

Bid Addendum

Addendum No. 3 for the City of Staunton Gardner Spring Pump Station, Augusta County, VA.
Wiley|Wilson Comm. No. 220117.00.

Addendum Date: September 2, 2022

To: All Bidders

From: Wiley|Wilson
Lynchburg, VA

This Addendum contains 7 page(s) and listed attachments and forms a part of the bidding documents and modifies the Project Manual and Drawings dated May 27, 2022, as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject bidder to disqualification.

CLARIFICATIONS

1. To comply with new standards set to go into effect on January 1, 2023, all coatings and coatings systems for this project previously required to comply with NSF 61 must now comply with NSF 600.

RESPONSE TO QUESTIONS

Question 1: The pipe schedule states pressure class dependent on pipe size & installation location for buried ductile iron pipe. This information does not appear to be shown on in the plan sheets. Please advise on required pressure or thickness class for buried ductile iron pipe.

Response: Ductile iron pipes in buried service, sizes 4 to 20 inches must be a minimum of pressure class 350. Ductile iron pipes in buried service 24 inches and larger must be a minimum of pressure class 250.

Question 2: Are tandem megalugs required on the 24" and 30" lines? If not, please provide specification for standard megalugs.

Response: The 24" and 30" intake pipes do not require tandem megalugs. Tandem megalugs are required for the 16" pump station discharge piping. For the 24" and 30" intake pipes, provide mechanical joint restraints in accordance with the following:

RESTRAINT DEVICES (Sizes 24-inch and 30-inch)

- A. *Provide joint restraints at horizontal bends, reducers, tees, crosses, vertical bends, and all valves at the fitting shall be mechanical joint restraints. Restrained joint pipe shall be used for carrier pipe through casings and to provide restrained length on either side of all fittings and all valves as shown on the plans.*

B. *All restraint devices must be U.L. listed and F.M. approved. Restraints are acceptable for ductile iron pipe under the following conditions:*

1. *Mechanical joint restraint shall be incorporated in the design of the follower gland and shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility and minimal deflection of the joint shall be maintained after burial. Glands shall be manufactured of ductile iron conforming to ASTM A536-80. Twist-off nuts shall be used to ensure proper actuating of the restraining devices.*
2. *Restraining devices shall be of ductile iron, heat-treated to a minimum hardness of 370 BHN. There shall be no dissimilar metals allowed. Dimensions of the gland shall be such that it can be used with all AWWA approved standardized mechanical joint bell and tee-head bolts conforming to ANSPAWWA C111/A21.11 and ANSI/AWWA C153/A21.53 of latest revision. The mechanical joint restraint device shall have a working pressure of at least twice the working pressure of the pipe.*
3. *All bell and spigot end joints within this length shall be restrained with a clamping ring and an additional ring designed to fit behind the bell end of the ductile iron pipe. The rings shall be connected with T-head bolts or rods. Rods must be protected from corrosion either by rod material or coating.*

C. *The following joint restraint manufacturers are approved for restraint devices.*

1. *Megalug 1100 Series (MJ Fittings) Mega-Bond coated*
2. *Uni-Flange Series 1400 Block Buster Wedge Action Retainer Glands (MJ Fittings)*
3. *Romac RomaGrip (MJ Fittings) Epoxy Coated*

Question 3: - Please provide detail for wall pipes.

Response: Install all pipe penetrations, wall pipes and wall pipe reinforcing in accordance with Detail A on sheet S-104 unless otherwise specified on the drawings. Additionally, provide 2 bars for each face and each side of the opening as shown in Detail 12 on sheet S-501 in addition to the typical reinforcing shown in Detail A on sheet S-104. For the penetrating pipe to be cast into concrete walls, provide ductile iron pipe with wall thrust collars in accordance with specification section 152050 2.09.A. unless otherwise specified on the drawings.

Question 4: Please confirm ductile iron coating requirements. The pipe schedules calls for "Pipe and fittings shall have external coating of coal-tar epoxy in accordance with AWWA/ANSI A21.51", while section 150990 calls for "Pipe manufacturer's standard asphaltic coating in accordance with AWWA C104/A21.4 with VBIO Polywrap". Which is correct?

Response: Provide coatings and VBIO polywrap for buried ductile iron pipe coatings in accordance with section 150990 which requires manufacturer's standard asphaltic coating in accordance with AWWA C104/A21.4 and VBIO Polywrap installed around the pipe in the field during installation. Additionally, ductile iron pipe for above ground/exposed service must be coated in accordance with Section 099000 "Painting and Protective Coatings".

