

ADDENDUM #3

10/16/2018

(Please note that CLARIFICATION 1 also known as ADDENDUM #1 was issued on 8/23/2018 and ADDENDUM #2 was issued on 9/24/2018)

Project No. ENG1903701130

Electrical Renovation at Wyandotte Large Cave

1. The bid date is hereby changed to **November 8, 2018 at 2:31 P.M.** (Indianapolis Time), and the corresponding portion of the NOTICE TO BIDDERS is modified to read:

...“SEALED BIDS FOR:

PROJECT NO. ENG1903701130

O’Bannon Woods State Park

Electrical Renovations at Wyandotte Large Cave

Crawford County

will be received from Contractors, holding a current Certificate of Qualification, at the Bid Desk, Department of Administration, Public Works Division, 402 W. Washington St., Room W467, Indianapolis, Indiana, 46204 until **2:31 P.M. (Indianapolis Time), November 8, 2018,** after which all bids will be publicly opened and read in the appropriate bid room.”...

2. The Specified construction period is hereby changed to **300 calendar days or until a completion date of August 30, 2019, whichever date shall occur earlier.** The corresponding portion of the NOTICE TO BIDDERS is modified to read:

...“**The Specified construction period is 300 calendar days or until August 30, 2019, whichever date shall occur earlier shall be the completion date.** The State of Indiana reserves the right to reject any and all bids.”...

All other portions of the NOTICE TO BIDDERS remain unmodified by this ADDENDUM #3

- A. The TABLE OF CONTENTS for the PROJECT MANUAL, SPECIFICATIONS & DRAWINGS is hereby replaced in its entirety. The new TABLE OF CONTENTS is two (2) pages as attached to this ADDENDUM #3.
- B. The DRAWINGS are hereby replaced in their entirety. The new DRAWINGS dated September 2018 and as indexed on drawing G000 are issued as a separate electronic .pdf in conjunction with this ADDENDUM #3.
- C. The following Sections of SPECIFICATIONS as attached to this ADDENDUM #3 are hereby issued, and shall be accordingly fully incorporated into the PROJECT MANUAL, SPECIFICATIONS & DRAWINGS:
1. DIVISION 01, SECTION 011100, SUMMARY OF WORK, four (4) pages, please note in particular item 1.02.1 B.
 2. DIVISION 01, SECTION 012300, ALTERNATES, two (2) pages.
 3. DIVISION 05, SECTION 055213, PIPE AND TUBE RAILINGS, five (5) pages.
 4. DIVISION 26, SECTION 263323, CENTRAL BATTERY INVERTER (IPS) SYSTEMS, two (2) pages.
- D. Appendix Item: A scanned image of a Map with profiles prepared by the Indiana Geological Survey (c. 1966) of the Wyandotte Cave is provided as a separate electronic .pdf in conjunction with this ADDENDUM #3. The file is furnished solely as a courtesy for the accommodation of the Contractor, and the State makes no guarantees and/ or assertions as to the accuracy of the information therein contained.

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SECTION 011100 - SUMMARY OF WORK

PART 1 - GENERAL

1.01.1 PROJECT REQUIREMENTS

- A. The Contractor shall perform all work required to complete the project in accordance with the Contract Documents, to meet the design intent of the Contract Documents, and to minimize potential change orders.
- B. The project consists of furnishing all labor, material, equipment, services, and other related items necessary to complete the work per the Contract Documents.

1.02.1 DESCRIPTION

- A. Base Bid:

Work of the Project includes, as indicated on the Drawings for the base electrical service and area, electrical work outside the cave generally consisting of the installation of a new surge Protection Device at the base cave electric service entrance point, new grounding system, and miscellaneous exterior rewiring, demolition and utility coordination. Work inside the cave in the base area includes replacement of lighting fixtures, replacement of the lighting panelboards as indicated, modifications to lighting control cabinets, replacement of single pole and 3-way switch stations, replacement of all NM cable throughout the base area of the cave with new type UF cable, anchoring of exposed UF cable and miscellaneous painting and repairs as shown on the plan set. In addition, provide new emergency telephones in weatherproof housings as indicated in the Drawings.

