

**PROJECT:** Town of Wedowee  
CWSRF Project No. CS010883-02 & CS010883-04  
ARC Project No. AL-20358-2021  
KG Project #20-0016

**ADDENDUM NO.** Four (4)

**DATE:** October 3, 2023

**TO:** All Recorded Contract Document Holders

This Addendum is issued to all registered plan holders pursuant to the Conditions of the Contract.

This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. This addendum and its attachments shall become a part of the plans and specifications and shall apply to the bid proposals for the above-named project.

The bidder(s) shall notify all affected subcontractors, material suppliers, and others to incorporate necessary cost and schedule updates, to the bid proposal and the work changes affected by this Addendum.

The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form. Bidders must also acknowledge receipt by email to [jessica@kelleynetwork.com](mailto:jessica@kelleynetwork.com).

In the event of conflict between plans and specifications and this addendum, the addendum shall take precedence. Any modifications necessary to incorporate the revisions shall be included in the appropriate bid prices. The bid documents are hereby corrected, modified, and/or amended in the following manner:

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**Labor Contract:**

1. The wet well for the influent pump station shall be furnished and installed by the labor CONTRACTOR. Wet well shall be constructed of pre-cast, or cast-in-place, concrete and not of polymerized concrete as originally specified. Please refer to Specification Section 03 30 00 CAST IN PLACE CONCRETE in the Project Manual or Specification Section 03 40 00 PRECAST CONCRETE WET WELLS AND VALVE VAULTS – ADDENDUM 4 attached hereto.
2. As a point of clarification, the Base Bid shall include enough 12” effluent force main and fittings to bypass the proposed UV and Disk Filter assemblies and connect to the existing 6” outfall line at the proposed connection point shown in the Contract Documents. Should either of the Additive Alternates be chosen, the 12” effluent force main shall connect to the UV and/or Disk Filter Assembly. Payment for the connection to the UV and/or Disk Filter Assembly shall be considered incidental to those Additive Alternate Bid Items.

3. The successful Bidder shall prioritize removal and assessment of existing lagoon effluent pumps as the primary item of work, to be completed immediately, should Notice of Award be issued for the project.

This Addendum No. 4 shall be attached to the front of your set of Specifications and made a part of the Specifications and Contract Documents. Acknowledgment of receipt of Addendum No. 4 shall be noted on Page 00 41 43-1 of the Bid Form.

THE KELLEY GROUP, LLC.

By: *Bart Taft*  
Bart Taft, P.E.

Addendum #4 is 10 total pages.  
This concludes Addendum #4.

**SECTION 03 40 00**  
**PRECAST CONCRETE WETWELL AND VALVE VAULT**

PART 1 – GENERAL

1.01 SUMMARY

- A. This section addresses the work related to furnishing and installing all supervision, labor, materials and equipment in the work for Precast Concrete Structural Sections, pipe connectors and accessories, placement procedures, and finishes.

1.02 RELATED SECTIONS

- A. Section 01 60 00 Product Requirements
- B. Section 03 15 00 Concrete Protective Coatings
- C. Section 03 30 00 Cast-in-Place Concrete

1.03 SUBMITTALS

- A. Submit shop drawings and manufacturers data in accordance with the provisions Section 01 33 00 – Submittal Procedures.
- B. Copy of Certificate or Report showing that the Precast Concrete Manufacturer conforms to Article 1.4 of this Specification Section.
- C. Calculations and Details of Precast Concrete Structural Sections, including buoyancy calculations to be provided and sealed by A Professional Engineer, registered in the State of Alabama, employed by the Manufacturer showing or charting the following :
  1. Manufacturer's Part No. or Catalogue No.
  2. Inside diameter and height excluding base slab.
  3. Wall thickness and base or top thickness where applicable.
  4. Handling weight and lifting hole or loop description and locations.
  5. Wire size, spacing, location, and steel area provided per vertical foot.
  6. Reinforcing bar grade, size, spacing and location.
  7. Design load for Flat Slab.
  8. Concrete mix number and design strength.
  9. Height, width, slope and annular space of the tongue & groove.
- D. Pipe Connector Details, Material Specification and pipe installation procedure.
- E. Joint Material Details and Material Specifications. Calculations showing the Flexible Joint Sealant cross section is greater than the joints annular space times its height shall be provided when butyl rope internal seals are proposed.
- F. Lifting Device and Hole Details that include design loads.

- G. Structural analysis and design calculations for Flat Slab Top Precast Components, performed in accordance with the References of this Specification, showing that allowable stresses will not be exceeded. All calculations must be sealed by a Professional Engineer, registered in the State of Alabama, employed by the Precast Concrete Manufacturer.
- H. Calculations or test results verifying that the lifting device components and holes are designed in accordance with OSHA Standard 1926.704.
- I. Concrete 28 day compression strength results for every day production of Precast Components for the project was performed, showing the required strength according to the guidelines established in ACI 318.
- J. Reinforcing and Cement mill reports for materials used in the Manufacture of Precast Components for this project.
- K. The above test reports for similar Precast Components recently produced, submitted prior to production of Precast Components for this project.

