ADDENDUM NO. 2

City of Franklin	Contract No.	2023-0288
Engineering Office	Project	ROBINSON LAKE DAM REHABILITATION
109 Third Avenue South		
Franklin, TN 37064		

Date of Issuance 9/17/2024

You are directed to make the following changes in the Contract Document:

Description:

I. The final date to ask questions shall be revised to **September 27th, 2024, by 5:00 PM.**

II. A Revised **Section 012000 – Price and Payment** of **Appendix A – Supplemental Specifications** to the **Project Manual** is attached as **Attachment A** to this addendum. It contains several, highlighted additions, which were generated in response to some of the questions below.

III. An updated **Bid Form** is attached as **Attachment B** to this addendum. Bidders are direct to attach the revised Bid Form to the Project Manual prior to submitting bids.

IV. The **Appendix A – Supplemental Specifications** Table of Contents page has been revised to include **Boat Dock Specifications – Steel Floating Dock System** as item "C" under "Article 1 – Supplemental Specification Included with Project Manual". This supplemental specification and revised Appendix A is attached as **Attachment C** to this addendum.

V. Questions and Clarifications:

Q1	**Question:** Bid item 209-99.93 Filter Berm Inlet Protection says refer to detail C on CD-5 this detail refers to the following bid items for payment. • 203-01 ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED PER CUBIC YARD • 303-10.01 MINERAL AGGREGATE (SIZE 57) PER TON (This bid item says it is used for the sink hole repair) • 709-05.05 MACHINED RIPRAP (CLASS A-3) PER TON • 709-05-06 MACHINED RIPRAP (CLASS A-1) PER TON • 704-10-03 GEOTEXTILE (TYPE III) (EROSION CONTROL) PER SQUARE YARD Is the bid item 209-99.93 for a single one of these items with the 5 following bid items for potentially other culvert protection?
A1	**Answer:** Item Number 209-99.93 is for the Lump Sum (LS) installation of one (1) filter berm inlet protections per the detail. No additional payment will be made under other items.

Q2	**Question:** Is bid item 604-01.55S supposed to be SF instead of SY?
A2	**Answer:** No, this unit measure should remain Square Feet (SF) as it's a measurement for the concrete abutment for the dock connection. The quantity has been revised to 50 SF.
Q3	**Question:** Can a spec be provided for the geomembrane for the sinkhole repair?
A3	**Answer:** This is a TDOT standard geomembrane line item, 740-06.01. Thickness is 60 mil per TDOT standard detail. Refer to TDOT standard specifications and details for more information.
Q4	**Question:** Items 203-03.01 and 203-02.03 for the sinkhole repair say borrow excavation are these items to be found onsite or are the import materials can a spec for these materials be given?
A4	**Answer:** These are TDOT standard line items and materials. Refer to TDOT Geotechnical Guidelines for details https://www.tn.gov/content/dam/tn/tdot/hq-materials-tests/geotech/2023-10-GeotechGuidelines.pdf.
Q5	**Question:** Please confirm that the conduit and wiring from the pole mounted transformer to the MilBank Service Panel will be provided and installed by the utility provider.
A5	**Answer:** The winning Bidder/Contractor will be responsible for installing the Milbank meter pedestal & foundation, all ditch conduit, and conduit ells (i.e. sweeps) required from the ditch up to and including one (1) foot above the first stand-off bracket. Bidder/Contractor will also be responsible for coordinating proper inspections by Middle Tennessee Electric (MTE) staff and City of Franklin Building & Neighborhood Services (BNA) staff (*if required)*. Following approval, MTE will provide & install service wire from transformer/riser pole to meter pedestal and set meter. For more information about MTE requirements, see their "Underground Installation Guide", specifically Drawing RP-1, and "Electrical Services Guidelines", specifically Drawings FSMC-3, 1S, and 2S.
Q6	**Question:** Would it be acceptable to run the wiring for Circuits 1,3 and 2,4 in the same conduit or will they need to be installed in separate conduit?
A6	**Answer:** Combining circuits 1,3 and 2,4 in the same conduit is acceptable. Contractor to provide derating adjustment as required.

Q7	**Question:** Will the Tree Whips need to be provided with or without liners?
A7	**Answer:** If whips will be installed close to or during the growing season, they should be well established in liner pots. If whips will be installed during mid-dormant season and later (until near growing season), they may be installed either as bare root whips or well established in liner pots.
Q8	**Question:** Under the foundation grouting bid items please add a line item for sand (lb) should it be required to be added to grout mixes
A8	**Answer:** A bid line item, FG-11, "Sand for Grouting", will be added. The unit measure for this item is Pounds (LB), and the estimated quantity is 10,000 LB. This new line item has been included on the attached, updated Bid Form.
Q9	**Question:** The bid item Water Pressure Testing under the foundation grouting items is per each. As per the specification the water test periods can vary at "the opinion of the Engineer". As a result the Contractor cannot quantify a time associated with this item. Please consider changing the bid item unit from "EA" to "HR" as is provided for other grouting related activities.
A9	**Answer:** The unit measure for bid line item FG-05, "Water Pressure Testing", will be changed to Hours (HR), and the estimated quantity is to be 300 hours.
Q10	**Question:** Typically for rock grouting projects, a unit price is provided for washing the hole with a unit of hours. Please consider adding.
A10	**Answer:** A bid line item for washing the hole will not be added. The cost for washing the hole should be considered an incidental cost to be included with other items.
Q11	**Question:** Please confirm Type 1L cement, which is the predominant cement now manufactured, is acceptable for the rock grouting in lieu of Type II or III
A11	**Answer:** ASTM C595 Type 1L cement will be considered if the Contractor submits it as an equivalent product to Type II or III cement and demonstrates its conformance with all physical properties.
Q12	**Question:** Pressure grouting spec requires pre-production grout mix testing conducted onsite. Will all results, including 28-day strength, be required before production can begin? This will add a full month to the work. If the Contractor has previous mix data results using a similar mix, can work start immediately after test batches if other properties (e.g. viscosity, bleed, gel time) are verified with the on-site trial?
A12	**Answer:** All pre-production testing must be conducted prior to the start of production. The contractor may choose, at his own expense, to collect and test additional samples (e.g. 7-day strength, 14-day strength, etc.) to show that specifications have been met early. However, all required technical specifications must still be met.

Q13	**Question:** "The specification states, “No allowance above the unit price for grouting bid in the schedule shall be made for staged grouting of imperfections encountered in the grout holes or for the expense of moving equipment to or from other operations and returning to a previous grouting area.” This statement is implying downstage grouting, which typically has added expenses as compared to upstage grouting. This statement is unfair to the grouting contractor for the Owner’s ground conditions. Please consider downstage grouting by the following added unit prices or changes, with the intent being not to impart undue risk to the contractor which would lead to increased pricing for the Owner that may not be necessary in an actual grouting outcome. a. Please consider adding a bid item for “re-drilling” or clarify if it will be paid under one of the current drilling items (however, unit price may so it is typically preferred to have as a separate item.) Also, please confirm how re-drills should be drilled, such as by roller bit. b. Please add a bid item for “drill hole setups”, one for overburden drilling and one for rock drilling. The rock drilling can be used for the initial setup and again if re-drilling has to occur. c. Or please changing document language that the basis of bid is to be upstage grouting, and if downstage grouting is required it will be handled as a change order."
A13	**Answer:** The basis of the bids shall be ascending-stage grouting (upstage grouting). If downstage grouting is required based on the approval of the Engineer, it will be handled as a change order.
Q14	**Question:** Performing all of the rock drilling via core drilling methods for a foundation grout curtain is not typical. Usually some percentage of holes (e.g. 10%, 20%) may be required to be cored, but the rest can be drilled via rotary or percussion methods utilizing water flush (no air allowed). Please confirm the requirement here is for 100% of the rock to be cored or clarify what type of holes or percentage of holes must be core drilled and the methods allowed for the remaining holes.
A14	**Answer:** The specification will not be changed. All drilling shall be by rock core drilling.
Q15	**Question:** Foundation grout hole specification dictates coring for the rock drilling but no description nor requirements are provided for drilling in the overburden. Please provide requirements on how the overburden can be drilled and the casing pipe installed.
A15	**Answer:** The casing pipe can be installed in a borehole drilled with hollow-stem augers to top of rock or by driving the casing to top of rock and removing the soils inside the casing.

Q16	**Question:** Based upon the drawings and the pressure grouting specification, we interpret the intent is to leave the steel pipe in place through the overburden and filled with grout. However, the foundation grout hole spec section 3.2.E states "remove casing pipe once the grouting of the rock is complete". Please clarify how the hole should be left after rock grouting is completed. If there is no preference in leaving the pipe in place, please confirm it is okay to leave the pipe in place.
A16	**Answer:** The casing pipe shall be removed after drilling. The hole should be backfilled with tremie grout as the casing pipe is removed.
Q17	**Question:** The specification requires the grouting contractor PM to have a TN PE. The grouting contractor is not responsible for a stamped design. Please consider removing the PE requirement as this is not typical in grouting specifications, even for the US Army Corps of Engineers.
A17	**Answer:** Paragraph 1.5.A.2 in Section 314313 will be changed to: "Drilling and Grouting Inspector: Geologist or geotechnical engineer with a four-year degree from an accredited university. Drilling and Grouting Inspector shall have at least one (1) year of grouting inspection experience and three (3) years of similar experience."
Q18	**Question:** Foundation grout hole specification requires the Contractor to submit a method to verify the drill holes are within the prescribed tolerance, but no other details of the method are provided. Contractors may submit various methods for this, including examples as simple as placing a carpenters level on the drill string at the start of drilling or as complex as putting a down-the-hole gyroscope into every hole upon completion. Please provide specifics on what is required to "verify" holes are within tolerance.
A18	**Answer:** Contractor shall use a level or similar method to confirm that the drill rods meet the inclination tolerances for vertical and inclined holes prior to and during drilling of the grout holes.
Q19	**Question:** The General Conditions of the Construction Contract, Paragraph 13.03.E, Adjustments in Unit Price, addresses variations in quantities but the current language lends to ambiguity, especially for a foundation grouting contract that can carry a high risk of variation in quantities. Please consider changing this language to a variation of +/- 15%, at least for the Foundation Grouting unit price items.
A19	**Answer:** The specification will not be changed.

