GUAM WATERWORKS AUTHORITY
Gloria B. Nelson Public Service Building • 688 Route 15, Mangilao, Guam 96913 • Tel. (671) 300-6036

Invitation To Bid: IFB-08-ENG-2018
Outfall Effluent Diffuser Installation Project for Upgrade of the Northern District Wastewater Treatment Plant to Secondary Treatment (Re-Bid)
GWA Project No. S18-002-OEA

Addendum No.: 02

Date: August 24, 2018

All Qualified Bidders:

This addendum is issued to modify the previously issued bid documents and/or given for informational purposes and is hereby made a part of the bid documents. Failure to acknowledge receipt of this addendum shall be grounds for the bidder's disqualification and rejection of the bidder's proposal.

1. **Part A – GWA Request for Information Response No. 1 to Contractor Inquiries**

   GWA's responses to contractor RFI inquiries are attached to this addendum.

2. **Part B – Specifications**

   - Specification Section 15061, Steel Pipe, Part 2 Products, Paragraph 2.01.7.a. Delete paragraph in its entirety and replace with the following paragraph:

     Protective coating, at the option of the Contractor, to be either 0.5-inch bituminous mastic or 0.5-inch epoxy enamel and fibrous glass wrap or 60 mil high performance epoxy coating resistant to salts and alkalis conforming to the following specifications:

   - Following Specification Section 15061, Steel Pipe, Part 2 Products, Sub-paragraph 2.01.7.a.2, add subparagraphs 3):

     3) High impact resistant epoxy coating, superior adhesion to steel, one-coat DFT application, Carboline Plasite 4500 or approved equal.

3. **Part C – Pre-Bid Meeting Notes and Presentation**

The pre-bid meeting notes, pre-bid meeting list of attendees, and pre-bid presentation are attached to this addendum.

4. **Part D – RFI Closing Date**

To respond to questions in time for bid opening, all RFIs must be sent prior to close of business on August 29, 2018 to Gloria Bensan (gpbensan@guamwaterworks.org).

5. **Part E – Second Site Visit**

A second site visit has been scheduled to accommodate bidders that were unable to attend on August 22, 2018. The second site visit is scheduled for August 31, 2018 at 11:00 am at Northern District Wastewater Treatment Plant and will last approximately one hour. Any questions and answers asked during the site visit are unofficial and at the bidder's risk. Interested bidders should be prepared with the appropriate Personal Protective Equipment for a wastewater treatment facility. Safety shoes, safety vest, and sun protection are recommended.

Bidders are also notified to visit GWA website: www.guamwaterworks.org to ensure that addenda to the bid, answers to questions, and reminders are communicated to all bidders throughout the solicitation process.

MIGUEL C. BORDALLO, P.E.
General Manager

Attachment(s):
- GWA's responses to contractor inquiries
- Pre-bid meeting: Notes, list of attendees, and presentation

MCB;gb

GUAM WATERWORKS AUTHORITY

Addendum No. 002

Outfall Effluent Diffuser Installation Project for Upgrade of the Northern District Wastewater Treatment Plant (NDWWTP) to Secondary Treatment (Re-Bid)

GWA Project No. S18-002-OEA

IFB-08-ENG-2018

GWA RFI Response No. 1 to Contractor Inquiries

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.

RFI	DATE RECEIVED	QUESTION/INQUIRY AS SUBMITTED:	GWA RESPONSE:
1	8/9/18	1. Drawing D-06, Section 1 calls out a thickness of 12" for the ACB mattresses. Specification section 02277 paragraph 2.01 A. calls out a minimum thickness of 14" for the ACB mattresses. Please clarify the required ACB mattress thickness. 2. Given that this project is highly dependent on good weather we anticipate working 12 hour days, Saturdays, and potentially Sundays. Please provide overtime rates for all the necessary Owner's representative personnel that will be required to work during these times such as RPR, Owner's representative, Owner's Engineer, etc.	1. In Specification 02277 Articulated Concrete Block Mattress System, Part 2 Products, Paragraph 2.01.A Concrete Block Mattress, delete paragraph in its entirety and replace with the following paragraph: Interlocking Concrete Blocks: The CONTRACTOR shall provide blocks, which comprise the mat, constructed of high strength concrete having a minimum compressive strength of 4000 pounds per square inch. The blocks shall have a length no longer than 26 inches and a width no greater than 24 inches, and thickness of 12 inches minimum. 2. There is no overtime charged at premium time. However, should the Owner's construction management budget be exceeded because of Contractor delays or inefficiencies, Contractor might be pressed for a reasonable set-off. Current Owner budget allows for one Construction Manager working full-time

			for up to 13 weeks.
2	8/20/18	3. For bid documents that are required to be notarized, please confirm that it is acceptable to use a Hawaii based notary.	3. Yes, Hawaii-based notaries are acceptable.
3	8/22/18	4. For the CLMC pipe option we are having a difficult time finding a vendor who is willing to fabricate such a limited quantity of pipe. Is there a vendor that the Engineer would recommend? 5. In Section 09000 Procurement Checklist and Appendices, item #3 states Bid Proposal and Schedule. Is this the same as the bid form in section 00410 or is this referring to something else?	4. Jifco, Inc. is a vendor that fabricates suitable pipe. Bidders may select other equivalent suppliers. 5. The Bid Proposal and Schedule stated in Section 09000 is the same as the bid form in Section 00410.
4	8/23/18	6. Will the 30" flanged existing spool piece for switching between the old and new outfalls fit through the existing 36" diameter ID manhole frame?	6. No, the existing spool piece will not fit through the existing 36-inch inner-diameter manhole frame.
5	8/24/18	7. If a bidder wasn't able to make it to the site visit scheduled for Wednesday, August 22, 2018 at 10am, may the bidder schedule another site visit?	7. Yes, a second site visit has been scheduled to accommodate bidders that were unable to attend on August 22, 2018. The second site visit is scheduled for August 31, 2018 at 11:00am at Northern District Wastewater Treatment Plant and will last approximately one hour. Any questions and answers asked during the site visit are unofficial and at the bidder's risk. Interested bidders should be prepared with the appropriate Personal Protective Equipment for a wastewater treatment facility. Safety shoes, safety vest, and sun protection are recommended.

Bidders are also notified to visit GWA website: www.guamwaterworks.org to ensure that addenda to the bid, answers to questions, and reminders are communicated to all bidders throughout the solicitation process.

MIGUEL C. BORDALLO, P.E.
General Manager

MCB;gb

GUAM WATERWORKS AUTHORITY

IFB-08-ENG-2018
Outfall Effluent diffuser Installation Project for Upgrade of the Northern District Wastewater Treatment Plant (NDWWTP) to Secondary Treatment (Re-Bid)
GWA Project No. S18-002-OEA

Pre-Bid Conference
August 22, 2018 – 10:00 a.m. – GPWA Procurement Conference Room

Name:	Company	Contact No.	Email Address
GWA:			
Thomas F. Cruz, P.E.	GWA Engineering	300-6036	thomas@guamwaterworks.org
Gloria Bensan	GWA Engineering	300-6042	gpbensan@guamwaterworks.org
Brown & Caldwell:			
Bill Gilman	Brown & Caldwell	300-4225	BGilman@BrwnCald.com
Jerald Johnson	Brown & Caldwell	300-4232	JJohnson2@BrwnCald.com
Cheryl Dilks	Brown & Caldwell	300-4224	Cdilks@BrwnCald.com
Other Participants:			
NELSON DEGALA	HDCC	689-6357	ndegala@hdcc.com
Joseph Claveria	Brown & Caldwell	300-4227	jclaveria@brwncald.com
Jason Jaskowiak	CA	929-9354	jjaskowiak@eaest.com
Cris Wise	HTB	685-6021	cfwise@hawaiiantel.com
T. Haland	PMT	685 8738	

