall be used as the basis for the Contractor's Applications for Periodic Payments.

1.4 MEASUREMENT

- A. Measurement shall be in accordance with the Bid Form items as described in this Section. The quantities listed in the Bid Form shall not be exceeded unless pre-approved by the Engineer and supported with detailed documentation.
 - 1. Lump Sum Price Items
 - a. Measurement of lump sum priced items will be based on percent complete for the item.
 - 2. Unit Price Items
 - a. Measurement of unit price items will be based on percent complete of quantities listed in the Bid Form.
- B. Measurement of Quantities:
 - 1. Weigh Scales: Inspected, tested, and certified by applicable State weights and measures department within past year.
 - 2. Measurement by Volume: Measured by cubic dimension using survey data and a computer-aided design software package.
 - 3. Measurement by Area: Measured by square dimension using survey data and a computer-aided design software package.

4. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
5. Lump Sum: Measured by percent complete of Work completed.
6. Daily or Hourly: Measured by onsite time, of Work conducted in accordance with Contract Documents, documented by Contractor and verified by Engineer
7. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.

1.5 PAYMENT

- A. All provisions found herein are not to exceed sum found in the AGREEMENT paragraph 5.
- B. Payment for Unit Price items will be made at the Contract Unit Price given in the Bid Form.
- C. Payment for Lump Sum items will be made at the Contract Lump Sum Price given in the Bid Form.
- D. Items of Work not specifically included in this Section for measurement and payment as described herein will not be measured for payment, but will be considered subsidiary to the cost of the related Work items. Minor items and incidentals necessary to complete the Work in a workman-like manner and provide complete, serviceable facilities shall be included in the sum of the Work items and furnished even if not specifically called for in the Drawings and Specifications.
- E. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Owner multiplied by unit sum/price for Work incorporated in or made necessary by the Work.

1.6 CHANGE PROCEDURES

- A. Submittals: Submit name of individual authorized to receive change documents and responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Engineer of any error, inconsistency, omission, or apparent discrepancy.
- C. The Owner and Engineer will advise of minor changes in the Work not involving adjustment to not to exceed sum or completion date by issuing supplemental instructions.
- D. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Engineer; establish procedures for handling queries and clarifications.
 1. Use Engineer approved form for requesting interpretations.
 2. Engineer may respond with a direct answer on the Request for Interpretation form.
- E. Correlation of Contractor Submittals:
 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 2. Promptly revise Progress Schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of Work affected by the change, and resubmit.
 3. Promptly enter changes in Contract Documents.

1.7 MEASUREMENT AND PAYMENT

- A. Bid Item 1: Mobilization/Demobilization
 - 1. Basis of Measurement: On a lump sum basis.
 - 2. Basis of Payment: This item consists of all materials, labor, and equipment to complete Work activities for Mobilization/Demobilization. The Work shall include, but not be limited to, obtaining any permits required for construction, bid bond, payment and performance bond, insurance, administration, submittals, plan and shop drawing preparation, establishing staging area, moving onto the site all equipment and materials, transportation to and from the site, temporary facilities (if any), operating supplies, providing site security, utility verification, holding progress meetings, construction staking, as-built and verification surveying, cleaning staging area, record documents, construction photographs, and coordination necessary for the Contractor to provide and maintain a construction force at the project site complete and ready to perform all Work in accordance with Contract Documents.
- B. Bid Item 2: Site Clearing
 - 1. Basis of Measurement: On a lump sum basis.
 - 2. Basis of Payment: This item consists of all materials, labor, and equipment to complete Work activities for Site Clearing. The Work shall include, but not be limited to, preparation, tree protection, clearing and grubbing, tree removal, debris removal, stripping and stockpiling of the topsoil, topsoil reuse and final dressing of finished earthwork in accordance with Contract Documents.
- C. Bid Item 3: Site Access and Haul Roads
 - 1. Basis of Measurement: On a lump sum basis.
 - 2. Basis of Payment: This item consists of all materials, labor, and equipment to complete Work activities for Site Access and Haul Roads. The Work shall include, but not be limited to, temporary fill, providing and installing coarse aggregate for temporary site access roads and staging area, selection of contractor preferred haul road, and providing and installing coarse aggregate, and maintenance, and removal of temporary materials in accordance with Contract Documents. This item includes all staging and laydown area grading and restoration as necessary to store materials and equipment.
- D. Bid Item 4: Erosion and Sediment Control
 - 1. Basis of Measurement: On a linear foot basis.
 - 2. Basis of Payment: This item consists of all materials, labor, and equipment to complete Work activities for silt fencing. The Work shall include, but not be limited to, installation of silt fence, maintenance of the fence throughout construction, removal, and disposal after final seeding and stabilization in accordance with the Contract Documents.
- E. Bid Item 5: Sediment Excavation and Disposal
 - 1. Basis of Measurement: On the actual *in situ* cubic yards removed as determined by the contractor's pre- and post- survey and calculated in a computer-aided design software package.
 - 2. Basis of Payment: This item consists of all materials, labor, and equipment to complete Work activities for Sediment Excavation and Disposal. The Work shall include, but not be limited to, sediment excavation, loading, transportation, and disposal of sediment to onsite spoil areas in accordance with Contract Documents.
- F. Bid Item 6: Sand Gravel Fill

1. Basis of Measurement: On a tonnage basis as measured by the rock load tickets.
 2. Basis of Payment: This item consists of all materials, labor, and equipment to complete Work activities for sand gravel bedding. The Work shall include, but not be limited to providing and installing sand gravel fill for the crushed rock bedding in accordance with Contract Documents.
- G. Bid Item 7: Crushed Rock
1. Basis of Measurement: On a tonnage basis as measured by the rock load tickets.
 2. Basis of Payment: This item consists of all materials, labor, and equipment to complete Work activities for crushed rock bedding and surfacing. The Work shall include, but not be limited to providing and installing crushed rock for the rip rap bedding in accordance with Contract Documents.
- H. Bid Item 8: 3" to 6" Rock
1. Basis of Measurement: On a tonnage basis as measured by the rock load tickets.
 2. Basis of Payment: This item consists of all materials, labor, and equipment to complete Work activities for installing 3" to 6" rock for the rip rap infill in accordance with the Contract Documents.
- I. Bid Item 9: Riprap
1. Basis of Measurement: On a tonnage basis.
 2. Basis of Payment: This item consists of all materials, labor, and equipment to complete Work activities for Riprap. The Work shall include, but not be limited to providing and installing Type A/B Riprap for proposed baffles and weir overflow structures.
- J. Bid Item 10: Seeding
1. Basis of Measurement: On an acreage basis as determined by the contractor's post-survey and calculated in a computer-aided design software package.
 2. Basis of Payment: This item consists of all materials, labor, and equipment to complete Work activities for Upland Seeding and Floodplain Seeding in disturbed areas along the shoreline. The Work shall include, but not be limited to providing and placing seed and fertilizer in all spoil areas and in all disturbed areas in accordance with Contract Documents.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittals
 - 2. Coordination and project conditions.
 - 3. Construction Progress Schedules.
 - 4. Preconstruction meeting.
 - 5. Progress meetings.
 - 6. Closeout meeting.

1.2 SUBMITTALS

- A. Construction Schedule
 - 1. Schedule Updates
- B. Meeting Agendas and Minutes

1.3 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of the Project with the Owner and Engineer to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.
- C. Coordination Meetings: In addition to other meetings specified in this Section, hold coordination meetings with personnel and Subcontractors to ensure coordination of Work.
- D. Contractor shall attend a preconstruction meeting, shall conduct progress meetings, and shall conduct a closeout meeting.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial construction schedules within 10 days after Notice to Proceed. After review, resubmit required revised data within 10 days.
- B. Submit schedule revisions monthly, identifying changes since previous version.
- C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
- D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- E. Prepare an approved, reproducible form and include the following:

1. Breakdown of Work activities in categories as necessary to allow close monitoring of progress of the Work during construction.
 2. Order of the Work necessary to meet time for completion.
 3. Breakdown of the work schedule of all subcontractors scheduled in cooperation with Contractor's Work.
 4. Anticipated monthly value for Work completed.
 5. Space for the addition of actual performance on the schedule.
- F. Payment will be withheld until progress schedule has been received by the Engineer in an acceptable form.

1.5 PRECONSTRUCTION MEETING

- A. Owner will schedule meeting after Notice of Award.
- B. Attendance:
1. Owner representatives
 2. Engineer representatives
 3. Contractor's construction supervisor and project manager
 4. Major Subcontractor representatives (if any)
- C. Agenda:
1. Submission of executed bonds and insurance certificates
 2. Distribution of Contract Documents
 3. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule
 4. Designation of personnel representing parties in Contract, Owner, and Engineer
 5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, change orders, and Contract closeout procedures
 6. Scheduling activities of Engineer

1.6 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work as needed (determined by Engineer or Contractor).
- B. Make arrangements for meetings, preside at meetings.
- C. Attendance Required: Job superintendent, major subcontractors and suppliers, Owner, Engineer, as appropriate to agenda topics for each meeting.
- D. Agenda:
1. Review of Work progress.
 2. Field observations, problems, and decisions.
 3. Identification of problems impeding planned progress.
 4. Review of submittals schedule and status of submittals.
 5. Maintenance of progress schedule.
 6. Corrective measures to regain projected schedules.
 7. Planned progress during succeeding work period.
 8. Coordination of projected progress.
 9. Maintenance of quality and work standards.

10. Effect of proposed changes on progress schedule and coordination.
11. Other business relating to Work.

1.7 CLOSEOUT MEETING

- A. Schedule and administer a final progress meeting and attend a final walkthrough in accordance with Section 01 70 00.