Q20	**Question:** Can a full list of measurement and payment be provided for all bid items? the one provided is insufficient to identify where everything is to be paid for...For instance bid item 621-03.03 doesn't have a pay item but includes a Riprap Outlet protection which there's a bid item for riprap but no measurement and payment telling when this is to be used.
A20	**Answer:** All riprap on the job has been quantified and converted to tonnage and should be paid for under 709-05.05-Machined Rip-rap (Class A-3), 709-05.06 Machined Rip-Rap (Class A-1) and 709-05.08 Machined Rip-Rap (Class B). Per the Owner's request, this aligns with how the TDOT line items are paid. The separate parts (such as the drainage pipe referenced in question) are paid under that item. We did not include the measurement and payment descriptions that go along with the standard, TDOT pay items. The measurement and payment descriptions were only provided for items unique to this job and not covered under TDOT standards.
Q21	**Question:** The Geotech Data_Robinson Lake file that we have shows the logs of the individual bores (CDM-1 thru CDM4 and B-101 thru B-110) But we do not have a map to compare where on the site the samples were taken
A21	**Answer:** They are shown on the Existing Conditions Plan Sheet, C-1A.
Q22	**Question:** Bid Form notes COF-03 Boat Dock but Drawing C-8A notes the Dock to be by others. Please clarify if the dock is an Owner Furnished and Owner Installed item.
A22	**Answer:** The "Boat Dock", bid line item COF-03, is a Lump Sum (LS) item for a steel floating dock system to be furnished and installed by the Contractor. The detailed design and specifications for this steel floating dock system is attached as Attachment C. See "Section 012000 – Price and Payment" in "Appendix A – Supplemental Specifications" of the Project Manual for general measurement and payment information.
Q23	**Question:** Detail E on CD-9 - Artificial Shrub and Brush is not noted in the Bid Form. Please verify if they are required for this project and the quantity needed.
A23	**Answer:** There are seven (7) artificial tree/shrub complexes shown on Sheets C-28 (3 items) and C-29 (4 items). It should be listed as "Artificial Shrub and Brush Complex with a quantity of seven (7). A bid line item, 209-03.76Swith a unit measure of Each (EA) will be added to the Bid Form. This line item will also be added to the revised "Section 012000 – Price and Payment" in "Appendix A – Supplemental Specifications" of the Project Manual.
Q24	**Question:** Please clarify if irrigation is required for this project.
A24	**Answer:** Not required.

Q25	**Question:** Please provide a landscape schedule for the Bio Ponds.
A25	**Answer:** Planting plan info for BioPond #1 is shown on sheet C-30. Planting information (seed mix) for BioPond 2 is shown on Sheet C-34.
Q26	**Question:** Instructions to Bidders Article 5 5.02.A.4 states that the bidding documents contain a Geotechnical Baseline Report (GBR) and a Geotechnical Data Report (GDR). Please provide each of these reports.
A26	**Answer:** The Test Boring Logs were included on the CD. There is not additional Geotechnical Baseline Report (GBR) or a Geotechnical Data Report (GDR).
Q27	**Question:** Specification Section 314313 Part 2.2.A – states that cement will be Portland Type II or Type III Cement or approved equivalent. Many markets no longer have Portland cements conforming to ASTM C150 available and have moved entirely to blended cements, such as Type 1L. Please confirm that Type 1L will be an acceptable alternative if Portland Type II or Type III is not available in the local market.
A27	**Answer:** See response to Question 11 above.
Q28	**Question:** Specification Section 314313 Part 2.6.B.2 calls for a grout pump capable of delivering 300 gpm at 30 psi. Part 2.6.D.1 calls for a pump capable of a minimum of 30 gpm at a pressure of 100 psi. It is understood that a pump could meet both of these requirements, however, the helical-screw type pump which would meet the requirements of Part 2.3.B.2 would be larger than many grouting jobs of this type (and would be larger than the anticipated units would seem to indicate). Please confirm that a pump meeting the requirements of Part 2.6.D.1 (and not the requirements of Part 2.6.B.2) will be acceptable for the work.
A28	**Answer:** A pump meeting the requirements of Part 2.6.D.1 (and not the requirements of Part 2.6.B.2) will be acceptable for the work.
Q29	**Question:** Specification Section 314314 Part 3.1.C provides distance and time limitations for which drilling and grouting cannot take place within a given proximity of previously grouted holes unless approved by the Engineer. Due to the short grout curtain length in conjunction with the requirement to complete all holes of a given order in both the upstream and downstream rows prior to moving to the next order which results in only two grout holes being able to be worked on at a time, please confirm that downtime associated with the specified grout sequence during which the contractor cannot proceed with work on adjacent holes due to the distance and time limitations will be paid as standby time under pay time FG-09.
A29	**Answer:** Downtime associated with the specified grout sequence during which the contractor cannot proceed with work on adjacent holes due to the distance and time limitations will not be paid as standby time.

Q30	**Question:** There is a steel casing pipe near the entrance to the parking lot that does not appear to be in any pay item. Is this casing to be installed by the contractor and if so where does the cost go?
A30	**Answer:** Yes, this 24-inch steel casing pipe is to be installed by the Contractor. A line item, 795-15.07S, "24in Steel Casing Pipe Open Cut Method", with a unit measure of Linear Feet (LF) and an estimated quantity of 50 linear feet (LF) will be added to the Bid Form. This line item will also be added to the revised "Section 012000 – Price and Payment" in "Appendix A – Supplemental Specifications" of the Project Manual.
Q31	**Question:** There were no borings taking on the North side of the lake. Do we know the existing soil conditions at the location of the boardwalk?
A31	**Answer:** No information is available regarding soil conditions in the area of the boardwalk.
Q32	**Question:** Site plans show two streams that flow under the boardwalks. Do those streams need to be clear spanned over?
A32	**Answer:** Yes
Q33	**Question:** The specifications for the Boardwalk call for wood decking but the drawings note composite boards. Please clarify which should be used.
A33	**Answer:** Provide composite plastic lumber. Solid shapes made from a mixture of cellulose fiber and polyethylene or polypropylene with woodgrain surface texture and grooved edges designed for fastening with concealed decking fasteners. Color as selected by Owner from manufacturer's full range. Decking must comply with standards ICC-ES AC109 or ICC-ES AC174.

VI. Attachments:

a. Attachment A: Revised **Section 012000 – Price and Payment** to **Appendix A – Supplemental Specifications** to the **Project Manual**.

b. Attachment B: An updated **Bid Form** for the project. The revised Bid Form **SHALL BE** attached to the bid manual when submitting the bid.

c. Attachment C: Updated Appendix A – Supplemental Specifications and **Boat Dock Specification – Steel Floating Dock System**

END of Addendum

Addendum 2
Attachment A

SECTION 012000 - PRICE AND PAYMENT

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. TDOT Standard Specifications for Road and Bridge Construction, Section 109 – Measurement and Payment shall apply to work of this section

1. Where discrepancies may occur between this Section (012000) and TDOT Standard Specifications for Road and Bridge Construction, this Section (012000) shall govern.

1.2 SCOPE

A. This section includes measurement and payment criteria applicable to the Work performed under a unit price payment method.

B. Defect assessment and non-payment for rejected work.

1.3 DEFINITIONS

A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

B. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 CONTINGENCY ALLOWANCES

A. Use the contingency allowance only as directed by Engineer for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. Contractor's overhead, profit, and related costs for products and latent conditions under the contingency allowance are included in the allowance and are part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.

D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

E. Two allowances are listed in PART 3 of this section:
    a. Bid Item FG-10 - Grouting Contingency (Grouting Allowance)
    b. Bid Item COF-03 - General Contingency (Owner Allowance)

1.5 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, required maintenance materials, and similar margins.

    1. Include installation costs in purchase amount only where indicated as part of the allowance.
    2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
    3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit cost allowances.
    4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs due to a change in the scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

    1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.

C. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

1.6 UNIT PRICE PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: Refer to listing in PART 3 of this Section for work involving unit prices. Methods of measurement and payment for unit prices are specified in that listing and applicable Sections.

C. Items, in their entire quantity, may be deleted from the contract with no claims for additional compensation from the Contractor.

D. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

Addendum 2
Attachment A

1.7 LUMP SUM PRICES

A. Lump sum prices shall constitute full compensation for all labor, materials, tools, equipment and incidentals necessary for constructing the item, as shown in the Drawings and as specified in Divisions 01 through 40.

