



**TX C-37-HM-1 Schicke Point
Wetland Protection and Restoration,
Calhoun County, TX**

Final Report

October 1, 2021 – October 30, 2022

F20AP00315



TX C-37-HM-1, Schicke Point Wetland Protection and Restoration Project,
Calhoun County, TX (F20AP00315)

In March of 2020 Texas Parks and Wildlife Department (TPWD) received notification that the Schicke Point Wetland Protection and Restoration, Calhoun County, TX project was approved for the requested seven-hundred and fifteen-thousand dollars (\$715,000) in funding under the U.S. Fish and Wildlife Service's (USFWS) National Coastal Wetlands Conservation Grant Program (NCWCGP) followed by the Award Letter dated March 30, 2020. Other project funding is five-hundred thousand dollars (\$500,000) cash match from the Matagorda Bay Mitigation Trust (MBMT) and twenty-eight thousand five-hundred and forty dollars (\$28,540) of in-kind match, engineering and design that has already occurred and has been accepted as an allowable pre-award expense. The \$500,000 cash match contribution from the MBMT is an award to the Matagorda Bay Foundation (MBF) a project partner and recipient of the NCWCGP via a pass-through. June 25, 2021 Memorandum of Agreement (MOA) was executed between the TPWD and MBF.

Project Activities from October 1, 2020 through September 30, 2021 (from Interim Report)

The project proposal was developed with the goal and certainty that the non-federal cash match would be awarded to the project from the Texas General Land Office's (GLO) Coastal Erosion Planning and Response Act (CEPRA). However, after providing the award letter and multiple email attempts (Attachment 1) to initiate a Project Corporation Agreement (PCA) with the GLO for the project we were notified on October 30, 2020 that the project had not been approved for funding under CEPRA program. The GLO did offer to consider contributing Gulf of Mexico Energy Security Act (GOMESA) funds toward the project to replace the CEPRA funds however, there was uncertainty as to whether the GOMESA funds could be used as the non-federal match. The GLO publishes a document on their website, the Gulf of Mexico Energy Security Act (GOMESA) Funding Policies and Guidance (Attachment 2) that states, "Funds may be used as non-federal match", and it was their belief that GOMESA funds could be used as non-federal match. However, it was USFWS's legal conclusion that GOMESA funds could not be used as the non-federal match (Attachment 2).

Being notified about USFWS's legal conclusion on December 10, 2020 we began seeking other funding opportunities. The MBMT was seeking proposals with a due date of December 15, 2020. This funding opportunity initiated the partnership with the MBF who agreed to develop and submit a proposal to the MBMT funding opportunity. On January 20, 2021 MBF was notified and received an award letter (Attachment 3) that they were awarded the requested \$500,000 from the MBMT funding opportunity. The contract (Attachment 3) between MBMT and MBF was executed March 18, 2021.

In mid-March 2021, an amendment to the NCWCGP award to allow the funds to be a passthrough to the MBF was initiated and approved (Attachment 4). Also, in March 2021 the development of a MOA between TPWD and MBF began and was executed on June 25, 2021.

July 16, 2021 a contract between the MBF and Freese and Nichols, Inc. (FNI) was executed. The contract established the scope of work to be provided for the project; design and engineering (aka design package that includes the plan set, construction specifications, and opinion of

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probable construction cost), USACE permitting, construction inspection, and post- construction monitoring.

July 27, 2021 a project initiation meeting was held. Project partners (MBF and TPWD) and FNI personal participated. As a request in this meeting the below schedule of deliverables (tasks) was established.

Table 1. Project Schedule

Task	Duration	Start	Finish
Project Initiation Meeting	1 day	Fri 7/30/21	Fri 7/30/21
Draft Plan set	14 days	Mon 8/2/21	Thu 8/19/21
Final Plan Set & OPCC	15 days	Mon 8/23/21	Fri 9/10/21
Construction Specs	30 days	Mon 8/2/21	Fri 9/10/21
USACE Permit App	16 days	Fri 8/20/21	Fri 9/10/21
Bid solicitation #1	10 days	Mon 11/1/21	Fri 11/12/21
Bid Solicitation #2	10 days	Mon 11/15/21	Fri 11/26/21
Bid Opening	0 days	Mon 11/29/21	Mon 11/29/21
Bid Review	10 days	Mon 11/29/21	Fri 12/10/21
Bid Selection	0 days	Fri 12/10/21	Fri 12/10/21
Construction Phase Services	64 days	Mon 12/13/21	Thu 3/10/22
Contracting	10 days	Mon 12/13/21	Fri 12/24/21
Construction & Inspection	49 days	Mon 12/27/21	Thu 3/3/22
Substantial Completion	5 days	Fri 3/4/22	Thu 3/10/22
Post Construction Monitoring	17 months	3/10/2022	7/31/23
First monitoring trip	2 months	3/10/2022	5/10/2022
Second monitoring trip (low water event)	9 months	12/1/2022	2/28/2023
Third monitoring trip	4 months	4/10/2023	6/10/2023
Post-construction monitoring report	2 months	6/10/2023	8/10/2023

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The draft plan set and construction specifications were submitted to the project partners for review and comment on August 20, 2021. The final plan set, construction specifications, and opinion of probable construction costs were completed and provided to the project partners on October 1, 2021.

The U.S. Army Corps of Engineers (USACE) Nation Wide permit (NWP) 27 Pre-Construction Notice (PCN) application package was provided for the partners review on September 10th, provided for MBF signature on September 29th.

Some individual tasks have slipped from the project schedule by a few days to a couple of weeks. Even prior to some tasks slipping, the schedule pushed right up to the award expiration date. The TPWD Federal Aid Coordinator has been contacted to request an extension of time for this project.

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Project Activities from October 1, 2021 through September 30, 2022

- October 6, 2021, FNI submitted the 100%, final design package to TPWD (Attachment 1).
- October 8, 2021, FNI submitted a preconstruction verification notice under Nationwide Permit 27, Aquatic Habitat Enhancement, to the Galveston District of the U. S. Army Corps of Engineers (USACE) (Attachment 2).
- November 4, 2021, FNI, with approval from TPWD and the MBF, issued a notice to bidders who might be interested in constructing the designed living shoreline followed by a prebid conference at FNI's Houston office on November 12, 2021 (Attachment 3). The bid package was updated on November 15, 2021 by FNI with Front End documents. Eight potential bidders including Cayo LLC, Bertucci Contracting Co., LLC., Broussard Brothers, HydroTerra Technologies, LLC., RES, Apollo Environmental, Luhr Brothers, and Patriot Construction and Industrial, LLC., expressed interest in the project. Notice was also issued in two newspapers, the Victoria Advocate, and the Port Lavaca Wave.
- November 19, 2021, FNI issued Addendum Number 01 with appendices to potential bidders.
- December 1, 2021, FNI received sealed bids from Apollo Environmental and Bertucci Contracting Co., LLC.
- December 3, 2021, FNI requested Best and Final offers from both bidding contractors.
- December 10, 2021, TPWD's Cherie O'Brien notified USFWS the entire length of designed breakwater would not be built because both Best and Final Offers exceeded available funds for the project.
- December 15, 2021, the Matagorda Bay Mitigation Trust extended its grant to December 20, 2023.
- January 11, 2022, FNI and TPWD's Cherie O'Brien conducted a field visit to Schicke Point to check the location of the proposed breakwater and shoreline erosion in the area.
- January 18, 2022, TPWD's Cherie O'Brien submitted the project to the

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Texas Historical Commission for an Antiquities Code of Texas review because of concern the antiquities code review might not otherwise be conducted as required by the USFWS (Attachment 4).

- February 2, 2022, the Galveston District of the USACE approved the preconstruction verification notice under Nationwide Permit 27 to construct the living shoreline (Attachment 5). However, issuance of the permit did not include antiquities code review and review of impacts on federally listed species.
- February 16, 2022, the Texas Historical Commission approved the Antiquities Code review required for the project and found the project would not threaten cultural resources (Attachment 5).
- April 4, 2022, Charles “Hasty” Johnson, the landowner adjacent to the project area contractually agreed to pay the Matagorda Bay Foundation \$80,499 to assist with construction of the living shoreline. These additional funds were used to pay increased construction costs resulting from rapid rise in fuel costs in early 2022 and to facilitate construction of more living shoreline (Attachment 6).
- April 26, 2022, the MBF signed the contract with Apollo Environmental to construct the living shoreline (Attachment 7).
- June 22, 2022, the National Marine Fisheries Service issued its letter of concurrence allowing the project to proceed (Attachment 8)
- June 29, 2022, the notice-to-proceed was issued to Apollo Environmental to begin construction. Apollo Environmental ordered the required construction materials at this time.
- August 9, 2022, FNI biologists mapped the shoreline adjacent to the area where the living shoreline will be constructed to provide a baseline measurement of the shoreline position before construction. The contractor and its construction materials were on site on August 9, 2022.
- August 11, 2022, a revised plan set was prepared (Attachment 9). The revised plan set was developed because Apollo Environmental’s preconstruction survey indicated the water depth had increased along the design alignment. The increased water depth would require more rock to be put in place than calculated in the 100% design. One result of the increase in amount of rock per linear foot of living shoreline was that the length of

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living shoreline would have to be reduced. Upon consultations between FNI, Apollo Environmental, TPWD, MBF and the USFWS, the following design changes were made to maximize the length of living shoreline within the funds available from the USFWS, the Matagorda Bay Mitigation Trust, and Mr. Johnson:

- 1) Lower the crest of the breakwater from 1.0 feet MSL to 0.5 feet MSL. This change resulted in the crest elevation being the same as the crest elevation of the adjacent living shoreline constructed in 2017 which has performed well, and
- 2) Shift the eastern-most 600-foot segment of breakwater 33 feet closer to the shore. This segment of breakwater remained parallel to the shore but was 33 feet closer to the shore than originally designed.

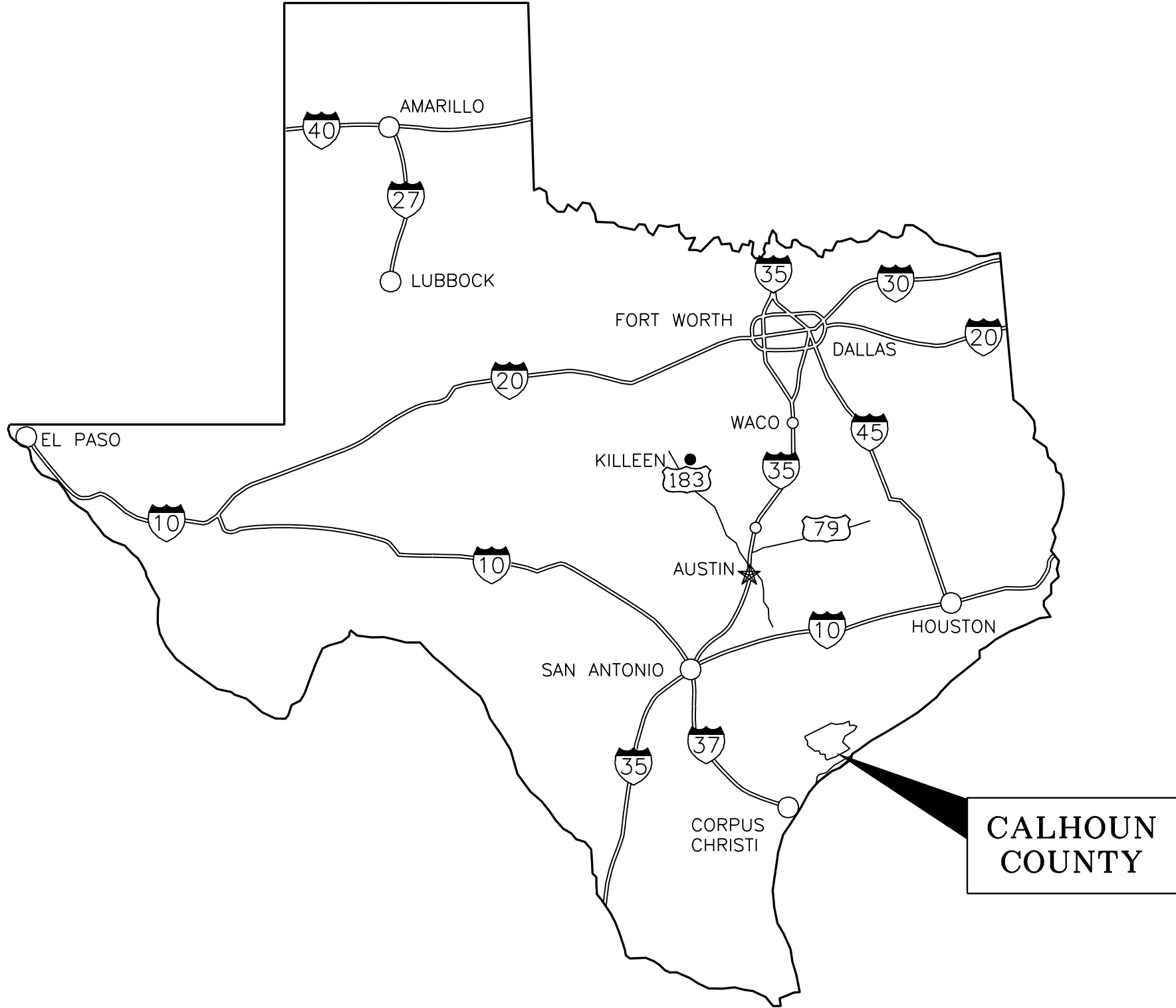
An additional change was to shift funds allocated for post-construction monitoring to construction materials. These modifications allowed the living shoreline to be constructed to a length of between 2,800 and 2,900 feet long including gaps.

- August 11, 2022, because of the modifications in design, the USACE requested a new preconstruction verification notice under Nationwide Permit 27 be submitted for the project. It was submitted on August 11, 2022.
- August 12, 2022, a change order was issued to purchase more geotextile fabric to place under the rock. A calculation error resulted in an insufficient quantity of geotextile fabric being initially ordered.
- August 17, 2022, construction of the living shoreline began.
- FNI inspected living shoreline construction on August 18, August 20, August 27, and September 3, 2022.
- September 6, 2022, living shoreline construction was complete including installation of aids to navigation (Attachment 10).

Attachment 1: 100% Design Plan Set

MATAGORDA BAY FOUNDATION

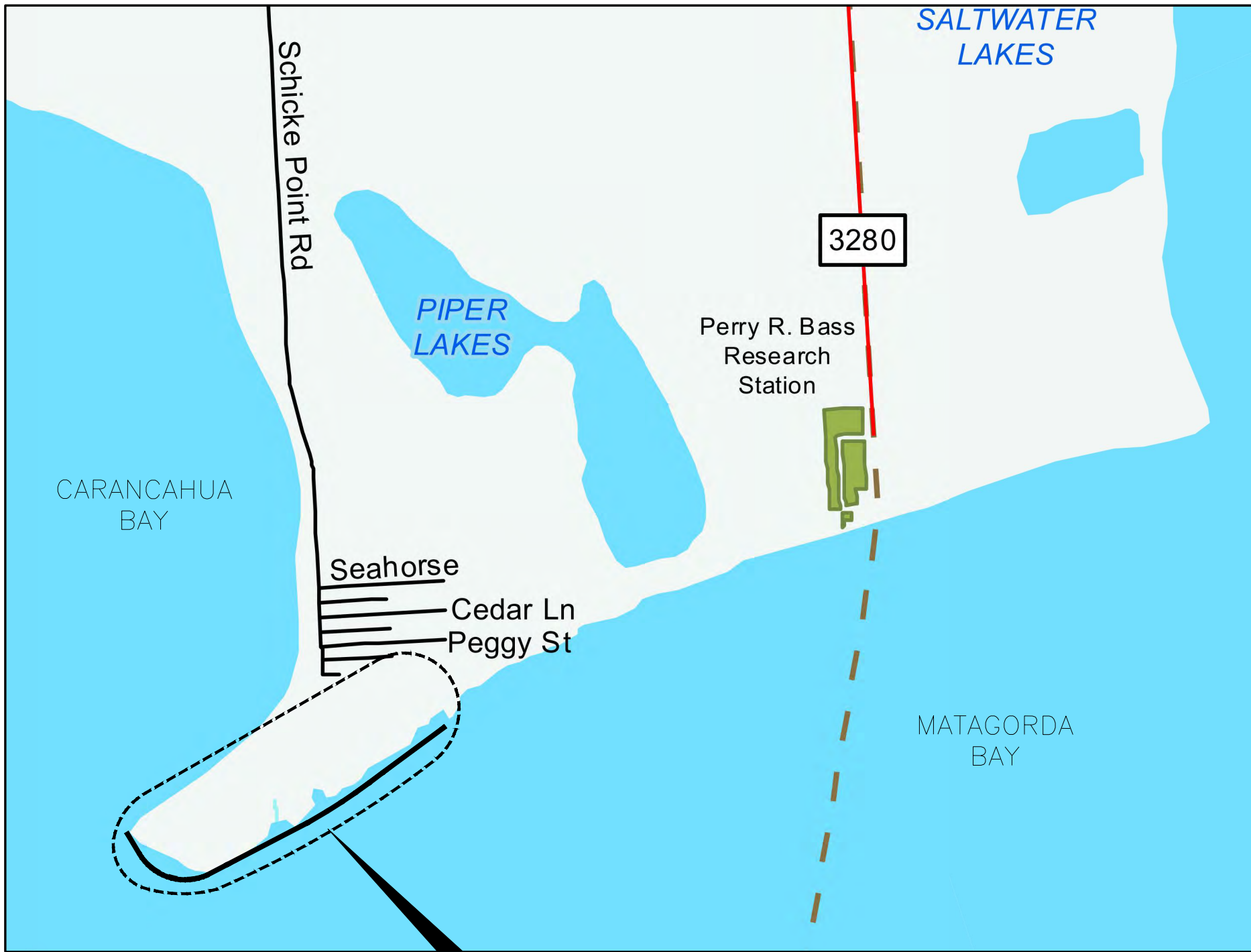
SCHICKE POINT LIVING SHORELINE IMPROVEMENTS



LOCATION MAP
N.T.S.

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
GENERAL	
1	COVER
2	GENERAL NOTES 1
3	GENERAL NOTES 2
SITE CIVIL	
4	SITE PLAN
5	BREAKWATER SECTIONS (1 OF 6)
6	BREAKWATER SECTIONS (2 OF 6)
7	BREAKWATER SECTIONS (3 OF 6)
8	BREAKWATER SECTIONS (4 OF 6)
9	BREAKWATER SECTIONS (5 OF 6)
10	BREAKWATER SECTIONS (6 OF 6)
11	BREAKWATER NO. 3 DETAILS
12	BREAKWATER NO. 4 DETAILS
13	BREAKWATER NO. 5 DETAILS
14	BREAKWATER NO. 6 DETAILS
15	BREAKWATER NO. 7 DETAILS



PROJECT LOCATION

VICINITY MAP
N.T.S.

OCTOBER 2021

100% SUBMITTAL

FREESSE & NICHOLS
 10497 Town and Country Way,
 Suite 500
 Houston, Texas 77024
 Phone - (713) 600-6800
 Web - www.freese.com

Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144

MBF21580

THIS DOCUMENT WAS ORIGINALLY
 SIGNED, SEALED AND DATED BY:
 AUTHORIZED BY: NICHOLAS KIRK P.E.
 TEXAS NO: 135937
 DATE: 9/30/2021
 THE SEALED, SIGNED AND DATED DOCUMENTS
 ARE MAINTAINED IN THE OFFICE OF FREESSE AND
 NICHOLS AND MAY BE REVIEWED UPON REQUEST.

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 Last Saved: 11/2/2021 8:54 AM
 Saved By: 02762

GENERAL NOTES:

- ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
- GRID COORDINATES ARE IN FEET, AND ARE REFERENCED TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983.
- THE CONTRACTOR'S SURVEYOR WILL PROVIDE HORIZONTAL AND VERTICAL CONTROL AT THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING HORIZONTAL AND VERTICAL ACCURACY DURING CONSTRUCTION. SURVEYOR MUST BE LICENSED IN THE STATE OF TEXAS.
- MEAN SEA LEVEL (MSL) IS +0.74FT NAVD88. ELEVATION DETERMINED BY NAISMITH MARINE. IN 2017.
- ALL CONSTRUCTION ACTIVITY WILL BE CONDUCTED DURING DAYLIGHT HOURS FROM ONE HALF-HOUR AFTER SUNRISE TO ONE HALF-HOUR BEFORE SUNSET.
- ALL WORK WILL BE COMPLETED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- ALL WORK WILL BE COMPLETED WITHIN DESIGNATED AREAS AND TO DESIGNATED ELEVATIONS.
- CONTRACTOR TO IDENTIFY STAGING AREA IN MATAGORDA BAY AND TO OBTAIN OWNERS APPROVAL.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES OR OTHER OBJECTS PRIOR TO COMMENCING WORK AT THE SITE. ANY UTILITIES OR OTHER ITEMS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT NO COST TO THE MATAGORDA BAY FOUNDATION (OWNER).
- REPAIR AND REPLACEMENT OF ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION OF EQUAL TO, OR BETTER THAN EXISTING CONDITIONS UNLESS SPECIFICALLY EXEMPTED BY THE PLANS.
- ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO SHALL BE OF LATEST REVISIONS AND/OR LATEST EDITION UNLESS OTHERWISE NOTED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.
- CONSTRUCTION TRAFFIC SHALL NOT IMPEDE THE SAFE AND EFFICIENT USE OF SURROUNDING ROADWAYS.
- CONTRACTOR SHALL NOT OCCUPY PRIVATE LAND OUTSIDE OF WORK AREA.
- IF ARCHEOLOGICAL OR HISTORIC RESOURCES ARE ENCOUNTERED THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY AND STOP WORK UNTIL DIRECTED TO RESTART.
- BEST MANAGEMENT PRACTICES FOR EROSION AND TURBIDITY CONTROL, INCLUDING BUT NOT LIMITED TO THE USE OF STAKED HAY BALES, TURBIDITY BARRIERS, AND SILT SCREENS, SHALL BE USED AND MAINTAINED AS NECESSARY AT ALL TIMES DURING THE PROJECT. THE OWNER REPRESENTATIVE WILL EVALUATE THE IMPLEMENTATION, DEPLOYMENT, AND EFFECTIVENESS OF SILTATION CONTROL DEVICES.

SITE CLEARING AND PREPARATION NOTES:

- ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.
- CONTRACTOR SHALL HAVE THE SOLE RESPONSIBILITY OF SATISFYING ITSELF CONCERNING THE NATURE AND LOCATION OF THE WORK AND THE GENERAL AND LOCAL CONDITIONS, AND PARTICULARLY, BUT WITHOUT LIMITATION, WITH RESPECT TO THE FOLLOWING: THOSE AFFECTING TRANSPORTATION, ACCESS, DISPOSAL, HANDLING AND STORAGE OF MATERIALS; AVAILABILITY AND QUALITY OF LABOR; WATER AND ELECTRIC POWER; AVAILABILITY AND CONDITION OF ROADS; WORK AREA; LIVING FACILITIES; CLIMATIC CONDITIONS AND SEASONS; PHYSICAL CONDITIONS AT THE WORK-SITE AND THE PROJECT AREA AS A WHOLE; TOPOGRAPHY AND GROUND SURFACE CONDITIONS; NATURE AND QUANTITY OF THE SURFACE MATERIALS TO BE ENCOUNTERED; SUBSURFACE CONDITIONS; EQUIPMENT AND FACILITIES NEEDED PRELIMINARY TO AND DURING PERFORMANCE OF THE WORK; AND ALL OTHER COSTS ASSOCIATED WITH SUCH PERFORMANCE.

CONSTRUCTION NOTES:

- DAMAGE TO ANY PROPERTY, UTILITIES, STRUCTURES OR NATURAL RESOURCES SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR IN A TIMELY MANNER AT THE CONTRACTOR'S EXPENSE.
- ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS AFTER DISTURBANCE.

- ANY PRIVATELY OWNED FEATURES LOCATED ON PRIVATE PROPERTY AND OUTSIDE THE DESIGNATED AREA OF CONSTRUCTION DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE REPAIRED IN A TIMELY MANNER, AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL DISTURB NO MORE GROUND THAN WHAT IS NECESSARY FOR CONSTRUCTION. NO OPEN EXCAVATED TRENCH, OR OTHER UNSAFE CONDITION, WILL BE LEFT OVERNIGHT. ALL WORK SITES WILL BE COMPLETELY RESTORED WITHIN SEVEN (7) CALENDAR DAYS OF SITE COMPLETION. THE INTENT OF THIS PROVISION IS TO "SAFE UP" THE PROJECT SITE AS WORK PROGRESSES, AND SHALL INCLUDE REMOVING FORMS, FILLING HOLES, GRADING, AND REMOVAL OF DEBRIS.

BREAK WATER CONSTRUCTION NOTES:

- ALL STONE SHALL BE HARD, DURABLE QUALITY STONE SUCH THAT IT WILL NOT DISINTEGRATE UNDER THE ELEMENTS AND IT WILL NOT BREAK UNDER HANDLING. ALL STONE SHALL BE CLEAN AND FREE FROM EARTH, DUST, OR OTHER REFUSE.
- THE FACES OF INDIVIDUAL PIECES OF STONE SHALL BE ROUGHLY ANGULAR, NOT ROUNDED, IN SHAPE. THE LEAST DIMENSION OF EACH STONE SHALL NOT BE LESS THAN ONE-THIRD (1/3) OF THE GREATEST DIMENSION OF THAT STONE.
- THE STONES SHALL BE PLACED IN SUCH A MANNER THAT THEY WILL BE PROPERLY INTERLOCKED WITH THE UNDERLYING OR ADJACENT STONES TO RESIST DISPLACEMENT BY WAVE ACTION AND FORM A UNIFORM AND COMPACT SECTION. EACH STONE SHALL BE FIRMLY SET AND WELL-SUPPORTED BY UNDERLYING AND ADJACENT STONE. NO HEAD SIZE OR SMALLER STONES MAY BE FREE ON THE SURFACE.
- BREAK WATER STONE SHALL CONSIST OF SOUND, HARD, DURABLE LIMESTONE, FREE OF OPEN OR INCIPIENT CRACKS, SOFT SEAMS, OR OTHER STRUCTURAL DEFECTS, CONSISTING OF BROKEN STONE WITH A SPECIFIC GRAVITY OF AT LEAST 2.5. ENSURE THAT STONES ARE ROUGH AND ANGULAR WITH A MEDIAN DIAMETER OF 1.25 FEET. FOR THIS APPLICATION, USE BROKEN STONE MEETING THE FOLLOWING GRADATION AND THICKNESS REQUIREMENTS:

WEIGHT MAXIMUM	450 LBS
WEIGHT 50%	260 LBS
WEIGHT MINIMUM	40 LBS

- ENSURE AT LEAST 97% OF THE MATERIAL BY WEIGHT IS SMALLER THAN WEIGHT MAXIMUM POUNDS.
- ENSURE NO MORE THAN 50% OF THE MATERIAL BY WEIGHT IS SMALLER THAN WEIGHT 50% POUNDS.
- ENSURE NO MORE THAN 10% OF THE MATERIAL BY WEIGHT IS SMALLER THAN WEIGHT MINIMUM POUNDS.

REMOVAL AND STOCKPILING:

- DEBRIS, SUCH AS STUMPS, ROCKS, ROCK FRAGMENTS, ROOTS, LOGS, TRASH, VEGETATION, ETC. AND ANY OTHER OBJECTS (EXCEPT ARCHEOLOGICAL OR HISTORIC RESOURCES) THAT EXIST WITHIN THE PROJECT FOOTPRINT OR ARE UNEARTHED DURING OPERATIONS, SHALL BE REMOVED AND STOCKPILED ON-SITE SO THAT THE CONTRACTOR CAN TRANSPORT, AND DISPOSE OF MATERIAL APPROPRIATELY. DEBRIS SHOULD BE EXPECTED TO BE ENCOUNTERED DURING THE OPERATIONS AND WILL NOT CONSTITUTE A CHANGE OF CONDITION TO THE CONTRACT/AGREEMENT. STOCKPILING OF DEBRIS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR IN ITS ENTIRETY. STOCKPILING OF DEBRIS AND OBSTRUCTIONS SHALL NOT BE PROVIDED FOR SEPARATE PAYMENT. THESE SPECIFICATIONS ARE NOT AN ALL-INCLUSIVE REFERENCE OF DEBRIS TYPES, WHICH MAY BE ENCOUNTERED. IT IS ANTICIPATED THAT DURING CLEARING/CONSTRUCTION ACTIVITY DEBRIS (INCLUDED BUT NOT LIMITED TO VEGETATION, TREES, ROOTS, ROCKS, BEDROCK, CONCRETE, ASPHALT, WOOD, TRASH, GARBAGE, UNUSABLE SOIL, METAL, ETC.) WILL BE ENCOUNTERED. THE CONTRACTOR SHALL BE PREPARED AND RESPONSIBLE FOR PROPER STOCKPILING OF MATERIAL.

RECORD DRAWINGS AND AS-BUILT SURVEYS:

- ENGINEER OF RECORD IS THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE PROJECT.

CONTACT: Nicholas J. Kirk, P.E.
 Freese and Nichols, Inc
 Houston, Texas 77024
 EMAIL: nic.kirk@freese.com
 PHONE: 832-425-7573

- DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL RECORD ALL INFORMATION REQUIRED TO COMPLETE A SET OF RECORD SHOP DRAWINGS. INFORMATION TO BE INCLUDED ON THE RECORD SHOP DRAWINGS SHALL BE RECORDED ON ONE WORKING SET OF CONSTRUCTION DRAWINGS DURING THE COURSE OF THE WORK, AND SHALL INCLUDE ACTUAL DIMENSIONS AND ELEVATIONS. IF FIELD CHANGES ARE MADE TO MODIFY THE WORK IN ANY WAY, SUCH FIELD CHANGES SHALL BE DOCUMENTED ON THE RECORD SHOP DRAWINGS BY DIMENSION, DETAIL AND DATE. THE WORKING SET OF CONSTRUCTION DRAWINGS SHALL BE KEPT AT THE SITE AND AVAILABLE FOR REVIEW BY THE OWNER AND THE ENGINEER DURING THE PROGRESS OF THE WORK. PRIOR TO SUBSTANTIAL COMPLETION OF THE WORK, THE CONTRACTOR SHALL TRANSFER THE INFORMATION TO A FINAL PROJECT RECORD SET OF REPRODUCIBLE DRAWINGS, AND SUBMIT THE DRAWINGS TO THE OWNER THROUGH THE ENGINEER, ALONG WITH A CERTIFICATION AS TO THE ACCURACY AND COMPLETENESS OF THE DRAWINGS. PRIOR TO FINAL PAYMENT, THE RECORD SHOP DRAWINGS SHALL BE REVISED BY THE CONTRACTOR TO REFLECT ANY CHANGES WHICH HAVE OCCURRED.

