

**NORTH KERN WATER STORAGE DISTRICT**

Kern County, California



**NOTICE TO PLANHOLDERS**

Attached is Addendum No. 5 to the  
Specifications No. NK-619 for  
PIPELINE AND PUMP STATION PROJECT

Sign and return this notice with your Proposal.

**GEI Consultants, Inc.**

5001 California Ave, Suite 120,

Bakersfield, CA 93309

Tel: (661) 327-7601



Date: November 4, 2021

Firm Name \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

By signing the cover sheet, Contractor certifies that it has reviewed the contents of the subject addendum and that its proposal has been prepared taking into consideration the changes made by said addenda.

## NORTH KERN WATER STORAGE DISTRICT

### ADDENDUM NO. 5 TO THE SPECIFICATIONS NO. NK-619 for PIPELINE AND PUMP STATION PROJECT

The Specifications No. NK-619 is hereby changed and/or clarified as follows:

#### 1. Measurement and Payment

- a. Bid Item 23 through Bid Item 33 “mag meter” has been removed from section a) Description.

#### 2. Drawings

- a. Drawing No. CB-04. Sheet No. 20. Removed the 18-inch Mag Meter symbol after STA 48+05.99 on the plan view.
- b. Drawing No. CB-07. Sheet No. 23. Removed STA 37+15.47 following fittings from the profile view:
  - i. 20”x20”x16” TEE, 20”x16” REDUCER, 20” CV, 2’ SPOOL, and 20” BFV
- c. Drawing No. CC-19. Sheet No. 42. Added aboveground 18” mag meter symbol (5 each) on each of the 18-inch steel discharge lines.
- d. Drawing No. C-101. Sheet No. 43. Revised well connection gooseneck assemblies and mag meters to “EXIST” for the following details:
  - i. ENLARGED PLAN NO. 1 - WELL 99-00-035
  - ii. ENLARGED PLAN NO. 3 - WELL 99-00-026
  - iii. ENLARGED PLAN NO. 6 – WELL 99-00-022
- e. Drawing No. C-102. Sheet No. 44.
  - i. ENLARGED PLAN NO. 8 – WELL 88-29-009. Revised well connection gooseneck assemblies and mag meters to “EXIST”. Deleted Note 1.
  - ii. ENLARGED PLAN NO. 9 – CONNECTION TO EXISTING 16” PVC IRRIGATION. Deleted 16” CV.
- f. Drawing No. C-103. Sheet No. 45. Deleted Detail 1. Added General Note No. 8 “INSTALLATION OF NEW EQUIPMENT, INSTRUMENT, VALVES, FITTINGS, AND APPURTENANCES SHALL NOT BE INSTALLED WITHIN 1X PIPE DIAMETER DOWNSTREAM OF EXISTING MAG METER, OR 2X

PIPE DIAMETER UPSTREAM OF THE EXISTING MAG METER” and General Note No. 9 “CONTRACTOR SHALL PROVIDE ALL NECESSARY FLANGE FITTINGS OR COUPLING ADAPTERS TO INSTALL CHECK VALVE”.

Revised well connection gooseneck assemblies and mag meters to “EXIST” for the following details:

- i. ENLARGED PLAN NO. 13 – WELL 88-29-006
  - ii. ENLARGED PLAN NO. 14 – WELL 88-25-016
  - iii. ENLARGED PLAN NO. 17 – WELL 99-00-032
- g. Drawing No. C-104. Sheet No. 46. Added General Note No. 5 “THE MINIMUM LENGTH OF UNOBSTRUCTED STRAIGHT PIPE FOR THE 18” MAG METER SHALL BE 36” UPSTREAM AND 18” DOWNSTREAM OF THE METER”.
- i. ENLARGED PLAN NO 18 – 88-25 WELLS PIPELINE and SECTION A. Deleted belowground 18” mag meter and vault (1 each). Added aboveground 18” mag meter (2 each) on steel pipe.
  - ii. ENLARGED PLAN NO 19 – ROSEDALE PUMP STATION DISCHARGE PIPELINE and SECTION B. Added aboveground 18” mag meter (5 each) on steel pipe.
- h. Drawing No. CG-02. Sheet No. 49. Deleted Detail 4.
- i. Drawing No. CG-03. Sheet No. 50. Deleted Detail 5.
- j. Drawing No. CG-05. Sheet No. 52. Added Note No. 1 for Detail 1 “THE ROAD CROSSING SHALL BE 18”x12” ROAD CROSSING BY RAIN FOR RENT OR EQUAL”
- k. Drawing No. CG-09. Sheet No. 56. Diameter of the Precast Concrete Manhole Ring revised from 54” to 60”. The 54”x36” Precast Concrete Flat-Top Manhole Ring with 36” Manhole Frame revised to 60”x36” Precast Concrete Flat-Top Manhole Ring with 36” Manhole Frame.

**3. The following provides a list of questions related to the project received from plan holders and the responses provided:**

**Q1:** Please confirm that North Kern Water Storage District is carrying builder's risk insurance for this project and that prime contractor will be an additional insured on such policy.

**A1:** No, North Kern Water Storage District does not carry builder's risk insurance.

**Q2:** The indemnity doesn't expressly exclude indemnification of the indemnitee's active negligence per California Civil Code Section 2782. Please confirm that in addition to excluding indemnity for an indemnitee's sole negligence and willful misconduct, that there is no indemnity requirement for an indemnitee's active negligence.

**A2:** These are the District's standard indemnification provisions and the District reserves all rights of indemnification provided for under the contract documents to the fullest extent permissible under applicable law, including Civil Code section 2782

**Q3:** Please confirm that the bid-bond amount is to be 10% of total bid per the Notice/Instruction to Bidders because the Bid-Bond Form provided states 5%. If bid-bond percentage is to be 10%, is NKWSD going to re-issue the Bid-Bond Form?

**A3:** Please refer to Addendum 3.

**Q4:** Please confirm scanned copies of notarized subcontractor non collusion are acceptable in bid package?

**A4:** Scanned copies are acceptable.

**Q5:** Addendum 2 question 4 states there is no GFE required, however B-15 states GFE documents are to be submitted with the bid. Please confirm that there is no GFE required and no GFE documents have to be submitted with the bid.

**A5:** Please refer to Addendum 3.

- Q6:** Since the District is providing surveying, please confirm the monument replacement mentioned in Note #18 will be furnished, installed and survey set by the District's surveyor?
- A6:** The District provides existing survey monuments, control points, and stakes as indicated in DWG G-05 and G-06. It is the Contractor's responsibility to provide construction survey.
- Q7:** "The level of detail and accuracy of location of the required as-built drawing documentation lends itself to require a surveyor.
- 1) Since the District is providing surveying will the District utilize its surveyor for recording as-built documentation?
  - 2) Is the intent of this specification to provide surveyor accuracy or as-builts?"
- A7:** The District provides existing survey monuments, control points, and stakes as indicated in DWG G-05 and G-06. It is the Contractor's responsibility to provide construction survey and record as-built documentation. The intent of Section C-32 is to provide the requirements for the record drawing to be provided by the Contractor.
- Q8:** The tables on this plan page are not legible. Downloads from Addendum #02-Q8/A8 were not improved. Please re-issue sheet 51
- A8:** "A separate file ""NK-619 Plans"" was uploaded on the District's website or use the link below to download. <https://www.northkernwsd.com/wp-content/uploads/2021/10/NKWSD-NK-619-Plans-22x34-for-District-only.pdf>
- Q9:** Please provide locations of Flange insulations kits, as they are not called out on the plan.
- A9:** Contractor shall field verify existing flange materials. Flange insulation kits shall be used between all dissimilar metallic flanges.
- Q10:** Since native material is to be used for backfill throughout all bedding, pipe zone & trench zone backfill, are contractors to excavate to subgrade and place 12" of bedding material before installing PVC pipe, or can we dig to the top of bedding elevation (12" above subgrade) and install pipe (with proper bell holes)?
- A10:** The 6" bedding zone shall be fully excavated and compacted to 95% per ASTM D698 with proper bell holes per the trench detail. The contractor shall remove any large rocks and material not suitable for bedding zone.

**Q11:** The precast manhole shaft in the detail is called out to be 54". This is a non-standard shaft size for precast and would require special fabrication, if at all available. Please revise this to standard precast sizes which are typically 48" ID or 60" ID.

A11: The precast manhole shaft shall be 60".

**Q12:** Please extend the bid date at least one-week.

A12: Please refer to Addendum 4.

**Q13:** Is it possible to eliminate the reinforcing steel and substitute synthetic reinforcing fibers in the concrete mix for the cut-off collars? It seems these collars perform no structural support but are placed primarily as trench water stops. The mere process of installing reinforcing steel per the detail, especially below the pipeline, creates an excessively costly process compared to the benefit. This is especially indicative with the 42" pipeline below the Calloway Canal per Sheet CG-08. Possibly a thicker section of structural concrete (2' to 3' thick)?

A13: No. The cut-off collars shall be per Detail 2 on DWG CG-01.

**Q14:** We do not find any other specification or description for these road crossings other than what is shown on the referenced detail. Further, there is some type of description above Detail one in a bold blue table, but this is not legible. Please provide a better description and a legible detail for these road crossings.

A14: The road crossing shall be 18"x12' Road Crossing by Rain For Rent or equal.

**Q15:** General Note #2 directs the contractor to install field pipe supports along the path of the 18” steel pipe to the road crossing and into the Friant discharge for all 7 runs of this detail.

Please provide a minimal detail and location of pipe supports such that all contractors are bidding the same, not subjectively.

If no response is provided contractor’s must assume only one support is necessary per run, and additional supports, if required, will be paid for by the District.

**A15:** The contractor shall field verify existing ground elevations and grade breaks. The number of pipe supports depends on the pipe layout shop drawings by the Contractor. The maximum allowable length of unsupported 18” steel pipe is 25’.

**Q16:** Does the Engineers estimate of \$9,931,000 include the \$2.8 million of owner furnished pipe material? Or is it the total for construction only and new materials provided by the contractor?

**A16:** The Engineer's estimate does not include the District furnished pipe material cost.

**Q17:** We believe that the completion dates shown in D-5b are not possible for this project due to the multiple long lead items on this project. The 42” fittings required for the Calloway canal crossing could take 22 weeks after approved submittals, so completing the canal crossing by the January 23, 2022 requirement (subject to hydrology) is not feasible. The pumps and the MCC are also examples of long lead items with 22-35 week lead times, making the contract completion date of March 31, 2022 also impossible. Is the Owner willing to consider extending the completion deadlines, or shall the Contractor include liquidated damages in our bid to cover liquidated damages imposed by the District?

**A17:** In the event there are reasonable delays due to procurement of materials, the District is in good faith work with the contractor on the schedule.

**Q18:** With current market conditions suppliers are stating they cannot get 16” DR25, can DR14 or DR18, which have a 12-16 week lead time, be substituted?

**A18:** Yes.

**Q19:** Must the canal work be completed by the January 23, 2021 (subject to hydrology) (as specified in paragraph 3 on D-5b) or is it the contractor's option (as implied by the words "may be beneficial for the Contractor" in paragraph 2 on D-5b)?

A19: It is recommended by the District considering the canal O&M schedule and weather. The Contractor shall coordinate with the District on the canal work schedule prior to construction.

**Q20:** "We are looking at 20 weeks just to get the building materials. This does not include assembly/installation or installation & mounting of the electrical & instrumentation equipment. We are not going to be able to maintain your 120 calendar day schedule."

A20: In the event there are reasonable delays due to procurement of materials, the District is in good faith work with the contractor on the schedule.

**Q21:** If contractor is required to carry builder's risk insurance for this project, please confirm that District will assume risk of loss for the Work at the time of substantial completion.

A21: Yes, Contractor is required to carry all required insurance for this Project and the District will not assume any risk of loss for the work at the time of substantial completion.

**Q22:** Please confirm that the Guarantee required by General Conditions Section C-27 is one year from completion as provided in Special Condition Section D-18.

A22: It shall be one year after the date of acceptance of the work by the District.

**Q23:** Please confirm that bidder has no obligation to reimburse District for litigation brought by a subcontractor against District arising from District's sole negligence, active negligence, or willful misconduct.

A23: The District reserves all rights of indemnification provided for under the contract documents to fullest extent permissible under applicable law.

- Q24:** Item 10 on the bidder's checklist (pg. B-9 of Instructions to Bidders) requires proof of bidders and subcontractors DIR registration. Furnishing bidders DIR proof of DIR registration off of the DIR website is no problem for bidder. However, because there are many changes and adjustments that happen all the up to bid day with subcontractors it is difficult and sometimes impossible to obtain proof of DIR registration off the DIR website when accepting last minute sub-bids. Moreover, the DIR website has been down before and obtaining proof of registration may not be available on bid day when subcontractor bids are finalized. We would request that providing listed subcontractors DIR number on the sub-listing bid form be acceptable at bid date followed with the apparent low bidder providing proof of subs DIR registration within 3 business days after the bid has closed. Please advise if NKWSD is amenable to this suggestion.
- A24: Providing listed subcontractors DIR number on the sub-listing bid form is acceptable at bid date, followed with the apparent low bidder providing proof of subs DIR registration within 3 business days after the bid has closed.
- Q25:** With the addition of Cascade as an acceptable manufacturer of the Vertical Turbine Pumps, does this mean that Mixed Flow Pumps are acceptable? (Cascade only manufacturers Mixed Flow and Propeller Pump) N-2 b. c) (1) states no points of zero slope. This would be a contradiction.
- A25: The pump submittal will be only accepted if it fully meets the specification.
- Q26:** Addendum # 2 confirmed that the project was not funded by USBR and that Good Faith Efforts are not required; The addendum doesn't direct bidders to either delete/ignore paragraph B-15 and the revised Instructions to Bidders issued via Addendum # 2 still calls for a GFE. Additionally, the revised "Contents of Bid" (B-17), still calls for the Good-Faith Efforts Checklist to be submitted with the bid. Please confirm that Paragraph B-15 should be deleted from the Instructions to Bidders and that the Good Faith Efforts Checklist is not required to be submitted with the bid as indicted in B-17.
- A26: Please refer to Addendum No. 3.

**Q27:** Addendum # 2 also added the requirement of obtaining notarized Non-Collusion Affidavits from each of their subcontractors for submission with the Bidders proposal package. The Subcontractor's NCA Form itself, says "to be executed by each awardee of the contractor," which would indicate that this is a post bid form, to be executed by the awarded Contractors Subcontractors. Item B-13 states that each "bidder" shall execute and submit with their bid an NCA and goes on to say that "the principal contractor" (not "bidder") shall secure an NCA form from each proposed subcontractor, again indicating that this would be a post bid form, to be executed by the awarded Contractors Subcontractors. Gathering these forms from every subcontractor (especially a notarized form) at time of bid is extremely difficult, distracts from the bid process, and can even lead to Bidders not being able to list more competitive Subcontractor(s) in the that event that the Subcontractor doesn't submit their NCA in sufficient time to be incorporated into the Bidders proposal package – which, in turn, would cost the District more money. Please consider allowing this to be a post bid/awarded contractor requirement.

A27: Please refer to Addendum No. 3.

**Q28:** I'm reaching out again to request that the requirement of obtaining a notarized Non-Collusion Affidavit from each subcontractor for submission with the Bidders proposal package be reconsidered. Subcontractor Non-Collusion Affidavits are typically submitted post bid by the awarded contractor on behalf of their awarded subcontractors, not by bidders at time of bid. The Subcontractor's NCA Form itself, says "to be executed by each awardee of the contractor," which would indicate that this is a post bid form, to be executed by the awarded Contractors Subcontractors. Item B-13 states that "the principal contractor" (not "bidder") shall secure an NCA form from each proposed subcontractor, again indicating that this would be a post bid form, to be executed by the awarded Contractors Subcontractors. Gathering these forms from every subcontractor (especially a notarized form) at time of bid is extremely difficult, distracts from the bid process, and can even lead to Bidders not being able to list more competitive Subcontractor(s) in the that event that the Subcontractor doesn't submit their notarized NCA in sufficient time to be incorporated into the Bidders proposal package – which, in turn, would cost the District more money. Again, please consider allowing the Subcontractor NCA's to be a post bid/awarded contractor requirement. If the requirement to submit the Subcontractor NCA's at time of bid remains in place, we ask that the requirement for the form to be notarized to at least be removed. Subcontractors may not have easy, in-house access to a Notary Public for notarization.

A28: Please refer to Addendum No. 3.

**Q29:** Do you believe there will be any additional addendums issued or an extension to the bid date as of now? There seems to be quite a bit of information to digest here

A29: Addendum No. 5 is the final addendum before the bidding.

**Q30:** The referenced trench detail calls for all backfill for the full trench section to be compacted to 95% per ASTM D698. This is going to be extremely difficult if not impossible considering the existing soil matrix identified as silty sand, silty sand/sand and Sandy silt in nature is ubiquitous throughout all trench backfill zones from the Bedding Zone to the Trench Zone. One must consider the location of these pipelines being in Ag Roads and Canal Banks where there are no surface coverings except native materials.

1) We are requesting that the relative compaction threshold at optimum moisture content for native soils in the Bedding and Pipe Zone be reduced to less than 90% relative compaction, and that the Trench Zone be reduced to 85% compaction.

A30: Please refer to Addendum No. 3.