Alternates: **SEE SECTION 012300 ALTERNATES**

- B. **SUPPLEMENTARY LABOR PROVIDED BY THE STATE** (Contractor's Option):

If the Contractor shall elect to exercise the option, the State shall provide supplementary labor as described herein to assist the Contractor with the moving of equipment, tools, electrical supplies, and other construction materials into and throughout the cave; and to assist with removal of the same from the cave including removal of construction debris.

The State shall provide an eight (8) person crew from 8:00 am to 3:00 pm on Tuesday, May 28, 2019 thru Friday, May 31, 2019; on Monday, June 3, 2019 thru Friday, June 7, 2019; and on every Monday and Wednesday thereafter through the end of August 2019, excepting State Holidays (4th of Jul, Independence Day). If there are other dates/ times that the Contractor may want assistance with the movement of materials on the project site; the Contractor shall notify the Property at least two (2) business days in advance to see if such assistance can be provided on the requested date/ time. The State shall accommodate such request if and as forces and circumstances allow.

The State shall only provide labor for the purpose described above; the State shall not provide any supplementary labor to assist with any other portions of the work required by the Contract Documents. The supplementary labor provided by the State is

complimentary in the interest of expediting the work; however, the act of the State in providing the supplementary labor does not in any way relieve the Contractor of any of the requirements of the Contract Documents; nor does the State assume any responsibility for the performance and/ or quality of the project work by the Contractor.

Prior to the movement of any materials or items by State labor, the Contractor shall clearly label, station, and inventory all materials and items to be moved by State labor. The Contractor shall provide clear direction for the sequencing of moving and destination of all material and items. The Contractor shall provide written notice to the State of any materials or items requiring special handling, and the State shall retain the right to refuse assistance with the movement and/ or handling of the same.

The eight (8) person crew provided by the State may include laborers provide by DOC. The State will provide copy to the Contractor of any policies and/ or procedures related to the presence of DOC laborers. The Contractor shall adhere to such in all interactions with the State crew and shall principally interact with the State employee supervising the State crew.

C. General:

This summary of work is not intended to be all-inclusive, but rather to depict or briefly describe some of the major items of work to be included in the project.

1.03.1 BID

- A. The Base Bid shall include all work and requirements indicated by the Bidding Documents.
1. The Contractor shall not be allowed extra compensation by reason of any matter or thing concerning which the contractor could have fully informed himself/ herself prior to bidding. No Verbal agreement, understanding or conversation with an agent or employee of the owner, either before or after the execution of this contract, shall affect or modify the terms or obligations herein contained.
 2. The Contractor shall submit a Schedule of Values based on the various types of work in accordance with Article 9.2 of the General Conditions.
- B. **SEE SECTION 012300 ALTERNATES.**

1.04.1 COMMENCEMENT AND COMPLETION OR WORK

- A. The Contractor shall commence work within 10 days after the date of execution of the Contract. However, **any project work inside the cave shall take place only after Memorial Day, May 27, 2019 and before Labor Day, September 2, 2019.** Access shall **not** be allowed to the cave for any reason outside of that specified time range.
- B. Work required by the Contract Documents **shall be completed by whichever of the following dates occurs earlier: within 300 days after the date of the executed Contract or by August 30, 2019.**

1.05.1 PAYMENT BOND

- A. Contractor **shall provide a payment bond** in an amount equal to one hundred percent (100%) of the total contract price. Payment bond shall meet the requirements of Section 7.6 of the General Conditions.

1.06.1 SUBMISSION OF POST-BID INFORMATION

- A. Submit the following information within ten days of receipt of Notice to Proceed.
 - 1. Designation of the work to be performed by the Contractor with his own forces.
 - 2. A list of Subcontractors.
 - 3. A list of manufacturers and suppliers.