Question 5: Specification Section 099000 3.07 A. defines “System No.1 for Submerged Raw Water” requires an “SSPC-SP5” surface prep which we do not believe exists with the coating as “NSF Epoxy with three (3) coats of three (3) mils dry film thickness per coat for a total of nine (9) mils”. Please clarify surface preparation standards.

Response: CLARIFICATION; Pump coatings requirements are defined by Specification Section 332831 2.4. Where conflicts exist between Specification Section 099000 and Section 332831, Section 33281 shall prevail.

Question 6: Specification Section 332831 1.3 E. requires a “Factory paint testing report”, but does not define requirements for a test or what other specification section includes testing requirements.

Response: The factory paint testing report refers to a report by a NACE certified coating inspector. Refer to Specification Section 332831 3.2.B.1 for additional information on the factory paint testing report.

Question 7: 332831 1.3 A. 8. Has an undefined requirement for a “Paint System Certificate”; please define the requirements of this certificate and who is responsible for providing it; the coating manufacturer or the pump and motor manufactures? It is assumed that this relates to the factory holiday and DFT gauge measurements, but we require clarification.

Response: The “Paint System Certificate” identified in Specification Section 332831 1.3 A. 8. Is an optional submittal if the pump and motor manufacturers desire to certify that an alternate coating system either meets or exceeds the specified coating in accordance with Specification Section 332831 2.4 B.

Question 8: Specification Section 332831 2.2 H. 5. Requires the exterior of the column to be coated with Tnemec 20 Pota-Pox or approved equal per the requirements of section 099000, does not mention any other wetted part such as the column interior. Please clarify if coatings are required for the column pipe interior as well.

Response: REPLACE Specification Section 332831 2.2 H. 5. with the following:

“Provide coatings for both the interior and exterior of the column pipe. Provide coatings for the column pipe in accordance with 2.4 C “Pump Shop Coating”.”

Question 9: Specification Section 332831 2.4 C. requires an NSF-61 coating with an SSPC-SP10 surface preparation with one (1) coat of epoxy primer 2.5 mls DFT and a finish coat of a single coat of polyurethane enamel three (3) mils DFT in thickness. I know of no polyurethane enamel that is NSF-61 certified. Is a motor coating of two (2) coats of Tnemec 66 polyamide epoxy of 4 to 6 mils each acceptable? In addition, 3.2 A. requires the pump manufacturer to provide a DFT gauge and a holiday detector; these are normally provided by the project coating contractor.

Response: Note that Manufacturer may submit an alternative coatings system for pumps and motors to the engineer for review and approval. Alternative coatings systems, including alternative color selections will be considered during shop drawing review. A coating system of two (2) coats of Tnemec 66 of 4 to 6 mils each for the pump motor coatings is an acceptable paint system.

To comply with NSF 600 requirements REPLACE Specification Section 332831 2.4 C. with the following:

“C. Pump Shop Coating:

- 1. Surface preparation and painting must be NSF Approved for Drinking Water applications (NSF 600) as recommended by the Manufacturer and approved by the Engineer and must at minimum be equal to the following paint system:*
- 2. Surface Prep: SSPC-SP10*
- 3. Primer: Epoxy Primer – Ferrous Metal 1 Coat, 2.5 MDFT*
- 4. Midcoat: Polyamidoamine Epoxy, 1 Coat, 6 to 8 MDFT*
- 5. Topcoat: Polyamidoamine Epoxy, 1 Coat, 6 to 8 MDFT*
- 6. Pipe Color: Pump Manufacturer’s Standard Color*
- 7. Pump Color: Pump Manufacturer’s Standard Color*
- 8. Manufacturer: Tnemec Series L140 Pota-Pox Plus or Approved Equal”*

It is acceptable for testing in 3.2.B.1 to be completed in the field in lieu of a factory test. If the certified testing report indicates deficiencies, the coating system must be repaired in a factory or paint shop environment approved by Engineer. Field repairs will not be allowed.

Question 10: Specification Section 332831 1.3 A. 7. requires pump bearing L-10 life which is not applicable to sleeve bearings and should be labeled as “motor bearing life”.

Response: REPLACE specification section 332831 1.3 A. 7. With “L-10 Motor Bearing Life”.