#### 1.04 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. The referenced publications shall be the current effective edition.
- B. Pre-stressed Concrete Institute (PCI)
  - 1. PCI-MNL 116 Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products.
  - 2. PCI – MNL 120 Design Handbook Precast and Prestressed Concrete
- C. National Precast Concrete Association (NPCA)
  - 1. Quality Control Manual for Precast Concrete Plants.
- D. American Society for Testing and Materials
  - 1. ASTM A82 – Standard Specifications for Steel Wire, Plain, for Concrete Reinforcement
  - 2. ASTM A416 – Standard Specifications for Steel Strand, Uncoated Seven- Wire for Prestressed Concrete.
  - 3. ASTM A615 – Standard Specifications for Deformed and Plain Carbon- Steel Bars for Concrete Reinforcement
  - 4. ASTM C33 – Standard Specifications for Concrete Aggregates
  - 5. ASTM C260 – Standard Specifications for Air-Entraining Admixtures for Concrete
  - 6. ASTM C361 – Standard Specifications for Reinforced Concrete Low-Head Pressure Pipe

7. ASTM C478 - Standard Specifications for Precast Reinforced Concrete Manhole Sections
  8. ASTM C494 – Standard Specifications for Chemical Admixtures for Concrete.
  9. ASTM C857 – Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures
  10. ASTM C881 – Standard Specifications for Epoxy-Resin-Base Bonding Systems for Concrete
  11. ASTM C890 - Standard Practice for Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures
  12. ASTM C891 - Standard Practice for Installation of Underground Precast Concrete Utility Structures
  13. ASTM C923 - Standard Specifications for Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes and Laterals
  14. ASTM C990 – Standard Specifications for Joints for Concrete Pipe, Manholes and Precast Box Sections Using Preformed Flexible Joint Sealants
  15. ASTM C1037 – Practice for Inspection of Underground Precast Concrete Utility Structures
- E. American Association of State Highway and Transportation Officials (AASHTO)
1. AASHTO M198 - Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
- F. American Concrete Institute (ACI)
1. ACI 318 - Building Code Requirements for Structural Concrete and Commentary
  2. ACI 350 – Code Requirements for Environmental Engineering Concrete Structures and Commentary
- G. Occupational Safety and Health Administration (OSHA)
1. Standard 1926.704 - Requirements for Precast Concrete Submittals

## 1.05 QUALIFICATIONS

- A. The Precast Manufacturer shall comply with one of the following requirements:
1. Manufacture Precast Components for the project in a plant certified in the Prestressed Concrete Institute's (PCI) Plant Certification Program.
  2. Manufacture Precast Components for the project in a plant certified in the National Precast Concrete Association's (NPCA) Plant Certification Program.
  3. Retain an independent testing or consulting engineering firm approved by the ENGINEER for Precast Plant Inspection. The basis for Plant Inspection shall be the National Precast Concrete Association Quality Control Manual or the Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products. The above firm shall inspect the Precast Plant two weeks prior to and at one week intervals during production of materials for this project and issue a report, certified by a Professional Engineer, registered in the State of Alabama,

that materials, methods, products, and quality control meet the Requirements of the above quality control manuals. Tests and inspections shall be paid by the CONTRACTOR.

- B. Concrete compressive strength testing shall be performed in a laboratory inspected by the CCRL of the National Bureau of Standards. Testing shall be performed by Grade I ACI Certified Laboratory Technicians or by Level I PCI Certified Technicians. Testing shall be paid by the CONTRACTOR.

#### 1.06 QUALITY

- A. The manufacturer shall be responsible for the performance of all acceptance tests as specified herein and in ASTM C478. In addition, any or all precast concrete products to be installed under this Contract may be inspected at the plant for compliance with these Specifications by the ENGINEER, by an independent testing laboratory provided by the ENGINEER, or by other representative of the ENGINEER. The CONTRACTOR shall require the manufacturer's cooperation in these inspections. The cost of inspection of all products approved for this Contract will be borne by the CONTRACTOR.
- B. Care shall be taken in shipping, handling, and installation to avoid damaging the products. Any products damaged in shipment shall be replaced as directed by the ENGINEER.
- C. Inspections of the products will also be made by representatives of the ENGINEER after delivery and after installation. The products shall be subject to rejection at any time on account of failure to meet any of the Specification requirements, even though they may have been accepted as satisfactory at the place of manufacture. Products rejected after delivery shall be marked for identification and shall be removed immediately from the work site.
- D. Any precast concrete product showing a crack or damage or which has received a blow that may have caused an incipient fracture, even though such fracture is barely visible, shall be marked as rejected and immediately removed from the work site. The ENGINEER'S opinion regarding such observations and rejections shall be final.

