

Wisconsin Department of Transportation

February 1, 2022

Division of Transportation Systems Development

Bureau of Project Development 4822 Madison Yards Way, 4th Floor South Madison, WI 53705

Telephone: (608) 266-1631 Facsimile (FAX): (608) 266-8459

NOTICE TO ALL CONTRACTORS:

Proposal #50: 8337-00-70, WISC 202211

T Barnes, South Shore Road Eau Claire Lakes Br B-04-0124

Local Str

Bayfield County

Letting of February 8, 2022

This is Addendum No. 01, which provides for the following:

Special Provisions:

Added Special Provisions					
Article No.	Description				
22	Dam Embankment Backfill, Item SPV.0035.01				
23	16-Inch Auger-Cast Concrete Piles, Item SPV.0090.01; Static Load Test, Item SPV.0105.01				

Deleted Special Provisions				
Article No.	Description			
13	Notice to Contractor – Dam Embankment Backfill			
20	16-Inch Auger-Cast Concrete Piles, Item SPV.0090.01			

Schedule of Items:

Added Bid Item Quantities					
Bid Item	Item Description		Old	Revised	Proposal
	item description	Unit	Quantity	Quantity	Total
SPV.0035.01	Dam Embankment Backfill	CY	0	25	25
SPV.0105.01	Static Load Test	LS	0	1	1

Plan Sheets:

Revised Plan Sheets						
Plan Sheet	Plan Sheet Title (brief description of changes to sheet)					
39	Structure B-4-124 General Plan (added approximate required dam embankment backfill areas to the plan view)					
40	Structure B-4-124 Elevation & Cross Sections (added approximate required dam embankment backfill areas to the elevation view)					
41	Structure B-4-124 Details & Quantities (Added new detail section view at wing showing dam embankment backfill. Added 2 new bid items to Total Estimated Quantities table)					

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

Mike Coleman

Proposal Development Specialist Proposal Management Section

ADDENDUM NO. 01 8337-00-70 February 1, 2022

Special Provisions

- 13. DELETED
- 20. DELETED
- 22. Dam Embankment Backfill, Item SPV.0035.01.

A Description

This special provision describes furnishing and placing dam embankment backfill material as shown on the contract plans and as specified herein.

All material placed upstream of the Middle Eau Claire Lakes Dam spillway below the dam Q500 Elevation of 1130.4 must meet the specifications for dam embankment. This does not apply to material placed under the following bid items: Backfill Structure Type A placed behind the abutments, Concrete Masonry Bridges, Concrete Curb Type A, Slope Paving Concrete, Riprap Heavy, and 16-Inch Auger-Cast Concrete Piles. If material upstream of the spillway and below the Q500 elevation is disturbed from its in-situ state, then it must be removed and placed with dam embankment backfill to prevent a new seepage path from forming.

Dam embankment material shall be impervious clay. Special care must be given at the location of the north abutment wings. If the Q500 Elevation is above the proposed grade and the dam embankment is not covered by concrete or riprap, the top 1 foot shall be native soils/salvage topsoil.

B Materials

Conform to the definitions under 301.2. Furnish virgin materials consisting of clay.

For each source, prior to excavating and hauling the dam embankment to the project, submit the results of the laboratory source screening tests described in Table 1. Laboratory test results of the clay must meet or exceed the requirements before placing material.

Submit source screening test results to the engineer & WDNR for review, two weeks prior to clay placement.

Table 1

				Testing Frequency		
Reference	Number	Test Title	Requirements	Source Screening	Project Testing	
AASHTO¹ T99-01 Moisture –Density Relationships of Soils Using a 2.5-kg (5.5 lb) Rammer a 305 mm (12-in.) Drop (Standard Proctor)		NA	1/source	NA		
AASHTO	AASHTO T-88-00 Particle Size Analysis of Soils P200 ³		P200 ³ ≥ 50%	1/source	NA	
AASHTO	AASHTO T-89-02 Determining the Liquid Limit of Soils		LL ⁴ ≥ 22%	1/source	NA	
AASHTO T-90-00 Determining the Plastic Limit and Plasticity Index of Soils		PI ⁵ ≥ 12%	1/source	NA		
AASHTO			DD ⁶ ≥ 95% of the MDD ⁷	NA	If requested by the engineer	
ASTM ² D5084-03 Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter		K ⁸ ≤ 1 x 10 ⁻⁷ cm/sec	1/source ⁹	NA		