Meeting Notes

414 West Soledad Avenue, Suite 602
Hagåtña, Guam 96910

T: 671.300.4220

Prepared for: Guam Waterworks Authority (GWA)
Project Title: Outfall Diffuser Installation for Upgrade of the NDWWTP to Secondary Treatment (Re-Bid)
Project No.: GWA Project No. S18-002-0EA, IFB-08-ENG-2018

Purpose of Meeting: Pre-Re-Bid Meeting **Date:** August 22, 2018
Meeting Location: GPWA Procurement Conference Room **Time:** 10:00 a.m.
Minutes Prepared by: Brown and Caldwell

Attendees: (See attached Pre-Re-Bid Meeting Sign-in-sheet)

Notes

- Meeting was initiated at 10am and included introduction of staff from GWA and GWA's Program Manager, Brown and Caldwell (BC).
- Bill Gilman, BC Program Manager, presented the project on PowerPoint.
- Background information discussed:
  - This is a federally funded project through the Office of Economic Adjustment in cooperation with the Department of Defense.
  - H-2B Visa Workers are eligible to work on this project.
  - There are two outfalls.
    - One built in 1975 and abandoned-in-place.
    - Second built in 2008 and currently in use.
      - Approximately 140 feet deep.
      - Approximately 1,950 feet off-shore.
- Schedule
  - To respond to questions in time for bid opening **all questions must be sent prior to COB, 8/29/18** to Gloria Bensan (gpbensan@guamwaterworks.org).
  - Current bid opening date is 9/11/18 at 3:00p.m. ChST. GWA will maintain this bid opening date in order to receive approval from the Consolidated Commission on Utilities (CCU) in late September, which will allow for the Notice to Proceed to be issued in a timely fashion.
  - Construction must be completed by 11/29/19.
  - On-water installation best between 3/1/19 and 9/1/19, except for the coral spawning period. However, on-water construction can begin earlier if contractor is ready.

- Technical Details
  - Existing stainless steel (SS) clamp on end of existing 2008 outfall.
    - Clamp material is 316 SS, which is not appropriate for ocean environment.
    - The clamp needs to be removed and replaced. The clamp can be used as a template to procure a new clamp of the specified material. However, Contractor must return existing clamp to GWA for testing purposes.
    - Removal of the clamp and procurement of the replacement will need to be one of the first steps taken by the Contractor.
    - Bidder Question: Has anyone conducted a diving inspection of the clamp?
      - Response (Bill Gilman): A remotely operated vehicle (ROV) inspection was completed. The 316 SS material is known to be inappropriate for the marine environment for long-term use, with the potential for corrosion and/or failure, so it needs to be removed and replaced.
  - Tideflex® Valves
    - The metal on the backer rings is 304 SS, which even less suitable for marine environment than 316 SS.
    - Metal backer rings must be replaced.
  - Summary of Two Design Alternatives
    - Contractor will select one design alternative for the bid.
    - A. Reuse existing HDPE diffuser pipe.
      - Anchoring: Concrete block saddles and yokes.
      - Diffuser ports every 10 feet.
      - Photos of existing HDPE pipe were shown. See attached slides.
    - B. Procure new steel diffuser pipe.
      - Anchoring: Articulated concrete block mats.
      - Diffuser ports every 20 feet.
  - Design Alternative A
    - Existing HDPE Diffuser Pipe
      - Owner supplied.
      - There are four 100-foot sections.
      - Currently resides outside at NDWWTP, so requires transport to site for installation by contractor.
      - Metal flange rings are the wrong material and must be replaced.
    - Block Anchor Design
      - Goal: Maintain connection of yoke and saddle over the long-term through use of specialty metal threaded rods and nuts.
      - Must use AL6XN or Super Duplex metal.
      - Composed of approximately 610,800 pounds of concrete.
    - Specification 05505 for Miscellaneous Materials
      - Depending on the design component, various materials are acceptable.

  - Refer to Specification 05505 for table of acceptable materials per component. (Table was briefly reviewed in this meeting. See attached slides).
  - Fiberglass is allowable for some components.
- Electrofusion couplings are allowable for the diffuser ports.

- Design Alternative B
  - Steel pipe with consistent 24-inch diameter.
  - Articulated concrete block (ACB) mats.
    - 12-inch thick blocks.
    - Bidder Question: Sand bagging the pipe is typically done when using ACB mats. Is this required?
      - BC (Bill Gilman): Sand bagging was not considered, but the question is appreciated.
  - Diffuser ports every 20 feet, with two diffuser valves per port.
  - Flanges or Victaulic couplings are allowed for pipe segment connections.
  - Joints between the steel pipes should be bonded and anode bracelets must be installed to prevent corrosion of steel pipe.

- Details on bypass flow arrangement
  - During construction, flow should be bypassed to the 1975 old outfall pipe.
  - Construction Manager Question: Would GWA allow for the outfall pipe to be cut to allow for the insertion of a gate valve to fit between the pipe segments?
    - Response (Bill Gilman): Yes, GWA would entertain this idea.
  - Guam Environmental Protection Agency will allow bypassing of flow up to 14 days.
  - To prevent flow through the outfall and to arrange the bypass flow, the Northern District Wastewater Treatment Plant (NDWWTP) can shut down for up to six hours.
- Supplementary Conditions
  - Working hours allowable on holidays and outside of typical working hours.
  - Buy American applies to the steel pipe procurement, calling for at least 50% of steel sourced from the U.S.A.
  - Allowance for Standby Time
    - When work on water is halted due to adverse offshore conditions:
      - See attached Pre-Re-Bid Meeting slide on Standby Time.
    - Standby time is not a lost workday due to weather or breakdown of equipment.
    - Allowance of 15 days of Standby Time is included in Bid.
      - If not used by Contractor, GWA will keep the money.
      - If the Contractor exceeds 15 days of Standby Time, then Contractor may request a change order.
- Nationwide Permit 12 Conditions
  - See attached Pre-Re-Bid Meeting slide on Nationwide Permit 12 Conditions.
  - Dr. Laurie Raymundo from UOG is a biologist that will inform GWA when the coral spawning period will occur and when work must stop.

  - Local Permits
    - Building Permit: All signatures obtained except for the Contractor's Board and Department of Public Works' final review and signature.
    - Final signatures and payment for Building Permit is the responsibility of contractor.
    - Bidder Question: What is the cost of the Building Permit?
      - Response (Cheryl Dilks): Submit an RFI for this question.
- Bidding
  - Bidder Question: What happened during the first bid?
    - Response (Bill Gilman): There was only one bid, and it was rejected.
  - Bidder Question: Has the cost estimate changed for the rebid?
    - Response (Bill Gilman): The previous reported cost estimate was approximately $3.5M. GWA has increased the budget.
- Maps were distributed to those present for directions to the NDWWTP for a site visit of the existing diffuser piping and valves and to Tanguisson Beach to see the outfall pipe vaults.
- Meeting was adjourned for the site visit to NDWWTP and Tanguisson Beach

