



**GUAM WATERWORKS AUTHORITY**

Gloria B. Nelson Public Service Building  
688 Route 15 | Mangilao | Guam 96913

Groundwater Wells A-02, A-07, A-12, D-05 and F-03 Rehabilitation  
GWA Project No. W16-001-EPA  
IFB-01-ENG-2020  
GWA RFI Response No. 1

This Addendum and/or Response to Request for Information (RFI) is issued to modify the previously issued bid documents and/or given for informational purposes and to the extent the responses below modify the bid documents, please treat them as an amendment to the Bid. The following responses are in response to RFIs received.

#	Date	Proposer Question	GWA Response
1	11/26/2019	Drawing C-301 shows a 24" diameter borehole with a 14" ID (~14.625" OD) casing. Drawing C-303 shows 2 sounding tubes oriented at 135 degrees apart. The sounding tube insertion boxes at the bottom of the screen protrude out 6", essentially making the diameter of the downhole appurtenances 26.625". Additionally, with 2 sounding tubes and 1 gravel tube on the outside of the casing it will be nearly impossible to measure the gravel pack, well seal and grout without getting the measuring equipment stuck. And also a good chance the sounding/gravel tubes will get damaged (crushed/pinched) during casing installation no matter what size the casing/borehole is. Will GWA provide a new design and extend the RFI submittal time?	<ul style="list-style-type: none"> <li>a. For a nominal 14" ID well casing, the OD is 14.5". See DWG No. C-303_rev1, the sounding tube bracket dimensions have been revised from (6" x 6" x 2'-6" x5/16") to (4" x 4" x 12" x 3/8"). The effective diameter of the downhole appurtenances is 21.7".</li> <li>b. Requirement of two sounding tubes is a design requirement requested by GWA. The means and methods of the measurement is the Contractor's responsibility.</li> <li>c. The bracket will be of the same material and thickness as the well casing and can be rounded at the bottom to reduce the potential of being damaged. Contractor shall take precaution during installation to prevent damage of the well casing materials.</li> <li>d. DWG No. C-303_rev1 has been revised to reduce the dimensions of the sounding tube bracket.</li> <li>e. No extension to the RFI period is provided.</li> </ul>
2	11/26/2019	Specification section 1.03 D states liquidated damages of \$3,000 per calendar day. Will liquidated damages be enforced on this project after 420 days from NTP?	Section 00700, Paragraph 4.01 of the General Conditions, liquidated damages will be assessed for Contractor's failure to achieve Substantial Completion, or final completion of the Work within the Contract Times as described in Section 00520, Article 4.

3	11/26/2019	<p>Specification section 01 22 00 Bid Item 3 Environmental Mitigation Measures- mentions adequate sound paneling and mufflers to meet local noise ordinances and site specific noise requirements during drilling operations. What are these ordinances and requirements and will typical exhaust mufflers on drilling equipment suffice?</p>	<p>Contractor's responsibility to verify all environmental mitigation measures. Should no local noise ordinances exist, typical exhaust mufflers on drilling equipment shall suffice.</p>
4	11/26/2019	<p>Specification section 01 22 00 Bid Item 16 Gravel Pack- states per cubic yard unit price and that measurement shall be made per foot of gravel pack installed in the well. Bid sheet shows an assumed cy quantity. Additive Bid Item 1 has an allowance of 12 cy additional for entire project. How will contractor be paid for the additional material greater than 12 cy if there are substantial cavities? This also means that contractor will need to procure an additional 12 cy of material from off-island. Would locally quarried gravel suffice for large cavities?</p>	<p>a. In Section 01 22 00, Bid Item 16, measurement for gravel pack shall be replaced from "per foot" with "per cubic yard".</p> <p>b. General Conditions Section 00700, Paragraph 5.04.D, if Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.</p> <p>c. If the Base Bid and Additive Bids are awarded, the Work for both the Base Bid and the Additive Bids shall be substantially completed within 480 days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions. For bidding purposes, the gravel pack to be provided shall meet the requirements as specified in Section 33 21 00.</p>
5	11/26/2019	<p>Specification section 01 22 00 Bid Item 17 Annular Cement Seal with Sand and Bentonite- States per-vertical-foot unit price. Additive Bid Item 2 has an allowance of 30% for each project site. How will contractor be paid for the additional material greater than 30% if there are substantial cavities?</p>	<p>d. General Conditions Section 00700, Paragraph 5.04.D, if Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.</p>
6	11/26/2019	<p>Specification section 33 21 00-6, 2.05 A Sanitary Seal- states that the well seal shall be placed by using a tremie pipe. Can the well seal, filterpack and grout all be placed by direct surface pour?</p>	<p>e. No. The gravel filter pack shall be placed using a tremie pipe, and in locations as shown in the drawings, using the Method described in section B.3 of AWWA A-100-06. The gravel shall be installed uniformly and continuously to minimize or eliminate hydraulic segregation and bridging. The placement of the well seal consisting of bentonite/cement slurry without the aid of a tremie pipe would be in violation of GEPA's Water Resource Development and Operating Regulations. The intent is to prevent voids in the well seal.</p>

