

CH2M Response to Puerto Rico Coastal Zone Management Program Request For Additional Information for 404 Joint Application Permit for Outlet #1 and #2 at Area1, SWMU 3 on Naval Activity Puerto Rico, Ceiba, Puerto Rico

PREPARED FOR: Rose Ortiz / CZMP

COPY TO: Marisol Rivera / CZMP
Stacin Martin / NAVFAC LANT

Taylor Sword / AGVIQ Tom
Beisel / CH2M HILL

PREPARED BY: Rich Reaves / CH2M
Jonathan Grimes / CH2M

DATE: December 10, 2015

PROJECT: JM01 SWMU 3 Area 1 Outlet #1 and #2

This technical memorandum (TM) is a reply to Department of Puerto Rico Coastal Zone Management Program (CZMP), Land Use Planning Subprogram review comments provided on November 17th, 2015 regarding the CH2M joint permit application (JPA # 1447) submitted on behalf of Naval Facilities Engineering Command, Atlantic, Southeast (NAVFAC) for the proposed project: Solid Waste Management Unit 3 Stormwater Outlets. The proposed project is located at Forestal Drive, Naval Activities Puerto Rico, Municipality of Ceiba, Puerto Rico. The application has been assigned U.S Army Corps of Engineers number SAJ-2015-03439 (SP-CGR) and CZMP number CZ-2016-1023-027. The CZMP's specific comments and CH2M's replies are presented below.

1. CZMP Letter Comment: According to available information in our Geographic Information System, the proposed sites for the 'outfalls construction are considered as critical habitat for endangered and protected marine species. Therefore, more detailed information must be submitted to address the following concerns:
 - a) CZMP Letter Comment: According to information provided in the Memorandum (page 1), sea grasses within the area may be relocated. Clarify if this action would be part of the project at reference and provide specific information about location of the sea grasses to be removed; proposed site for their relocation; amount of impact in square meters and proposed mitigation for this impact.

CH2M Response: *Attached Seagrasses would be removed only from the area of disturbance (the area within the silt fencing) at each location. At present, it is not known just how much seagrass would be relocated from each site, as the distribution of these plants is dynamic due to the surf energy and the potential for large storms to alter the sea bottom. Based on conditions at the time of site evaluation, up to 400 square feet of sea grass would be relocated at Outlet 1 and up to 1,500 square feet of sea grass would be relocated at Outlet 2. This quantities stated above assumes the 100% coverage of sea grass at the time of construction, which is not anticipated based observed conditions.*

The proposed mitigation is to relocate seagrass plugs from within the area of disturbance to nearby areas of comparable depth where no seagrass is evident. This mitigation approach has been approved by National Marine Fisheries Habitat Conservation Division for other work at NAPR that resulted in small direct impacts to sea grasses and has been submitted for National Marine Fisheries Habitat Conservation Division review for this project.

- b) CZMP Letter Comment: The proposed outfalls are located within the green sea turtle and hawksbill sea turtle habitat. Provide information about possible impacts, avoidance and mitigation measures.

CH2M Response: *No suitable nesting habitat for either the hawksbill sea turtle or green sea turtle occurs at either proposed outlet location. Site selection avoided areas where these species may nest. No direct impacts to either species would result, as these species would not be present in the area of disturbance for construction of the outlets.*

*There are no coral reefs at or near either proposed outlet location. The construction and operation of the outlets would not affect foraging habitat for the hawksbill sea turtle. No direct, indirect, or cumulative impacts to the hawksbill sea turtle would occur. A determination of **no affect** for this species has been submitted to the NOAA Marine Fisheries Protected Resources Division.*

*No direct or cumulative impacts to the green sea turtle would occur. Very minor indirect impacts to this species could occur as a result of minimal reduction to seagrass, which is the primary diet for the green sea turtle, which could result from operation of the proposed outlets (halo effect discussed above). Based on the expected minor impacts to the food base for this species, determination of **may affect, not likely to adversely affect** the green sea turtle has been submitted to the NOAA Marine Fisheries Protected Resources Division and the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service has concurred with this determination (see attached letter) and determined that Section 7 consultation with the U.S. Fish and Wildlife Service is complete for this project. The mitigation proposed is the relocation of sea grass from the area of disturbance.*

2. CZMP Letter Comment: Provide information about the expected water flow that would be discharged through each outfall and possible impacts of the rainwater discharge in the marine habitat. The continuous flow of rainwater may alter natural conditions in the marine habitat.

CH2M Response: *Responses are as follows:*

Rainwater Flow – Rainwater flow discharging from each outlet will not be continuous but rather intermittent with rain events. Prior to the cap construction of the landfill, any runoff from the landfill would have been episodic and concentrated, occurring only as stormwater pooled and eventually overtopped the perimeter road, which separates the waste landfill area from the ocean. The topography and the perimeter road would have prevented sheet flow to the ocean in landfill's original condition. The design for the landfill's closure design requires a 1×10^{-5} cm/sec clay cap that is 1.5 feet thick to prevent precipitation from infiltrating through waste to the watershed or into the aquifer. Because this cap will be a barrier to precipitation, no landfill contaminants will be transported from the landfill to nearshore waters. However this precipitation will be shed through the site's engineered, stormwater conveyance system. The landfill cap will be vegetated to prevent energy in precipitation and runoff from damaging the cap. No appreciable sediment load would be expected in the runoff. This natural precipitation will flow off the landfill cap into the stormwater conveyance system, and through the two outfalls into the nearshore waters. There would be no interaction with precipitation and any materials, including potential contaminants, in the waste disposal area and only clean run-off would enter the nearshore waters.

Impacts on marine habitat - The rainwater discharge would not be continuous, but only in response to precipitation events. Based on discussions with Mr. Jose Rivera (NMFS Habitat Protection Division) and Mr. Felix Lopez (USFWS) at the November 4, 2015 Interagency, it is expected that there would be a small halo effect from freshwater input in the immediate area of the outlets that would reduce the amount of seagrass. Mr. Lopez and Mr. Rivera indicated the expected extent of this halo effect would be approximately 30 feet from the proposed point of discharge, based on what has been observed at other freshwater discharges in Puerto Rico. The change at Outlet 1 from survey conditions would be minimal, as only scattered clumps of seagrass occurred within 30 feet of the proposed discharge location. A greater amount of seagrass could be displaced at Outlet 2, although the deeper water and higher-energy surf zone

could offset some of the halo effect. No other impacts to the marine habitat would be expected from the operation of the stormwater outlets.

3. CZMP Letter Comment: Provide one (1) copy of any additional information required by the U.S. Army Corps of Engineers.

CH2M Response: *This information is provided as attached as two separate CH2M Technical Memorandums dated 24 November 2015 and 09 December 2015 to address two separate requests from the USACE.*

4. CZMP Letter Comment: Fill in blocks 8-10 and provide the signature of the project agent if the NAVY has one for this project.

CH2M Response: *This information is provided in the attachment referenced in Number 3.*

5. CZMP Letter Comment: Provide the signature of the applicant or agent in block 27.

CH2M Response: *This information is provided in the attachment referenced in Number 3.*

CH2M Response to USACE Comments for 404 Joint Application Permit for Outlet #1 and #2 at Area1, SWMU 3 on Naval Activities Puerto Rico, Ceiba, Puerto Rico

PREPARED FOR: Gisela Roman / USACE, Antilles Section

COPY TO: Stacin Martin / NAVFAC LANT Tom Beisel / CH2M HILL
Taylor Sword / AGVIQ

PREPARED BY: Rich Reaves / CH2M
Jonathan Grimes / CH2M

DATE: November 24, 2015

PROJECT: JM01 SWMU 3 Area 1 Outlet #1 and #2

This technical memorandum (TM) is a reply to Department of Army Jacksonville District Corps of Engineers Antilles Office (Corps) review comments provided on November 3rd (letter) and 4th (interagency meeting), 2015 regarding the CH2M joint permit application (JPA # 1447) submitted on behalf of Naval Facilities Engineering Command, Atlantic, Southeast (NAVFAC) for the proposed project: Solid Waste Management Unit 3 Stormwater Outlets. The proposed project is located at Forestal Drive, Naval Activities Puerto Rico, Municipality of Ceiba, Puerto Rico. The application has been assigned number SAJ-2015-03439 (SP-CGR). The Corps' specific comments and CH2M's replies are presented below.

1. Corps Letter Comment: a. Complete items 8 -10 of permit application.

CH2M Response: *Attached is a letter from Stacin Martin (NAVFAC Navy Technical Representative) stating that the Navy does not have authorized agents, but relies upon the expertise of its consultants (CH2M) to interact with the regulatory community on the Navy's behalf to provide information necessary to obtain permits and to make clear that the Navy and its construction contractors understand what is required to comply with those permits. For this application, the expert to contact with questions is:*

*Rich Reaves, Ph.D., CEP
Senior Ecologist
6600 Peachtree Dunwoody Rd
400 Embassy Row, Suite 600
Atlanta, GA 30328
1 (678) 530-4285 Direct
1 (770) 827-5186 Mobile
richard.reaves@ch2m.com*

2. Corps Letter Comment: b. Complete the corresponding space for your authorized agent name on item 11.

CH2M Response: *Attached is a letter from Stacin Martin (NAVFAC Navy Technical Representative) stating that the Navy does not have authorized agents, but relies upon the expertise of its consultants (CH2M) to interact with the regulatory community on the Navy's behalf to provide information necessary to obtain permits and to make clear that the Navy and its construction contractors understand what is required to comply with those permits. For this application, the expert to contact with questions is:*

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Atlanta, GA 30328
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1 (770) 827-5186 Mobile
richard.reaves@ch2m.com

3. Corps Letter Comment: c. Provide the coordinates for location of proposed project as required on item 15 of permit application.

CH2M Response: *The following coordinates (provided in WGS 84 Datum) provide the location data for each location:*

Outlet #1 - 18°13'4.90"N; 65°36'22.47"W

Outlet #2 - 18°13'17.54"N; 65°36'20.24"W

4. Corps Letter Comment: d. Provide additional information such as dimensions of proposed concrete outlet structures and rip-rap apron on outlet #1 and describe proposed work to install the proposed four pipes, gabions end wall and gabion mattress including dimensions. A description of construction method, indicating whether temporary fill is required on waters of the U.S. and the surface area (in acres) temporary impacted as well as indicate temporary disposal site for fill and/or dredged material. You stated that approximately 22 cubic yards of seafloor will be excavated, please provide a description of the excavation method, including the equipment to be used, indicate the excavated material disposal site, and the area of excavation in acres.