SITE CONDITIONS:

- INFORMATION AND DATA FURNISHED OR REFERRED TO HEREIN ARE FOR THE CONTRACTOR'S INFORMATION; HOWEVER, IT IS EXPRESSLY UNDERSTOOD THAT THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY INTERPRETATION OR CONCLUSION DRAWN THERE FROM BY THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH LOCAL CONDITIONS THAT MAY IN ANY MANNER AFFECT PERFORMANCE OF THE WORK.

NOTICE TO MARINERS:

- THE CONTRACTOR SHALL NOTIFY THE COAST GUARD IN SUFFICIENT TIME TO ALLOW FOR PUBLICATION OF A NOTICE TO MARINERS. PROOF OF NOTIFICATION, AND PUBLICATION, OF THE REQUESTED NOTICE TO MARINERS WILL BE PROVIDED TO THE CLIENT BEFORE CONSTRUCTION COMMENCES. THE LOCAL COAST GUARD OFFICE IS:
 COMMANDER
 8TH COAST GUARD DISTRICT
 HALE BOGGS FEDERAL BUILDING
 500 POYDRAS STREET
 NEW ORLEANS, LA 70130-3396
 ATTN: (LNM)
- THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE U.S. COAST GUARD FOR ALL TEMPORARY BUOYS, MARKERS, AND OTHER NAVIGATION AIDS FOR CONSTRUCTION ACTIVITIES PRIOR TO INSTALLATION. CONSTRUCTION AIDS, LIGHTS OR TARGETS SHALL NOT BE PLACED OR COLORED IN A MANNER THAT THEY WILL OBSTRUCT OR BE CONFUSED WITH NAVIGATION AIDS.
- THE CONTRACTOR SHALL NOT REMOVE, CHANGE THE LOCATION OF, OBSTRUCT, WILLFULLY DAMAGE, MAKE FAST TO, OR INTERFERE WITH ANY AID TO NAVIGATION. WITHIN 7 CALENDAR DAYS FOLLOWING RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL NOTIFY THE COMMANDER, EIGHTH COAST GUARD DISTRICT, NEW ORLEANS, LA, OF HIS PLAN TO OPERATE ADJACENT TO ANY AIDS WHICH REQUIRE RELOCATION TO FACILITATE CONSTRUCTION.

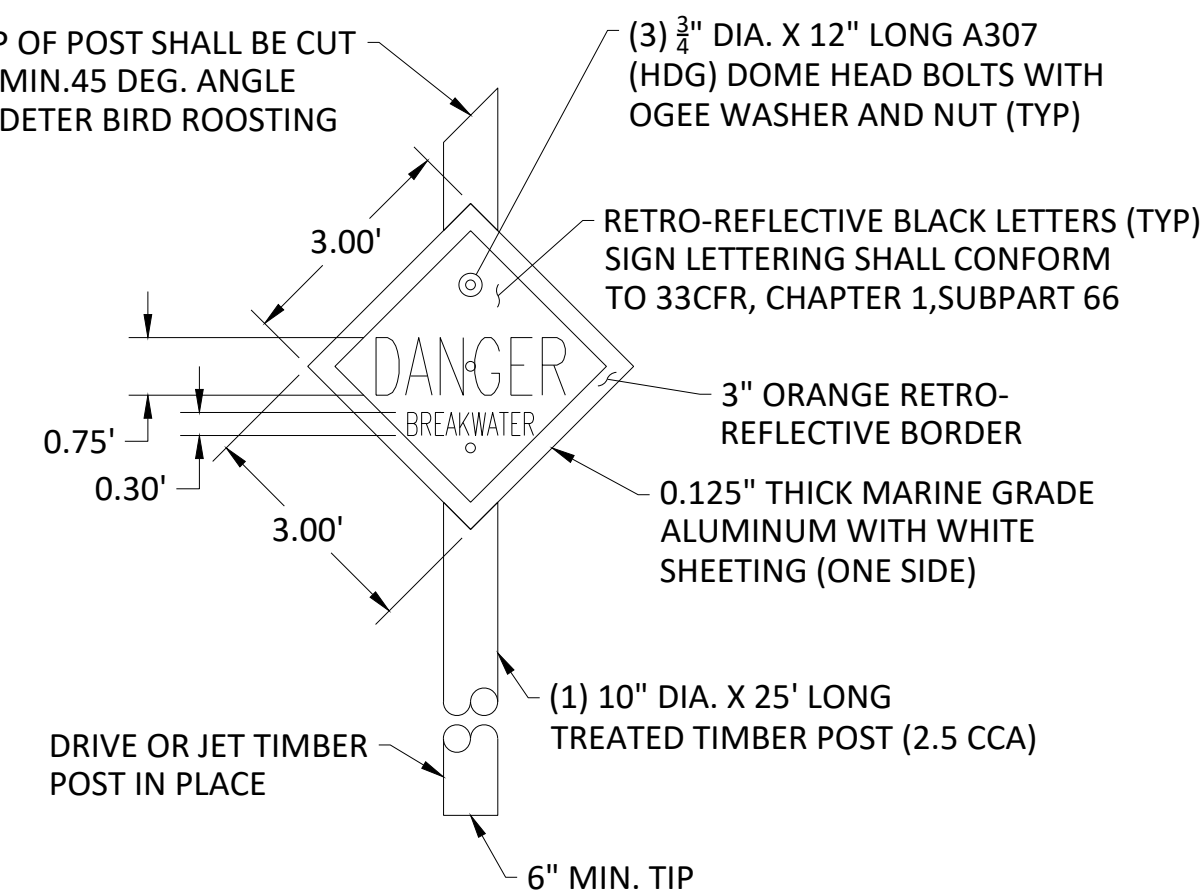
SUBSTANTIAL AND FINAL COMPLETION CONSTRUCTION NOTES:

- IN ORDER FOR THE PROJECT TO BE DEEMED SUBSTANTIAL COMPLETE THE BASE BID ROCK PLACEMENT (AT MINIMUM) AND SMOOTHING OF PLACED MATERIAL MUST BE COMPLETED WITHIN (3) THREE MONTHS OF NOTICE TO PROCEED. THE CONTRACTOR'S FAILURE TO HAVE THE "BASE BID" PORTION OF THE WORK COMPLETED BY THIS DATE WILL BE CAUSE FOR THE OWNER TO BILL THE CONTRACTOR FOR THE OWNER'S ADDITIONAL INSPECTION COSTS AND POSSIBLE LIQUIDATED DAMAGES.
- TEN (10) BUSINESS DAYS PRIOR TO COMPLETION DATE, THE CONTRACTOR WILL CONDUCT A POST-CONSTRUCTION SURVEY. THE OWNER/ENGINEER WILL THOROUGHLY EXAMINE THE ROCK PLACEMENT PROJECT PORTIONS OF THE WORK FOR DETERMINATION OF ACCEPTABILITY OF PERFORMANCE. SHOULD ANY SCARPS, NON-UNIFORM CONTOURS, OR ANY OTHER IRREGULARITY NOT SHOWN IN THE PLANS OR SPECIFICATIONS (I.E. LACK OF ACCEPTABLE CONTRACT PERFORMANCE) BE DISCLOSED BY THIS EXAMINATION, THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH THE CONTRACT BY CORRECTING THE AFFECTED SURFACE UNTIL THE CONDITION IS CORRECTED. IF ADDITIONAL CONSTRUCTION IS REQUIRED TO CORRECT THE UNACCEPTABLE WORK, THE CONSTRUCTION WILL NOT BE PAID FOR ABOVE THE MAXIMUM PAYMENT SET FORTH IN THE CONTRACT. FINAL ACCEPTANCE OF A CORRECTED WORK AREA SHALL NOT CHANGE THE TIME OF PAYMENT, WORK SCHEDULE, RETAINED PERCENTAGES OF THE WHOLE OR ANY PART OF THE WORK.
- THE FINAL COMPLETION DATE FOR THIS PROJECT IS MARCH 31ST 2022. THE CONTRACTOR MUST HAVE ALL EQUIPMENT, BARGES, SUPPORT VESSELS, TRASH, DEBRIS, ETC. CLEAR OF ALL STAGING AREAS BY THIS DATE.

- NEAR COMPLETION OF THE PROJECT THE ENGINEER AND CONTRACTOR WILL CONDUCT A PRE-FINAL INSPECTION. THE OWNER/ENGINEER WILL INSPECT FOR DEMOBILIZATION AND CLEAN-UP OF TEMPORARY STAGING AREAS. THE OWNER WILL PERFORM THE PRE-FINAL INSPECTION TO VERIFY WORK IS COMPLETE AND READY FOR FINAL ACCEPTANCE. THE OWNER PRE-FINAL INSPECTION MAY RESULT IN ADDITIONAL WORK TO BE DONE. THE CONTRACTOR SHALL ENSURE ITEMS ARE CORRECTED BEFORE NOTIFYING THE OWNER SO THAT A FINAL INSPECTION CAN BE SCHEDULED. ANY ITEMS NOTED ON THE PRE-FINAL INSPECTION SHALL BE CORRECTED IN A TIMELY MANNER. PRE-FINAL INSPECTION AND DEFICIENCY CORRECTIONS SHALL BE ACCOMPLISHED WITHIN THE PROJECT COMPLETION PERIOD AT NO ADDITIONAL COST TO THE OWNER.
- FINAL INSPECTION WILL BE SCHEDULED BY THE OWNER/ENGINEER BASED UPON THE RESULTS OF PRE-FINAL INSPECTION. THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER WHEN READY FOR THE FINAL INSPECTION AND THE OWNER WILL SCHEDULE THE INSPECTION TO BE PERFORMED WITHIN SEVEN (7) BUSINESS DAYS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ASSURING THAT WORK WILL BE COMPLETE AND ACCEPTABLE BY THE FINAL INSPECTION DATE.

AIDS TO NAVIGATION:

- LOCATION OF AIDS TO NAVIGATION ARE APPROXIMATE. TO BE FIELD VERIFIED.
- SIGNAGE SHOULD MEET USCG REGULATIONS FOR "INLAND WATERS OBSTRUCTION MARK". (33CFR 62-32(b); 33CFR 66)
- AIDS TO NAVIGATION SHALL BE LIGHTED AND SHOULD BE MEET USCG REGULATIONS FOR "INLAND WATERS OBSTRUCTION MARK". (33CFR 62-32(b); 33CFR 66)
- AIDS TO NAVIGATION SHALL EXTEND AT LEAST 6 FEET ABOVE THE WATER SURFACE ELEVATION.



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 Texas Registered Engineering Firm F-2144
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 DATE: 9/30/2021
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ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 SCOPE

THIS SECTION COVERS PREVENTION OF ENVIRONMENTAL DAMAGE AS THE RESULT OF OPERATIONS UNDER THIS CONTRACT. FOR THE PURPOSE OF THIS SPECIFICATION, ENVIRONMENTAL DAMAGE IS DEFINED AS THE PRESENCE OF HAZARDOUS PHYSICAL, CHEMICAL, OR BIOLOGICAL ELEMENTS OR AGENTS WHICH ADVERSELY AFFECT HUMAN HEALTH OR WELFARE; UNFAVORABLY ALTER ECOLOGICAL BALANCES; AFFECT OTHER SPECIES, BIOLOGICAL COMMUNITIES, OR ECOSYSTEMS; OR DEGRADE THE QUALITY OF THE ENVIRONMENT FOR AESTHETIC, CULTURAL, AND/OR HISTORICAL PURPOSES. THE CONTROL OF ENVIRONMENTAL DAMAGE REQUIRES CONSIDERATION OF LAND, WATER, AND AIR, AND INCLUDES MANAGEMENT OF VISUAL AESTHETICS, NOISE, SOLID WASTE, RADIANT ENERGY AND RADIOACTIVE MATERIALS, POLLUTANTS, AND OPERATIONS UNDER THIS CONTRACT.

1.2 QUALITY CONTROL

THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN QUALITY CONTROL FOR ENVIRONMENTAL PROTECTION OF ALL ITEMS SET FORTH HEREIN. THE CONTRACTOR SHALL RECORD ON DAILY QUALITY CONTROL REPORTS OR ATTACHMENTS THERETO, ANY PROBLEMS IN COMPLYING WITH LAWS, REGULATIONS AND ORDINANCES, AND CORRECTIVE ACTION TAKEN.

1.3 PERMITS

THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS UNDER THE TERMS AND CONDITIONS SET OUT IN ALL PERMIT(S) FOR WORK UNDER THIS CONTRACT.

1.4 SUBMITTALS

UNLESS WAIVED BY THE ENGINEER, THE CONTRACTOR SHALL SUBMIT AN ENVIRONMENTAL PROTECTION PLAN FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ACCEPTANCE OF THE CONTRACTOR'S PLAN SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ADEQUATE AND CONTINUING CONTROL OF POLLUTANTS AND OTHER ENVIRONMENTAL PROTECTION MEASURES. ACCEPTANCE OF THE PLAN IS CONDITIONAL AND PREDICATED ON SATISFACTORY PERFORMANCE DURING CONSTRUCTION. THE ENGINEER RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO MAKE CHANGES TO THE ENVIRONMENTAL PROTECTION PLAN OR OPERATIONS IF THE ENGINEER DETERMINES THAT ENVIRONMENTAL PROTECTION REQUIREMENTS ARE NOT BEING MET. NO PHYSICAL WORK AT THE SITE SHALL BEGIN PRIOR TO ACCEPTANCE OF THE CONTRACTOR'S PLAN OR AN INTERIM PLAN COVERING THE WORK TO BE PERFORMED. THE ENVIRONMENTAL PROTECTION PLAN SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

- a. A LIST OF FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, AND PERMITS CONCERNING ENVIRONMENTAL PROTECTION, POLLUTION CONTROL, AND ABATEMENT THAT ARE APPLICABLE TO THE CONTRACTOR'S PROPOSED OPERATIONS AND THE REQUIREMENTS IMPOSED BY THOSE LAWS, REGULATIONS, AND PERMITS.
- b. METHODS FOR PROTECTION OF FEATURES TO BE PRESERVED WITHIN AUTHORIZED WORK AREAS. THE CONTRACTOR SHALL PREPARE A LISTING OF METHODS TO PROTECT RESOURCES NEEDING PROTECTION, I.E., TREES, SHRUBS, VINES, GRASSES AND GROUND COVER, LANDSCAPE FEATURES, AIR AND WATER QUALITY, FISH AND WILDLIFE, SOIL, HISTORICAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES.
- c. PROCEDURES TO BE IMPLEMENTED TO PROVIDE THE REQUIRED ENVIRONMENTAL PROTECTION AND TO COMPLY WITH THE APPLICABLE LAWS AND REGULATIONS. THE CONTRACTOR SHALL PROVIDE WRITTEN ASSURANCE THAT IMMEDIATE CORRECTIVE ACTION WILL BE TAKEN TO CORRECT POLLUTION OF THE ENVIRONMENT DUE TO ACCIDENT, NATURAL CAUSES, OR FAILURE TO FOLLOW THE PROCEDURES SET OUT IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION PLAN.
- d. ENVIRONMENTAL MONITORING PLANS FOR THE JOB SITE, INCLUDING LAND, WATER, AIR, AND NOISE MONITORING.
- e. SPILL PREVENTION. THE CONTRACTOR SHALL SPECIFY ALL POTENTIALLY HAZARDOUS SUBSTANCES TO BE USED ON THE JOB SITE AND INTENDED ACTIONS TO PREVENT ACCIDENTAL OR INTENTIONAL INTRODUCTION OF SUCH MATERIALS INTO THE AIR, GROUND, WATER, WETLANDS, OR DRAINAGE AREAS. THE PLAN SHALL SPECIFY THE CONTRACTOR'S PROVISIONS TO BE TAKEN TO MEET FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS REGARDING LABELING, STORAGE, REMOVAL, TRANSPORT, AND DISPOSAL OF POTENTIALLY HAZARDOUS SUBSTANCES.
- f. SPILL REMEDIATION PLAN FOR CLEANUP OF ALL HAZARDOUS, TOXIC, OR PETROLEUM MATERIAL.
- g. IDENTIFICATION OF THE PERSON WHO SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE ENVIRONMENTAL PROTECTION PLAN. THE CONTRACTOR PERSONNEL RESPONSIBLE SHALL REPORT DIRECTLY TO THE CONTRACTOR'S TOP MANAGEMENT AND SHALL HAVE THE AUTHORITY TO ACT FOR THE CONTRACTOR IN ALL ENVIRONMENTAL PROTECTION MATTERS.

1.6 NOTIFICATION

THE ENGINEER WILL NOTIFY THE CONTRACTOR IN WRITING OF ANY OBSERVED NONCOMPLIANCE WITH THE FEDERAL, STATE, OR LOCAL LAWS OR REGULATIONS, PERMITS AND OTHER ELEMENTS OF THE CONTRACTOR'S ENVIRONMENTAL PROTECTION PLAN. THE CONTRACTOR SHALL, AFTER RECEIPT OF SUCH NOTICE, INFORM THE ENGINEER OF PROPOSED CORRECTIVE ACTION AND TAKE SUCH ACTION AS MAY BE REQUIRED. IF THE CONTRACTOR FAILS TO COMPLY PROMPTLY, THE ENGINEER MAY ISSUE AN ORDER STOPPING ALL OR PART OF THE WORK UNTIL SATISFACTORY CORRECTIVE ACTION HAS BEEN TAKEN BY THE CONTRACTOR. NO TIME EXTENSIONS SHALL BE GRANTED OR COSTS OR DAMAGES ALLOWED TO THE CONTRACTOR FOR ANY SUCH SUSPENSION.

ADDITIONALLY, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, OF THE OCCURRENCE OF ENVIRONMENTAL INCIDENTS.

PART 2 EXECUTION

2.1 PROTECTION OF ENVIRONMENTAL RESOURCES

2.1.1 GENERAL PROJECT ENVIRONMENTAL DESIGN AND INSTALLATION CRITERIA

AT ALL SITES, PROJECT PLANS SHOULD MINIMIZE DISTURBANCE TO EXISTING FEATURES AT THE SITE TO THE EXTENT POSSIBLE, INCLUDING VEGETATIVE, TOPOGRAPHIC, AND DRAINAGE PATTERN FEATURES. WETLAND IMPACTS (TEMPORARY ACCESS, DETOURS, STAGING AREAS, AND OTHER WORK AREA IMPACTS) TO PROJECT SITES SHOULD BE AVOIDED AND MAY REQUIRE SEPARATE PERMITTING ACTION.

IN THE EVENT ENVIRONMENTAL PROTECTION MEASURES FAIL, THE CONTRACTOR SHALL IMPLEMENT PROCEDURES TO CONTROL AND CORRECT ENVIRONMENTAL DAMAGE.

2.1.2 PROTECTION OF WATER RESOURCES

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE, MANAGEMENT, AND CONTROL TO AVOID POLLUTION OF SURFACE, GROUND WATERS, AND WETLANDS. THE CONTRACTOR SHALL PLAN HIS OPERATION AND PERFORM ALL WORK NECESSARY TO MINIMIZE ADVERSE IMPACT OR VIOLATION OF THE WATER QUALITY STANDARD. SPECIAL MANAGEMENT TECHNIQUES AS SET OUT BELOW SHALL BE IMPLEMENTED TO CONTROL WATER POLLUTION BY THE LISTED CONSTRUCTION ACTIVITIES, WHICH ARE INCLUDED IN THIS CONTRACT. THE CONTRACTOR'S CONSTRUCTION METHODS SHALL PROTECT WETLAND AND SURFACE WATER AREAS FROM DAMAGE DUE TO MECHANICAL GRADING, EROSION, SEDIMENTATION AND TURBID DISCHARGES. THERE SHALL BE NO STORAGE OR STOCKPILING OF EQUIPMENT, TOOLS, OR MATERIALS WITHIN WETLANDS OR ALONG THE SHORELINE WITHIN THE LITTORAL ZONE UNLESS SPECIFICALLY AUTHORIZED.

2.1.2.1 MONITORING OF WATER AREAS

MONITORING OF WATER AREAS AFFECTED BY CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL MONITOR ALL WATER AREAS AFFECTED BY CONSTRUCTION ACTIVITIES.

2.1.2.3 OIL, FUEL, AND HAZARDOUS SUBSTANCE SPILL PREVENTION AND MITIGATION

THE CONTRACTOR SHALL PREVENT OIL, FUEL, OR OTHER HAZARDOUS SUBSTANCES FROM ENTERING THE AIR, GROUND, DRAINAGE, LOCAL BODIES OF WATER, OR WETLANDS. THIS SHALL BE ACCOMPLISHED BY DESIGN AND PROCEDURAL CONTROLS. IN THE EVENT THAT A SPILL OCCURS DESPITE THE DESIGN AND PROCEDURAL CONTROLS, THE FOLLOWING SHALL OCCUR:

- (1) IMMEDIATE ACTION SHALL BE TAKEN TO CONTAIN AND CLEANUP ANY SPILL OF OIL, FUEL OR OTHER HAZARDOUS SUBSTANCE.
- (2) SPILLS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
- (3) SPILL CONTINGENCY PLANNING SHALL BE STRICTLY IN ACCORDANCE WITH THE CRITERIA OF 40 CFR, PART 109.
- (4) TO CONTROL THE SPREAD OF ANY POTENTIAL SPILL, ABSORBENT MATERIALS SHALL BE READILY AVAILABLE AND CAPABLE OF ABSORBING THE CONTENTS OF THE SINGLE LARGEST TANK.
- (5) TO CONTROL THE SPREAD OF ANY POTENTIAL SPILL, THE CONTRACTOR SHALL PROVIDE A WRITTEN CERTIFICATION OF COMMITMENT OF MANPOWER, EQUIPMENT, AND MATERIALS REQUIRED TO EXPEDITIOUSLY CLEANUP AND DISPOSE OF SPILL MATERIALS.

a. SPILL PREVENTIVE SYSTEMS: SYSTEM DESIGN AND INSTALLATION REQUIREMENTS HAVE BEEN DISCUSSED AT THE BEGINNING OF THIS SECTION. TEMPORARY OR PORTABLE TANKS SHALL CONFORM TO APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REQUIREMENTS AND SHALL NOT BE PLACED WHERE THEY MAY BE AFFECTED BY STORM, FLOODING, OR WASHOUT. DIVERSIONARY STRUCTURES FOR SPILLS SHALL BE PUT IN PLACE IN ADVANCE WHERE PRACTICAL. BOTH SPILL PREVENTIVE SYSTEMS AND ANY DEVIATIONS FROM ASSOCIATED REQUIREMENTS MUST BE APPROVED BY THE COUNTY/ENGINEER PRIOR TO IMPLEMENTATION.

b. LIABILITIES: THE CONTRACTOR SHALL BE LIABLE IN THE AMOUNTS ESTABLISHED IN 40 CFR, PART 113 WHEN IT CAN BE SHOWN THAT OIL WAS DISCHARGED AS A RESULT OF WILLFUL NEGLIGENCE OR WILLFUL MISCONDUCT. THE PENALTY FOR FAILURE TO REPORT THE DISCHARGE OF OIL SHALL BE IN ACCORDANCE WITH THE PROVISION OF 33 CFR, PART 153.2.1.3 WETLANDS PROTECTION

THE CONTRACTOR SHALL NOT ANCHOR, PLACE PIPELINES, OR STAGE EQUIPMENT IN A MANNER THAT WILL CAUSE ANY DAMAGE TO WETLANDS AND OYSTERS BEYOND THOSE SPECIFICALLY IDENTIFIED, ANTICIPATED, AND AUTHORIZED IN THESE SPECIFICATIONS AND ASSOCIATED DRAWINGS AND ENVIRONMENTAL DOCUMENTS. ANCHORING, PLACING PIPELINE, OR STAGING EQUIPMENT SHALL BE AVOIDED IN THESE SENSITIVE WETLAND AREAS. IF SUCH ACTIVITIES CANNOT BE DONE WITHOUT AFFECTING SENSITIVE AREAS OUTSIDE THE CONSTRUCTION AREA IDENTIFIED IN THE CONTRACT DOCUMENTS, THE ACTIVITIES SHALL CEASE, AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED (NO LATER THAN THE MORNING FOLLOWING THE WORKING DAY IF THE INCIDENT OCCURS AFTER NORMAL WORKING HOURS). ANY ACTUAL INCIDENT INVOLVING DAMAGE TO, OR DISTURBANCE OF, WETLANDS SHALL BE REPORTED.

2.1.4 PROTECTION OF FISH AND WILDLIFE RESOURCES

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE, MANAGEMENT, AND CONTROL TO MINIMIZE INTERFERENCE WITH, DISTURBANCE TO, AND DAMAGE OF FISH AND WILDLIFE.

PROTECT ALL OYSTER BEDS. AVOID ALL CONSTRUCTION IMPACTS TO EXISTING OYSTERS.

2.1.8 PROTECTION OF AIR RESOURCES

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE, MANAGEMENT, AND CONTROL TO MINIMIZE POLLUTION OF AIR RESOURCES. ALL ACTIVITIES, EQUIPMENT, PROCESSES AND WORK OPERATED OR PERFORMED BY THE CONTRACTOR IN ACCOMPLISHING THE SPECIFIED CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE APPLICABLE AIR POLLUTION STANDARDS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY'S AMBIENT AIR QUALITY STANDARDS.

ODORS SHALL BE CONTROLLED AT ALL TIMES FOR ALL CONSTRUCTION ACTIVITIES.

2.1.9 PROTECTION FROM SOUND INTRUSIONS

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE AND CONTROL TO MINIMIZE DAMAGE TO THE ENVIRONMENT BY NOISE.

2.2 POST-CONSTRUCTION CLEANUP

THE CONTRACTOR SHALL CLEAN UP ANY AREA(S) USED FOR CONSTRUCTION INCLUDING RESTORING ALL LANDSCAPE FEATURES, MARINE VEGETATION, OR OTHER SITE FEATURES DAMAGED OR DESTROYED DURING CONSTRUCTION OPERATIONS OUTSIDE THE LIMITS OF THE APPROVED WORK AREAS. THIS WORK SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S EXPENSE.

GEOTEXTILE FABRIC

1. THE GEOTEXTILE SHALL BE INSTALLED UNDER THE DESIGNATED GROINS AND BREAKWATER STRUCTURES.
2. THE GEOTEXTILE SHALL BE PERVIOUS, WOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE FIBERS, WHICH ARE FORMED INTO A STABLE NETWORK SUCH THAT THE FIBERS RETAIN THEIR RELATIVE POSITION.
3. THE MATERIAL SHALL BE FREE FROM DEFECTS OR TEARS. GEOTEXTILE MATERIAL SHALL BE INERT TO CHEMICALS COMMONLY FOUND IN NATURAL WATER, THE SOILS CONDITIONS ENCOUNTERED AT THE SITE, AND UV STABILIZED. THE EDGES OF THE GEOTEXTILE SHALL BE FINISHED TO PREVENT THE OUTER FIBER FROM PULLING AWAY FROM THE GEOTEXTILE.
4. THE AREA TO RECEIVE THE GEOTEXTILE SHALL BE CLEARED OF ANY DEBRIS OR OBSTRUCTIONS WHICH MAY DAMAGE THE GEOTEXTILE.
5. THE INSTALLED GEOTEXTILE SHALL HAVE NO TEARS OR PUNCTURES.
6. ALL NON-SEWN GEOTEXTILE FABRIC PANEL SEAMS SHALL BE OVERLAPPED AT A MINIMUM DISTANCE OF THREE (3) FEET.
7. GEOTEXTILE SHALL BE TEMPORARILY ANCHORED INTO ITS FINAL POSITION, USING SANDBAGS AND OTHER METHODS THAT WON'T RUPTURE THE GEOTEXTILE, PRIOR TO THE PLACEMENT OF STONE ON THE GEOTEXTILE.

STONE

1. THE STONE SHALL BE UNIFORMLY GRADED AND CONFORM TO THE FOLLOWING SIZE GRADATION FOR THE IN-PLACE CONDITION ON THE GROINS AND BREAKWATER STRUCTURES.


Weight(lbs)	Percent Retained	Dimension (in)
450+	0-3	18+
260-450	47-60	15-18
40-260	30-50	8-15
0-40	0-10	0-8

2. ALL DETERIORATED STRUCTURES, DEBRIS, AND ABANDONED PILING THAT LIE WITHIN THE TEMPLATE OF THE GROINS AND BREAKWATERS OR INTERFERE WITH CONSTRUCTION SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER.
3. STONE SHALL BE DELIVERED TO THE PROJECT SITE FOR INSTALLATION ON THE GROIN AND BREAKWATER STRUCTURES BY METHODS THAT WILL MINIMIZE MULTIPLE RE-HANDLING OF THE MATERIALS TO MINIMIZE BREAKAGE.
 - A. STONE SHALL BE MECHANICALLY PLACED ON THE SECURED GEOTEXTILE FABRIC L IN SUCH MANNER THAT WILL PRODUCE A WELL-KEYED MASS OF STONE (WITH MAXIMUM LEVEL OF STONE INTERLOCKING) SHALL BE CONSTRUCTED TO THE LINES, GRADES AND THICKNESS SHOWN. STONE SHALL BE PLACED TO ITS FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH MANNER AS TO AVOID DISPLACING THE UNDERLYING MATERIAL. PLACING STONE THROUGH CHUTES, DROPPING MORE THAN 2 FEET (ABOVE OR BELOW WATER SURFACE), AND OTHER METHODS WHICH MAY SEGREGATE THE VARIOUS SIZES OR DAMAGE THE ARMOR STONE OR UNDERLYING MATERIAL WILL NOT BE PERMITTED. THE LARGE STONES SHALL BE WELL DISTRIBUTED IN THE MASS OF STONES.
4. REARRANGING OF INDIVIDUAL ARMOR STONE MAY BE REQUIRED TO THE EXTENT NECESSARY TO SECURE THE RESULTS SPECIFIED.
5. ALL STONE SHALL BE PLACED BY CLAMSHELL BUCKET, STONE GRAB, OR BY SOME OTHER METHOD APPROVED BY THE ENGINEER THAT WILL NOT DROP OR CAST THE STONE, BUT WILL RELEASE THE STONE IN SUCH A MANNER THAT THEY WILL BE PROPERLY INTERLOCKED WITH THE UNDERLYING OR ADJACENT STONES TO RESIST DISPLACEMENT BY WAVE ACTION AND PROVIDE A UNIFORM AND COMPACT SECTION. STONES SHALL BE FIRMLY SET AND WELL SUPPORTED BY UNDERLYING OR ADJACENT STONES TO RESIST DISPLACEMENT BY WAVE ACTION AND PROVIDE A UNIFORM AND COMPACT SECTION.
6. THE CONTRACTOR SHALL PLACE THE STONE ON THE BREAKWATER STRUCTURES USING METHODS, TECHNIQUES, AND EQUIPMENT THAT WILL PRODUCE A TIGHT FITTING MASS OF STONE.
7. PLACING STONE BY DUMPING IT AT THE TOP OF THE SLOPE AND PUSHING IT DOWN THE SLOPE WILL NOT BE PERMITTED. THE DESIRED DISTRIBUTION OF THE VARIOUS SIZES OF STONES THROUGHOUT THE MASS SHALL BE OBTAINED BY SELECTIVE LOADING OF THE MATERIAL AT THE QUARRY OR OTHER SOURCE, BY CONTROLLED DUMPING OF SUCCESSIVE LOADS DURING FINAL PLACING, OR BY OTHER METHODS OF PLACEMENT THAT WILL PRODUCE THE SPECIFIED RESULTS.
8. PLACEMENT OF STONE SHALL START AT THE TOE OF THE STRUCTURE AND PROGRESS UP THE SLOPE, DIAGONALLY ACROSS THE FACE OF THE STRUCTURE. PLACING OF STONE BY METHODS THAT WILL LIKELY CAUSE SEGREGATION OF VARIOUS SIZES WILL NOT BE PERMITTED.

Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-21,44
 THIS DOCUMENT IS THE ORIGINAL
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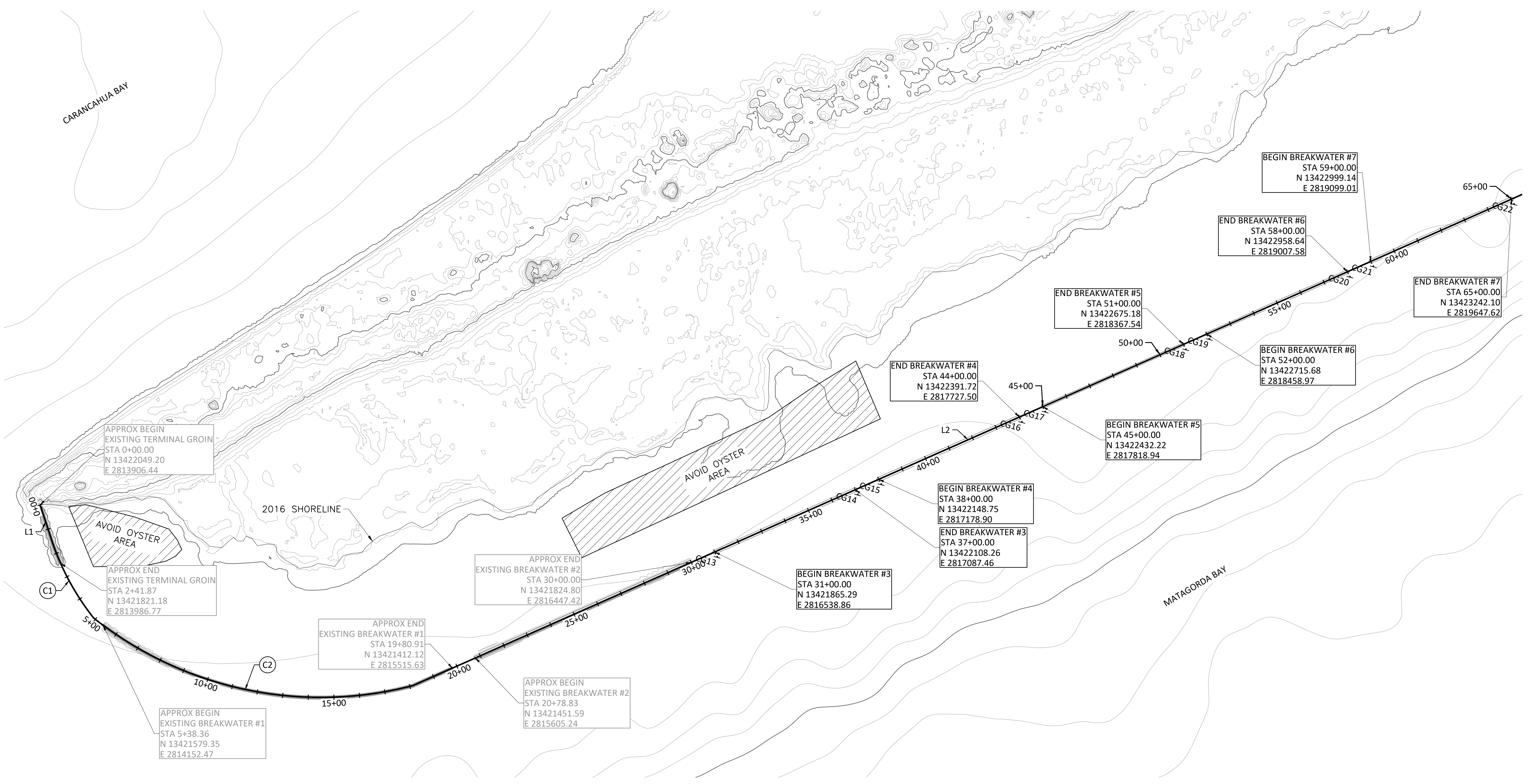
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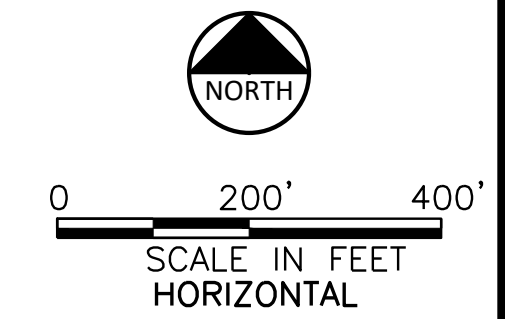
CARANCAHUA BAY



SITE PLAN
1" = 200'

PROJECT BASELINE									
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L1	0+00.00	13422049.20	2813950.75	1+41.73	13421914.58	2813950.75	141.727		S18° 13' 10.57"E
C1	1+41.73	13421914.58	2814115.60	4+91.82	13421607.76	2814115.60	350.090	999.945	S28° 14' 58.12"E
C2	4+91.82	13421607.76	2815360.90	18+11.69	13421343.60	2815360.90	1319.870	1422.099	S78° 01' 24.14"E
L2	18+11.69	13421343.60	2819693.34	65+50.00	13423262.35	2819693.34	4738.314		N66° 06' 44.51"E

COAST GUARD SIGNS POINT TABLE		
DESCRIPTION	NORTHING	EASTING
CG13	13421844.26	2816548.17
CG14	13422087.23	2817096.78
CG15	13422127.72	2817188.21
CG16	13422370.69	2817736.82
CG17	13422411.19	2817828.25
CG18	13422654.15	2818376.85