**Q31:** What is the pressure at which most of these irrigation lines operate?

A31: The working pressure of the PVC irrigation lines are typically between 15 PSI and 20 PSI

**Q32:** What is the test pressure for the new underground PVC mainlines?

A32: The test pressure for the new underground mainlines is 40 PSI per Section J-i-2(d-6.b)

#### **4. List of Attachments**

- a. Planholders List
- b. NK 619 Addendum 5 Specifications and Drawings

SPECIFICATIONS NO. NK-619 for PIPELINE AND PUMP STATION PROJECT

Planholders List - Addendum 5

<b>Contractor Name</b>	<b>Name</b>	<b>Email</b>
Kern County Builders Exchange	Samantha Geissel	<a href="mailto:sgeissel@kcbex.com">sgeissel@kcbex.com</a>
	Damariz Lopez	<a href="mailto:dlopez@kcbex.com">dlopez@kcbex.com</a>
Dodge Data		<a href="mailto:dodge.bidding@construction.com">dodge.bidding@construction.com</a>
		<a href="mailto:support@construction.com">support@construction.com</a>
		<a href="mailto:projectdata@construction.com">projectdata@construction.com</a>
		<a href="mailto:mekayla.starr@construction.com">mekayla.starr@construction.com</a>
W.M. Lyles	Scott Fults	<a href="mailto:sfults@wmlylesco.com">sfults@wmlylesco.com</a>
	Kevin Shigematsu	<a href="mailto:kshigematsu@wmlylesco.com">kshigematsu@wmlylesco.com</a>
Cal-Prime	Kelly Hudson	<a href="mailto:kellyhudson@calprimeinc.com">kellyhudson@calprimeinc.com</a>
Ruben's pipeline	Ruben Sandoval	<a href="mailto:ruben@rubenspipeline.com">ruben@rubenspipeline.com</a>
Specialty Construction	Tom Seidel	<a href="mailto:TSeidel@specialtyconstruction.com">TSeidel@specialtyconstruction.com</a>
	Doug Clay	<a href="mailto:DClay@specialtyconstruction.com">DClay@specialtyconstruction.com</a>
Floyd Johnston	Sandy Brooks	<a href="mailto:sbrooks@floydjohnston.com">sbrooks@floydjohnston.com</a>
Nicholas Construction, Inc.	Alex Silicz	<a href="mailto:alex@nicholasconstructioninc.com">alex@nicholasconstructioninc.com</a>
Blois Construction, Inc.	Crissy Cabrera	<a href="mailto:CrissyGonzales@BloisConstruction.com">CrissyGonzales@BloisConstruction.com</a>
	Nicole Kennedy	<a href="mailto:nicolekennedy@bloisconstruction.com">nicolekennedy@bloisconstruction.com</a>
	Craig Blois	<a href="mailto:craigblois@bloisconstruction.com">craigblois@bloisconstruction.com</a>
		<a href="mailto:bidinfo@bloisconstruction.com">bidinfo@bloisconstruction.com</a>
Granite	Sarah Pearse	<a href="mailto:sarah.pearse@gcinc.com">sarah.pearse@gcinc.com</a>
HPS	Stepheny Urenda	<a href="mailto:surenda@hpsmechanical.com">surenda@hpsmechanical.com</a>
A-C Electric	Chris Gatlin	<a href="mailto:Chris.Gatlin@a-celectric.com">Chris.Gatlin@a-celectric.com</a>
Technical Systems Inc. (TSI)	Brad Peistrup	<a href="mailto:bradp@tsicontrols.com">bradp@tsicontrols.com</a>
Aegion, Underground Solutions, Inc.	Brett Fornelli	<a href="mailto:bforneili@aegion.com">bforneili@aegion.com</a>
Flo-Systems, Inc.	Amir Soltanieh	<a href="mailto:amirs@flo-systems.net">amirs@flo-systems.net</a>
	Leigha Gomez	<a href="mailto:leighag@flo-systems.net">leighag@flo-systems.net</a>
Brax Company, Inc.	Brent Welling	<a href="mailto:bwelling@braxcompany.com">bwelling@braxcompany.com</a>
Romtec	Travis Olson	<a href="mailto:travis.olson@romtec.com">travis.olson@romtec.com</a>
Clark Bros Inc	Saifuddin Misbah	<a href="mailto:smisbah@clarkbrosinc.com">smisbah@clarkbrosinc.com</a>
Crane Engineering	Jeff Jacobson	<a href="mailto:J.Jacobson@craneengineering.net">J.Jacobson@craneengineering.net</a>
Flow N Control., Inc.	Anna Jesmok	<a href="mailto:anna@flowncontrol.com">anna@flowncontrol.com</a>
Pacific Boring	Ted Miller	<a href="mailto:ted@pacificboring.com">ted@pacificboring.com</a>
Peerless Pump	Gary Holt	<a href="mailto:GHolt@peerlesspump.com">GHolt@peerlesspump.com</a>
Unified Field Services Corporation	Cherie Layton	<a href="mailto:cherie_layton@ufsc.us">cherie_layton@ufsc.us</a>
Energy Link Industrial Services, Inc.	Sam Singh	<a href="mailto:ssingh@energylink1.com">ssingh@energylink1.com</a>
ProUsys	Kunal Bakshi	<a href="mailto:kbakshi@prousys.com">kbakshi@prousys.com</a>

## MEASUREMENT AND PAYMENT

### SPECIFICATIONS NO. NK-619 PIPELINE AND PUMP STATION PROJECT

Payment for the various items of the Proposal Bid Schedule, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the Work all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the California Division of Industrial Safety, and the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Proposal Bid Schedule, but which is necessary for the complete construction of the Work and all costs therefore shall be included in the prices named in the Proposal Bid Schedules for the various appurtenant items of work.

#### Base Contract

#### SCHEDULE A – General Items

##### 1. Mobilization and Demobilization (Bid Item No. 1)

- a. **Description:** This item shall include all activities and costs for transportation of personnel, equipment, and operating supplies to and from the site; establishment of portable sanitary and refuse facilities; obtaining an adequate source of fresh water; location, provision and installation of field offices & equipment/materials, storage yards excavation equipment, buildings, and other necessary facilities for the Contractor's operations at the site; insurances, premiums paid for performance and payment bonds, including coinsurance and reinsurance agreements as applicable. Provisions for contract closeout, including cleaning, final site clean-up, waste disposal, touch up and repair, final equipment check, providing project Record Drawings and providing warranties.

Portions of this site are not fenced, the contractor will be responsible to provide his own security for equipment, materials, fuel, tools, etc. that he may have on site.

The Contractor shall provide all necessary equipment & materials; all tools, accessories, power, fuel, materials, supplies, lighting, water, and other support equipment; and experienced personnel necessary to execute the Work in an orderly an efficient manner. This item also includes the removal of all work-related items from the job site and reversal of temporary items completed in the mobilization and construction.

- b. **Measurement and Payment** - The Final Pay Lump Sum (LS) Price paid for Mobilization and Demobilization shall include full compensation for all labor,

materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred to complete the mobilization and demobilization effort and items to complete the project that are not covered under any other line item – including, but not limited to, premiums paid for performance and payment bonds, including coinsurance and reinsurance agreements as applicable.

**2. Environmental Compliance (Bid Item No. 2)**

- a. **Description:** The Contractor shall comply with all local, state and federal requirements for Storm Water Pollution Prevention and Site dust control. Contractor shall install, construct, maintain all necessary measures to comply with and keep the necessary records in accordance with the requirements of the applicable agencies.
- b. **Measurement and Payment -** The Final Pay Lump Sum Price paid for Environmental Compliance measures shall include full compensation for furnishing all permits, fees, labor, materials, tools, equipment, and incidentals and for doing all work involved in PM-10 and SWPPP Compliance.

**3. Traffic Control Plan and Implementation (Bid Item No. 3)**

- a. **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to design, furnish, install, maintain, and operate all necessary facilities to provide traffic control for safety and proper construction of the work.
- b. **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**SCHEDULE B – Water Mains**

**4. Install 16-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 4)**

- a) **Description:** The 16-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to install 16-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's

instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**5. Install 20-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 5)**

- a) **Description:** The 20-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to install 20-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**6. Install 24-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 6)**

- a) **Description:** The 24-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 24-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all

necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**7. Install 30-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 7)**

- a) **Description:** The 30-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 30-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**8. Install 36-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 8)**

- a) **Description:** The 36-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 36-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints,

backfill and compaction, dewatering, ductile iron fittings, restraints and all necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**9. Install 42-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 9)**

- a) **Description:** The 42-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 42-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**10. Furnish and Install 16-inch Diameter C900 DR25 PVC Pipeline from Well 88-25-031 to Water Main (Bid Item No. 10)**

- a) **Description:** The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 16-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all

necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**11. Furnish and Install 16-inch Butterfly Valves (Bid Item No. 11)**

- a) **Description:** The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install a 16-inch Underground Service Butterfly Valve in conformance with the provided Specifications, Plans and Details. This includes, but is not limited to: furnishing and installing a 16-inch Underground Service Butterfly Valve per the contract drawings and specifications, concrete support pad, concrete pad around actuator shaft, valve actuator shaft, flanges, flange adapters with backup rings, bolts, restraints, and any other labor, materials, transportation, supplies, tools, and equipment necessary to complete the work as shown in the Plans and described in the Specifications. The contractor shall perform all subgrade preparation including, but not limited to, bedding preparation, forming, provision and placement of concrete, pouring, finishing, curing, installation, coating, and all backfill and compaction. The contractor shall properly apply all grease and coatings to each valve as specified.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**12. Furnish and Install 20-inch Butterfly Valves (Bid Item No. 12)**

- a) **Description:** The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install a 20-inch Underground Service Butterfly Valve in conformance with the provided Specifications, Plans and Details. This includes, but is not limited to: furnishing and installing a 20-inch Underground Service Butterfly Valve per the contract drawings and specifications, concrete support pad, concrete pad around actuator shaft, valve actuator shaft, flanges, flange adapters with backup rings, bolts, restraints, and any other labor, materials, transportation, supplies, tools, and equipment necessary to complete the work as shown in the Plans and described in the Specifications. The contractor shall

perform all subgrade preparation including, but not limited to, bedding preparation, forming, provision and placement of concrete, pouring, finishing, curing, installation, coating, and all backfill and compaction. The contractor shall properly apply all grease and coatings to each valve as specified.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**13. Removed (Bid Item No. 13)**

**14. Furnish and Install 30-inch Butterfly Valves (Bid Item No. 14)**

- a) **Description:** The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install a 30-inch Underground Service Butterfly Valve in conformance with the provided Specifications, Plans and Details. This includes, but is not limited to: furnishing and installing a 30-inch Underground Service Butterfly Valve per the contract drawings and specifications, concrete support pad, concrete pad around actuator shaft, valve actuator shaft, flanges, flange adapters with backup rings, bolts, restraints, and any other labor, materials, transportation, supplies, tools, and equipment necessary to complete the work as shown in the Plans and described in the Specifications. The contractor shall perform all subgrade preparation including, but not limited to, bedding preparation, forming, provision and placement of concrete, pouring, finishing, curing, installation, coating, and all backfill and compaction. The contractor shall properly apply all grease and coatings to each valve as specified.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**15. Removed (Bid Item No. 15)**

**16. Furnish and Install 3-inch Combination Air Valve Assemblies (Bid Item No. 16)**

- a) **Description:** The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 3-in Air Valves in conformance with the provided Specifications, Plans (CG-03) and Details. This includes, but is not limited to, furnishing and installing the precast concrete manhole with galvanized

steps, precast concrete grade rings as required, traffic weight cast iron manhole frame and cover with diamond tread, air valve assembly, stainless steel tapping sleeve, and gravel per the Plans, and any other labor, materials, transportation, supplies, tools, and equipment necessary to complete the work as shown in the Plans and described in the Specifications. The contractor shall perform all subgrade preparation including, but not limited to, bedding preparation, laying of joints, forming, provision and placement of reinforcing steel, provision and placement of concrete, pouring, finishing, curing, provision and placement of all miscellaneous metalwork and painting, pressure test joints, and all backfill and compaction.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Assembly paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**17. Furnish and Install Blow off Assembly (Bid Item No. 17)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install Blow Off Assembly on mainline per contract drawings CG-09, Detail 1, but not limited to, precast box, valves, fittings, ductile iron pipe, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Air Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**18. Calloway and CT-1 Canal Crossing (Bid Item No. 18)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, to perform the Calloway and CT-1 Canal Crossing per the contract drawing CG-07 and CG-08, including, but not limited to, saw cutting, concrete liner removal and disposal, excavation, backfilling, imported trench backfill, compaction, grading, dewatering, restoration of existing riprap, replacement of concrete liner, traffic control, all necessary appurtenances, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**19. 9-2 Canal Crossing (Bid Item No. 19)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, to perform the 9-2 Canal Crossing per the contract drawing CC-14, including, but not limited to excavation, backfilling, imported trench backfill, compaction, grading, dewatering, removal and restoration of riprap.
- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**20. Furnish and Install pipeline 88-25 discharge structure (Bid Item No. 20)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install material for the discharge structure 88-25 Wells per Contract Drawing C-104 Enlarged Pan No. 18 including, but not limited to, connecting to the 24-inch C900 DR 25 PVC mainline, restraints, ductile iron fittings, mag meter, valves, spools, steel pipe, supports, welding, road crossings, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances.

Includes furnishing and installing of items shown on C-104, Enlarged Plan No 18 – 88-25 Wells Pipeline from the 24” Coupling Adapter and 24”x18” Eccentric Reducer to the 18”x12” Road Crossings and the Discharge into the Friant Kern Canal (STA 1+04.61).

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**21. Furnish and Install Rosedale discharge structure (Bid Item No. 21)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install material for the discharge structure 88-25 Wells per Contract Drawing C-104 Enlarged Plan No. 19 including, but not limited to, connecting to the 42-inch C900 DR 25 PVC mainline, restraints, ductile iron fittings, mag meter, valves, spools, steel pipe, supports, welding, road crossings, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances.

Includes furnishing and installing of items shown on C-104, Enlarged Plan No 19 – Rosedale Pump Station Discharge Pipeline from the 42” Coupling Adapter and 42”(S)x24”(W)x18”(N)x24”(E) Cross to the 18”x12” Road Crossings and the Discharge into the Friant Kern Canal (STA0 +70).

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**22. Connect 88-29 pipeline to existing discharge structure (Bid Item No. 22)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Connection to Existing Friant Kern Discharge Structure per Contract Drawing C-102, Enlarged Plan No. 9 including, but not limited to, coupling adapters, valves, spools, fittings, restraints, shoring, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances.

Includes furnishing and installing of items shown on C-102, Enlarged Plan No 9 – Connection to Existing 16” PVC Irrigation from the 24” Coupling Adapter and 24”x16” Eccentric Reducer to the 16”x16”x16” Tee and 16” Coupling Adapter.

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**SCHEDULE C – Well Connections and Modifications**

**23. Furnish and Install Well 88-25-016 Connection and Tie In (Bid Item No. 23)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install Well Connection Tie In (88-25-016) per Contract Drawing C-102, Enlarged Plan No. 12 and C-103, Enlarged Plan No. 14 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- All items on C-103, Enlarged Plan No. 14 including removal, replacement, and disposal of Well 88-25-016 existing steel pipe and components per plan.
- The entirety of the Connection shown on C-102, Enlarged Plan No. 12 to the existing 10" PVC line to the 12" Butterfly Valve connecting to the 24"x24"x12" Tee (included in Bid Item No. 6).
- The entirety of the 12" Steel Discharge and all components from the 12"x12"x12" Tee to the 12" 45 bend at the end of pipe (C-102, Enlarged Plan No. 12).
- Removal and Disposal of the existing 10" Irrigation (C-102, Enlarged Plan No. 12)

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**24. Furnish and Install Well 88-25-030 Connection and Tie In (Bid Item No. 24)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (88-25-030) per Contract Drawing C-102, Enlarged Plan No. 10 and C-103, Enlarged Plan No. 15 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- All items on C-103, Enlarged Plan No. 15 including removal, replacement, and disposal of Well 88-25-030 existing steel pipe and components per plan.

- All items on C-102, Enlarged Plan No. 10 with the exception of items included in Bid Item No. 4:
  - 16"x16"x16" Tee,
  - 2' Spool,
  - 16" Butterfly Valve,
  - 16" Coupling Adapter
- Removal and Disposal of the existing 14" Irrigation (C-102, Enlarged Plan No. 10).

b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**25. Furnish and Install Well 88-25-031 Connection and Tie In (Bid Item No. 25)**

a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (88-25-031) per Contract Drawing C-102, Enlarged Plan No. 11 and C-103, Enlarged Plan No. 16 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, welding, removal and disposal of existing piping, relocation of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- All items on C-103, Enlarged Plan No. 16 including removal, replacement, and disposal of Well 88-25-031 existing steel pipe and components per plan.
- The entirety of the Connection shown on C-102, Enlarged Plan No. 11 to the 16" PVC Water Main line to the 16" Butterfly Valve connecting to the 20"x20"x16" Tee (included in Bid Item No. 5).
- The entirety of the 12" Steel Discharge and all components from the 16"x16"x12" Tee to the 12" 45 bend at end of pipe (C-102, Enlarged Plan No. 11).
- Relocation of Existing irrigation lines as needed (C-102, Enlarged Plan No. 11)

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**26. Furnish and Install Well 88-29-006 Connection and Tie In (Bid Item No. 26)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (88-29-006) per Contract Drawing C-102, Enlarged Plan No. 7 and C-103, Enlarged Plan No. 13 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- All items on C-103, Enlarged Plan No. 13 including removal, replacement, and disposal of Well 88-29-006 existing steel pipe and components per plan.
  - All items on C-102, Enlarged Plan No. 7 with the exception of items included in Bid Item No. 4:
    - 16"x16"x16" Tee,
    - 5' Spool,
    - 16" Butterfly Valve,
    - 16" Coupling Adapter
  - The entirety of the 12" Steel Discharge and all components (C-102, Enlarged Plan No. 7).
  - Removal and Disposal of Existing 10" irrigation line (C-102, Enlarged Plan No. 7).
- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**27. Furnish and Install Well 88-29-009 Connection and Tie In (Bid Item No. 27)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (88-29-009) per Contract Drawing C-102, Enlarged Plan No. 8 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-102, Enlarged Plan No. 8 to the existing Well 88-29-009 to the Existing 10" PVC including the removal, replacement, and disposal of existing steel pipe and components.
- The entirety of the Connection shown on C-102, Enlarged Plan No. 8 to the existing 10" PVC line to the 16" Butterfly Valve Connected to the 24"x24"x16" Tee on the Water Main (included in Bid Item No. 6).
- The entirety of the 12" Steel Discharge and all components from the 16"x16"x12" Tee to the 12" 45 bend at end of pipe (C-102, Enlarged Plan No. 8).
- Removal of Existing 10" Irrigation discharge Line (C-102, Enlarged Plan No. 8).

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**28. Furnish and Install Well 99-00-022 Connection and Tie In (Bid Item No. 28)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-00-022) per Contract Drawing C-101, Enlarged Plan No. 6 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-101, Enlarged Plan No. 6 to the existing Well 99-00-022 10” Steel Pipe to the 16” Butterfly Valve connected to the 36”x36”x16” Tee on the Water Main (included in Bid Item No. 8).
  - The entirety of the 12” Steel Discharge and all components from the 16”x16”x12” Tee to the 12” 45 bend at end of pipe (C-101, Enlarged Plan No. 6).
  - Remove Portion of Existing 18” Reinforced Concrete Pipe (C-101, Enlarge Plan No. 6).
  - Cap and Abandonment of the Existing 18” Reinforced Concrete Pipe (C-101, Enlarge Plan No. 6).
  - Removal/Replacement/Disposal of well 99-00-022 existing steel pipe and components per C-101, Enlarged Plan No. 6
- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**29. Furnish and Install Well 99-00-026 Connection and Tie In (Bid Item No. 29)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-00-026) per Contract Drawing C-101, Enlarged Plan No. 3 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-101, Enlarged Plan No. 3 to the existing Well 99-00-026 10” Steel Discharge Piping to the 16” Butterfly Valve connected to the 24”x24”x16” Tee on the Water Main (Bid Item No. 6).
- The entirety of the 12” Steel Discharge and all components from the 16”x16”x12” Tee to the 12” 45 bend at end of pipe (C-102, Enlarged Plan No. 8).
- Cap and Abandonment of the Existing 20” Reinforced Concrete Pipe (C-102, Enlarged Plan No. 8).
- Removal/Replacement/Disposal of well 99-00-026 existing steel pipe and components per C-101, Enlarged Plan No. 3.

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**30. Furnish and Install Well 99-00-032 Connection and Tie In (Bid Item No. 30)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-00-032) per Contract Drawing C-101, Enlarged Plan No. 2 and Contract Drawing C-103, Enlarged Plan No. 17 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- All items on C-103, Enlarged Plan No. 17 including removal, replacement, and disposal of Well 99-00-032 existing steel pipe and components per plan.
- The entirety of the Connection shown on C-101, Enlarged Plan No. 2 to the existing 10" PVC line to the 16" Butterfly Valve connected to the 20"x20"x16" Tee on the Water Main (Bid Item No. 5).
- The entirety of the 12" Steel Discharge and all components from the 12"x12"x12" Tee to the 12" 45 bend at end of pipe (C-102, Enlarged Plan No. 2).
- Removal of Existing 10" Irrigation discharge Line (C-102, Enlarged Plan No. 2).