1.8 MEASUREMENT OF QUANTITIES

A. Measurement Devices:

1. Weigh Scales: Inspected, tested and certified by the applicable Weights and Measures Department within the past year.
2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.
3. Metering Devices: Inspected, tested and certified by the applicable department within the past year.

    a. Measurement by Volume: Measured by cubic dimension using in-place mean length, width and height or thickness.
    b. Measurement by Area: Measured by square dimension using mean length and width or radius
    c. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.
    d. Stipulated Contract Price Measurement: Items measured by weight, volume area or linear means or combination, as appropriate, as a completed item or unit of Work.

1.9 PAYMENT

1. Payment includes full compensation for all required labor, products, tools, equipment, plant transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

2. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Engineer multiplied by the unit price for Work which is incorporated in or made necessary by the Work

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

A. <u>ITEM 203-01S - Unclassified Excavation From Lake Bed:</u> Payment for accepted quantities, complete in place, shall be made at the contract price per Cubic Yard (CY) in accordance with the contract documents, including but not limited to: unclassified excavation, storage, satisfactory disposal of excess material, bypass pumping, surface and ground dewatering as required, decanting, testing of sediment, permit compliance and all else incidental there to for which separate payment is not provided under other bid items. A before and after topographic survey shall be performed by the

Owner/Engineer. Measurement shall be from the lakes surface or normal pool elevation and shall be contained to the area/volume within the existing lakebed.

B. ITEM 203-01.05S – Sinkhole Excavation (Unclassified): Payment for accepted quantities, complete in place, shall be made at the contract price per Cubic Yard (CY) in accordance with the contract documents, including but not limited to: unclassified excavation to a defined opening in the bedrock, storage, satisfactory disposal of excess material, ground dewatering as required, decanting, permit compliance and all else incidental there to for which separate payment is not provided under other bid items. Compacted Clay, #57 Stone, graded solid rock, geotextile and keystone rock backfill shall be measured and paid for separately under other line items.

C. ITEM 203-01.06S – Earthwork: Payment for accepted quantities, complete in place, shall be made on a Lump Sum (LS) basis in accordance with the contract documents, including but not limited to: unclassified excavation of on-site and/or off-site material, hauling from on-site and/or off-site borrow source(s), proper disposal of all unsuitable material, placement and compaction of backfill material, bypass pumping and dewatering as required, embankment as required, stripping & stockpiling of topsoil and placing and spreading topsoil as required to reach subgrade or finished grade elevations as shown in the contract documents, temporary stockpile stabilization, construction staking and surveying, removal and replacement of the existing dam and all else incidental there to for which separate payment is not provided under other bid items. Unclassified excavation from the lakebed and sink hole shall be measured and paid for separately.

D. 203-99.99S – Embankment Drainage System (Chimney Drain, Blanket Drain and Toe Drain): Payment for accepted quantities, complete in place, shall be made on a Lump Sum (LS) basis in accordance with the contract documents, including but not limited to: unclassified excavation, bypass pumping and dewatering as required, installation of the chimney drain, blanket drain, toe drain, filter sand, 6" diameter SCH 80 PVC Pipe, cleanouts, TDOT 78 stone, and all else incidental there to for which separate payment is not provided under other bid items.

E. ITEM 204-05.15S – Exploratory Drilling: Payment for accepted quantities, complete in place, shall be made on a Linear Foot (LF) basis in accordance with the contract documents, including but not limited to: exploratory drilling as specified in Section 312319 "Dewatering, Stormwater Bypass and Sediment Removal", furnishing drilling equipment, tools and methodology for sample collection, collecting samples, backfilling test borings with cement grout, laboratory testing, surface and ground dewatering as required, bypass pumping and all else incidental there to for which separate payment is not provided under other bid items. NOTE: The Owner and Engineer will do any evaluations necessary to confirm soil and foundation requirements.

F. ITEM 204-09.01S – Cofferdam (Temporary Cofferdam): Payment for accepted quantities, complete in place, shall be made at the contract price per Linear Foot (LF) in accordance with the contract documents, including but not limited to: installation, maintenance, and removal of the temporary cofferdam, unclassified excavation, satisfactory disposal of excess material, fill/material required for the construction of compacted select fill base pad, geomembrane, bypass pumping, surface and ground dewatering as required, regrading and redirecting flow within lake bed, decanting, high-strength polypropylene sand bags or equal and all else incidental there to for which separate payment is not provided under other bid items.

G. ITEM 204-10.30 – Foundation Preparation (Spillway Foundation Rock Surface Preparation): Payment for accepted quantities, complete in place, shall be made on a Lump Sum (LS) basis in accordance with the contract documents, including but not limited to: preparation of rock surface for placement of underdrain at the auxiliary spillway location, rock excavation, vibration monitoring, grading of excavated rock foundation to lines and grades shown on the drawings; rough cleaning of the top of sound rock surface, all else incidental there to for which separate payment is not provided under other bid items. NOTE: Class A Concrete (Leveling) shall be measured and paid for separately for the foundation treatment of joints, cracks, vertical faces, overhangs, depressions, weathered rock, and other anomalies using leveling and/or dental concrete.

H. ITEM 209-03.72S - Catfish Nest Box (See Detail A / Sheet CD-9): Payment for accepted quantities, complete in place, shall be made at the contract price for Each (EA) in accordance with the contract documents. Payment shall include all materials required for a catfish nest box and all else incidental there to for which separate payment is not provided under other bid items.

I. ITEM 209-03.73S - Boulder Pile (See Detail B / Sheet CD-9): Payment for accepted quantities, complete in place, shall be made at the contract price for Each (EA) in accordance with the contract documents. Payment shall include all materials required to create each boulder pile and all else incidental there to for which separate payment is not provided under other bid items.

J. ITEM 209-03.74S - Anchored Large Log (See Detail C / Sheet CD-9): Payment for accepted quantities, complete in place, shall be made at the contract price for Each (EA) in accordance with the contract documents. Payment shall include all material required for installation of an anchored large log and all else incidental there to for which separate payment is not provided under other bid items.

K. ITEM 209-03.75S – Fish Restocking: Payment for accepted quantities, complete in place, shall be made on a Lump Sum (LS) basis in accordance with the contract documents, including but not limited to: water quality testing, sourcing supplier(s), hauling and transport, acclimation, releasing, and replacing dead fish.

L. ITEM 209-03.76S – Artificial Shrub and Brush Complex (See Detail E/Sheet CD9): Payment for accepted quantities, complete in place, shall be made at the contract price for Each (EA) in accordance with the contract documents. Payment shall include all material required for installation of artificial shrub and brush complex and all else incidental there to for which separate payment is not provided under other bid items.

M. ITEM 209-20.52S and 209-20.53S - Bio Pond #1 and #2: Payment for accepted quantities, complete in place, shall be made on a Lump Sum (LS) basis in accordance with the contract documents, including but not limited to: all materials required for the Bio Pond #1 and #2, unclassified excavation, embankment, satisfactory disposal of excess material, surface and ground dewatering as required, permit compliance, #57 Stone Backfill, 6" Perforated Sch 80 PVC Underdrain w/ Cleanouts, Choker Stone Layer, Filter Media, Washed River Rock, Geotextile Fabric, Pre-treatment, Landscaping / ground covering and all items as shown on the plans and standard drawings. Outlet protection for pipes shall be measured and paid for separately.

N. 602-03.02S – Pedestrian Bridge and Auxiliary Spillway: Payment for accepted quantities, complete in place, shall be made at the contract price per Lump Sum (LS) in accordance with the contract documents, including but not limited to: unclassified excavation, bypass pumping, surface and ground dewatering as required, the pedestrian bridge structure, auxiliary spillway, bridge/wall backfill, underdrain system; transporting, placing, forming and curing concrete including walls, slabs and decks; construction staking and surveying, handrails, toe board, vertical pickets, connection to abutments, concrete accessories, reinforcement, site prep/crane pad, professional engineering design, installation and all else incidental thereto for which separate payment is not provided under other bid items. Note: No additional payment shall be made for stone backfill, site prep/crane pad materials, etc.

O. ITEM 602-03.03S – Pedestrian Bridge (Wetlands Boardwalk): Payment for accepted quantities, complete in place, shall be made at the contract price per Lum Sum (LS) in accordance with the contract documents, including but not limited to: unclassified excavation, bypass pumping, surface and ground dewatering as required, the wetland boardwalk, footers, posts, railings, deck, connections, connection to abutments, site prep associated with delivery, professional engineering design and all else incidental thereto for which separate payment is not provided under other bid items.

P. ITEM 604-01.53S – Concrete Structure (Concrete NRCS Riser): Payment for accepted quantities, complete in place, shall be made at the contract price per Lum Sum (LS) in accordance with the contract documents, including but not limited to: surface and ground dewatering as required, mudmat; transporting, placing, forming, curing concrete, concrete accessories, reinforcement, sediment box, sluice gate, trash rack, construction staking and surveying, pipe encasement connection and all else incidental thereto for which separate payment is not provided under other bid items.

Q. ITEM 604-01.54S – Concrete Structure (USBR Impact Stilling Basin Type VI): Payment for accepted quantities, complete in place, shall be made at the contract price per Lum Sum (LS) in accordance with the contract documents, including but not limited to: surface and ground dewatering as required, transporting, placing, forming, and curing concrete, concrete accessories, reinforcement, pipe cradle connection, 6-inch mudmat, construction staking and surveying and all else incidental thereto for which separate payment is not provided under other bid items.