7	11/26/2019	Specification section 33 21 00-7, 3.03 A Caliper Log- Will a caliper log be required?	Yes. The purpose of the caliper log is to determine the quantities of material to be placed in the annulus outside the casing.
8	11/26/2019	Specification section 33 21 00-7, 3.05 B- Centralizers installed on the solid casing section will preclude the measurement of the filterpack, well seal and grout. Can this requirement be waived?	No. The means and methods of the measurement is the Contractor's responsibility.
9	11/26/2019	Specification section 33 21 00-7, 3.05 C- Calls for plumbness and alignment testing. Even with the use of drill collars and stabilizers it's very difficult to guarantee a straight borehole in Guam's karst substrate. Can this requirement be waived as long as Contractor can safely install the pumping equipment?	<p>a. Section 33 21 00, 3.05 C:</p> <p>Delete the sentence "The maximum allowable horizontal deviation (drift) of the well from the vertical shall not exceed 0.0067 times the smallest inside diameter of that part of the well being tested per foot of depth and the casing shall also have an effective minimum diameter of 7.5 inches or greater."</p> <p>Replace with "The Contractor shall demonstrate that the casing alignment is adequate to freely install and remove a submersible pump and motor including motor shroud with a shroud diameter of 9 inches and a shroud length of 8 feet."</p> <p>b. Section 33 21 00, Paragraph 3.05.D, should the casing fail to meet the requirements and interfere with the installation and/or operation of the pumping equipment, the plumbness and/or alignment shall be corrected at the Contractor's expense.</p>
10	11/26/2019	Specification section 33 21 00-9, 3.10.A- Calls for step-drawdown testing at up to 200% capacity of the designed rate. Is this accurate? This section also states that the constant rate test shall be performed for the remainder of the 30 hour time period. Is this step-drawdown test to be run on the 24" open borehole or the completed 14" cased well?	<p>a. Step-draw down test shall continue up to 100% of the design flow. In Section 33 21 00, 3.10.A, revise "200 percent" to "100 percent".</p> <p>b. The step-drawdown test in Paragraph 3.10.A is to be run on the 24" open borehole. The 72-hour constant-rate pumping test will be on the final well, see Section 33 21 00.</p>