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**31. Furnish and Install Well 99-00-035 Connection and Tie In (Bid Item No. 31)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-00-035) per Contract Drawing C-101, Enlarged Plan No. 1 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-101, Enlarged Plan No. 1 to the existing Well Connection 99-00-035 Steel Pipe to the Existing 10” Butterfly Valve with the exception of the 16”x16”x16” Tee (Bid Item No.4).
- The entirety of the connection between the 16”x16”x16” Tee and the connection to the 16” PVC Water Main with the exception of the 16” Butterfly Valve (Bid Item No. 10).
- Removal/Replacement/Disposal of well 99-00-035 existing steel pipe and components per C-101, Enlarged Plan No. 1.

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**32. Furnish and Install Well 99-02-004 Connection and Tie In (Bid Item No. 32)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-02-004) per Contract Drawing C-101, Enlarged Plan No. 5 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, welding, coating repair, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-101, Enlarged Plan No. 5 to the existing Well Connection 99-02-004 12” Steel Pipe to the 24”x24”x12” Tee (Bid Item No. 6).

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**33. Furnish and Install Well 99-02-006 Connection and Tie In (Bid Item No. 33)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-02-006) per Contract Drawing C-101, Enlarged Plan No. 4 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, welding, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-101, Enlarged Plan No. 4 to the existing Well Connection 99-02-004 12" Steel Pipe to the 24"x24"x12" Tee (Bid Item No. 6).
- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**SCHEDULE D – Rosedale Booster Pump Station**

**34. Furnish and Install Meter/Main And Power Distribution Switchboard (Bid Item No. 34)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install the Meter/Main and Power Distribution Switchboard complete and in place as shown on the Plans. This shall include, but not be limited to, installation of new switchboard, bus splices, and associated power and control wires, conduit, junction boxes, grounding, all associated hardware, testing, and other incidentals to complete the Work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**35. Furnish and Install Pump Control Panel (Bid Item No. 35)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install the Pump Control Panels complete and in place as shown on the Plans. This shall include, but not be limited to, installation of new Pump Control Panels, and associated power and control wires, conduit, junction boxes, grounding, all associated hardware, testing, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Pump Control Panel paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**36. Furnish and Install PLC Control Panel (Bid Item No. 36)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install the PLC Control Panel complete and in place as shown on the Plans. This shall include, but not be limited to, installation of new PLC Control Panel, and associated power and control wires, conduit, junction boxes, grounding, all associated hardware, testing, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**37. Furnish and Install Instrumentation (Bid Item No. 37)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install instrumentation complete and in place as shown on the Plans. This shall include, but not be limited to, installation of the Instrumentation, and associated power and control wires, conduit, junction boxes, grounding, process connection equipment, all associated mounting hardware, testing, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**38. Furnish and Install Site Electrical Materials (Bid Item No. 38)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install Site Electrical Materials complete and in place as shown on the Plans. This shall include, but not be limited to, utility coordination, installation of the utility transformer pad, primary and secondary conduit, and Security Control Panel, site lighting, Electrical Building Power, Control, Lighting, Receptacles, HVAC, and associated power and control wires, conduit, junction boxes, grounding, all associated hardware, testing, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**39. Furnish Electrical Systems Analysis (Bid Item No. 39)**

- a) **Description:** This item shall include providing all labor, programming, configuration, materials, services, equipment, and incidentals required to furnish the Electrical Systems Analysis. This shall include, but not be limited to, utility coordination, single-line development, submittal coordination, site visits, travel expenses, office expenses, printing and production expenses, and professional services required to output a protective device coordination study, device setting and labeling for all new electrical devices, equipment included in this project as shown on the Plans.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, programming, labeling, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**40. Furnish PLC and SCADA Programing (Bid Item No. 40)**

- a) **Description:** This item shall include providing all labor, programming, configuration, tools, equipment, and incidentals required to furnish, install and test the PLC and SCADA Programming, including, all associated communications equipment, software and hardware, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, programming, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**41. Furnish and Install 15 CFS Pump (Bid Item No. 41)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 15 CFS Pump per the contract specifications and contract drawing M-01 including, but not limited to pump base, fittings, testing, all necessary appurtenances, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per 15 CFS Pump paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**42. Furnish and Install BPS 18-inch Oil Cushioned Check Valve (Bid Item No. 42)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 18" Oil Cushioned Check Valve per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Oil Cushioned Check Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**43. Furnish and Install BPS 18-inch Flanged Butterfly Valve Assembly (Bid Item No. 43)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 18" Flanged Butterfly Valve Assembly per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Butterfly Valve assembly paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**44. Furnish and Install BPS 24-inch Flanged Butterfly Valve Assembly (Bid Item No. 44)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 24" Flanged Butterfly Valve Assembly for PRV Isolation per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Butterfly Valve assembly paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**45. Furnish and Install BPS 30-inch Butterfly Valve with Torque Tube and Handwheel (Bid Item No. 45)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 30" MJ x MJ Butterfly Valve W/Torque Tube and Handwheel per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Butterfly Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**46. Furnish and Install BPS 36-inch Butterfly Valve with Torque Tube and Handwheel (Bid Item No. 46)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 36" MJ x MJ Butterfly Valve W/Torque Tube and Handwheel on suction header per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Butterfly Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**47. Furnish and Install BPS 24-inch Butterfly Valve with Torque Tube and Handwheel (Bid Item No. 47)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 24" MJ x MJ Butterfly Valve W/Torque Tube and Handwheel on suction header per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Butterfly Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**48. Furnish and Install BPS 24-inch Pressure Reducing Valve (Bid Item No. 48)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 24" Pressure Reducing Valve per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, sensor, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Pressure Reducing Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**49. Furnish and Install BPS 36-inch Ductile Iron Mechanical Joint Header Pipe Spools (Bid Item No. 49)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 36" MJ Ductile Iron Pump Header Pipe Spools per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**50. Furnish and Install BPS 36-inch x 30-inch Ductile Iron Mechanical Joint Tee (Bid Item No. 50)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 36"x30" MJ DI Tees per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Tee paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**51. Furnish and Install BPS 36-inch x 24-inch Ductile Iron Mechanical Joint Tee (Bid Item No. 51)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 36"x24" MJ DI Tees per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Tee paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**52. Furnish and Install BPS 36-inch x 24-inch Reducer (Bid Item No. 52)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 24" x 36" PE x PE Reducer per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Reducer paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**53. Furnish and Install BPS 30-inch Ductile Iron Mechanical Joint Pipe Spools (Bid Item No. 53)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 30" Ductile Iron Pipe Spools to Pumps per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**54. Furnish and Install BPS Other (Bid Item No. 54)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to all other components, 24", 36", 36x42" Reducer, 42" and Flanged and MJ Ductile Iron Pipe Spools and Fittings not specifically called out or included in this bid schedule but as shown per Contract Drawing M-01. including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**55. Furnish and Install BPS 36-inch Steel Pipe Pump Header (Bid Item No. 55)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 36" Steel Piping for Pump Header w/36 x 18 Tees, and other weld neck flanged fitting per Contract Drawing M-01 including, but not limited to, bedding and backfilling, imported trench backfill, compaction, dewatering, fittings, adaptors, and all necessary appurtenances. All Water Lines shall have a minimum (typical) cover of 48-inches.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**56. Furnish and Install BPS 18-inch Steel Pipe Pump Header (Bid Item No. 56)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 18" Steel Piping for Pump Header and other weld neck flanged fittings per Contract Drawing M-01 including, but not limited to, bedding and backfilling, imported trench backfill, compaction, dewatering, fittings, adaptors, and all necessary appurtenances. All Water Lines shall have a minimum (typical) cover of 48-inches.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Pump Header paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**57. Furnish and Install BPS 24-inch Steel Pipe and Fittings for PRV (Bid Item No. 57)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install 24-inch Steel Pipe and fittings per contract drawings including, but not limited to, fittings, all necessary appurtenances, and other incidentals to complete the Work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**58. Furnish and Install 36-inch Mag meter (Bid Item No. 58)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install 36-inch mag meter per contract drawing M-01, but not limited to, protective vault/enclosure, fittings, piping, pipe supports, grounding, all necessary appurtenances, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**59. Pump Station Start up and Testing (Bid Item No. 59)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to perform start up testing and testing per the contract specifications including, but not limited to, booster pump station, all new piping, all necessary appurtenances, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**60. Furnish and Install Pump Concrete Pedestal (Bid Item No. 60)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install pump concrete pedestal per the contract drawing S-02, including, but not limited to concrete, rebar and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**61. Furnish and Install Flange Support and Foundation (Bid Item No. 61)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install Flange supports and foundation per Detail 1 on the contract drawing S-05, including, but not limited to concrete, rebar, pipe supports, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Flange Support and Foundation paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**62. Furnish and Install Pipe Support and Foundation (Bid Item No. 62)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install pipe supports and foundation per Detail 1 on the contract drawing S-04, including, but not limited to concrete, rebar, pipe supports, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Pipe Support and Foundation paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**63. Furnish and Install Utility Transformer Pad Foundation (Bid Item No. 63)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install utility transformer pad per the contract drawing S-03, including concrete, rebar, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**64. Furnish and Install Electrical Equipment Building and Foundation (Bid Item No. 64)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install Electrical Equipment Building and Foundation per contract drawing S-03, including, but not limited to concrete, rebar and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**65. Furnish and Install Chain Link Fence (Bid Item No. 65)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install chain link fencing per contract drawing C-201 and CG-06, including, but not limited to, posts, gates, and other incidentals to complete this work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**66. Site Grading (Bid Item No. 66)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to grade the Booster Pump Site per contract drawings C-201, including, but not limited to all earthwork, import of material, gravel, and other incidentals to complete this work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**\*\* END OF SECTION\*\***

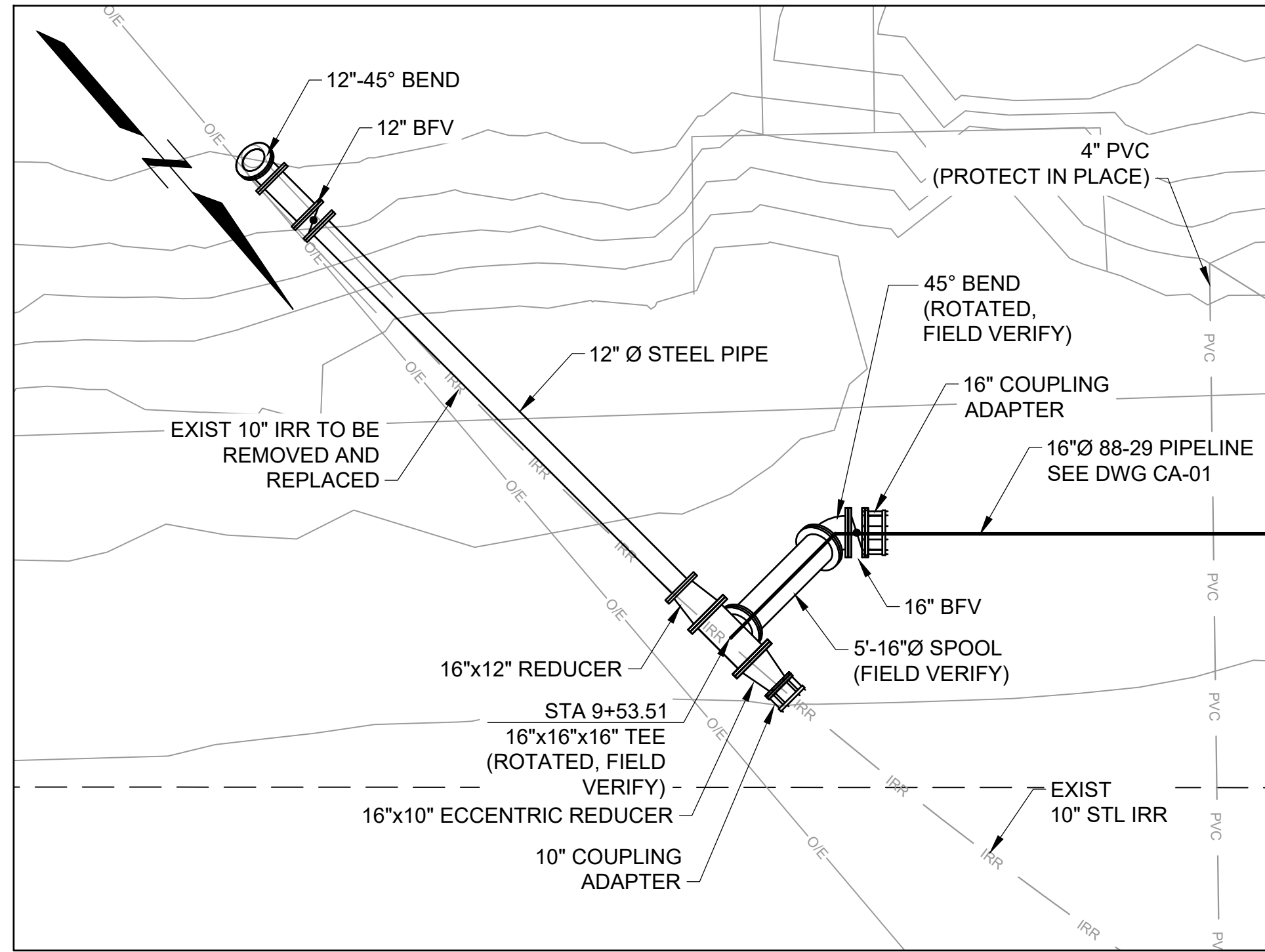




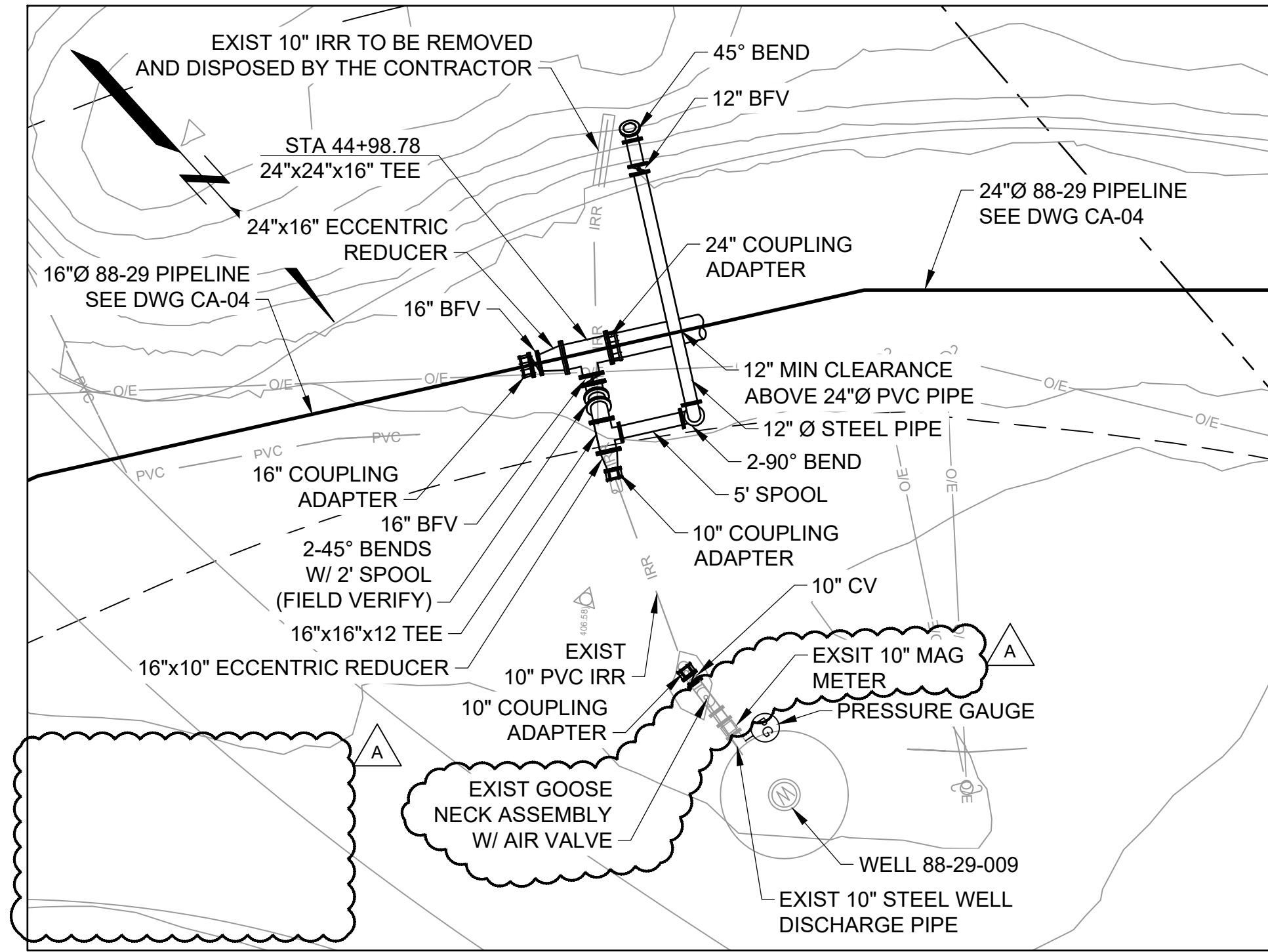




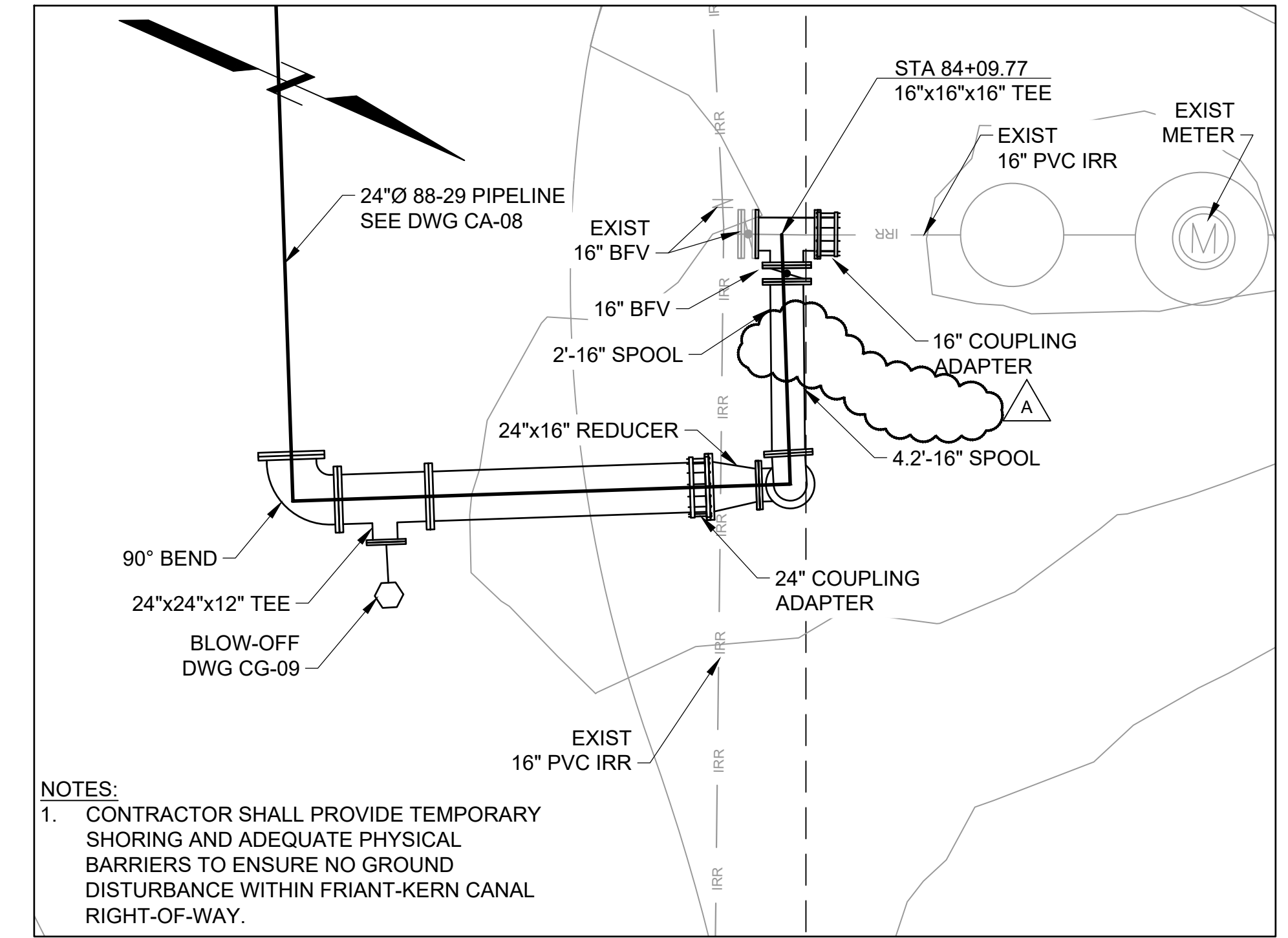
NOTE:  
1. SEE GENERAL NOTES ON DWG C-103.