PART 2 PRODUCTS – Not Used

PART 3 EXECUTION – Not Used

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittal procedures.
 - 2. Price breakdown.
 - 3. Product data.
 - 4. Use of electronic CAD files of Drawings.
 - 5. Application for payment.
 - 6. Test reports.
 - 7. Shop drawings and manufacturer's literature.
 - 8. Samples.
 - 9. Certificates.
 - 10. Approval process.
 - 11. Contractor's responsibilities.

1.2 SUBMITTAL PROCEDURES

- A. Transmit each submittal with an Engineer accepted form.
- B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- C. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite Project, and deliver to Engineer's office. Coordinate submission of related items.
- F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.
- G. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- H. When revised for resubmission, identify changes made since previous submission.
- I. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

1.3 PRICE BREAKDOWN

- A. Within 30 days of the contract award, but not later than the contract start date, submit to the Engineer for approval a breakdown of major lump sum bid items into smaller components for the purpose of determining monthly progress payments.
- B. Include profit and overhead prices in each item.
- C. Payment will be withheld until receipt of price breakdown.

1.4 PRODUCT DATA

- A. Product Data: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus two copies Engineer will retain. Alternatively, Contractor may provide submittals in pdf format via email.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. After review, produce copies and distribute in accordance with Submittal Procedures and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.5 USE OF ELECTRONIC CAD FILES OF DRAWINGS

- A. Electronic CAD Files of Drawings: May only be used to expedite production of Shop Drawings, Record Drawings, and to determine coordinates for grid layout. Use for other projects or purposes is not allowed.
- B. Electronic CAD Files of Drawings: Distributed only under the following conditions:
 - 1. Use of files is solely at receiver's risk. Engineer does not warrant accuracy of files. Receiving files in electronic form does not relieve receiver of responsibilities for measurements, dimensions, and quantities set forth in Contract Documents. In the event of ambiguity, discrepancy, or conflict between information on electronic media and that in Contract Documents, notify Engineer of discrepancy and use information in hard-copy Drawings and Specifications.
 - 2. CAD files do not necessarily represent the latest Contract Documents, existing conditions, and as-built conditions. Receiver is responsible for determining and complying with these conditions, and for incorporating addenda and modifications.
 - 3. User is responsible for removing information not normally provided on Shop Drawings and removing references to Contract Documents. Shop Drawings submitted with information associated with other trades or with references to Contract Documents will not be reviewed and will be immediately returned.
 - 4. Receiver shall not hold Engineer responsible for data or file cleanup required to make files usable; nor for error or malfunction in translation, interpretation, or use of this electronic information.
 - 5. Receiver shall understand that even though Engineer has computer virus scanning software to detect presence of computer viruses, there is no guarantee that computer viruses are not present in files or in electronic media.

6. Receiver shall not hold Engineer responsible for such viruses or their consequences; and shall hold Engineer harmless against costs, losses, or damage caused by presence of computer virus in files or media.

1.6 APPLICATION FOR PAYMENT

- A. Each Application for Payment submitted by the Contractor shall be accompanied by appropriate documentation to verify that the Work has been completed and the products and materials have been delivered and installed.
- B. Submit progress reports and survey records with Applications for Payment, signed by the Contractor's project manager.

1.7 TEST REPORTS

- A. Submit for Engineer's records.
- B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.8 SHOP DRAWINGS AND MANUFACTURER'S LITERATURE

- A. Prior to installation of any item specified as requiring submittal, submit two (2) copies for Owner's use plus the number required for the return to the Contractor, of manufacturer's literature containing detailed specifications and performance data, or shop drawings fully describing the items showing fabrication, layout, setting, or erection details, including erection plan and details as required.
- B. Do not construe the approval of shop drawings to be a complete check. This approval will indicate only that the general method of construction and detailing is satisfactory. Approval of such drawings will not relieve the Contractor of the responsibility to comply with all terms and conditions of the plans and specifications. The Contractor shall be responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all Work.
- C. Submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing to Engineer.
- D. Indicate special procedures, conditions requiring special attention, and special criteria required for application or installation.

1.9 SAMPLES

- A. Provide samples of sufficient size to permit an accurate appraisal of color, texture, finish, workmanship, and other appropriate characteristics.
- B. Submit samples with shop drawings when both are required.
- C. Field Samples and Mock-ups:
 1. Erect Mock-ups at location acceptable to the Engineer at project site.

2. Construct each sample or mock-up complete to the dimension indicated, including Work of all crafts required in finish work.

1.10 CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.11 APPROVAL PROCESS

- A. Allow 15 calendar days for checking and appropriate action by the Engineer. Contractor's drawings will be returned stamped with one of the following classifications:
 1. CODE A (APPROVED) – No corrections, no marks.
 2. CODE B (APPROVED AS NOTED) – A few minor corrections or notes to Contractor. Contractor shall complete Work in accordance with corrections or notes. All items may be fabricated as marked without further resubmission.
 3. CODE C (REVISE AND RESUBMIT) – Minor corrections. Items not noted to be revised and corrected may be fabricated. Resubmit drawings as per original submissions with corrections noted. Allow 15 calendar days for rechecking and appropriate action by the Engineer.
 4. CODE X (NOT APPROVED) – Requires corrections or is otherwise not in accordance with the Contract Documents. No items shall be fabricated.

1.12 CONTRACTOR'S RESPONSIBILITIES

- A. Review shop drawings, product data, and samples prior to submission to the next level of control.
- B. Verify field dimension, field construction criteria, and catalog numbers and similar data.
- C. Coordinate each submittal with requirements of the Work, Contract Documents, and the Work of other contractors.
- D. Contractor's responsibility for errors and omissions in submittals is not relieved by the Engineer's review of submittals.
- E. Notify Engineer, in writing, of proposed deviations in submittals from contract requirements, prior to or at the time of submission.
- F. Contractor's responsibility for deviations in submittals from Contract Document requirements is not relieved the Engineer's review of submittals.
- G. Do not begin any Work which requires submittals without having the Engineer's stamp and initials or signature indicating approval.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Quality control and control of installation.
 - 2. Tolerances.
 - 3. References.
 - 4. Labeling.
 - 5. Examination.
 - 6. Testing and inspection services.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Before ordering any fabricated material or doing any Work, verify all measurements at the project site. No additional compensation will be allowed because of differences between actual dimensions and the measurements indicated on the Drawings. Report any discrepancy immediately to the Engineer for instructions before proceeding with the Work.
- C. Comply with manufacturers' instructions, including each step-in sequence.
- D. When manufacturer's instructions conflict with Contract Documents, request clarification from Owner/Engineer before proceeding.
- E. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- F. Work shall be performed by persons qualified to produce required and specified quality.
- G. Verify field measurements are as indicated on shop drawings or as instructed by manufacturer.
- H. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.

- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from the Engineer before proceeding.
- E. Neither contractual relationships, duties, nor responsibilities of parties in Contract shall be altered from Contract Documents by mention or inference otherwise in reference documents.

1.5 LABELING

- A. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:
 - 1. Model number
 - 2. Serial number
 - 3. Performance characteristics

PART 2 PRODUCTS - Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Examine and verify specific conditions described in individual specification sections.

3.2 TESTING AND INSPECTION SERVICES

- A. Contractor shall employ and pay for services of an independent testing agency, and analytical laboratory to perform specified testing. The independent testing agency shall perform tests, inspections and other services specified in individual specification sections.
- B. The cost for all testing services required shall be included in lump sum or unit cost bid. No separate payments will be made for testing. Include all associated costs in the appropriate bid items. Engineer will direct all tests. The contractor shall pay the testing firm.
- C. Testing, inspections and source quality control may occur on or off project site.

- D. Conduct tests in accordance with the requirements of the designated specifications or, where not specified, the latest appropriate standard of the American Society for Testing and Materials (ASTM).
- E. Contractor Shall:
 - 1. Make available, at no cost, all material to be tested.
 - 2. Provide labor necessary to supply samples and assist in making tests.
 - 3. Advise laboratory of the identity of material sources and instruct suppliers to allow inspections by laboratory.
- F. After each test, Contractor shall submit report to Engineer indicating observations and results of testing and indicate compliance or non-compliance with Contract Documents. Contractor's independent geotechnical engineer shall provide interpretation of testing and shall include the following:
 - 1. Date issued
 - 2. Project title and number
 - 3. Name of inspector
 - 4. Date and time of sampling or inspection
 - 5. Identification of product and specifications section
 - 6. Location of test
 - 7. Type of inspection or test
 - 8. Date of test
 - 9. Results of tests
- G. Promptly notify Engineer of irregularities or deficiencies of Work which are observed during performance of testing services.
- H. Testing and employment of testing agency shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- I. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by independent firm at no additional cost to Owner.
- J. Limits on Testing Agency:
 - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency may not approve or accept any portion of the Work.
 - 3. Agency is not authorized to perform any duties of the Contractor.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Temporary utilities.
 - 2. Vehicular access.
 - 3. Parking.
 - 4. Fire-prevention facilities.
 - 5. Staging areas.
 - 6. Dust control.