CG19	13422694.65	2818468.29
CG20	13422937.61	2819016.89
CG21	13422978.11	2819108.33
CG22	13423221.07	2819656.93



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**SCHICKE POINT
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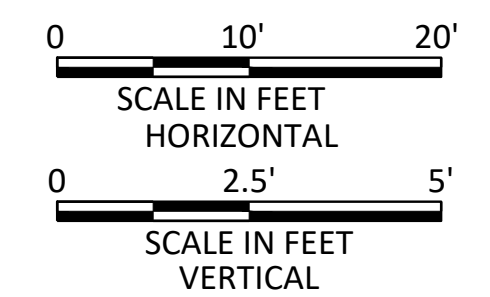
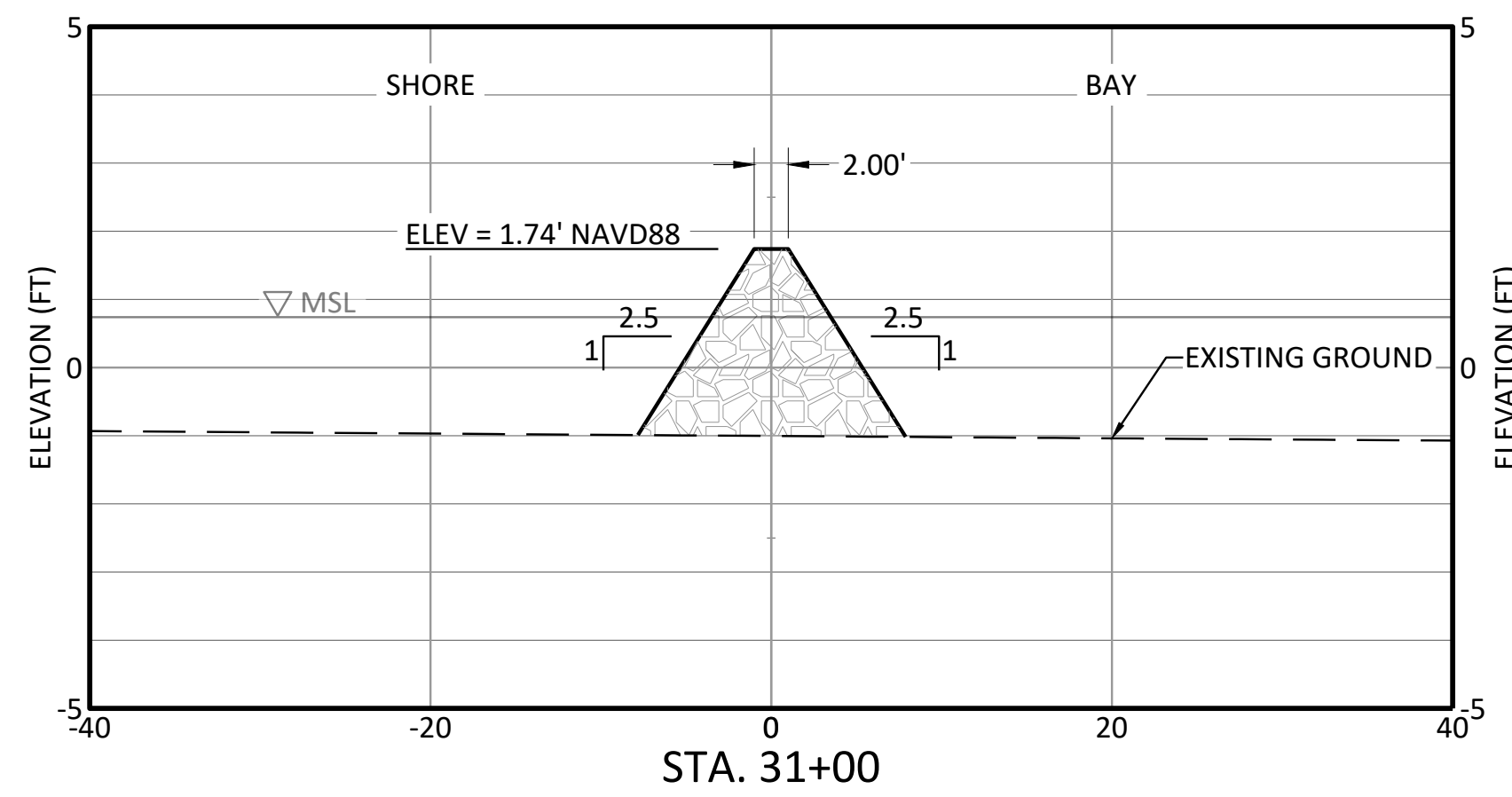
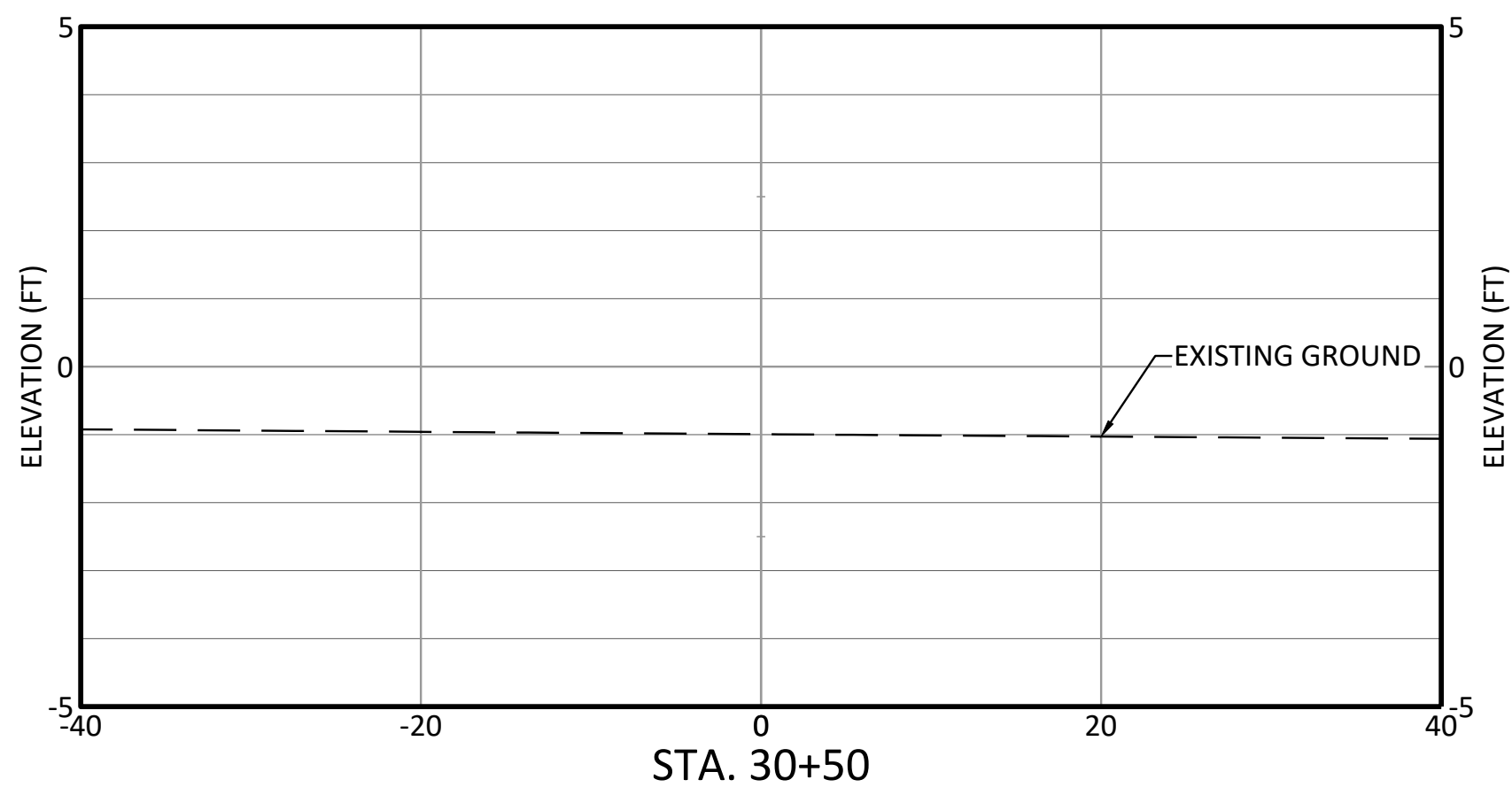
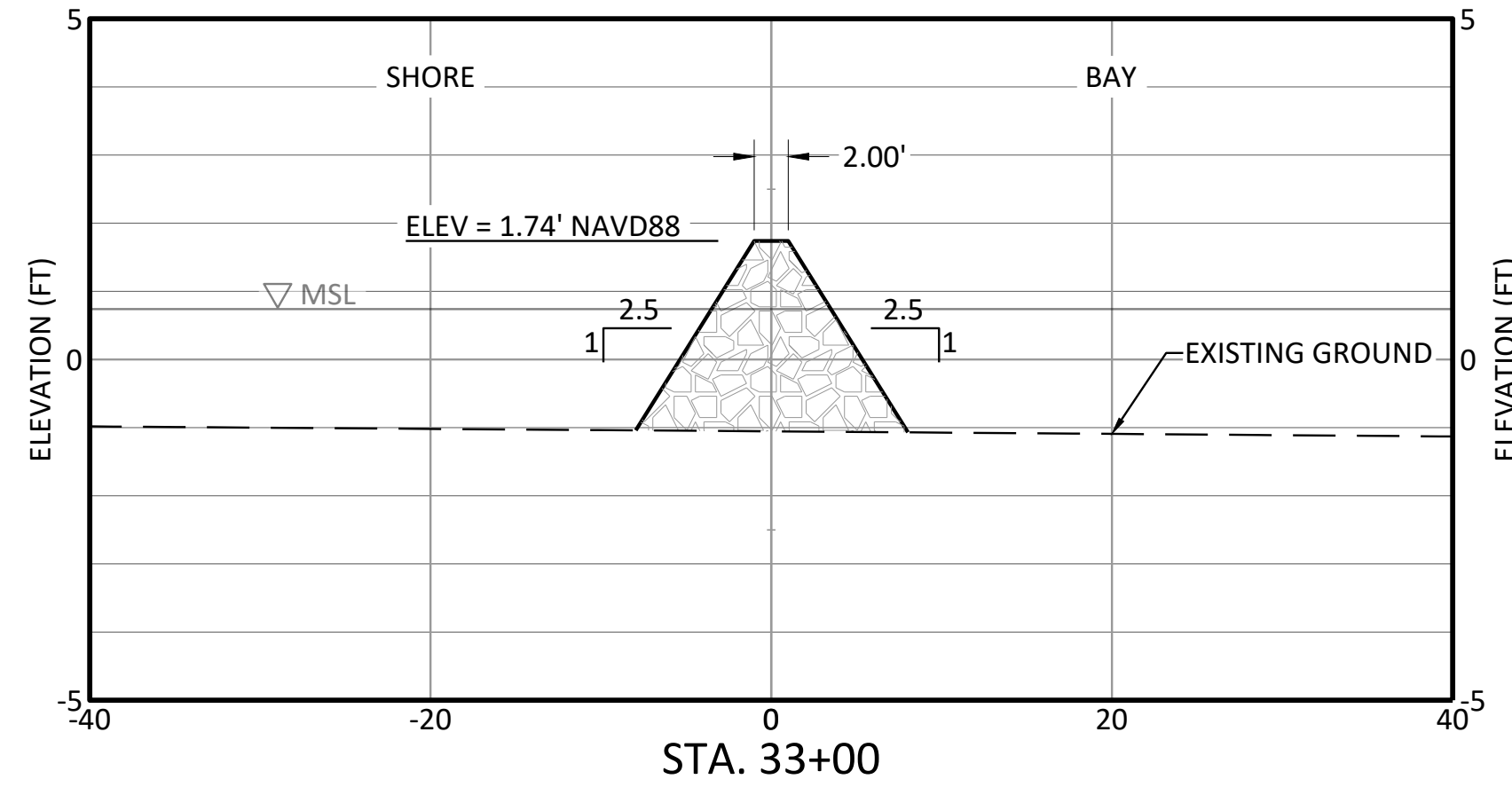
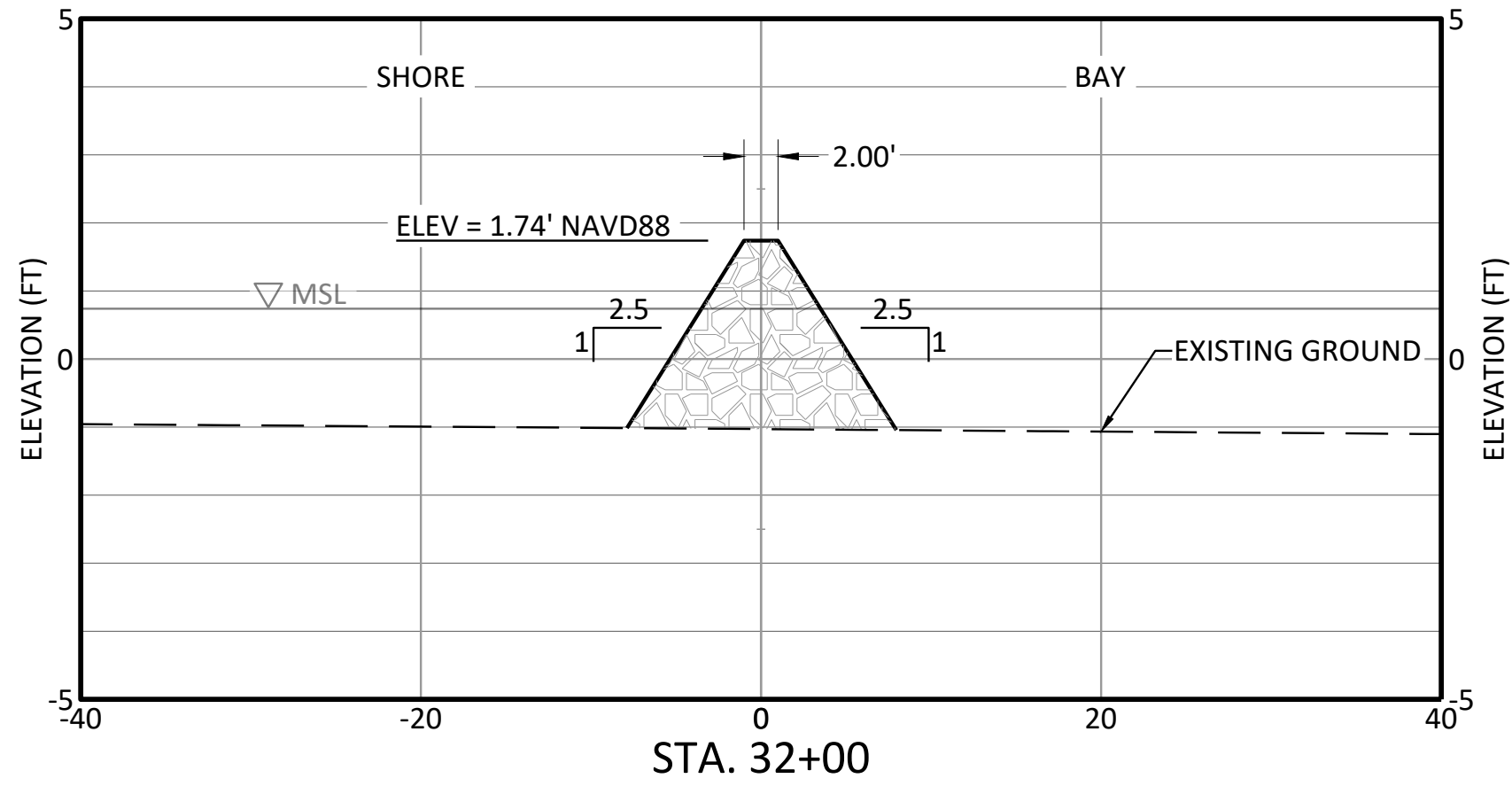
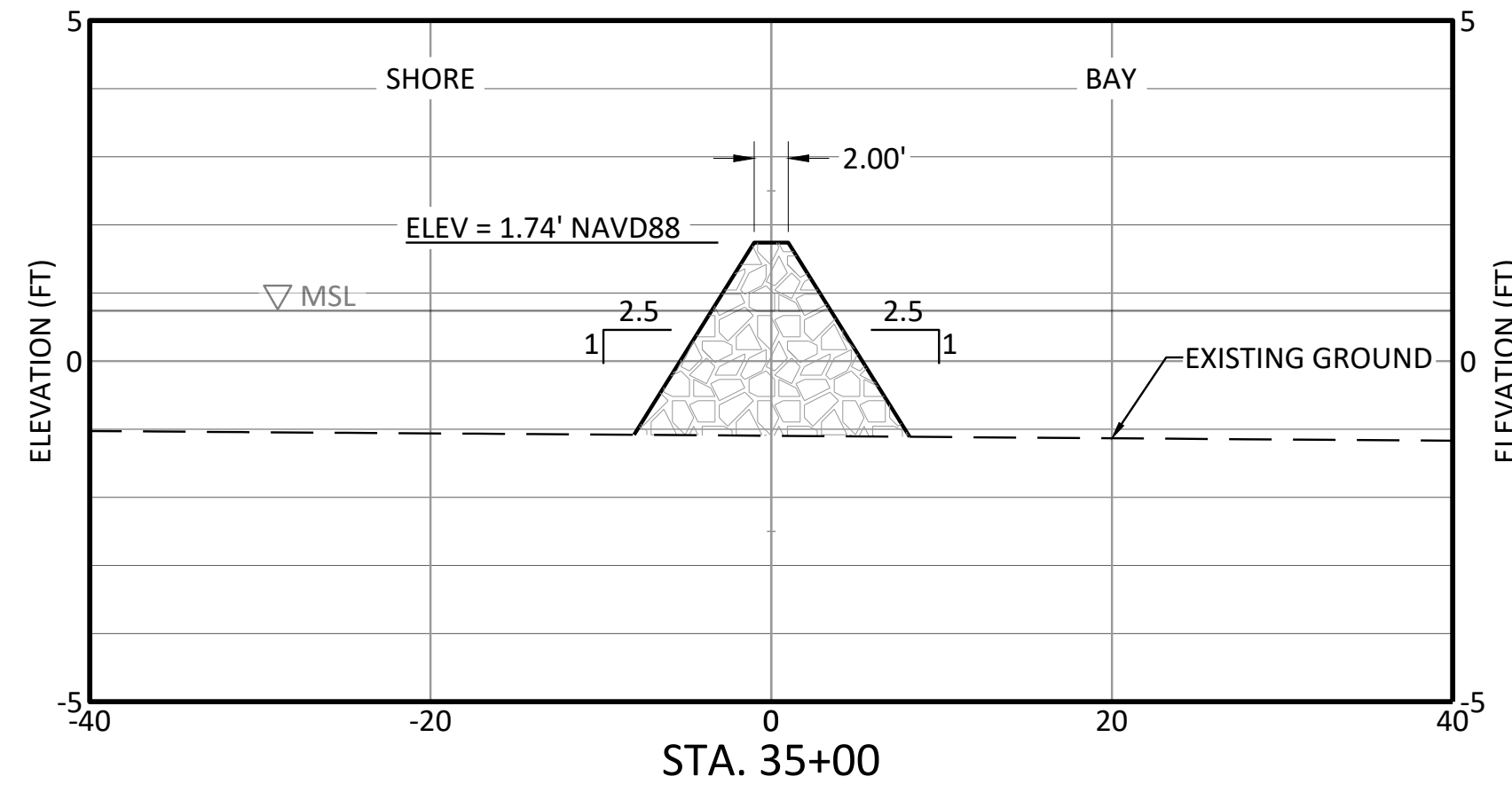
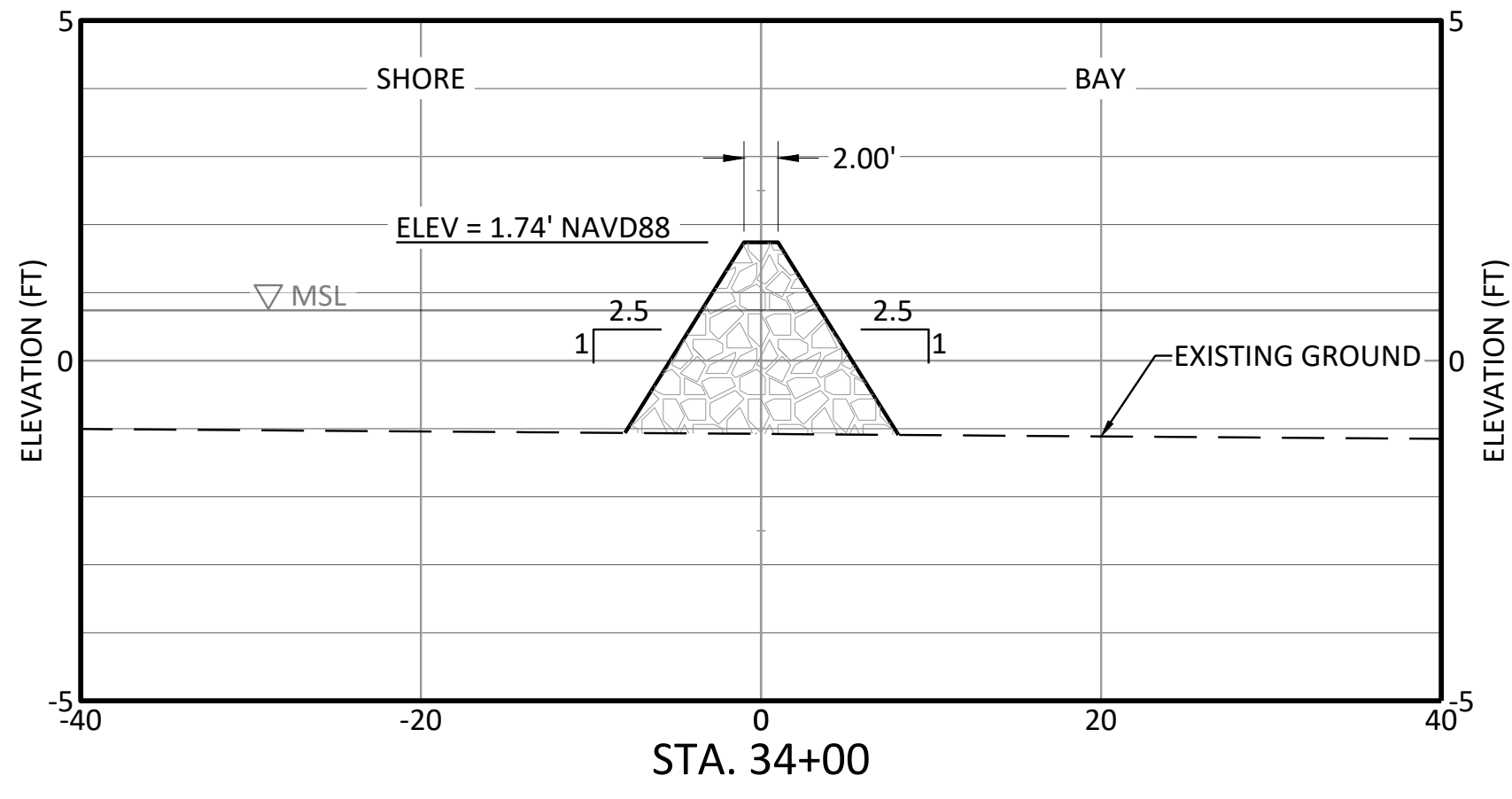
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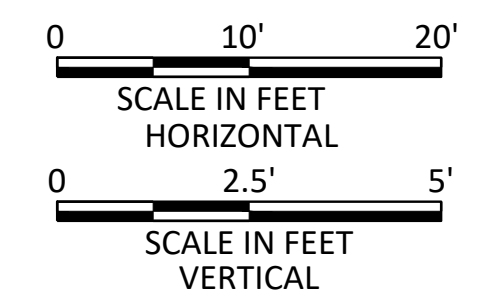
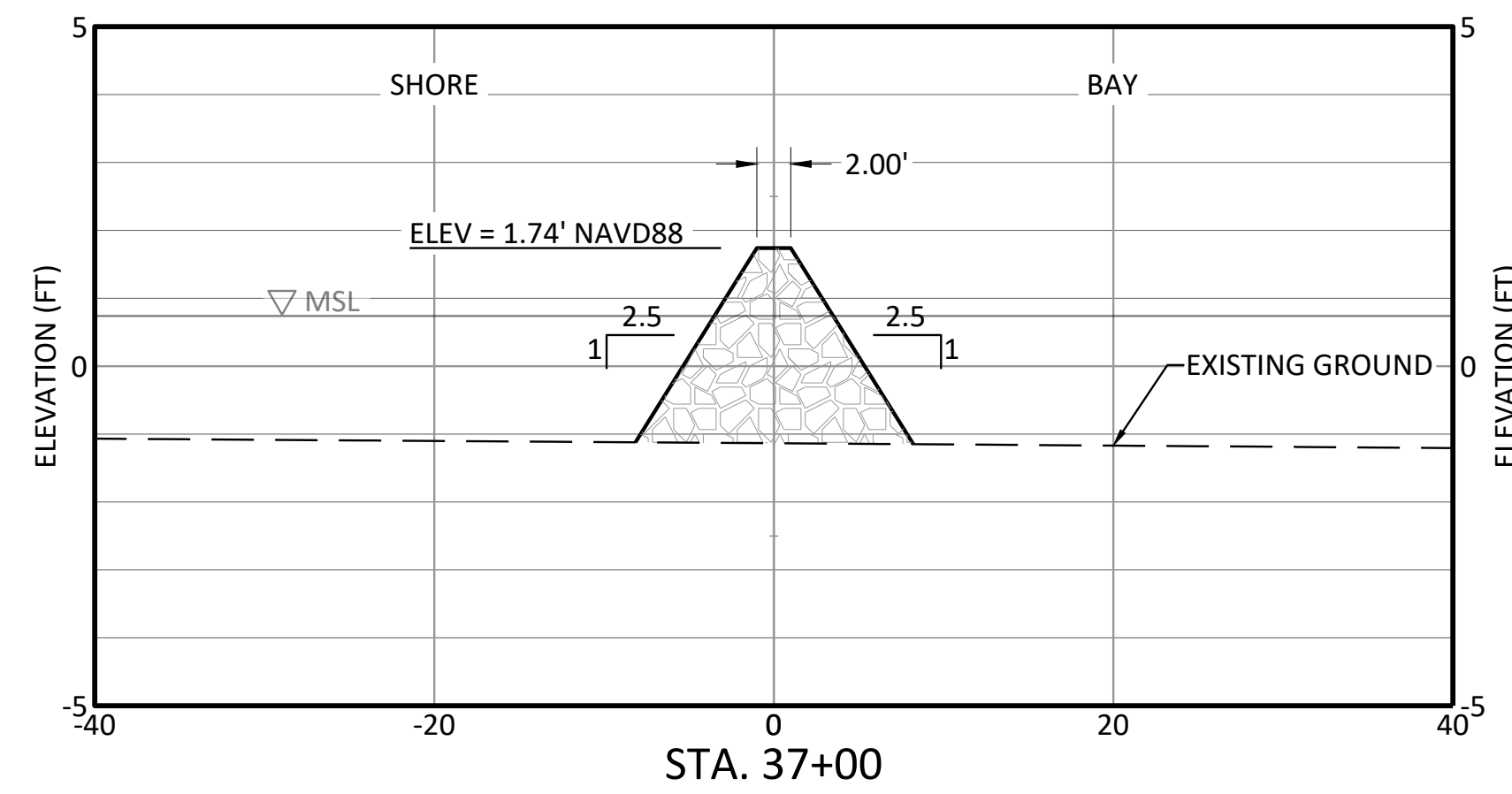
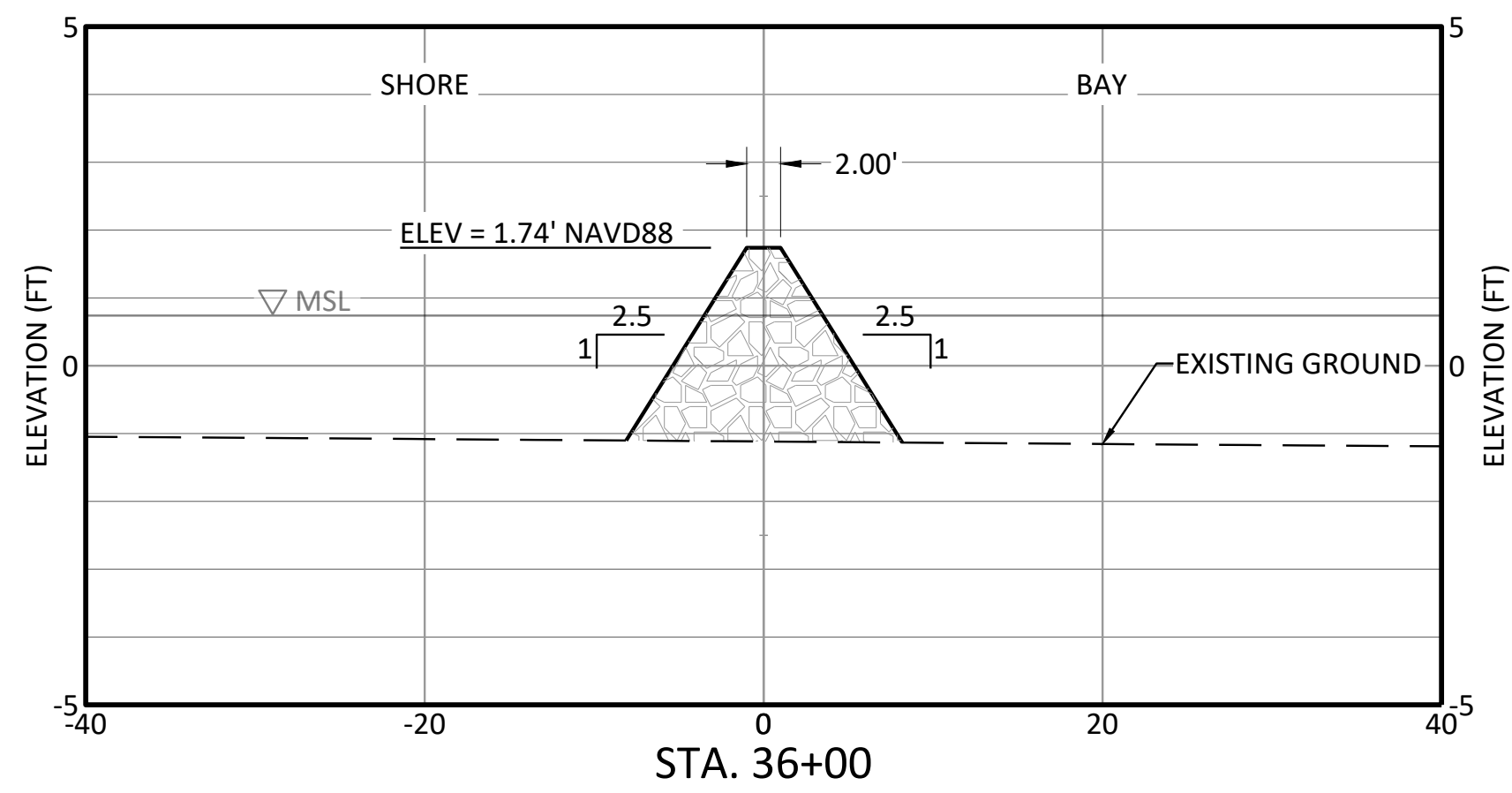
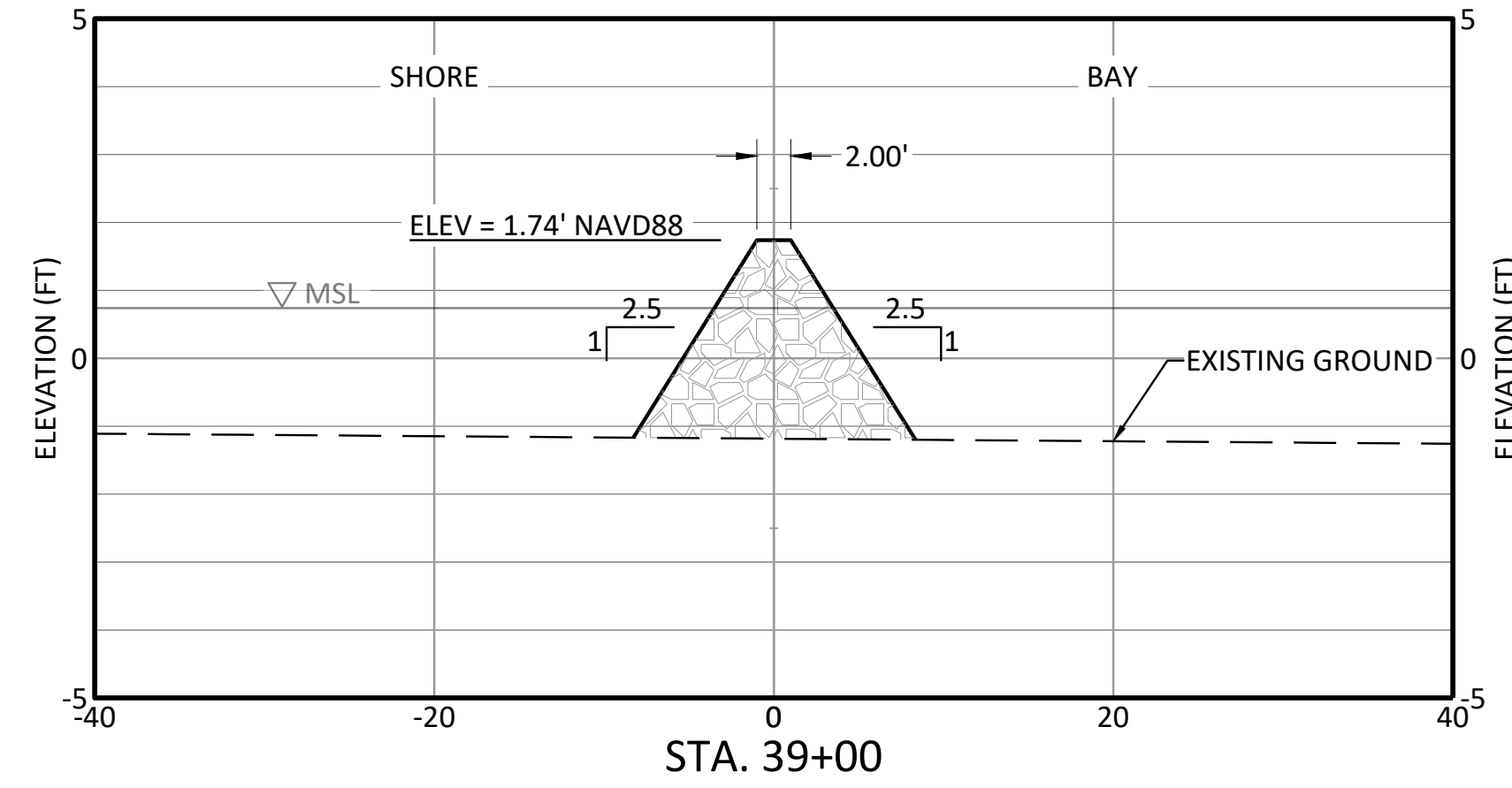
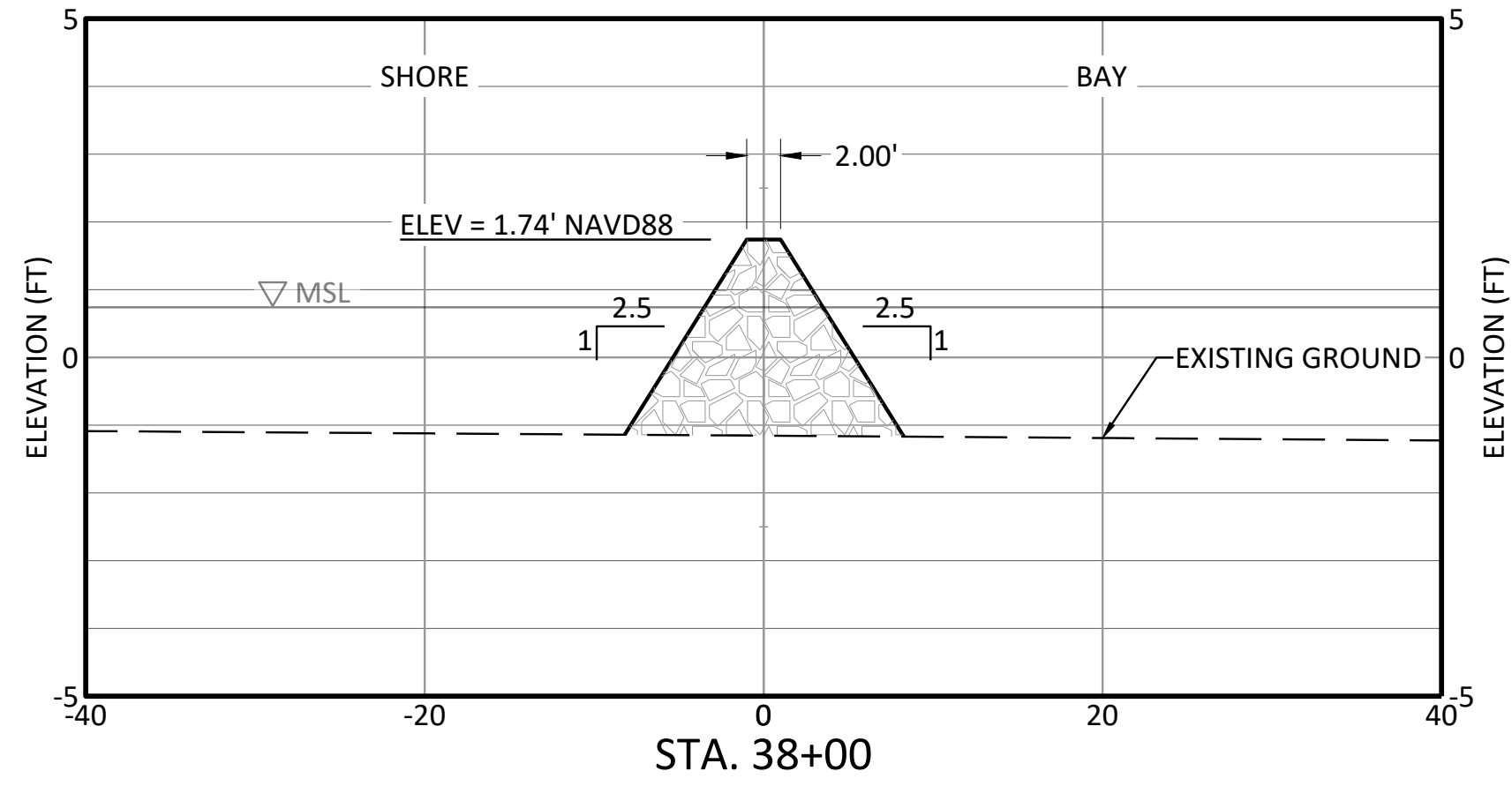
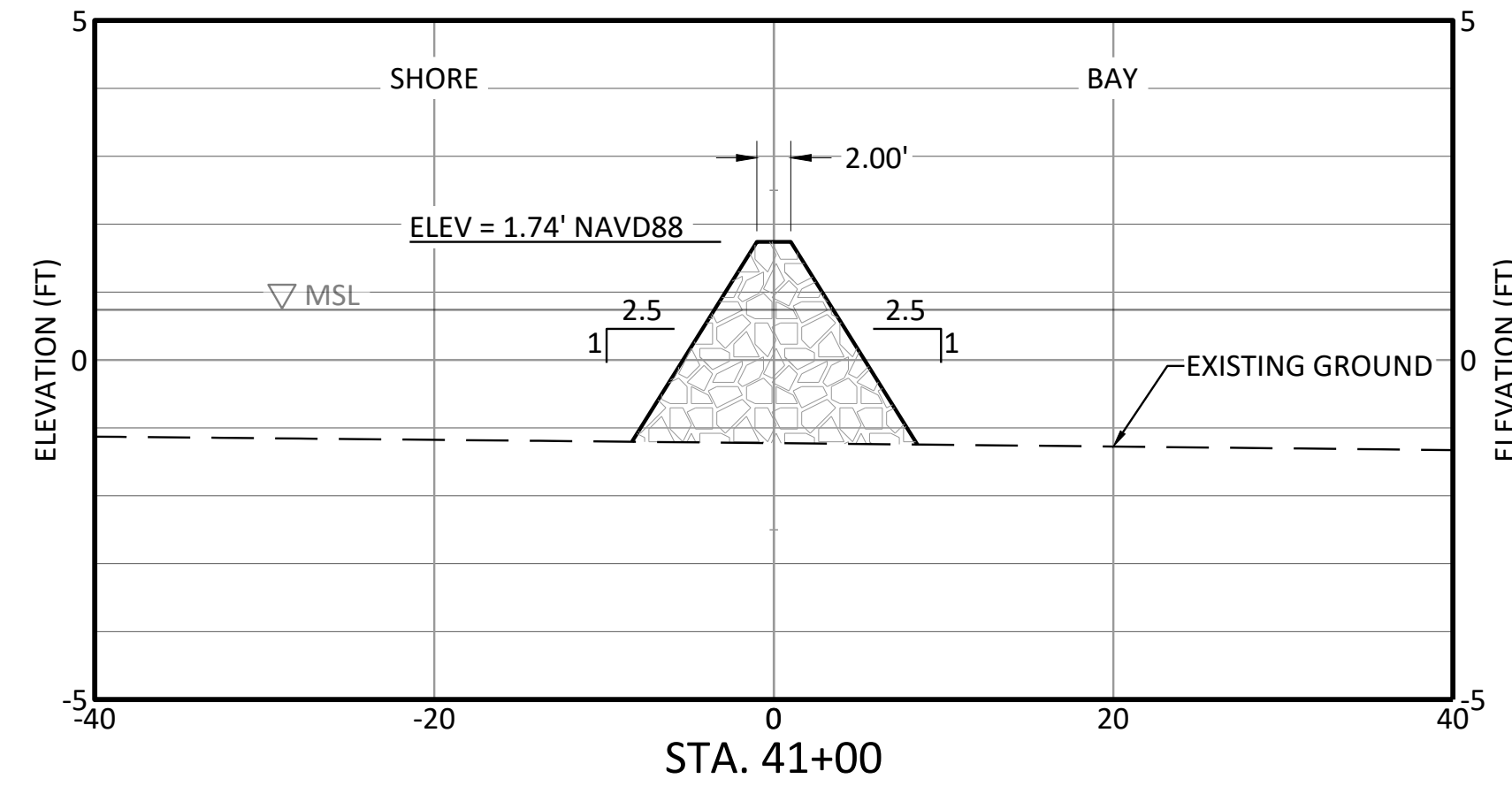
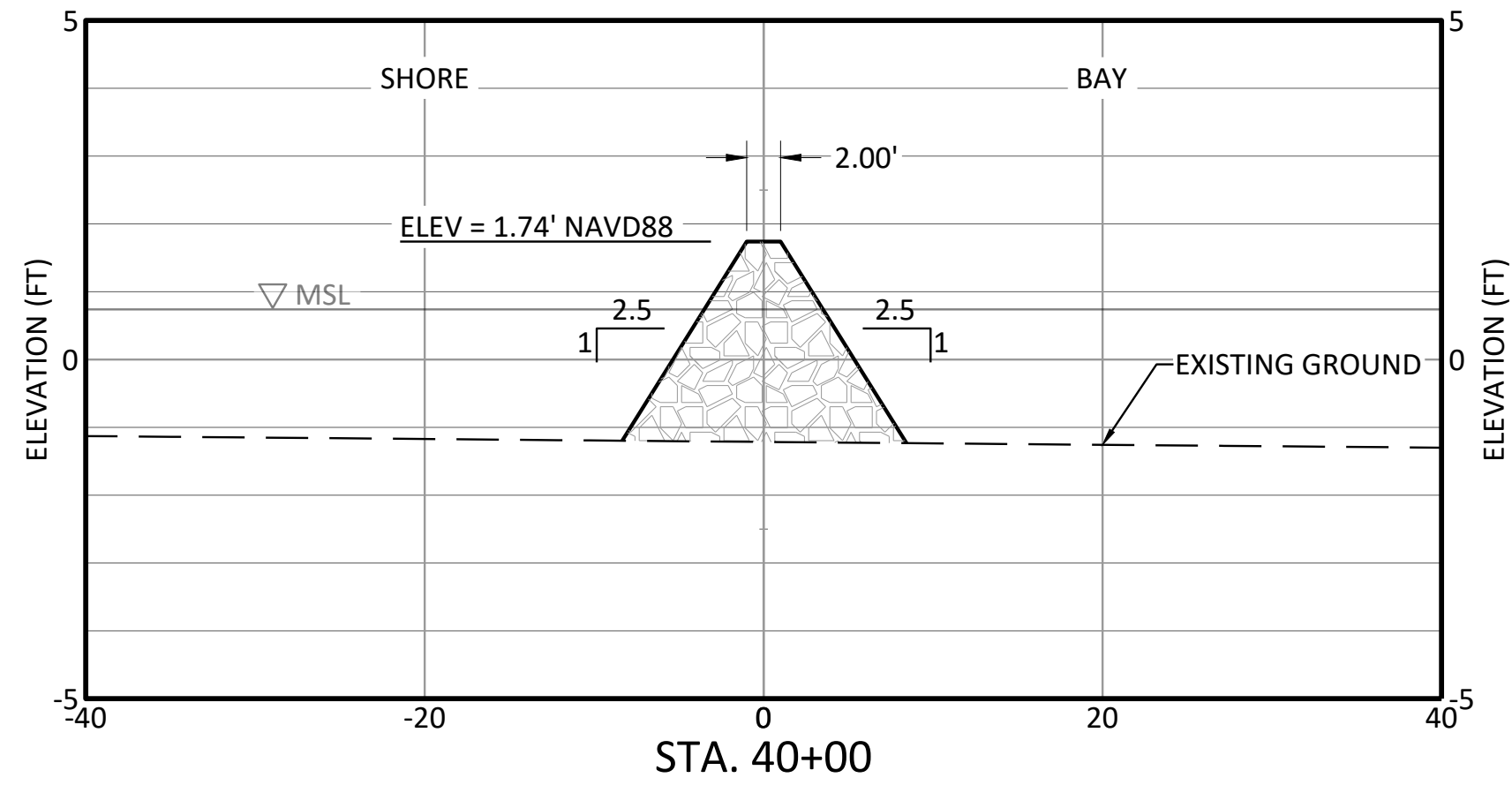
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LIVING SHORELINE IMPROVEMENTS
CIVIL
BREAKWATER SECTIONS
SHEET 1 OF 6