R. ITEM 604-01.55S – Concrete Structure (Dock Abutment): Payment for accepted quantities, complete in place, shall be made at the contract price per Lum Sum (LS) in accordance with the contract documents, including but not limited to: surface and ground dewatering as required, transporting, placing, forming, and curing concrete, concrete accessories, reinforcement, dock connection and all else incidental thereto for which separate payment is not provided under other bid items.

S. ITEM 709-03S - Articulating Concrete Block Mats: Payment for accepted quantities, complete in place, shall be made at the contract price per Square Yard (SY) in accordance with the contract documents, including but not limited to: geotextile, material placement, concrete block installation, anchors, revetment cables, turndown and flank tie-ins, grouting; and all else incidental thereto for which separate payment is not provided under other bid items.

T. ITEM 795-15.07S – 24in Steel Casing Pipe Open Cut Method: Payment for accepted quantities, complete in place, shall be made at the contract price per Linear Feet (LF) in accordance with the contract documents, including but not limited to: all materials, labor and equipment for complete installation of casing pipe to include casing end seals, warning tape and traffic control.

U. ITEM 801-01S - Permanent Seeding (With Mulch): Payment for accepted quantities, complete in place, shall be made at the contract price per Square Yard (SY) in accordance with the contract documents, including but not limited to: soil amendments, site preparation, topsoil, permanent seeding, mulching, watering and all else incidental there to for which separate payment is not provided under other bid items. Temporary Seeding and Mulching shall only be conducted when permanent seeding and mulching cannot be performed due to seasonal constraints and upon approval by the Engineer. No payment will be made for seeded and mulched areas until establishment of a sufficient growth of grass as examined and approved by the Engineer.

V. ITEM 801-01.06S – Seeding (Buffer Enhancement Seed Mix): Payment for accepted quantities, complete in place, shall be made at the contract price per Square Yard (SY) in accordance with the contract documents, including but not limited to: soil amendments, site preparation, topsoil, permanent seeding, mulching, watering and all else incidental there to for which separate payment is not provided under other bid items. Temporary Seeding and Mulching shall only be conducted when permanent seeding and mulching cannot be performed due to seasonal constraints and upon approval by the Engineer. No payment will be made for seeded and mulched areas until establishment of a sufficient growth of grass as examined and approved by the Engineer.

W. ITEM 802.01.07S – Landscape Plantings: Payment for accepted quantities, complete in place, shall be made on a Lump Sum (LS) basis in accordance with the contract documents, including but not limited to: all non-sapling tree and shrub plant material and installation including; excavation, planting soil backfill, fertilizers and soil amendments, landscape grading, mulch, guy wiring, establishment irrigation and maintenance as shown in the contract documents, and all else incidental there to for which separate payment is not provided under other landscaping bid items.

X. ITEM 802-01.10S - Sapling Planting: Payment for accepted quantities, complete in place, shall be made at the contract price per Each in accordance with the contract documents, including but not limited to: soil amendments, site preparation, delivery, temporary storage, mulch, watering, sapling planting, pesticides, maintenance, debris removal, replacement of diseased or dead plants within guarantee period and all else incidental there to for which separate payment is not provided under other bid items.

Y. ITEM 803-01S - Permanent Sodding (Rolled Sod): Payment for accepted quantities, complete in place, shall be made at the contract price per Square Yards (SY) in accordance with the contract documents, including but not limited to: watering, soil amendments, and site preparation and all else incidental there to for which separate payment is not provided under other bid items. Temporary Seeding and Mulching shall only be conducted when permanent sodding cannot be performed due to seasonal constraints and upon approval by the Engineer. No payment will be made for permanent sodding until establishment of a sufficient growth of grass as examined and approved by the Engineer.

Z. ITEM 921-01.01S – Bicycle Rack and Concrete Pad: Payment for accepted quantities, complete in place, shall be made at the contract price per Each in accordance with the contract documents, including but not limited to: construction staking and surveying, unclassified excavation, transporting, placing, bicycle rack procurement and installation and all else incidental thereto for which separate payment is not provided under other bid items.

AA. ITEM FG-01 - Overburden Drilling:

1. Measurement: The quantity of Overburden Drilling to be paid for under this Item as shown on the Drawings and projected quantities will be the actual number of linear feet of overburden drilling.

2. Payment: The unit price bid per linear foot to be paid under this Item shall be full compensation for all labor, materials, tools, equipment, supervision, and incidentals required to complete overburden drilling as indicated in Contract Documents, including but not limited to: drilling set up on grout hole; drilling through overburden materials such as fill materials, native soils, weathered rock, and boulders; wash water and water hauling; properly disposing and hauling of removed materials; and all else incidental thereto for which separate payment is not provided under other bid items.

BB. ITEM FG-02 - Rock Drilling:

1. Measurement: The quantity of Rock Drilling to be paid for under this Item as shown on the Drawings and projected quantities will be the actual number of linear feet of rock drilling.

2. Payment: The unit price bid per linear foot to be paid under this Item shall be full compensation for all labor, materials, tools, equipment, supervision, and incidentals required to complete rock drilling as indicated in Contract Documents, including but not limited to: rock drilling set up in grout hole; drilling through bedrock materials; water and water hauling; placing drilled rock cores into wooden rock core boxes; properly containing return water; and all else incidental thereto for which separate payment is not provided under other bid items.

CC. ITEM FG-03 - Grout Nipples:

1. Measurement: The quantity of Grout Nipples to be paid for under this Item as shown on the Drawings will be the actual number of grout nipples installed prior to start of pressure grouting.

2. Payment: The unit price bid per each grout nipple installed to be paid under this Item shall be full compensation for all labor, materials, tools, equipment, supervision, and incidentals required to complete grout nipple installation as indicated in Contract Documents, including but not limited to: installation of 2-inch black steel piping; connections to header; cutting grout nipple flush to ground surface upon completion of grout hole; and all else incidental thereto for which separate payment is not provided under other bid items.

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DD. ITEM FG-04 - Steel Casing Installation Through Overburden:

1. Measurement: The quantity of Steel Casing Installation Through Overburden to be paid for under this Item as shown on the Drawings will be the actual number of linear feet of steel casing installed through overburden material.

2. Payment: The unit price bid per linear foot to be paid under this Item shall be full compensation for all labor, materials, tools, equipment, supervision, and incidentals required to install steel casing through overburden materials prior to rock drilling as indicated in Contract Documents, including but not limited to: furnishing 4-inch-inside diameter steel casing; installing casing in grout hole; removing steel casing from grout hole; properly cleaning and disposing of soils and grout from steel casing; and all else incidental thereto for which separate payment is not provided under other bid items.

EE. ITEM FG-05 - Water Pressure Testing:

1. Measurement: The quantity of Water Pressure Testing to be paid in hours for under this Item as shown on the Drawings will be the actual hours required for water pressure tests performed as part of the Work. This item does not include hours associated with setup, water hauling and other incidental items.

2. Payment: The unit price bid per water pressure test conducted to be paid under this Item shall be full compensation for all labor, materials, tools, equipment, supervision, and incidentals as indicated in Contract Documents, including but not limited to: piping and pipe fittings; pressure packers; water and water hauling; pumps; performing water pressure tests; and all else incidental thereto for which separate payment is not provided under other bid items.

FF. ITEM FG-06 - Bags of Cement:

1. Measurement: The quantity of Bags of Cement to be paid for under this Item will be the actual number of bags of cement used as part of pressure grouting primary and applicable secondary/tertiary grout holes in bedrock and backfilling the grout holes upon completion of pressure grouting.

2. Payment: The unit price bid per bag of cement to be paid under this Item shall be full compensation for all labor, materials, tools, equipment, supervision, and incidentals as specified in Sections 314313 “Pressure Grouting” and 314314 “Foundation Grout Holes”, including but not limited to: cement quantity; mixing of each grout mixture specified herein; and all else incidental thereto for which separate payment is not provided under other bid items.

GG. ITEM FG-07 - Admixtures:

1. Measurement: The quantity of Admixtures to be paid for under this Item will be the actual number of gallons of admixtures used as part of the approved cement grout mixtures to be used for pressure grouting and backfilling the grout hole upon completion of pressure grouting.

2. Payment: The unit price bid per gallon of admixtures used in cement grout mixtures to be paid under this Item shall be full compensation for all labor, materials, tools, equipment, supervision, and incidentals as specified in Sections 314313 “Pressure Grouting” and 314314 “Foundation Grout Holes”, including but not limited to: high-range water reducer and viscosity-modifier admixtures; mixing of each grout mixture specified herein; and all else incidental thereto for which separate payment is not provided under other bid items.

HH. ITEM FG-08 - Pumping Hours:

1. Measurement: The quantity of Pumping Hours to be paid for under this Item will be the actual number of hours cement grout is pressure grouted per grout hole rounded to the nearest half hour.

2. Payment: The unit price bid per hour for this Item shall include full compensation for all labor, materials, tools, equipment, supervision, and incidentals as specified in Section 314313 “Pressure Grouting”, Section 314314 “Foundation Grout Holes”, and as shown on the Drawings. Payment for this Item shall include, but not limited to: Providing all pumping equipment, piping, fittings, pressure packers and cement grout mixture materials; furnishing grout plant and mixtures; actual number of hours performing pressure grouting per grout hole; removing piping and other pressure grouting equipment; containing excess cement grout materials from entering Harpeth River; properly disposing and hauling excess cement grout materials; and all else incidental thereto for which separate payment is not provided under other bid items.