1.07.1 CODES AND STANDARDS

- A. All work shall meet or exceed **all current codes and standards**, all current rules and regulations and all applicable requirements of Federal, State and Local Authorities having jurisdiction, including the latest OSHA and Americans with Disabilities Act of 1990 amended to date.
- B. Meet and comply with the applicable portions of the latest editions of the following standards and codes and as specified elsewhere in the Contract Documents:
 - 1. Indiana Construction Rules and Regulations.
 - 2. Indiana Building Code
 - 3. Indiana State Construction Industry Safety Code.
 - 4. Indiana Electric Code.
 - 5. Indiana plumbing Code.

1.08.1 WORKING HOURS

- A. Contractor shall perform all construction activity on Monday thru Friday, excluding state holidays, between the hours of 6:00 a.m. and 6:00 p.m., unless previous arrangements are made with the Owner.
- B. All work performed at other times shall be only by approval from the Owner, confirmed in writing, and shall not constitute a change in the contract amount.
- C. The Contractor shall coordinate work activities/ times with the State so that public cave tours scheduled at 11:00 am and 1:00 pm every Friday, Saturday, Sunday, and State Holiday may be safely routed through the work site or appropriately rerouted away from an area of work or provided with head lamps as project work conditions may require.

1.09.1 EXISTING SITE CONDITIONS

- A. Data on the drawings pertaining to present conditions, dimensions, type of construction, obstructions on or near site, location of utilities, etc. have been obtained from sources believed reliable, but accuracy of such data is not guaranteed and is furnished solely for accommodation of the Contractor.
- B. The Contractor shall, prior to excavating, verify the location of all buried utilities, public and private including buried power lines and fiber optic cables.

1.10.1 CONSTRUCTION AND STORAGE AREA

- A. The Contractor shall confine the construction operations and storage of materials within an area(s) approved by the Owner or designated representative.

1.11.1 ROADWAY-SITE PROTECTION

- A. The Contractor shall, at his expense, be responsible to repair any and all damage to the State property's roads and drainage structures caused by his equipment and/or personnel from project site. Areas to be repaired shall be done by using similar material and be approved by the Engineer.
- B. The ingress and egress to the project site shall be approved by the Owner.

1.12.1 SUBSTITUTIONS

- A. Prior to Bid Opening request for substitutions shall be made in accordance with the requirements of paragraph 07 of the Instructions to Bidders and accordingly shall be requested at least 14 days prior to Bid Opening.
- B. Substitutions shall be made in accordance with the requirements of Article 7 of the General Conditions.

1.13.1 ARCHEOLOGICAL AND HISTORIC ARTIFACTS

- A. If any objects are uncovered during construction which could possibly be of archeological or historic importance, this shall immediately be reported to the Owner. Work at that spot shall not proceed further until the Owner has evaluated the object and the area where it was found and approved continuation of the work.
- B. If any construction time is lost due to such objects being found, an equal number of calendar days will be added to the project completion time.

1.14.1 SALVAGE RIGHTS

- A. Unless stated otherwise in this specification or on the plans, all equipment and materials removed as part of this project and not indicated for re-use on the project shall become the property of the Contractor and removed from the site.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 012300 - ALTERNATES
PART 1 - GENERAL

1.01 DESCRIPTION:

- A. The bids for the alternate described herein are required to obtain information necessary for setting the scope of the project in its entirety.
- B. Add Alternates herein described are not to be included in the Base Bid Scope of Work.
- C. Deduct Alternates herein described are to be included in the Base Bid Scope of Work and deducted from the project as described.
- D. Bidder shall provide a response to each alternate specified. The response must indicate the amount to ADD to the Base Bid, DEDUCT from the Base Bid or that there is NO CHANGE. Substitution of materials or methods of work other than as called for in the documents, i.e. "voluntary alternates" shall be cause for rejections of bid as non-conforming. Refer to Page 2, DAPW 13.
- E. All Requirements of the specification shall govern the work of this section. This section describes the changes to be made under each alternate.