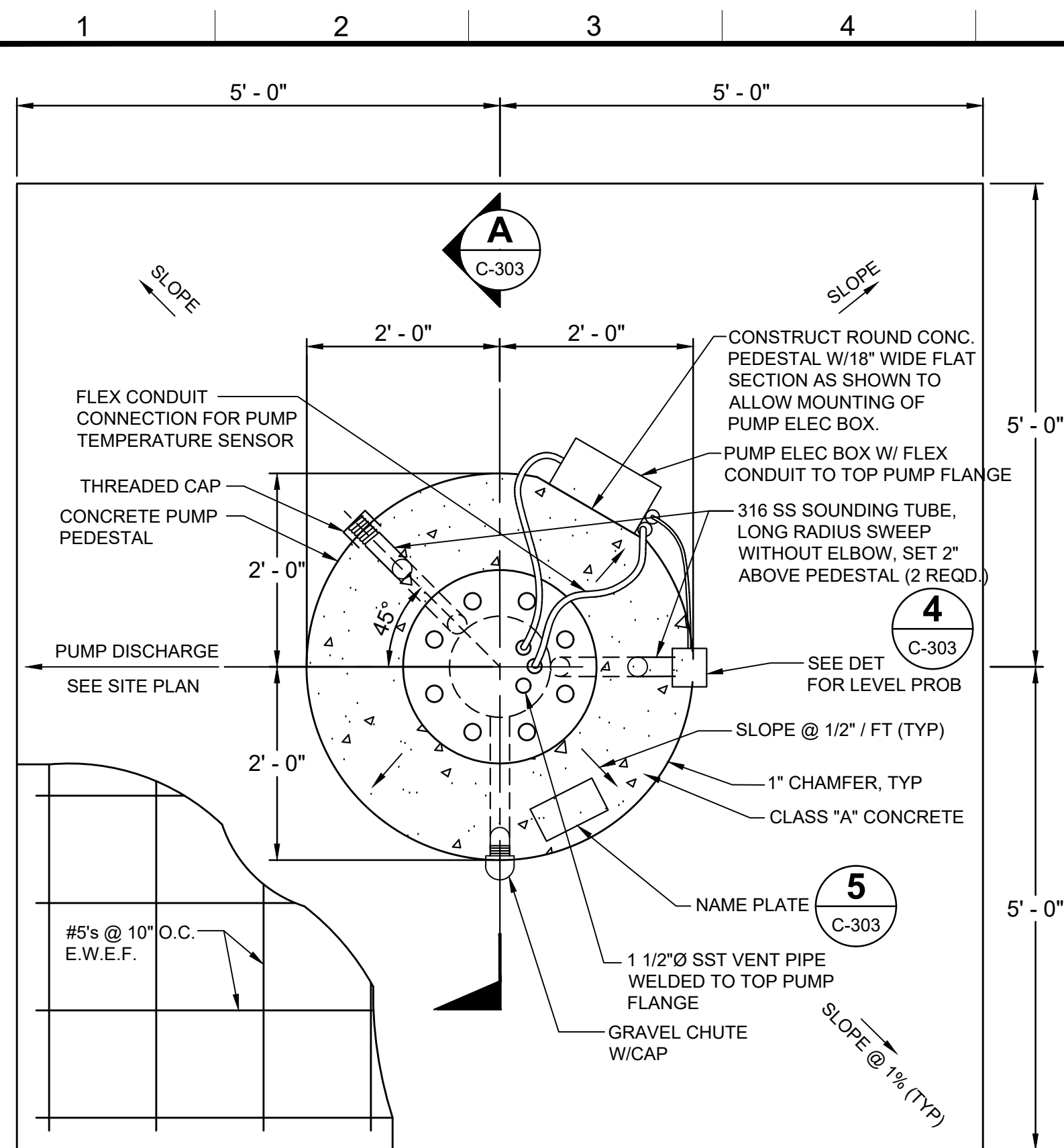
11	11/26/2019	We don't believe 420 days is enough time to complete the project considering some of the design elements, all of the off-island material ordering & logistics, submittals and inspections, GEPA plans/permits, DPW plans/permits etc. Can a time extension be granted?	Based on the extensive groundwater exploration completed in advance of this project, the current contract times are reasonable. No time extension will be granted.
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Bidders are also notified to visit GWA website: [www.guamwaterworks.org](http://www.guamwaterworks.org) to ensure that addenda to the bid, answers to questions, and reminders are communicated to all bidders throughout the solicitation process.