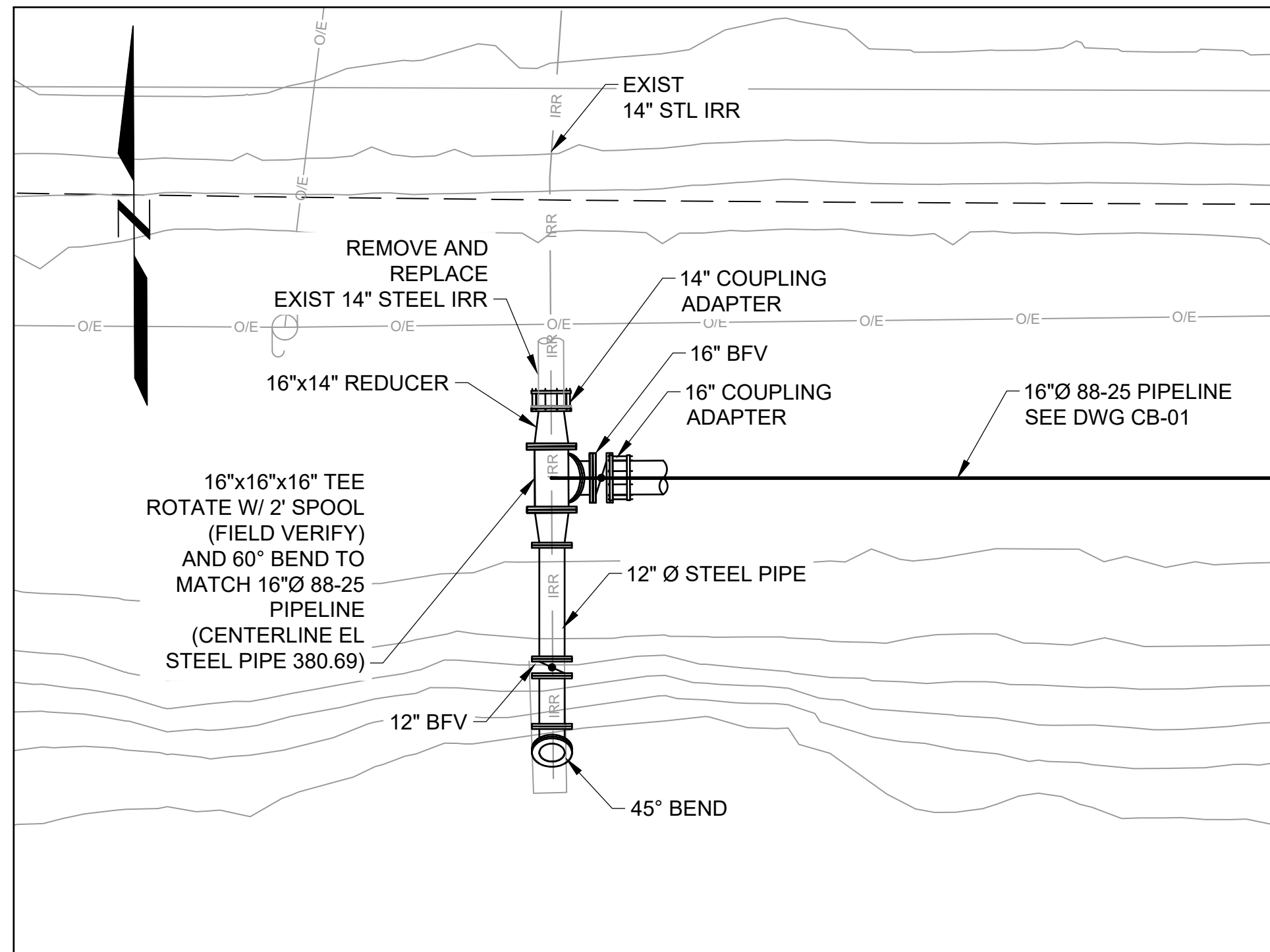
ENLARGED PLAN NO. 7 - WELL 88-29-006  
SCALE: 1"=5'



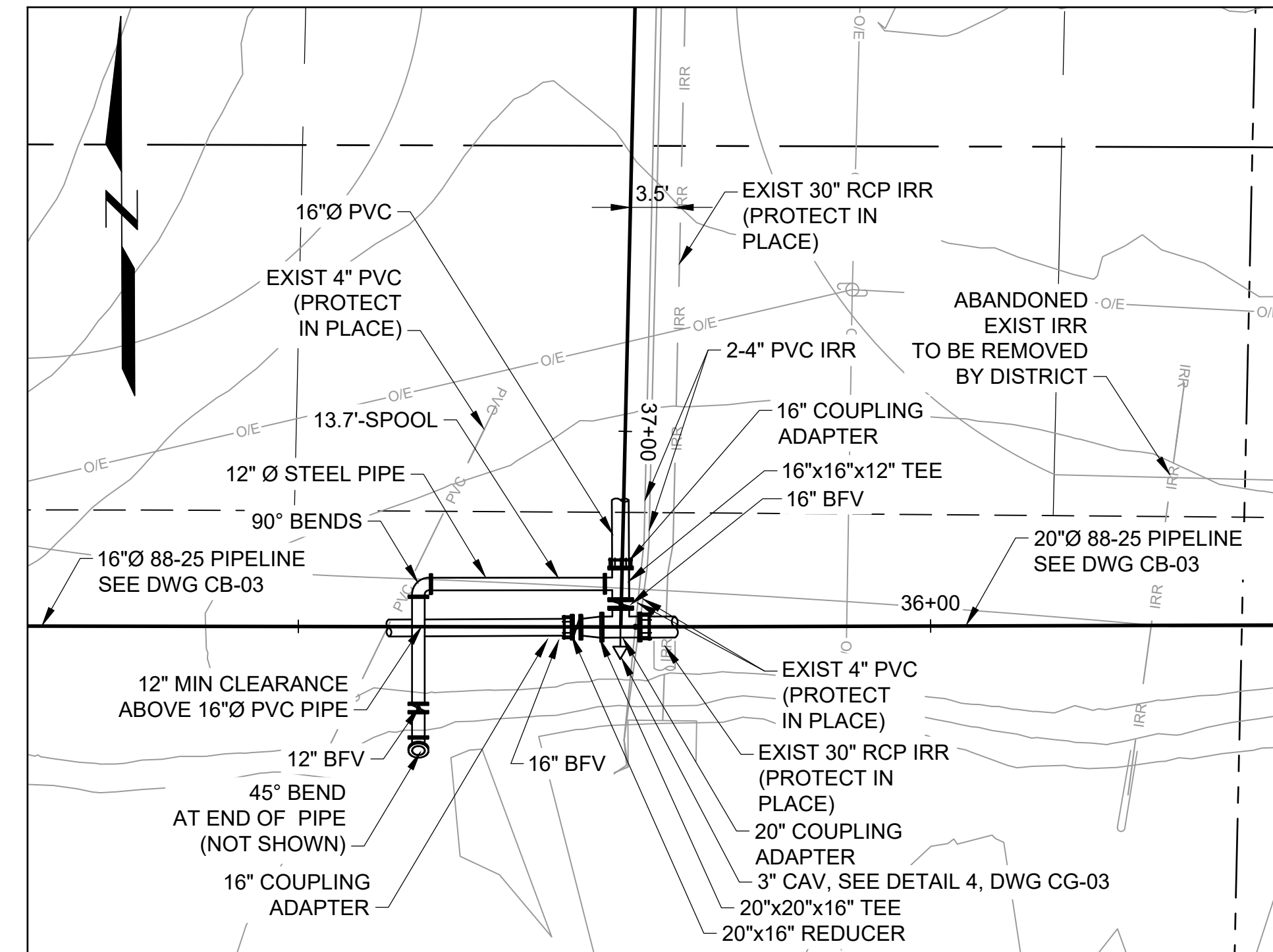
ENLARGED PLAN NO. 8 - WELL 88-29-009  
SCALE: 1"=10'



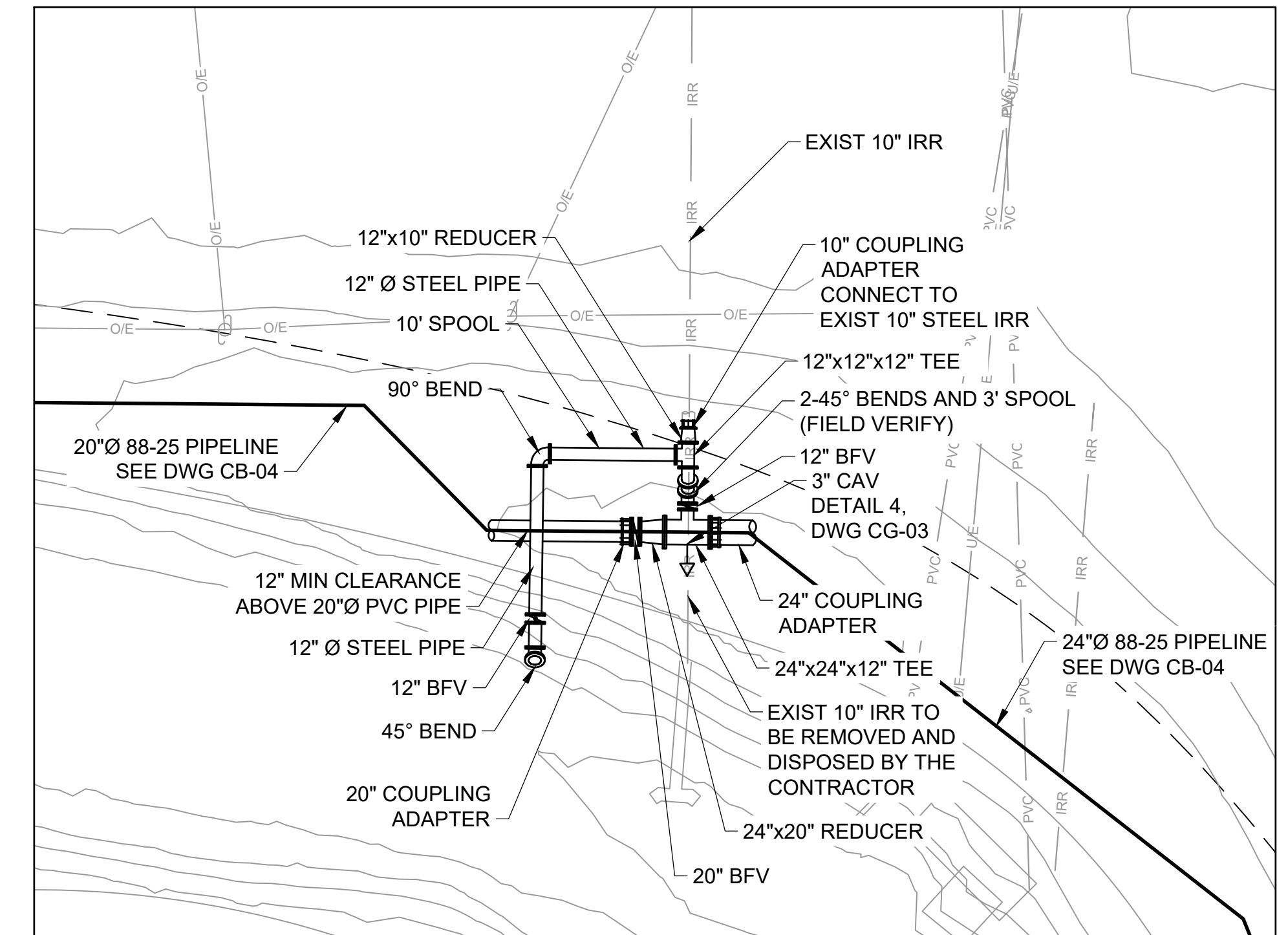
ENLARGED PLAN NO. 9 -  
CONNECTION TO EXISTING 16" PVC IRRIGATION  
SCALE: 1"=10'



ENLARGED PLAN NO. 10 - WELL 88-25-030  
SCALE: 1"=5'

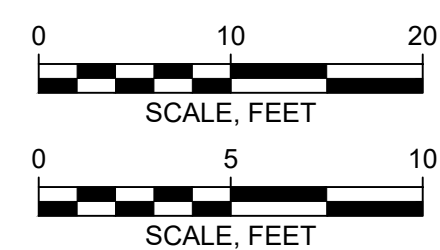


ENLARGED PLAN NO. 11 - WELL 88-25-031  
SCALE: 1"=10'



ENLARGED PLAN NO. 12 - WELL 88-25-016  
SCALE: 1"=10'

NOTES:  
1. SEE GENERAL NOTES ON DWG C-103.



Attention:  
If this scale bar does not measure 1" then drawing is not original scale.

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A	11/03/21	ADDENDUM NO. 5	GEI

**GEI** Consultants  
GEI CONSULTANTS, INC.  
5001 CALIFORNIA AVE  
SUITE 120  
BAKERSFIELD, CA 93309  
(661) 327-7601

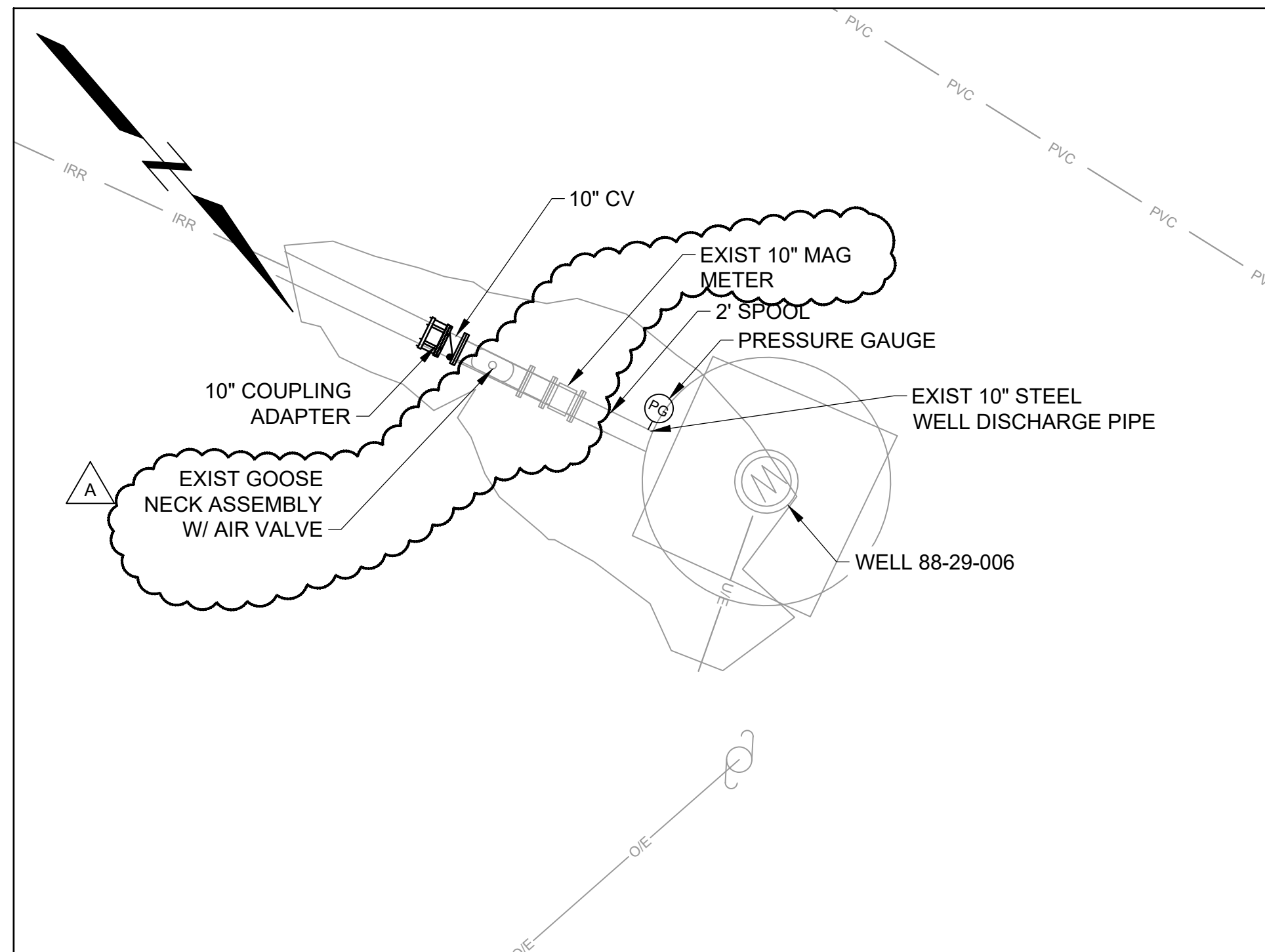
Drawn: K. CHUNG  
Checked: M. WONG  
Approved: K. YAO  
Submitted: S. GALA