NDWWTP Ocean Outfall Effluent Diffuser Installation

IFB-01-ENG-2018

GWA Project No. S18-002-OEA

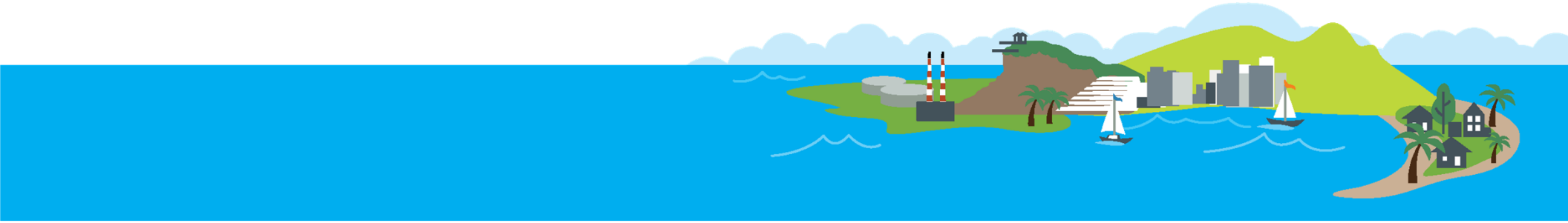
OEA Grant No. OCON676-16-02

Introductions

GUAM WATERWORKS AUTHORITY

Brown AND Caldwell

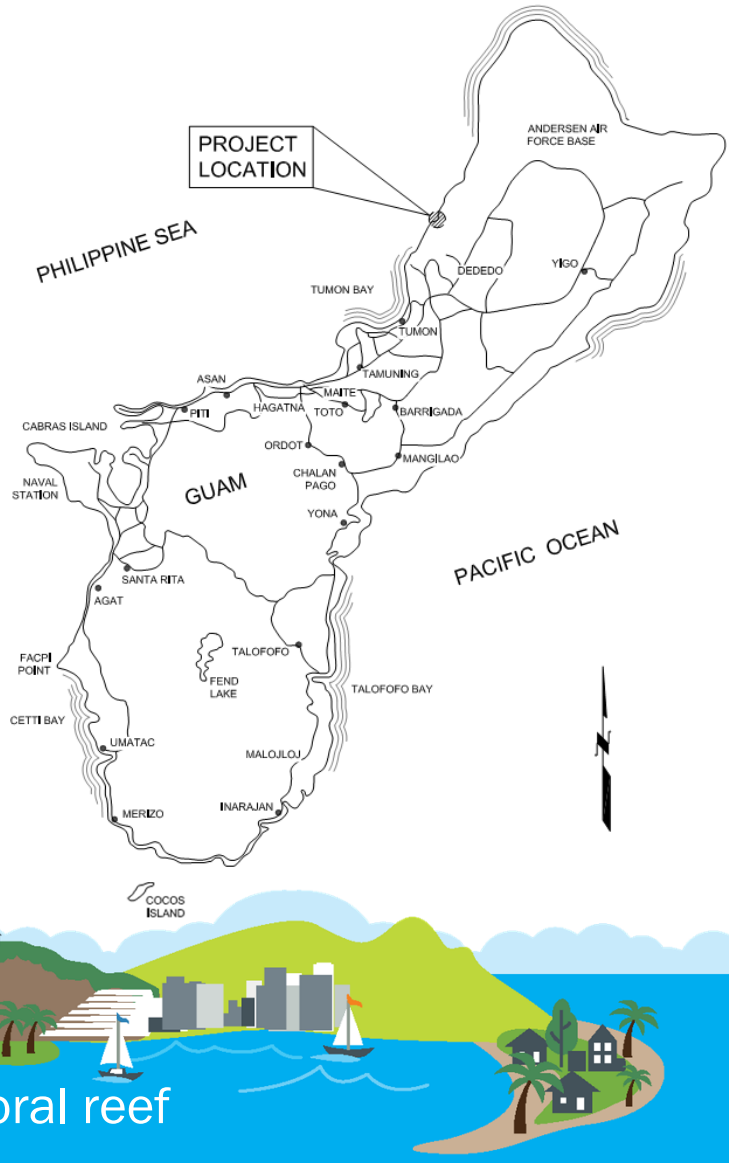
OFFICE OF ECONOMIC ADJUSTMENT
HELPING COMMUNITIES HELP THEMSELVES
OEA



General Project Information

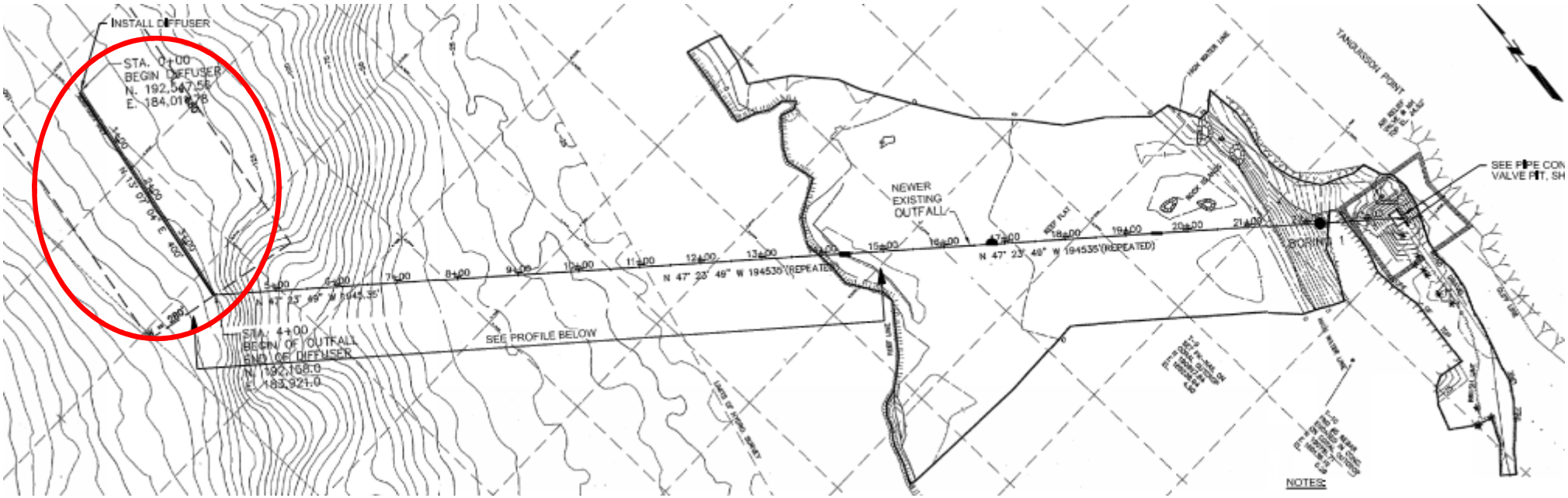
Site Map and Access

- Land access to outfall pipe is on private property
- GWA has a 20-foot easement



- 2008 Outfall is 140 feet deep
- 1,950 feet offshore from Tanguisson Beach, at edge of coral reef

Diffuser Pipe at End of Outfall Pipe



Effluent Diffuser Installation Schedule

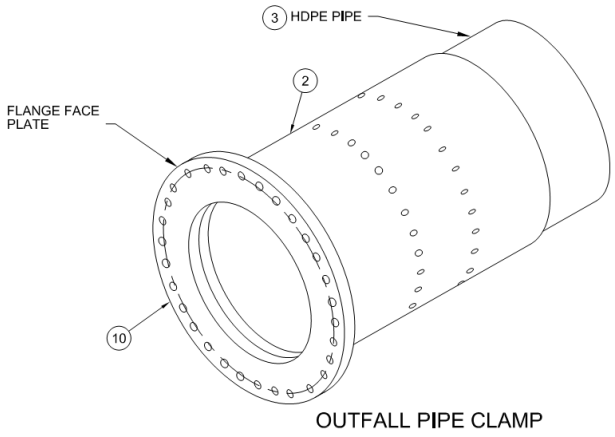
Activity	Target Dates	
Invitation for Re-Bid Released	7/26/18	
Pre-Bid Meeting	8/22/18	
Bid Opening	9/11/18	
CCU Board Approval	9/25/18	
Award Construction Contract	10/1/18	
Notice to Proceed	11/1/18	
On-water Installation	3/1/19	9/1/19
Substantial Completion	10/26/19	
Construction Complete	11/29/19	