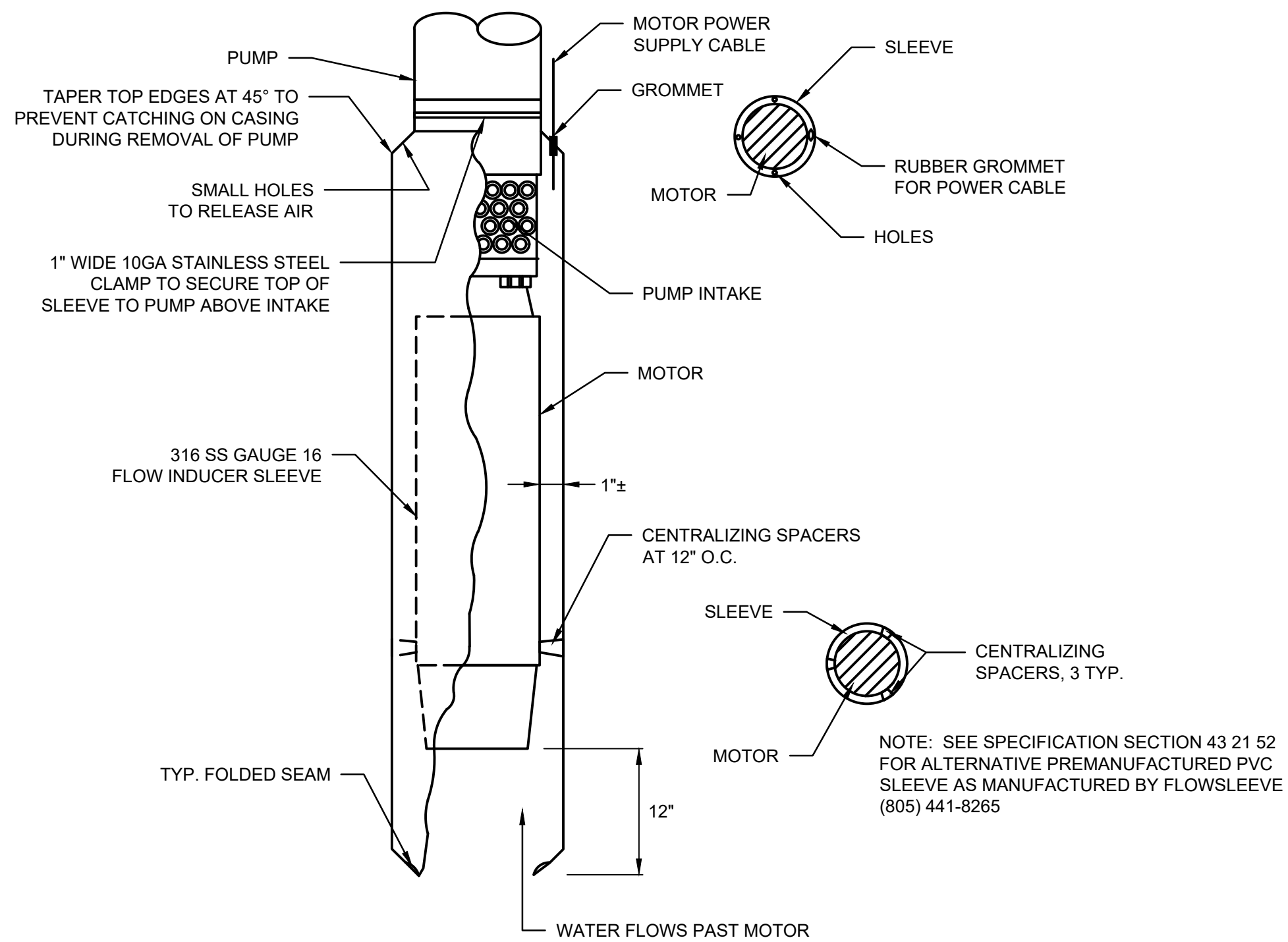
  
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 MIGUEL C. BORDALLO, P.E.  
 General Manager