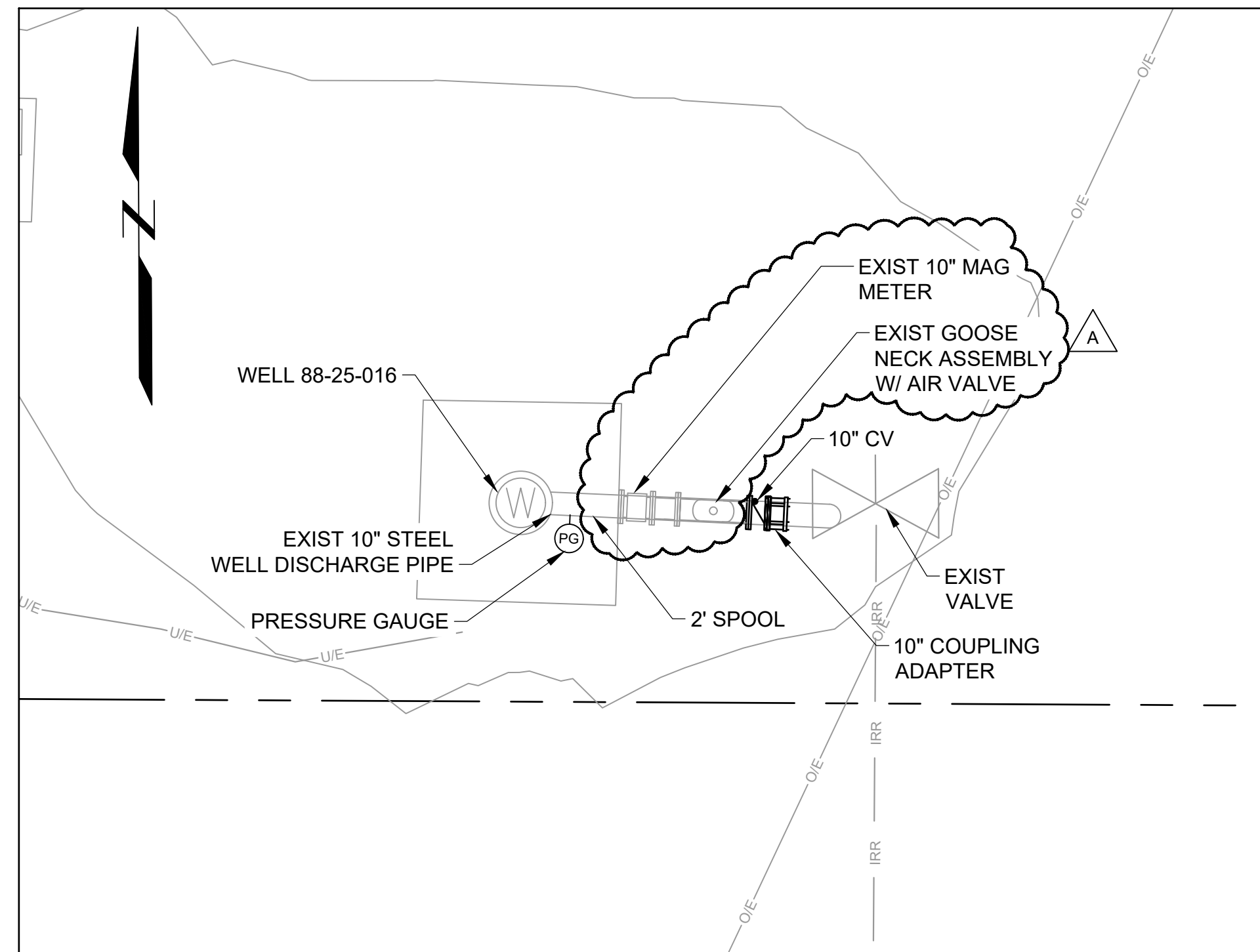
GEI PROJECT NO. 2005381

NORTH KERN WATER STORAGE DISTRICT  
PIPELINE AND PUMP STATION PROJECT  
WELL CONNECTION AND MODIFICATION  
ENLARGED PLANS 2

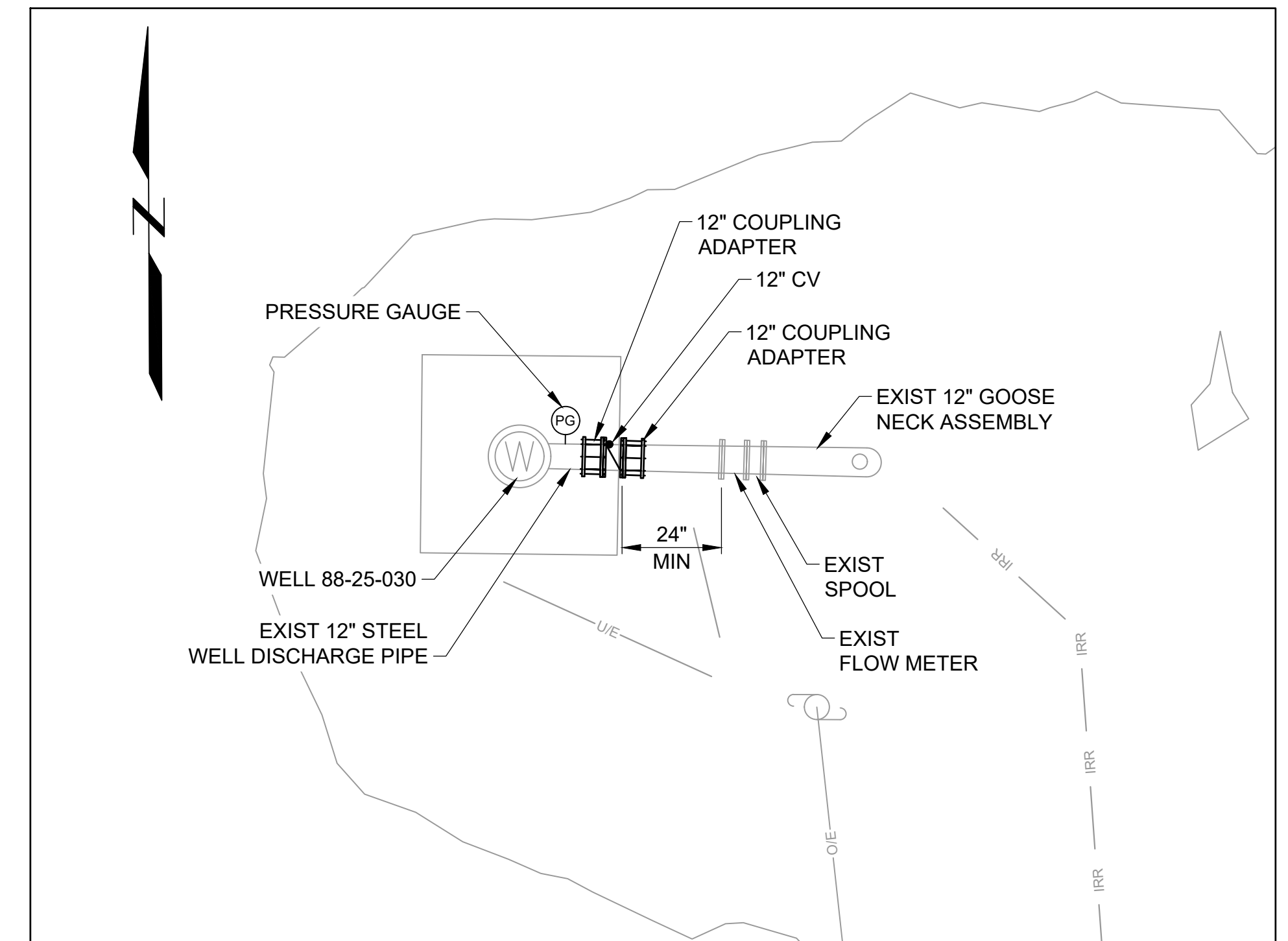
DWG. NO.  
C-102  
SHEET NO.  
44  
ARCHIVE #



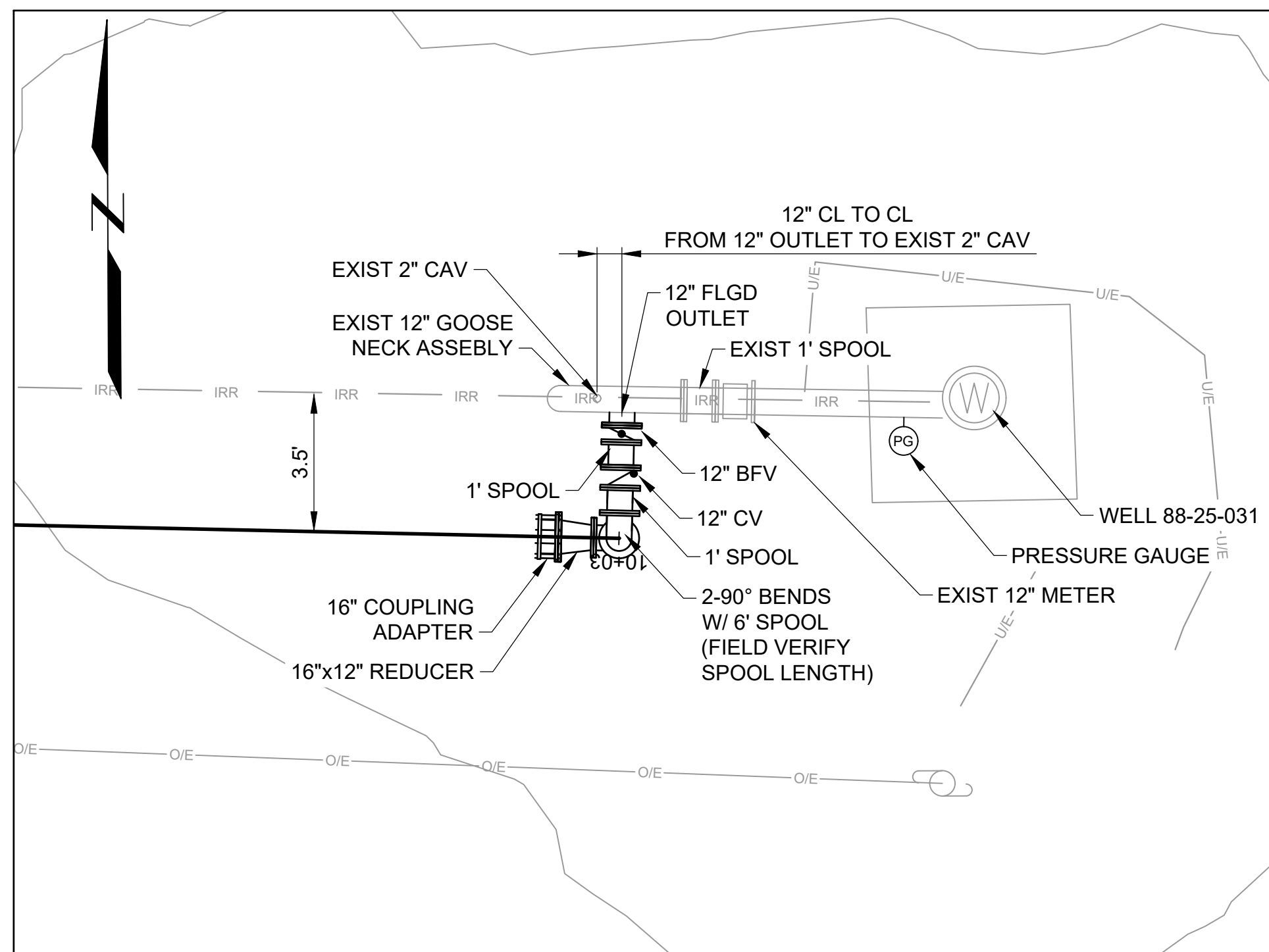
ENLARGED PLAN NO. 13 - WELL 88-29-006  
SCALE: 1"=5'



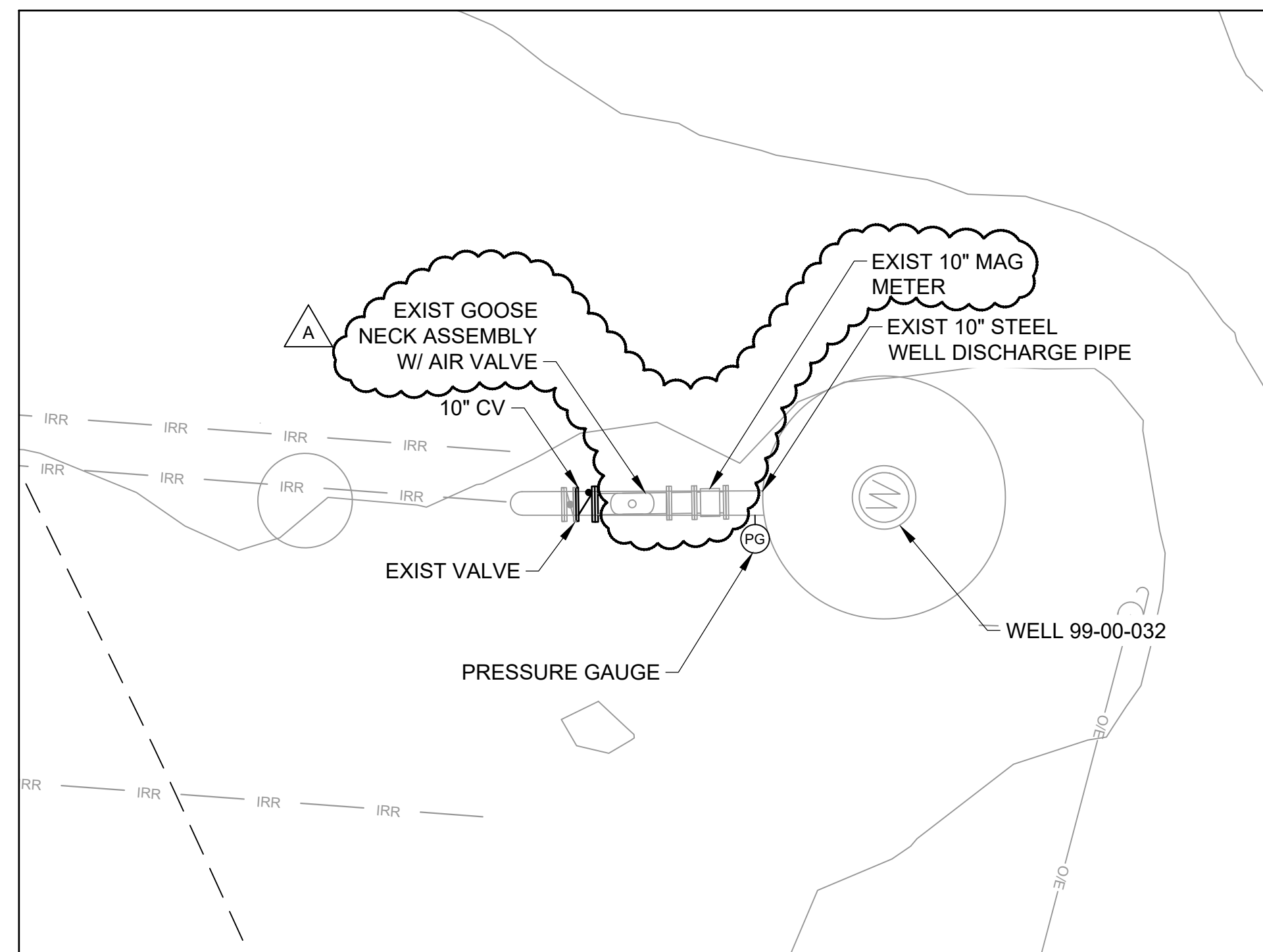
ENLARGED PLAN NO. 14 - WELL 88-25-016  
SCALE: 1"=5'



ENLARGED PLAN NO. 15 - WELL 88-25-030  
SCALE: 1"=5'



ENLARGED PLAN NO. 16 - WELL 88-25-031  
SCALE: 1"=5'



ENLARGED PLAN NO. 17 - WELL 99-00-032  
SCALE: 1"=5'



**GENERAL NOTES:**

1. CONTRACTOR SHALL FIELD VERIFY EXISTING WELL DISCHARGE MANIFOLD, EQUIPMENT, INSTRUMENT, VALVES, FITTINGS, AND APPURTENANCES. IF RELOCATION OF THE EXIST EQUIPMENT OR INSTRUMENT IS REQUIRED, CONTRACTOR SHALL SUBMIT RELOCATION PLAN FOR THE DISTRICT'S APPROVAL PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL FIELD VERIFY AND PROTECT IN PLACE ALL EXISTING UTILITIES AND WELL SITE FACILITIES.
3. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF BFV FOR THE NEW DISCHARGE PIPE TO THE DISTRICT CANAL AND ENSURE NKWSD STAFF WILL BE ABLE TO ACCESS THE BFV FROM THE O&M ROAD.
4. ALL STEEL PIPES AND SPOOLS SHALL BE SCHEDULE 40 STEEL PIPE WITH A COATING SYSTEM AS SPECIFIED IN SPECIFICATION SECTION H PAINTING AND COATING.
5. CONTRACTOR SHALL RESTORE THE PAINTING FOR EXISTING WELL STEEL MANIFOLDS PER SPECIFICATION SECTION H PAINTING AND COATING.
6. CONTRACTOR SHALL FIELD VERIFY EXISTING PIPE LOCATION, SIZE, MATERIAL FOR THE CONNECTION AND MODIFICATION.
7. CONTRACTOR SHALL INSULATE THE FLANGED CONNECTION FOR ALL TIE-IN CONNECTIONS TO EXISTING STEEL PIPES. SEE DETAIL 5, DWG CG-5.
8. INSTALLATION OF NEW EQUIPMENT, INSTRUMENT, VALVES, FITTINGS, AND APPURTENANCES SHALL NOT BE INSTALLED WITHIN 1X PIPE DIAMETER DOWNSTREAM OF EXISTING MAG METER, OR 2X PIPE DIAMETER UPSTREAM OF THE EXISTING MAG METER.
9. CONTRACTOR SHALL PROVIDE ALL NECESSARY FLANGE FITTINGS OR COUPLING ADAPTERS TO INSTALL CHECK VALVE

**NOTES:**

1. SEE GENERAL NOTES ON DWG C-103.



Attention:



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Drawn: K. CHUNG

Checked: M. WONG

Approved: K. YAO

Submitted: S. GALA



GEI PROJECT NO. 2005381

NORTH KERN WATER STORAGE DISTRICT  
PIPELINE AND PUMP STATION PROJECT

WELL CONNECTION AND MODIFICATION  
ENLARGED PLANS 3

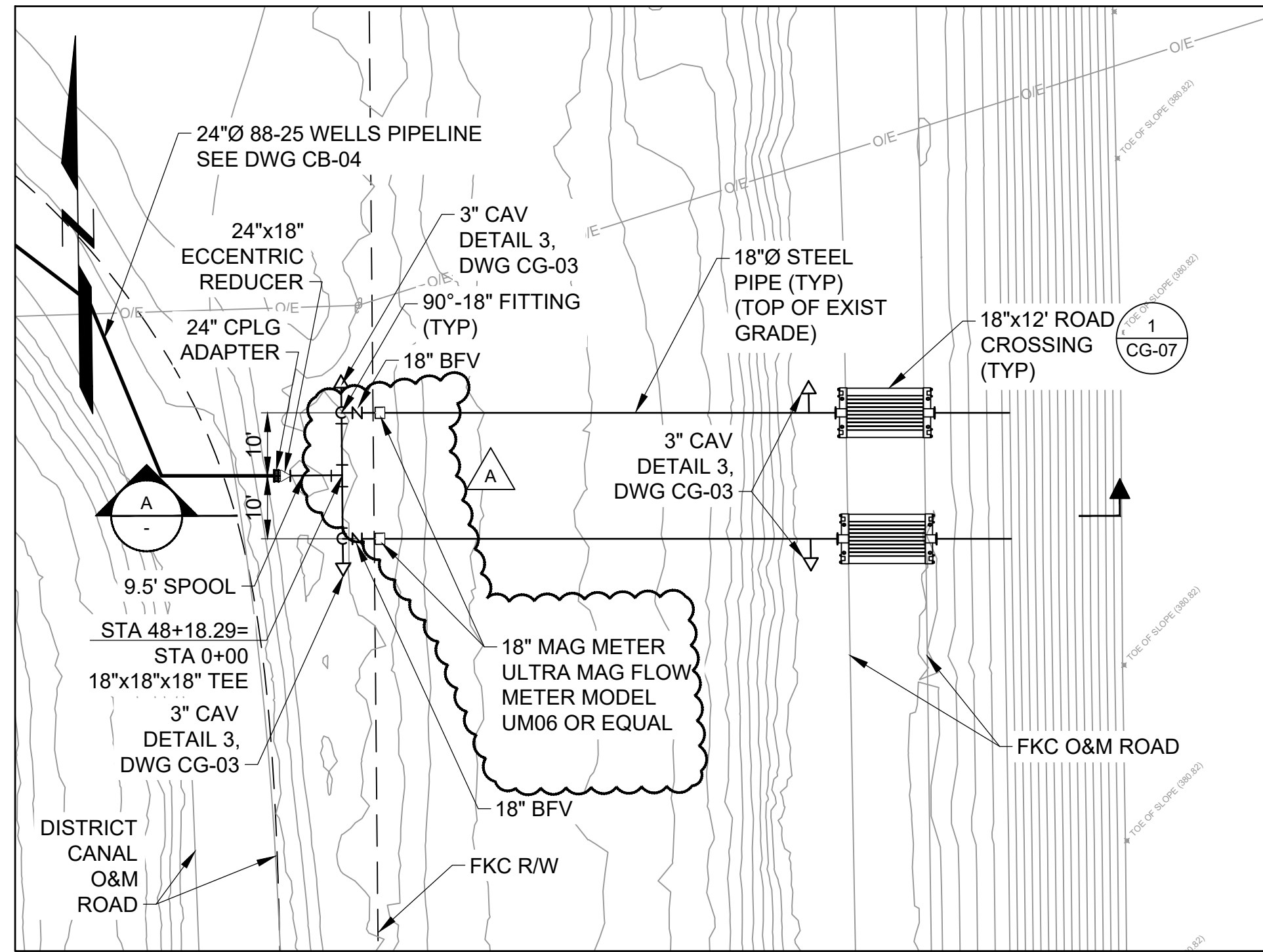
DWG. NO.