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SHEET **5**

SEQ. **5 OF 15**



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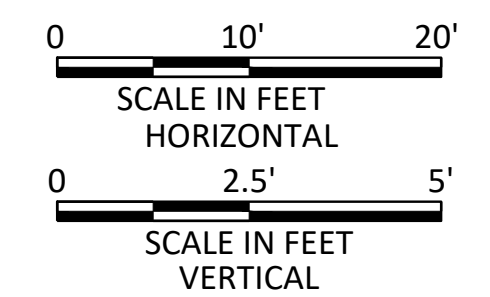
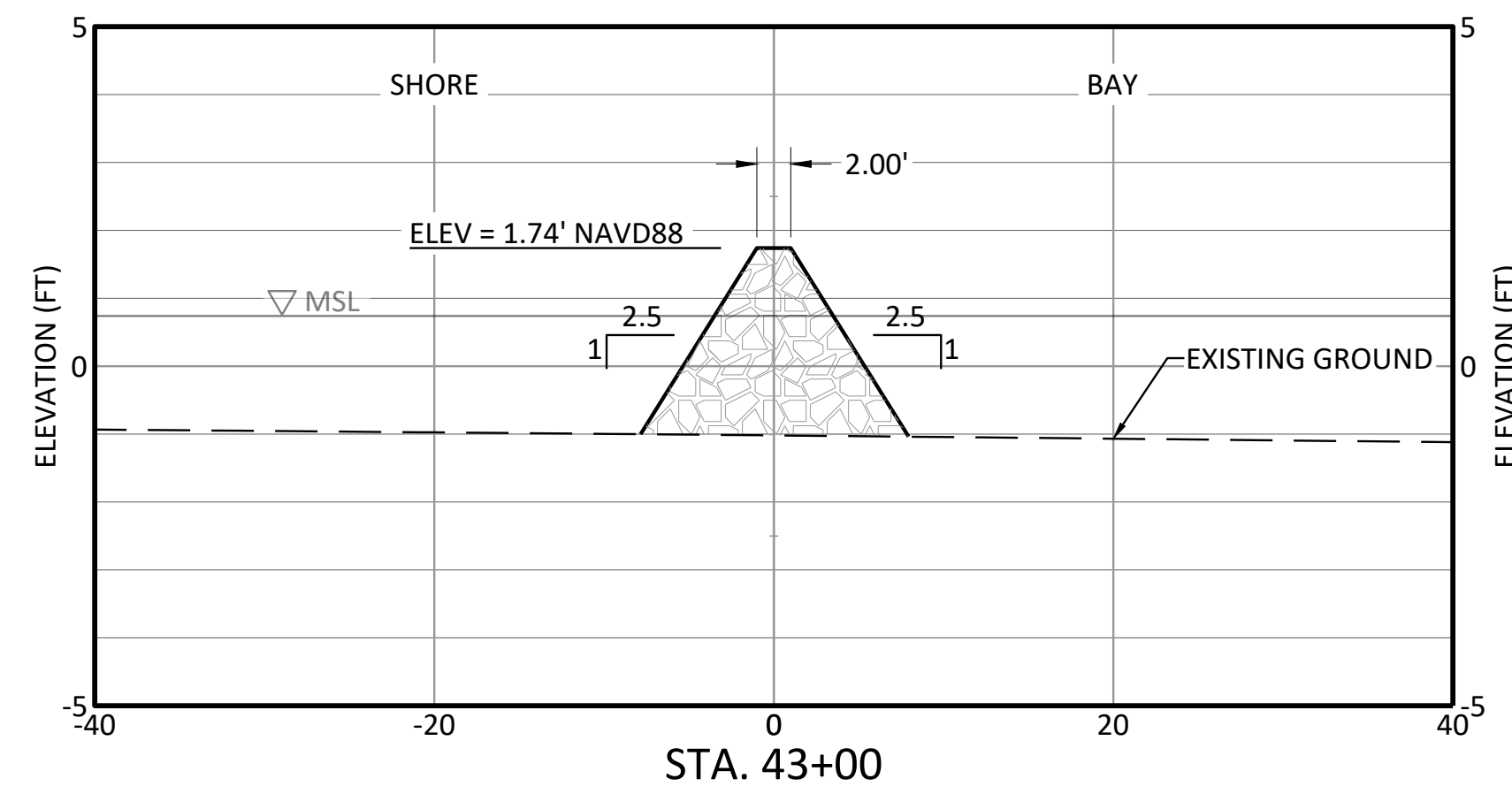
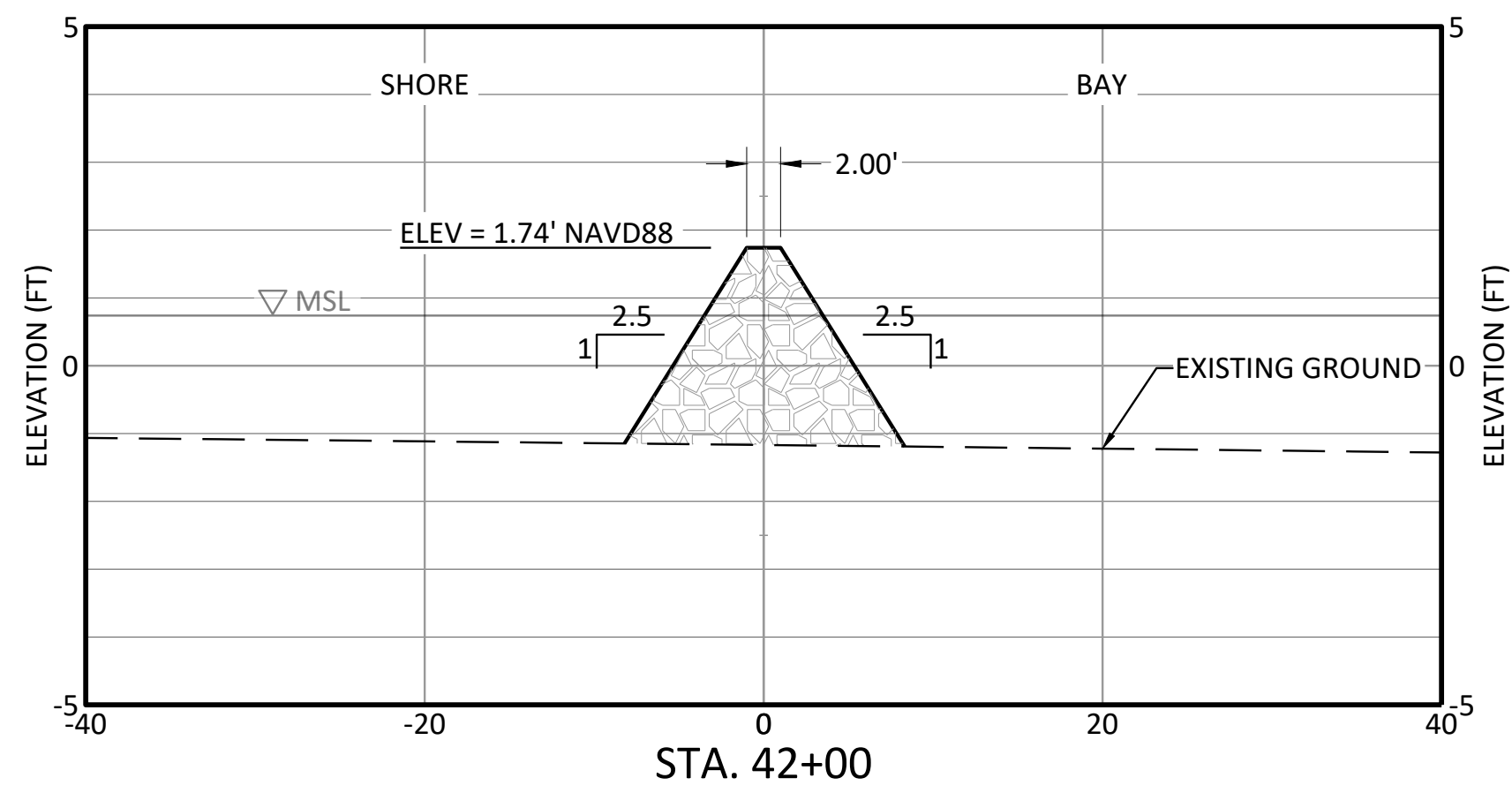
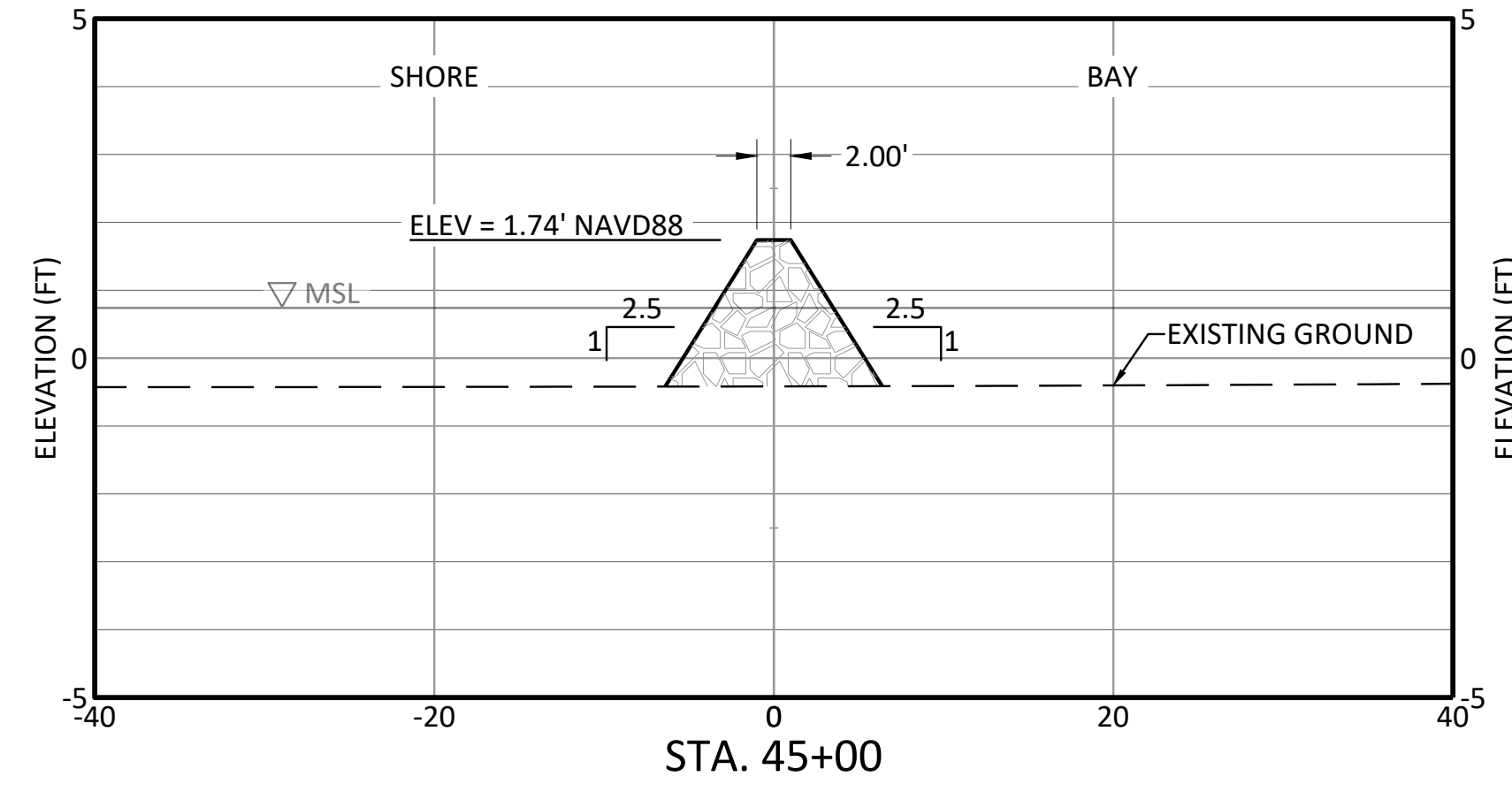
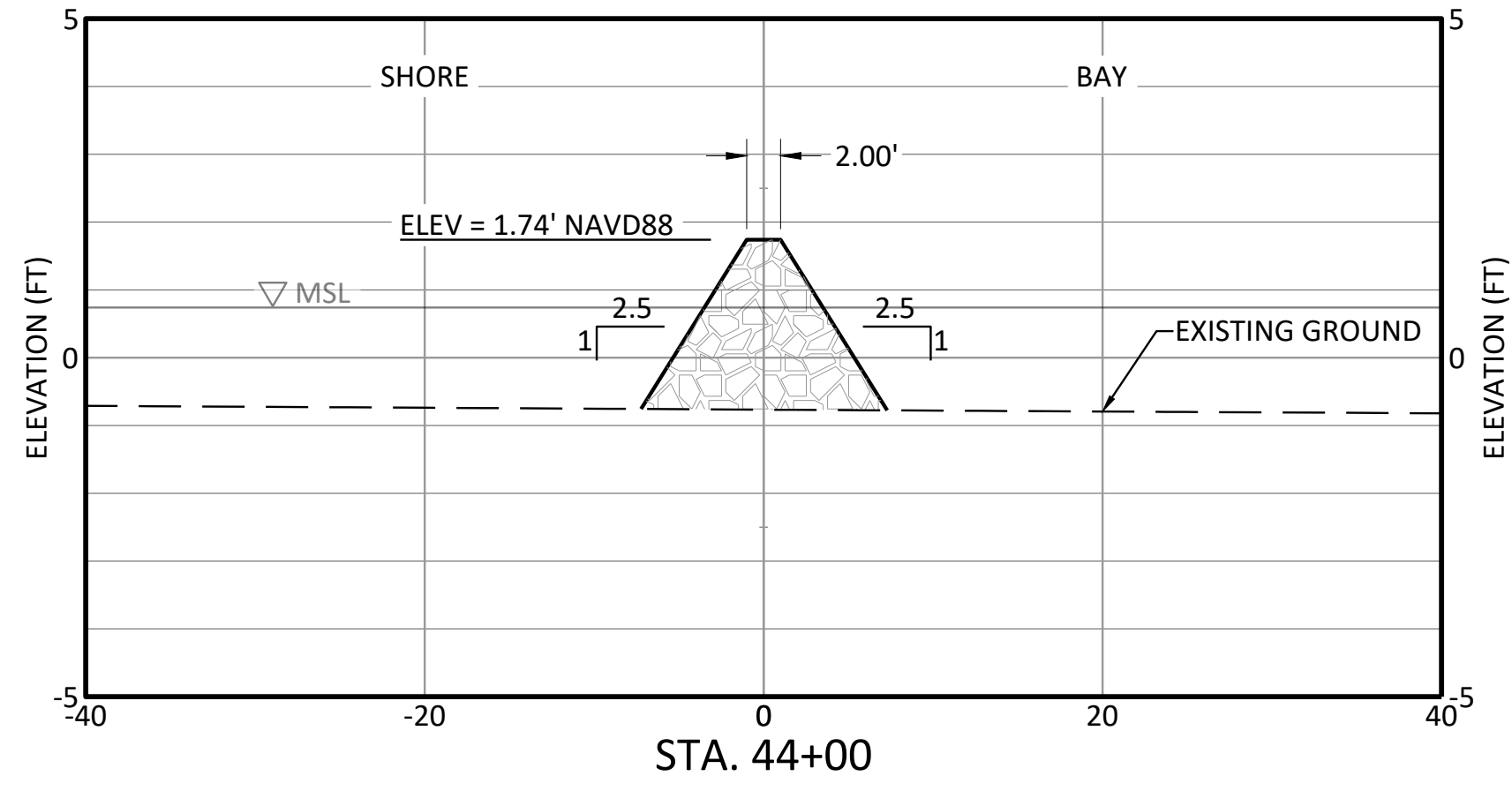
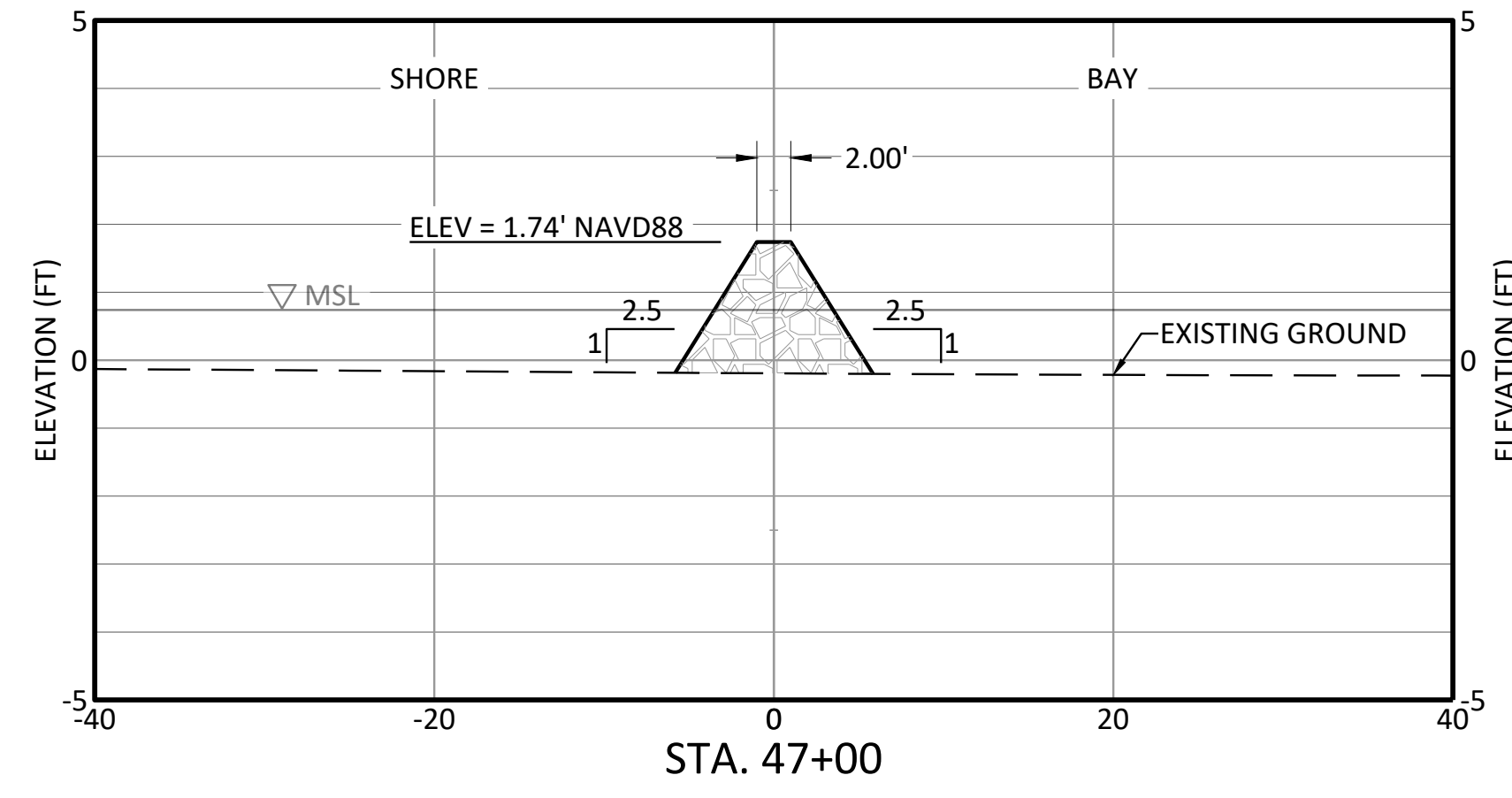
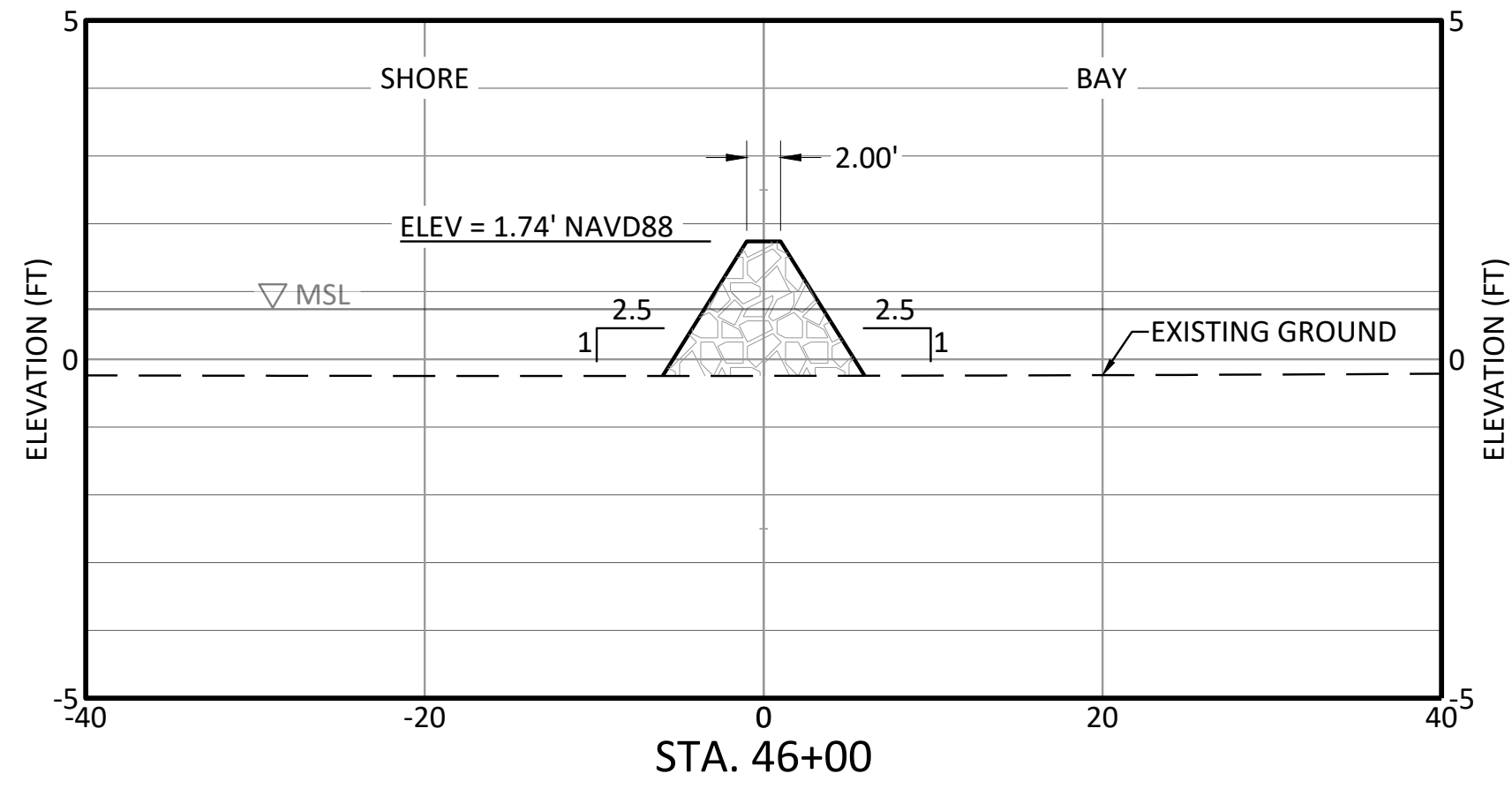
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CIVIL
**BREAKWATER SECTIONS
SHEET 2 OF 6**

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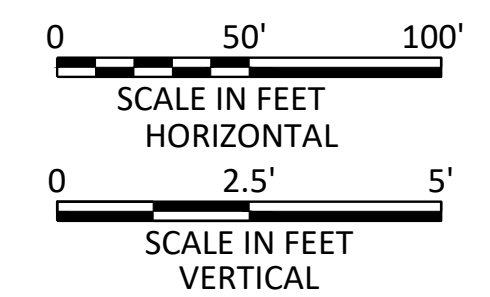
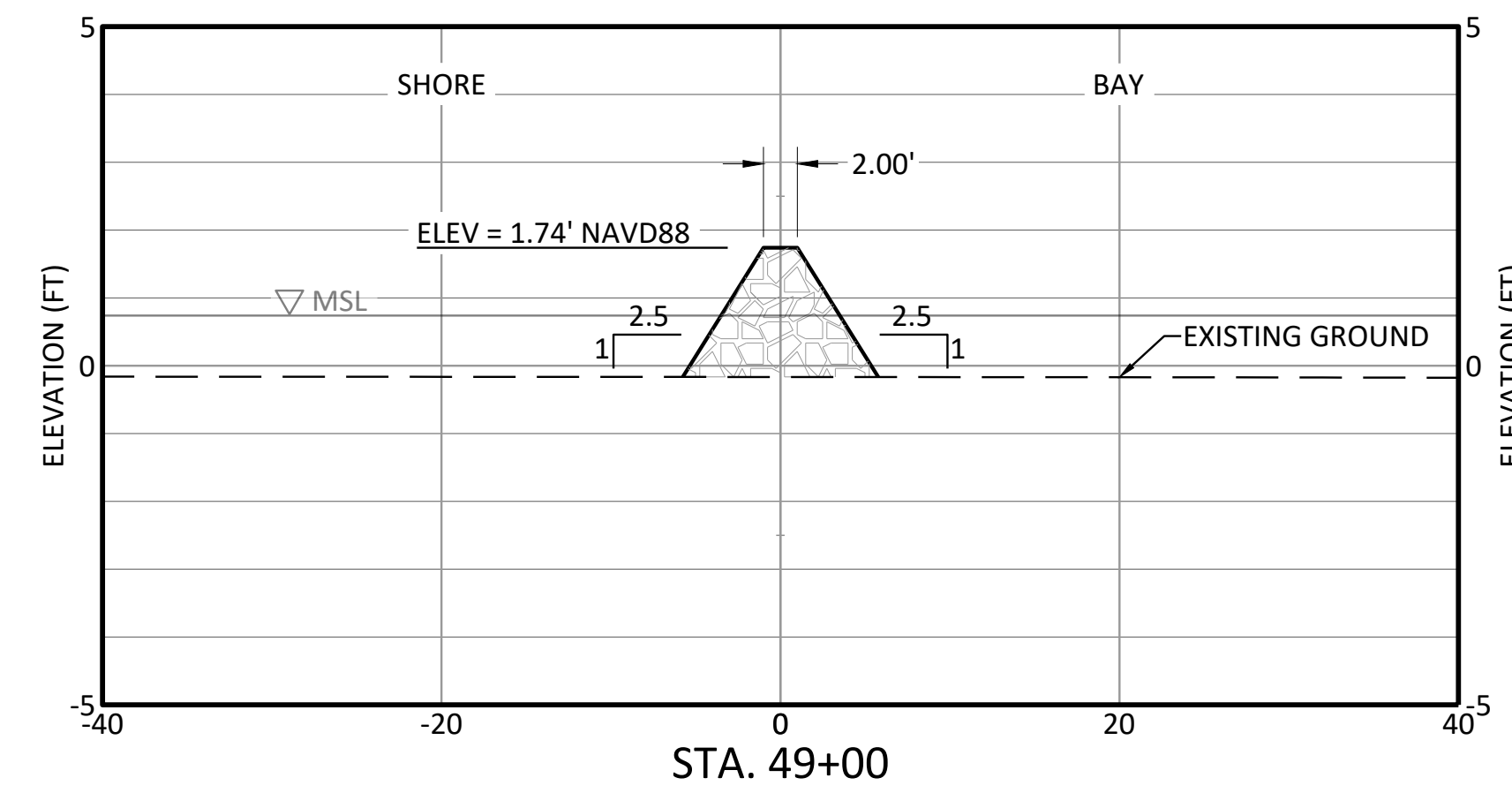
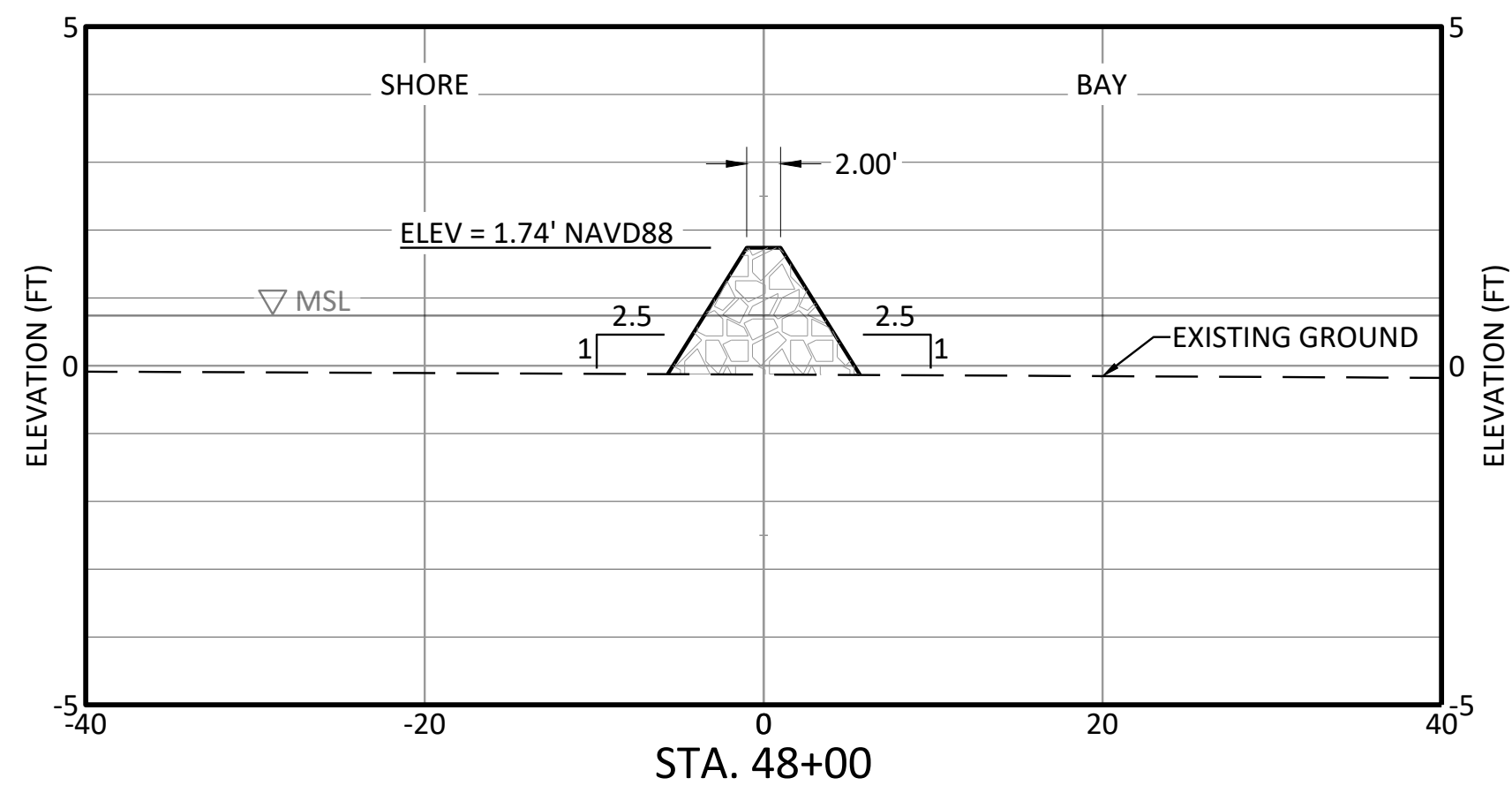
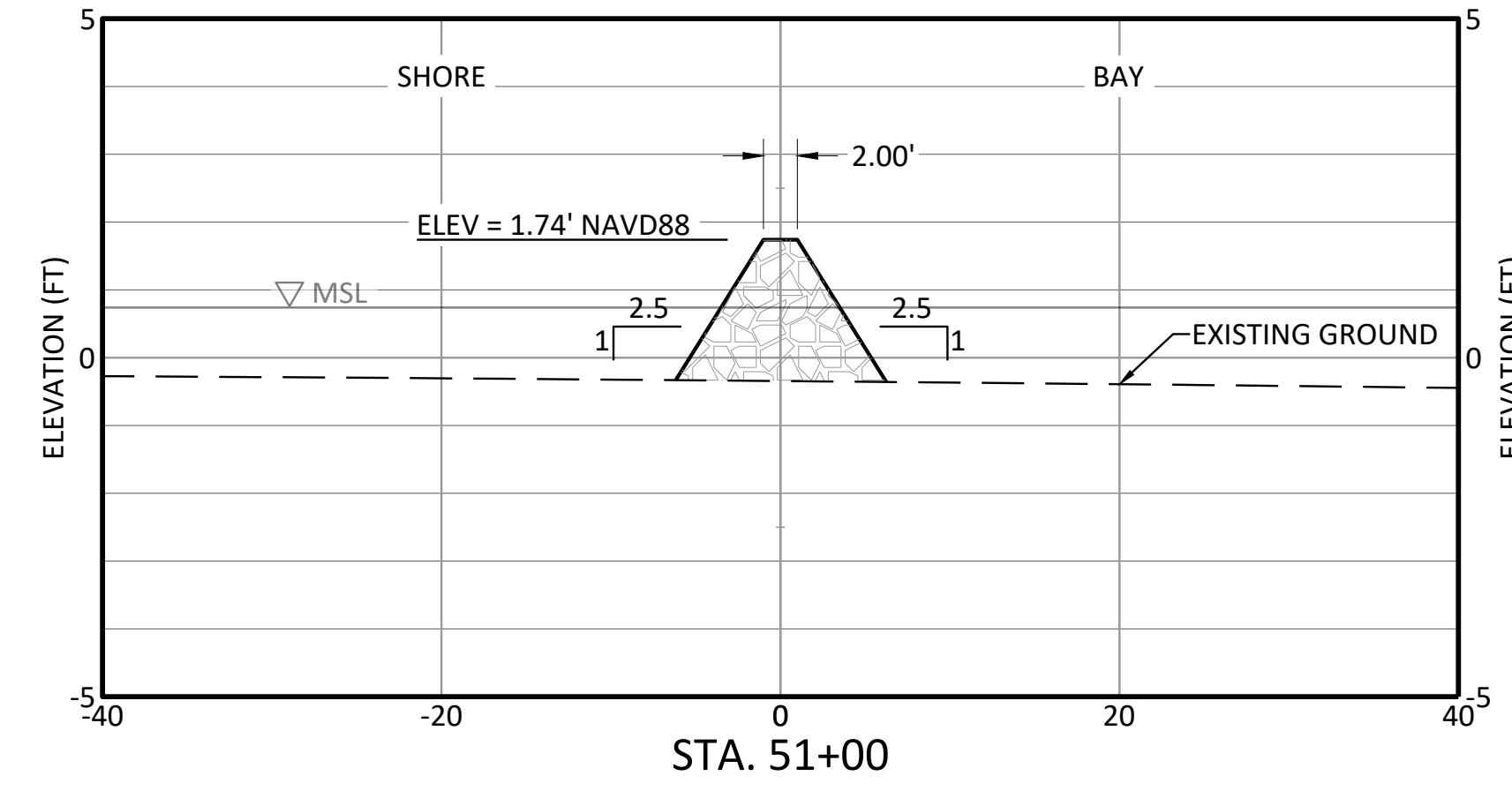
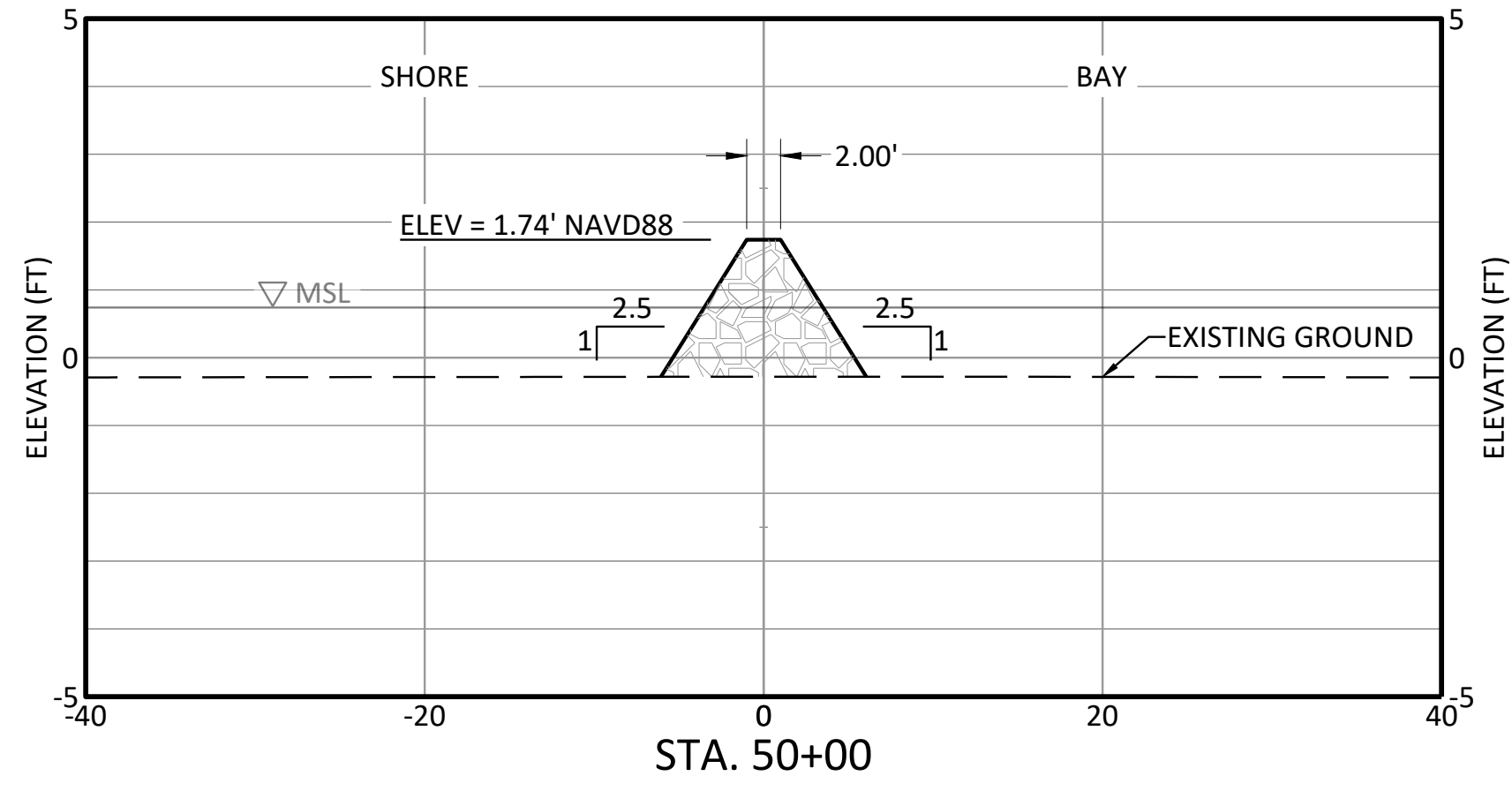
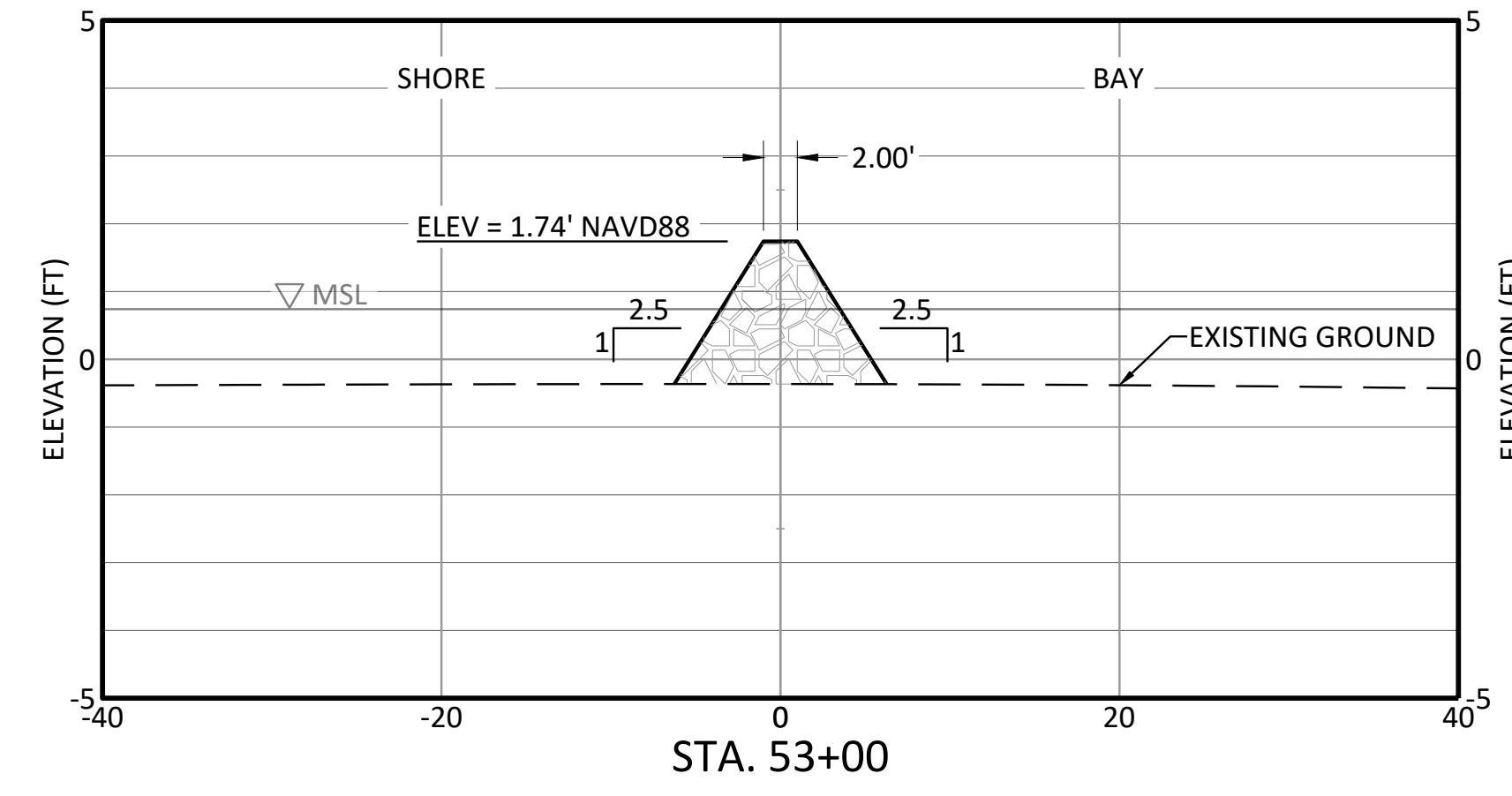
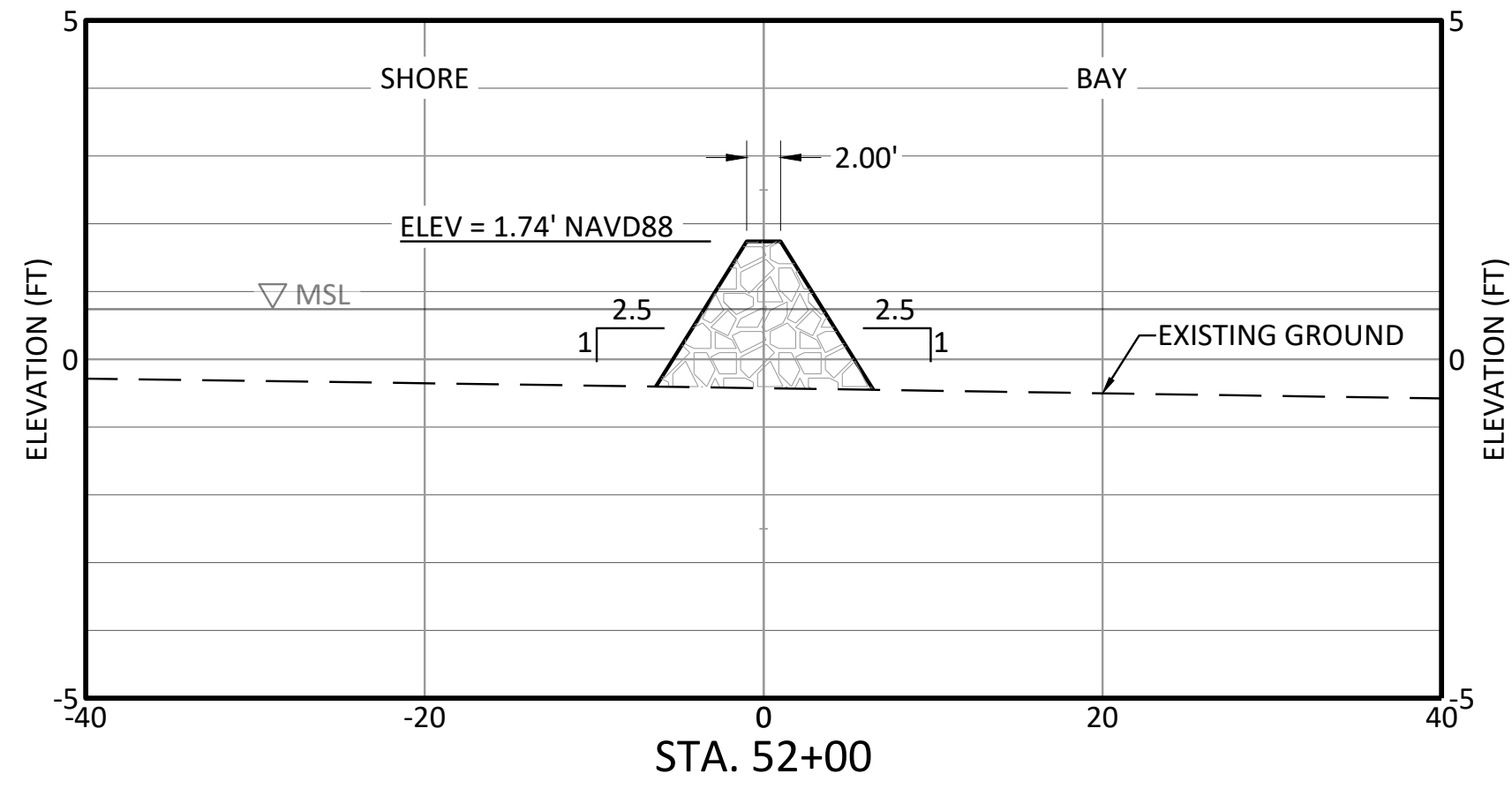
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Web: www.freeze.com