Notes:

- 1. AASHTO = American Association of State Highway and Transportation Officials
- 2. ASTM = American Society of Testing and Materials
- 3. P200 = Percent by weight passing the #200 sieve (%)
- 4. LL = Liquid Limit (%)
- 5. PI = Plasticity Index (%)
- 6. DD = Dry Density (pcf)
- 7. MDD = Maximum Dry Density (pcf) as determined by the Standard Proctor Test
- 8. K = Hydraulic Conductivity (cm/sec)
- 9. The sample for the test shall be remolded at a minimum dry density of 95% of the maximum dry density as determined by the Standard Proctor test and at a moisture content required to achieve the required hydraulic conductivity, but with a minimum moisture content at or above the optimum moisture content as determined in the Standard Proctor test.

C Construction

Place and compact as specified in 206.3.13 unless modified below.

Compact the subgrade to the minimum density using standard spec 207.3.6.2 Standard Compaction, or as otherwise specified in the contract requirements.

Place and compact dam embankment in compacted 6-inch maximum lifts. Place each lift of dam embankment in one continuous lift.

Notify the engineer & WDNR at least three days before starting construction of dam embankment.

Compact the dam embankment to a minimum of 95% Standard Proctor AASHTO T-99 Maximum Dry Density. As needed, clay shall be mechanically processed before compaction to break up clods and allow moisture content adjustment. Clod size shall be no greater than 4 inches.

Compaction can be completed by any equipment (plated compactor, jumping jack compactor, vibratory compactor excavator attachment, etc.) that can achieve the minimum compaction.

Provide all equipment necessary to adjust dam embankment to the proper moisture content for compaction.

Make sufficient number of passes of the compaction equipment over each lift of clay to ensure complete remolding of the clay.

During placement of the dam embankment the minimum moisture content shall be as defined by the testing performed in the source screening evaluation and with the following limits:

No drier than the optimum moisture content as determined by the Standard Proctor test.

If the Engineer in the field is not satisfied with the compaction they can request in-place density testing (to be performed by the department) to verify compaction. If dam embankment backfill material placed is below 95% of the MDD as defined in Table 1, then remove and replace or rework any portion of the placed dam embankment backfill not meeting the project requirements until project specifications are met. There shall be no compensation for removing, replacing and reworking clay not meeting the requirements in Table 1.

D Measurement

The department will measure the Dam Embankment Backfill bid item by the cubic yard acceptably completed. The department will only include materials placed within the limits and in the places the plans show, the contract designates, or the engineer directs.

For measurement by the cubic yard, the department will determine volume in its final position.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER DESCRIPTION UNIT SPV.0035.01 Dam Embankment Backfill CY

Payment for the Dam Embankment Backfill bid item is full compensation for providing dam embankment backfill and placing as specified.

23. 16-Inch Auger-Cast Concrete Piles, Item SPV.0090.01; Static Load Test, Item SPV.0105.01

A Description

This special provision describes constructing auger cast piles as shown on the contract plans and as specified herein. Construct piles by excavating soil with the continuous insertion and rotation of a 16-Inch diameter continuous flight auger with a hollow stem into the ground to the depths shown on the plan. Pump fluid grout under pressure through the hollow stem of the auger to a port at the bottom of the auger, where it is injected into the excavation as the auger is withdrawn. Once auger has been completely removed place steel casing at the top of the hole. Casing to extend from the top of the piling to a minimum distance 2.5-FT below the bottom of the proposed abutment. Fill steel casing with grout and install vertical reinforcement, as shown on the plans, through the casing and into the column of fluid grout.

Perform a conventional static load test, per ASTM Standard D1143-81 and Geotechnical Engineering Circular (GEC) No. 8 Standard: Design and Construction of Continuous Flight Auger Piles, on either wing pile on the West Abutment (Pile #1 or #8) to verify the pile capacity. Place the remaining production piles using the same methods as a successfully tested test pile.