1.2 TEMPORARY UTILITIES

- A. Establish and initiate use of each temporary facility at the time first reasonably required for proper performance of work. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have replaced the need.
- B. The Contractor shall be responsible for supplying all temporary utilities required and electricity, excluding water for construction use. Where possible and reasonable, connect to existing franchised utilities for required services; comply with service company's recommendations on materials and methods, or engage service companies to install services.
- C. Pay the cost of all electrical energy used on this part of the project until completion of the contract. If partial occupancy by the Owner occurs prior to completion, the Owner will pay proportional share of electrical energy used.
- D. Provide light bulbs required for all temporary construction lighting and replace when necessary.
- E. Sanitary Facilities
 - 1. When permanent facilities do not exist, provide and maintain toilet facilities and enclosures in accordance with requirements of applicable local and state health authorities and OSHA. Provide facilities from the time of project mobilization, until demobilization. Keep toilet facilities clean and supplied with toilet paper at all times.
- F. Contractor is responsible for locating and verifying all existing utilities.

1.3 VEHICULAR ACCESS

- A. Construct temporary construction access routes from public thoroughfares to serve construction area, of width and load bearing capacity to accommodate unimpeded traffic for construction purposes. The Contractor shall provide the equipment necessary to access the site and perform the Work as described in the Drawings and Technical Specifications.

- B. Access routes may require installation of culverts to traverse small drainage ditches. The culverts must be CMP, corrugated HDPE, or engineer approved equivalent material.
- C. Construct stabilized construction entrances at each intersection of access roads and public roads in accordance with details shown in the Drawings.
 - 1. Surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
- D. Maintain construction entrances in a condition that will prevent tracking or flowing of sediment onto adjacent public roads. This may require periodic topdressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed, or tracked onto roads must be removed immediately.
- E. Observe all laws and regulations of the local, county, and state authorities in the use of all public roads and highways for the transportation of materials and equipment in connections with Work on the project. Observe all overhead construction, bridges, cables, and the like. Repair damage to roads, highways, overhead construction and similar off-site items, resulting from operations in connection with this project.
- F. Temporary access routes shall be restored to their existing condition, except minimal wheel tracks may be left in place, upon completion of the project.
- G. Provide unimpeded access for emergency vehicles. Maintain 20 feet wide driveways with turning space between and around combustible materials.
- H. Provide means of removing mud from vehicle wheels before entering public roads.
- I. The Contractor shall not impede traffic on any park roads unless approved by the Owner.

1.4 PARKING

- A. Construction workers shall park personal vehicles in the staging area or at offsite locations. Park vehicles to avoid interference with normal construction activities and to avoid interference with Owner's operations.
- B. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
- C. Repair existing facilities damaged by use, to original condition.

1.5 FIRE-PREVENTION FACILITIES

- A. Prohibit smoking within buildings and field offices. Designate area onsite where smoking is permitted. Provide approved ashtrays in designated smoking areas. Trash shall be disposed of in accordance with all laws, regulations, and codes.
- B. Establish fire watch for cutting, welding, and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.
- C. Portable Fire Extinguishers: NFPA 10; 10-pound capacity, 4A-60B; C UL rating.

1. Provide minimum of one fire extinguisher in every field office, construction trailer, and storage shed.

1.6 STAGING AREAS

- A. Utilize staging areas as shown on the Drawings or otherwise approved by the Engineer or Owner. Allow for access, orderly provision for maintenance, and for inspection of products.
- B. Do not enter on or occupy with personnel, tools, equipment, or material any ground outside the Owner's property without the written consent of the owner of such ground.
- C. Other contractors and employees or agents of the Owner may for all necessary purposes enter upon the Work area and premises used by the Contractor, and the Contractor shall conduct Work so as not to impede unnecessarily any Work being done by others on or adjacent to the site.

1.7 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. The Contractor shall control dust by applying water as necessary to prevent the generation and migration of airborne dust.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 57 00

TEMPORARY EROSION AND SEDIMENT CONTROLS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittals
 - 2. Erosion and Sediment Control
 - 3. Silt Fences
 - 4. Installation of Silt Fencing
 - 5. Removal of Materials
 - 6. Maintenance
 - 7. Inspections
 - 8. Cleaning
 - 9. Protection

1.2 SUBMITTALS

- A. Refer to Section 01 33 00 - Submittal Procedures.
- B. Product Data:
 - 1. Silt fence fabric and materials

1.3 EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Implement and maintain storm water pollution prevention plan (SWPPP) and follow all stormwater best management practices. Complete Work in a manner that will direct surface water away from the Work and away from adjoining property.
- C. The excavation, grading, and moving of soil materials shall be scheduled to minimize, to the extent practical, the size of areas that will be unprotected from erosion. Disturbed areas shall be restored according to the Drawings and Specifications, as soon as feasible.
- D. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- E. Silt fences or other erosion control devices shall be installed as necessary to minimize and control erosion during and subsequent to construction. Erosion controls shall remain in place during the entire construction period or as otherwise specified. The Contractor shall:
 - 1. Protect the Work from erosion. The Contractor shall be responsible, at their expense, for repairing erosion of embankments, cuts, and natural slopes.
 - 2. Protect downstream and adjacent properties, drainage channels, and streams from damage due to erosion resulting from project construction operations.

PART 2 PRODUCTS

2.1 SILT FENCES

- A. The filter fabric used for the silt fencing shall meet the following requirements:
1. Fabric shall be uniform in texture, uniform in appearance, contain no defects, flaws, or tears affecting the physical properties.
 2. Fabric shall contain UV inhibitors and stabilizers providing a minimum service life of at least 2 years during outdoor exposure.
 3. Provide woven fabric that meets the following requirements:

Physical Property	Test Procedure	Strength Requirement
Grab Tensile	ASTM D4632	100 lbs. min.
Elongation (percent)		30 percent max.
Trapezoid Tear	ASTM D4533	55 lbs. min.
Permittivity	ASTM D4491	0.2 sec ⁻¹
AOS (U.S. Std. Sieve)	ASTM D4751	20-100 U.S. Sieve

PART 3 EXECUTION

3.1 INSTALLATION OF SILT FENCING

- A. Provide silt fence to minimize erosion and sediment runoff from stockpiles and disturbed areas.
- B. Install silt fence to retain sediment prior to initiating each phase of Work where erosion would occur in the form of sheet and rill erosion (e.g. clearing and grubbing, excavation, embankment, and grading).
- C. Place silt fence parallel with grading contour.
- D. The ends of the fence shall be dog legged up slope to prevent water from flowing around ends of the fence.

3.2 REMOVAL OF MATERIALS

- A. Following completion of the project, all materials shall be removed from the Site. Existing silt fencing shall be removed prior to installing new silt fencing. The newly installed silt fencing shall remain after the project is complete.

3.3 MAINTENANCE

- A. Maintain the erosion and sediment control measures in good and effective operating condition by performing routine inspections to determine condition and effectiveness, and repair of erosion and sediment control measures. Use the following procedures to maintain the protective measures.
 - 1. Silt Fence Maintenance
 - a. Inspect the silt fences and project areas in accordance with the paragraph titled "Inspections," of this section. Any required repairs shall be made promptly. Pay close attention to the repair of damaged silt fence resulting from end runs and undercutting. Should the fabric on a silt fence decompose or become ineffective when the barrier is still necessary, replace the fabric promptly. Remove sediment deposits when deposits reach one-third of the height of the barrier.
 - 2. Geosynthetic Fabric Maintenance
 - a. Inspect geosynthetic fabrics in accordance with the paragraph titled "Inspections," of this section. Any required repairs shall be made promptly. Should the geosynthetic fabric be torn or punctured or otherwise damaged, or the overlaps disturbed or displaced, Contractor shall repair damage and correct disturbances. Repairs shall consist of a patch placed over the damaged area. Patches shall be of the same type of geosynthetic fabric as that being patched. Patches shall extend a minimum of 18 inches beyond the damaged area, in all directions.

3.4 INSPECTIONS

- A. General
 - 1. Inspect disturbed areas of the construction site, areas that have not been finally stabilized, areas used for storage of materials, all erosion control devices and areas where vehicles exit the site regularly. Sediment transport out of the immediate project area should be minimized.
- B. Inspections Details
 - 1. Inspect disturbed areas and areas used for material storage that are exposed to precipitation for evidence of, or the potential for, sediment entering the drainage system. Observe erosion and sediment control measures identified in the SWPPP to ensure that they are operating correctly. Inspect discharge locations or points to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Inspect locations where vehicles exit the site for evidence of offsite sediment tracking.
- C. Inspection Reports
 - 1. For each inspection conducted, prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPPP, maintenance performed, and actions taken. A copy of the inspection report shall be maintained on the job site and furnished to Engineer upon request.

3.5 CLEANING

- A. When sediment accumulation in sedimentation structures has reached a point one-third depth of sediment structure or device, remove and dispose of sediment.
- B. Do not damage structure or device during cleaning operations.
- C. Do not permit sediment to erode into construction site areas or natural waterways during the course of cleaning each device.

3.6 PROTECTION

- A. Refer to Section 01 70 00 - Execution and Closeout Requirements.

END OF SECTION

SECTION 01 70 00

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Closeout procedures
 - 2. Final cleaning
 - 3. Restoration
 - 4. Disposal of waste materials
 - 5. Final Walkthrough

1.2 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.
- B. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3 FINAL CLEANING

- A. Keep premises free of accumulation of surplus materials and rubbish from contractor and subcontractor operations.
- B. Remove from the site all debris and unused materials and, upon completion of the Work, restore the site as nearly as possible to its original condition, including the replacement, at the Contractor's expense, of any facility or landscaping which has been altered or damaged.
- C. Prior to final inspection, the exposed surfaces of the following materials shall be cleaned as listed herein as necessary:
 - 1. Gravel roads – Remove mud, dirt, and redress
 - 2. Other surfaces – Remove all blemishes. Leave clean, uniform, and dust free
 - 3. Premises and site – Remove all trash, debris, and surplus excavated material.
- D. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.4 RESTORATION

- A. Prior to final acceptance of the project, the site shall be restored to its original condition prior to construction, unless otherwise indicated in the Specification and Drawings. This shall include, but not be limited to, staging and stockpiling areas, construction strips, access routes, trails, and all areas within the limits of disturbance.
 - 1. The site shall be graded and finished as specified and shown on the Drawings and as specified in Section 31 23 23 – Fill and Section 32 92 19 - Seeding.