CH2M Response: *The proposed dimensions, quantities and construction method of the outlets are as follows:*

Outlet #1:

Conveyance pipe – One (1), approximately 200 lineal feet of 30-inch round concrete pipe is planned for stormwater conveyance use at Outlet #1 with none of this pipe to be in jurisdictional waters.

Concrete outlet structure – A concrete outlet structure will be installed that is 7.0 feet wide x 5.42 feet high x 2.17 feet deep at the base tapering to 0.83 feet at the top (see attached Detail 6 on Sheet C-10). Approximately, 1.5 feet of bottom portion of the concrete outlet structure will be constructed below grade for foundation purposes. None of the concrete outlet structure will be in jurisdictional waters.

Riprap apron – A trapezoidal-shaped, riprap apron will be installed that is 13 feet (at the outlet structure) to 20 feet (at the seaward edge) wide to 20 foot long and underlain with geotextile fabric (see Figure 4). Approximately 0.0092 acres (37 square meters [SM] or 400 square feet [SF]) and 15 cubic yards (CY; 42 cubic meters [CM]) will be in jurisdictional waters.

Construction – An excavator, wheel loader, bulldozer, compactor, skidsteer, telehandler, and dump trucks are planned for the construction of Outlet #1. Geotextile, rip rap material, round concrete pipe, concrete endwall and silt fence are materials planned for the construction of Outlet #1. Prior to excavation in jurisdictional waters, marine habitat (sea grasses and sea-floor substrate) will be relocated, as described in the application. Excavation is expected to require mechanical and manual removal. Next silt fence will be installed by mechanical and/or manual means depending on work conditions (see attached Figure 4 and Detail 4 on Sheet C-10). Excavated material will be reused within the permitted area of the Area 1 construction activities. All heavy, construction equipment will be operating within erosion & sediment control (E&SC) measures outlined in the approved stormwater pollution prevention plan (SWP3), design and project specifications. All heavy, construction equipment will be operating outside of jurisdictional waters with the only excavator buckets operating within jurisdictional waters. A refueling locations will be designated with spill containment equipment on the access road away from jurisdictional waters.

Post Construction – None of the conveyance pipe or concrete outlet structure will be constructed or placed within regulated waters or result in the invert of the pipes being below the annual high-tide

elevation that could result in intermittent tidal backflow through the conveyance pipe and into the detention swale constructed as part of the landfill cap (see Figure 4).

Outlet #2:

Conveyance pipes – *Four, approximately 80 lineal feet of 24-inch, PVC conveyance pipe is planned for stormwater conveyance use at Outlet #2 with none of this conveyance pipe to be in jurisdictional waters.*

Gabions end wall - *A terraced, gabion end wall structure will be installed that is 18.0 feet wide at the base to 10.0 feet wide at the top x 6.75 feet high at the headwall end to 2.75 feet at the outlet end x 8.0 feet deep at the base to 4.0 feet at the top (see attached Figure 5). Approximately 0.75 feet will be constructed below grade for foundation purposes. None of this concrete outlet structure will be constructed in jurisdictional waters.*

Gabion mattress - *A gabion mattress will be installed that is 18.0 feet wide x 18.0 foot long and underlain with geotextile fabric (see attached Figure 5). Approximately, 0.0344 acres (139 SM or 1,500 SF) and 56 CY (42 CM) of the gabion end wall and mattress will be in jurisdictional waters.*

Construction - *An excavator, wheel loader, bulldozer, compactor, skidsteer, telehandler, and dump trucks are planned for the construction of Outlet #2. Geotextile, wood (concrete forms), gabion baskets, screened rock for gabion baskets, PVC conveyance pipe, flowable fill, and silt fence are materials planned for the construction of Outlet #2. Prior to excavation in jurisdictional waters, marine habitat (sea grasses, soft coral, sea-floor substrate) will be relocated. Next silt fence will be installed by mechanical and/or manual means depending on work conditions (see attached Figure 5 and Detail 4 on Sheet C-10). Excavation is expected to require mechanical and manual removal. Excavated material will be reused within the permitted area of the Area 1 construction activities. All heavy, construction equipment will be operating within E&SC measures outlined in the SWP3, design and project specifications. All heavy, construction equipment will be operating outside of jurisdictional waters with the only excavator buckets operating within jurisdictional waters. A refueling locations will be designated with spill containment equipment on the access road away from jurisdictional waters.*

Post Construction – *While the conveyance pipes and gabion structures will not be constructed or placed within regulated waters, except as noted above, the elevation of the pipes will result in the invert of the pipes being below the annual high-tide elevation. This will result in intermittent tidal backflow upgradient through the conveyance pipes and into the detention swale constructed as part of the landfill cap (see Figure 5).*

5. **Corps Letter Comment:** e. Revised plan view and cross-section drawings (Figures 4 and 5) and outlet #1 and #2 plans) showing both: the high tide and the mean high tide lines regarding proposed works.

CH2M Response: *Figure 4 (Outlet #1) and Figure 5 (Outlet #2) have been revised showing both the annual high tide and the mean high tide elevations.*

6. **Corps Letter Comment:** f. The proposed silt fence would impact waters of the U.S. based on Figure 4 and outlet #2 plan. Please provide a description of proposed fence, dimensions and construction method.

CH2M Response: *Silt fencing will constitute temporary fill in regulated waters. Silt fence will be installed by mechanical and/or manual means depending on work conditions (see attached Figure 4, Figure 5 and Detail 4 on Sheet C-10) and will be less than 3 feet beyond the construction footprint of the outlets. Silt fence will be installed 0.5 feet below the sea-floor in an anchor trench per Detail 4 on Sheet C-10. For Outlet #1 the silt fence dimensions will be approximately 26 feet wide by 23 feet long within jurisdictional waters. For Outlet #2 the silt fence dimensions will be approximately 24 feet wide by 18 feet long within jurisdictional waters. Excavated material will be reused as general fill within the permitted area of the Area 1 construction activities. The silt fencing will be removed at the completion of construction.*



DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE EAST
4911 SOUTH BROAD STREET
PHILADELPHIA, PA 19112-1303

US ARMY CORPS
OF ENGINEERS

2015 NOV 19 A 8:24

5090
Ser BPMOE/16-033
November 12, 2015

Ms. Carmen Gisela Roman
Antilles Office, Annex Building, Fundación Ángel Ramos
2nd Floor, Suite 202
Franklin Delano Roosevelt Avenue #383
San Juan, Puerto Rico 00917

Dear Ms. Roman:

Please accept this email as written authorization for CH2M Hill to act as U.S. Navy's consultant for the purpose of permitting and construction support at Naval Activity Puerto Rico (NAPR).

CH2M Hill has been acting as our environmental consultant for the past 12+ years on our environmental work ensuring our compliance with Federal, State and Local regulations.

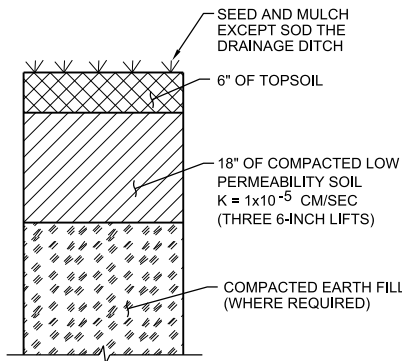
We do not have authorized agents for permitting assistance, but we rely upon the expertise of our consultants to interact with the regulatory community on our behalf to provide information necessary to obtain permits and to make sure that the U.S. Navy and its construction contractors understand what is required to comply with those permits.

If you have any questions or need additional information please contact me at 757-322-4780 or by email at stacin.martin@navy.mil.

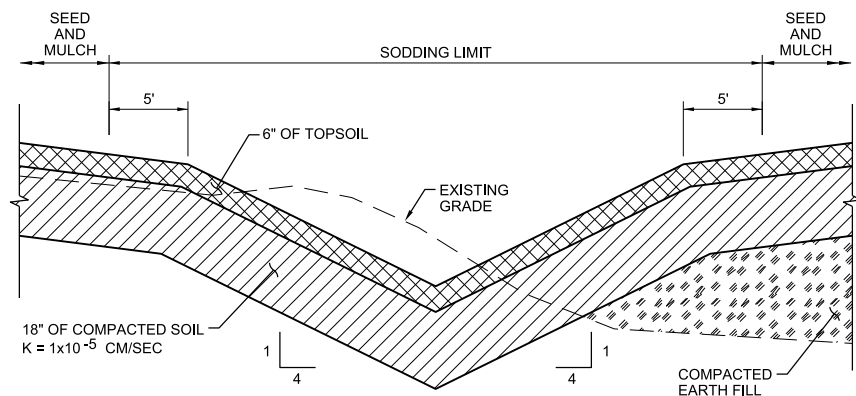
Sincerely,

STACIN MARTIN
Remedial Project Manager

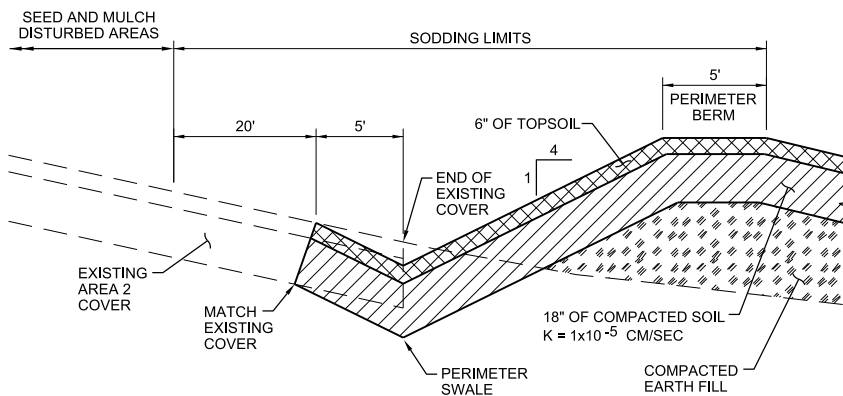
Copy to:
NAVFAC Atlantic (Pedro Ruiz)
BRAC PMO East (Paul Burgio)
CH2M HILL (Tom Beisel)



1 **DETAIL FOR COVER SYSTEM**
NTS

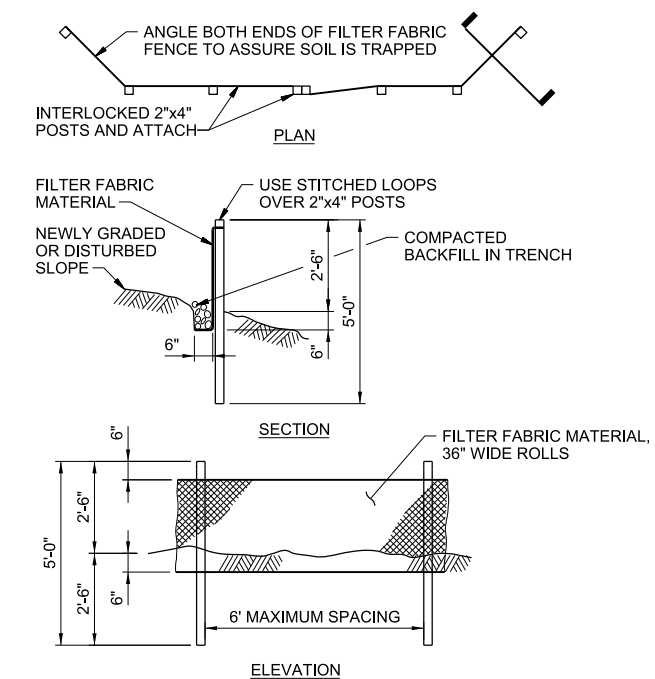


2 **TYPICAL SWALE SECTION**
NTS



NOTE: CONTRACTOR SHALL EXCAVATE AND EXPOSE EXISTING LOW PERMEABILITY LAYER IN AREA 2 AND PLACE AND COMPACT NEW LOW PERMEABILITY LAYER AGAINST IT.