MCB;rd

Attachments:  
C-303\_rev1



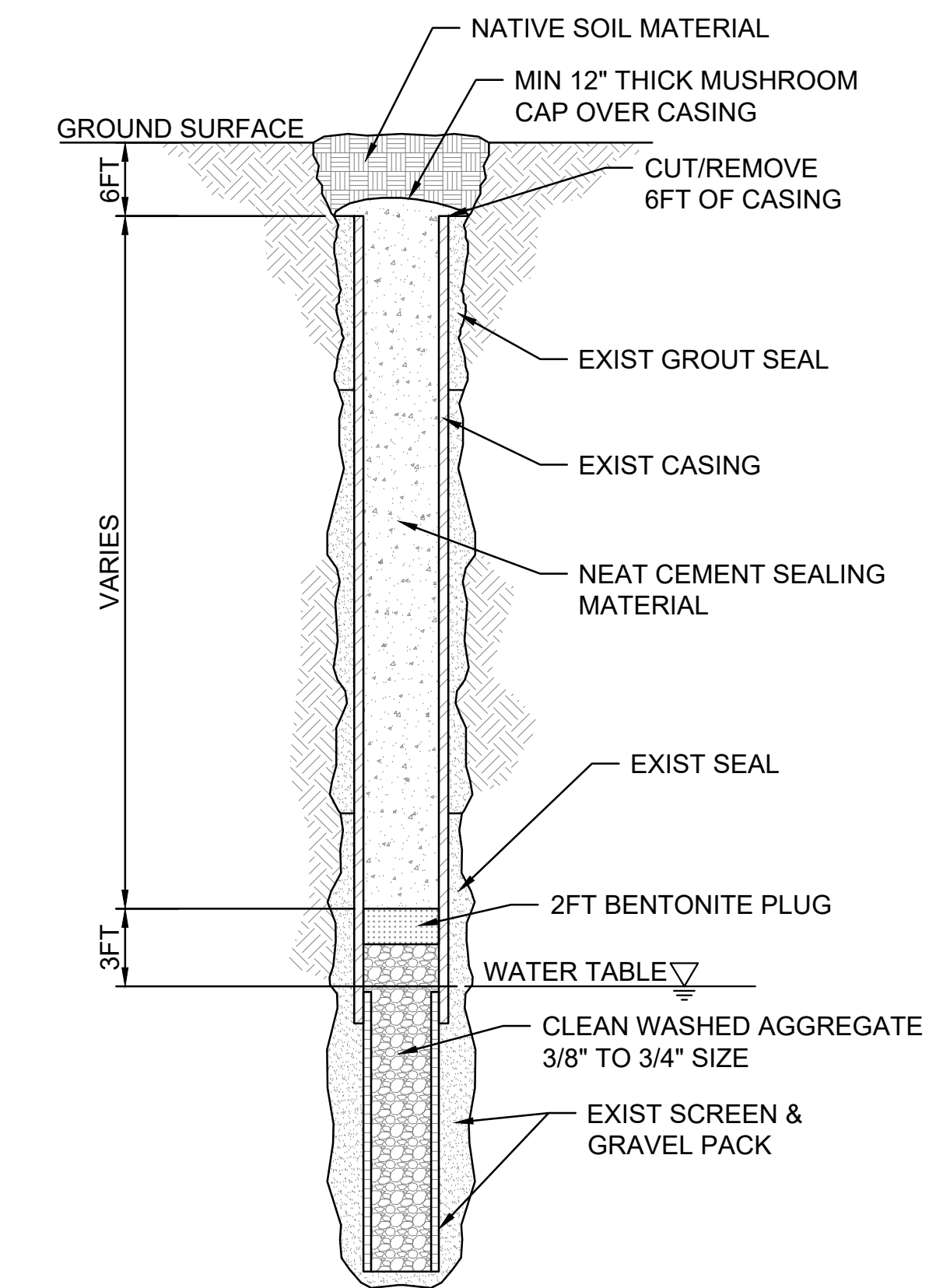
**PUMP PEDESTAL PLAN**  
SCALE: NONE



**FLOW INDUCER SLEEVE**  
SCALE: NONE

6"X4"X1/4" SST PLATE W/ ENGRAVED LETTERING TYPICAL FOR EACH WELL SECURE W/ 3/8" DIA SST EPOXY ANCHOR SLEEVES W/ THERATED BOLTS CONFIRM DATA FOR EACH WELL WITH ENGINEER PRIOR TO ENGRAVING	
WELL	A-02b
WELL DEPTH	205 FT
TOP CONCRETE	121.74 FT
AT WELL PEDESTAL	-85.43 FT
BOTTOM ELEVATION	N 636323.01
COORDINATE	E 337360.48
GEPA PERMITTED GPM	250