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CIVIL
**BREAKWATER SECTIONS
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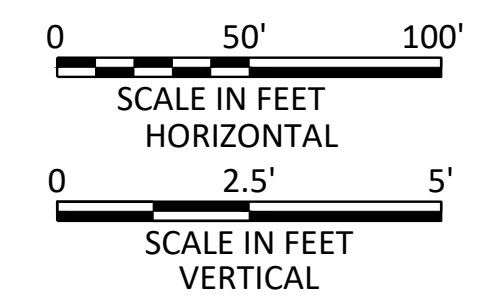
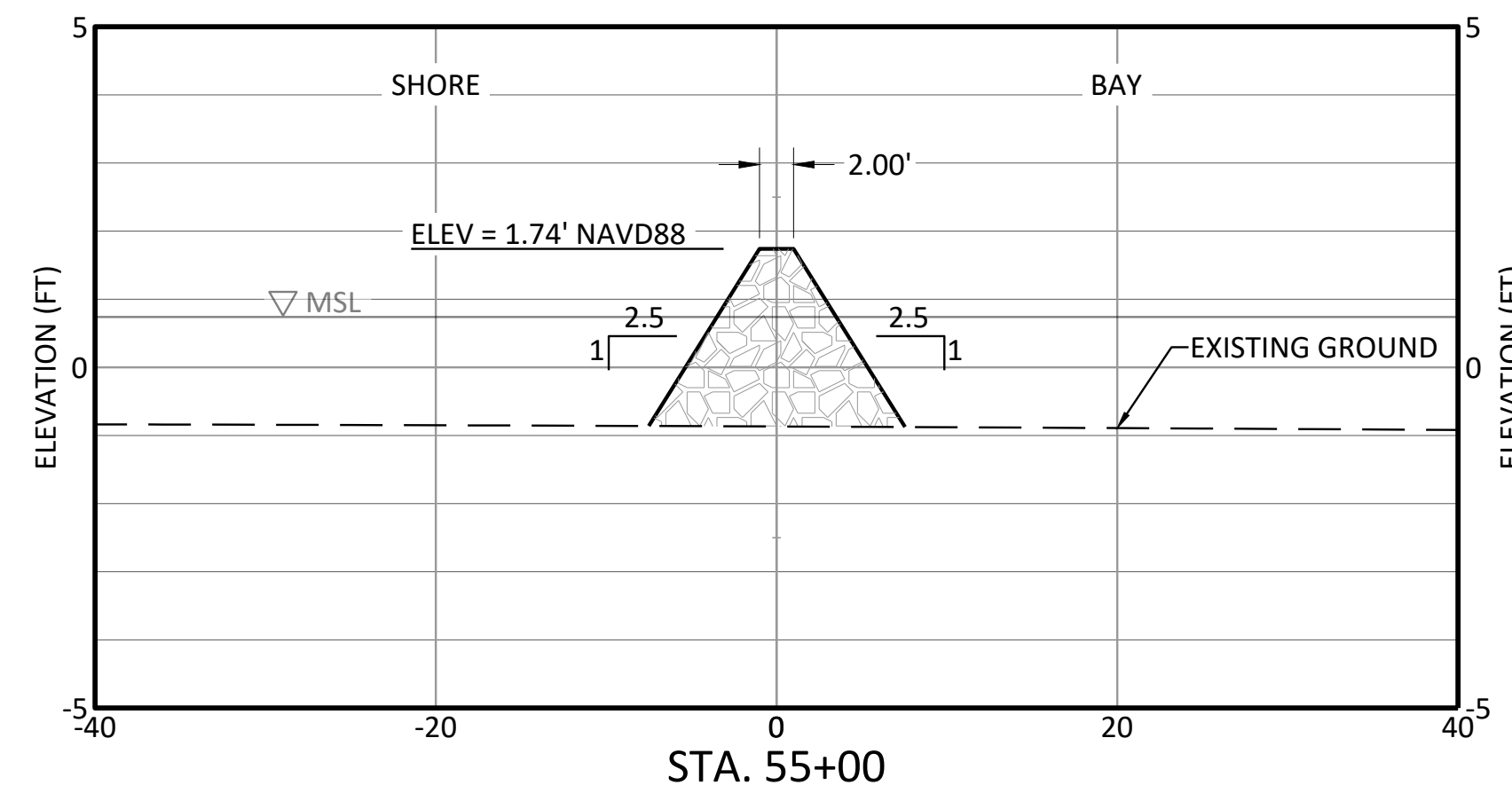
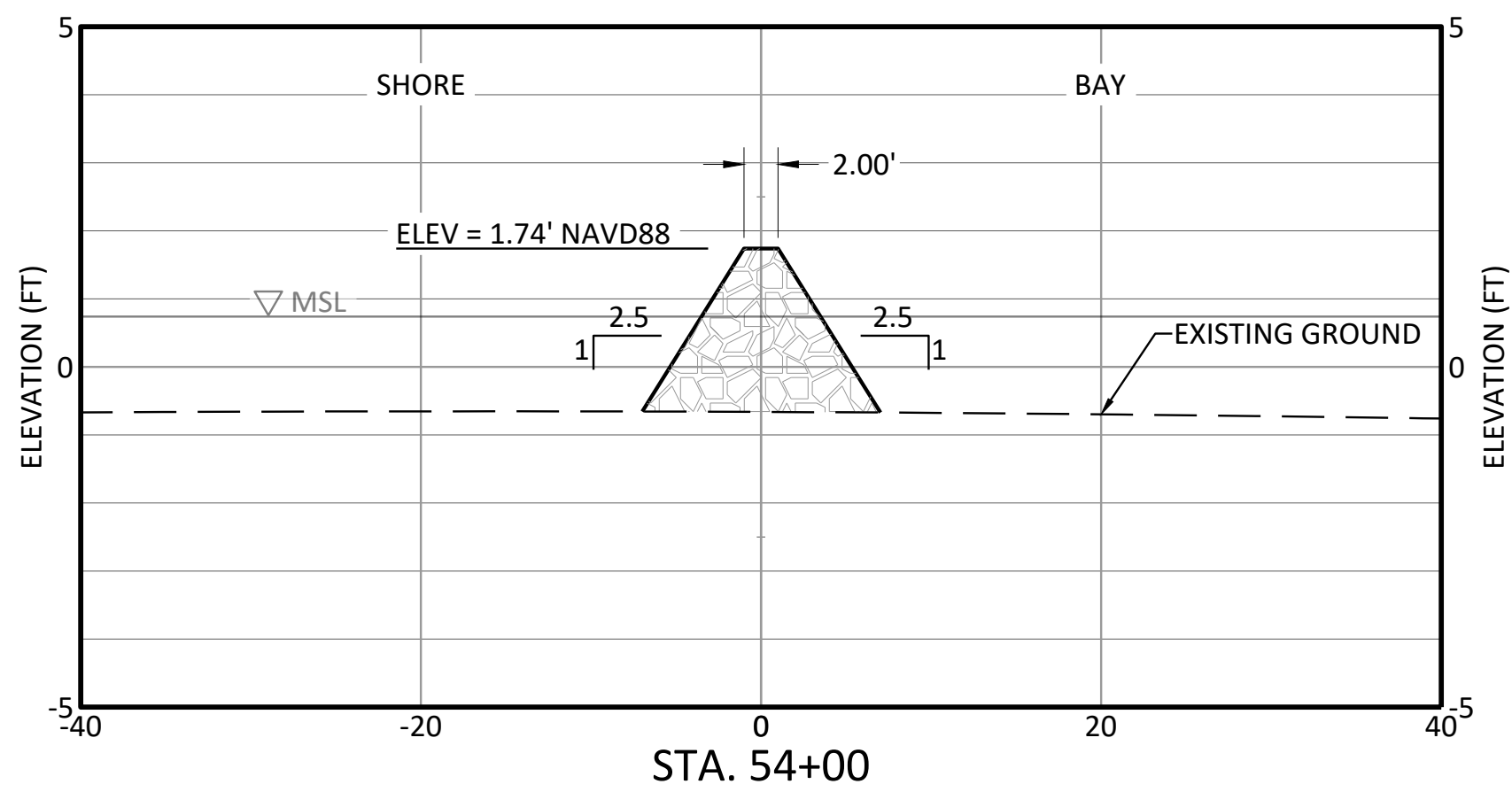
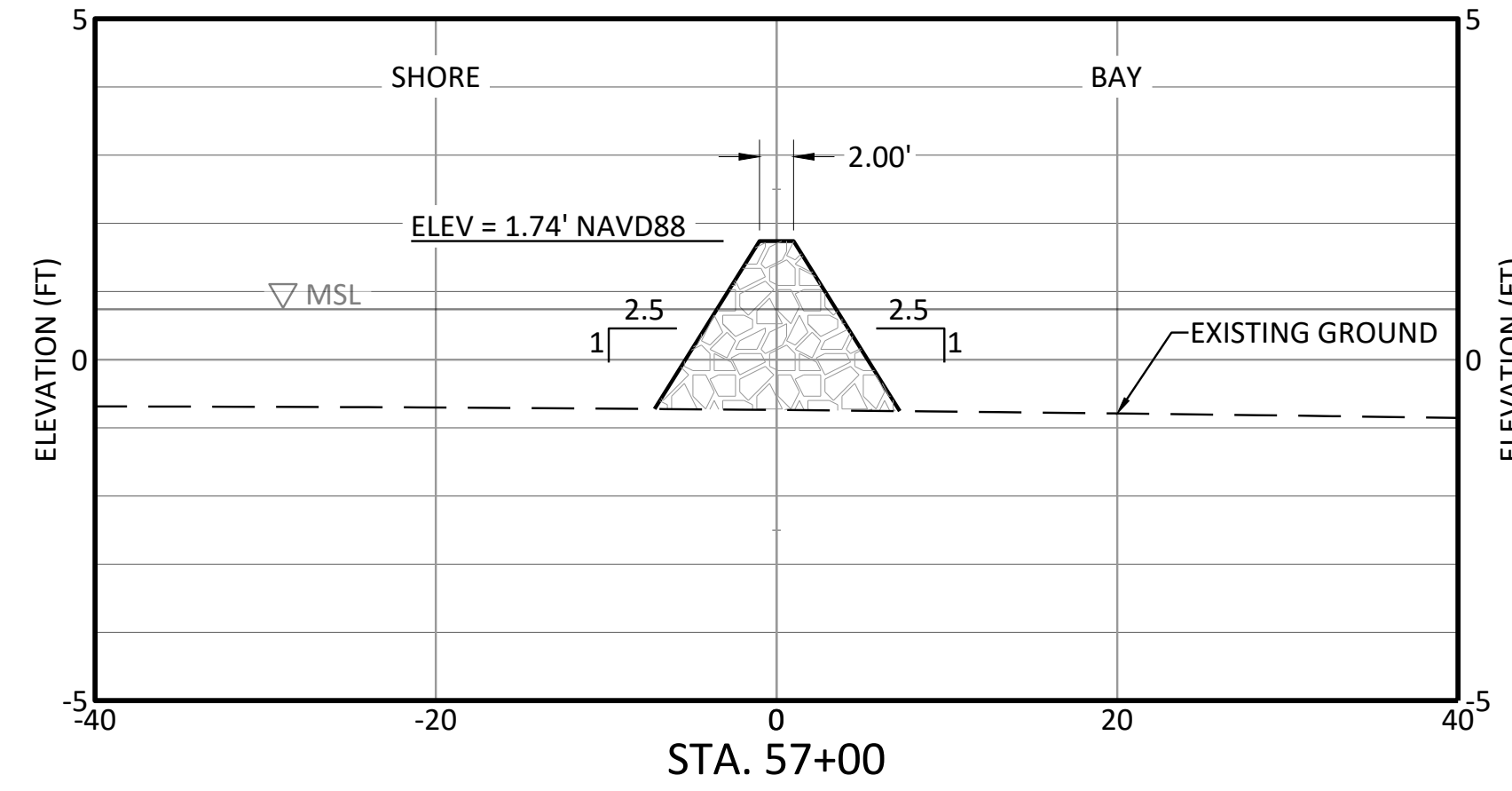
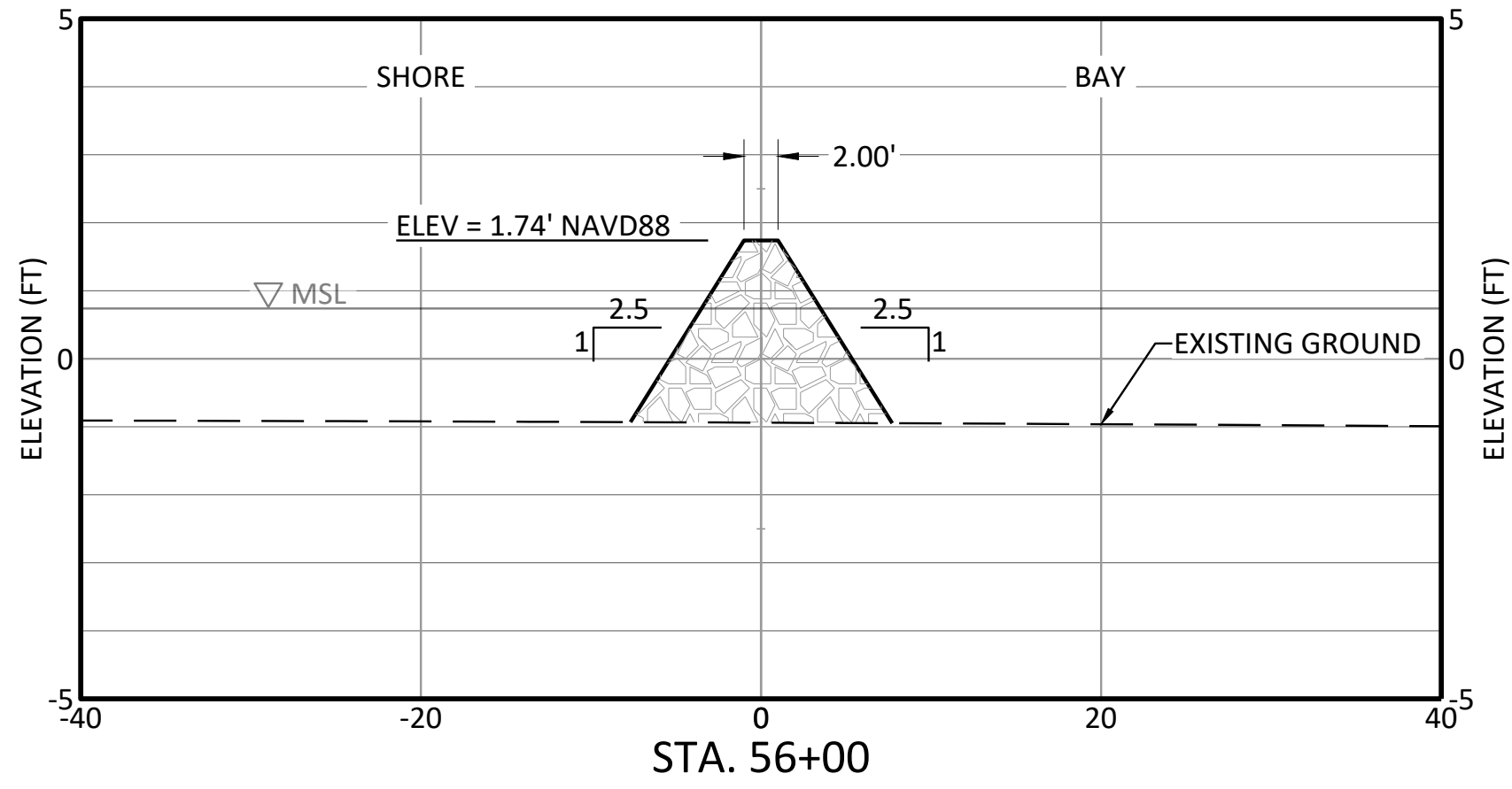
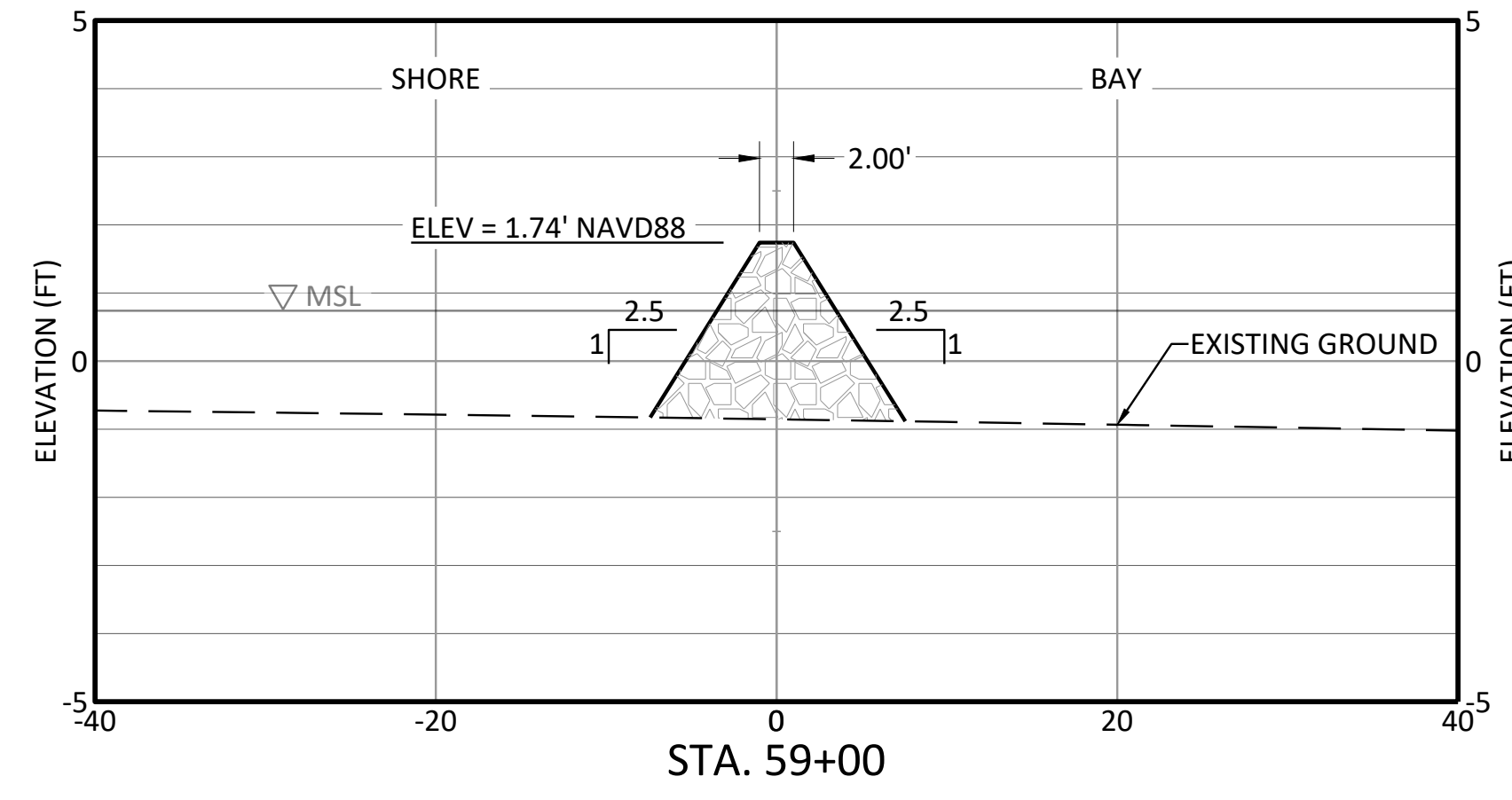
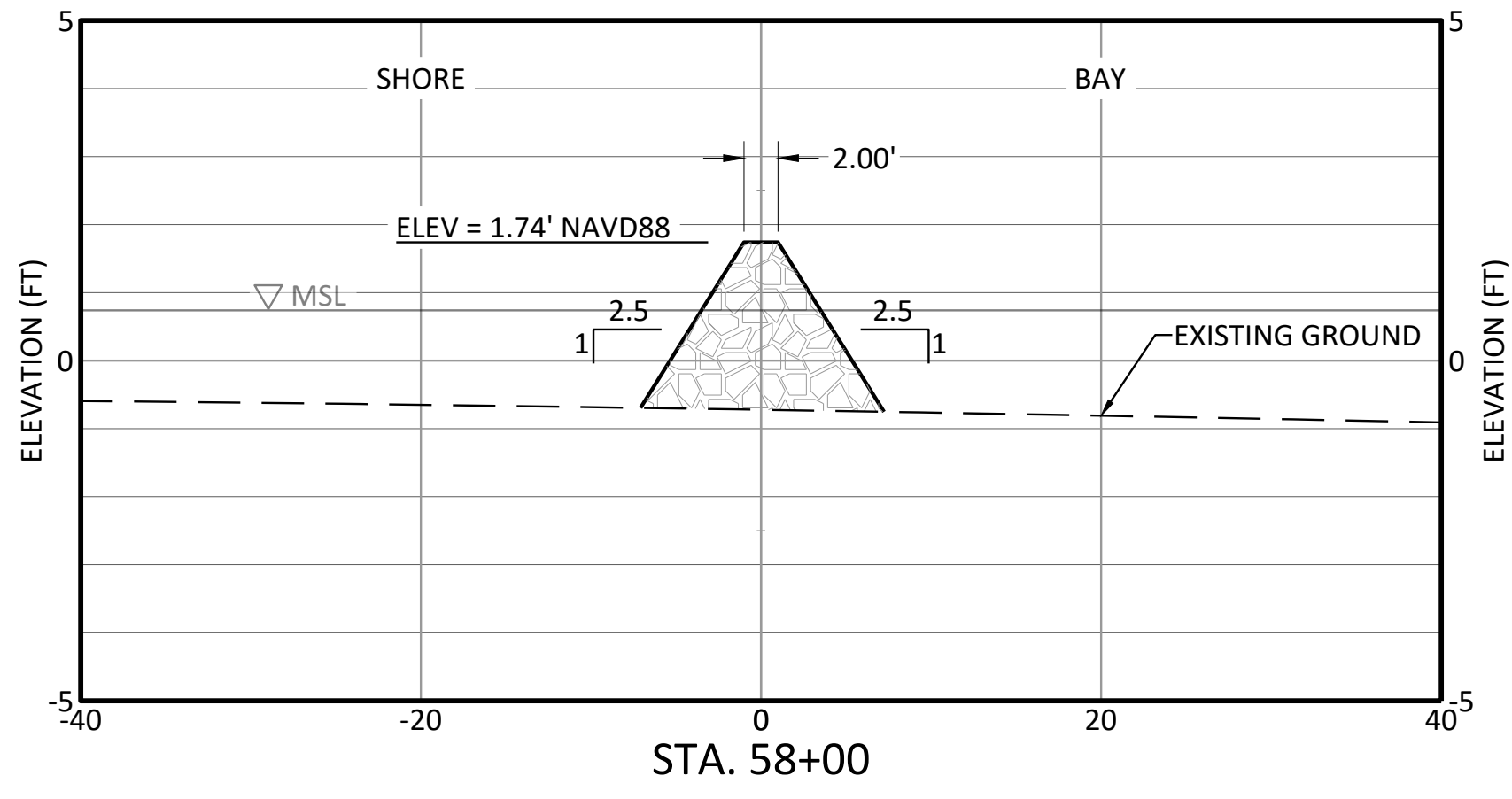
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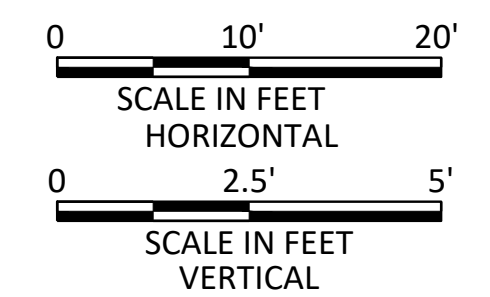
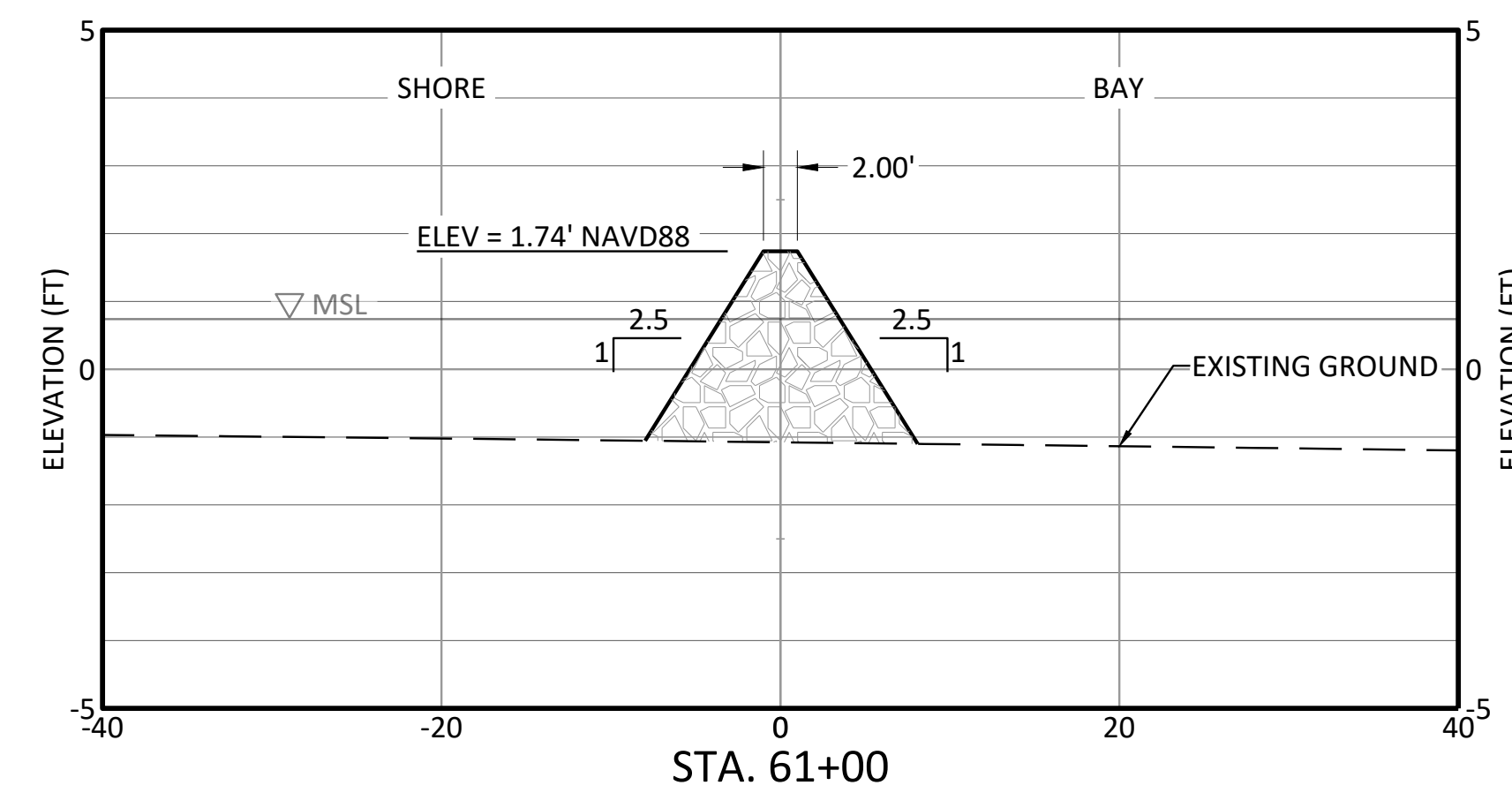
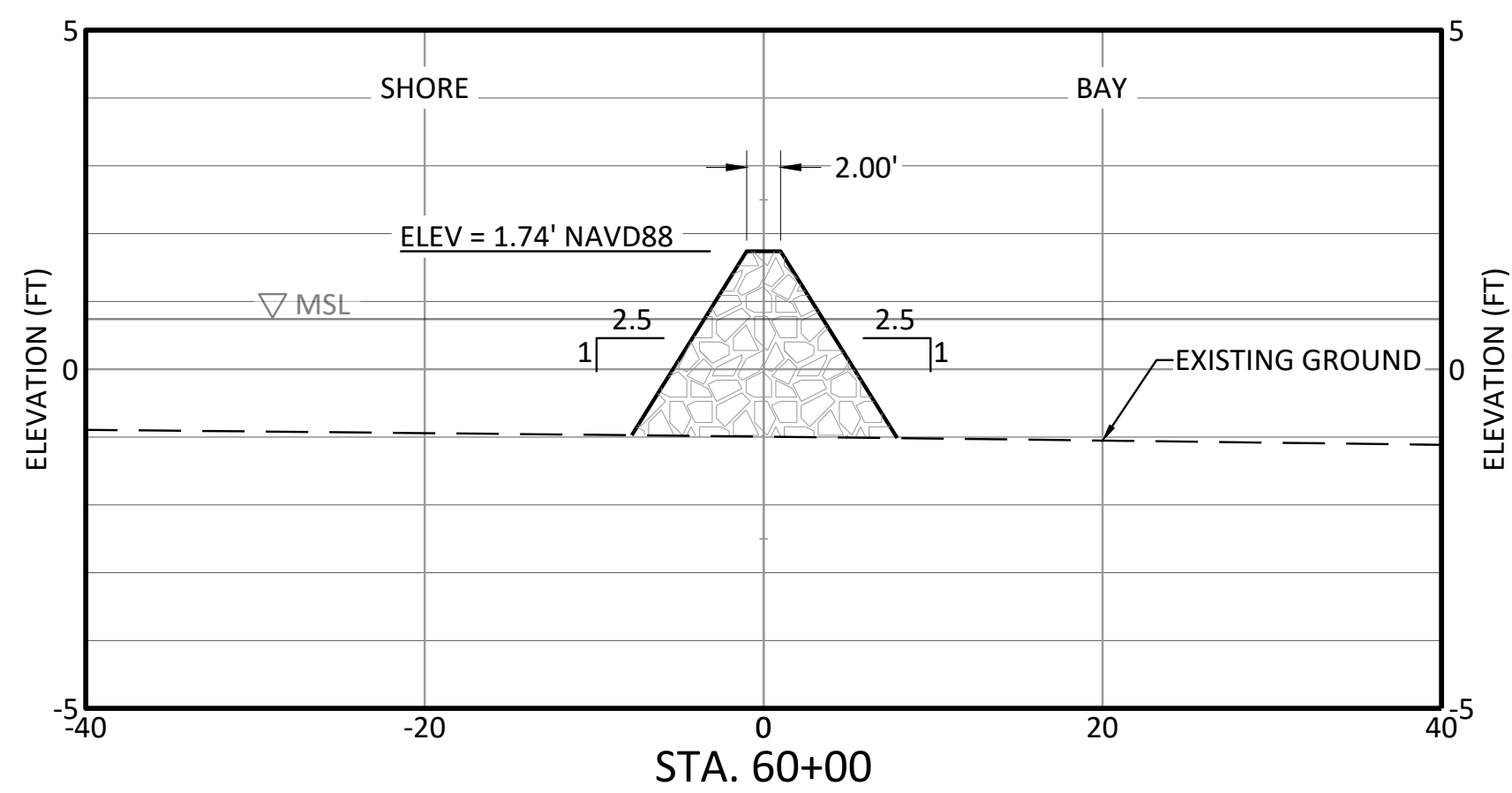
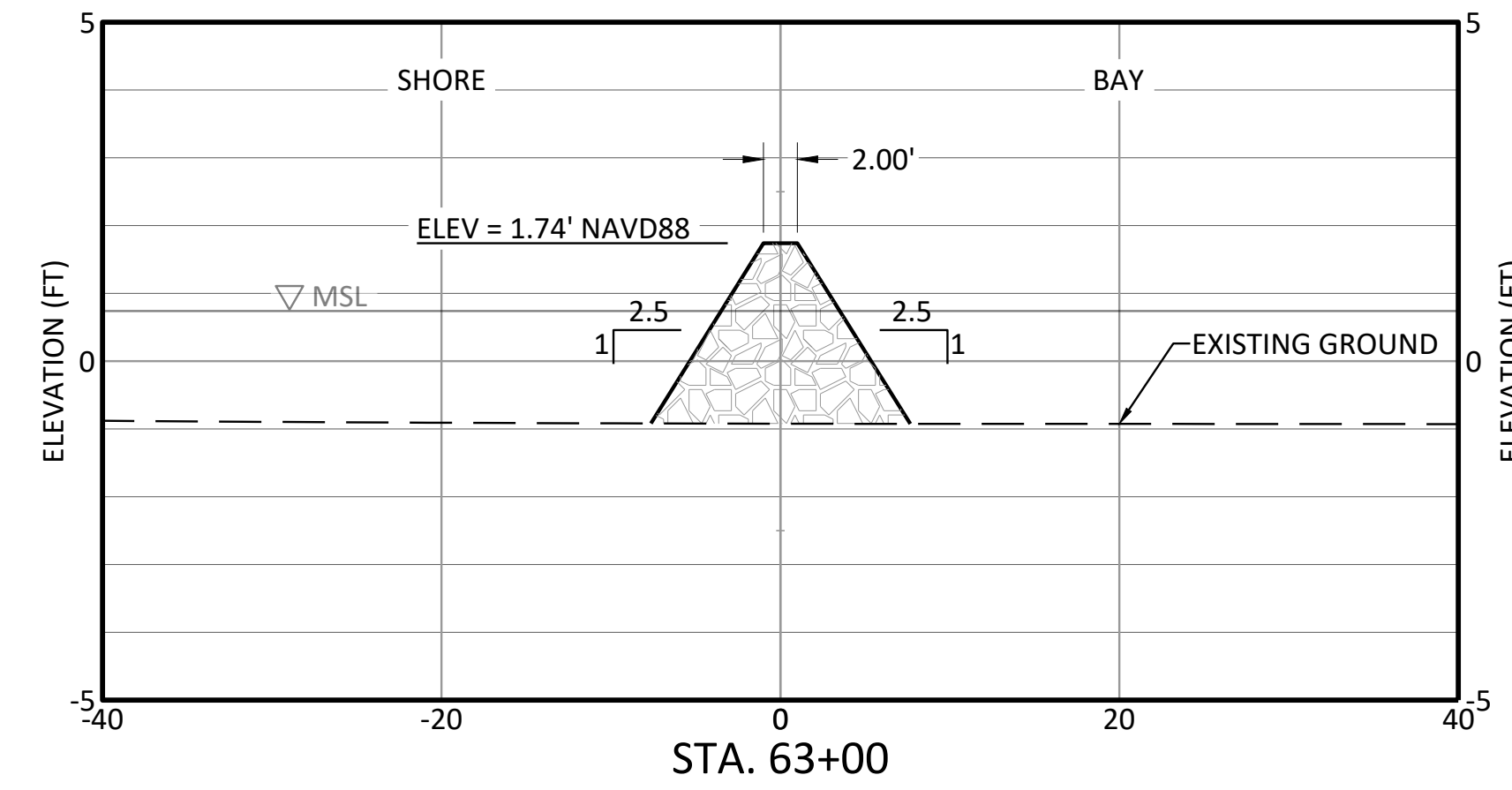
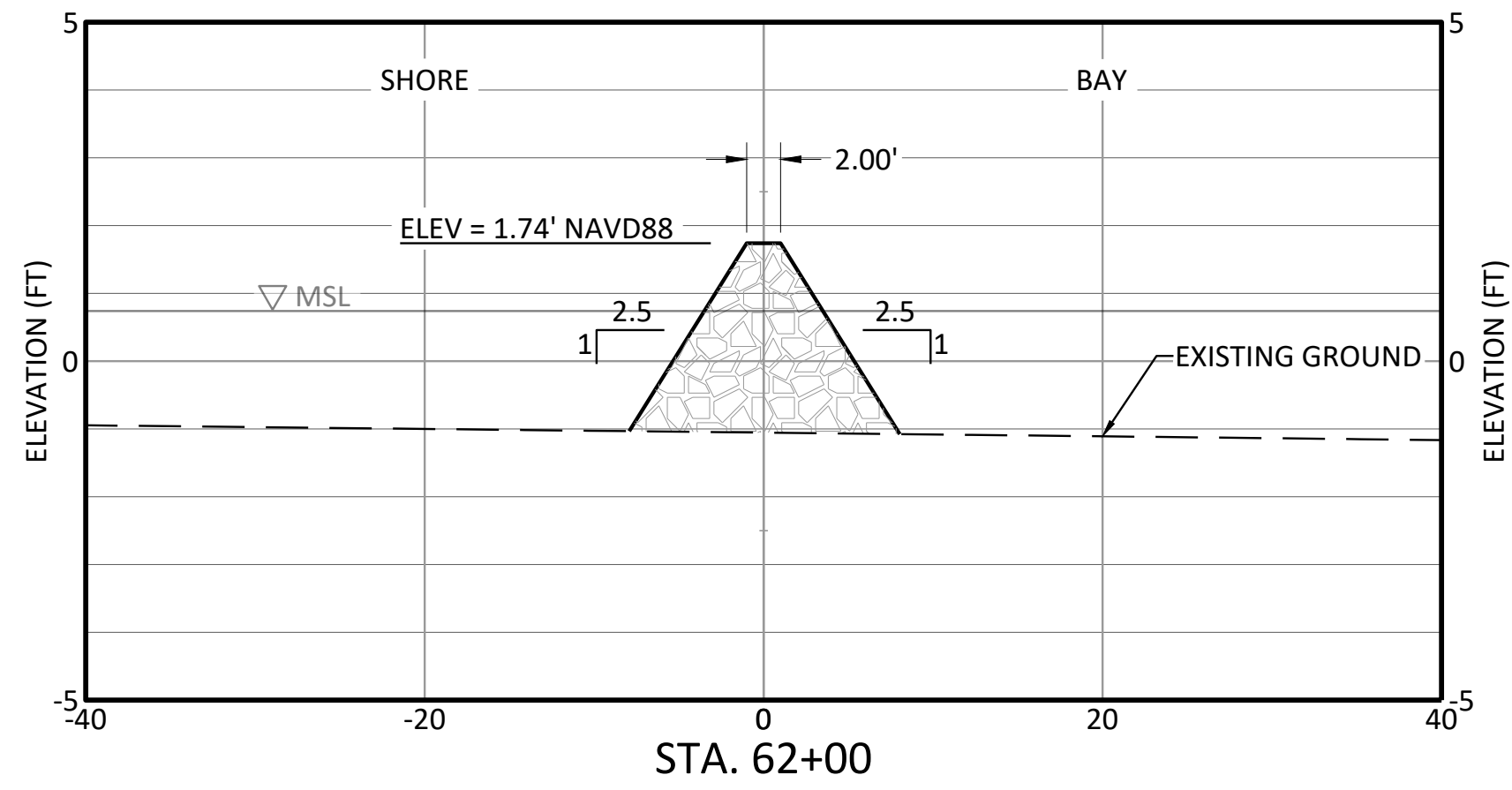
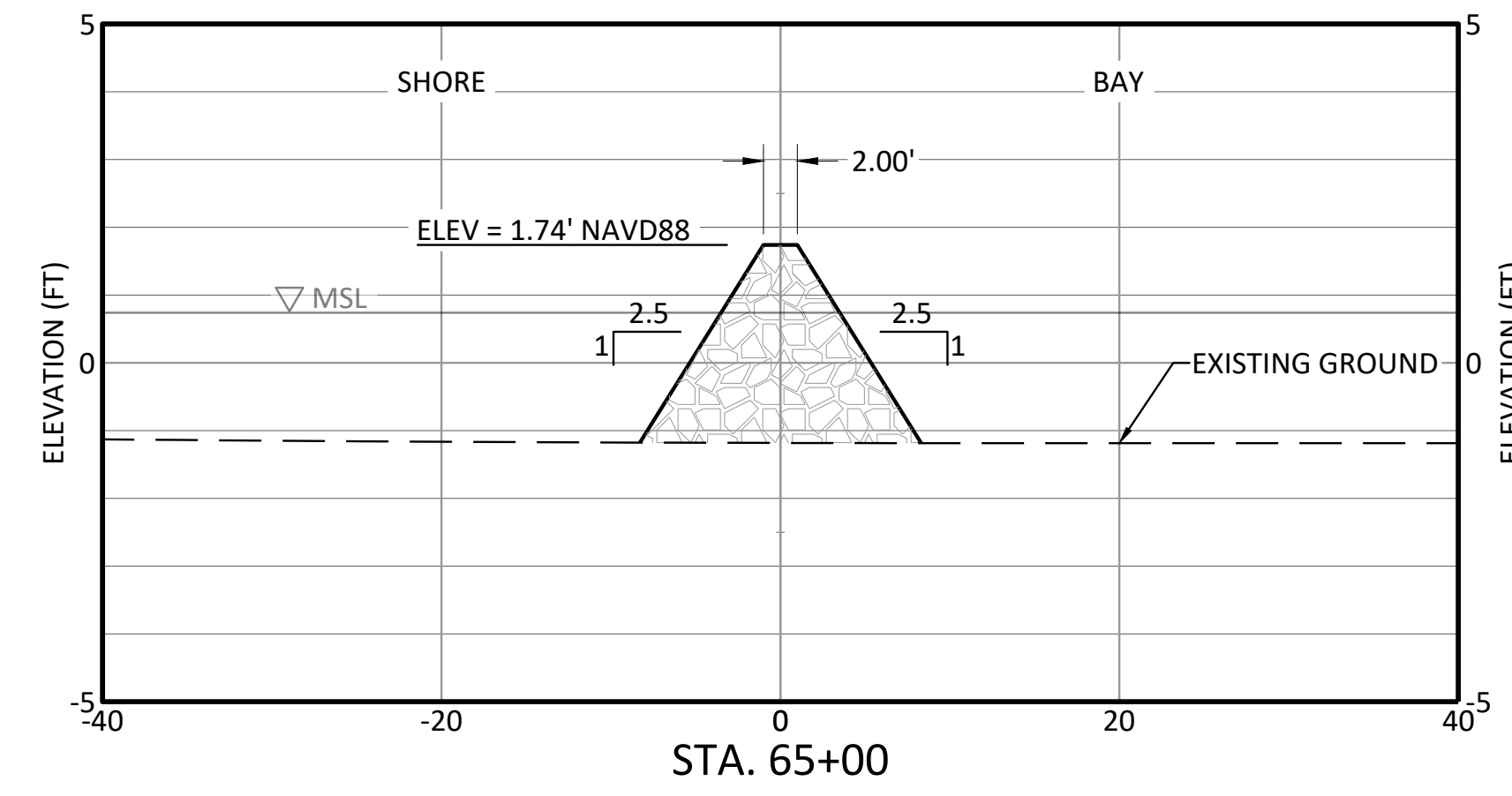
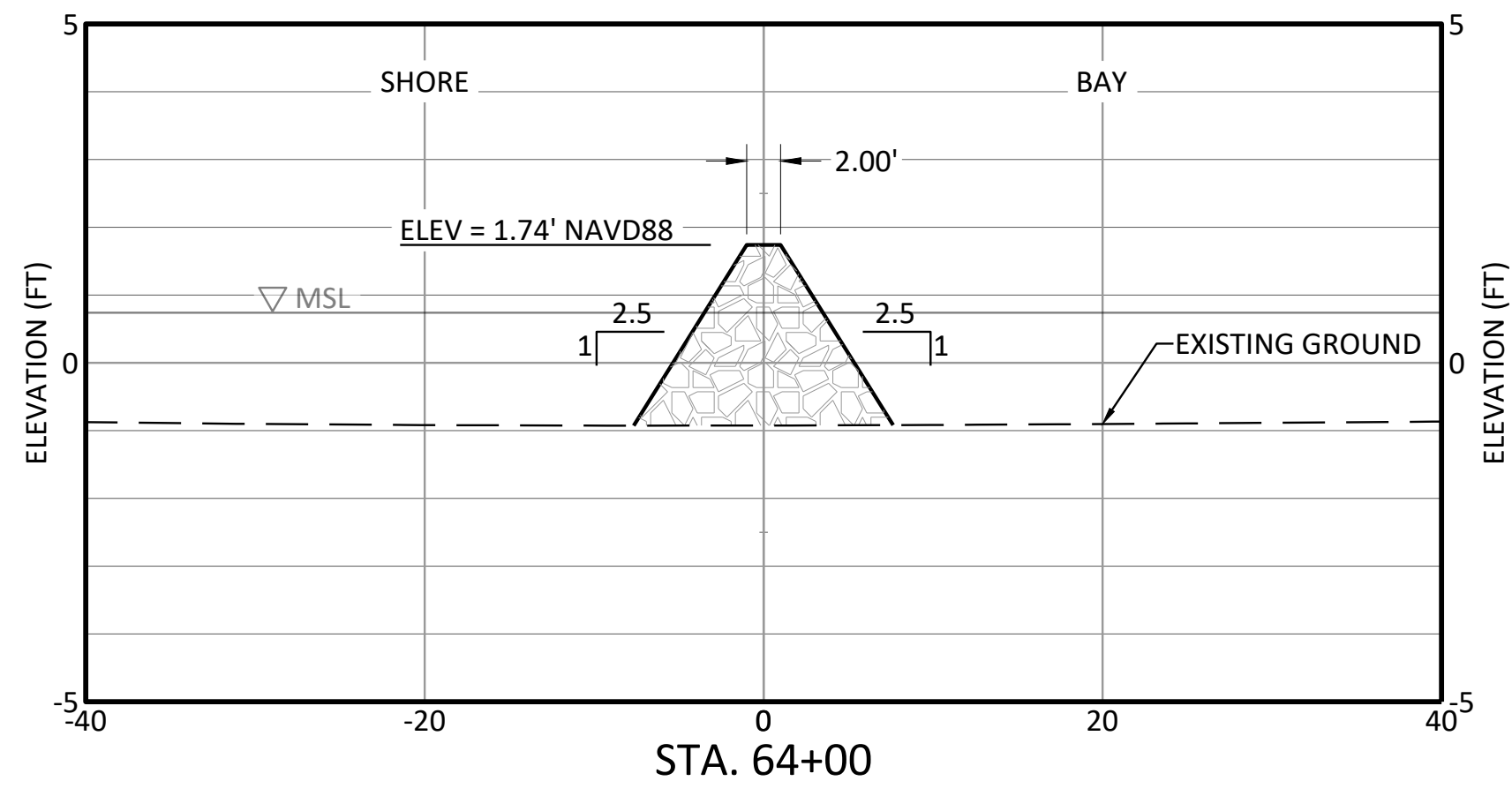
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CIVIL
**BREAKWATER SECTIONS
SHEET 5 OF 6**