II. ITEM FG-09 - Stand-By Time:

1. Measurement: The quantity of Stand-By Time to be paid for under this Item will be the actual number of hours that the Contractor has been requested to pause grouting operations by the Engineer. The quantity shall be rounded to the nearest half hour and will only be valid if the Engineer directs a pause in operations, or if the Engineer and Contractor agree to a pause in operations.

2. Payment: The unit price bid per hour for this Item shall include full compensation for all labor, materials, tools, equipment, supervision, and incidentals involved in the pressure grouting operations. Payment for this Item shall include, but not limited to: Engineer directing pause in the Work; pause in the Work as directed by the Owner; and all else incidental thereto for which separate payment is not provided under other bid items. Payment for this Item will not include time associated with equipment breakdowns; weather stoppages; Contractor-directed stoppage in the Work; and all other instances in which the Contractor needs to pause the Work due to their operations and/or staffing issues.

JJ. ITEM FG-10 - Contingency (Grouting Allowance):

1. The Contingency (grouting allowance) is to provide payment for unforeseen conditions, which may be encountered in the Work and is to be used only upon written work order from the Engineer.

2. The contingency allowance will be included as part of the awarded Contract amount. However, the Contingency (Grouting Allowance) is not part of the unit price contract. The allowance can only be used by the Contractor if authorized in writing by the Engineer. The balance of the Contingency (Grouting Allowance) remaining at the project completion shall be deducted from the awarded Contract amount by a Change Order executed by the Owner.

KK. ITEM FG-11 – Sand for Grouting

1. Measurement: The quantity of sand for grouting to be paid for under this Item will be the actual quantity of sand by weight rounded to the nearest fifty (50) pounds.

2. Payment: The unit price bid per hour for this Item shall include full compensation for all labor, materials, tools, equipment, supervision, and incidentals involved in the addition of sand to grout as required.

LL. ITEM E-01 – Electrical Lighting, Conduit, and Panels:

1. The lump sum price bid to provide electrical lighting, conduit, and panels to be paid under this item shall be full compensation for all labor, materials, tools, equipment, supervision, and incidentals required to procure, ship, and install electrical lighting, conduit, and panels, as shown on Drawings E-1 through E-4, ED-1, and ED-2 and specified herein. Installation includes, but not limited to electrical conduit, conduit trench, backfill, pull boxes, watertight connections, event/food truck panels, service entrance structure, light pole base, light pole grounding system, light pole leveling system, pole mounted luminaire, permits, etc.

MM. ITEM COF-01 - Utility Record Drawings:

1. Payment for accepted quantities, complete in place, shall be made at the contract price per Lum Sum (LS) in accordance with the contract documents, including but not limited to: professional surveying, computer aided drafter, and all else incidental thereto for which separate payment is not provided under other bid items.

NN. ITEM COF-02 - Contingency (Owner Allowance):

1. The contingency allowance is to provide payment for unforeseen conditions, which may be encountered in the Work and is to be used only upon written order from the Engineer.

2. The contingency allowance will be included as part of the awarded Contract amount. However, the contingency allowance is not part of the unit price contract. The allowance can only be used by the Contractor if authorized in writing by the Engineer. The balance of the contingency allowance remaining at the project completion shall be deducted from the awarded Contract amount by a Change Order executed by the Owner.

OO. ITEM COF-01 – Boat Dock:

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1. Payment for accepted quantities, complete in place, shall be made at the contract price per Lum Sum (LS) in accordance with the contract documents, including but not limited to: labor and delivery of all dock materials, professional engineer design, ADA gangway, floating paddle dock, kayak launch, anchorage system/piles, handrails, flotation units, connection to dock abutment and all else incidental thereto for which separate payment is not provided under other bid items.

4.6 ALL OTHER WORK

A. Labor, materials, equipment, and incidentals required to do work not specifically listed in the pay items, but necessary for proper completion of the work as specified and indicated, will not be measured for payment. Payment for all such work shall be included in the prices bid for the pay items. No separate payment shall be made to the Contractor for this work.

END OF SECTION 012000

EXHIBIT A - BID FORM for COF Contract No. 2023-0288
"Robinson Lake Dam Rehabilitation"

BASE BID

FOOTNOTE(S)	ITEM NO.	ITEM DESCRIPTION	UNIT	EST. QTY	UNIT PRICE ($)	EXT. AMOUNT ($)
1	105-01	Construction Stakes, Lines and Grades (Includes All Alternates)	LS	1		
1	201-01	Clearing and Grubbing (Includes All Alternates)	LS	1		
1	202-01.56	Removal of Structures and Obstructions (Existing Spillway Debris Guard)	LS	1		
1	202-03.02	Removal of Rigid Pavement (Concrete Spillway Slab)	SF	563		
1	202-08.15	Removal of Curb and Gutter (To Be Used As Directed At The Park Entrance)	LF	105		
1	202-13.01	Well Abandonment (Existing Observation Wells)	EA	2		
2	203-01**S**	Unclassified Excavation From Lake Bed	CY	43,750		
2	203-01.05**S**	Sinkhole Excavation (Unclassified)	CY	450		
2	203-01.06**S**	Earthwork (Includes Excavation (Unclassified), Embankment, Removal and Replacement of Existing Dam, Stripping & Stockpile Topsoil, and Placing and Spreading Topsoil or Furnishing and Spreading Topsil as needed.	LS	1		
1	203-02.01	Borrow Excavation (Graded Solid Rock) (Sink Hole Repair)	TON	326		
1	203-02.03	Borrow Excavation (Solid Rock) (Key Stone Rock for Sink Hole Repair)	TON	25		
1	203-05	Undercutting (Unit Price Bids Include Surge Stone Backfill) (As Directed By The Engineer)	CY	1,500		
1	203-15.03	Compacted Clay (Sink Hole Repair)	CY	145		
2	203-99.99**S**	Embankment Drainage System (Chimney Drain, Blanket Drain and Toe Drain) (See Sheet C-8A, C-16, C-17, CD-8)	LS	1		
2	204-05.15**S**	Exploratory Drilling (For subsurface investigation within lake bed at NRCS Riser structure.)	LS	1		
2	204-09.01**S**	Cofferdam (Temporary Cofferdam) (See Sheet C-13A, C-13B, Detail A / Sheet CD-5)	LS	1		
2	204-10.30**S**	Foundation Preparation (Spillway Foundation Rock Surface Preparation)	LS	1		
1	209-08.08	Enhanced Rock Check Dam (After the initial installation all cost associated with repair, maintenance, sediment removal and replacement during the life of this contract shall be at the contractors expense.)	EA	1		
2	209-03.72**S**	Catfish Nest Box (See Detail A / Sheet CD-9)	EA	25		
2	209-03.73**S**	Boulder Pile (See Detail B / Sheet CD-9)	EA	15		
2	209-03.74**S**	Anchored Large Log (See Detail C / Sheet CD-9)	EA	16		
2	209-03.75**S**	Fish Restocking	LS	1		
2	209-03.76S	Artificial Shrub and Brush Complex (See Detail E/Sheet CD9)	EA	7		
1	209-08.02	Temporary Silt Fence (With Backing) (After the initial installation all cost associated with repair, maintenance, sediment removal and replacement during the life of this contract shall be at the contractors expense.)	LF	7,100		
1	209-09.03	Sediment Filter Bag (15'x15') (As Approved and Directed by the City)	EA	24		