1.02 ADD ALTERNATES:

A. **Alternate Number 1: ELECTRICAL WORK ASSOCIATED WITH VISITOR CENTER SERVICE POINT AND ASSOCIATED SERVICE AREA OF CAVE.**

The work for this alternate shall include demolition and new electrical work for the front (entry) section of the cave and area associated with this service as indicated in the Contract Drawings. Electrical work outside the cave at this service location generally consists of the installation of new surge Protection Device, new Central Lighting Inverter with foundation, grounding system, and miscellaneous exterior rewiring, demolition and utility coordination. Work inside the cave for this service area includes replacement of lighting fixtures, replacement of lighting panelboards as indicated, modifications to the lighting control cabinets, replacement of single pole and 3-way switch stations, replacement of all NM cable with new type UF cable, anchoring of exposed UF cable and miscellaneous painting and repairs as shown on the plan set. In addition, provide new emergency telephone in weatherproof housings as indicated in the Contract Drawings for this service area.

B. **Alternate Number 2: ELECTRICAL WORK ASSOCIATED WITH CENTER SECTION SERVICE POINT AND ASSOCIATED SERVICE AREA OF CAVE.**

The work for this alternate shall include demolition and new electrical work for the center section service point for the cave and area associated with this service as indicated in the Contract Drawings. Electrical work outside the cave at this service location generally consists of the installation of new surge Protection Device, grounding system, and miscellaneous exterior rewiring, demolition and utility coordination. Work inside the cave for this service area includes replacement of lighting fixtures, replacement of lighting panelboards as indicated, modifications to the lighting control cabinets, replacement of single pole and 3-way switch stations, replacement of all NM cable with new type UF cable, anchoring of exposed UF cable and miscellaneous painting and repairs as shown on the plan set. In addition, provide new emergency telephone in weatherproof housings as indicated in the Contract Drawings for this service area.

1.03 CONTRACT AWARD:

- A. Contract award shall be based on the Base Bid or combination of the Base Bid and Alternate(s) chosen to be accepted by the State.

END OF SECTION

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Stainless-steel pipe and tube railings.
 - 2. Expanded metal screens.

1.2 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Manufacturer's product lines of mechanically connected railings.
 - 2. Railing brackets.
 - 3. Grout, anchoring cement, and paint products.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each type of exposed finish required.
- D. Delegated-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For pipe and tube railings, for tests performed by a qualified testing agency, according to ASTM E 894 and ASTM E 935.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Stainless-Steel Pipe and Tube Railings:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Blum, Julius & Co., Inc.
 - b. Stainless Fabricators, Inc.
 - c. Tri Tech, Inc.
 - d. Tubular Specialties Manufacturing, Inc.
 - e. Wagner, R & B, Inc.

2.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer to design railings, including attachment to existing substrates.
- B. Structural Performance: Railings, including attachment to substrate, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 - 1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
 - b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.

2.3 METALS, GENERAL

- A. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.
 - 1. Provide type of bracket with predrilled hole for exposed bolt anchorage and that provides at least 1-1/2-inch (38-mm) clearance from inside face of handrail to finished surface.

2.4 STAINLESS STEEL

- A. Tubing: ASTM A 554, Grade MT 316L.
- B. Pipe: ASTM A 312/A 312M, Grade TP 316L.
- C. Castings: ASTM A 743/A 743M, Grade CF 8M or CF 3M.
- D. Plate and Sheet: ASTM A 240/A 240M or ASTM A 666, Type 316L.
- E. Expanded Metal: Type 304

2.5 FASTENERS

- A. General: Provide the following:
 - 1. Stainless-Steel Railings: Type 316 stainless-steel fasteners.
- B. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and 4 times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
 - 1. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 2 (A4) stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).

2.6 EXPANDED METAL SHEET

- A. General: Provide the following:
 - 1. Expanded Metal, Stainless Steel Type 304. 1-1/2" #13 Flattened. 84% open area
 - 2. Basis of design: McNichols

2.7 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for applications.