Technical Project Details

Condition of the 2008 Outfall Pipe

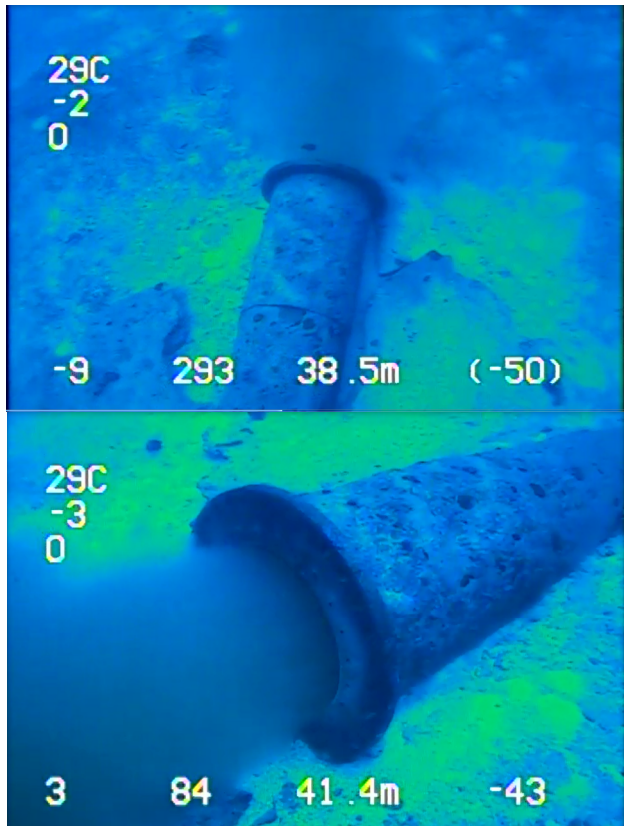
2009 Inspection Photos

- Existing material on outfall pipe clamp is inappropriate for marine environment
- Remove and replace inner and outer sleeve with specialty SS



OUTFALL PIPE CLAMP

2018 Inspection Photos



Condition of Tideflex® Check Valves

41 Check valves

Diffuser Installation Alternatives

Alternative A

- Existing HDPE Diffuser Pipe
- Concrete Block Saddles and Yokes
- Diffuser Port every 10 feet

Alternative B

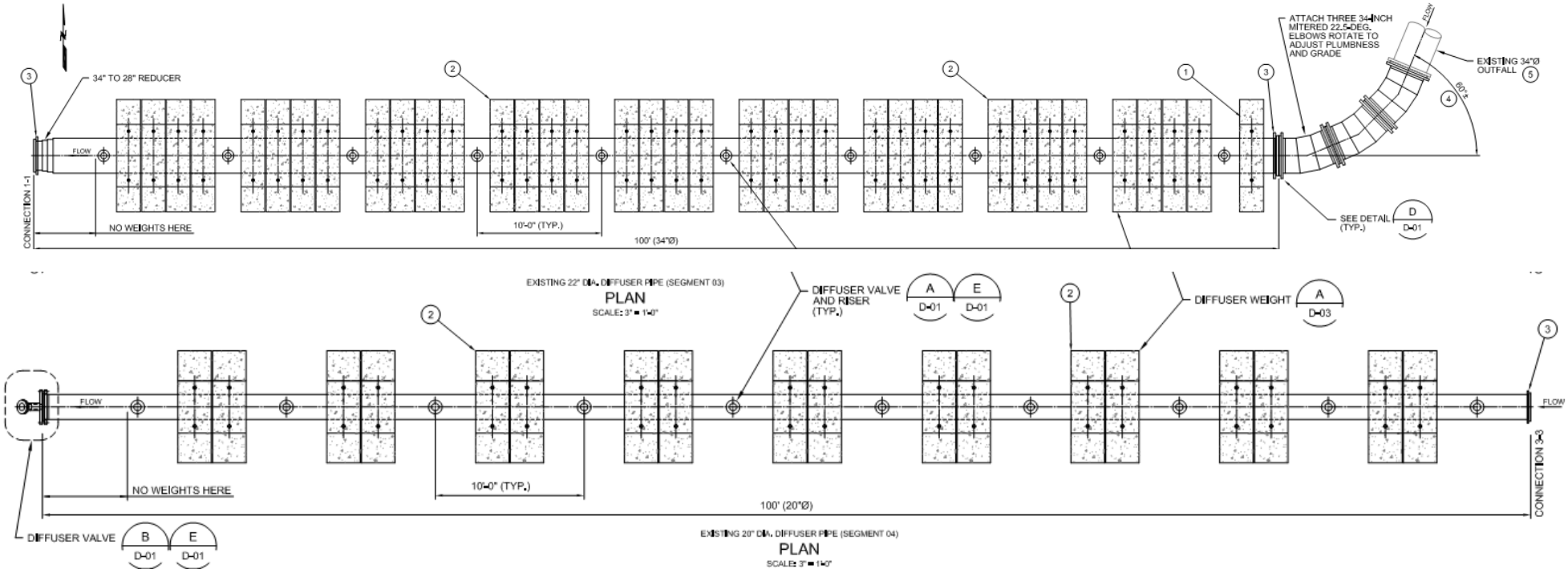
- New Steel Pipe
- Articulated Concrete Block Mats
- Diffuser ports 2 at every 20 feet

Alternative A – Existing HDPE Pipe

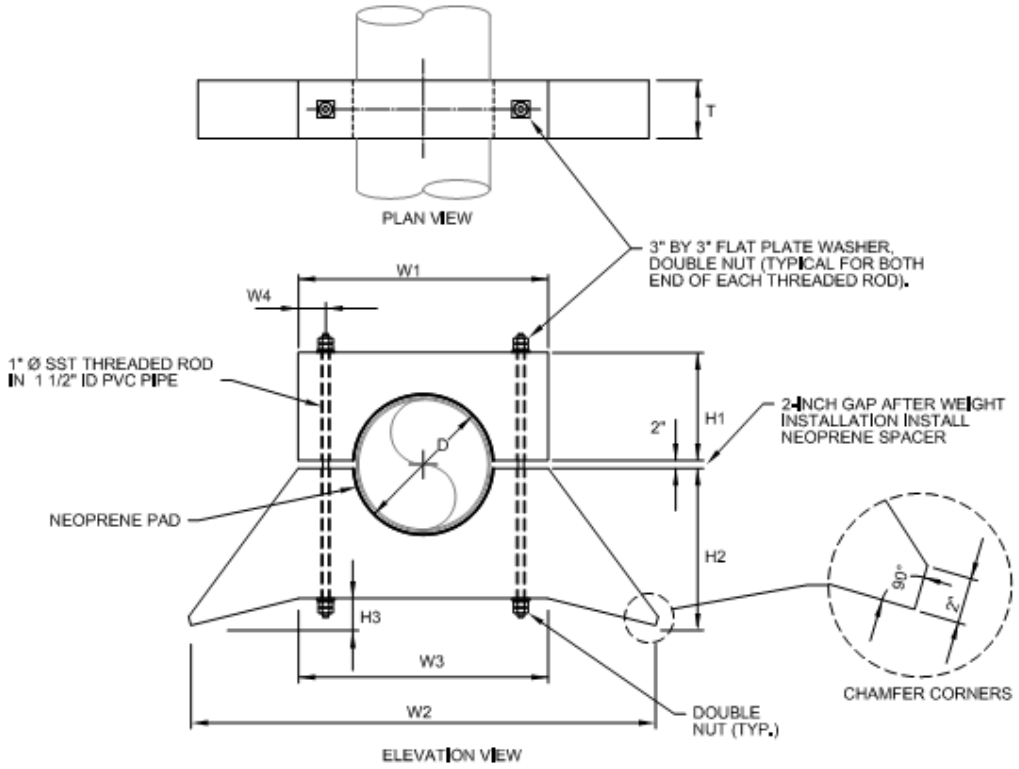
Condition of Existing Diffuser Piping

- Owner will supply HDPE piping
- Four 100-foot sections
- Ten diffuser ports per section
- Contractor shall transport it from NDWWTP to installation location
- Condition assessment: Pipe has some defects but still usable
- Flange Rings incorrect material