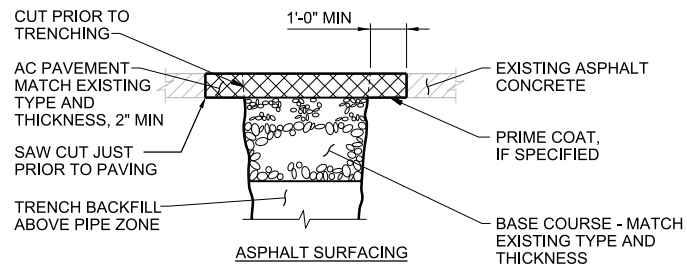
3 **TYPICAL SWALE ADJACENT TO AREA 2**
NTS



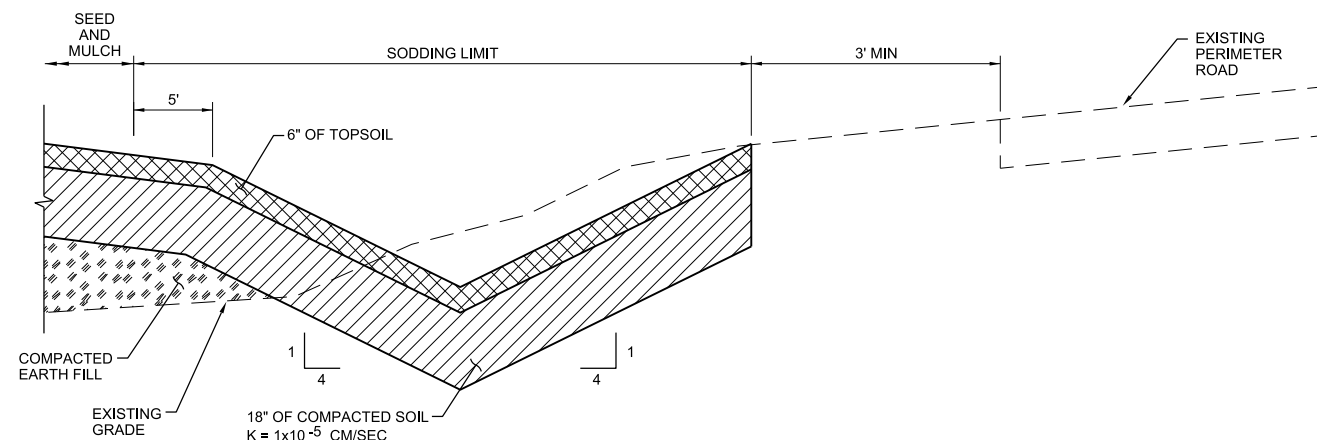
- NOTES:
- BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
 - 2"x4" WOOD OR STEEL FENCE POSTS.
 - STITCHED LOOPS TO BE INSTALLED DOWNHILL SIDE OF SLOPE.
 - COMPACT ALL AREAS OF FILTER FABRIC TRENCH.

4 **SILT FENCE**
NTS

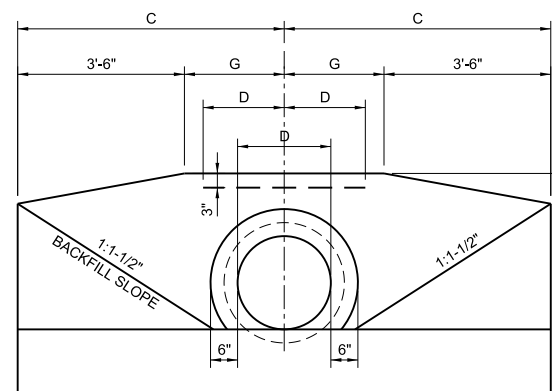
- NOTES:
- MATERIAL AND CONSTRUCTION OF THE ASPHALT PAVEMENT SHALL MEET THE REQUIREMENTS AS SPECIFIED IN PUERTO RICO DOT STANDARD SECTION 401.
 - MATERIAL AND CONSTRUCTION OF THE BASE COURSE SHALL MEET THE REQUIREMENTS AS SPECIFIED IN PUERTO RICO DOT STANDARD SECTION 301.



5 **PAVEMENT RESTORATION**
NTS

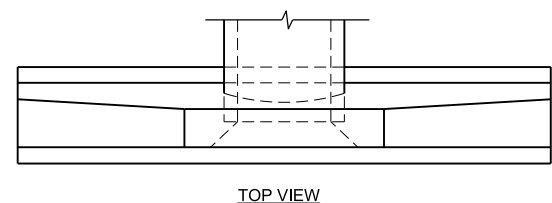


7 **TYPICAL SWALE ADJACENT TO EXISTING ROAD**
NTS



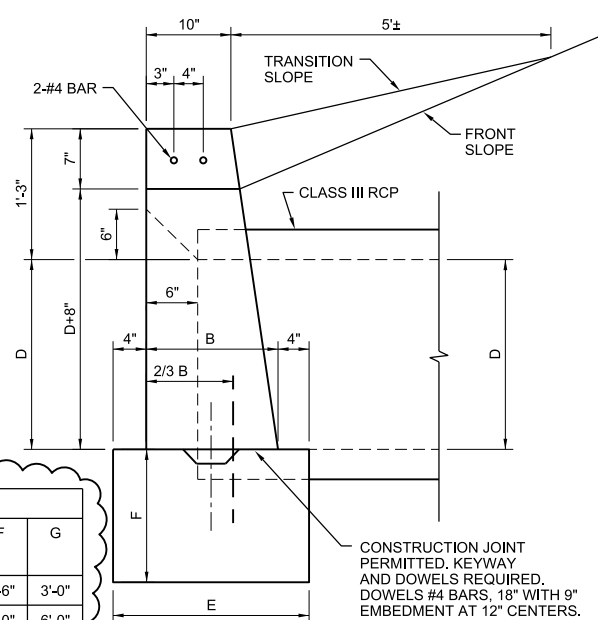
NOTE: THE CEMENT SHALL BE TYPE I OR TYPE II PORTLAND CEMENT. THE CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI, WITH A MAXIMUM W/C RATION = 0.50, A MAXIMUM SLUMP = 5". CONCRETE SHALL BE MIXED AND PLACED PER ACI 304 AND 318 (LATEST EDITION) AND SHALL BE CURED WITH AN APPROVED CURING COMPOUND MEETING ASTM C1315.

CONSTRUCTION JOINT PERMITTED SEE END VIEW (ENLARGED)



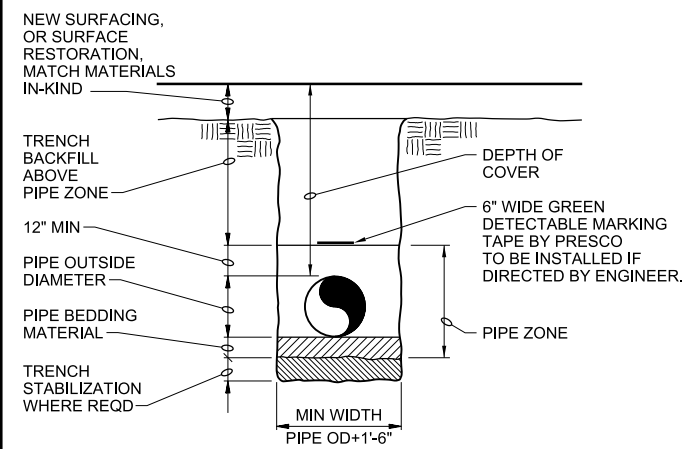
DIMENSIONS						
A	B	C	D (CULVERT DIAMETER)	E	F	G
3'-2"	1'-6"	6'-6"	30"	2'-2"	1'-6"	3'-0"
4'-8"	2'-1"	9'-6"	48"	2'-9"	2'-0"	6'-0"

6 **STRAIGHT CONCRETE ENDWALL**
NTS

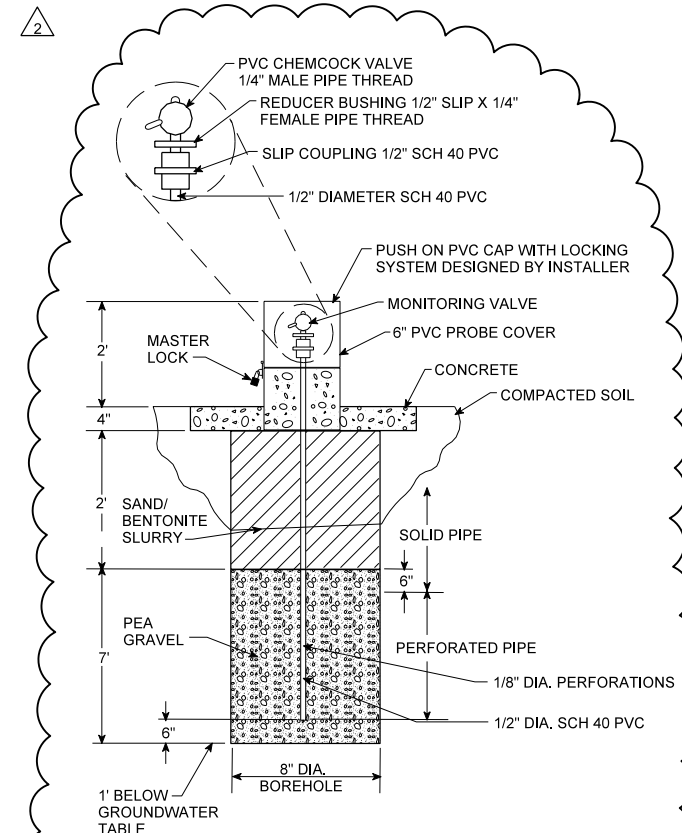


CONSTRUCTION JOINT PERMITTED. KEYWAY AND DOWELS REQUIRED. DOWELS #4 BARS, 18" WITH 9" EMBEDMENT AT 12" CENTERS.