#### 1.07 INSPECTION, TEST REPORTS, MARKINGS AND SUBMITTALS

- A. All precast concrete products to be installed under this contract shall be inspected and tested at the place of manufacture to verify compliance with the Specifications and Drawings.
- B. The manufacturer shall perform factory testing as specified herein. Copies of test reports shall be submitted to the ENGINEER before the product is shipped to the project.
- C. In the event that any of the test results fail to meet the Specifications, no products represented by such tests shall be shipped to the job site and shall be subject to rejection. The CONTRACTOR may perform additional tests upon the products represented by the failed tests if he desires to verify the accuracy of the original tests. The ENGINEER will

- review the test results and advise the ENGINEER regarding the suitability of the products.
- D. Products, which have been rejected by the ENGINEER, shall not be shipped to the site or shall be removed from the site of the work by the CONTRACTOR and replaced with products, which meet these Specifications and Drawings.
- E. Prior to the shipment of each product to the site, the CONTRACTOR shall submit to the ENGINEER test reports and certifications as described below duly certified by the manufacturer's approval testing facility representative or an independent certified testing laboratory demonstrating full compliance with the Specifications and Drawings.
- F. An original plus two copies of the following shall be submitted to the ENGINEER.
1. The name, address, and phone number of the product manufacturer and the location of the plant at which it was manufactured.
  2. Certification and certified test reports for each product (by number) of the tests performed on concrete and concrete cores showing the results of the tests.
- G. Imperfections in and minor damage to the concrete may be repaired with epoxy mortar subject to the approval of the ENGINEER, after demonstration by the manufacturer that strong and permanent repairs result. Repairs shall be carefully inspected before final approval. Epoxy mortar shall be used for repairs and shall have a minimum compressive strength of 4,000 psi at the end of seven days, and 5,000 psi at the end of 28 days when tested in three-inch by six-inch cylinders stored in the standard manner. No repairs shall be made until the imperfections or damage has been inspected by the ENGINEER, and repairs authorized in writing. Repairs made prior to such authorization will be cause for rejection of the component. Pieces proposed for repair at the factory shall be set aside for periodic inspection at the factory by the ENGINEER. Inspections will not be made more frequently than once per month. Rejected pieces shall not be shipped to or used for the work.
- H. Precast concrete structures may be rejected for any of the following reasons:
1. Exposure of any reinforcement, wires, positioning spacers or chairs used to hold the reinforcement cage in position.
  2. Reinforcing steel to be in excess of 1/2-inch out of the specified position within cores.
  3. Any shattering or flaking of concrete.
  4. Voids which can be detected on the interior and exterior surfaces exceeding 1/4-inch in depth.
  5. Unauthorized application of any repair or coating.
  6. A deficiency greater than 1/4-inch from the specified wall thickness.
  7. A variation from the specified internal diameter in excess of 1%.
  8. Defects that indicate incorrect molding of concrete or any surface defect indicating honeycomb or other voids.
  9. Any of the following cracks:

- a. A crack having a width of 0.005 inches to 0.01 inches throughout a continuous length of 36 inches or more.
- b. A crack having a width of 0.01 inches to 0.03 inches or more throughout a continuous length of 12 inches or more.
- c. Any crack greater than 0.005 inches extending through the wall and having a length in excess of the wall thickness.
- d. Any crack showing two visible lines of separation for a continuous length of two feet or more, or an interrupted length of three feet or more anywhere in evidence both inside and outside.
- e. Any crack anywhere greater than 0.03 inches in width.

## PART 2 – PRODUCTS

### 2.01 MATERIALS

- A. Concrete shall conform to ASTM C478 and as follows:
  1. Compressive strength: 4000 psi minimum at 28 days.
  2. Air Content: 6% +/- 2%.
  3. Alkalinity: Minimum of 50% calcium carbonate equivalent for bases, risers, and cones.
  4. Cementitious Materials: Minimum of 470 pounds per cy
  5. Coarse Aggregates: ASTM C33. Sound, Crushed, Angular Limestone. Smooth or rounded stone shall not be used.
  6. Fine Aggregates: ASTM C33. Free from organic impurities.
  7. Chemical Admixtures: ASTM C494. Calcium Chloride or admixtures containing calcium chloride shall not be used.
  8. Air Entraining Admixtures: ASTM C260.
- B. Reinforcing steel shall be ASTM A615 grade 60 deformed bar, ASTM A82 wire or ASTM A185 welded wire fabric.
- C. Lift loops shall be ASTM A416 steel strand. Lifting loops made from deformed bars are not allowed.
- D. Flexible Joint Sealants shall be butyl rubber based conforming to AASHTO M-198, Type B - Butyl Rubber and as follows: maximum of 1% volatile matter and suitable for application temperatures between 10 and 100 degrees F.
- E. The outside of all below-grade joints shall be sealed with an eight-inch-side, adhesive butyl rubber sealant strip with Ethylene Propylene Diene Monomer (E.P.D.M.) rubber backing. (ASTM C-990-98, Paragraph 6.2) The strip shall be installed only after the non-shrink grout has cured at least 72 hours and the surface has been prepared and primed in accordance with the manufacturer's printed directions.
  1. CONTRACTOR shall obtain concurrence of ENGINEER'S Inspector regarding the adequacy of concrete surface preparation before applying butyl rubber sealant strip.