Diffuser and Anchor Location Plan 1



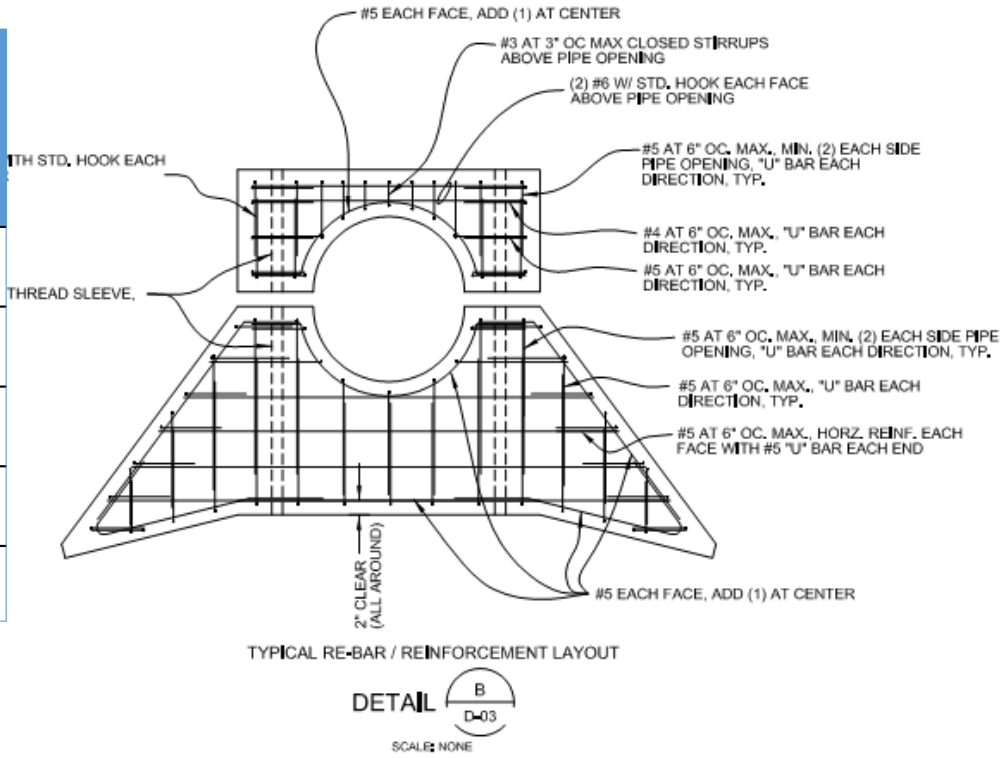
Block Anchor Design



- Top and bottom (2-piece) precast concrete units
- Saddle and Yoke
- Threaded rods with double nuts: must use AL6XN or Super Duplex 2507 SS
- J-hook embedment option

Anchor Design

Pipe Diameter (Inches)	Concrete Block Weight (Lbs in Air)	Number of Weights	Total Weight (Lbs in Air)
20	5700	18	102,600
22	6800	18	122,400
28	9100	18	163,800
34	6000	37	222,000
		TOTAL	610,800



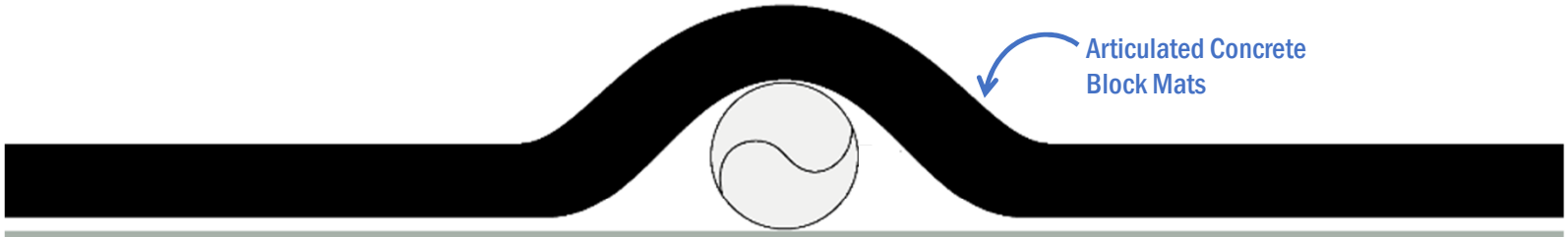
Specialty Fittings: Specification 05505

- Electrofusion couplings can be used

Component	Acceptable Material(s) for Marine Environment
Flange rings for Tideflex ® valves (must remove and replace)	AL6XN, Super Duplex 2507
	Fiberglass
	Polypropylene encased ductile iron
Flange rings for diffuser pipe mainline connections (must remove and replace)	AL6XN, Super Duplex 2507
	Polypropylene encased ductile iron
Threaded rods or bolts, washers, and nuts for flange connections	AL6XN, Super Duplex 2507 (50% or greater)
	Fiberglass (50% or less)
Threaded rods or bolts, washer, and nuts for precast concrete anchor weights	AL6XN, Super Duplex 2507
Flange clamp replacement	AL6XN, Super Duplex 2507
Blind flange at diffuser end	AL6XN, Super Duplex 2507
	Fiberglass

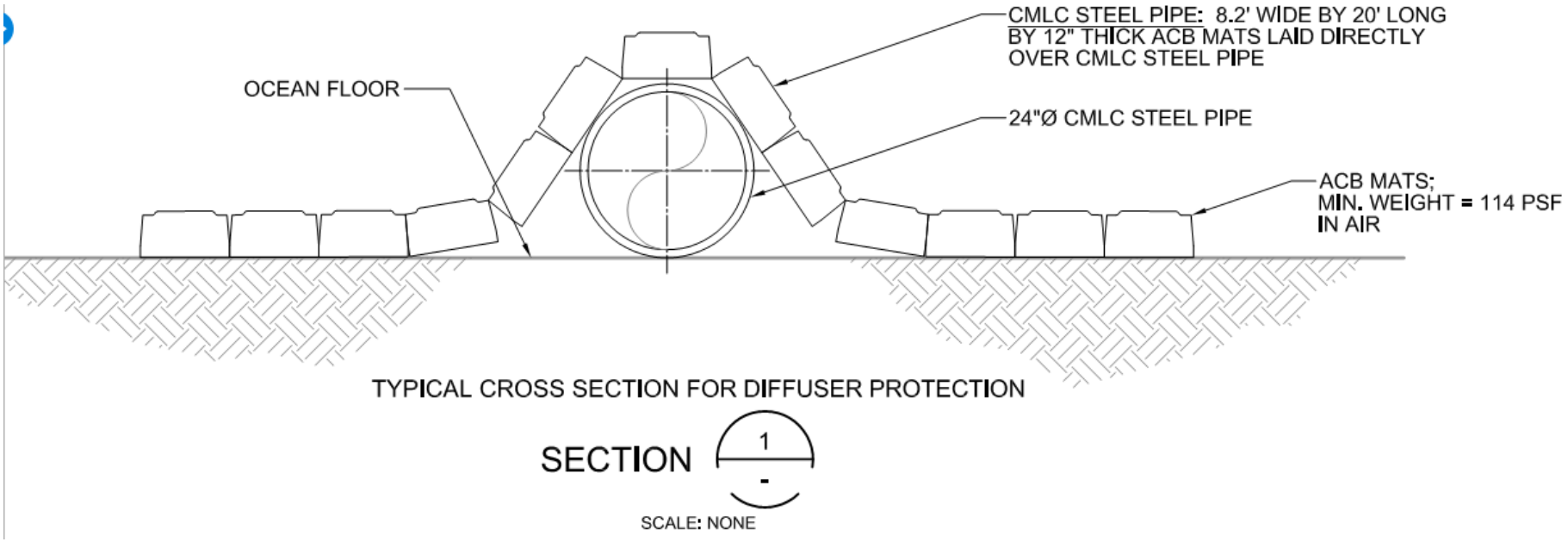
Alternative B – Steel Pipe with ACBMs

Diffuser Anchorage

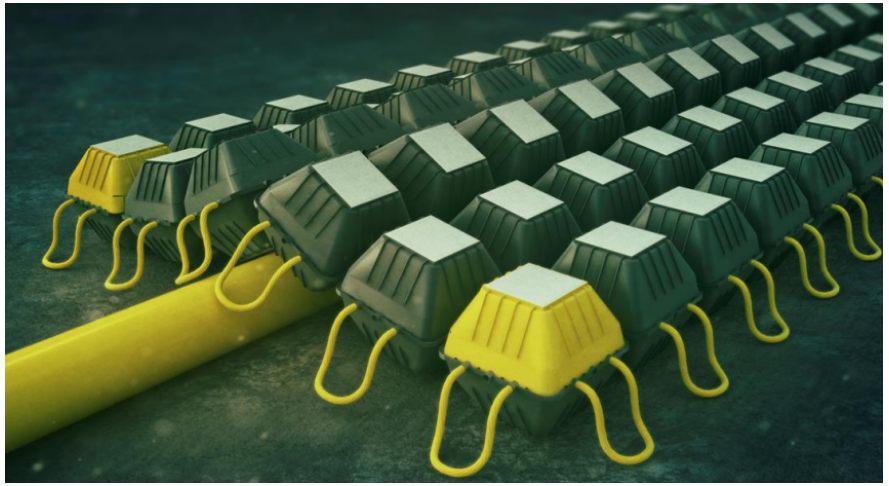


- 24” Steel Pipe
  - cement mortar lined and coated
  - consistent diameter
- Articulated Concrete Block Mats