Question 11: Specification Section 332831 2.2 A. 3. requires the pump manufacturer to design the pump bays to ensure compliance with HI 9.8 and no manufacturer will assume responsibility for wet well design.

Response: Drawing D-101 provides requirements for the pump bay dimensions based on the furnished pump column pipe diameter, D. These dimensions provide clearances between the pump suction bell, sump floor, and pump bay walls in accordance with clearances recommended by the Hydraulic Institute in the most recent edition of HI 9.8 “American National Standard for Rotodynamic Pump and Pump Intake Design”. Contractor must adjust the pump bay dimensions based on the indicated dimensions. DELETE specification section 332831 2.2 A.3 and REPLACE it with the following:

“Pump bay dimensions shown on the drawing are approximate. Contractor must provide bay dimensions based on the furnished pumps that provide the recommended clearances from the sump floor and walls as recommended by the Hydraulic Institute in most recent edition of HI 9.8 “American National Standard for Rotodynamic Pumps for Pump Intake Design” at no additional cost to Owner.”

Question 12: Specification Section 332831 2.2 D. requires bowls of ASTM A48 Class 30 when the design pressures and potential shut-off head of the pump exceeds the rating of cast iron in the upper stages and requires ductile iron (ASTM A536). Is it acceptable to use ductile iron (ASTM A536) in this application?

Response: REPLACE Specification Section 332831 2.2 D. with the following:

“The bowls must be made of close grained cast iron conforming to ASTM A48 CL30 or ductile iron conforming to ASTM A536. Materials must be chosen to match the operating and performance requirements as defined in this specification. Castings must be free from blowholes, sand holes, and must be accurately machined and fitted to close dimensions.”

Question 13: 332831 2.2 G. 5. requires the use of 416 stainless steel impeller and bowl wear rings which due to increased clearances to prevent galling will lower pump efficiency. I would recommend a 416 stainless steel bowl wear ring and an aluminum bronze impeller wear ring to maintain pump efficiency.

Response: Provide 416 stainless steel impeller and bowl wear rings in accordance with the specifications.

Question 14: Specification Section 332831 2.2 I. 2. requires line shafting of AISI 1045 carbon steel in lengths of ten (10) feet or less. This conflicts with 2.2 F. 4. Please clarify the lineshaft requirements.

Response: In Specification Section 332831 2.2 I. 2. REPLACE reference to "AISI 1045 carbon steel" with "ASTM A582M Type 416 stainless steel". Additionally, in Specification Section 332831 2.2 F. 4. REPLACE reference to "lineshaft" with "impeller shaft".

Question 15: Specification Section 332831 2.2 J 4. requires a 15% margin for natural frequencies which conflicts with K. 2. requiring only a 10% margin. Please clarify.

Response: Section 332831 2.2 J 4 refers to the design requirement for the discharge head. Section 332831 2.2 K 2 refers to the separation margin for the level 1 structural dynamic analysis.

Question 16: 332831 2.3 B. 1. requires three (3) vibration monitors on the motor. HI dictates the location as being the upper portion of the discharge head and NOT the motor. In addition, the specified vibration switches (Metrix 440DR) are very large and should be remote mounted. The proper orientation of the sensors is X, Y and Z axes with X and Y on the horizontal plane 90 degrees apart and Z in the vertical plane (down).

Response: The intent of the vibration sensors is to monitor the motor. Provide vibration sensors on the motor per the specification in the X, Y and Z axes.

Question 17: 332831 3.3 B.: Performance testing is to end of curve, which depending on the static head can be far less than 150% of design flow and current end of curve (run-out) flow is 2089 GPM, just above 150%. Static head conditions must be established for real world condition performance.

Response: The static head condition is 355 feet when the wet well is operating at the "Normal Water Level" as shown in Section 1 on Drawing D-302. It is acceptable to establish end of curve pump performance by ending testing at the static head condition if the pump reaches the static head condition before reaching 150% of the design flow.

Question 18: 332831 3.3 D.: Acceptance Grade 1E requires guaranteed values with the following tolerances: +/-5% Flow, +/-3% Head and either +/-4% Power or -0% Efficiency at manufacturer's discretion. Please clarify the engineer's preference for power or efficiency.

Response: Pump performance must be based on efficiency. Delete the reference to power in Section 332831 3.3 D.