C-103

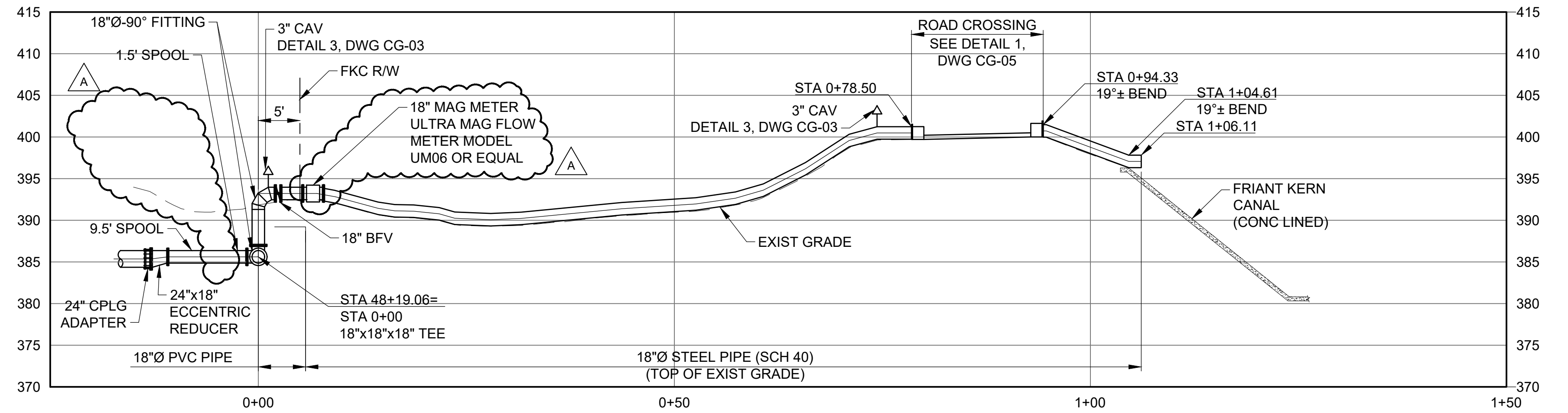
SHEET NO.

45

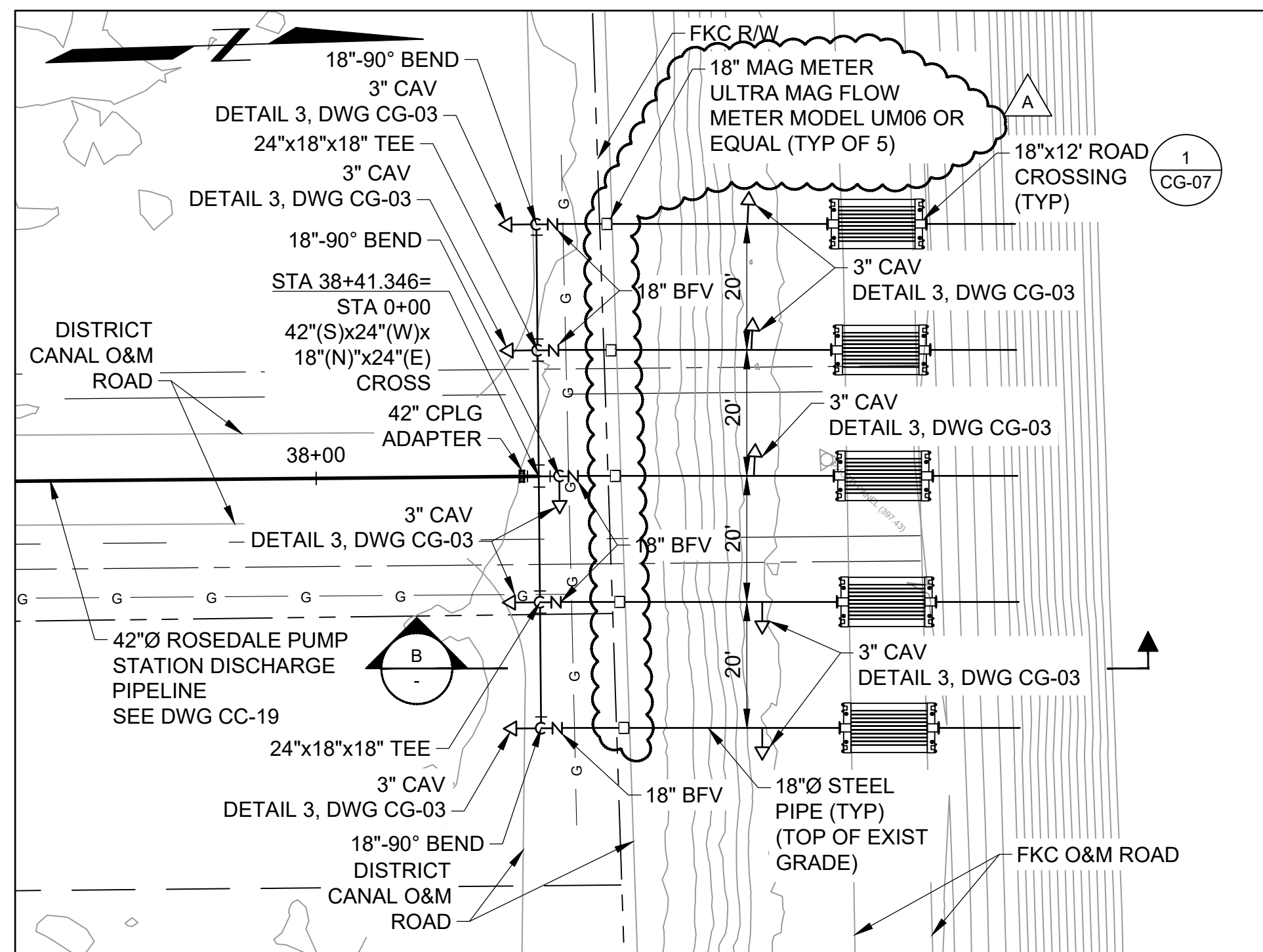
ARCHIVE #



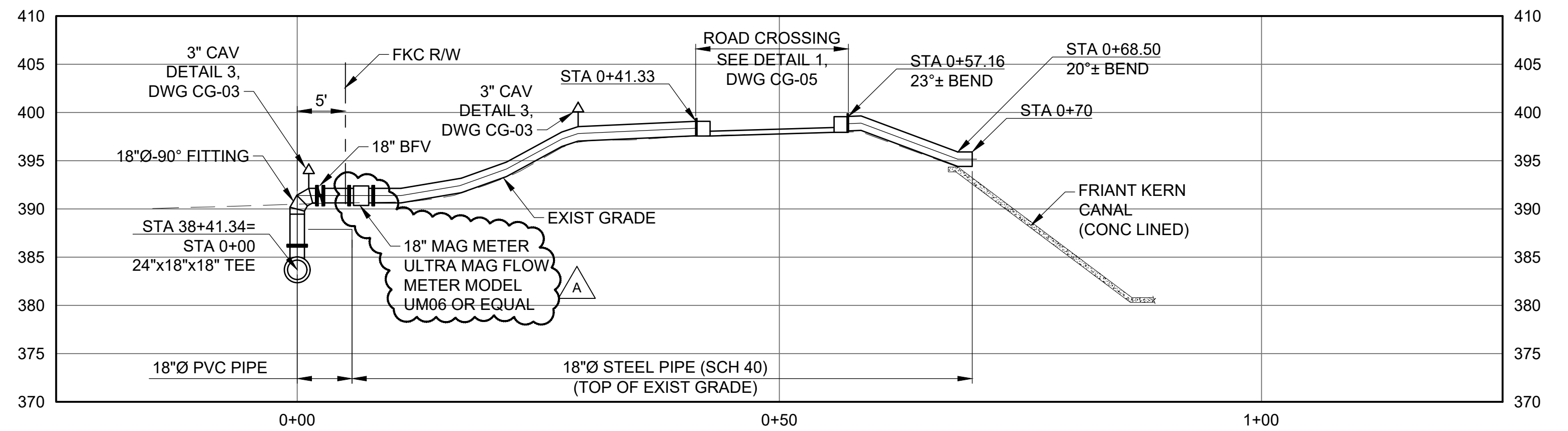
ENLARGED PLAN NO 18 - 88-25 WELLS PIPELINE  
SCALE: 1"=20'



SECTION A  
SCALE: 1"=10'



ENLARGED PLAN NO 19- ROSEDALE PUMP STATION DISCHARGE PIPELINE  
SCALE: 1"=20'



SECTION B  
SCALE: 1"=10'

GENERAL NOTES:

- CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND ADEQUATE PHYSICAL BARRIERS TO ENSURE NO GROUND DISTURBANCE WITHIN FRIANT-KERN CANAL RIGHT-OF-WAY.
- CONTRACTOR SHALL VERIFY IN FIELD AND INSTALL PIPE SUPPORTS AND RESTRAINED COUPLINGS FOR ALL ABOVEGROUND 18" STEEL PIPES.
- ALL PVC PIPES SHALL BE C900 DR 25 PVC PIPES.
- ALL STEEL PIPES AND SPOOLS SHALL BE SCHEDULE 40 STEEL PIPE WITH A COATING SYSTEM AS SPECIFIED IN SPECIFICATION SECTION H PAINTING AND COATING.
- THE MINIMUM LENGTH OF UNOBSTRUCTED STRAIGHT PIPE FOR THE 18" MAG METER SHALL BE 36" UPSTREAM AND 18" DOWNSTREAM OF THE METER.



Attention:  
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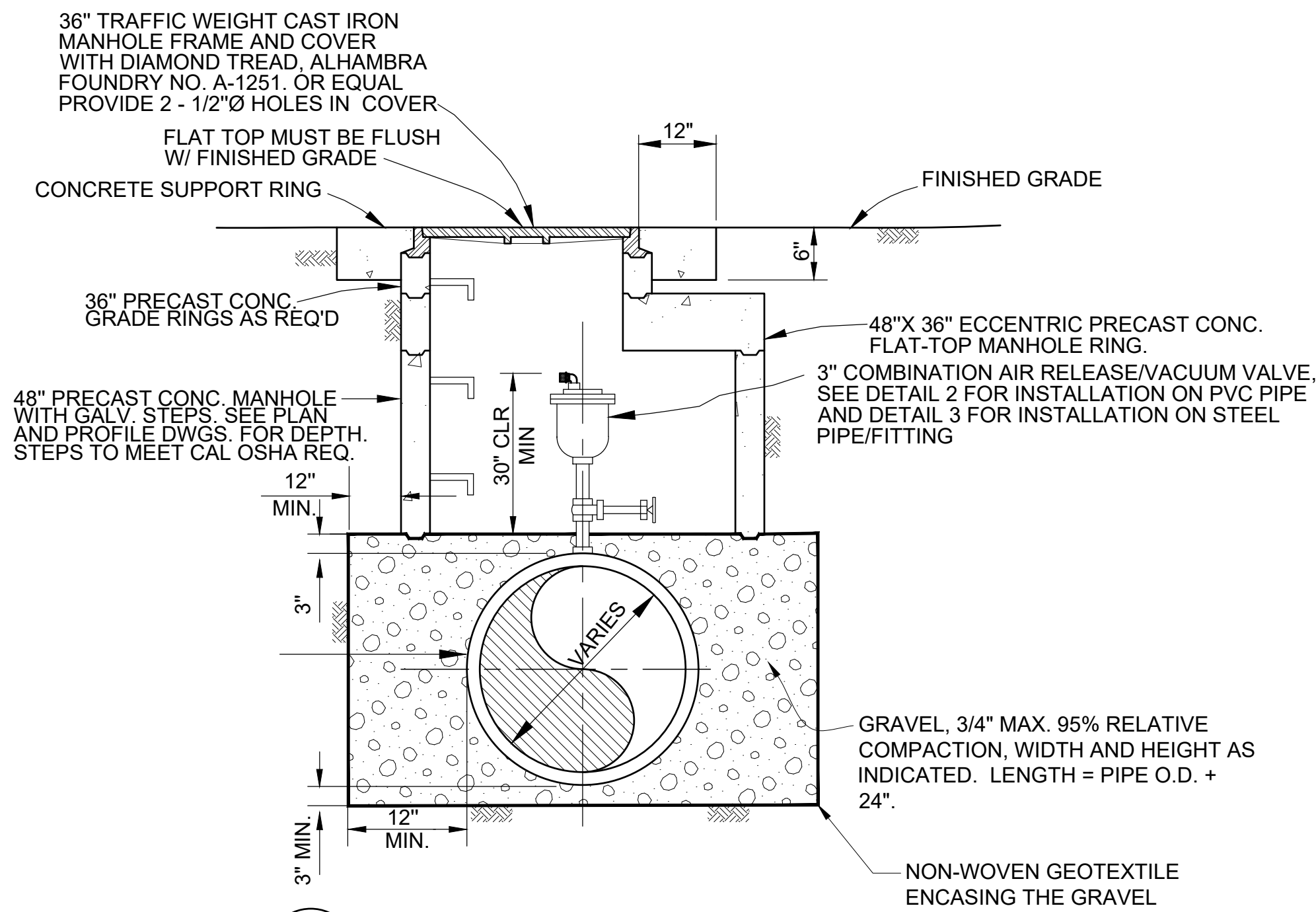
Drawn: K. CHUNG  
Checked: M. WONG  
Approved: K. YAO  
Submitted: S. GALA



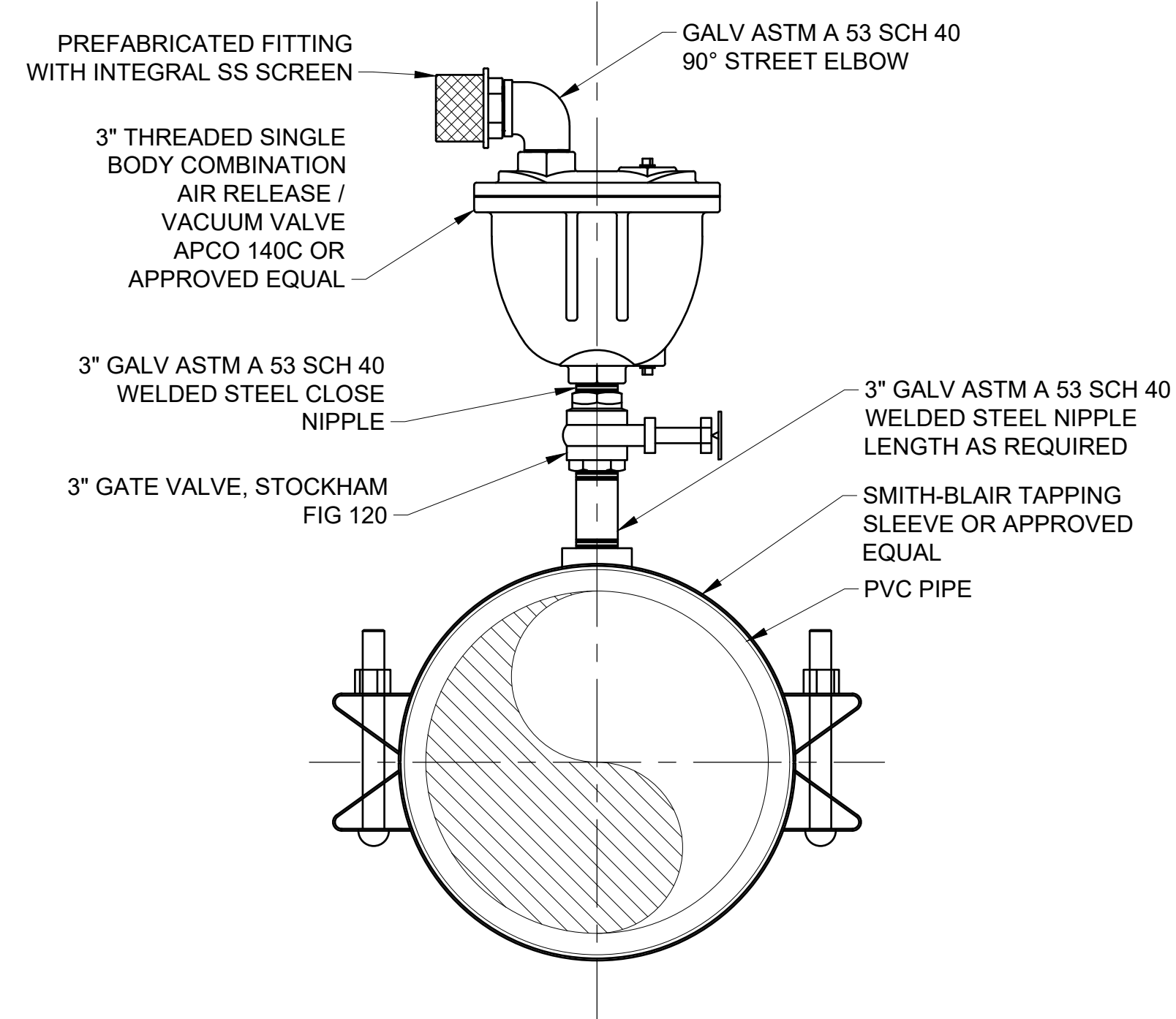
NORTH KERN WATER STORAGE DISTRICT  
PIPELINE AND PUMP STATION PROJECT  
TEMPORARY DISCHARGE PIPING  
ENLARGED PLANS AND SECTIONS