2.8 FABRICATION

- A. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- B. Form work true to line and level with accurate angles and surfaces.
- C. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
- D. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
- E. Form changes in direction by bending or by inserting prefabricated elbow fittings.
- F. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- G. Close exposed ends of railing members with prefabricated end fittings.
- H. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

2.9 STAINLESS-STEEL FINISHES

- A. Stainless Steel Tubing Finishes:
 - 1. 180-Grit Polished Finish: Uniform, directionally textured finish.
- B. Stainless Steel Sheet and Plate Finishes:
 - 1. Directional Satin Finish: ASTM A 489/A 480, No. 4.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 - 1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
 - 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (6 mm in 3.5 m).
- B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

3.2 ANCHORING POSTS

- A. Form or core-drill holes not less than 5 inches (125 mm) deep and 3/4 inch (20 mm) larger than OD of post for installing posts in stone. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Anchor posts to metal surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members.

3.3 ATTACHING RAILINGS

- A. Attach railings to wall with wall brackets. Locate brackets at spacing required to support structural loads.
- B. Secure wall brackets and railing end flanges to substrate as follows:
 - 1. For stone or concrete anchorage, use drilled-in expansion shields and hanger or lag bolts.

END OF SECTION 055213

SECTION 263323 - CENTRAL BATTERY INVERTER (IPS) SYSTEMS

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Battery inverter system shall transfer loads to the battery inverter source within one second of an outage.
- B. Upon normal power failure, switching equipment provided as part of the system shall automatically connect the power source to the emergency system. Upon resumption of normal power, the load shall automatically switch back to the normal source.
- C. Units shall be capable of handling LED, HID and fluorescent loads as well as incandescent.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Online Power Harsh Environment UPS, DSPM Fortress Harsh 1, or equal.

2.02 SYSTEM COMPONENTS

- A. Provide single phase inverter systems, 120/240 volts as indicated on the drawings.
- B. Batteries: Lead-calcium or AGM (manufacturer standard) type with integral hydrometer, and shall supply rated power for 90 minutes.
- C. Battery Charger: Constant voltage type, regulated to plus/minus 0.05 volts, and shall fully recharge the batteries within 24 hours.
- D. Monitoring Equipment:
 - 1. AC Ammeter
 - 2. Battery Ammeter
 - 3. Battery Charge Indicator
 - 4. Battery Voltmeter
 - 5. Electrolyte Level Detector
 - 6. Load Circuit Breaker, AC, 80 ampere, 2 pole.
 - 7. Load-on Indicator

8. Power Indicator, AC
 9. Remote Low Electrolyte Level Alarm
 10. Test Switch
 11. Dry contact for on battery to PLC Monitoring System
- E. Enclosures: Consisting of one NEMA 3R cabinet with the following features:
1. Acid-Resistant Paint in manufacturer's standard colors
 2. Door locks with two keys per door
 3. Permanent separation between batteries and electronic components
 4. Ventilation louvers
- For alternate Bid 1 the CBI is located in the existing seismograph building. The enclosure can be NEMA 1 instead of NEMA 3R.
- F. Transfer Switches: Static switch and internal maintenance bypass switch.
- G. Additional Options Required:
1. Heater (thermostatically controlled).
 2. Local alarm with sounder to alert when normal power fails or UPS experiences a fault. Local light and horn to be weatherproof on the exterior of the IPS cabinet.
 3. Exterior weatherproof flashing strobe light, red globe, Federal Signal Electraflash, model 141ST or equal.

PART 3 - EXECUTION

3.01 GENERAL

- A. Anchor all equipment and battery cabinets to their foundation.
- B. Install the units in accordance with manufacturer's recommendations.
- C. Provide services of factory trained start up personnel to oversee the installation by the Contractor and to assist in commissioning of the units.
- D. Provide operation and maintenance training to the Owner on this equipment.

END OF SECTION 263323