Question 19: 332831 3.4 D. 4. requires monitoring of pump bearing temperatures; this is not possible as these are internal water cooled and lubricated bearings without any monitoring device. Please restrict monitoring to motor bearings only.

Response: It is acceptable to only monitor motor bearing areas and exposed pump bearing areas.

Question 20: 332831 3.5 A. requires resistance testing when motor splice is in the water. Motor insulation testing is conducted PRIOR to connection of power supply leads and this is NOT a submerged turbine motor set. Please rephrase the sentence. Motor insulation testing should be in accordance with manufacturer's requirements with insulation reading corrected to 40°C.

Response: DELETE the following language from 3.5.A "cable when motor splice is in water,".

Question 21: Drawing D-302 shows a common two (2) inch air release manifold. This will allow air to be expelled through the idle pump air/vacuum valves and into the pump interiors. We recommend the air discharge should be separate lines terminated well above the highest possible water level of the wet well. Is this acceptable?

Response: Contractor must provide air release valve piping to provide individual air lines for each valve as shown in Sketches SK-01 and SK-02 attached to this addendum.

Question 22: Addendum 2 question 8, please clarify if each anchor must support 300 kips or if the total tie down load is 300 kips. If the total tie down load is 300 kips, what is the designed slab capable of supporting for punching shear as this is not the geotechnical engineers duty but rather the structural engineer of record?

Response: The given 300 kips load is total for the entire foundation. Assuming the head of the anchor is located in the center of the foundation slab (approximately 12" embed) and the anchor head is at least 4"x4", the foundation slab is capable of a punching shear of 55 kips at each anchor.

Question 23: The RFP requires resumes for a Quality and Safety Manager. Is the expectation to have an onsite Quality and Safety Manager full time? Can the PM/Super have multiple roles? If not, can the Quality and Safety Manager be offsite and make routine site visits?

Response: It is acceptable for the Quality and Safety Managers to perform site visits on a regular basis throughout the project. The Quality and Safety Managers must also be available for monthly progress meetings and must be prepared to provide updates on specific issues on site in regard to quality and/or safety.

DRAWINGS

(Information provided in “RESPONSE TO QUESTIONS” Section of Addendum also includes additional changes to Drawings)

1. Provide an air release valve with isolation ball valve on the pump station discharge header and dedicated air release valve piping as shown in Sketches CSK-01 and CSK-02 .
Revise all relevant drawings to reflect this change.
2. ADD the following general note to Drawings D-101, D-301, and D-302: *“Contractor must provide cast in sleeve and link seal for all pipe penetrations through the pump room floor, except for the 18” diameter observation port. Contractor must provide 18” diameter flanged wall pipe cast into the floor and reinforced in the same manner as other wall pipes for the 18” diameter observation port.”*

SPECIFICATIONS

(Information provided in “RESPONSE TO QUESTIONS” Section of Addendum also includes additional changes to Specifications)