FOOTNOTE(S)	ITEM NO.	ITEM DESCRIPTION	UNIT	EST. QTY	UNIT PRICE ($)	EXT. AMOUNT ($)
1	209-10.01	Temporary Dewatering Structure (Price includes Riprap, Geotextile Fabric, Road and Drainage Excavation, Post, Etc.) (After the initial installation all cost associated with repair, maintenance, sediment removal and replacement during the life of the contract shall be at the contractors expense.)	CY	654		
1	209-13.05	Turbidity Curtain (After the initial installation all cost associated with repair, maintenance, sediment removal and replacement during the life of this contract shall be at the contractors expense.)	LF	173		
2	209-20.52**S**	Bio Pond #1 (See Sheet C-15)	LS	1		
2	209-20.53**S**	Bio Pond #2 (See Sheet C-15)	LS	1		
1	209-40.30	Temporary Catch Basin Protection (Flexstorm Inlet Filters With Overflow Protection or Approved Equal) (After the initial installation all cost associated with repair, maintenance, sediment removal and replacement during the life of this contract shall be at the contractors expense.)	EA	5		
1	209-99.92	Concrete Washout (See Detail A / Sheet CD-3) (After the initial installation all cost associated with repair, maintenance and replacement during the life of this contract shall be at the Contractor's expense.)	LS	1		
1	209-99.93	Filter Berm Inlet Protection (See Detail C / Sheet CD-5) (For Use at NRCS Riser During Phased Construction) (After the initial installation all cost associated with repair, maintenance, sediment removal and replacement during the life of this contract shall be at the Contractor's expense.)	LS	1		
1	303-01	Mineral Aggregate, Type A Base, Grading D	TON	6,545		
1	303-10.02	Mineral Aggregate (Size 2)	TON	399		
1	303-10.01	TDOT #57 Stone (Sink Hole Repair)	TON	120		
1	307-01.08	Asphalt Concrete Mix (PG64-22) (BPMB-HM) Grading B-M2	TON	1,163		
1	402-01	Bituminous Material for Prime Coat (PC)	TON	11		
1	402-02	Aggregate for Cover Material (PC)	TON	35		
1	403-01	Bituminous Material for Tack Coat (TC)	TON	3		
1	411-01.11	ACS Mix (PG64-22) Grading E RDWY	TON	546		
2	602-03.02**S**	Pedestrian Bridge and Auxiliary Spillway	LS	1		
2	602-03.03**S**	Pedestrian Bridge (Wetlands Boardwalk)	LS	1		
1	604-01.04	1 1/2" Steel Pipe Handrail (For Pedestrian Steps)	LF	34		
1	604-01.32	Class A Concrete (Leveling) (See Details A, B, C and D / Sheet CD6)	CY	40		
2	604-01.53**S**	Concrete Structure (Concrete NRCS Riser)	LS	1		
2	604-01.54**S**	Concrete Structure (USBR Impact Stilling Basin Type VI)	LS	1		
2	604-01.55**S**	Concrete Structure (Dock Abutment) (See Detail L / Sheet SD-1)	SF	50		
1	607-03.02	18-inch Concrete Pipe Culvert (Class III)	LF	253		
1	607-06.02	30-inch Concrete Pipe Culvert (Class III)	LF	575		
1	607-06.99	Concrete Encasement (30" RCP - See Detail F and G / Sheet SD-1)	LF	10		
1	607-09.06	48" Prestressed Concrete Cylinder Pipe	LF	62		
1	607-09.98	Concrete Pipe Cradle (48" PCCP - See Detail E/SD-2; 48" PCCP)	LF	57		
1	607-09.99	Concrete Encasement (48" PCCP - See Detail D/-SD-2; 48" PCCP)	LF	5		
1	607-36.01	In-Line Storm Pipe Check Valve (30" RCP)	EA	1		

FOOTNOTE(S)	ITEM NO.	ITEM DESCRIPTION	UNIT	EST. QTY	UNIT PRICE ($)	EXT. AMOUNT ($)
1	611-01.03	Manholes, > 8'-12' Depth	EA	1		
1	611-07.31	18" Endwall (Side Drain)	EA	2		
1	611-07.33	30" Endwall (Side Drain)	EA	1		
1	611-42.01	Catch Basins, Type 42, 0-ft - 4-ft Depth	EA	1		
1	611-42.02	Catch Basins, Type 42, > 4-ft - 8-ft Depth	EA	2		
1	611-42.03	Catch Basins, Type 42, > 12-ft - 16-ft Depth	EA	1		
1	611-43.02	Catch Basins, Type 43, > 4' - 8' Depth	EA	1		
1	621-03.03	24" Temporary Drainage Pipe	LF	30		
1	701-01.01a	Concrete Sidewalk/Trail (4-in thick; TDOT Class "A" Conc. w/ Fiber Reinf.)	SY	1,249		
1	701-01.01b	Concrete Sidewalk/Trail (4-in thick w/ Turndown; TDOT Class "A" Conc. w/ Fiber Reinf.)	SY	2,751		
1	701-01.02a	Concrete Sidewalk/Trail (6-in thick w/ Turndown; TDOT Class "A" Conc. w/ Fiber Reinf.)	SY	3,029		
1	701-02.03	Concrete Curb Ramp (Includes Detectable Warning)	SF	1,054		
1	701-02.04	Concrete Pedestrian Steps (Price Includes Class A Concrete and Steel Bar Reinforcement)	SF	120		
1	702-01.03	Concrete Curb (6" Detached Concrete Curb)	LF	2,601		
1	702-01.04	Concrete Curb (6" Wide x 8" Deep Ribbon Curb)	LF	673		
1	702-03	Concrete Combined Curb & Gutter (Type 6-30) (Coordinate with TDOT Standard Drawing No. RP-NMC-10 - 8" Gutter Depth) (To Be Used As Directed At The Park Entrance)	LF	50		
1	702-10.02	Parking Block (See Detail B / Sheet CD-14)	EA	4		
1	707-06.05	Removal of Fence (4' Woven Wire Fence and Posts)	LS	1		
1	707-08.02	Gate (Vehicular Pipe Gate (See Detail E / Sheet CD-12))	LS	1		
1	707-08.11	High-Visibility Construction Fence (As Directed by the City of Franklin)	LF	1,000		
1	707-99.01	Rod Iron Fence and Gate (See Detail D / Sheet CD-14) (Fence To Be Field Located)	LF	180		
2	709-03S	Articulating Concrete Block Mats (Price Includes TDOT Type III Geotextile)	SY	3,947		
1	709-05.05	Machined Rip-Rap (Class A-3)	TON	6,372		
1	709-05.06	Machined Rip-Rap (Class A-1)	TON	94		
1	709-05.08	Machined Rip-Rap (Class B)	TON	2,590		
1	713-16.20	Signs (Stop, R1-1, 30"x30") (Unit Price Bid Includes Perforated Square Tube Post (2" Min.) and All Necessary Items For A Complete Installation)	EA	1		
1	713-16.21	Signs (HC Reserved Parking, R7-8, 12"x18" and Van Accessible Plaque, R7-8P, 18"x9"), (Unit Price Bid Includes Perforated Square Tube Post (2" Min.) and All Necessary Items For A Complete Installation)	EA	2		
1	713-16.21	Signs (HC Reserved Parking, R7-8, 12"x18"), (Unit Price Bid Includes Perforated Square Tube Post (2" Min.) and All Necessary Items For A Complete Installation)	EA	4		
1	713-16.21	Signs (Speed Limit - 15 MPH, R2-1, 24"x30"), (Unit Price Bid Includes Perforated Square Tube Post (2" Min.) and All Necessary Items For A Complete Installation)	EA	1		

FOOTNOTE(S)	ITEM NO.	ITEM DESCRIPTION	UNIT	EST. QTY	UNIT PRICE ($)	EXT. AMOUNT ($)
1	713-16.22	Signs ("Flood Zone", 12"x18" and "Park Closed From Sunset to Sunrise", 12"x18"), (See Detail A / Sheet CD-14), (Unit Price Bid Includes Perforated Square Tube Post (2" Min.) and All Necessary Items For A Complete Installation)	EA	2		
1	713-16.23	Signs ("No Motor Vehicles", R5-3, 24"x24"), (See Detail F / Sheet CD-8), (Unit Price Bid Includes Perforated Square Tube Post (2" Min.) and All Necessary Items For A Complete Installation)	EA	4		
1	713-16.24	Signs (COF Buffer Signs) (See Detail F / Sheet CD-8) (City of Franklin Shall Provide the Sign Panel, Contractor to Provide Perforated Square Tube Post (2" Min.) and All Other Necessary Items For A Complete Installation)	EA	107		
1	713-16.24	Removable Bollard (See Detail G / Sheet CD-8)	EA	7		
1	716-02.05	Plastic Pavement Marking (Stop Line)	LF	36		
1	716-02.06	Plastic Pavement Marking (Turn Lane Arrow)	EA	4		
1	716-05.08	Painted Pavement Marking (4" SSWL Parking Line) (Includes HC Diagonal Markings)	LF	2,484		
1	716-05.23	Painted Pavement Marking (Active Handicap Symbol)	EA	6		
1	716-13.01	Spray Thermo Pavement Marking (60 mil) (4 in. Line)	LF	944		
1	716-13.04	Spray Thermo Pavement Marking (60 mil) (4 in. Dotted Line)	LF	152		
1	717-01	Mobilization	LS	1		
1	718-01.45	Boat Ramp (See Detail M / Sheet SD-1) (Price Includes #57 Stone, Class A Concrete W/ V-Grove Finish and Reinforcement)	SY	122		
1	740-06.01	Geomembrane (To Be Used For Sinkhole Repair)	SY	200		
1	740-10.03	Geotextile (Type III) (Erosion Control)	SY	8,560		
1	740-10.04	Geotextile (Type IV) (Stabilization) (Sink Hole Repair)	SY	225		
1	740-11.05	Temporary Sediment Tube (24-Inch)	LF	424		
2	795-15.07S	24in Steel Casing Pipe Open Cut Method	LF	50		
2	801-01**S**	Permanent Seeding (Turf Seed Mix) (with Mulch) (Watering as Required)	SY	30,132		
2	801-01.06**S**	Seeding (Buffer Enhancement Seed Mix)	SY	42,034		
1	801-01.07	Temporary Seeding (with Mulch) (As directed by the Engineer)	SY	45,000		
1	802.01.07**S**	Landscape Plantings (Non-Saplings) (Canopy Trees, Understory Trees and Shrubs) (Price includes excavation, backfill, wooden stakes, mulch, watering and 1-year warrenty)	LS	1		
2	802-01.10**S**	Sapling Plantings	EA	2,250		
2	803-01**S**	Permanent Sodding (Rolled Sod) (Includes Watering as Required)	SY	10,468		
1	805-12.03	Erosion Control Blanket (Type III) (As Directed By The Engineer)	SY	500		
1	806-02.12	Mowing, Weedeating & Litter Pickup (Urban Area)	CYCL	6		
1	921-01.01S	Bicycle Rack	EA	4		
Foundation Grouting						
2	FG-01	Overburden Drilling	LF	1,450		
2	FG-02	Rock Drilling	LF	1,750		
2	FG-03	Grout Nipples	EA	64		
2	FG-04	Steel Casing Installation Through Overburden	LF	1,450		