2. All vegetated areas disturbed during construction shall be re-seeded in accordance with Section 32 90 00 – Planting, unless otherwise specified or directed by the Engineer.
 3. Asphalt or concrete streets, parking lots, sidewalks, and gravel trails shall be returned to preconstruction conditions.
- B. Disassemble and remove all temporary construction facilities constructed by the Contractor and leave the site in an orderly condition.
 - C. Preserve signs, survey control points, and fences in their existing locations and conditions unless written permission is obtained from the Engineer for their removal and restoration or their replacement. Upon approval from the Engineer, remove such facilities as conflict with the design when grading operations begin and store them to keep them clean and in their existing condition. Restore them to their previous locations or new locations as directed. Repair or replace damaged items as directed by the Engineer, at no additional cost to Engineer.
 - D. Repair or otherwise return to its original condition any parts of the existing facilities which have been damaged during construction.
 - E. Temporary berms, roads, and other temporary facilities shall be removed prior to final acceptance of the Work, unless otherwise specified or directed by the Engineer.
 - F. Any fencing, gates, auto-gates, signs, or posts removed during construction shall be replaced to its original condition.

1.5 DISPOSAL OF WASTE AND EXCESS MATERIALS

- A. Construction waste and excess construction materials shall be disposed of offsite in accordance with all laws and regulations or as directed by the Engineer.
- B. Excess excavated material, unacceptable material, trash, debris, and other material not used in the project shall become the property of the contractor and shall be removed from the site. The Contractor shall maintain project areas as work progresses, including picking up trash, debris, excess material, etc. All work areas shall be cleaned up and free of rubbish, excess materials, equipment, etc., prior to final acceptance of the project by the Owner.
- C. Waste disposal activities shall include, but not be limited to, transport and disposal of site waste, rubbish, demolition debris, rubble, and excavated soil that cannot be used onsite to appropriate disposal facilities as specified and in accordance with applicable Federal, State, and local regulations. Upon completion of the work, the Contractor shall promptly remove from the site all rubbish, unused materials, construction equipment, and temporary facilities and structures used during construction.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 FINAL WALKTHROUGH

- A. After completion of restoration and cleanup activities and upon receiving the Contractor's written request for a substantial completion inspection, the Engineer will perform a (Pre-final) walk-through of the site area with the Contractor's representative(s). The Engineer shall identify and document, via a punch list, the additional construction and submittal items required before the Engineer will declare "substantial completion" of the Contract. If, in the opinion of the Engineer, the Work has been performed and site restored in accordance with the Drawings and Specifications, a "Certificate of Substantial Completion" shall be issued. If, in the opinion of the Engineer, the Work is not completed in accordance with the Drawings and Specifications, no "Certificate of Substantial Completion" will be issued and another walk-through will be scheduled. All punch list items identified during the walk-through(s) shall be addressed to the satisfaction of the Engineer. Final payment will not be made until all of the punch list items are resolved to the satisfaction of the Engineer during a final walk through.

END OF SECTION

SECTION 01 71 23

FIELD ENGINEERING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittals
 - 2. Reference points.
 - 3. Quality Control.
 - 4. Materials.
 - 5. Pre-Construction Surveys.
 - 6. Control surveys.
 - 7. Grade Verification.
 - 8. As-built surveys.
 - 9. Inspection.
 - 10. Survey reference points.
 - 11. Survey requirements.

1.2 SUBMITTALS

- A. As specified in Section 01 33 00 – Submittal Procedures.
- B. Engineer shall observe and approve construction staking before the Contractor may begin excavation activities.

1.3 REFERENCE POINTS

- A. Benchmark reference points with coordinates and vertical control are indicated on the Drawings. Contractor shall establish additional control, including baselines, as is required for performance of the Work. These shall be tied into the site reference points.

1.4 QUALITY CONTROL

- A. All survey, layout, and related Work shall be performed and signed by a qualified individual and all surveys, layouts, and related Work shall be recorded in a bound field book.
- B. Surveys verifying that completed Work is in conformance with Contract Documents shall be completely and totally performed and signed by a qualified land surveyor approved by the Engineer. The surveyor shall have actively engaged in survey operations during the past 5 years.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Contractor shall provide all materials as required to properly perform the surveys, including, but not limited to, instruments, tapes, rods, measures, mounts and tripods, stakes and hubs,

nails, ribbons, other reference markers, and all else required. All material shall be of sound professional quality.

- B. All lasers, transits, and other instruments shall be calibrated and maintained in accurate calibration throughout the execution of the Work. Calibration certificates shall be submitted to the Engineer prior to use of any instrument.

PART 3 EXECUTION

3.1 PRE-CONSTRUCTION SURVEYS

- A. The Contractor shall perform a topographic and hydrographic survey prior to construction.
 - 1. Topographic and hydrographic surveys shall meet the following criteria at a minimum:
 - a. Positioning shall be by real-time kinematic (RTK) differential global positioning system (DGPS) or equivalent technology capable of providing the same level of positioning accuracy.
 - b. Pre-construction surveys shall meet the following repeatable accuracy:
 - 1) For elevation, to the nearest 0.1 ft, plus or minus 0.05 feet.
 - 2) For horizontal distance, to plus or minus 0.1 ft.
 - 2. The Contractor shall select methods and equipment capable of meeting these accuracy requirements.
 - 3. Hydrographic survey methods are to be used to survey below the water.
- B. The Contractor shall conduct an initial survey to confirm dimensions and locations of existing site features, topography, survey control points, temporary working points, and to certify the Work is located as required by the Contract Documents.

3.2 CONTROL SURVEYS

- A. Control surveys shall include surveys for the establishment of benchmarks and control points. All control surveys for elevation shall be plus or minus 0.01 feet and for horizontal, control angles shall be to the nearest 20 seconds plus or minus 10 seconds and measured distances shall be to plus or minus 0.01 feet.
- B. Contractor is responsible for providing surveying control to construct the Work to the lines and grades as indicated on the Drawings, to verify final grades, to provide quantity estimates for materials and any other surveying required to properly perform the Work as specified in the Contract Documents.
- C. Contractor shall establish additional control, including baselines, as is required for performance of the Work.

3.3 GRADE VERIFICATION

- A. Contractor shall perform grade verification during construction to confirm that fill and excavation are placed in accordance with the lines and grades indicated on the Drawings.
- B. Grade verification may be accomplished by grade staking, verification surveys, or other methods and means acceptable to the Engineer. Grade verification shall be completed prior to acceptance of grading work and prior to performing as-built surveys.

3.4 AS-BUILT SURVEYS

- A. As-built surveys shall serve as the final survey to verify the placement and extent of all fill and excavation and shall include surveys to verify as-built construction to the final lines and grades indicated on the Drawings. All surveys for elevation shall be to the nearest 0.1 feet plus or minus 0.05 feet and for horizontal distances shall be to plus or minus 0.1 feet.

3.5 INSPECTION

- A. Contractor shall verify with the Engineer locations of site reference and survey control points prior to starting Work.
- B. Contractor shall promptly notify the Engineer of any discrepancies discovered. Contractor shall also verify layouts periodically during Work.

3.6 SURVEY REFERENCE POINTS

- A. Contractor shall install construction staking as shown in the Drawings.
- B. Contractor shall protect survey control points prior to starting site Work and preserve permanent reference points during construction. Contractor shall not relocate site reference points without prior written approval from the Engineer.
- C. Contractor shall promptly report to the Engineer the loss, damage, or destruction of any reference point or relocation required because of changes in grades or other reasons. Contractor shall replace dislocated survey control points based on original survey control at no additional cost to the Owner.

3.7 SURVEY REQUIREMENTS

- A. Contractor shall reference survey and site reference points to the provided control monuments and record locations of survey control points, with horizontal and vertical data, in survey field notes.
- B. Contractor shall establish lines and levels and shall locate and lay out by instrumentation and similar appropriate means, site features to be constructed including necessary stakes for cut, fill placement, and grading operations and stakes for utility locations, slopes, and invert elevations.
- C. The same survey method shall be used for both the pre-construction and the as-built surveys for a given area.
- D. Contractor shall, with his own forces, obtain working or construction lines or grades as needed.
- E. Contractor shall furnish all materials and accessories required for the proper location of grade points and lines.
- F. All marks given shall be carefully preserved and, if destroyed or removed without the Engineer's approval, they shall be reset, if necessary, at the Contractor's expense.

- G. The cost to the Contractor of all Work and delays occasioned by giving lines and grades, or making other necessary measurements, will be considered as having been included in the unit and lump sum prices for items of Work.
- H. It shall be the duty of the Contractor to keep the Engineer informed of the times and places at which Work will be conducted in order that the Engineer may have an ample opportunity to furnish and/or check the lines and elevations with a minimum of inconvenience to the Engineer or delay to the Contractor.

END OF SECTION

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Scope.
 - 2. Submittals.
 - 3. Maintenance of Documents.
 - 4. Recording.

1.2 SCOPE

- A. This section specifies the requirements for maintenance and submittal of record documents (As-Built Drawings).