Compressive strength test the grout samples collected during test pile installation prior to starting static load test to ensure grout as sufficient capacity to handle the test loading. Allow a minimum of seven days to elapse after installing test pile before starting pile testing.

Allowable load shall be the load acting on the test pile when the lesser of the following criteria are met, divided by a factor of safety of 2.5:

- (a) Net settlement of not more than 0.01 inch/ton of test load.
- (b) Total settlement of 1 inch provided the load settlement curve shows no sign of failure.
- (c) A plunging failure or sharp break in the load settlement curve.

Consult with the Engineer for corrective action if the test pile does not comply with the requirements.

A.1 Contractor Qualifications

- (a) The Contractor shall be a Company specializing in performing the work of this section with minimum 5 years documented experience in constructing auger cast pile foundations of similar size, depth, and site conditions within the past 5 years. Prior to auger cast pile construction, the Contractor shall submit written documentation of the 5-year experience to the Engineer for verification and acceptance. The submittal shall include at least three projects on which the Contractor has previously been engaged in auger cast pile construction with satisfactory results. A brief description of each project and the Owner's contact person's name and current phone number shall be included for each project listed.
- (b) On-site supervisors shall have a minimum 3 years' experience in construction of auger cast pile foundations, and drill operators shall have a minimum of 1 year of experience. Prior to the start of work, the Contractor shall submit a list identifying the on-site supervisors and drill operators who will be assigned on the project. The list shall contain a summary of each individual's experience.
- (c) The Engineer will approve or reject the Contractor's qualifications and field personnel within 10 working days after receipt of the submission. Work shall not be started on any auger cast pile until the Contractor's qualifications are approved by the Engineer. The Engineer may suspend the auger cast pile construction if the Contractor substitutes unqualified personnel. The Contractor shall be fully liable for the additional costs resulting from the suspension of work, and no adjustments in contract time resulting from the suspension of work will be allowed.
- (d) An auger cast pile preconstruction conference will be held with the Contractor prior to the start of auger cast pile construction to discuss construction and inspection procedures. This conference will be scheduled by the Engineer after the Contractor's submittals are approved by the Engineer.

A.2 Working Drawings

At least 4 weeks before work on auger cast piles is to begin, the Contractor shall submit to the Engineer for review and approval, a pile installation plan for the construction of the auger cast piles. The submittal shall include the following:

- Project start date, an overall description, and sequence of the auger cast pile construction.
- Calculations that show the design capacity can be achieved with the proposed auger cast pile size, depth and required factor of safety of 2.5.
- List and sizes of proposed equipment, including cranes, augers, grout pumps, mixing equipment, and other equipment to be used in construction, including details of procedures for calibrating pressures and volumes of grout pumps.
- Grout mix design and description of materials for the grout to be used on the project.
- Details of auger drilling and placement method for grout during auger withdrawal.
- Procedures for monitoring grout pressures while pumping and for monitoring the amount of grout placed in the excavation.
- Details of grout placement, curing, and protection that demonstrate Contractor's ability to perform grout placement in the required time.

- Details of the steel casing and methods for supporting the casing, etc.
- Details of reinforcement placement; including support for reinforcing cages at the top of the pile and methods for centering the cages within the grout column.
- Procedures for protecting the adjacent Middle Eau Claire Lakes Dam and Eau Claire River Waterway. Do not allow grout to flow into the waterway.
- Static load test: Submit arrangement of the static pile reaction frame (including sizes of primary members), test and anchor piles, equipment, and instrumentation. Submit structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation. Include load testing methods and loading schedule and duration.
- Other information shown on the plans or requested by the Engineer.

The Contractor shall not start construction of auger cast piles for which Contractor qualifications and working drawings are required until such submittals have been approved by the Engineer. Such approval will not relieve the Contractor of responsibility for results obtained by use of these submittals or any other responsibilities under the contract.

B Materials

B.1 Grout

Furnish Portland Cement that conforms to subsection 501.2.4 of the standard specifications.

Furnish water, which will be used in the high-strength grout mixture that conforms to subsection 501.2.6 of the standard specifications.