END VIEW (ENLARGED)



8 **TYPICAL TRENCH**
NTS



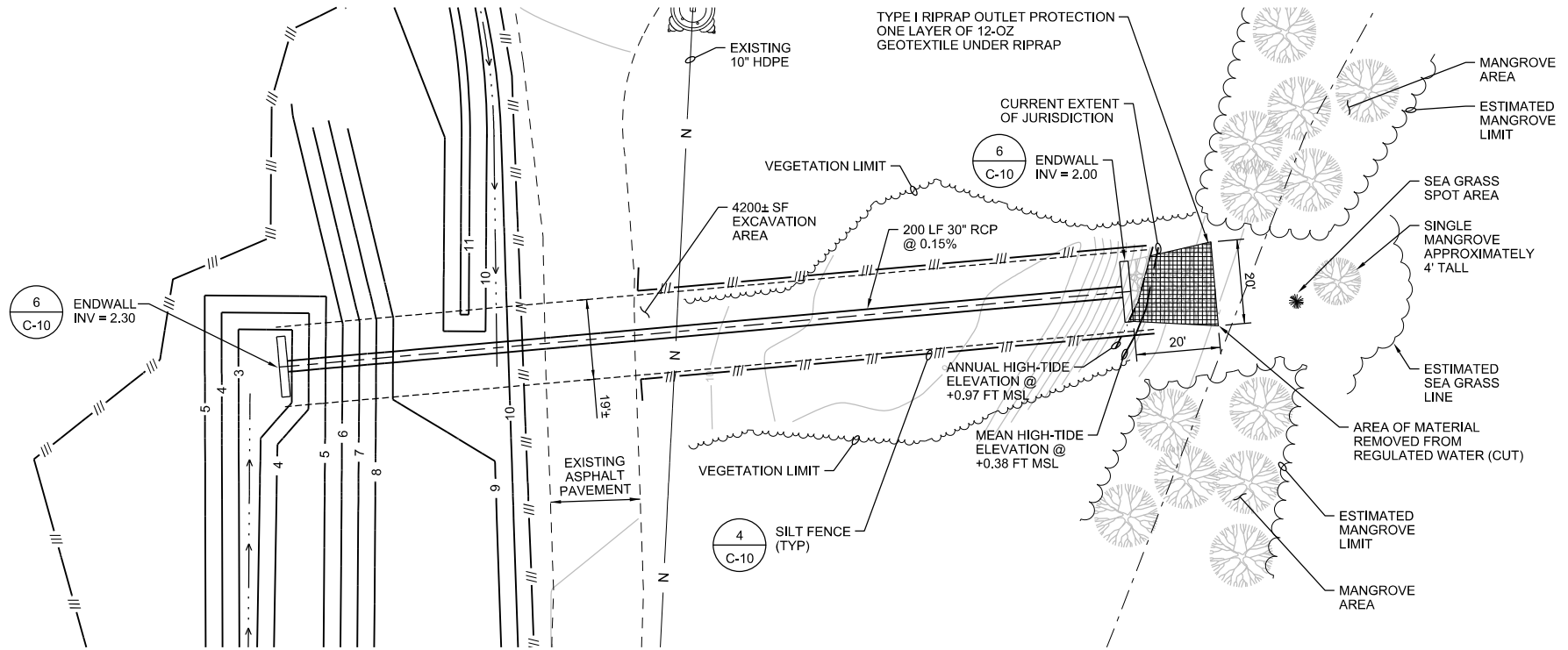
9 **TYPICAL GAS PROBE CONSTRUCTION DETAIL**
NTS

DESIGNED BY: KR CHANG	DATE: 10/28/14	REVIEWED BY: J PERLAUTER	DATE: 10/28/14
DRAWN BY: S CHILDRRESS	DATE: 10/28/14	APPROVED: J PERLAUTER	DATE: 10/28/14
CHECKED BY: S HUTSELL	DATE: 10/28/14	PROFESSIONAL ENGINEER, PUERTO RICO	
FUNCTIONAL APPROVAL: J GHIMES			
SYMBOL	DESCRIPTION	DATE	APPROVED
CR.01	REVISED DETAILS	7/15/14	BB
		10/13	JG

100% DESIGN DRAWINGS - ISSUED FOR CONSTRUCTION

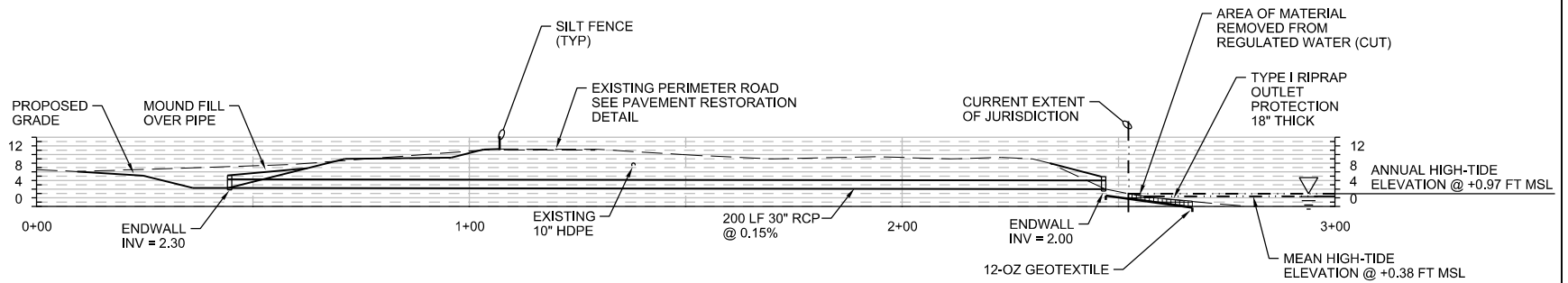
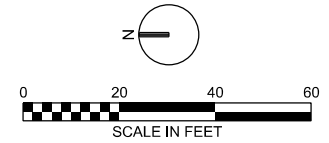
NAVIFAC
Naval Facilities Engineering Command

CH2MHILL



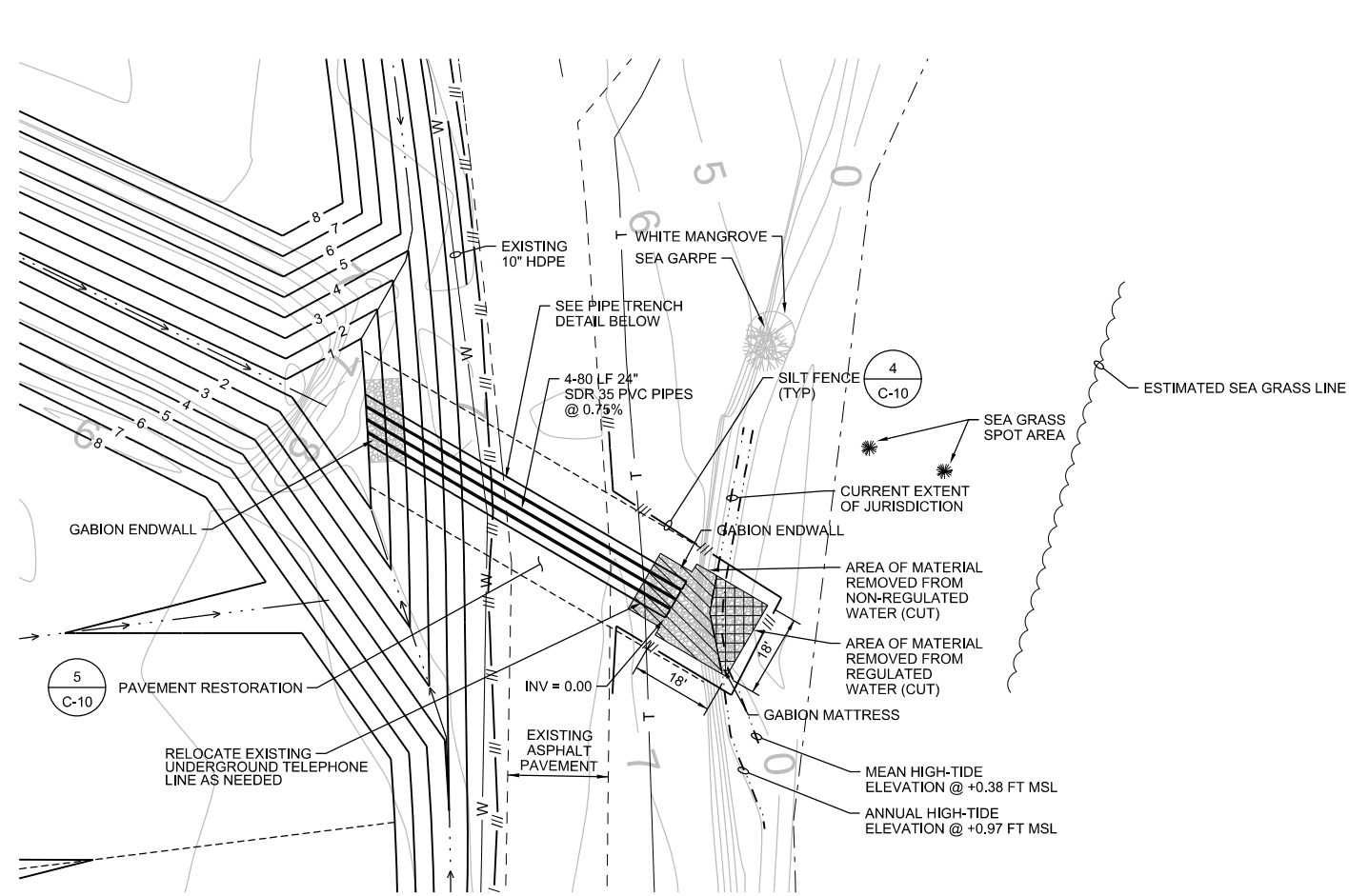
NOTE:
CONTRACTOR WILL PROTECT EXCAVATION FROM ACCESS OUTSIDE OF WORKING HOURS BY USING FENCING OR COVER PLATES.