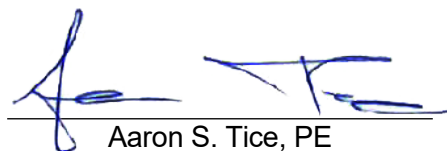
None

ATTACHMENTS

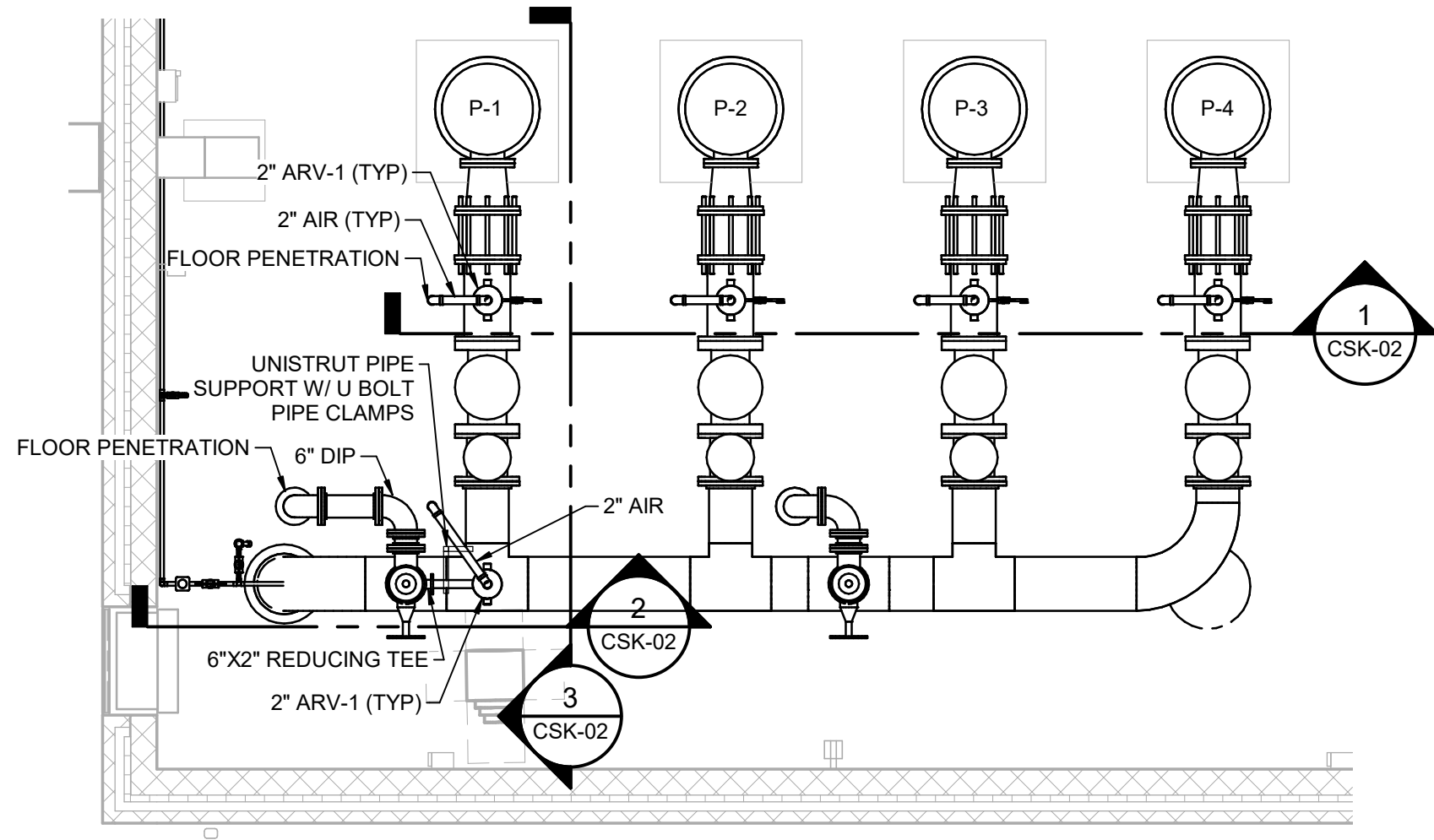
1. CSK-01
CSK-02

End of Addendum No. 3

Wiley|Wilson


Aaron S. Tice, PE





1

PUMP ROOM FLOOR PLAN ADD 3

SCALE: 1/4" = 1'-0"