Furnish fine aggregate conforming to subsection 501.2.7.2 of the standard specifications.

Provide grout mix with a 28-day compressive strength that equals or exceeds 4,000 psi.

Grout mix for auger cast piles shall be fluid, consolidate under self weight, be resistant to segregation.

The contractor shall be responsible for making, sampling, curing, and testing the grout mixture. For testing purposes, make one set of cylinders of the grout mix for each day during which augured piles are placed. A set of cylinders consists of 3 cylinders to be tested at 7 days and 3 cylinders to be tested at 28 days. The grout shall be taken from the discharge chute prior to the grout pump. Small 4" diameter x 8" long cylinders or 2" x 2" cubes are acceptable.

If agitated continuously, the grout may be held in the ready-mix truck for a period not exceeding two and one half hours at temperatures below 70 degrees F and for a period not exceeding two hours at temperatures between 70 and 100 degrees F. Do not place grout if the air temperature exceeds 100 degrees F or is less than 40 degrees F.

All costs associated with making, sampling, curing, and testing of the grout mixture shall be considered incidental to this bid item and no additional compensation will be made.

B.2 Steel Pile Shells

Furnish steel pile shells conforming to subsection 550.2.1 of the standard specifications. Ensure that the steel pile shells have a minimum nominal wall thickness of 0.219 inches and an outside diameter of 16-Inches. Shells shall be continuous without splices.

B.3 Reinforcement Steel

Bar steel reinforcement placed in auger cast piles per the plans shall conform to section 505 of the standard specifications. Reinforcement bars may be tied together in a point at the bottom to facilitate installation.

C Construction

C.1 Preparation

- (a) Use placement method that will not cause damage to nearby structures.
- (b) Notify adjacent and affected landowners and building occupants with 10 days' notice before proceeding with the Work.
- (c) Protect structures near the Work from damage.
- (d) Prepare to place piles from the excavated working elevation.

C.2 Installation

Auger cast piles shall be constructed in accordance with the Geotechnical Engineering Circular (GEC) No. 8 Standard: Design and Construction of Continuous Flight Auger Piles.

Drilling shall not commence until sufficient supply of grout is present on the project site to complete the pile. The drilling parameters (auger rotation speed, penetration rates, crowd, torque, etc.) for the production piles shall be within the ranges established in the pile installation plan, as verified by the test pile. The same procedures used to install the test pile shall be used to install production piles.

Prevent surface water from entering excavated shafts. Advance auger at a continuous rate during insertion that prevents removal of excess soil. Promptly remove excavated spoils to prevent accumulation. Excavate piles to elevations the plans indicate.

Locate the grout outlet orifice on the auger at an elevation lower than that of the cutting teeth on the bottom of the auger. Maintain the orifice closed by utilizing a plug while the auger is being advanced into the ground. Remove the plug by pressure from the orifice once grouting begins.

Begin placing of grout within 5 minutes after the auger has achieved the planned depth. Pump grout through the hollow stem auger into the excavation with sufficient pressure to completely fill the excavation and any soft or porous zones surrounding the excavation as the auger is withdrawn. Extract the auger at a smooth, steady rate while continuously pumping. If rotation of the auger occurs during extraction, ensure that the rotation is positive (i.e. in the same direction as during drilling).

Use only approved mixing and pumping equipment in the preparation and handling of the high-strength grout. Place a screen at the pump inlet to remove oversize particles. Ensure the pump is a positive displacement pump capable of developing displacement pressures at the pump of not less than 350 psi. Equip the pump with a pressure gauge in clear view of the equipment operator and inspector. Install an in-line flowmeter to measure and monitor the volume of grout being placed. The measured volume of grout placed within the auger cast pile shall be at least 15 percent greater than the net volume of the pile shaft specified. However, the engineer shall be notified immediately if the grout is greater than 20 percent of the pile net volume.

Once auger has been completely removed and grout has reached the ground surface remove the excavated soil carefully from the vicinity of the completed piling to minimize grout contamination. Sieve the upper 5 ft. of the grout column to remove any soil contamination. Sieve the grout to greater depths if additional contamination is present.