DWG. NO.  
C-104  
SHEET NO.  
46  
ARCHIVE #

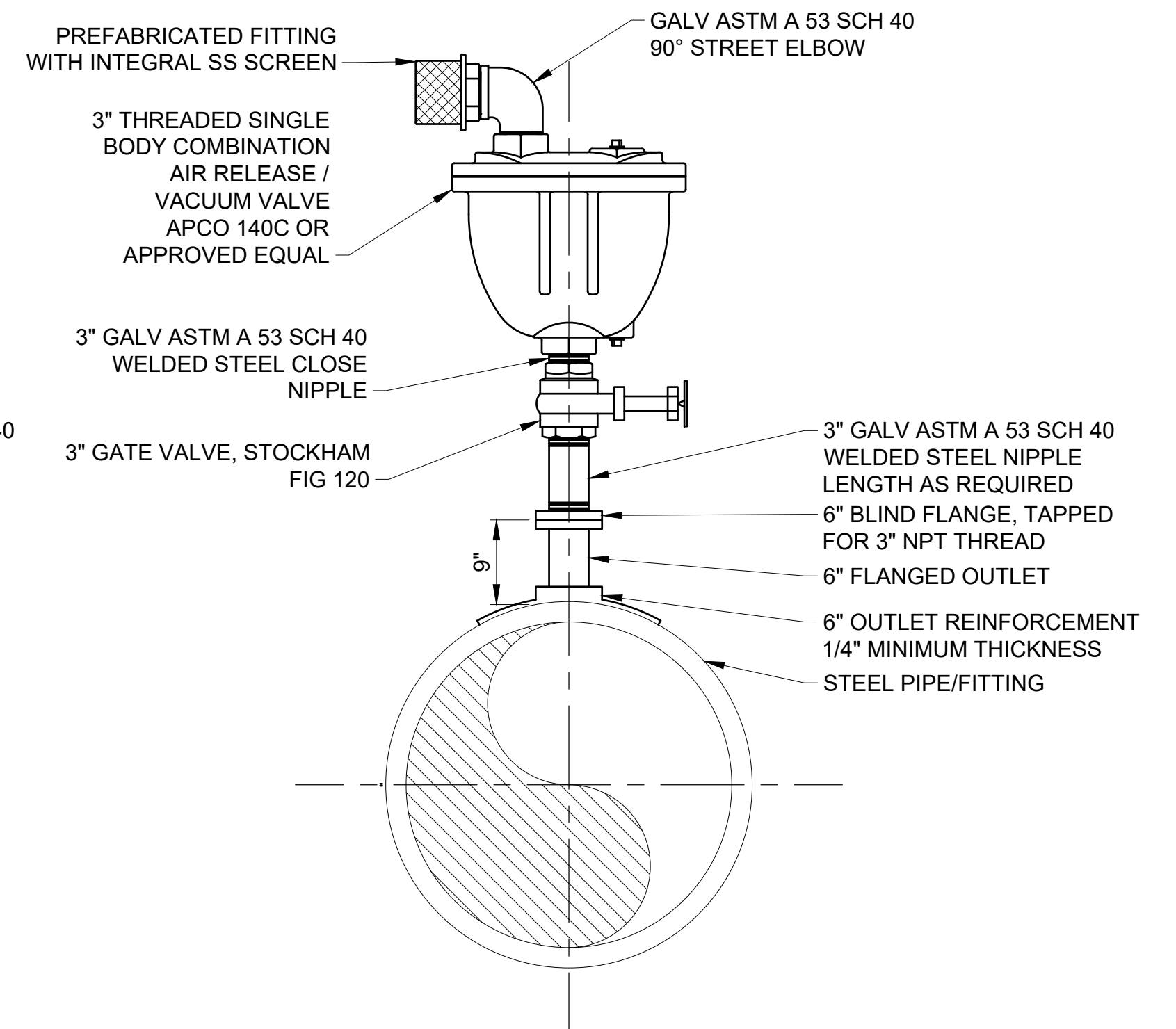




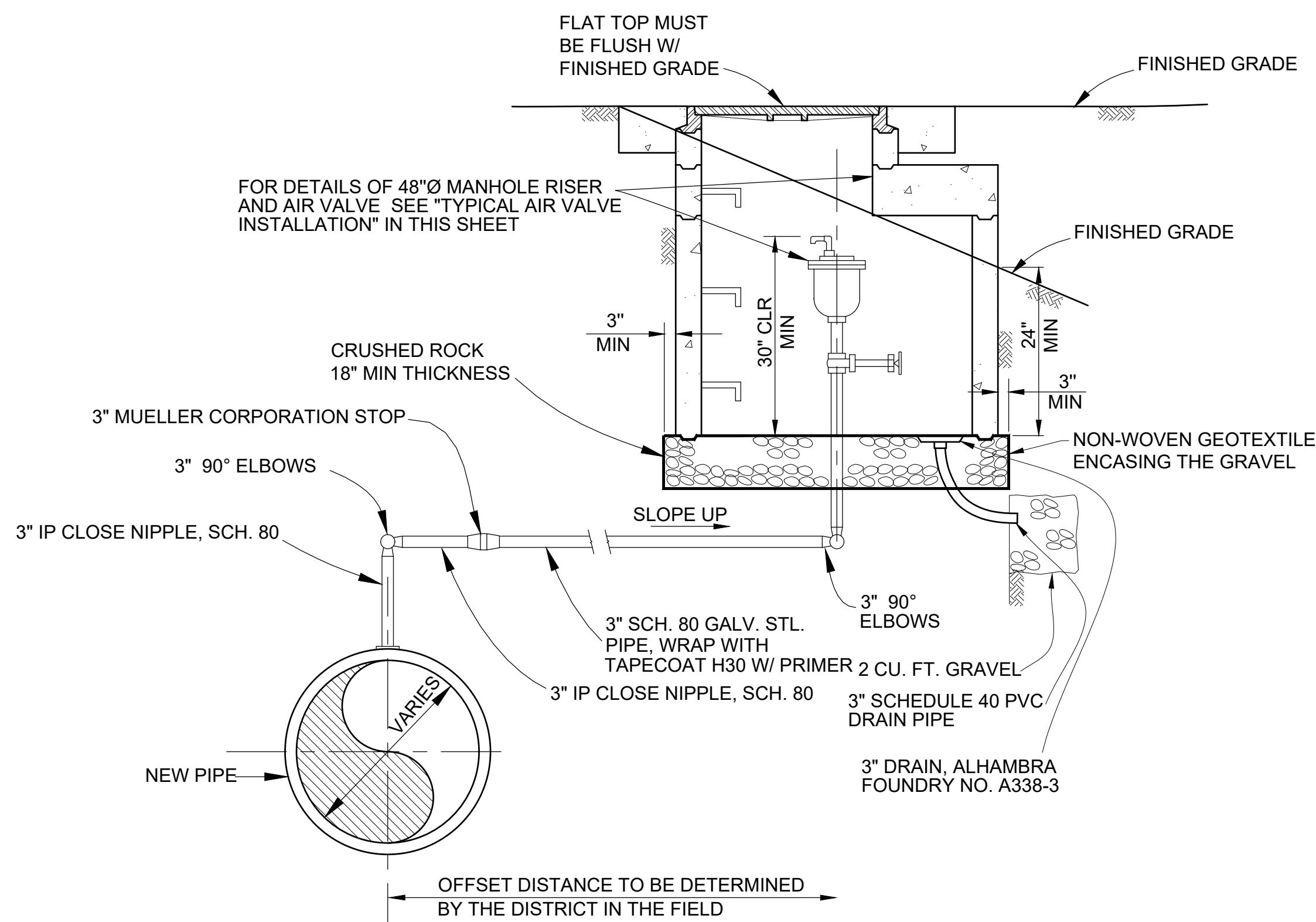
1 TYPICAL CAV INSTALLATION  
NO SCALE



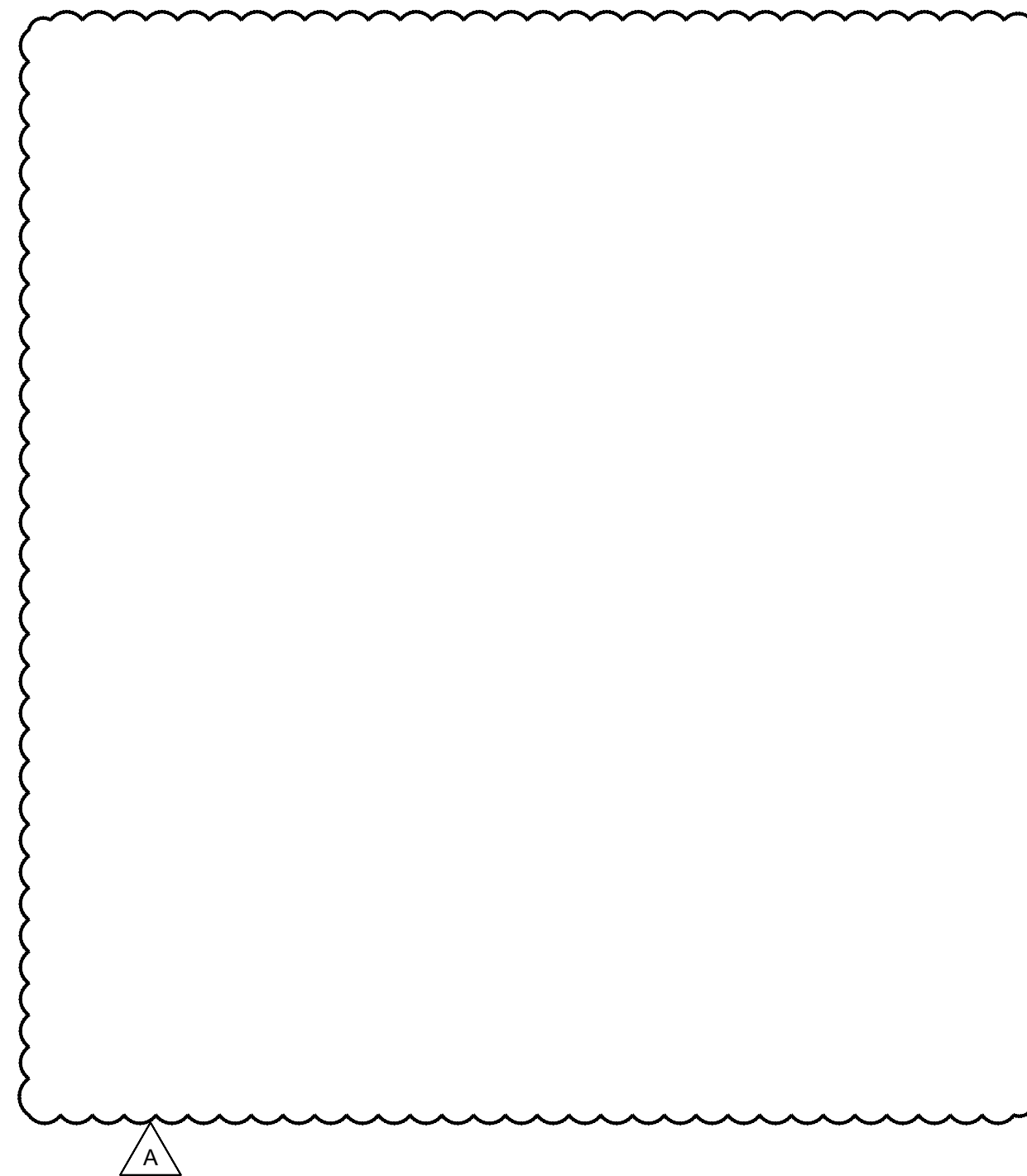
2 COMBINATION AIR RELEASE/VACUUM VALVE ON PVC PIPE  
NO SCALE



3 COMBINATION AIR RELEASE/VACUUM VALVE ON STEEL PIPE/FITTING  
NO SCALE



4 TYPICAL CAV INSTALLATION OFFSET FROM PIPELINE  
NO SCALE



6 COMBINATION AIR RELEASE/VACUUM VALVE ABOVE GROUND MANIFOLD PIPE INSTALLATION  
NO SCALE

NOTES:

1. ALL PIPING, VALVES, TAPPING SLEEVES, SUCTION STRAINERS, AND FITTINGS SHALL BE EQUIVALENT IN SIZE TO THE INLET SIZE OF THE ARV.
2. ALL AIR VALVE INSTALLATIONS SHALL BE COMPLETED PRIOR TO FILLING THE PIPELINE WITH WATER.

CONSTRUCTION NOTES:

1. ORIFICES SHALL BE SOFT SEATED AND SIZED PER THE MANUFACTURER'S RECOMMENDATION, WITH AN ANTICIPATED OPERATING PRESSURE RANGE BETWEEN 5 PSI AND 20 PSI AND OPERATING FLOW RATE AS SHOWN IN TABLE 1.
2. THE FINAL AIR VALVE AND MANHOLE LOCATIONS SHALL BE AS DIRECTED BY THE DISTRICT IN THE FIELD.

TABLE 1

PIPE DIAMETER (IN)	FLOW (CFS)
16	6
20	12
24	18
30	24
36	30
42	45

Attention:				
0	1"			
If this scale bar does not measure 1" then drawing is not original scale.				
NO.	DATE	ISSUE/REVISION	APP	
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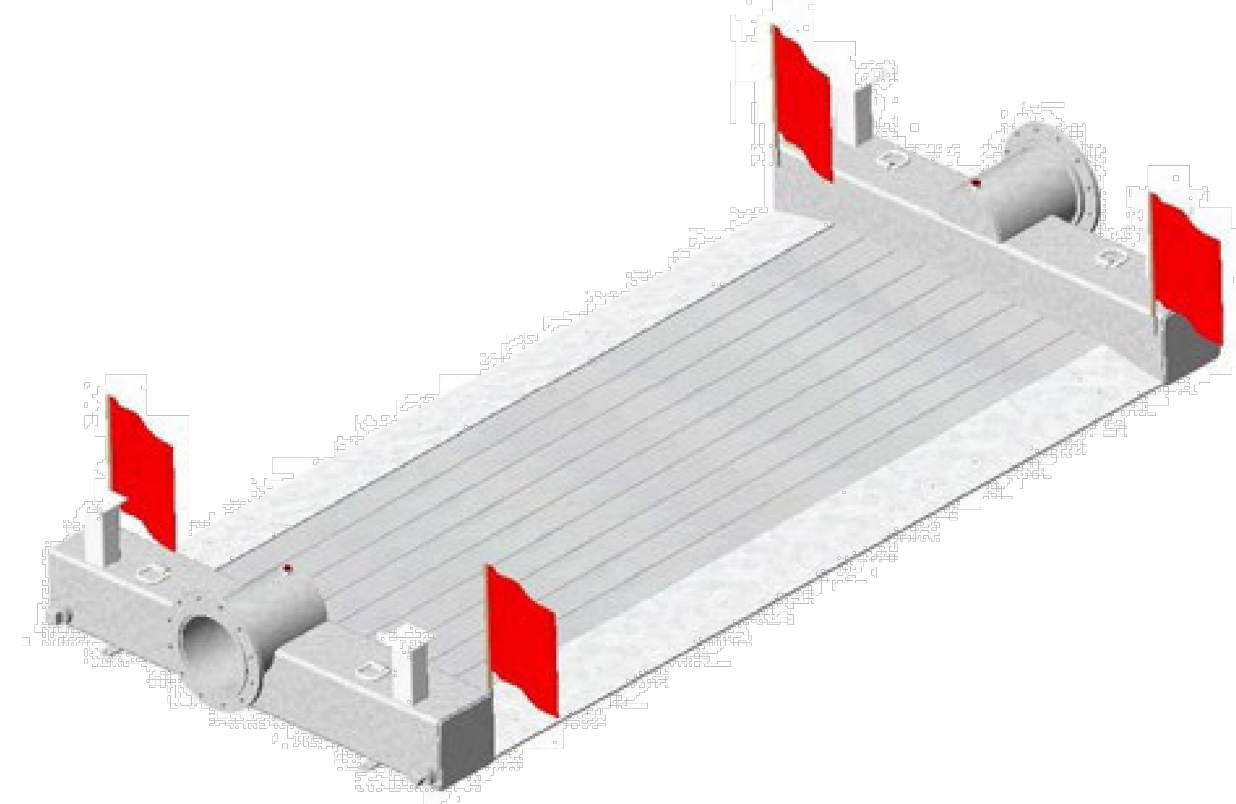