PROJECT **CITY OF STAUNTON**
GARDNER SPRING PUMP STATION

TITLE **ARV PIPING - ADDENDUM 3**

COMM. NO.
220117

DRAWN
CTS

CHECKED
AST

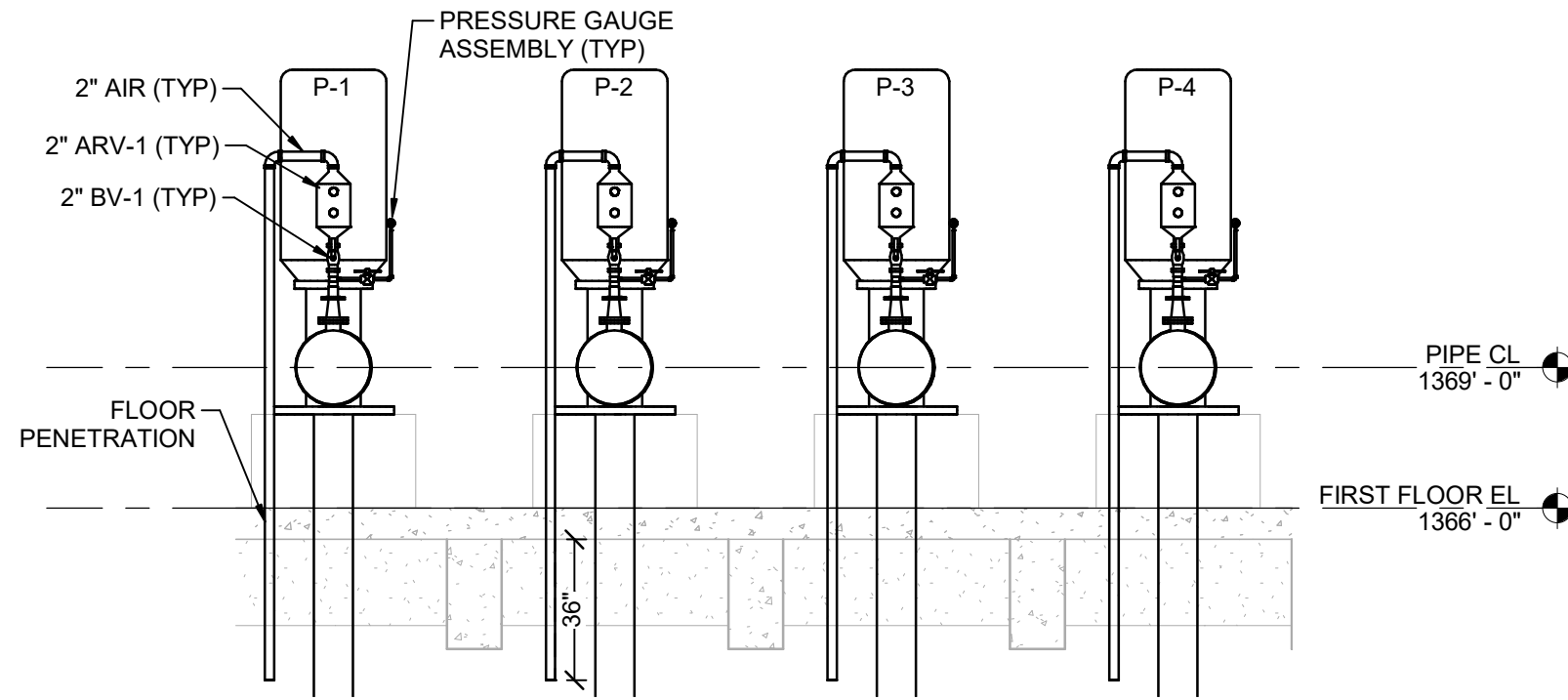
SKETCH NO.

CSK-01

DWG. REFERENCE NO.

DATE:
09/02/2022

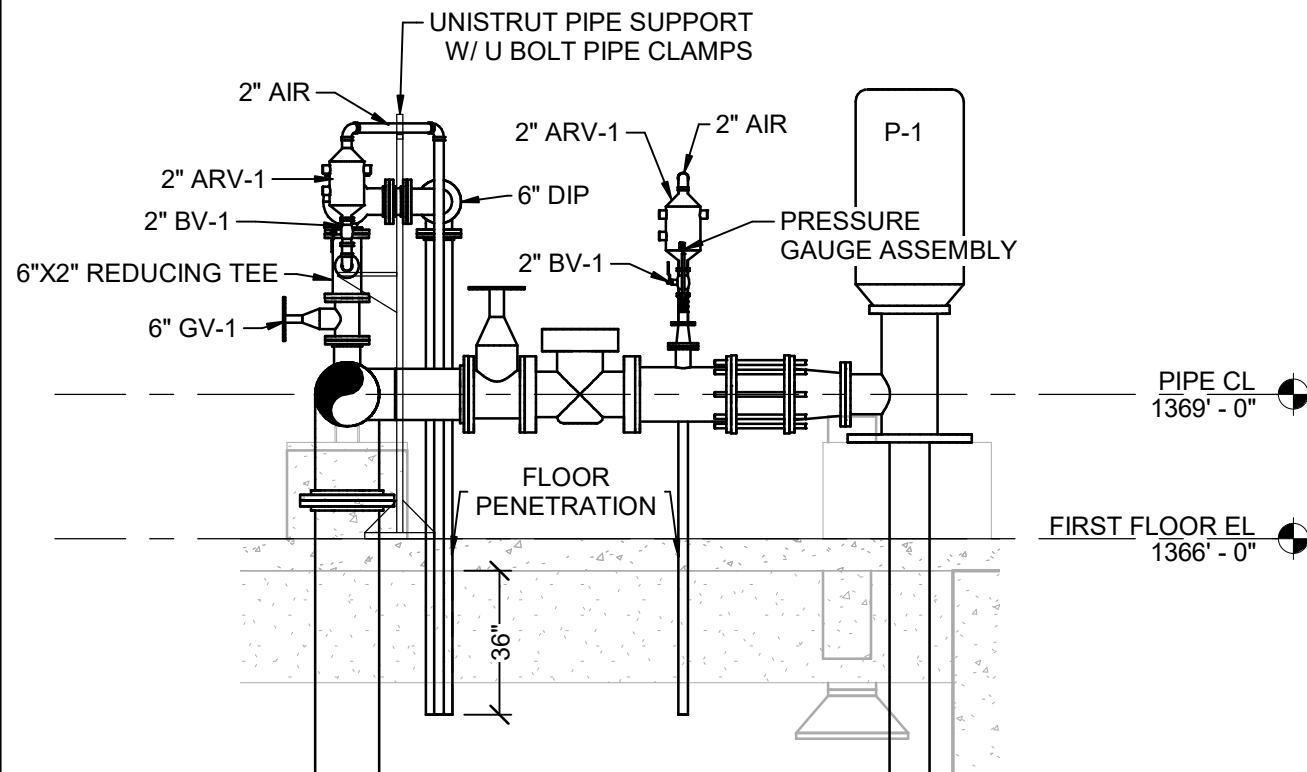
REV.