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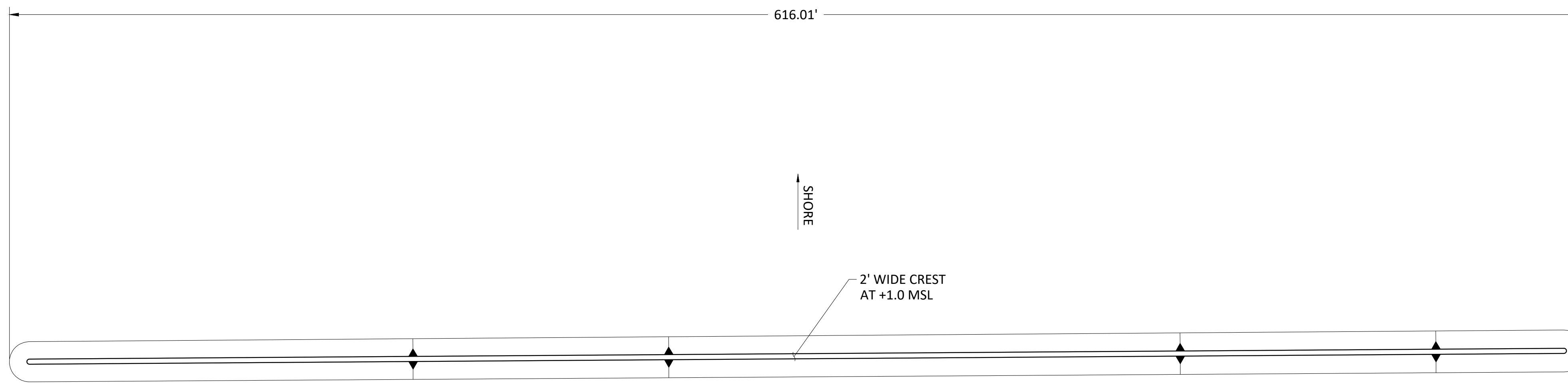
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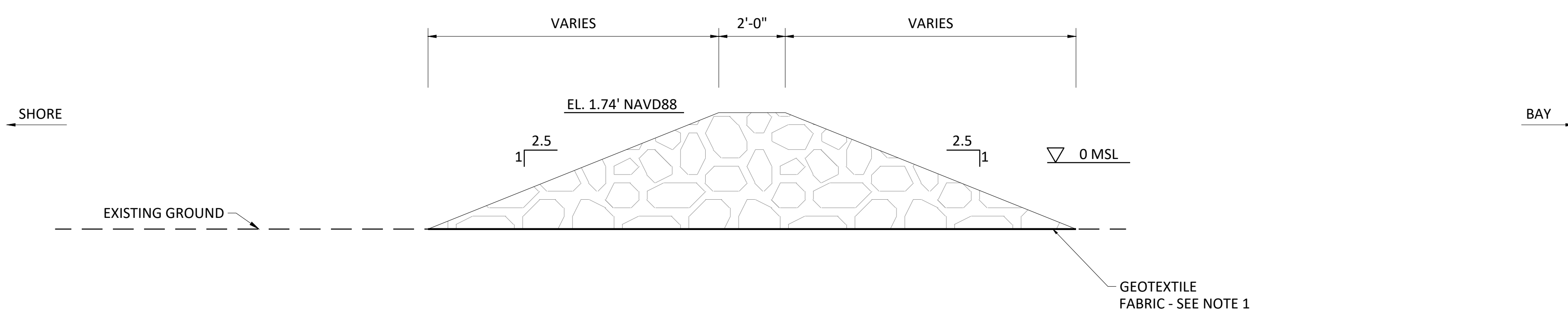
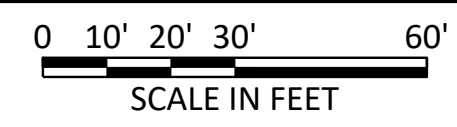
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SHEET 6 OF 6

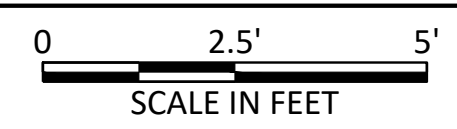
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BREAK WATER #3 DETAIL



BREAK WATER #3 TYPICAL SECTION



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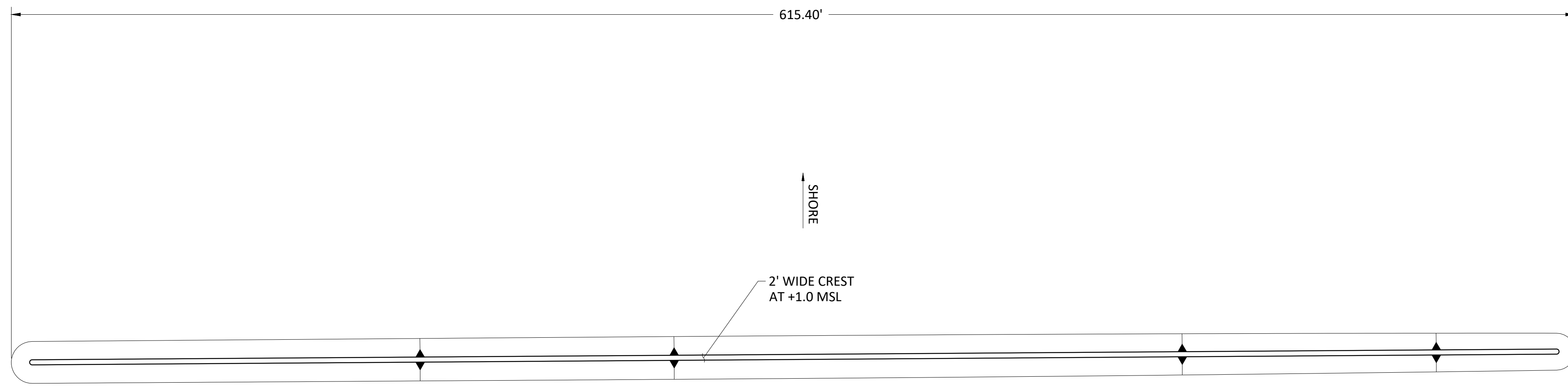
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**BREAKWATER NO. 3
DETAILS**

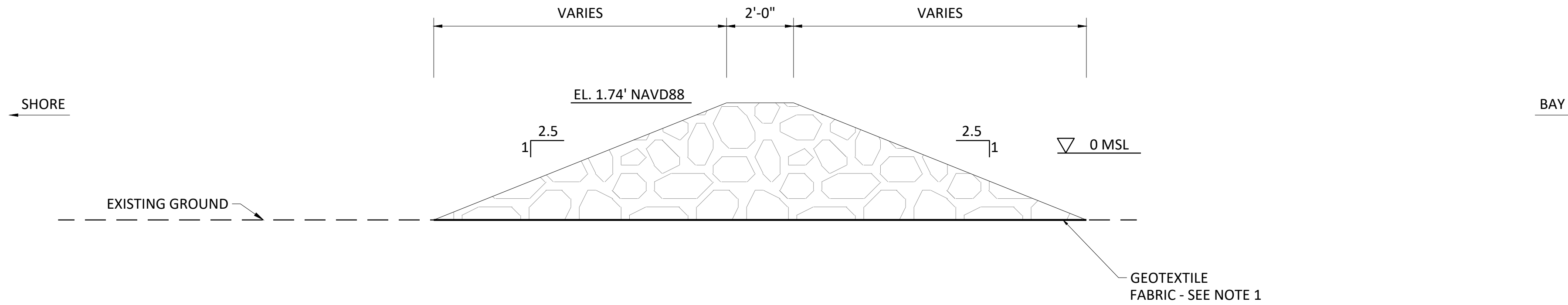
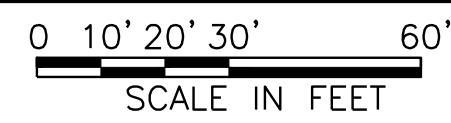
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SEQ. 11 OF 15

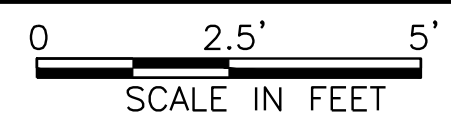
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BREAK WATER #4 DETAIL