Immediately place steel casing at the top of the hole. Casing to extend from the top of pile elevation indicated on the plans to a minimum distance 2.5-FT below the bottom of the proposed abutment. Adequately brace steel casing then fill steel casing with grout and install vertical reinforcement, as shown on the plans, through the casing and into the column of fluid grout before the grout begins to take its initial set. The steel may be lowered into the grout by gravity or pushed gently to final position by the foundation contractor's personnel. Do not vibrate or drive the reinforcing steel into position without the approval of the Engineer.

Center the reinforcing steel in the excavation and steel casing. Hold the steel casing and reinforcing steel in position within the grout column by appropriate supports at the ground surface until the grout reaches a minimum of 50 percent of its design strength or 3 days, whichever occurs first.

Construct piles with a variation of $\frac{1}{4}$ inch or less per foot from the vertical. Ensure piles are within 3 inches of the plan position after construction.

Ensure no grout or spoils enters the waterway during construction.

During pile construction, provide the engineer with real-time data that includes auger depth, volume of grout placed, grout pressure, etc.

C.3 Inspection Records

Maintain accurate records for each pile constructed. Similar records will be maintained by the Engineer. Include the following in the records:

- · Project Name and Number
- · Pile Contractor

- · Pile Location and design pile capacity
- · Pile Diameter
- Ground Surface Elevation
- Elevation of Top of Steel Casing/Grout
- Pile Length
- Pile Toe (Bottom) Elevation
- · Auger Diameter
- · Volume of Grout Placed
- Theoretical Volume of Excavation (where diameter = diameter of auger)
- · Depth to which steel casing was placed
- · Depth to which reinforcing steel was placed
- · Date/Time of Beginning of Drilling
- Date/Time of Completion of Drilling
- · Date/Time Grout was Mixed
- Date/Time Ready-Mix Grout Truck Arrived Onsite
- Date/Time of Beginning of Grout Pumping
- Date/Time of Completion of Grout Pumping
- · Date/Time of Placement of Steel Casing
- · Date/Time of Placement of Steel Reinforcing Steel
- · Weather Conditions, including air temperature, at time of grouting
- Other pertinent data relative to the pile installation.

D Measurement

The department will measure the 16-Inch Auger Cast Concrete Piles bid item by the linear foot acceptably completed, measured from the top of the steel casing/grout to the bottom of pile.

The department will measure the Static Load Test as a single lump sum unit for each test completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER DESCRIPTION

UNIT

SPV.0090.01 16-Inch Diameter Auger-Cast Concrete Piles

LF

SPV.0105.01 Static Load Test

LS

Payment for the Auger cast piles bid item is full compensation for preparing and auguring a 16-Inch diameter hole; furnishing, mixing, and pumping high-strength grout; furnishing, delivering, and placing acceptable pile shells; placing the bar steel reinforcement; and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the contract work.

Payment for the Static Load Test bid item is full compensation for testing; required documentation and certifications; and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the contract work. Test wing pile will be paid for under the auger cast piles bid item.

Steel reinforcement incorporated in piling will be paid for in accordance with subsection 505.5 of the standard specifications.