1

SECTION - ADDENDUM 3

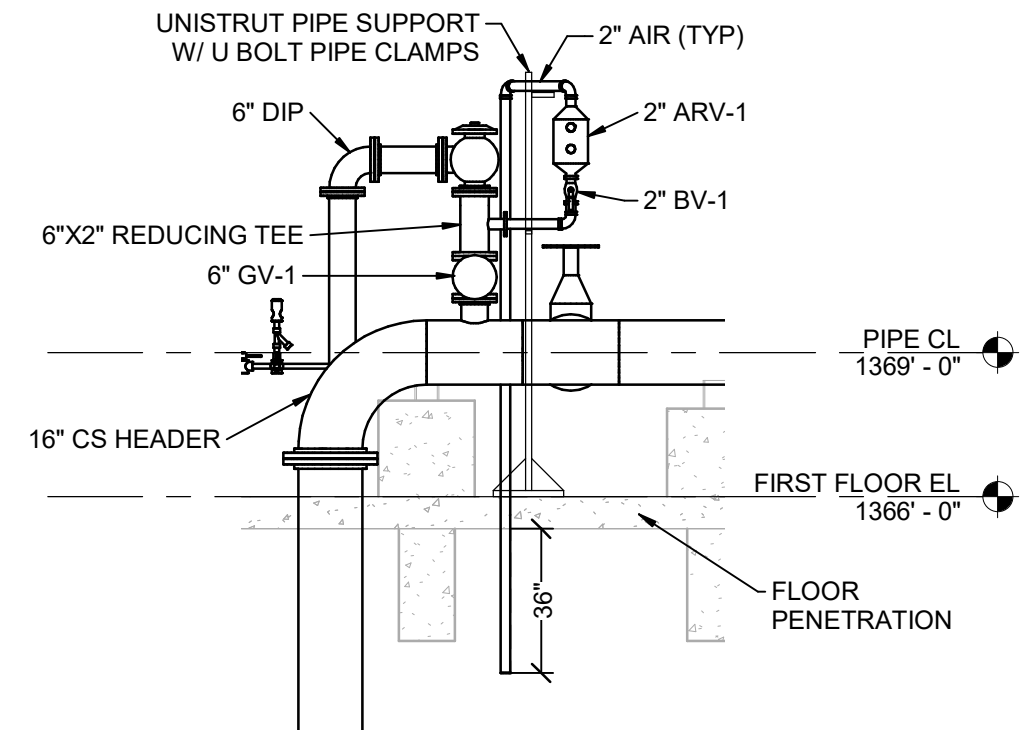
SCALE: 1/4" = 1'-0"



3

SECTION - ADDENDUM 3

SCALE: 1/4" = 1'-0"



2

SECTION - ADDENDUM 3

SCALE: 1/4" = 1'-0"

PROJECT CITY OF STAUNTON
GARDNER SPRING PUMP STATION

TITLE ARV PIPING - ADDENDUM 3

COMM. NO.
220117

DRAWN CTS CHECKED AST

SKETCH NO.
CSK-02

DWG. REFERENCE NO.

DATE: 09/02/2022 REV.