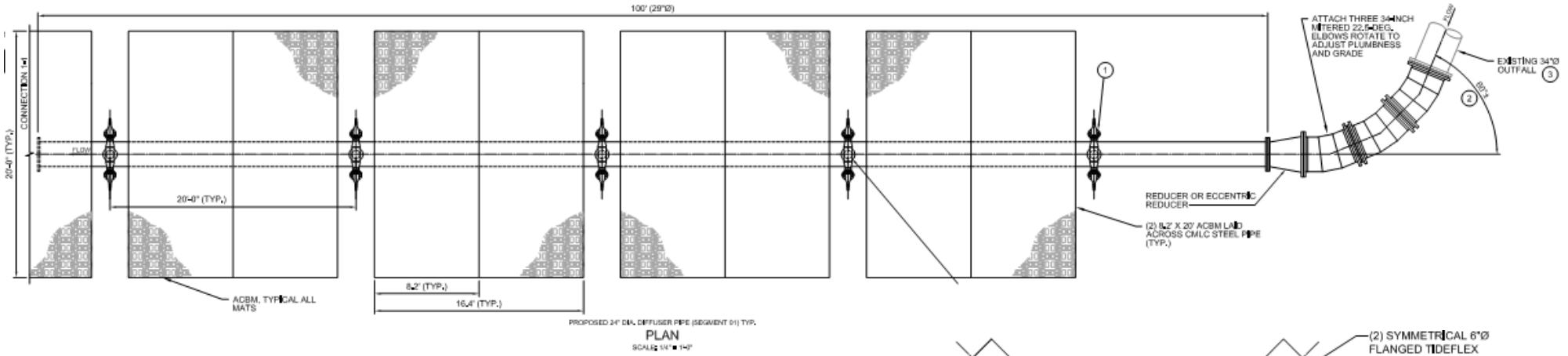
Articulated Concrete Block Mat Anchorage



Articulated Concrete Block Mats

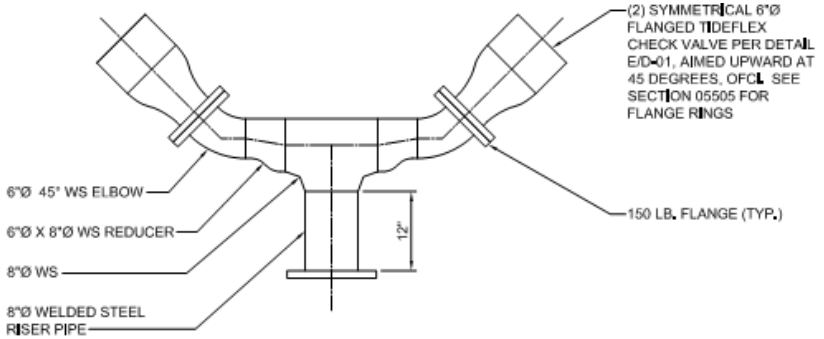


Cement Mortar Lined & Coated Steel Pipe



Alternative Couplings

- Flanges
- Victaulic



NOTES:

1. ALL PIPE SHALL BE SCH. 40. CONTRACTOR MAY USE 6"ØX6"ØX8"Ø REDUCING TEE WITH 6"Ø 45° ELBOWS IN LIEU OF 8"ØX8"ØX8"Ø TEE WITH REDUCERS AND ELBOWS.
2. ALL PIPE SHALL BE FBELC, WITH CM COATING WITH 1" MORTAR COATING.
3. CONTRACTOR SHALL PROVIDE TWO SPARE TEE RISER ASSEMBLIES.

TEE RISER NOZZLE

Corrosion Protection Required for Steel Pipe

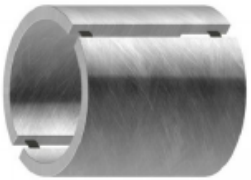
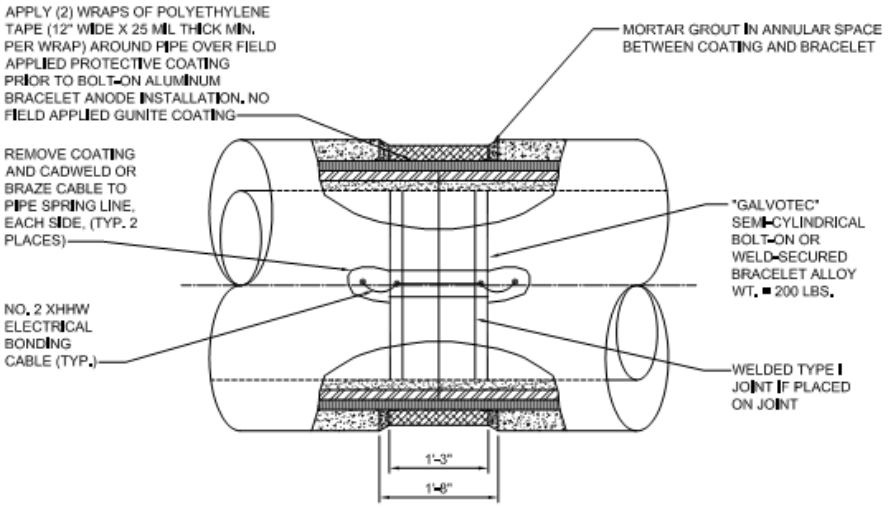
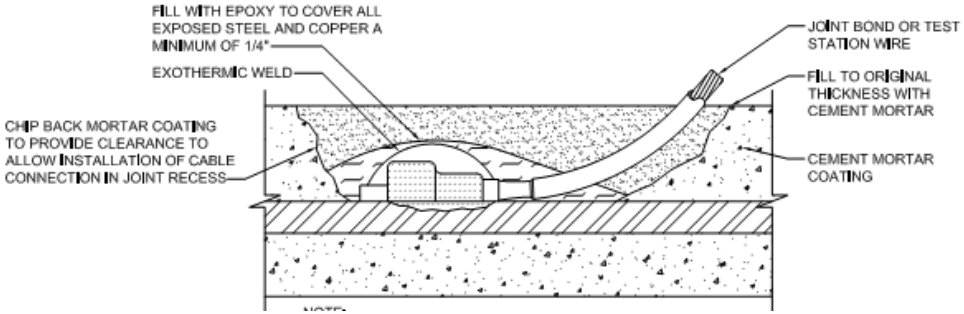