OUTLET #1 PLAN

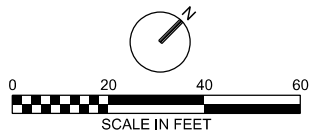


OUTLET #1 PROFILE

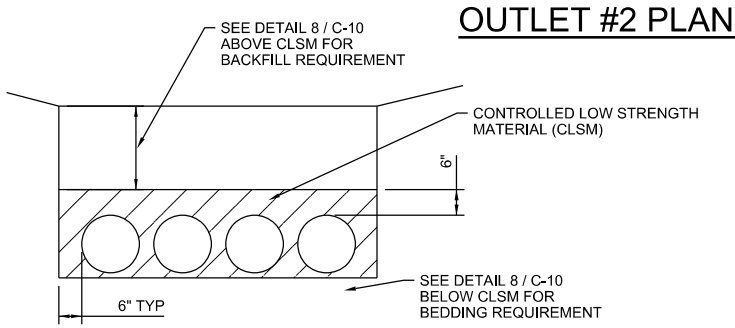
**FIGURE 4
OUTLET #1
PLAN AND PROFILE
USACE 404 PERMIT**



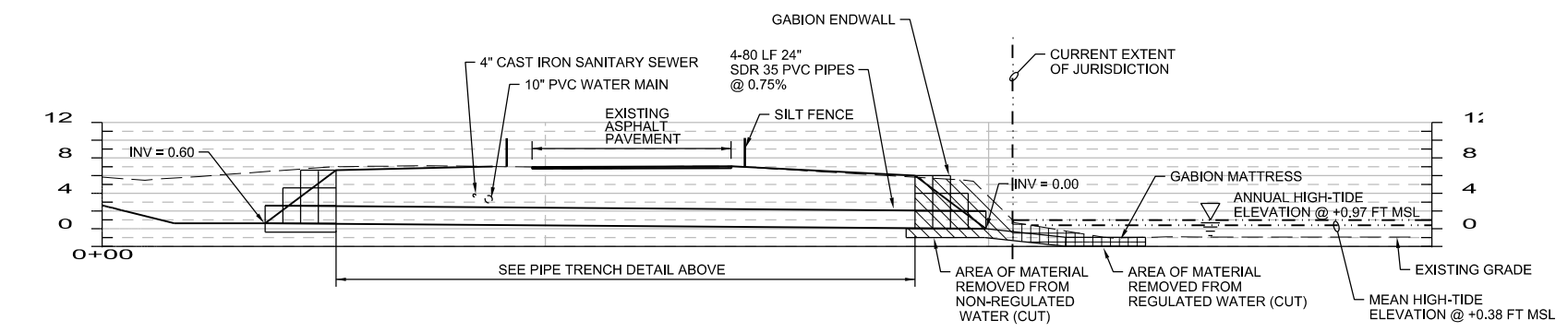
NOTE: CONTRACTOR WILL PROTECT EXCAVATION FROM ACCESS OUTSIDE OF WORKING HOURS BY USING FENCING OR COVER PLATES.



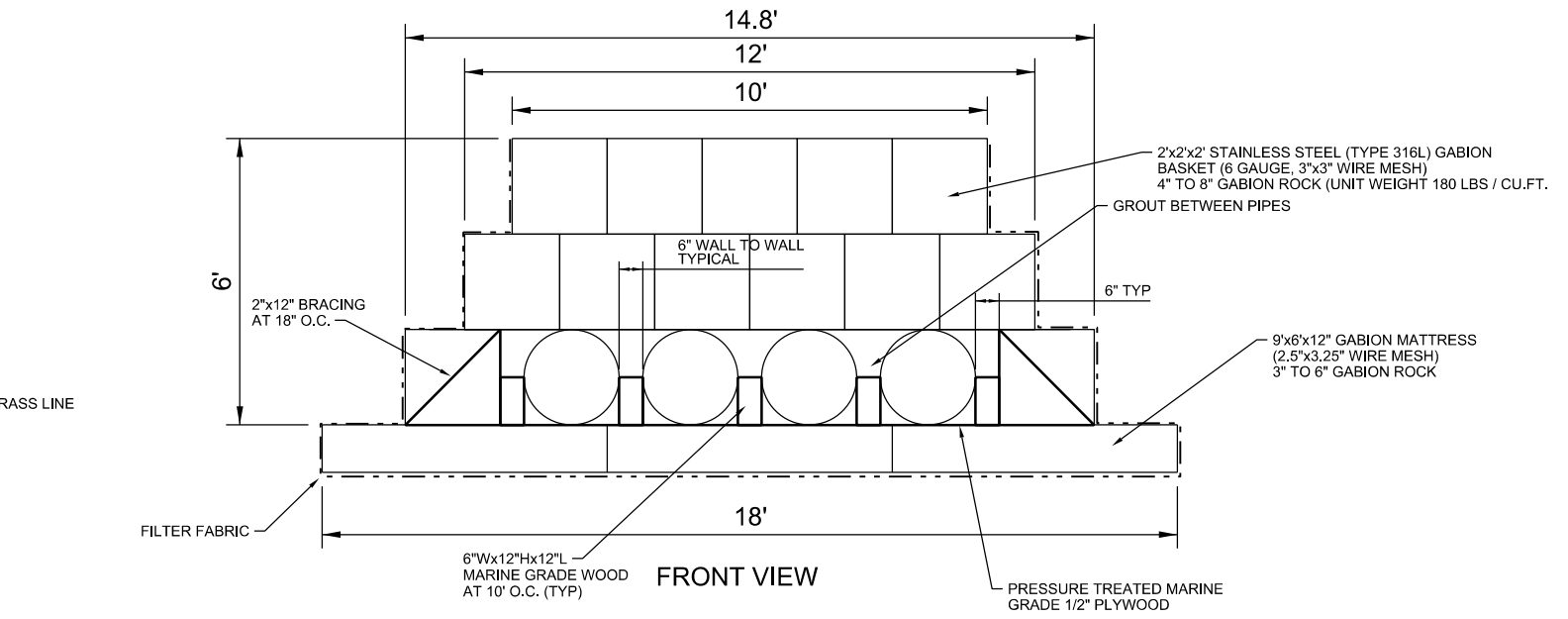
OUTLET #2 PLAN



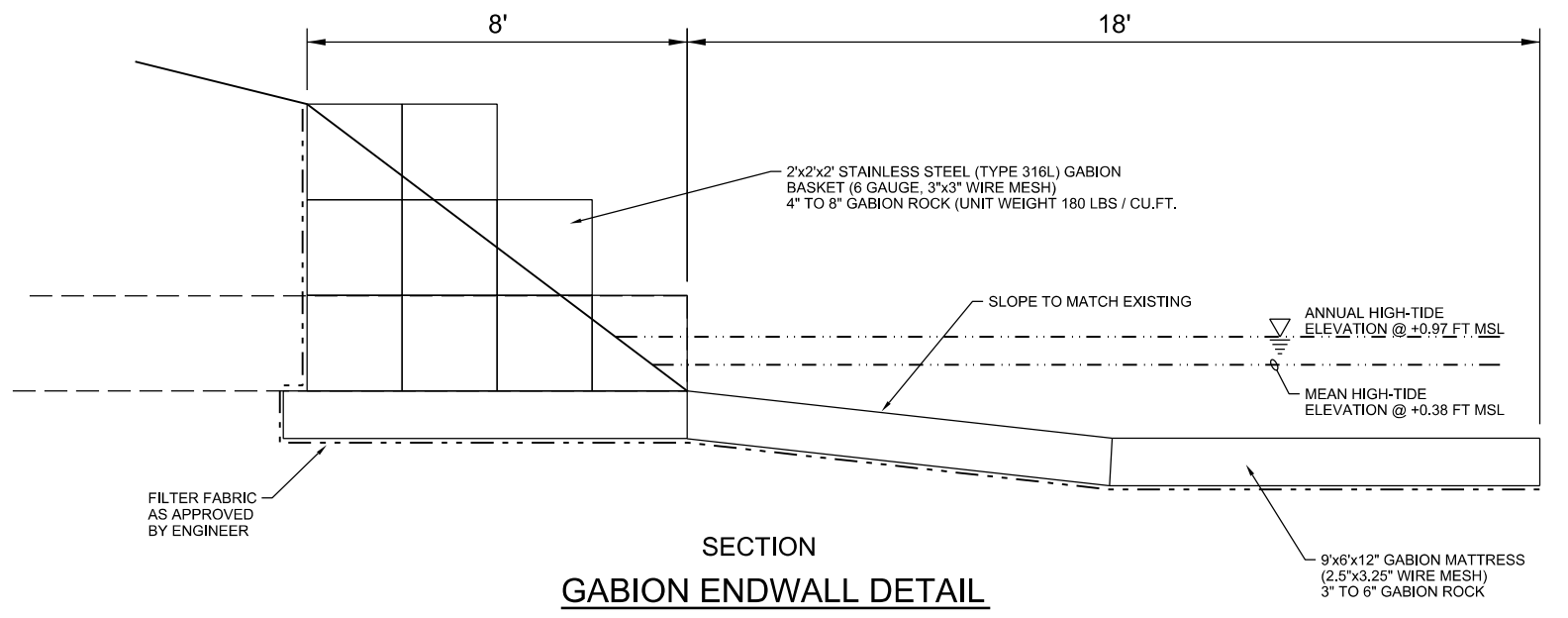
PIPE TRENCH DETAIL



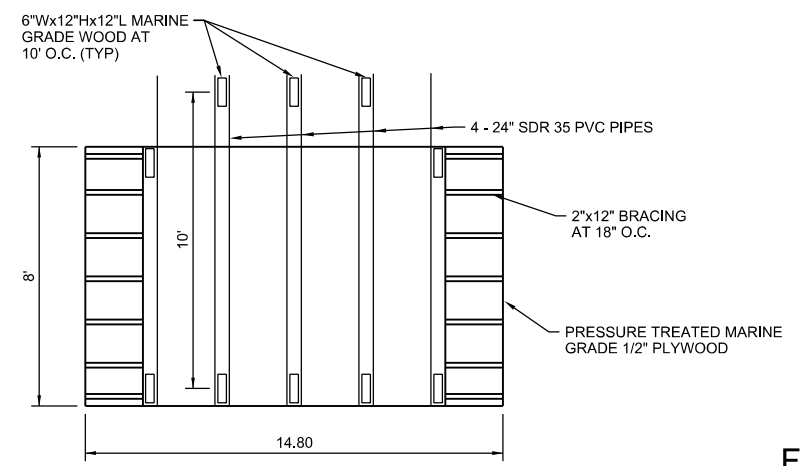
OUTLET #2 PROFILE



FRONT VIEW



SECTION GABION ENDWALL DETAIL



GABION ENDWALL DETAIL WOOD FORM PLAN

**FIGURE 5
OUTLET # 2
PLAN, PROFILE AND DETAILS
USACE 404 PERMIT**



DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE EAST
4911 SOUTH BROAD STREET
PHILADELPHIA, PA 19112-1303

5090
Ser BPMOE/16-043
November 24, 2015

Ms. Diana López Sotomayor, SHPO
State Historic Preservation Office
P.O. Box 9023935
San Juan, PR 00902-3935

Dear Ms. López Sotomayor:

SUBJECT: CONSTRUCTION OF STORMWATER OUTLETS AS PART OF CAP
COMPLETION ACTIVITIES OF AREA 1, SOLID WASTE
MANAGEMENT UNIT 3 AT NAVAL ACTIVITY PUERTO RICO,
CIEBA, PUERTO RICO

The United States Navy (Navy) is in the final construction of the landfill capping of Area 1, Solid Waste Management Unit (SWMU) 3 at Naval Activity Puerto Rico (NAPR) at Cieba, Puerto Rico. A portion of this construction includes stormwater outlets that require Clean Water Act permitting through the U.S. Army Corps of Engineers, Antilles Regulatory Office (Corps). At the interagency meeting for the project held on November 4, 2015, the Corps requested that the Navy coordinate directly with your office. The Corps project manager for the permit application is Ms. Carmen Gisela Roman (Jacksonville District Corps of Engineers, Antilles Office, Annex Building, Fundación Ángel Ramos, 2nd Floor, Suite 202 Franklin Delano Roosevelt Avenue #383San Juan, Puerto Rico 00917, Carmen.G.Roman@usace.army.mil).