1.3 SUBMITTALS

- A. Record Documents shall be delivered at final closing of the project. The Record Documents shall be transmitted with cover letter listing:
 - 1. Date.
 - 2. Project title.
 - 3. Contractor's name, address, and telephone number.
 - 4. Signature of Contractor or authorized representative.
- B. Documents must be submitted to and accepted by Engineer at completion of Work as a condition of final payment.

1.4 MAINTENANCE OF DOCUMENTS

- A. The Contractor shall maintain at the site for the Engineer, one record copy of:
 - 1. Construction schedule and progress record.
 - 2. The as-built drawings and technical specifications.
 - 3. Addendum and modifications.
 - 4. Change orders and other modifications to the contract.
 - 5. Shop drawings and product data.
 - 6. Manufacturer's instructions for assembly, installation, maintenance and adjusting.
 - 7. Engineer field orders.
 - 8. Daily Work activity and quality control summary reports as applicable, including:
 - a. Reports on emergency response actions.
 - b. Test records and results.
 - c. Records of all site Work.
 - d. Report on all spill incidents.
 - e. Truck load tickets and shipping papers.
 - f. Records of quantities of materials by category.
 - g. Other items as may be required by the Engineer.

- B. Record documents shall be stored apart from documents used for construction.

1.5 RECORDING

- A. The Contractor shall record as-built information on a set of Drawings, provided by the Engineer.
- B. Information is to be recorded concurrently with construction progress. No Work shall be concealed or covered in a manner that would prevent inspection until required information is recorded and approved by the Engineer.
- C. Drawings and shop drawings shall be legibly marked, and each item of actual construction recorded accordingly:
 - 1. Measured depths of elements of construction in relation to survey datum.
 - 2. Field changes of dimension and detail.
 - 3. Details not on original Drawings.
- D. Specifications shall be legibly marked, and each item of actual construction recorded including:
 - 1. Manufacturer, trade name, and catalog number of each product actually installed, including optional or substitute items.
 - 2. Changes made by addenda and modifications.
- E. The Contractor shall maintain manufacturer's certifications, inspection certifications, and field test records required by individual specification sections.

PART 2 PRODUCTS – Not Used.

PART 3 EXECUTION – Not Used.

END OF SECTION

SECTION 31 05 16

AGGREGATE MATERIALS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. References.
2. Submittals.
3. Riprap.
4. Crushed Rock.
5. Sand and Gravel Fill.
6. 3" to 6" Rock.
7. Source Quality Control.
8. Placement of Riprap.
9. Placement of Crushed Rock.
10. Placement of Sand and Gravel Fill.
11. Placement of 3 to 6" Rock.
12. Stockpiling.
13. Stockpile Cleanup.

1.2 RELATED SECTIONS:

A. Section 31 23 23 – Fill

1.3 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO M147 - Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base and Surface Courses.
2. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:

1. ASTM C127 – Standard Test Method for Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
2. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
3. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³).
4. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
5. ASTM D2922 – Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods.
6. ASTM D3017 – Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
7. ASTM D4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

8. ASTM D4992 – Standard Test Method for Evaluation of Rock to be used for Erosion Control.
9. ASTM D5121 – Standard Practice for Preparation of Rock Slabs for Durability Testing.
10. ASTM D6473 – Standard Test Method for Specific Gravity and Absorption of Rock for Erosion Control.

C. USACE

1. CRD-C144-92 – Standard Test Method for Resistance of Rock to Freezing and Thawing.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Quarry Tickets: Submit all weight tickets from quarry and sized gradations of rock types.
- C. Materials Source: Submit name of imported materials suppliers.
- D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

PART 2 PRODUCTS

2.1 RIPRAP

A. Material Requirements:

1. Riprap shall be limestone or other approved hard stone of good quality that will not disintegrate under action of air or water. It shall be clean and free from earth, clay or refuse. The rock shall have a density that is not less than 140 pounds per cubic foot.
2. Determine the bulk specific gravity and absorption in accordance with ASTM D 6473. Ensure the bulk specific gravity is at least 2.25, and the maximum absorption is 6.0 percent. Ensure the loss of soundness after 20 cycles is no greater than 15 percent when tested in accordance with the U.S. Army Corps of Engineers test method CRD-C 144. Provide riprap pieces with a width and thickness at least one-third the length.
3. Each load of rock shall be reasonably well graded from the largest to the smallest size specified. The rock shall be angular in shape to permit interlocking between the various rock sizes.
4. Rock riprap shall conform to Type A and B rock riprap mix as indicated on the Drawings. Riprap mix shall be comprised of 50% Type A and 50% Type B. Control of gradation shall be by visual inspection to verify that the rock is reasonably well graded and does conform to the maximum, mean and minimum weights as specified.

B. Gradation Requirements:

1. Type "A"

<u>Size of Rock (lbs.)</u>	<u>Percent of Total Weight Smaller than the Given Size (%)</u>
154.3	100
33.0	50
2.2	Not to Exceed 10

2. Type "B":

<u>Size of Rock (lbs.)</u>	<u>Percent of Total Weight Smaller than the Given Size (%)</u>
308.6	100
77.2	50
4.4	Not to Exceed 10

2.2 CRUSHED ROCK

- A. Crushed Rock shall be Type B – Coarse Aggregate (Base), 1 ½” crusher run, Limestone, crushed natural stone; free of clay, shale, organic matter; graded in accordance with ASTM C136, within the following limits:

<u>Sieve Size</u>	<u>Percent Retained</u>
1 ½ inches	0
¾ inch	5 to 35
⅜ inch	30 to 70
No. 10	70 to 90
No. 200	90 to 100

2.3 SAND AND GRAVEL FILL

- A. Sand and gravel fill shall have a similar gradation to the Class C – Fine Aggregate gradation set forth in the NDOT 2017 Standard Specifications, Section 1033.

From NDOT Table 1033.02A

Class C – Fine Aggregate

<u>Sieve Size</u>	<u>Percent of Total Weight Smaller than the Given Size (%)</u>
1 inches	100
No. 4	44 to 88
No. 10	24 to 50
No. 30	4 to 20
No. 200	0 to 3

2.4 3” – 6” ROCK

- A. This rock shall be 3” – 6” in diameter, limestone, free of clay, shale, and organic matter.

2.5 SOURCE QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Testing and inspection services.
- B. Riprap – Testing and Analysis: Perform according to ASTM D698, ASTM 6473, ASTM C127, ASTM D4992, and ASTM D5121.
- C. Coarse Aggregate Material - Testing and Analysis: Perform according to ASTM D698, ASTM D2922, ASTM D3017, ASTM D4318, and ASTM C136.
- D. If tests indicate materials do not meet specification requirements, change material or material source and retest.

- E. Provide materials of each type from same source throughout Work.

PART 3 EXECUTION

3.1 PLACEMENT OF RIPRAP

- A. Place riprap as shown on the Drawings.
- B. Approved material shall be dumped or otherwise placed in a manner as to produce a reasonable solid mass of material within the limits indicated on the Drawings or specified by the Engineer. All material shall be placed and distributed so that there are no large accumulations of either the larger or smaller sizes of rock.
- C. Height of drop onto underlying material shall be limited to 2 feet or less.
- D. Any appreciable variation from the specified thickness of the riprap shall be corrected by redistributing the material.
- E. Installed Thickness: As indicated on Drawings.

3.2 PLACEMENT OF CRUSHED ROCK

- A. Place all crushed rock as indicated on the Drawings.
- B. Approved material shall be dumped or otherwise placed in a manner as to produce a reasonable solid mass of material within the limits indicated on the Drawings or specified by the Engineer. All material shall be placed and distributed so that there are no large accumulations of either the larger or smaller sizes of rock.
- C. Height of drop onto underlying material shall be limited to 2 feet or less.
- D. Any appreciable variation from the specified thickness of the riprap shall be corrected by redistributing the material.
- E. Installed Thickness: As indicated on Drawings.

3.3 PLACEMENT OF SAND AND GRAVEL FILL

- A. Place sand and gravel fill as indicated on Drawings.
- B. Height of drop onto underlying material shall be limited to 2 feet or less.
- C. All organic and otherwise unsuitable materials shall be removed prior to placement of sand and gravel fill, to a maximum depth of 2 feet. Sand and gravel fill shall only be placed on native subgrade. No fill shall be placed on organic materials.

3.4 PLACEMENT OF 3 TO 6" ROCK

- A. Place 3" to 6" rock as indicated on Drawings.

3.5 STOCKPILING

- A. Stockpile materials on site at locations designated by Owner/Engineer.
- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.
- D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

3.6 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION

SECTION 31 10 00

SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY:

- A. Section Includes:
 - 1. Examination
 - 2. Preparation
 - 3. Protection
 - 4. Clearing and Grubbing
 - 5. Debris Removal
 - 6. Topsoil

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting Work.
- B. Verify existing plant life designated to remain is tagged or identified.
- C. Identify waste and stockpile areas for placing removed materials.

3.2 PREPARATION

- A. Call Digger's Hotline of Nebraska at (800) 331-5666 and receive clearance not less than two working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.

3.3 PROTECTION

- A. Locate, identify, and protect utilities from damage unless Drawings indicate otherwise, or Owner approves their removal.
- B. Protect bench marks, survey control points, and existing structures from damage or displacement.
- C. Protect all trees not approved for removal by Owner. Large established trees shall be protected.
- D. No tree trimming or removal of trees 3" or larger at breast height shall be completed between April 1 and July 31st without first completing a migratory bird survey by a qualified Biologist.