FOOTNOTE(S)	ITEM NO.	ITEM DESCRIPTION	UNIT	EST. QTY	UNIT PRICE ($)	EXT. AMOUNT ($)
2	FG-05	Water Pressure Testing	HR	300		
2	FG-06	Bags of Cement	EA	5,025		
2	FG-07	Admixtures	GAL	250		
2	FG-08	Pumping Hours	HR	512		
2	FG-09	Stand-By Time	HR	40		
2	FG-10	Foundation Grouting Contingency (Owner Allowance)	DOLL	315,000		
2	FG-11	Sand for Grouting	LB	10,000		
Electrical						
2	E-01	Electrical Lighting, Conduit, and Panels	LS	1		
Misc.						
2	COF-01	Utility Record Drawings (See Special Provision Regarding Utility Record Drawings)	LS	1		
2	COF-02	Contingency (Owner Allowance)	DOL	350,000	1	$350,000

SUB-TOTAL BASE BID PRICE (IN WORDS):

SUB-TOTAL BASE BID PRICE ($):

ALTERNATES						
FOOTNOTE(S)	**ITEM NO.**	**ITEM DESCRIPTION**	**UNIT**	**EST. QTY**	**UNIT PRICE ($)**	**EXT. AMOUNT ($)**
2	COF-03	Boat Dock	LS	1		
					SUB-TOTAL ALTERNATE BID:	

SUB-TOTAL ALTERNATE BID PRICE (IN WORDS):

SUB-TOTAL ALTERNATE BID PRICE ($):

TOTAL BID PRICE (BASE BID + ALTERNATE BID) (IN WORDS):

TOTAL BID PRICE (BASE BID + ALTERNATE BID) ($):

FOOTNOTES:

1. Item Nos. 000-00.00 are standard or slightly modified Tennessee Department of Transportation (TDOT) item numbers and shall be paid as listed in the TDOT standard specifications for road and bridge construction.
2. Item Nos. 000-00.00S, FG-00, E-00, and COF-00 are special City items and shall be paid as listed in the Specifications, Section 012000 - Price and Payment.
3. If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid for the "Total Bid Price (Base Bid + Alternative Bid)

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Addendum 2
Attachment C

APPENDIX A – SUPPLEMENTAL SPECIFICATIONS

ARTICLE 1 – SUPPLEMENTAL SPECIFICATION INCLUDED WITH PROJECT MANUAL

The following Supplemental Specifications are included, in their entirety, in Appendix A and are made a part of the Bidding Documents for the **Robinson Lake Dam Rehabilitation COF Contract No. 2019-0091**

A. Section 012000 – Price and Payment

B. Specifications – Robinson Lake Dam Rehabilitation

C. Boat Doc Specifications – Steel Floating Dock System

ARTICLE 2 – SUPPLEMENTAL SPECIFICATIONS INCORPORATED BY REFERENCE

The following Supplemental Specifications are herein incorporated by reference and made a part of the Bidding Documents for the **Robinson Lake Dam Rehabilitation COF Contract No. 2019-0091** except to the extent such Supplemental Specifications (i) do not apply based on the nature of the Project (e.g., road, bridge, street, water, or sewer), or (ii) conflict with another Contract Document identified in Paragraph 7.01.A, in which case the conflicting provision of other Contract Document shall take precedence and control:

A. TDOT Supplemental Specifications of the Standard Specifications for Road and Bridge Construction.

B. City of Franklin Transportation & Street Specifications.

C. City of Franklin General Requirements and Technical Specifications Water Management Department (i.e. Water, Reclaimed Water and Sanitary Sewer Specifications).

STEEL FLOATING DOCK SYSTEM

PART 1 - GENERAL

1 .1 DESCRIPTION

A. Furnish all labor, materials, tools, equipment and incidentals necessary to satisfactorily fabricate, manufacture or otherwise furnish and deliver the components and complete assemblies for all Floating Dock Systems complete with gangways, ramps, walkways, bumpers, cleats, and other accessories where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 01 of these Specifications.

1 .2 REFERENCED STANDARDS

A. American Society of Civil Engineer manual ASCE/SEI 7-05, "*Minimum Design loads for Buildings and Others Structures*."

B. American Institute of Steel Construction, Inc., (AISC), "*Steel Construction Manual*", Thirteenth Edition.

C. American Society for Testing Materials (ASTM)

ASTM A6 / A6M – 04b, "*Standard Specifications for General Requirements for Rolled Structural Steel Bars, Plates, Shapes and Sheet Piling*."
ASTM A325-04, "*Standard Specifications for Structural Bolts*, *Steel*, *Heat Treated, 120/105 ksi Minimum Tensile Strength*."
ASTM A449-04, "*Standard Specifications for Quenched and Tempered Steel Bolts and Studs*.
ASTM A53 / A53M-–04b, "*Standard Specifications for Pipe, Steel, Black and Hot-Dipped, Zinc Coated, Welded and Seamless*."
ASTM A500---03a, "*Standard Specifications for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes."*
ASTM A123 - "*Standard Specifications for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products."*
ASTM A153 - "*Standard Specifications for Zinc Coatings (Hot-Dipped) on Iron and Steel Hardware."*
ASTM A563-04a "*Standard Specifications for Zinc Coatings (Hot-Dipped) on Iron and Steel Hardware."*

D. The Aluminum Association, Inc., Design Standards.

E. American Wood Preservers Association standard for wood treatment and retention.

F. American Institute of Timber Construction (AITC), "*Structural Glued Laminated Timber*."

G. ASCE Manuals and Reports on Engineering Practice No. 50 "*Planning and Design Guidelines For Small Craft Harbors*", Prepared By Task Committee On Marinas 2000.

H. American Iron and Steel Institute "*Specifications for the design of Cold Formed Steel Structural Members*".

I. American Plywood Association specification for design of plywood members.

J. Steel Deck Institute "Steel Roof Deck Design Manual".

K. Americans with Disabilities Standards (ADA)

L. Association of Rotational Molders, "The Introductory Guide to Designing Rotationally Molded Plastic Parts".

1 .3 EXPERIENCE

A. The Floating Dock Systems manufacturer shall have a minimum of five (5) years experience in the design, manufacture, and installation of similar marina structures and systems to that proposed in this project.

B. Upon request, the manufacturer shall submit a list of previous installations similar to that specified to be evaluated by the buyer. The buyer's decision of qualifications will be final.

1 .4 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Qualifications of suppliers and personnel including but not necessarily limited to:
   1. The floating dockage manufacturer shall have not less than five years continuous experience in the manufacture and fabrication of floating dock systems.
   2. The Contractor shall demonstrate to the Owner successful floating dockage installations in a similar physical and natural environment.
   3. The dockage manufacturer or the Contractor shall provide at least one person who shall be present during installation of this work who shall be thoroughly familiar with the type of materials being installed, the requirements of this work and who shall direct all work.

1 .5 SUBMITTALS

A. Product data: Within 60 calendar days after the Contractor has received the Notice to Proceed, submit:
   1. Materials list of items proposed to be provided under this Section.
   2. Manufacturers' specifications and other data needed to prove compliance with the specified requirements.
   3. Manufacturer shall furnish material supplier certifications if and as requested.
   4. All plans shall be stamped with the seal of and signed by a Licensed Professional Engineer experienced in floating dock design.
   5. Manufacturer shall submit shop drawings, literature and other information necessary to adequately describe the fabrication of component parts of the structure. Information shall indicate size of members, type and location of shop and field connections as a minimum.

B. The following is a partial listing of drawings required for submittal:
   1. Individual dock plans shall indicate the location of all joints, framing, cleat layout, anchorage system, and all other dockage amenities.
   2. Section and elevation of gangways.
   3. Details of anchorage system.
   4. Details of flotation unit.
   5. Rub rails and/or moldings.

1 .6 WARRANTY

A. The Contractor shall execute and deliver to the Owner, before final payment, a written Warranty stating that all labor and materials (including dockage and all associated work) furnished by the contractor are in accordance with the contract plans and specifications, authorized alterations and additions thereto; and that, should any defect develop during the contract warranty period as hereinafter defined, due to improper materials, workmanship, or design, those defects be corrected by the Contractor without expense to the Owner.

   Warranties:
   1. Manufactured Products - Two Year Limited Warranty
   2. Flotation - Limited Ten-Year Warranty
   3. Composite Decking - Ten Year Material Limited Warranty

1 .7 DESIGN LOAD CONDITIONS

A. Vertical Loads
   1. Dead loads shall consist of the entire weight of the floating structure, including gangways, dock boxes, superstructure and other accessories and appurtenances.
   2. Deck surface and structural frame live load shall be equal to a minimum of 35 PSF applied to the full surface area of the deck.
   3. Substructure designed *(ASD)* to support full live load across a 30' span. *Calculated to be maximum wave, crest to crest, on most inland lakes*
   4. Gangways and ramps shall be designed to support 50 PSF live load and full dead load including the weight of any suspended utilities. Handrails shall be designed for a 200-

pound load applied in any direction and at any point along the length of the handrail.