SWMU 3 is an inert and solid waste landfill used by the Navy at the former Naval Station Roosevelt Roads (see attached figures). SWMU 3 is being capped with a compacted clay soil cap overlain with a vegetative, protective topsoil cover. The cap was designed to include stormwater management and conveyance. Stormwater collection areas were designed to convey water towards two confluences for discharge. From these two stormwater confluences, pipes will convey stormwater under the perimeter road to the two outlets on into to the Caribbean Sea.

Stormwater Outlet #1 will consist of a single inlet structure, a single, underground 30-inch, diameter round concrete pipe (RCP), and a single outlet structure that discharges to the Caribbean Sea. Approximately 44 cubic yards (CY) of rip-rap will be placed below the mean high tide elevation as an energy-dissipating apron. The riprap for the apron will be placed directly on a geotextile mat with its edges keyed into to the seafloor. All of the of 30-inch concrete pipe will be constructed above the high tide elevation landward with the stormwater collection area and inlet structure on the SWMU 3 cap.


5090
Ser BPMOE/16-043
November 24, 2015

Stormwater Outlet #2 will be placed partially below the mean high tide elevation. Approximately 22 CY of seafloor will be excavated for placement of the energy-dissipating gabion mattress. The gabion mattress will be placed directly on a geotextile mat with its edges keyed into the seafloor.

The attached site figures show the design and locations of the outlets, provide plan and profile depictions of the outlets, indicate the extent of disturbance below the mean high tide elevation and aerial view of the extent of disturbance for each outlet. Locations of the outlets were selected based on minimizing the amount of disturbance within of the existing permitted area for the SWMU 3 cap construction. Both outlets are in areas that have experienced historical disturbance due to being adjacent to the perimeter road that was constructed by the Navy. There are no structures at either proposed outlet location. Based on information in the May 2011 *Supplemental Environmental Assessment for Disposal of Naval Activity Puerto Rico (formerly Naval Station Roosevelt Roads)*, there are no archaeological resources that warrant listing on the National Register of Historic Places at either outlet location. No traditional cultural properties or other items of interest to indigenous peoples have been identified from these areas.

Because the work would not affect historic properties, this letter is being sent to request concurrence that this action will not require Section 106 consultation under the National Historic Preservation Act. If your office has any questions or concerns, please contact Mr. Stacin Martin at 757-322-4780 or stacin.martin@navy.mil.

Sincerely,


GREGORY C. PRESTON
Director

Attachment

CH2M Response to USACE Comments for 404 Joint Application Permit for Outlet #1 and #2 at Area 1, SWMU 3 on Naval Activity Puerto Rico, Ceiba, Puerto Rico

PREPARED FOR: Gisela Roman / USACE Antilles Section
Sinulfo Castillo / USACE Antilles Section

COPY TO: Stacin Martin / NAVFAC LANT
Taylor Sword / AGVIQ
Tom Beisel / CH2M HILL

PREPARED BY: Rich Reaves / CH2M
Jonathan Grimes / CH2M

DATE: December 9, 2015

PROJECT: JM01 SWMU 3 Area 1 Outlet #1 and #2

This technical memorandum (TM) is a reply to Department of Army Jacksonville District Corps of Engineers Antilles Office (Corps) review comments provided on December 4th, 2015 regarding the CH2M joint permit application (JPA # 1447) submitted on behalf of Naval Facilities Engineering Command, Atlantic, Southeast (NAVFAC) for the proposed project: Solid Waste Management Unit 3 Stormwater Outlets. The proposed project is located at Forestal Drive, Naval Activities Puerto Rico, Municipality of Ceiba, Puerto Rico. The application has been assigned number SAJ-2015-03439 (SP-CGR). The Corps' specific comments and CH2M's replies are presented below.

1. Corps Letter Comment: After reviewing the information submitted, we found that it still lacks of necessary information to accept your permit application as completed and continue with the review process for the reference project. Please furnish this office the following information:
 - a. For both proposed outlets, you stated that prior to excavation marine habitat (seagrasses and seafloor) will be relocated. Please show in the plan view drawing: the marine habitat areas to be relocated, indicate the amount (in acres) and show the relocation sites.

CH2M Response: *Mitigation Proposed through Relocation of Seagrasses - If attached Seagrasses occur within the areas of disturbance, these plants would be removed from the area of disturbance (the area within the silt fencing) at each location and relocated to nearby areas. In addition, any seagrass within 5 feet of the end of the energy dissipation apron also would be removed. Seagrasses would be relocated nearby open areas within larger seagrass patches. The locations would be selected based on conditions at the time of the relocation, as discussed further below for each outlet. At present, it is not known just how much seagrass would be relocated from each site, as the distribution of these plants is dynamic due to the surf energy and the potential for large storms to alter the sea bottom. The discussions provided below identify the maximum area of disturbance below the high tide elevation and the relative abundance of sea grass at the time of survey.*

Outlet 1

The maximum area of disturbance at Outlet 1, to include the full area enclosed by silt fencing below the high tide elevation, is 400 square feet. At the time of survey, no seagrass was within the proposed area of disturbance (See Figure 1). There is a small area of seagrass just beyond the area that would be encompassed by the silt fence, encompassing approximately 50 square feet but with less than 100% cover that likely would be within the freshwater halo effect area. This patchy seagrass would be relocated.

Because the growth of seagrasses is dynamic, it is possible that there would be seagrasses within the area of disturbance at the time the work is done. The maximum potential amount of seagrasses that would be relocated would be less than the 400 square feet within the disturbance area, as the area nearest the tide high tide elevation would not support seagrasses. It also is possible that the seagrass patch just outside the silt fence would be larger or smaller at the time the work is done. Based on the maximum disturbance footprint, the potential maximum area of seagrass that would be relocated at Outlet 1 is 0.001 ac (450 square feet).

Prior to commencing work, a seagrass survey will be completed and any seagrasses within the areas identified above would be relocated. The relocations would be to the immediately adjacent area, but more than 30 feet from the edge of the energy dissipation apron (see figure 1). Open areas within the existing seagrass bed in this area would be selected for relocation. A proposed relocation area is shown on the attached Outlet 1 Seagrass Relocation figure. However, depending on natural growth of seagrasses, this area may have to be moved laterally to reach a location with open patches at the time of work.

Outlet 2

The maximum area of disturbance at Outlet 1, to include the full area enclosed by silt fencing below the high tide elevation, is 1,500 square feet. At the time of survey, no seagrass was within the proposed area of disturbance (See Figure 2). The nearest seagrass to the edge of the proposed energy dissipation apron was more than 6 feet away. Because of the nature of the proposed area of disturbance, which is a shallow high energy surf zone above a protecting ring of historically placed rock, it is unlikely of sea grass would grow here. It is not expected that any seagrass would be relocated at Outlet 2. However, based on the maximum disturbance footprint, the potential maximum area of seagrass that would be relocated at Outlet 2 is 0.034 ac (1500 square feet).

However, prior to commencing work, a seagrass survey will be completed and any seagrasses within the area of disturbance or within 5 feet of the silt fence would be relocated, if possible. It likely will not be possible to relocate seagrass growing between large placed rocks, as the rhizomes will likely be damaged by moving the rocks. The relocations would be to the immediately adjacent area, but more than 30 feet from the edge of the energy dissipation apron (see Figure 2). Open areas within the existing seagrass bed in this area would be selected for relocation. Proposed relocation areas are shown on the attached Outlet 2 Seagrass Relocation figure. However, depending on natural growth of seagrasses, these areas may have to be moved laterally to reach a location with open patches at the time of work, if relocation is necessary.

b. Indicate if temporary fill is required on waters of the U.S., including wetlands to perform work.

CH2M Response: *The only temporary fill that is the silt fence surrounding the work areas which is anticipated to be less than one (1) cubic yard at each outlet location. This temporary fill will be removed upon completion of work.*

c. Provide a plan view drawing showing proposed location of staging areas to place equipment, construction materials, and excavated material.

CH2M Response: *Attached is Figure 3 for Outlet #1 and Figure 4 for Outlet #2 showing the temporary staging areas for equipment, construction materials and excavated material. These staging areas are within the authorized area for the landfill cap for SWMU 3. Permanent disposition of excavated material that is not reused in the excavation will be used a general fill within the Area 1 landfill footprint of SWMU 3. Area 1 has silt fence to prevent runoff from the landfill area and is in compliance with site E&SC BMPs.*

d. Indicate whether the excavated material will be temporarily contained in an upland area and if the run-off waters from this material would return to waters of the U.S., including wetlands as this action is also regulated by Section 404 of the Clean Water Act.