- F. Epoxy Gels for interior patching of wall penetrations shall be a 2-component, solvent-free, moisture-insensitive, high modulus, high-strength, structural epoxy paste adhesive meeting ASTM C-881, Type I and II, Grade 3, Class B and C, Epoxy Resin Adhesive.

## 2.02 COMPONENTS

- A. Precast Component Fabrication and Manufacture shall be as described in this paragraph and as described in the paragraphs for the specific components.
  - 1. Precast Manufacturing shall be in conformance with ASTM C478. Wall and inside slab finishes resulting from casting against forms standard for the industry will be acceptable. Exterior slab surfaces shall have a float finish. Small surface holes, normal color variations, normal form joint marks, and minor depressions, chips and spalls will be tolerated. Dimensional tolerances shall be those set forth in the appropriate References and specified below.
  - 2. Joint Surfaces between Bases and Risers shall be manufactured to the joint surface design and tolerance requirements of ASTM C361. The maximum slope of the vertical surface shall be 2°. The maximum annular space at the base of the joint shall be 0.10 inches. The minimum height of the joint shall be four inches.
  - 3. Lift Inserts and Holes shall be sized for a precision fit with the lifting devices, shall comply with OSHA 1926.704, and shall not penetrate through the structure wall.
- B. Precast Base Sections shall be cast monolithically without construction joints or with an approved galvanized or PVC waterstop in the cold joint between the base slab and the walls. The width of the base extensions on Extended Base Structures shall be no less than the base slab thickness.
- C. Precast Riser Sections shall have a minimum height of 16 inches.
- D. Precast Flat Slab Top Sections shall be designed for HS-20 traffic loadings as defined in ASTM C890. Items to be cast into Special Flat Slab Tops shall be sized to fit within the structure ID and the top and bottom surfaces.
- E. Pipe to Precast Structure Connectors shall conform to ASTM C923. The location of the pipe connectors shall vary from the location shown on the Project Plans no more than 1/2 inch vertically and 5 degrees horizontally.
- F. Joints between Precast Components shall be sealed internally between the tongue and the groove and additionally around the external perimeter as follows:
  - 1. External Seals shall consist of an E.P.D.M. rubber backed flat butyl rubber sheet no less than 1/16-inch thick and eight inches wide applied to the outside perimeter of the joint.
  - 2. Internal Seals shall consist of a plastic or paper-backed butyl rubber rope having a cross-sectional area no less than the annular space times the height of the joint.

- G. Lifting devices for handling Precast Components shall be provided by the Precast Manufacturer and shall comply with OSHA Standard 1926.704.

## 2.03 CONFIGURATION

- A. Precast structures are to be constructed as shown on the drawings.
- B. The number of joints shall be minimized.

## PART 3 – EXECUTION

### 3.01 EXAMINATION

- A. Inspect Precast Structure Components prior to unloading from the delivery truck.

### 3.02 PREPARATION

- A. Product Delivery, Storage, and Handling: Coordinate delivery with the manufacturer, handle and store the Precast Components in accordance with ASTM C891 and the manufacturer's recommendations using methods that will prevent damage to the components and their joint surfaces.

### 3.03 PLACING STRUCTURE SECTIONS

- A. Excavate to the required depth and remove materials that are unstable or unsuitable for a good foundation. Prepare a level, compacted foundation extending six inches beyond the precast structure and any added extended base.
- B. Set base plumb and level.
- C. Set risers, taking particular care to clean, prepare and seal joints.
- D. After joining structure sections, apply the butyl sealant sheet around the outside perimeter of the joint.
- E. Lift Holes leaving less than two inches of wall thickness shall be plugged from the outside using a sand cement mortar, then covered with butyl sealant sheet. Lift Holes penetrating the wall shall be additionally sealed with an interior application of an epoxy gel 1/8-inch thick extending two inches beyond the penetration.
- F. Perform the final finishing of the precast structure's interior by filling all chips or fractures greater than 1/2-inch in length, width or depth and depressions more than 1/2- inch deep with a sand cement mortar. Do not fill the joints between the precast concrete sections. Clean the interior of the structure, removing all dirt, spills or other foreign matter.

END OF SECTION