IMAGE OF BRACELET ANODE



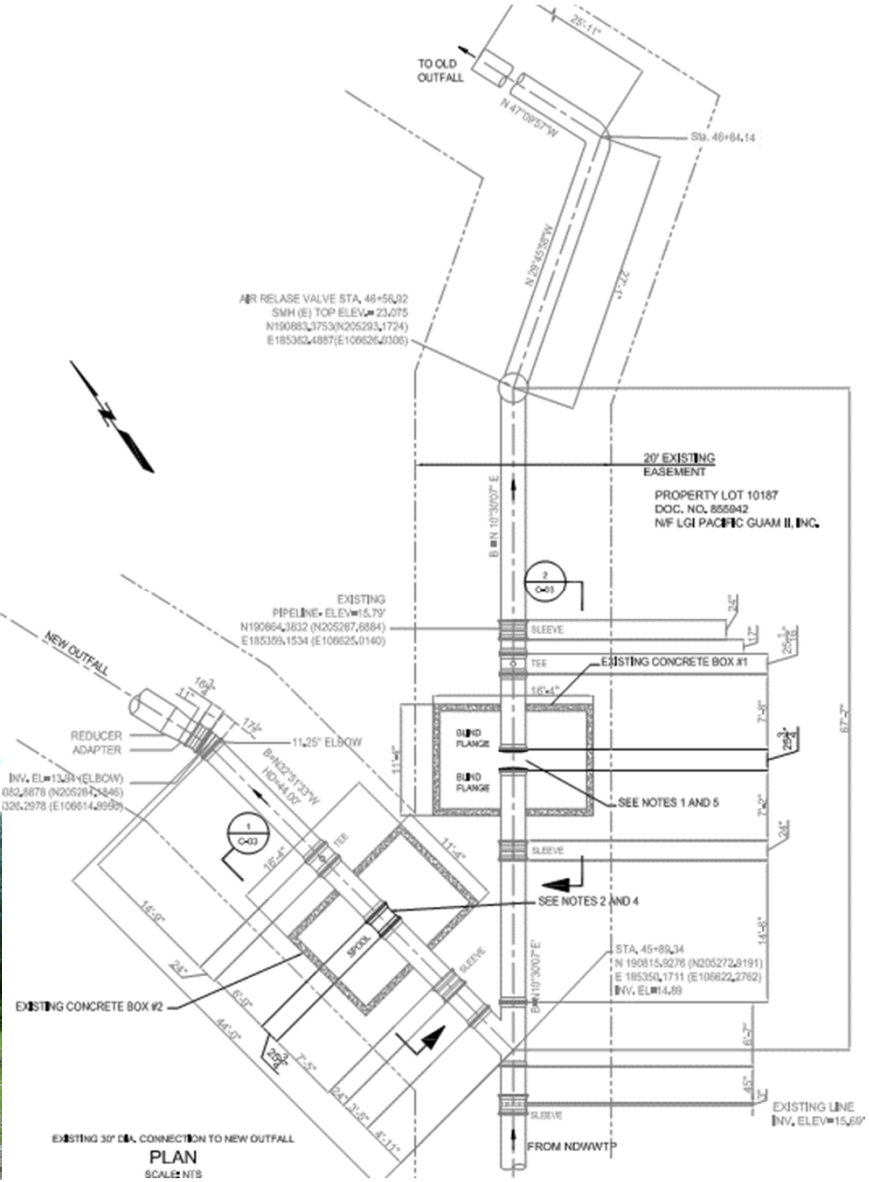
Anode Bracelets



Bonded Joints

Bypass Flow Arrangement

- Easement access to private property
- NDWWTP shutdown required to establish bypass flow



Contract Conditions

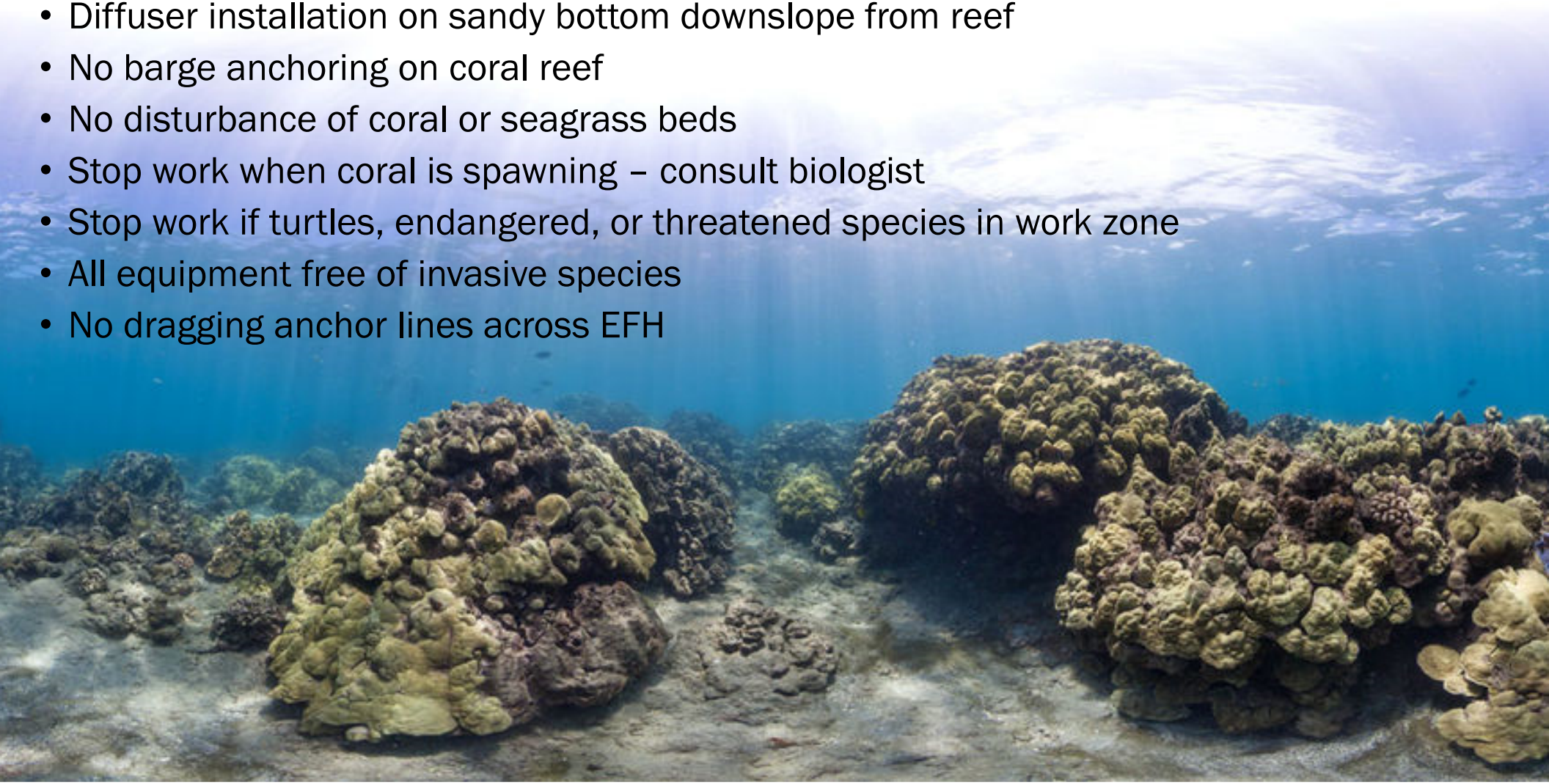
- Longer performance time
  - 13 months to construct
- Supplementary Conditions
  - Working hours accommodates weather
  - Undersea videos listed, provided in appendices
  - Buy American affects steel
- Bid Form
  - Bidder to choose Alternative A or B
  - No need to price both
  - Allowance for Standby Time

Standby time

- When work on water is halted due to adverse offshore conditions
  1. Contractor must be deemed “ready-to-work” by Resident Project Representative
  2. National Weather Service issues a small craft advisory
- Standby Time is not a lost workday due to weather or breakdown of equipment
- Contractor’s unit price for Standby Time shall be all inclusive of costs but exclusive of profit.
- 15 Standby Time days allowance
- Allowance controlled by the Owner and monitored by the RPR.