Drawn: K. CHUNG  
Checked: M. WONG  
Approved: K. YAO  
Submitted: S. GALA



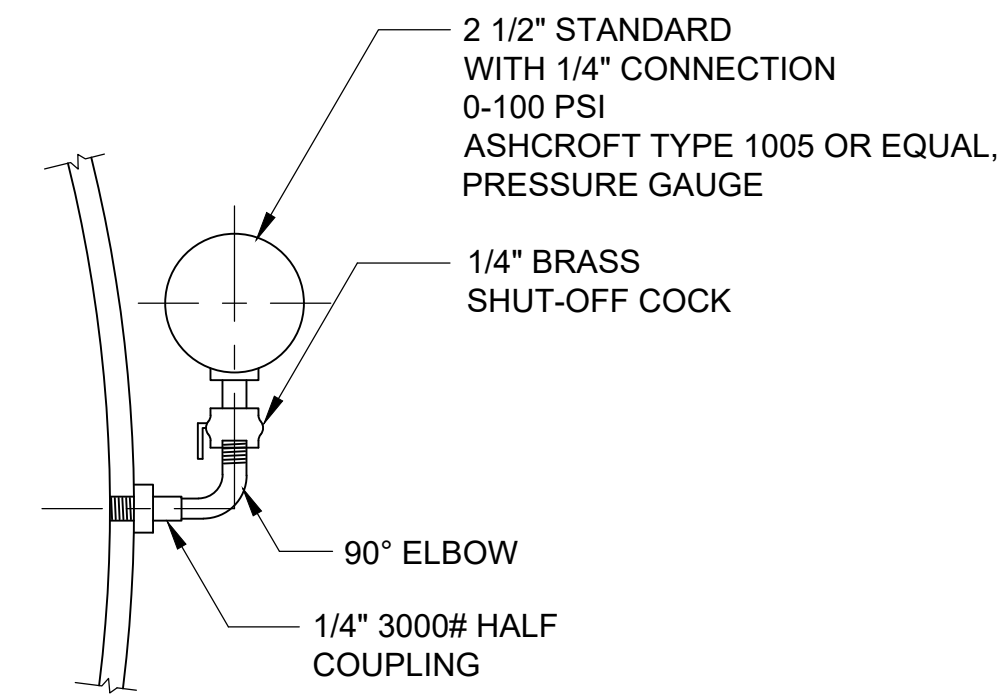
NORTH KERN WATER STORAGE DISTRICT  
PIPELINE AND PUMP STATION PROJECT  
  
AIR VALVES AND MANHOLES

DWG. NO. CG-03  
SHEET NO. 50  
ARCHIVE #

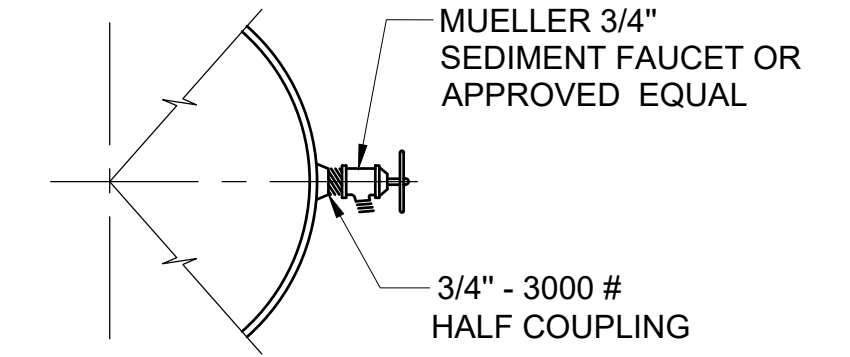


### 18" x 12' Road Crossing

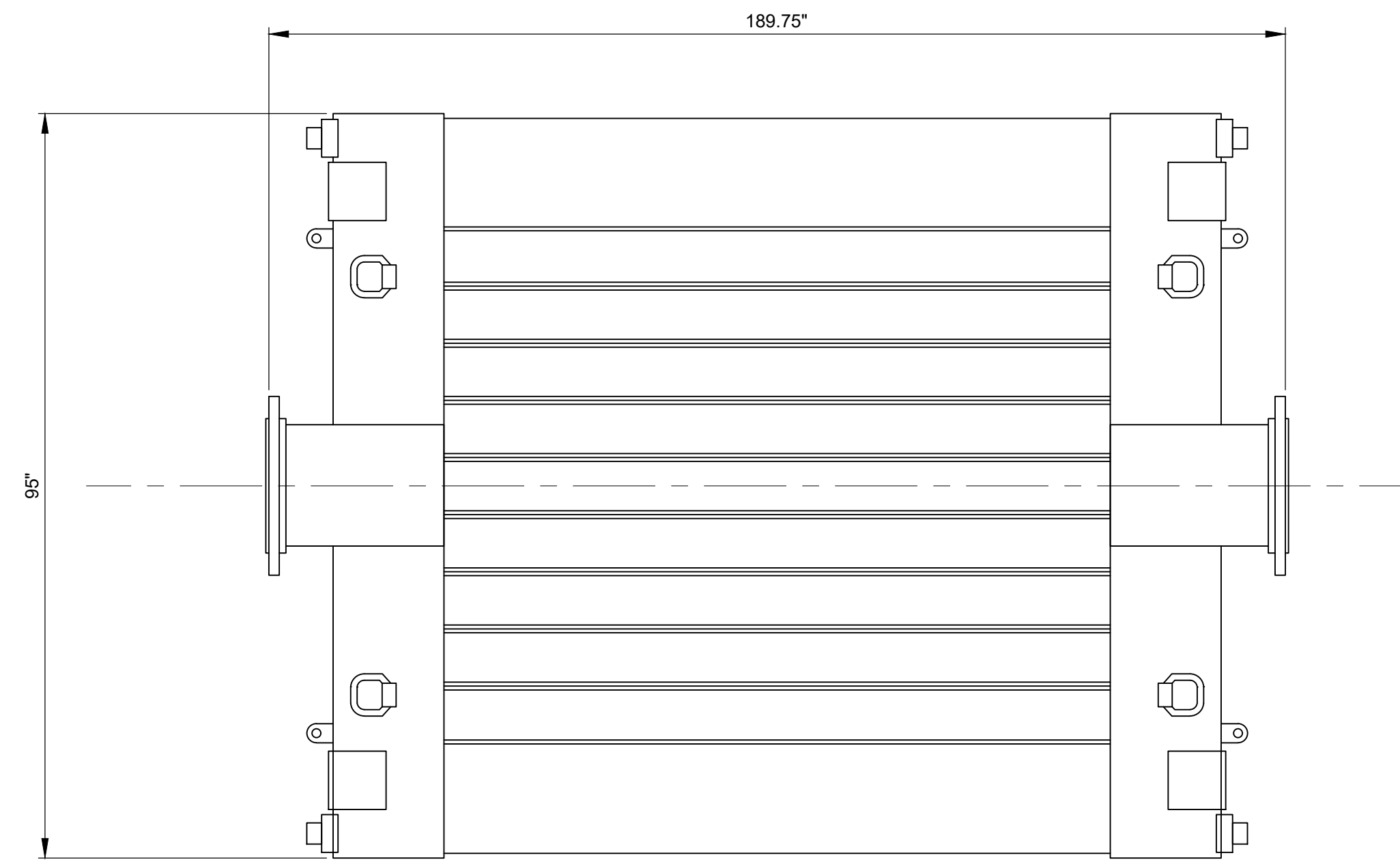
Cleanouts	Four 3-inch clean outs
Dry Weight	4700 lbs.
Footprint	95' x 189.75'
Inlet Diameter	18"
Max PSI	75
Outlet Diameter	18"
Pressure Gauges	Two 0.5 inch valves
Vehicle Width Clearance	12'



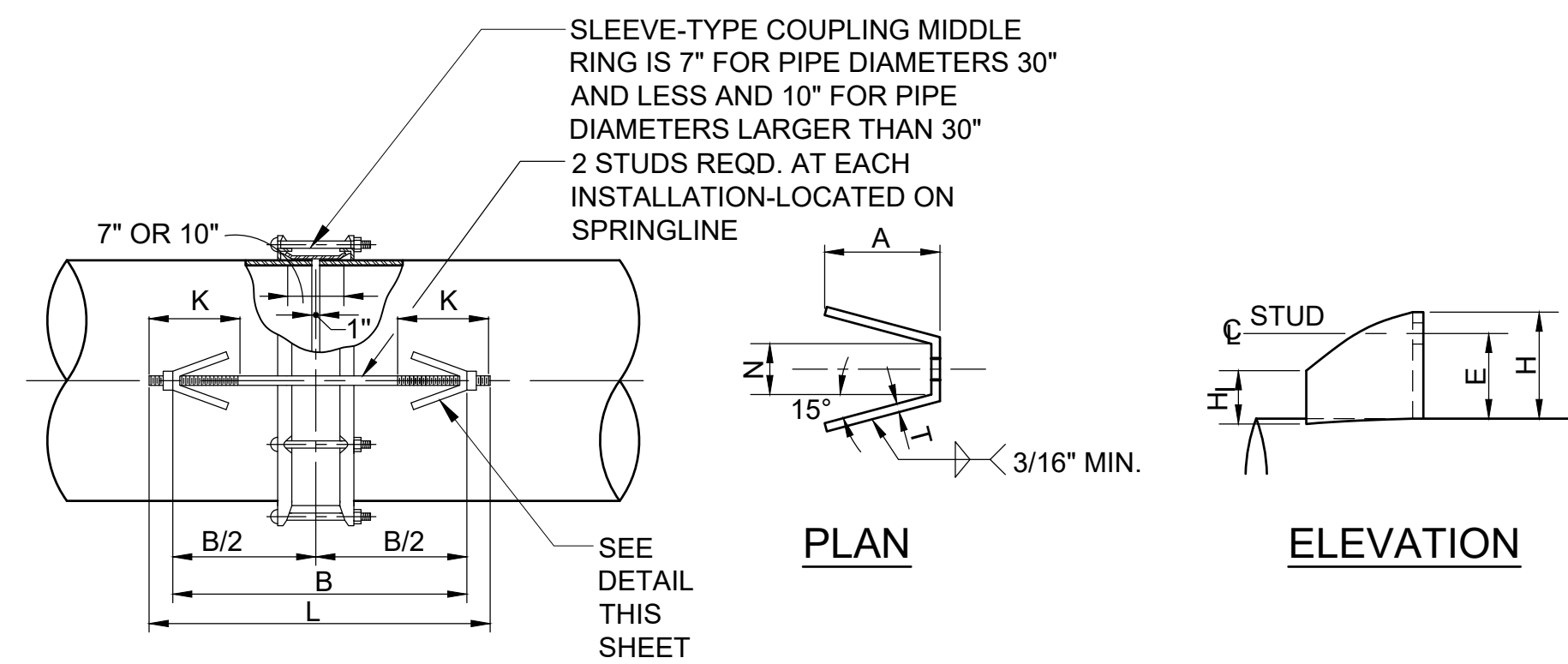
**2**  
-  
**PRESSURE GAUGE**  
NO SCALE



**3**  
-  
**HOSE FAUCET OUTLET**  
NO SCALE



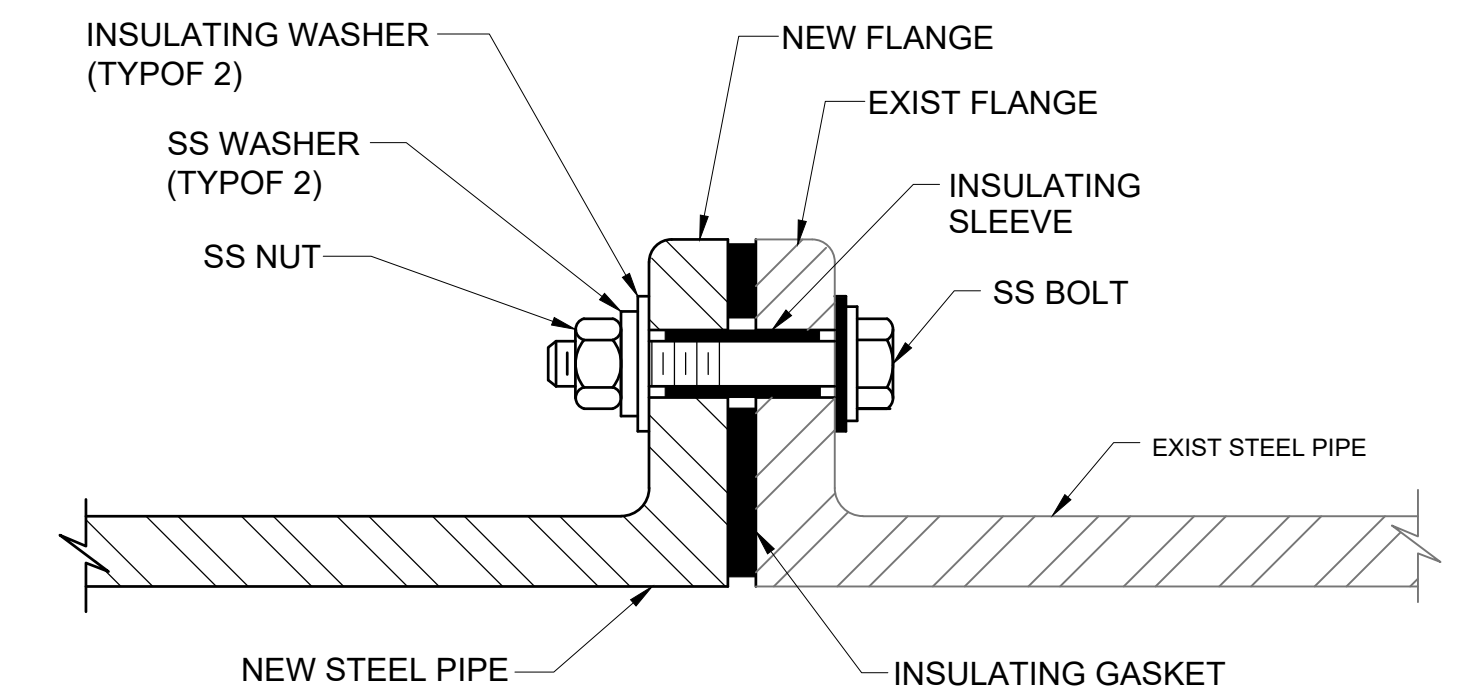
**1**  
-  
**18"x12' ROAD CROSSING**  
NO SCALE



**TABLE I**

JOINT HARNESS DIMENSIONS (IN INCHES)										
PIPE SIZE	STUD Ø D	A	B	T	H	E	H <sub>1</sub>	L	N	K
12	5/8	3	26	3/8	3 7/8	3	2	28 1/4	2	3 1/2
16	3/4	3 3/4	27 1/2	3/8	4 1/8	3 1/8	2	30	2	3 5/8
20	7/8	4 1/2	29	3/8	4 1/4	3 1/8	2	31 3/4	2	3 3/4
24	7/8	4 3/4	30	3/8	4 1/4	3 1/8	2	32 1/2	2	3 3/4
30	1	5 1/8	30 1/4	3/8	4 1/2	3 1/4	2	33 3/4	4	3 7/8
36	1 1/4	6 3/4	33 1/2	1/2	5	3 3/4	2 1/2	37	4	4 1/4
48	1 1/2	8 3/4	47 1/2	1/2	5 3/4	3 7/8	2 1/2	51 1/2	4	4 1/2
60	1 3/4	11 1/4	50 1/2	1/2	6 3/8	4 1/8	2 1/2	55	4	4 3/4

**4**  
-  
**HARNESS**  
NO SCALE



**5**  
-  
**INSULATED FLANGE**  
NO SCALE

**NOTES:**  
1. THE ROAD CROSSING SHALL BE 18"x12' ROAD CROSSING BY RAIN FOR RENT OR EQUAL.

Attention:				
0 1"				
If this scale bar does not measure 1" then drawing is not original scale.				
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Drawn: K. CHUNG  
Checked: M. WONG  
Approved: K. YAO  
Submitted: S. GALA



NORTH KERN WATER STORAGE DISTRICT  
PIPELINE AND PUMP STATION PROJECT

TYPICAL DETAILS AND  
MISCELLANEOUS MANIFOLD DETAILS

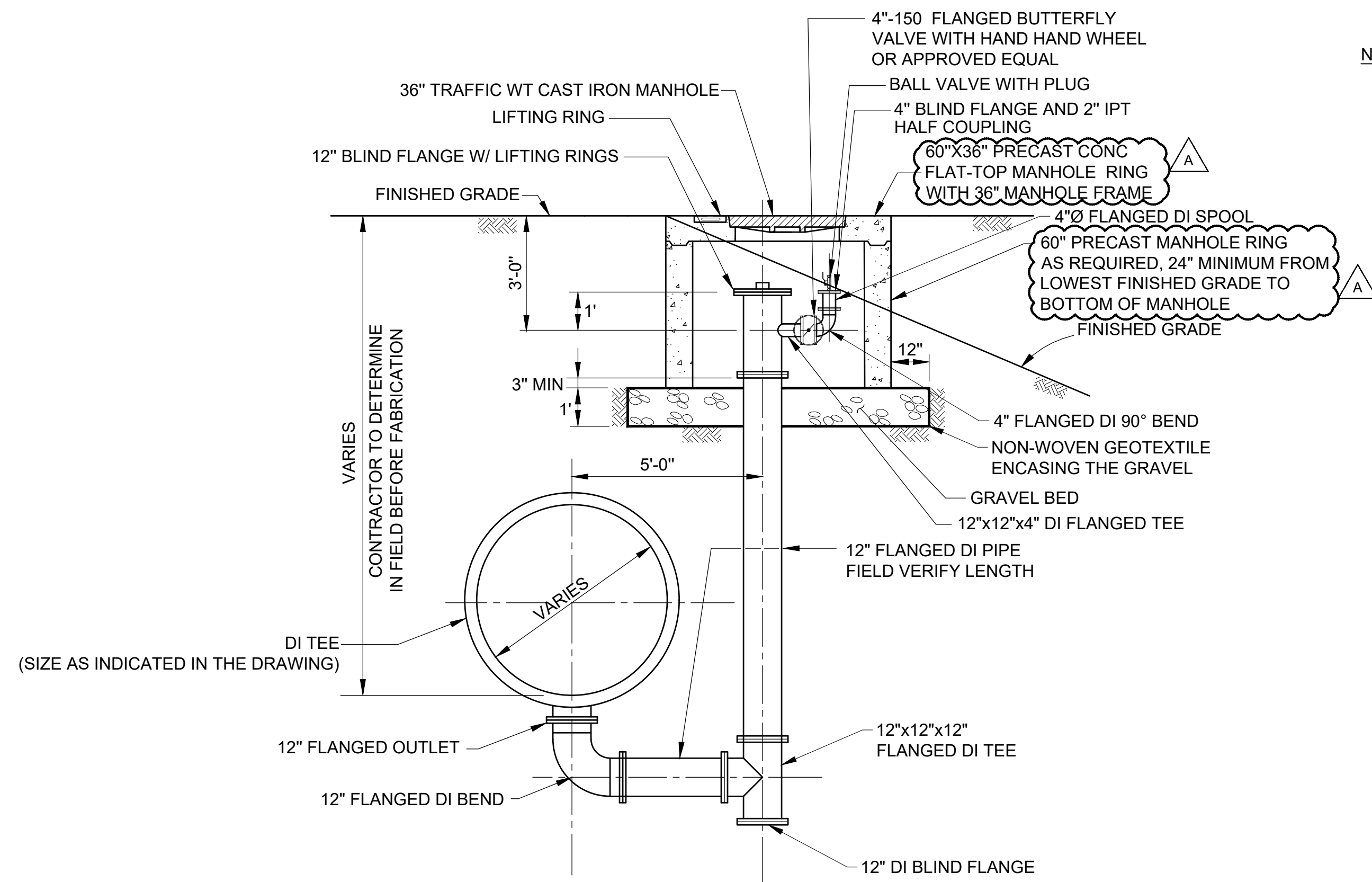
DWG. NO.

CG-05

SHEET NO.

52

ARCHIVE #



**NOTES:**

1. ALL BACKFILL TO BE COMPACTED TO FINISHED GRADE AS INDICATED ON DRAWINGS.
2. TANGENTIAL OUTLET MAY BE FURNISHED IN LIEU OF FLANGED OUTLET.
3. ALL BLOW-OFF PIPING SHALL BE COATED THE SAME AS THE DI TEE.
4. THE FINAL LOCATION OF THE BLOW-OFF ASSEMBLY AND MANHOLE SHALL BE AS DIRECTED BY THE DISTRICT IN THE FIELD.

1 TYPICAL BLOW-OFF  
- NO SCALE

Attention:  If this scale bar does not measure 1" then drawing is not original scale.					 GEI CONSULTANTS, INC. 5001 CALIFORNIA AVE SUITE 120 BAKERSFIELD, CA 93309 (661) 327-7601	Drawn: K. CHUNG		 NORTH KERN WATER STORAGE DISTRICT	NORTH KERN WATER STORAGE DISTRICT PIPELINE AND PUMP STATION PROJECT	DWG. NO. <b>CG-09</b>
	NO. DATE ISSUE/REVISION APP	11/03/21 ADDENDUM NO. 5	GEI	Approved: K. YAO Submitted: S. GALA		TYPICAL BLOW-OFF DETAIL			SHEET NO. <b>56</b>	
									ARCHIVE #	