5. Flotation for open docks shall be designed to support the dead load plus 30 PSF live load applied to the deck area.

B. Horizontal Loads

1. A uniform horizontal wind loading from any direction shall be calculated in accordance with ASCE 7-05 for exposure category "D" on all projected surfaces, assuming 100% boat occupancy.

Craft Profile Heights

Slip Length	Profile Height (Feet)
25' or less	5.3'
30'	5.5'
35'	6.0'
40'	6.8'
50'	8.4'
60'	9.5'
70'	10.5'
80'	11.5'
100'	13.5'

2. Wind parallel to main walk shall be assumed to be against a full boat length or a full finger length whichever is greater, multiplied by boat height and plus 20% for each boat profile behind that.
3. A horizontal load due to impact on a finger dock shall be the result of the largest berthed craft normally using the adjacent slip striking the end of the finger ten degrees (10˚) off the center line of the finger dock. For purposes of calculations, the weight of the craft shall be 12 times the finger length squared ($12L^2$). For analysis of impact, craft speed shall be considered moving at a speed of 3 FPS.
4. Wind perpendicular to base dock shall be assumed to be against a full slip width multiplied by a foot boat height and add 10% of each boat profile behind that.

PART 2 - PRODUCTS

2 .1 STEEL FRAMES

Box truss steel frames shall be all welded trusses made from angles of sufficient size and strength to withstand design stresses. Steel components in structural frames shall be notched and fitted prior to welding.

A. Main structural side chords and ends fabricated from a minimum, of 1-1/2"x1-1/2"x3/16" angle.

B. All bolt holes shall be standard sized round holes to fit standard bolts. Holes may be reamed to remove excess galvanizing and shall be coated with spray galvanizing.

C. All steel frames shall be hot-dipped galvanized after fabrication in accordance with ASTM 123. Field welding of galvanized metals will not be allowed except on minor corrections above water level, which will be treated with a cold galvanizing process.

D. The steel frames shall be designed for field connection with Grade 5 (ASTM-A325) galvanized bolts or better. Bolt diameter shall be 1/2" (minimum). Connections shall be designed so that units may be disconnected and moved.

2 .2 FLOTATION - Polyethylene Encased Floats

A. Flotation units shall be of seamless one-piece polyethylene rotational molded structure.

B. The polyethylene flotation containers shall be completely filled with modified polystyrene expanded in place (0.9 lb/cf density.) Water absorption shall not exceed five percent by volume.

C. Flotation units shall be firmly secured to the bottom of the frame.

D. Flotation units shall be of fire resistant construction.

E. Freeboard shall be 12” or less.

2 .3 ANCHORAGE SYSTEMS

A. Anchorage
1. Anchorage shall be designed for the specific location and exposure. Water level fluctuation, water depth, and bottom conditions and contours shall determine the best application. Anchorage shall be designed to resist the specified loads at maximum design water level.

B. Telescopic Anchorage System
1. The telescopic pile cannon anchorage system is designed to provide anchorage through fluctuating water levels up to 15’ in depth.
2. Anchor frames shall be designed with 4" diameter pipe, 5” diameter sleeves, and structural bracing attached to the dock structure to transmit loads from the dock to the anchor. Frames shall be hot-dipped galvanized after fabrication.
3. Sleeves shall be manufactured from 5” diameter pipe and shall marry with the pile guide, along with a 4” spud pole to create the anchoring system.
4. Spud poles shall be driven into the lake bottom to a depth sufficient to insure anchoring.
5. All telescopic spud pole anchors shall be hot-dipped galvanized after fabrication.

2 .4 GANGWAY

A. Gangway
1. Gangway shall be steel truss with handrails, hot-dipped galvanized after fabrication. Pivot connections to the dock shall be by pin or fifth wheel, with rollers provided on one end. Handrails will be provided on both sides.

2. Gangways shall be designed for vertical live load of 50 PSF and a maximum deflection of L/180.
3. Wheels or rollers shall be heavy duty constructed of molded rubber or UHMW plastic and be non-seizing type due to rust or ice.
4. Additional flotation shall be added to the floating piers or gangways where needed to support the combined pier and access gangway loads without producing undue distortion in the floating structure.

B. Handrails
1. Shall be galvanized steel.
2. Shall be designed for a 200-pound load applied in any direction and at any point along the rail.

2 .5 ACCESSORIES

A. Fendering
1. 2" x 12" Treated Lumber: Wood fendering shall be 2" x 12" (nominal) Southern Yellow Pine Grade No. 1, KDAT.

B. Cleats
1. Dock cleats shall be thru-bolted to the dock structural framework. Bolts and cleats shall be galvanized steel.

2 .6 DECK MATERIAL

A. Synthetic Decking
1. Synthetic decking shall be composite Tamko Ridge decking.

2 .7 KAYAK AND CANOE LAUNCH ACCESSABLE SYSTEM

A. Kayak/Canoe Launch
1. The body of the launch shall be constructed of the same material as the floating dock system..
2. The launch shall have slides or rollers to allow for easy movement.
3. The launch shall have side rails mounted on each side.
4. All hardware shall be stainless or galvanized steel rated for marine environment.

B. Accessible Transfer Bench and Grab Rail
1. The accessible transfer bench and its components shall be constructed of galvanized steel or aluminum.
2. The accessible transfer bench shall provide two vertical heights.
3. The accessible transfer bench shall provide two projecting transfer slide boards that land securely on the grab bar.
4. The grab bar shall be constructed of galvanized steel and mounted to the entry launch.

2.8 COMPONENT DESCRIPTION

A. Gangway – (1) galvanized steel, ADA compliant, 5’x20’
B. Floating Dock – (1) 8’x20’

C. Kayak Launch – (1) 6.5’x15’ w/transfer bench and grab rails
D. Pile Guides/Spuds – (6) 4” spud poles w/telescopic pile guides

PART 3 - EXECUTION

3 .1 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3 .2 INSTALLATION

A. Install the work of this Section in strict accordance with the manufacturer's recommendations as approved by the Designer

Boat Dock Specifications 8
Addendum 2
Attachment C

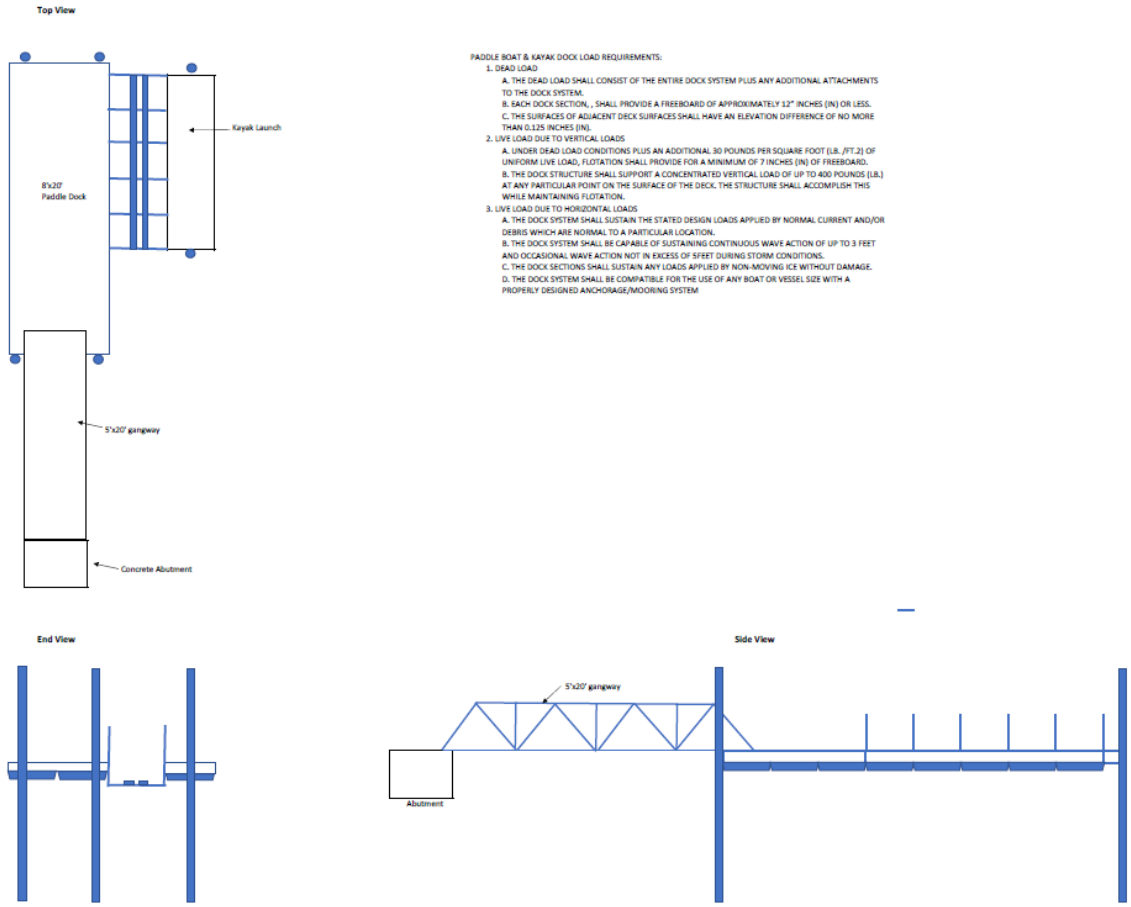

Image depicts basis of design preferences for COF- for reference only