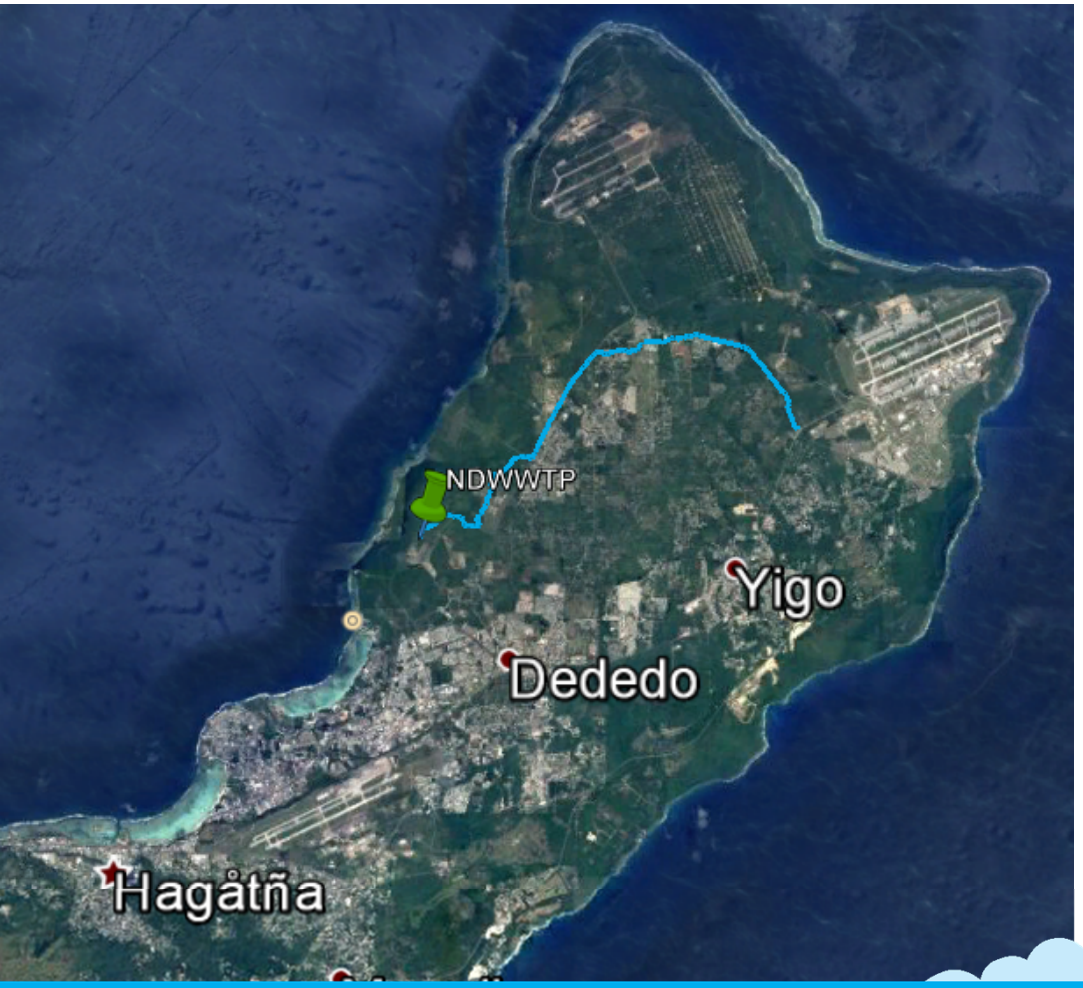
USCOE Nationwide Permit 12 Conditions

- Diffuser installation on sandy bottom downslope from reef
- No barge anchoring on coral reef
- No disturbance of coral or seagrass beds
- Stop work when coral is spawning – consult biologist
- Stop work if turtles, endangered, or threatened species in work zone
- All equipment free of invasive species
- No dragging anchor lines across EFH



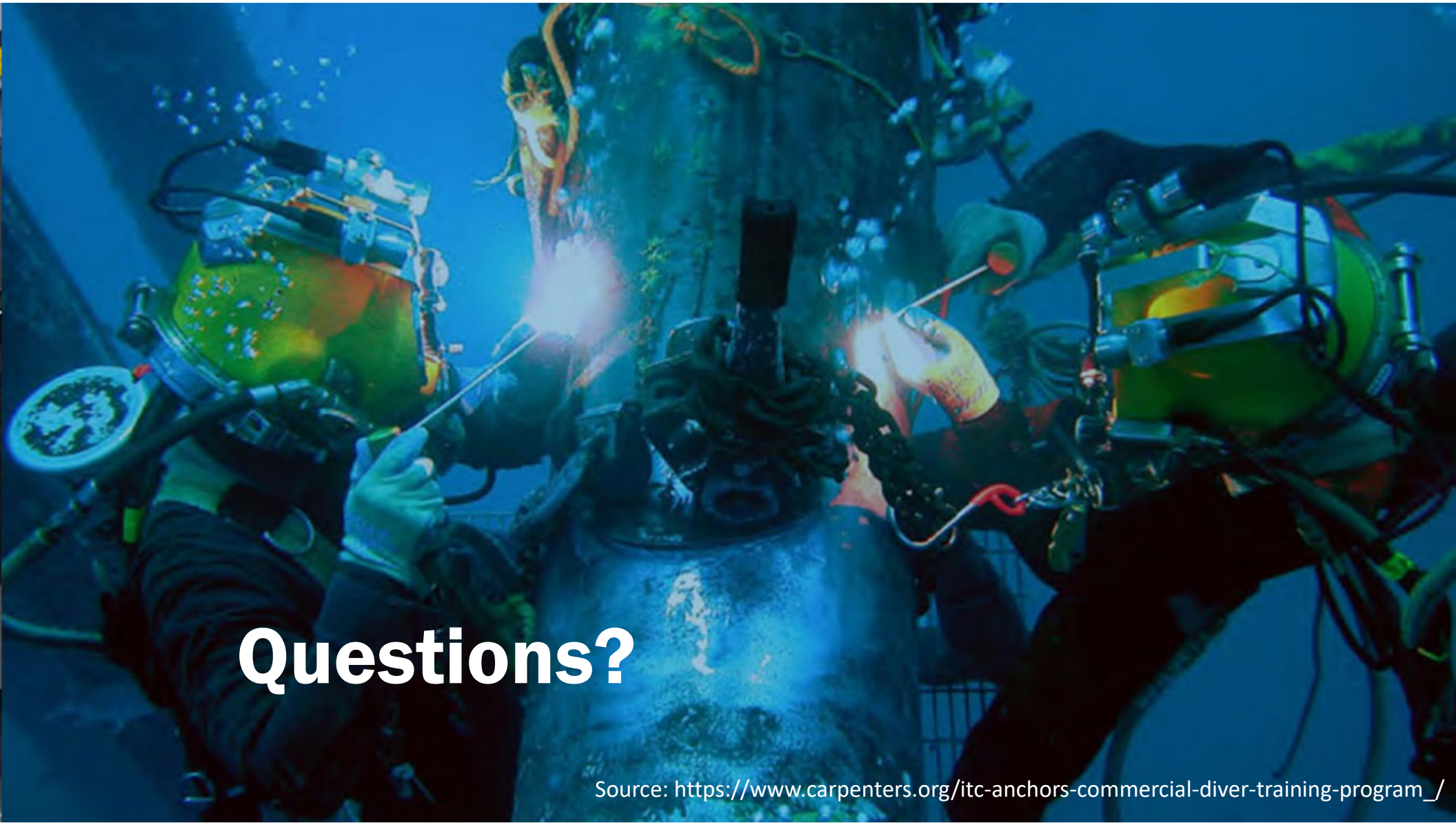
Local Permits

- Building Permit: All signatures obtained except for Contractor's Licensing Board and Guam Department of Public Works
- Contractor to pay for all local permit fees and pick up permits



Site Visit

- NDWWTP at approx. 11:30am
- Existing diffuser piping
- Existing Tideflex® check valves
- Bypass Valve Vaults



Source: https://www.carpenters.org/itc-anchors-commercial-diver-training-program_/