3.4 CLEARING AND GRUBBING

- A. The Owner shall inspect and approve all boundaries for clearing and grubbing prior to performing the Work.
- B. Areas to be excavated and filled shall be first cleared and grubbed. Clearing shall consist of removal above the ground surface of trees (less than 6 inches in diameter), stumps, brush, bushes, and similar debris. Grubbing shall consist of removal of stumps, roots, buried logs, and other unsuitable material and shall be performed in areas to be graded.
- C. Clear trees (less than 6 inches in diameter) and vegetation as required for access to site and execution of Work to the existing ground surface as directed by Owner/Engineer. Do not clear trees without Owner/Engineer approval.
- D. Cleared trees and limbs shall be removed from the site by the Contractor.
- E. Roots two (2) inches in diameter or greater shall be removed to a depth of at least 6 inches below ground.
- F. The Owner shall approve the removal of all trees prior to their removal.
- G. Perform tree removal in areas containing excavation and fill, as shown on the Drawings.
- H. Tree removal shall include:
 - 1. Trees 6 inches in diameter or greater measured 24 inches above the ground and flagged for removal shall be removed together with their stumps and roots to the depth of proposed excavation.
- I. Removed trees shall become the property of the Contractor and shall be disposed of by the Contractor according to state and local regulations unless otherwise stated by the Owner. Removed trees shall be disposed offsite or may be burned onsite. The Contractor shall be responsible for permitting requirements to burn trees.

3.5 DEBRIS REMOVAL

- A. Do not burn or bury materials on site, unless specifically stated otherwise. Leave site in clean condition.
- B. Removed items shall become the property of the Contractor and shall be disposed of by the Contractor according to state and local regulations unless otherwise stated by the Owner.

3.6 TOPSOIL

- A. See Section 31 23 23 – Fill for final reuse details.
- B. Prior to all earthwork activities, but after clearing as defined above, strip topsoil and store in a separate stockpile for reuse and final dressing of finished earthwork. Stripping shall consist of removal of weeds, grasses, topsoil, organic soil, or other vegetation not removed during clearing operations.
- C. A minimum of 6 inches of topsoil shall be stripped and stockpiled. The Engineer may ask the Contractor to strip additional soil in order to remove all organic soil.

- D. Topsoil shall be stockpiled for future use in re-vegetating exposed slopes and disturbed areas.
- E. Topsoil containing sod and plant matter shall be thoroughly mixed, until homogeneous, before final reuse.
- F. Topsoil shall be kept separate from other backfill material and shall not be used in structural fills or structural fill areas.

END OF SECTION

SECTION 31 23 16

EXCAVATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittals.
 - 2. Excavation Equipment.
 - 3. Preparation.
 - 4. Excavation Safety.
 - 5. Protection.
 - 6. Excavation.
 - 7. Tolerances.
 - 8. Transportation of Sediment to Spoil Areas.
 - 9. Spoiling.
 - 10. Debris Disposal.
 - 11. Transportation and Disposal of Construction Waste.

1.2 SUBMITTALS

- A. Submit the following in accordance with Section 01 33 00 – Submittal Procedures.
- B. Excavation Verification Submittals: Provide a pre-construction, grade verification, and final as-built survey for approval per Section 01 71 23 – Field Engineering.

PART 2 PRODUCTS

2.1 EXCAVATION EQUIPMENT

- A. The Contractor shall use a long reach excavator to complete sediment removal from the lake. Excavator may be positioned at toe of slope above the waterline.
- B. All materials and equipment used to transport excavated sediment shall be water-tight and adequately sized based on the selected loading and offloading equipment.

PART 3 EXECUTION

3.1 PREPARATION

- A. Clear site and strip topsoil as specified in Section 31 10 00 – Site Clearing.
- B. Identify utilities and protect utilities indicated to remain from damage.

3.2 EXCAVATION SAFETY

- A. The safety of all excavations shall be the sole responsibility of the Contractor. The Contractor shall implement procedures consistent with CFR 29 Part 1926, Subpart P, as necessary, to ensure safety of personnel in the vicinity of the excavations and to prevent damage to adjacent property, pavements, utilities, or structures.
- B. Excavation limits are for the purpose of identifying areas that Work is to be performed only, and do not necessarily represent safe limits. All excavations shall be free of overhangs, and the sidewalls shall be kept free of loose material. As a minimum, the Contractor shall slope all excavations to prevent these conditions.
- C. Excavation within the lake shall be performed from the shoreline with a long reach excavator. If needed, temporary access berms, or an Engineer approved alternative dredging method, may be used to excavate material beyond the reach of a standard reach excavator on the shore.
- D. Complete restoration of all obstructions moved or removed to accommodate construction equipment or to facilitate Work, shall be required.

3.3 PROTECTION

- A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.
- D. Protect plant life, and other features remaining as portion of final grading.
- E. Protect benchmarks, survey control points, existing structures, fences, and pavement from excavating equipment and vehicular traffic.

3.4 EXCAVATION

- A. Notify Engineer of unexpected subsurface conditions.
- B. Repair or replace items indicated to remain if they are damaged by excavation.
- C. The depth of excavation shall be observed and approved by Engineer or Owner prior to backfill activities.
- D. Frozen material or soil containing vegetative matter shall be segregated from materials to be used for fill.
- E. The Contractor shall excavate to the lines, grades, slopes, and elevations shown on the Drawings. The Contractor shall be responsible for constructing stable internal and external side slopes and meet all internal and external side slope grades per the Drawings.
- F. All excavated sediment and debris may be placed on the bank adjacent to the excavation area for dewatering or placed directly into trucks. All excavated sediment and debris must be transported to the designated spoil areas. The Contractor shall be prepared to dewater and

transport saturated soil in a manner that prevents discharge or spillage of soils or water onto adjacent properties or roads.

- G. If large tree trunks or other large non-wood debris is encountered, the debris shall be segregated and stockpiled separately onsite and disposed.
- H. The finished excavation grade surface and/or subgrade surface shall be uniform, as well as true to design grade and cross sections as shown in grade verification surveys approved by the Engineer as described in Specification Section 01 71 23 – Field Engineering. Excavation surface elevations and/or subgrade conditions that do not comply with the requirements of the Drawings shall be reworked until such requirements are met.
- I. Grade verification surveys shall be completed in sediment removal areas to verify the design removal elevation is reached in accordance with Section 01 71 23 – Field Engineering.
 - 1. Surveys shall be submitted to the Engineer for examination and approval.

3.5 TOLERANCES

- A. Excavated surfaces shall achieve the elevations specified on the Drawings or as directed by the Engineer.
 - 1. Elevation: ± 0.1 feet
 - 2. Slope: $\pm 0.5\%$.

3.6 TRANSPORTATION OF SEDIMENT TO SPOIL AREAS

- A. Hauling trucks shall remain on approved haul roads while transporting material from the excavation areas.
- B. Inspect transportation equipment for leaks prior to leaving the site. Avoid drips, leaks, spills onto local, county, and state roads during handling and transport operations.
- C. All sediment removed from the lake shall be hauled from the lake to the designated spoil areas for disposal. Dispose of sediment at the designated spoil areas as approved by the Owner and directed by the Engineer.

3.7 SPOILING

- A. Spoil removed sediment in locations shown on the Drawings and to the lines, grades, and contours shown on the Drawings, and approved by the Owner.
- B. Prevent erosion and migration of spoiled material by use of best management practices.
- C. Compact spoil with a minimum of 1 pass with dozer or fully loaded scraper, or equivalent. Maximum thickness of a layer or lift prior to compaction shall be 8 inches.
 - 1. Spoil materials shall be sufficiently dewatered to support the weight of compaction equipment.
- D. Maintain terraces, existing drainage patterns, and any other site structures/features in spoil areas.
- E. Seed and Mulch the spoil area in accordance with Section 32 90 00 – Seeding.

3.8 DEBRIS DISPOSAL

- A. Debris may include large tree trunks and other non-wood debris that cannot be easily excavated with the sediment. All other materials excavated with the sediment shall be transported and disposed at the designated spoil locations along with the removed sediment.
- B. Non-wood debris shall be disposed offsite with construction waste unless otherwise approved by the Owner to be disposed onsite.

3.9 TRANSPORTATION AND DISPOSAL OF CONSTRUCTION WASTE

- A. The Contractor shall be responsible for loading waste containers, trucks, etc. with generated waste material and large non-wood debris. The non-wood debris shall meet landfill and transportation requirements prior to transportation for disposal.
- B. The Contractor shall be responsible for the transportation and disposal of all construction waste generated as a result of the Work. This includes all non-wood debris encountered during excavation and general site operations.

END OF SECTION

SECTION 31 23 23

FILL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. References
2. Submittals
3. Fill Materials.
4. Examination.
5. Preparation.
6. Fill.
7. Compaction
8. Access Roads and Haul Roads
9. Placing Topsoil
10. Finish Grading
11. Stockpiling.
12. Stockpile Cleanup
13. Tolerances
14. Field Quality Control
15. Protection of Finished Work.

- B. This section specifies fill requirements for areas adjacent to the lake only and does not apply to in-water fill placement. Requirements for in-water placement of weir and baffle materials shall be as specified in Section 31 05 16 – Aggregate Materials.

1.2 REFERENCES

A. ASTM International:

1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
2. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
3. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
4. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
5. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
6. ASTM D5856 – Standard Test Method for Measurement of Hydraulic Conductivity of Porous Material Using a Rigid-Wall, Compaction-Mold Permeameter.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

- B. Contractor's Access road and haul road layout.