Schedule of Items

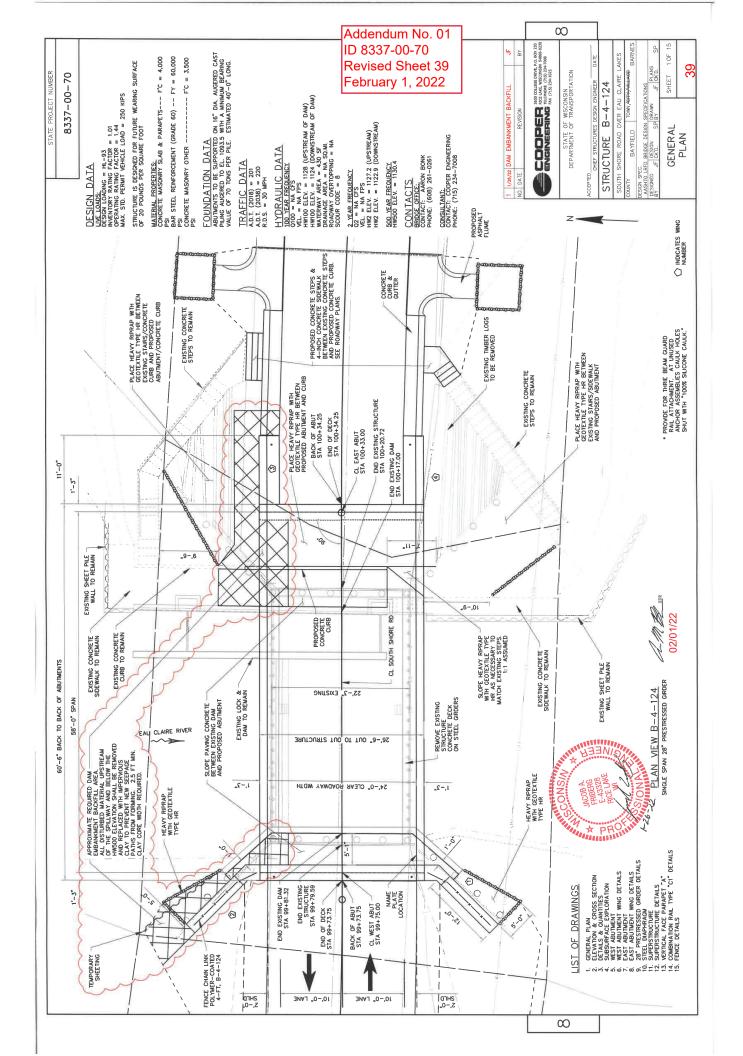
Attached, dated February 1, 2022, are the revised Schedule of Items Page 5.