**TYPICAL WELL NAME PLATE**  
SCALE: NONE

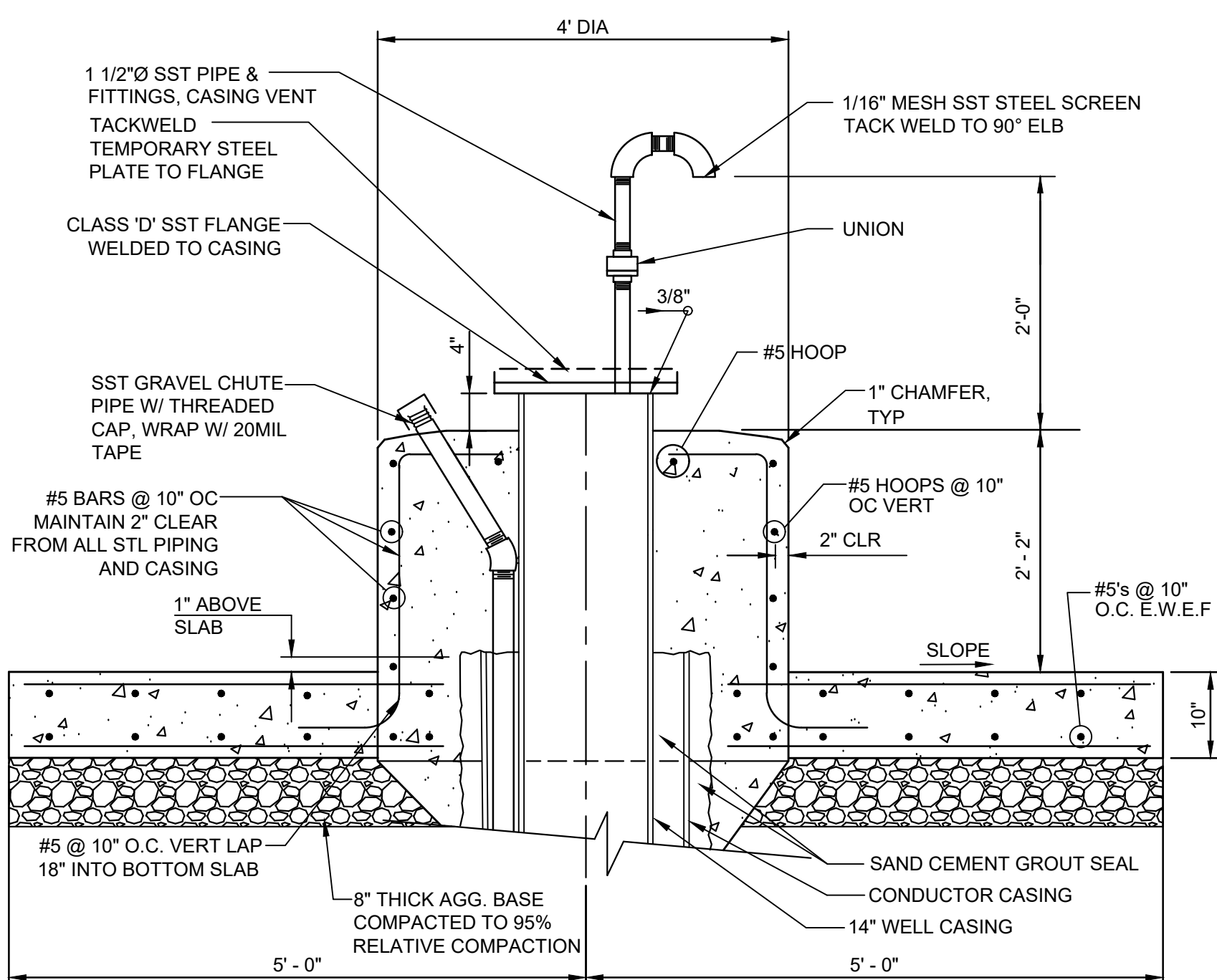


**WELL ABANDONMENT DETAIL**  
SCALE: NONE

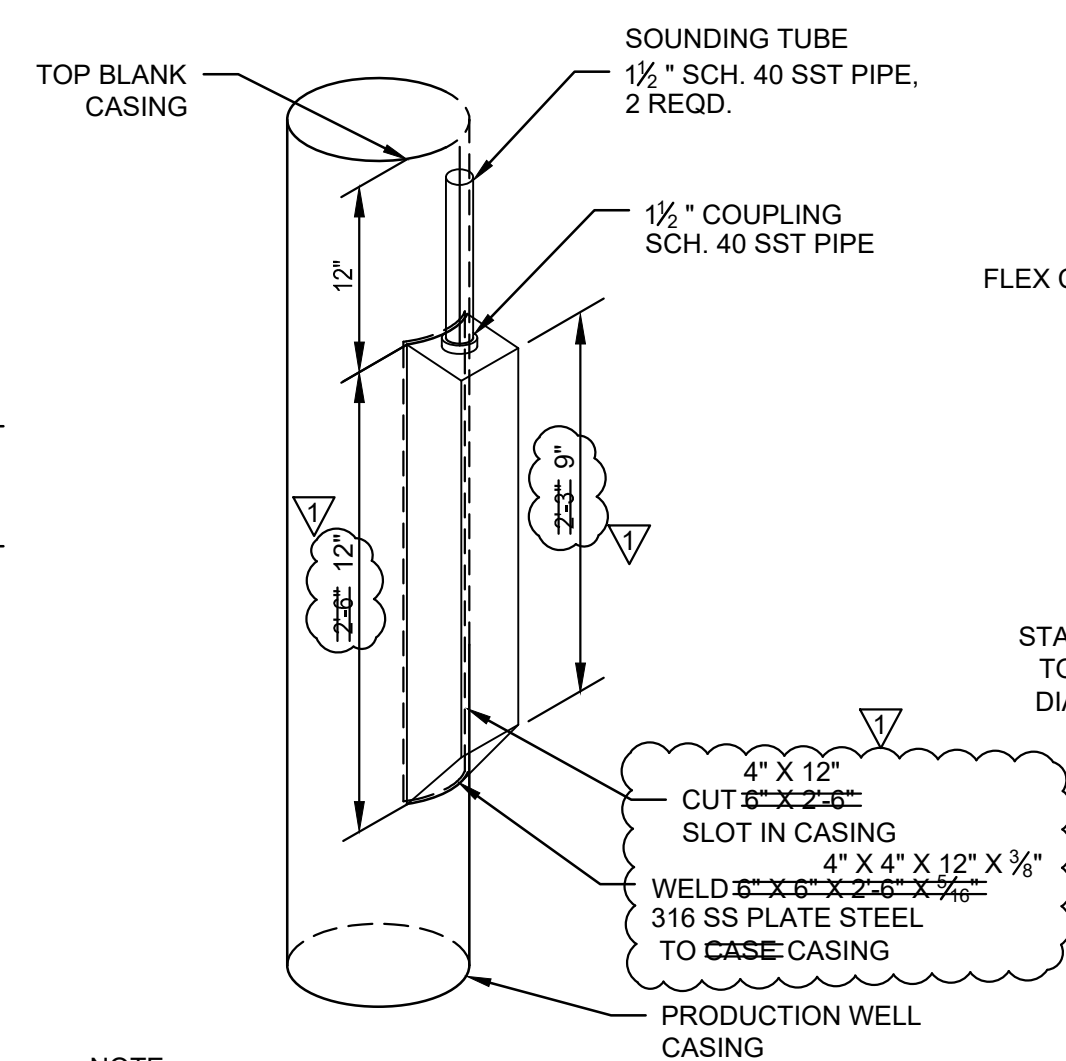
**NOTE:**  
THE DRILLER SHALL SUBMIT A WELL ABANDONMENT PLAN FOLLOWING THE PROCEDURE BELOW TO GUAM EPA FOR REVIEW/APPROVAL. THE PLAN SHALL INCLUDE A CROSS-SECTIONAL DRAWING OF THE WELL SHOWING THE WATER TABLE, LOCATIONS OF THE DIFFERENT TYPES OF FILL MATERIAL IN THE WELL BORE, KNOWN DIMENSIONS, ETC. THE TYPICAL DETAIL AND GENERAL NOTES ARE FOR REFERENCE ONLY.