- C. Materials Source: Submit name of aggregate material supplier.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. All fill materials as described in this specification shall be obtained exclusively from onsite sources. No offsite materials shall be used for this purpose.
- B. Topsoil:
 - 1. As specified in Section 31 10 00 – Site Clearing.
 - 2. Topsoil shall be material capable of sustaining vegetative growth that is typical of the area.
 - 3. Topsoil shall be reasonably free from underlying subsoil, clay lumps, weeds, litter, brush, matted roots, toxic substances, or any material that may be harmful to plant growth or be a hindrance to grading, planting, or maintenance operations.
 - 4. Topsoil shall not contain more than 5 percent by volume of stones, stumps, or other objects larger than 1 inch in diameter.
- C. Fill
 - 1. For construction of Spoil areas, fill shall be selected from dredged material. See Section 31 23 16 – Excavation.
 - 2. Should be clean, inorganic material, free of foreign material larger than 3 inches.
 - 3. Should not contain an appreciable amount of roots, rock or debris.
 - 4. Fill material for the restoration of trails and construction of haul roads shall consist of lean clay or silt loess excavated material with minimal organic content. Material with significant organic matter shall not be used. All proposed fill material shall be subject to approval by the Engineer prior to placement.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Comply with all local, state, and federal regulations.
- B. Verify fill foundation has been contoured and compacted.
- C. Work shall be performed during dry weather periods. Performing Work during wet conditions could make the soil slow to dry and thus significantly retard the progress of grading and compaction activities.

3.2 PREPARATION

- A. See Section 31 23 16 – Excavation: Preparation.
- B. Protect existing structures, fences, and utilities.
- C. Any large rocks encountered during the subgrade preparation process which constitute as a hazard, due to size or protrusion from the finished subgrade, shall be removed and disposed of as directed by the Engineer.

- D. The finished subgrade surface shall be firm and uniform, true to grade and cross-section, and shall be approved by the Engineer before placing subsequent material thereon. Subgrade that does not conform to the requirements as to grade, cross section, moisture content or density shall be reworked until such requirements are met.

3.3 FILL

- A. Fill areas to contours and elevations with unfrozen materials.
- B. Fill shall only be placed on subgrade that has been properly compacted and prepared in accordance section 3.4.
- C. The first layer of fill material should be placed in a relatively uniform horizontal lift and be adequately keyed into the compacted subgrade soils.
- D. When Work is interrupted by heavy rain, snow, or frost penetration, fill operations shall not be resumed until the Engineer indicates that the moisture content and density of the previously placed fill are as specified.
- E. The finished subgrade surface shall be firm and uniform, true to grade and cross-section. Subgrade that does not conform to the requirements as to grade, cross section, moisture content or density shall be reworked until such requirements are met.
- F. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.

3.4 COMPACTION

- A. Place material in continuous layers as follows:
 - 1. Fill should be placed in maximum lifts of 8 inches of loose material.
 - 2. Make gradual grade changes. Bend slopes into level areas.
 - 3. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
 - 4. Employ placement method that does not disturb or damage other Work.
- B. Compact spoil with a minimum of 1 pass with dozer or fully loaded scraper, or equivalent. Maximum thickness of a layer or lift prior to compaction shall be 8 inches.
 - 1. Spoil materials shall be sufficiently dewatered to support the weight of compaction equipment.
- C. Compaction shall be completed while material is at a suitable moisture content.

3.5 ACCESS ROADS AND HAUL ROADS

- A. Contractor shall be responsible for layout, preparation, grading, widening, compacting, surfacing, maintaining and other work that the Contractor deems necessary in order to operate Contractor's equipment on access roads and haul roads. Contractor's access road and haul road layout shall be approved by Engineer.
- B. Existing roads used as access roads or haul roads shall be repaired to their original condition following construction activities.

- C. Any surfacing installed by the Contractor shall be removed by the Contractor prior to final completion of the project, unless otherwise specified or approved by the Engineer.

3.6 PLACING TOPSOIL

- A. On areas to receive topsoil (seeded areas), the compacted subgrade soil shall be scarified to a 2-inch depth for bonding of topsoil with subsoil.
- B. Topsoil shall be spread evenly to a minimum thickness of 6 inches and graded to the elevation and slopes indicated on the Drawings.
- C. Topsoil shall not be spread when frozen or excessively wet or dry.
- D. Compact using excavator or other equipment to a uniformly consistent moderate density. Avoid a loose condition of topsoil and avoid over-compacting topsoil. Compaction testing is not required.

3.7 FINISH GRADING

- A. After fill activities are completed, the disturbed areas shall be finish graded for subsequent material placement. Any roots, rocks larger than 3 inches in size, or other undesirable material shall be removed from the surface immediately and the surface shall be prepared for vegetative stabilization.
- B. Perform grading operations as shown on the Drawings so that the ground surface will be well-drained at all times. Maintain benching and drainage ditches and keep them open and free from soil, debris, and leaves until final acceptance of the Work. Finish all grading on neat, regular lines conforming to the sections, lines, grades, and contours shown on the Drawings, or if not shown, in accordance with the criteria set forth herein. Perform the grading Work in proper sequence with all other associated operations.

3.8 STOCKPILING

- A. Stockpile materials within staging areas shown on the Drawings or in areas approved by Owner in the following manner:
 - 1. At least 10 feet from any road
 - 2. To not impede drainage to the lake
- B. Stockpile materials in upland areas.
- C. Separate differing materials with dividers or stockpile apart to prevent mixing.
- D. Prevent intermixing of soil types or contamination.
- E. Direct surface water away from stockpile site to prevent erosion or deterioration of materials. Runoff from stockpiles must flow through a properly installed silt fence prior to flowing into the stream.

3.9 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

3.10 TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Surface Elevation: Plus or minus 0.2 feet.
- C. Slope: Plus or minus 0.5%.
- D. Placed material not conforming to the specified tolerance limits shall be removed and replaced as directed by the Engineer at no additional cost to the project.

3.11 PROTECTION OF FINISHED WORK

- A. Section 01 70 00 - Execution and Closeout Requirements: Protecting Finished Work.
- B. Drainage of surface water shall be controlled to avoid damage to finished Work on the site.
- C. Contractor shall take appropriate measures to prevent erosion of freshly graded areas until such time as permanent drainage and erosion control features have been established.

END OF SECTION

SECTION 32 92 19

SEEDING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittals
 - 2. Quality Assurance
 - 3. Delivery, Inspection, Storage, and Handling
 - 4. Seed Mixture
 - 5. Water
 - 6. Fertilizer
 - 7. Mulch
 - 8. Source Quality Control
 - 9. Preparation
 - 10. Seeding
 - 11. Mulching
 - 12. Seed Protection
 - 13. Vegetation Establishment Period

1.2 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Seed Product Data: Contractor shall submit data for seed mixes and mulch.

1.3 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

1.4 DELIVERY, INSPECTION, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.
- B. Materials shall be stored in areas that provide protection from damage. Seed shall be stored in a cool, dry location away from contaminants.
- C. Except for bulk deliverables, materials shall not be dropped or dumped from vehicles. Materials shall be handled so as to prevent damage.

PART 2 PRODUCTS

2.1 SEED MIXTURE

A. Upland Seed Mix:

1. Upland seeding shall be used to restore spoil areas and haul routes to spoil areas.
2. Upland Seed Mix will consist of Conservation seed mix from Stock Seed Farms.
3. Manufacturer:
 - a. Stock Seed Farms, (800) 759-1520, www.stockseed.com.
 - b. Or approved equivalent.
 - c. Seed at rate one and a half times as recommended by seeding provider.

B. Floodplain Seed Mix:

1. The Contractor shall use floodplain seed mix to restore all vegetative areas disturbed by Work not identified in the above seeding and planting schedules.
2. The Contractor shall use the Floodplain Mix, supplied by Stock Seed Farms or an Engineer's approved equivalent.
3. Manufacturer:
 - a. Stock Seed Farms, (800) 759-1520, www.stockseed.com.
 - b. Or approved equivalent.
 - c. Seed at rate one and a half times as recommended by seeding provider.

C. Quality

1. Weed seed shall not exceed 0.2 percent by weight of the total mixture.
2. Wet, moldy, or otherwise damaged seed shall be rejected.

2.2 WATER

- #### A. Water shall not contain elements toxic to plant life.

2.3 FERTILIZER

- #### A. Fertilizer may be used with permission by the Owner. The Contractor must submit the fertilizer details to the Owner for approval prior to use.

2.4 MULCH

- #### A. Mulch shall be prairie hay mulch suitable for its intended use.
- #### B. Mulch shall be free from weeds, mold, and other deleterious materials.

2.5 SOURCE QUALITY CONTROL

- #### A. Section 01 40 00 - Quality Requirements: Testing, inspection and analysis requirements.

PART 3 EXECUTION

3.1 PREPARATION

- #### A. Identify all areas that will require seeding. This includes all disturbed areas.

- B. Verify prepared soil base is ready to receive the Work of this section.
- C. Prepare seeding surface to a smooth and equipment- track-free surface.
- D. Seeding operations shall be performed only during periods when beneficial results can be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the Work shall be stopped. When special conditions warrant a variance to the seeding operations, proposed times shall be submitted to and approved by the Owner/Engineer.

3.2 SEEDING

- A. Prior to seeding, any previously prepared seedbed areas compacted or damaged by interim rain, traffic, or other cause, shall be reworked to restore the ground condition previously specified. Seeding operations shall not take place when the wind velocity will prevent uniform seed distribution.
- B. Seed shall be uniformly drill seeded. Sow seeds at rates recommended by seeding provider. Evenly distribute the seed by sowing equal quantities in two directions at right angles to each other and crossing over each other. Seed shall be uniformly drilled to an average depth of 1/2 inch and at the rates specified using equipment having drills not more than 6-1/2 inches apart. Row markers shall be used with the drill seeder.
- C. Water all seeded areas until grass is well established, as described in section 3.5.