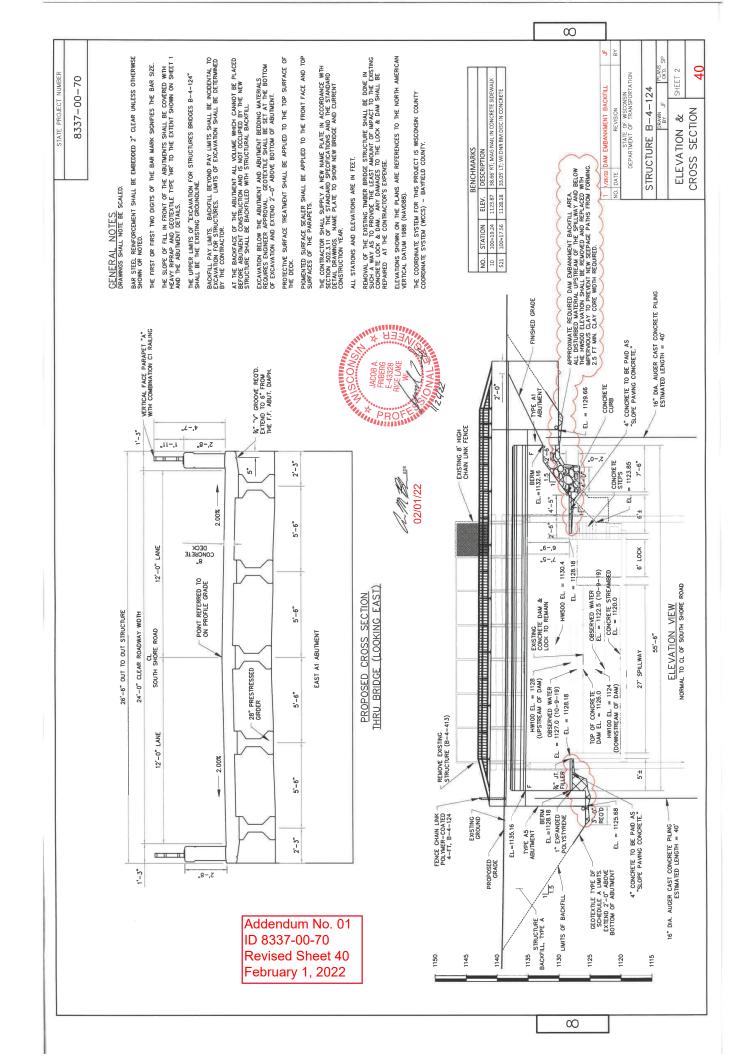
Plan Sheets

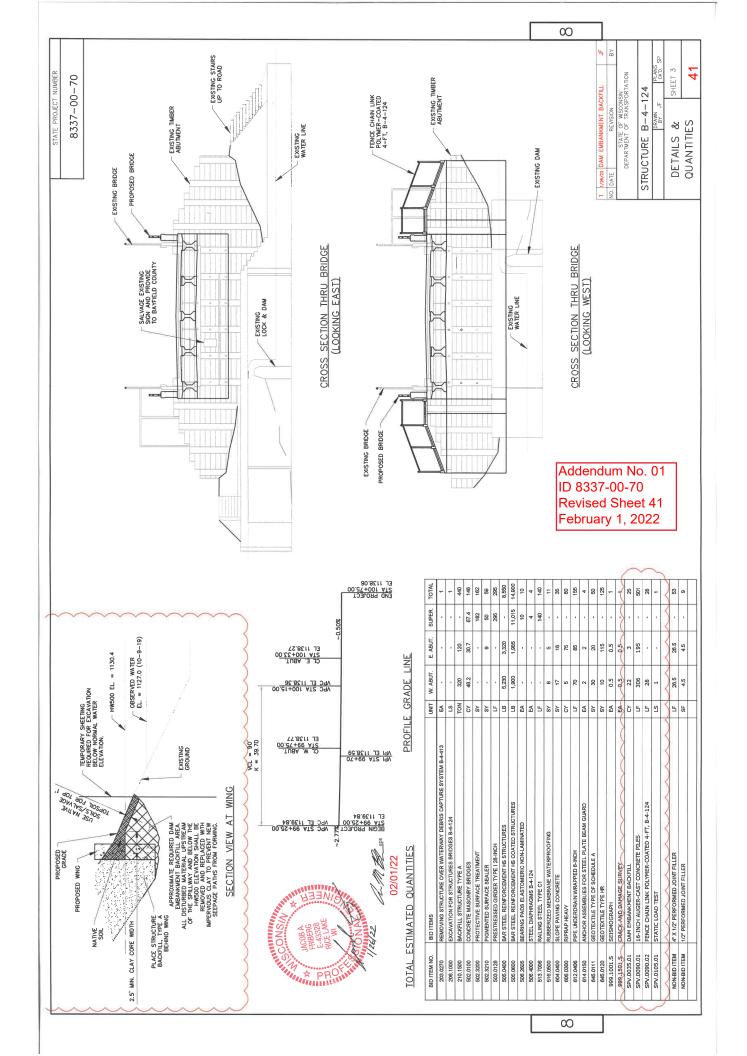
The following 8½ x 11-inch sheets are attached and made part of the plans for this proposal:

Revised: 39, 40, and 41

END OF ADDENDUM









02/01/2022 13:37:52



Proposal Schedule of Items

Page 5 of 5

Proposal ID: 20220208050 Project(s): 8337-00-70

Federal ID(s): WISC 2022211

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0128	715.0502 Incentive Strength Concrete Structures	1,460.000 DOL	1.00000	1,460.00
0130	999.1001.S Seismograph	1.000 EACH		
0132	999.1501.S Crack and Damage Survey	1.000 EACH		·
0134	999.2000.S Installing and Maintaining Bird Deterrent System (station) 01. 100+00	1.000 EACH	<u> </u>	·
0136	ASP.1T0A On-the-Job Training Apprentice at \$5.00/HR	300.000 HRS	5.00000	1,500.00
0138	ASP.1T0G On-the-Job Training Graduate at \$5.00/HR	300.000 HRS	5.00000	1,500.00
0140	SPV.0090 Special 01. 16-Inch Auger-Cast Concrete Piles	501.000 LF		·
0142	SPV.0090 Special 02. Chain Link Fence Polymer- Coated 4-Ft. B-04-0124	28.000 LF		·
0144	SPV.0035 Special 01. Dam Embankment Backfill	25.000 CY		
0146	SPV.0105 Special 01. Static Load Test	LS	LUMP SUM	·
	Section: 0001		Total:	
			Total Bid:	·