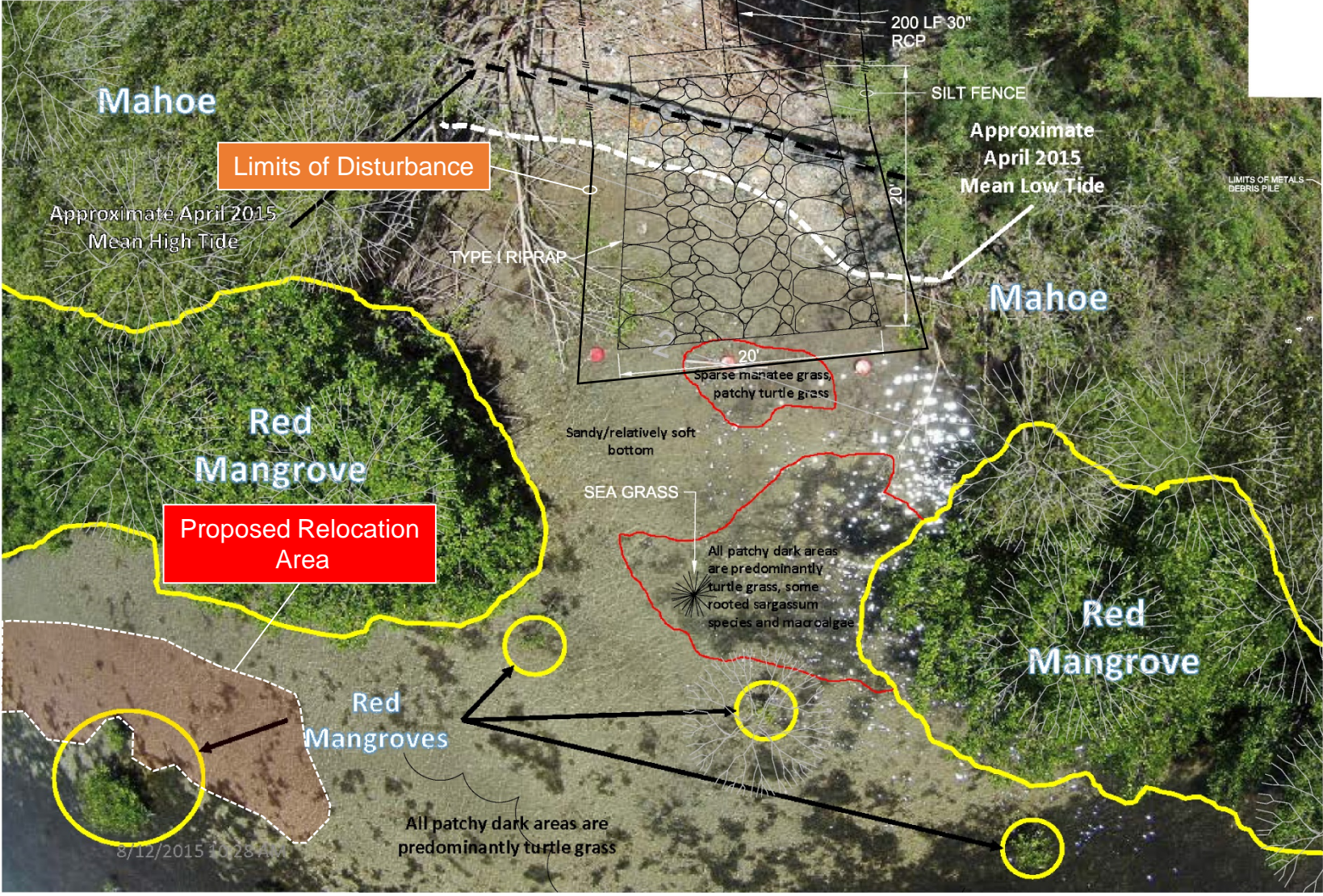
CH2M Response: *The excavated material will be temporarily staged in the construction area as shown on Figure 4 and 5, and will be used as trench backfill after the pipes are placed. This temporary staging area will have silt fence and will comply with site E&SC BMPs. Any excavated material that is not used as excavation backfill will be used a general fill within the Area 1 landfill footprint of SWMU 3. Area 1 has silt fence to prevent runoff from the landfill area and is in compliance with site E&SC BMPs.*

2. **Corps Letter Comment:** Although compliance with other federal laws is not required at this moment to accept your permit application as complete, it will be necessary during the review process of your permit application. As discussed during the interagency meeting, please inform us about the status of Navy consultations with Section 7 of the Endangered Species Act with the US Fish and Wildlife Service and the National Marine Fisheries Service, the Magnuson-Stevens Fishery Conservation and Management Act and Section 106 of the National Historic Preservation Act (NHPA) with the State Historic and Preservation Office for the proposed project. Please provide evidence to support your response.

CH2M Response: *We provided letters opening initial coordination/consultation with US Fish and Wildlife Service (Endangered Species Act Consultation), NOAA Marine Fisheries Protected Resources Division (Endangered Species Act Consultation), and NOAA Marine Fisheries Habitat Conservation Division (Magnuson-Stevens Fishery Conservation and Management Act) with initial application package. On December 4, 2015, your office was copied on a concurrence from US Fish and Wildlife Service with the Navy's determinations regarding Endangered Species Act consultation, including a statement that the consultation is now complete. We have provided additional information to Dr. Lisamarie Carrubba with NOAA Marine Fisheries Protected Resources Division in response to an email request received on December 1, 2015, and they are reviewing the Endangered Species Act determination. Mr. Jose Rivera, with NOAA Marine Fisheries Habitat Conservation Division, has indicated he will not respond regarding Essential Fish Habitat per the Magnuson-Stevens Fishery Conservation and Management Act until after receipt of the USACE announcement of the project.*

The U.S. Navy letter to SHPO requesting concurrence with a no effect determination with regard to historic properties was provided with the initial Additional Information Request Response Submittal. At this time the U.S. navy has received neither a request for additional information nor a response.

Additional agency responses will be provided as they are received.



OUTLET #1 PLAN

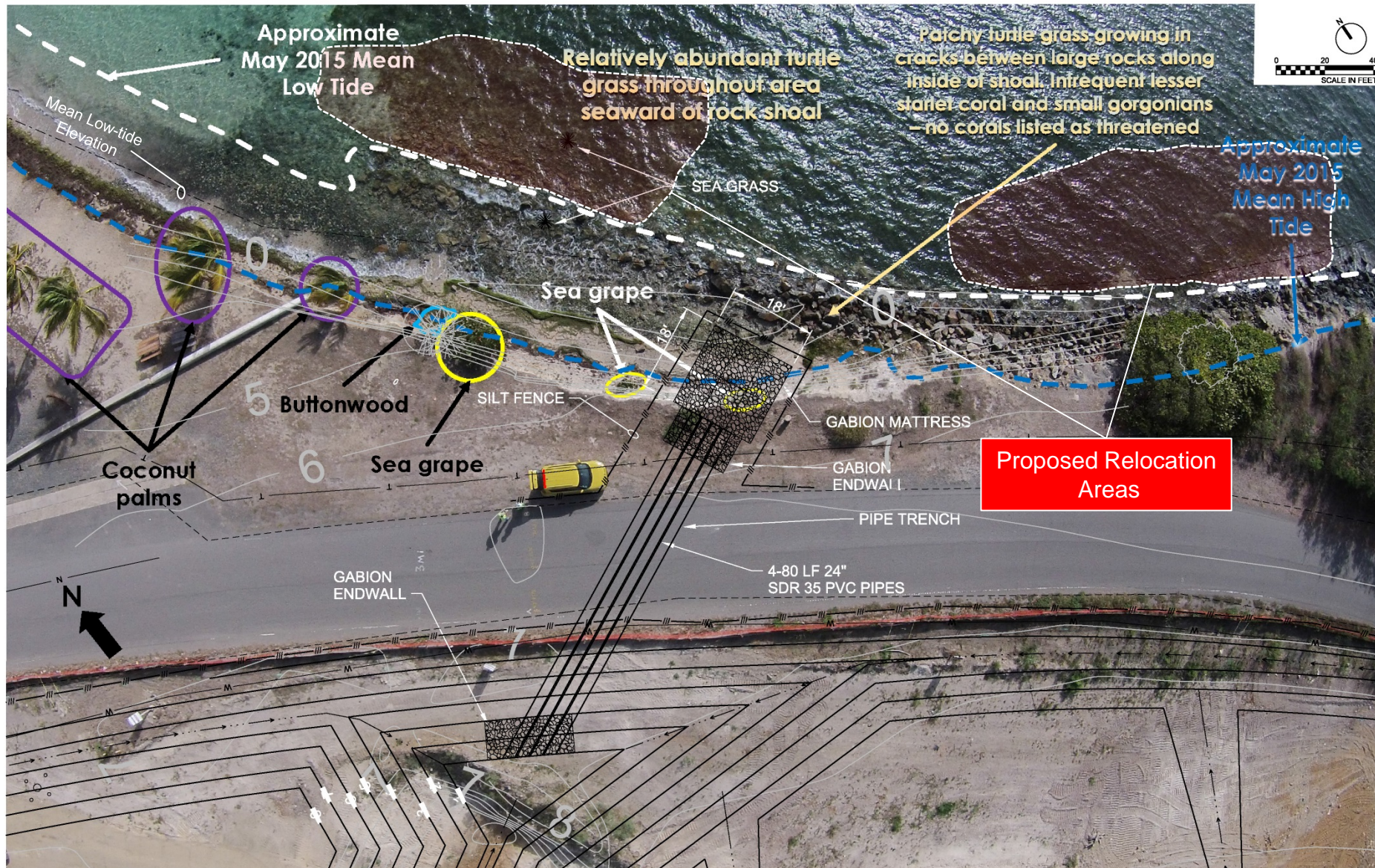
Figure 1
Maximum Potential Impact Area and Proposed Seagrass Relocation Area

PLOT DATE: 20150814 PLOT TIME: 10:25:56 AM

FILENAME:

8/12/2015 10:28 AM

PLOT DATE: 20150814 PLOT TIME: 11:18:14 AM



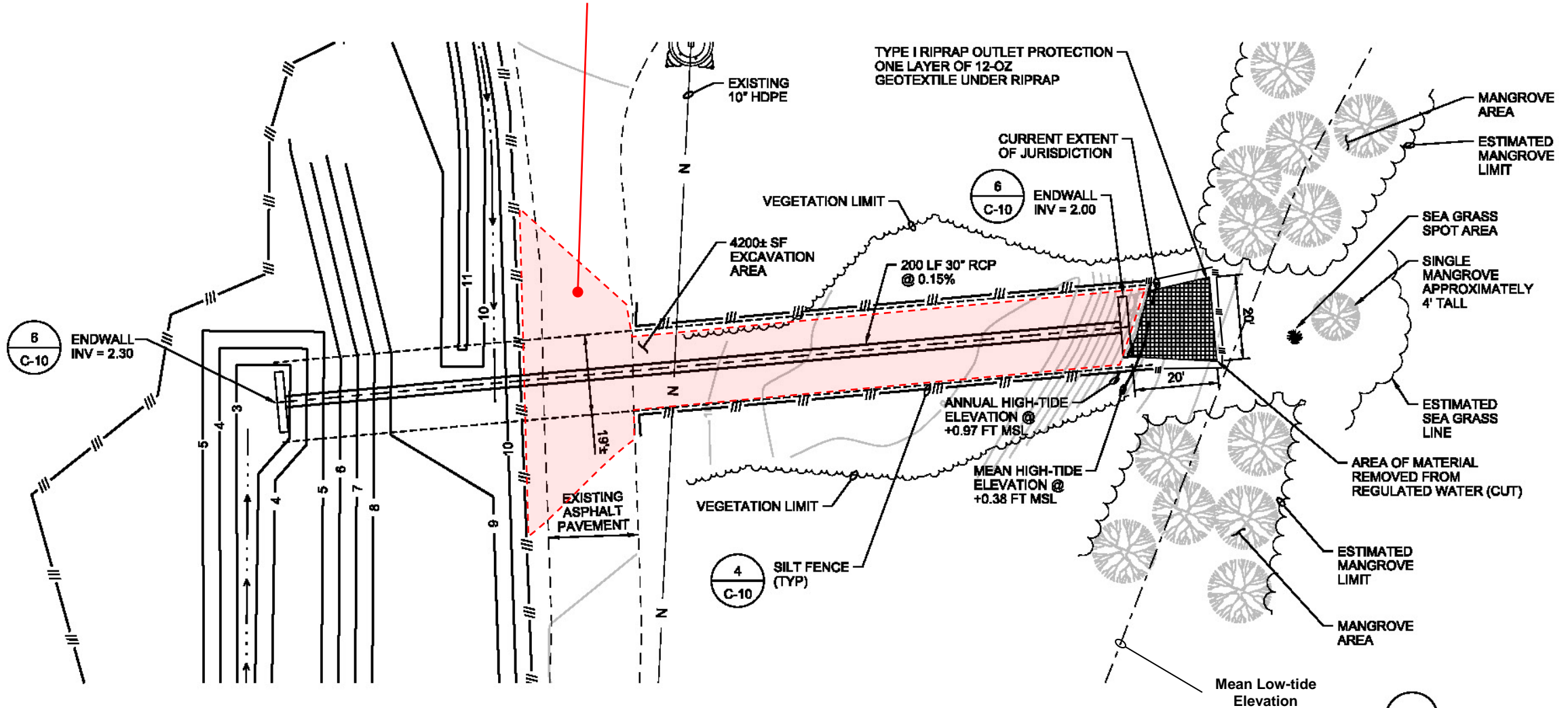
OUTLET #2 PLAN

Figure 2
Maximum Potential Impact Area and Proposed Seagrass Relocation Areas

FILENAME:

Temporary Staging Area for Equipment, Construction Materials and Excavated Materials

PLOT DATE: 2015\11\18 PLOT TIME: 1:52:14 PM
FILENAME: Figure-04B_457891.dgn



NOTE:
CONTRACTOR WILL PROTECT EXCAVATION
FROM ACCESS OUTSIDE OF WORKING HOURS
BY USING FENCING OR COVER PLATES.

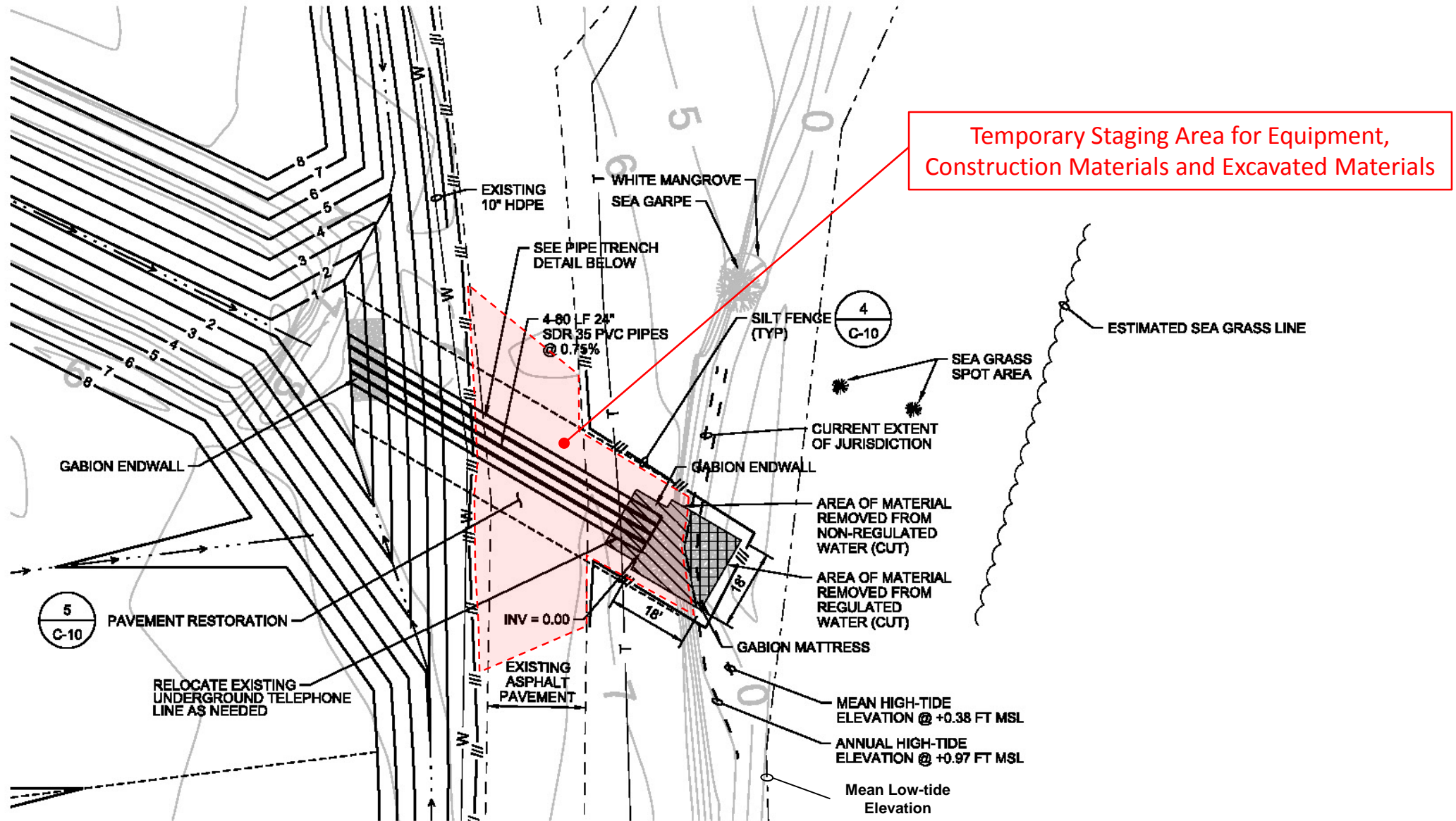


Figure 3

OUTLET #1 PLAN

CH2MHILL.

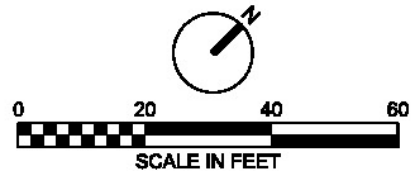
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NOTE:
CONTRACTOR WILL PROTECT EXCAVATION
FROM ACCESS OUTSIDE OF WORKING HOURS
BY USING FENCING OR COVER PLATES.

Figure 4

OUTLET #2 PLAN



CH2MHILL.



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Caribbean Ecological Services

Field Office

P.O. Box 491

Boqueron, PR 00622

DEC 04 2015

In Reply Refer To:
FWS/R4/CESFO/72037-060

Rich Reaves, Ph.D., CEP
Senior Ecologist
CH2M
6600 Peachtree Dunwoody Rd.
400 Embassy Row, Suite 600
Atlanta, Georgia 30328

Re: Stormwater outlets for SWMU-3, Naval Activities
Puerto Rico (NAPR), Ceiba, Puerto Rico

Dear Mr. Reaves:

This is to follow up your presentation on the November 4, 2015, interagency meeting and your December 3, 2015, email. Our comments are issued as technical assistance in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act (16 U.S.C. 1531 et seq., as amended).

As part of the closure of the former Naval Station Roosevelt Roads landfill (SWMU-3), a stormwater management plan is being developed. Stormwater runoff will be collected and discharged into the Caribbean Sea at two points. Stormwater discharge 001 will empty into a mangrove area in Bahia Puerca. Stormwater discharge 002 will empty onto a rocky shoreline in Bahia Puerca.

Because of the increased discharge of freshwater into these areas, some dieback of seagrass is expected forming a halo of unconsolidated bottom at each of the discharge points.

The Navy has identified the following listed species as potentially being in the project area:

Cobana Negra	<i>Stahlia monosperma</i>
Yellow-shouldered blackbird	<i>Agelaius xanthomus</i>
Puerto Rican boa	<i>Epicrates inornatus</i>
West Indian Manatee	<i>Trichechus manatus</i>

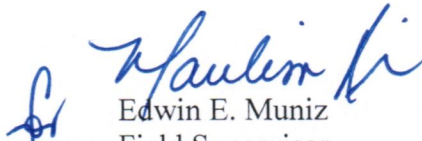
Based on the projects impacts the following effects determination was made:

- 1) No effects to cobana negra, the species is not found within the action area.
- 2) No effects to the yellow-shouldered black bird or PR boa. Prior to construction, each work area would be surveyed for the presence of these species. If an active yellow-shouldered black bird nest were to be found within or adjacent to the proposed work area, work will be delayed until the young have fledged. PR boa conservation measures for construction sites will be implemented and coordinated with PR DNER.
- 3) May affect but not likely to adversely affect the West Indian manatee. Some of the work will take place close to the water and may impact seagrass beds. Manatee conservation measures will be implemented, if any animals are sighted, work will stop until it moves out of the area.

Based on the information provided, we concur with your effects determination of no effect for the cobana, yellow-shouldered black bird and PR boa, and not likely to adversely affect for the West Indian manatee. Therefore, no further consultation is required. Nevertheless, if the project is modified or if information on impacts to listed species becomes available this office should be contacted concerning the need for the initiation of consultation under section 7 of the Act.

Thank you for the opportunity to comment on this action, if you have any questions please contact Felix Lopez of my staff at 787 851-7297 x 210.

Sincerely yours,


Edwin E. Muniz
Field Supervisor

fhl

cc:

EPA, San Juan

NMFS, Boqueron

DNER, San Juan

EQB, San Juan

COE, San Juan

Stacin Martin, NAVFAC