3.3 MULCHING

- A. Mulching shall be performed on the same day as seeding. The Contractor shall use prairie hay fixed in place with mechanical anchoring on all slopes less than 4:1.
- B. Mulch shall be spread uniformly at the rate of 2 tons per acre. Mulch shall be spread by hand, blower-type mulch spreader or other approved method. Mulching shall be started on the windward side of relatively flat areas or on the upper part of a steep slope and continued uniformly until the area is covered. The mulch shall not be bunched.
- C. Immediately following spreading, the mulch shall be anchored to the soil by a scalloped-disk land packer designed to force mulch into the soil surface, or other suitable equipment approved by the Engineer. Mulch that is not anchored to the soil will be rejected.

3.4 SEED PROTECTION

- A. Immediately after seeding, the area shall be protected against traffic or other use by erecting barricades and providing signage as required, or as directed by the Engineer.

3.5 VEGETATION ESTABLISHMENT PERIOD

- A. It is the Contractor's responsibility to maintain the seeding area until the Vegetation Establishment requirements are met. Vegetation Establishment requirements include:
 - 1. Minimum watering events have been completed.
 - 2. Vegetative cover is established over 70 percent of seeded areas.
 - 3. Not more than 10 percent of areas with bare spots larger than 1 square foot.

4. Less than 10 percent invasive species are present at areas vegetated by Contractor.
 5. Written approval by Owner.
-
- B. Control growth of weeds. Apply herbicides to seeded areas. Remedy damage resulting from improper use of herbicides. Manually or mechanically remove weeds from native and no mow low grow areas or complete weed removal by other methods in these areas as approved by Owner.
 - C. Control pests that may hinder vegetation establishment.
 - D. Immediately reseed showing bare spots.
 - E. Repair washouts or gullies.
 - F. Water seeding area as needed to meet the Vegetation Establishment requirements.
 - G. If a stand of grass is inadequate as determined by the Engineer, the Contractor shall follow up with a single visit, within 2 weeks, to add soil in rills as determined necessary at the time, prepare seed bed, seed, and mulch in accordance with the specifications.
 - H. If the project area is seeded in the late fall or winter where vegetation cannot be established, the contractor is responsible for any reseeding required in the following spring to establish vegetation in all disturbed areas.
 - I. Once stand of turf is determined to be adequate, the Owner will take over all maintenance of seeded areas.

END OF SECTION

Attachment C
75% Cost Estimate – Base Bid Items

Upper Big Blue Natural Resources District
Recharge Lake
Engineer's Construction Cost Estimate - 75% Design Base Bid Items

July 2026

EA Project No. 6437701

ITEM	COMPONENT DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL	Comments
1	Mobilization	LS	1	\$218,430.00	\$218,430.00	Includes mobilization of all personnel and equipment, bonds, submittals, and surveying.
2	Site Clearing	LS	1	\$19,300.00	\$19,300.00	Includes all materials, labor, and equipment for clearing and grubbing, topsoil stripping, stockpiling, and redressing for spoil areas.
3	Site Access and Haul Roads	LS	1	\$33,200.00	\$33,200.00	Includes all materials, labor, and equipment for the installation and maintenance of silt fence at the site.
4	Erosion and Sediment Control	LS	1	\$16,500.00	\$16,500.00	Includes all materials, labor, and equipment for the installation and maintenance of silt fence and permitting for the site.
5	Sediment Excavation and Disposal	CY	27,000	\$31.00	\$837,000.00	Includes all materials, labor, and equipment for the excavation and disposal of sediment.
6	Sand Gravel Fill	TON	2,030	\$68.00	\$138,040.00	Includes all materials, labor, and equipment for the placement of sand-gravel.
7	Crushed Rock	TON	2,250	\$73.00	\$164,250.00	Includes all materials, labor, and equipment for the placement of crushed rock.
8	3-6" Rock	TON	870	\$71.00	\$61,770.00	Includes all materials, labor, and equipment for the placement of 3" to 6" rock.
9	Riprap	TON	9,700	\$92.00	\$892,400.00	Includes all materials, labor, and equipment for the placement of riprap.
10	Seeding	AC	4	\$5,460.00	\$21,840.00	Includes all materials, labor, and equipment for seeding spoil areas, haul route areas, and shorelines near baffles.
Subtotal - Base Bid Items					\$2,402,730.00	
Contingency				20%	\$480,600.00	20% of subtotal
Subtotal - Base Bid Items with Contingency					\$2,883,330.00	

Attachment D
75% Cost Estimate – Alternate Bid Items

Upper Big Blue Natural Resources District
Recharge Lake

July 2026

Engineer's Construction Cost Estimate - 75% Design Alternate Bid Items

EA Project No. 6437701

ITEM	COMPONENT DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL	Comments
1	Mobilization - Alternate Bids	LS	1	\$76,268.00	\$76,268.00	Includes mobilization of all personnel and equipment, bonds, submittals, and surveying.
2	Sediment Excavation and Disposal - Reed Canary Grass	CY	4,380	\$84.00	\$367,920.00	Includes all materials, labor, and equipment for excavation and offsite disposal of sediment to manage reed canary grass
3	Emergent Wetland Plug Plantings	EA	14,940	\$26.00	\$388,440.00	Includes all materials, labor, and equipment for planting emergent wetland plugs.
4	Mixed Wetland Seeding	AC	1	\$6,318.00	\$6,318.00	Includes all materials, labor, and equipment for seeding mixed wetland areas.
Subtotal - Alternate Bid Items					\$838,946.00	
	Contingency			20%	\$167,800.00	20% of subtotal
Subtotal - Alternate Bid Items with Contingency					\$1,006,746.00	
Subtotal - Base Bid Items					\$2,402,730.00	See Base Bid Items cost estimate for more details
	Contingency			20%	\$480,600.00	
Subtotal - Base Bid Items with Contingency					\$2,883,330.00	
TOTAL - Base + Alternate + Contingency					\$3,890,076.00	

Attachment E
75% Cost Estimate – Project Feature Cost Breakdown

Upper Big Blue Natural Resources District
Recharge Lake
Engineer's Construction Cost Estimate - 75% Design Phased Implementation

July 2026

EA Project No. 6437701

ITEM	COMPONENT DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL	Comments
1	Mobilization - Upstream of Road K Area	LS	1	\$117,100.00	\$117,100.00	Includes mobilization of all personnel and equipment, bonds, submittals, and surveying for the bid items associated with the Upstream of Road K area.
2	Baffle 1	LS	1	\$574,000.00	\$574,000.00	Includes the cost for construction of Baffle 1, hauling excavated material to spoil areas, associated clearing, site access and haul roads, sediment and erosion control, and seeding costs.
3	Baffle 2	LS	1	\$450,000.00	\$450,000.00	Includes the cost for construction of Baffle 2, hauling excavated material to spoil areas, associated clearing, site access and haul roads, sediment and erosion control, and seeding costs.
4	Weir 1	LS	1	\$147,000.00	\$147,000.00	Includes the cost for construction of Weir 1, hauling excavated material to spoil areas, associated clearing, site access and haul roads, sediment and erosion control, and seeding costs.
Subtotal - Upstream of Road K Bid Items					\$1,288,100.00	
Contingency				20%	\$257,700.00	20% of subtotal
Subtotal - Upstream of Road K Bid Items with Contingency					\$1,545,800.00	
Upstream of Weir 2 Bid Items						
5	Mobilization - Upstream of Weir 2 Area	LS	1	\$41,000.00	\$41,000.00	Includes mobilization of all personnel and equipment, bonds, submittals, and surveying for the bid items associated with the Upstream of Weir 2 area.
6	Baffle 3	LS	1	\$286,700.00	\$286,700.00	Includes the cost for construction of Baffle 3, hauling excavated material to spoil areas, associated clearing, site access and haul roads, sediment and erosion control, and seeding costs.
7	Weir 2	LS	1	\$116,000.00	\$116,000.00	Includes the cost for construction of Weir 2, hauling excavated material to spoil areas, associated clearing, site access and haul roads, sediment and erosion control, and seeding costs.
Subtotal - Upstream of Weir 3 Bid Items					\$443,700.00	
Contingency				20%	\$88,800.00	20% of subtotal
Subtotal - Upstream of Weir 3 Bid Items with Contingency					\$532,500.00	
Upstream of Weir 3 Bid Items						
8	Mobilization - Upstream of Weir 3 Area	LS	1	\$61,000.00	\$61,000.00	Includes mobilization of all personnel and equipment, bonds, submittals, and surveying for the bid items associated with the Upstream of Weir 3 area.
9	Baffle 4	LS	1	\$222,000.00	\$222,000.00	Includes the cost for construction of Baffle 4, hauling excavated material to spoil areas, associated clearing, site access and haul roads, sediment and erosion control, and seeding costs.
10	Baffle 5	LS	1	\$220,000.00	\$220,000.00	Includes the cost for construction of Baffle 5, hauling excavated material to spoil areas, associated clearing, site access and haul roads, sediment and erosion control, and seeding costs.
11	Weir 3	LS	1	\$168,000.00	\$168,000.00	Includes the cost for construction of Weir 3, hauling excavated material to spoil areas, associated clearing, site access and haul roads, sediment and erosion control, and seeding costs.
Subtotal - Upstream of Weir 3 Bid Items					\$671,000.00	
Contingency				20%	\$134,200.00	20% of subtotal
Subtotal - Upstream of Weir 3 Bid Items with Contingency					\$805,200.00	
TOTAL - Upstream of Road K + Upstream of Weir 2 + Upstream of Weir 3 + Contingency					\$2,883,500.00	