**GENERAL NOTES FOR WELL ABANDONMENT:**

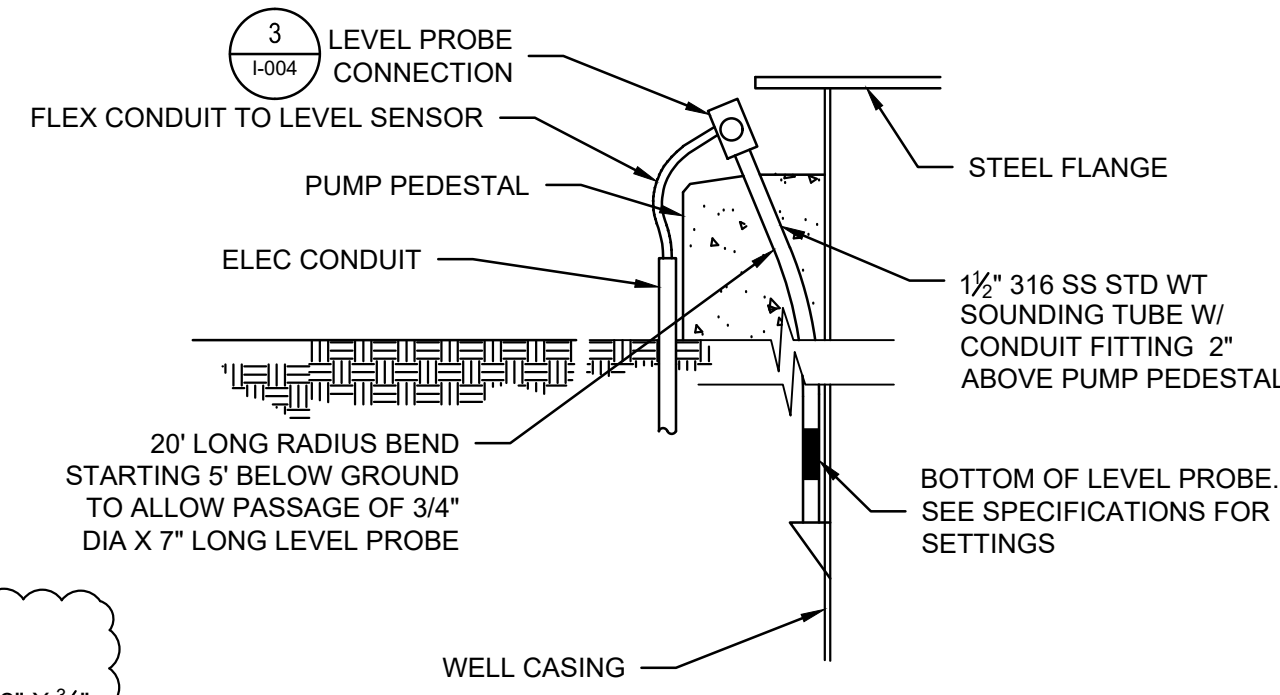
1. REMOVE THE WELL PEDESTAL AND CONCRETE PAD.
2. EXCAVATE DOWN TO 6 FEET AND CUT/REMOVE THE CASING. THE REST OF THE EXISTING CASING SHALL REMAIN IN PLACE.
3. FILL THE WELL WITH 3/8 TO 3/4 INCH CLEAN WASHED AGGREGATE TO 3 FEET ABOVE THE WATER TABLE.
4. PROVIDE A TWO-FOOT BENTONITE PLUG BY PLACING 3/4 INCH BENTONITE CHIPS IN SIX-INCH (6") LIFTS AND HYDRATE EACH LIFT WITH POTABLE WATER.
5. FILL THE CASING WITH NEAT CEMENT UP TO 6 FEET BELOW THE GROUND SURFACE TO FORM A MINIMUM 12" THICK MUSHROOM CAP OVER THE CASING.
6. FILL THE FINAL 6 FEET WITH THE SOIL NATIVE TO THE SITE.
7. THE WELL DRILLER SHALL NOTIFY GEPA 48 HOURS PRIOR TO INITIATING WELL ABANDONMENT.



**SECTION**  
SCALE: NONE



**SOUNDING TUBE BRACKET**  
SCALE: NONE



**SOUNDING TUBE**  
SCALE: NONE

- NOTE:**
1. THE SOUNDING TUBE IS TO BE CONNECTED TO A SEGMENT OF BLANK CASING.

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REVISIONS: NO. 1 DATE: 12/4/19 PD	STRUCTURE NO.  INDEX NO.
CITY ENGINEER DESIGN GROUP DATE:	P. D. S. J. S. J. A. S. R. L.
<b>WELL SECTIONS AND DETAILS - 3</b> GROUNDWATER WELLS A-02, A-07, A-12, D-05, AND F-03 REHABILITATION	
WORK ORDER NO.	
DRAWING NO.	
<b>C-303</b>	
SHEET 22 OF 78 SHEETS	

**AECOM**

AECOM  
 414 West Soledad Avenue, Suite 708  
 GC Building, Hagatna, Guam 96910  
 T 1.671.477.8327 F 1.671.472.8324  
 www.aecom.com

DWG: S:\Projects\Legacy\USIG\Wastewater\Guam\60506837-GWA Well Rehab\900-CAD-015\910-CAD\02-Sheets\C-C-DETAILS.dwg  
 DATE: Dec 04, 2019 3:33pm  
 USER: Joas  
 IMAGES: AFP\_GWA\_CLORINE\_BLDG  
 SHEET: 22 OF 78