**BREAK WATER #4
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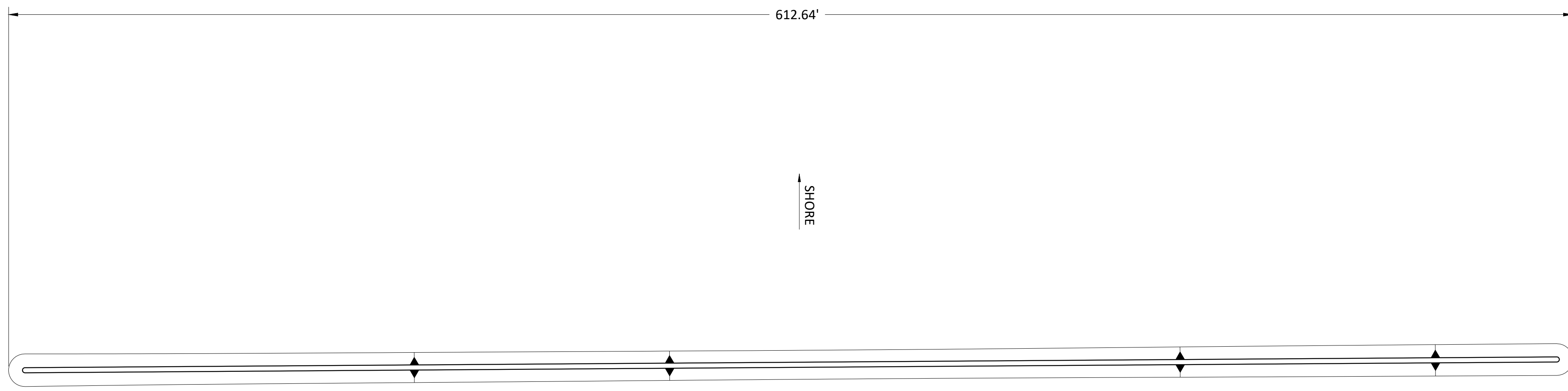
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**BREAKWATER NO. 4
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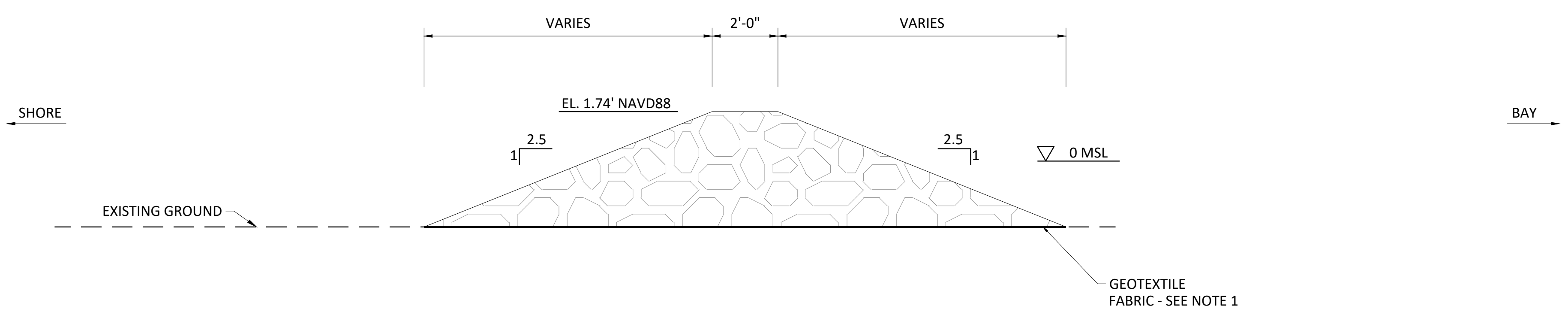
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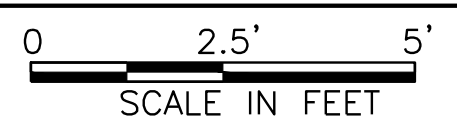
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BREAK WATER #5 DETAIL



BREAK WATER #5 TYPICAL SECTION



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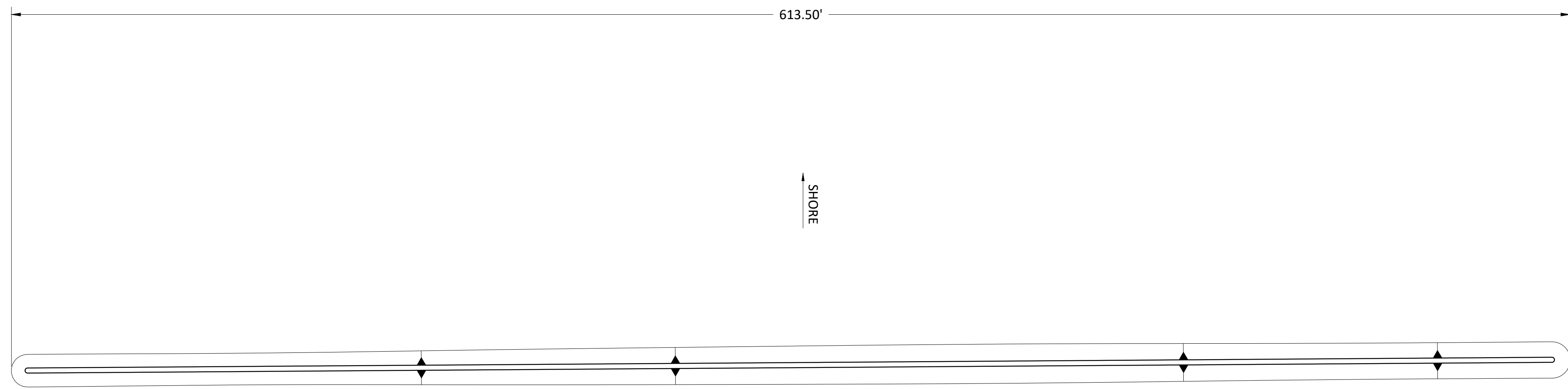
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CIVIL
BREAKWATER NO. 5 DETAILS

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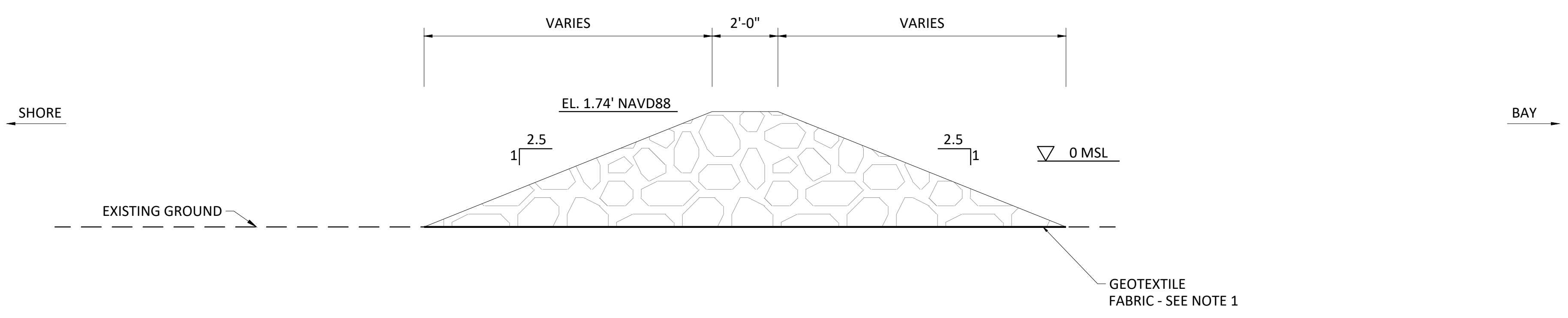
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SEQ. 13 OF 15

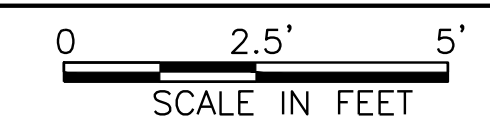
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BREAK WATER #6 DETAIL



**BREAK WATER #6
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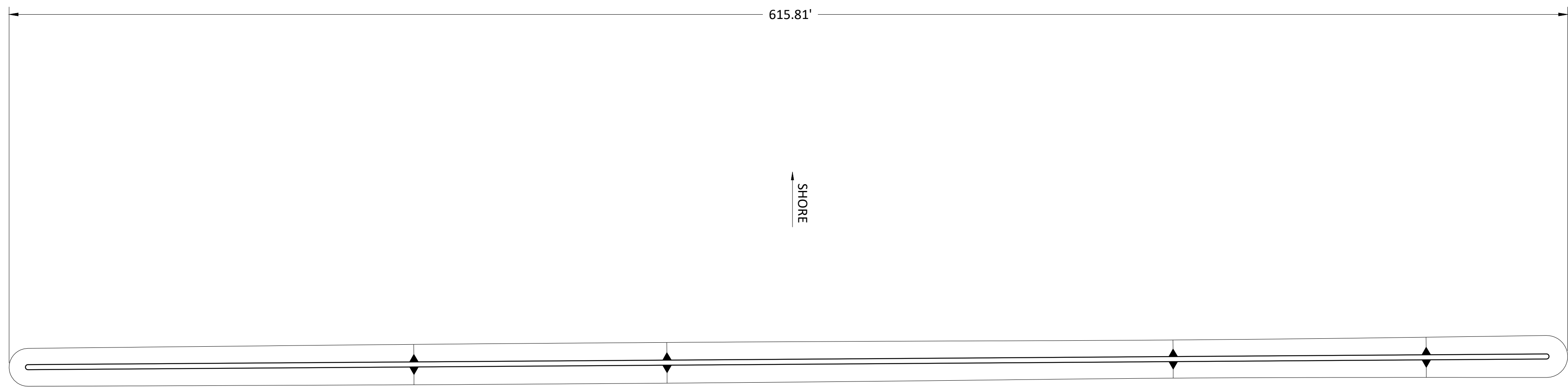
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 CIVIL
**BREAKWATER NO. 6
 DETAILS**

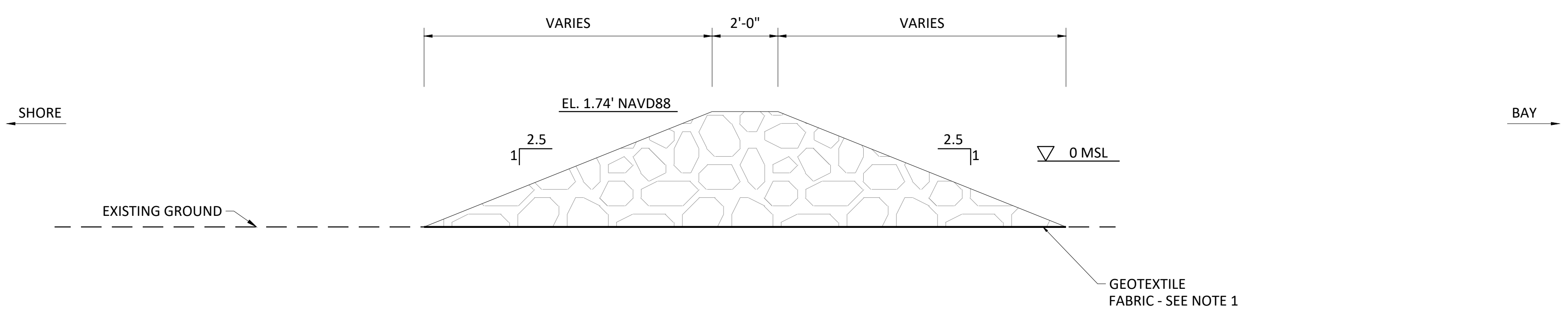
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SHEET
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 14 OF 15

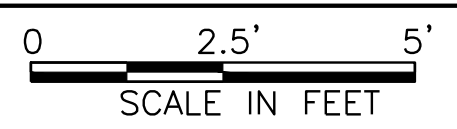
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BREAK WATER #7 DETAIL



**BREAK WATER #7
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CIVIL
**BREAKWATER NO. 7
DETAILS**

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SHEET **15**
SEQ. 15 OF 15

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Attachment 2: Preconstruction Notice Verification Application
under Nationwide Permit 27

September 10, 2021

Ms. Kristi McMillan
 Regulatory Branch, Central Evaluation Unit
 U.S. Army Corps of Engineers - Galveston District
 2000 Fort Point Road
 Galveston, Texas 77550

Re: Nationwide Permit 27 Pre-Construction Notification for Schicke Point Breakwater Extension Project, Calhoun County, Texas.

Dear Ms. McMillan:

On behalf of the Matagorda Bay Foundation (MBF) and the Texas Parks and Wildlife Department (TPWD), Freese and Nichols, Inc. (FNI) submits this Pre-Construction Notification (PCN) under Nationwide Permit (NWP) 27, *Aquatic Habitat Restoration, Enhancement, and Establishment Activities*, to construct approximately 3,073 linear feet of rock breakwaters as part of the Schicke Point living shoreline extension project in Calhoun County, Texas. FNI proposes to construct five (5) rock breakwaters extending from the original living shoreline structures and positioned parallel to Schicke Point to protect the shoreline and intertidal marsh from continued wind and wave action.

The project will complete the previously permitted rock breakwater project (SWG-2016-00111; Schicke Point Living Shoreline Project). The original project was partially completed but lacked the necessary funds to finish. MBF and the TPWD have procured funding to update the design plans, complete construction, and conduct post-construction monitoring of the rock breakwaters.

The rock breakwaters will be positioned parallel to Schicke Point along the northern shoreline of Matagorda Bay. The total area and volume of regulated fill for the rock breakwaters are 1.04 acres (45,315 ft²) and 2,475 cubic yards (CY), respectively. The rock breakwaters would be constructed to elevation 1 foot above Mean Sea Level (MSL) (+1.74 NAVD 88) (**Attachment D - Plans and Profile Figures**) with an excavator on a barge in Matagorda Bay. This area has experienced severe marsh loss and shoreline erosion since 1995. Since the initial living shoreline structures were constructed in 2017, increased sediment accumulation and oyster colonization around the existing structures have been documented. This proposed action would provide additional hard substrate for oyster colonization, increase essential fish habitat for reef dependent species, and protect the shoreline and marsh from continued erosion.

Table 1. Regulated Discharges of Fill

Fill Material	Total Area Filled (acres)	Total Volume (CY)
Rock riprap	1.04	2,475
Total Fill	1.04	2,475

NWP 27

NWP 27 authorizes activities in waters of the U. S. associated with aquatic habitat restoration, enhancement, and establishment. Specific activities authorized by NWP 27 include “construction of oyster habitat over unvegetated bottom in tidal waters”.

Funding for this project is from the U. S. Fish and Wildlife Service’s National Coastal Wetland Restoration grant program, the Matagorda Bay Mitigation Trust, and in-kind services from the original Schicke Point living shoreline project. The project is being jointly managed by the MBF and TPWD. We request your verification of this PCN under NWP 27 for the Schicke Point Extension project. If you have any questions or concerns, please contact me at (512) 381-1830 or tam.tran@freese.com.

Sincerely,

Tam H. Tran
Environmental Scientist – Freese and Nichols, Inc.

Attachments

- Attachment A – 4345 DA Permit Application Form
- Attachment B – Waters of the U.S. Report
- Attachment C – Representative Photographs
- Attachment D – Plan and Profile Drawings (100% Engineering Design)
- Attachment E – Federally Listed Species Habitat Assessment Memo
- Attachment F – Cultural Resource Evaluations (Section 106 NHPA Compliance)
- Attachment G – TCEQ Tier I Water Quality Certification and Checklist
- Attachment H – CZM Consistency Form

Job No. MBF21580

Schicke Point Breakwater Extension Waters of the U.S. Report

Matagorda Bay Foundation
15918 County Road 946
Brazoria, Texas 77422

Prepared by:

Freese and Nichols, Inc.
10431 Morado Circle, Suite 300
Austin, Texas 78759

September 2021

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INTRODUCTION

On behalf of the Matagorda Bay Foundation (MBF) and the Texas Parks and Wildlife Department (TPWD), Freese and Nichols, Inc. (FNI) is pleased to submit this Pre-Construction Notification (PCN) under Nationwide Permit (NWP) 27, *Aquatic Habitat Restoration, Enhancement, and Establishment Activities*, for the construction of five rock breakwaters in Calhoun County, Texas.

The rock breakwaters will be an extension of a previously permitted and constructed living shoreline project located just south of Schicke Point in Matagorda Bay. The existing living shoreline project was initially permitted in 2016 and constructed in 2017 (SWG-2016-00111). The existing living shoreline and the proposed rock breakwaters roughly follow the 1995 shoreline. This is significant because the southern shoreline of Schicke Point has experienced approximately 400 feet of shoreline loss over the course of 11 years from 1995-2016. Since construction of the living shoreline project in 2017, Schicke Point has observed oyster colonization on the rock riprap, sediment accumulation along the shore side, and reduced shoreline and marsh erosion behind the structure. The proposed structures will extend the existing living shoreline and protect additional shoreline and intertidal marsh habitat.

This report documents the desktop analysis and field efforts performed to evaluate potential impacts to waters of the U.S. (WOTUS), including special aquatic sites, and identifies potential U.S. Army Corps of Engineers (USACE) permitting requirements for the construction of five rock breakwaters in Matagorda Bay.

METHODS

Under Section 404 of the Clean Water Act (CWA), the USACE regulates the discharge of dredged and fill material into WOTUS, including special aquatic sites. Under Section 10 of the CWA, the USACE regulates any work in, or affecting, navigable WOTUS. Based on the proposed project location in Matagorda Bay, the entirety of the project area and the proposed discharge activities are located within WOTUS that would be regulated by the USACE under Section 404.

Site reconnaissance of the proposed project location was performed on April 1, 2021 by FNI biologist, David Buzan and TPWD biologist, Cherie O'Brien. During the site reconnaissance, the existing living shoreline and intertidal marsh were investigated.

RESULTS

The proposed breakwaters will be located within 600 feet of the southern shoreline of Schicke Point in Matagorda Bay. The breakwaters will be located east of the existing living shoreline. Each breakwater will be approximately 615 feet long. The total length of the breakwaters will be 3,073 linear feet (LF) or 3,416 LF, including the gaps between the breakwaters. The average lengths of the gaps between the breakwaters will be 85.7 feet and will provide ingress and egress of nekton. The breakwaters will result in the discharge of fill onto 1.04 acres of open-bay bottom. Construction of the five breakwaters will be accomplished by placing clean rock or concrete riprap on relatively flat, intertidal bay bottom made of sand, shell hash, and mud. If rock is used, it is expected the rock will be dense limestone. The breakwaters will have 2.5:1 side slopes and be approximately 2.5 to 3 feet tall (depending on the location of breakwater). The maximum elevation of the crests of the breakwater structures will be elevation 1 foot

above mean sea level (MSL) (1.74 feet above NAVD88). The breakwaters will have an average bottom base width of 15 feet and top crest width of 2 feet.

The elevation of 1 foot above MSL for the breakwaters was selected for several reasons. Observations by FNI biologists along the Texas coast indicate oysters colonize substrates up to 0.5 foot above MSL. In recent years the upper Texas coast has experienced sea level anomalies resulting in persistent water levels 1-2 feet above predicted levels for months at a time. FNI communication with the National Oceanic and Atmospheric Administration indicates the tidal datum for Matagorda Bay will rise at least 4 inches in the next revision of tidal datums. The extra height added to the breakwaters will account for rising sea levels in the future.

There are no existing seagrass beds or existing oyster reefs within the proposed project area. **Table 1** provides additional information about the amount of fill material proposed for the rock breakwaters. The 100% engineering drawings for the rock breakwaters are provided in **Attachment D, Plans and Profile Drawings**.

This project intends to construct five breakwaters within Matagorda Bay that would result in net ecological benefits to the aquatic ecosystem. Ecosystem benefits include establishment of substrate for oyster colonization and increased essential fish habitat for reef-dependent species. The structures may provide a spawning stock and larval supply for oyster colonization throughout Matagorda Bay. As an additional benefit, the placement of rock breakwaters would provide shoreline protection to Schicke Point shoreline.

Potential negative effects that could occur from the project would be temporary and localized turbidity, occurring only during construction. These include direct impacts to benthos from placement of material on open-bay bottom and impacts to plankton and marine species from increased turbidity within the immediate project area. Equipment staging will be from large barges anchored in Matagorda Bay. The material on the large barge would be light loaded to a shallow-draft barge. The shallow-draft barge would be able to approach close to the project area where the material will be placed with an excavator.

This project will not involve dredging of bay bottom for any reason. The only material placed in the water will be clean rock or concrete riprap so there should be no impacts on dissolved oxygen, pH or salt levels in the bay. There will be temporary and localized increases in turbidity when the material is placed on the bay bottom. Turbidity levels are expected to return to background levels within 6 hours after the end of construction each day. Best Management Practices utilized during construction may include turbidity curtains, hay bales, sanitary facilities, and geotextile fabric. The TCEQ Tier I Water Quality and Alternatives Checklist is provided in **Attachment G, TCEQ Tier I Water Certification and Checklist**.

This project has been designed as to not affect deep-draft commercial navigation. The closest navigation channel is the Gulf Intracoastal Waterway, which is approximately 9 miles southwest of the proposed project location.

Table 1. Total Amount of Fill Material for the Proposed Breakwaters

Fill Material	Total Area Filled (acres)	Total Volume (CY)
Rock or concrete riprap	1.04	2,475
Total Fill	1.04	2,475

DISCUSSION AND CONCLUSIONS

Increasing oyster abundance in Matagorda Bay by construction of breakwaters will provide a suite of ecosystem services such as water filtration, enhanced nutrient cycling, habitat for reef-dependent species, and nursery and foraging habitat for recreational and commercially important fish and crustacean species.

NWP 27 authorizes activities in WOTUS associated with the restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas, provided those activities result in net increases in aquatic resource functions and services. Specific activities authorized by NWP 27 include the construction of oyster reef habitat over unvegetated bottoms in tidal waters. Seagrass was not observed within the proposed project area. Compensatory mitigation is not required for activities authorized by this NWP since these activities must result in net increases in aquatic resource functions and services will be self-mitigating. A PCN must be submitted to the USACE Galveston District Office followed by USACE verification prior to commencing any activity.

Additionally, to be authorized by this NWP, the aquatic habitat restoration, enhancement, or establishment activity must be planned, designed, and implemented so it results in aquatic habitat resembling an ecological reference. The following section describes the ecological reference in detail.

ECOLOGICAL REFERENCE

The 2016 Schicke Point living shoreline project will serve as the ecological reference for the breakwater extension project. The project was previously approved by the USACE in 2016 (SWG-2016-00111) and contained the existing footprint and the extension (**Figure 1**). The original project was partially completed but lacked the necessary funds to finish. The existing living shoreline structure is located at (Lat: 28.626678, Long: -96.362231) and consists of a terminal groin and two living shoreline structures in Matagorda Bay adjacent to Carancahua Bay. The living shoreline structures roughly follows the 1995 shoreline. The living shoreline was constructed in spring of 2017. The terminal groin is approximately 220 feet long, and the living shoreline structures are 1,430 and 1,480 feet long.

Due to its proximity to Carancahua Bay, the point receives erosional flows from incoming and outgoing tides. The fetch across Matagorda Bay is approximately 10 miles. The Schicke Point shoreline had experienced major erosion and the intertidal marsh was receding at a rapid rate (**Figure 2**). Within 11 years (1995 to 2016) the shoreline had experienced over 400 feet of erosion (**Figure 3**). Within 70 days post-construction, the living shoreline had oyster spat colonizing the hard structure. During the most recent site visit on April, 2021, FNI and TPWD personnel observed oysters continuing to grow and settle on the living shoreline and continued marsh expansion towards the bay. Sediment appears to continue to accumulate behind the structure. Because of the similar nature of the project and the site's proximity, we believe this would be a suitable reference site. The proposed breakwater extension has been designed and will be constructed in a similar manner to the original living shoreline project. The proposed

breakwater extension project is expected to achieve similar results to the original project. **Additional photos of the existing living shoreline structure and Schicke Point can be found in Attachment C, Representative Photographs.**



Figure 1. The figure shows the permitted living shoreline structure (USACE SWG-2016-00111). The living shoreline structure and proposed breakwater extension roughly follows the 1995 shoreline.



Figure 2. Using historical Google Earth imagery, the figure above shows the approximate shorelines of Schicke Point at various times from 1989 to 2016.



Figure 3. The figure shows the 1995 shoreline (red) and aerial imagery from 2016. Schicke Point had experienced approximately 400 feet of shoreline loss within the span of 11 years.

Attachment C. Representative Photographs



Figure 1. The photo was taken from the existing Schicke Point living shoreline from the shore side facing southeast towards the Matagorda Bay. The Schicke Point living shoreline was constructed in 2017. The photo shows the extent of oyster colonization along the rock riprap and sediment accumulation during low tide. The photograph was taken by David Buzan, FNI, in February 2020.

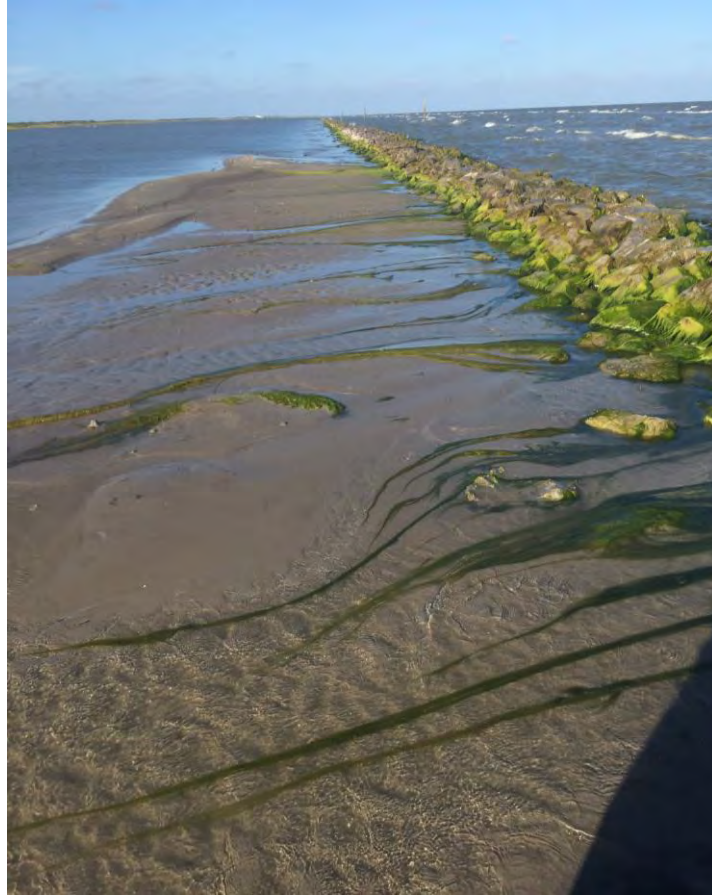


Figure 2. The photograph was taken of the Schicke Point living shoreline from the second breakwater structure facing northeast. The photograph shows waves from the bay side (right) and calm waters and accumulated sediments from the shore side (left). The photograph was taken 70 days post-construction of the living shoreline by David Buzan, FNI in July 2017.



Figure 3. The photograph was taken at Schicke Point facing northeast along the shoreline. The photograph shows a section of eroding intertidal marsh. Strong northeastern waves and winds from the Matagorda Bay have been slowly degrading and eroding the marsh and shoreline along Schicke Point. The photograph was taken by Dave Buzan, FNI, in 2017.



Figure 4. The photograph was taken along the natural shoreline of Schicke Point facing northwest. The photograph shows a natural intertidal reef. The intertidal oyster reef can provide the breakwater structure with a source of oyster spat. In return, the breakwater structure will be designed to protect the shoreline of Schicke Point and the nearshore oyster reefs. The photograph was taken by Dave Buzan, FNI, in February 2020.



Figure 5. The photograph was taken from the Matagorda Bay facing north towards Schicke Point. The photograph shows the existing living shoreline at high tide. The new breakwater extension will be designed to be 1 foot above MSL (+1.74 NAVD88). The photograph was taken by Dave Buzan, FNI, in February 2020.

TO: Ms. Kristi McMillan, U.S. Army Corps of Engineers (USACE) - Galveston District

CC: Bill Balboa, Matagorda Bay Foundation

FROM: Tam Tran, Freese and Nichols, Inc.

SUBJECT: Federally Listed Species Technical Memorandum

DATE: September 2, 2021

PROJECT: MBF21580: Schicke Point Breakwater Extension

INTRODUCTION

On behalf of the Matagorda Bay Foundation (MBF) and the Texas Parks and Wildlife Department (TPWD), Freese and Nichols, Inc. (FNI) is pleased to submit this Nationwide Permit (NWP) 27: Aquatic Habitat Restoration Pre-Construction Notification (PCN) for the Schicke Point breakwater extension project in Matagorda Bay, Calhoun County, Texas.

The proposed project site is located in Matagorda Bay, east of the Carancahua Bay mouth. The purpose of the project is to construct five rock breakwaters parallel to the northern shoreline of Matagorda Bay. The rock breakwaters will be an extension of a previous living shoreline project completed in 2017 and will cover approximately 1.04 acres of open-bay bottom. The breakwaters will be separated by gaps of approximately 86 feet to provide ingress and egress of nekton. Each of the breakwaters will consist of either clean rock or concrete riprap. The breakwater structures will have 2.5:1 side slopes and be approximately 2.5 to 3 feet tall (depending on the location of breakwater and water depth). The maximum elevation of the breakwaters will be 1 feet above mean sea level (MSL) or 1.74 NAVD88. There are no seagrass beds or existing oyster reefs within the proposed project area. The substrate bottom is firm. As an additional benefit, the placement of rock breakwaters will provide shoreline protection, hard structures to support sediment accumulation, substrate for oyster colonization, and habitat for reef-dependent fish and invertebrates.

This technical memorandum documents the habitat assessment performed to evaluate potential impacts to federally listed threatened and endangered species with potential occurrence in Calhoun County, Texas (USFWS, 2021a).

METHODS

A desktop analysis was conducted by FNI biologists to assess the project site for potential habitat for federally listed species. FNI reviewed a variety of spatial data, as well as U.S. Fish and Wildlife Service (USFWS) and Texas Parks and Wildlife Department (TPWD) databases for Calhoun County to perform the

FEDERALLY LISTED SPECIES MEMO

habitat assessment. Additionally, spatial data pertaining to previously identified occurrences of federally listed species were also reviewed (i.e., TPWD Texas Natural Diversity Database [TXNDD], eBird).

RESULTS

Table 1, which was generated from the USFWS Information for Planning and Consultation (IPaC) website (2021), provides a list of federally listed species, including seven endangered and five threatened species, which have been identified as potentially occurring in Calhoun County. Information (such as life history, habitat requirements, and potential project effects) are provided in following paragraphs.

Table 1. Federally listed species that potentially occur in Calhoun County, Texas

Common Name	Scientific Name	Federal Status	Project Effect Determination
MAMMALS			
West Indian Manatee	<i>Trichechus manatus</i>	T	No Effect
Gulf Coast Jaguarundi	<i>Herpailurus yagouaroundi</i>	E	No Effect
BIRDS			
Eastern Black Rail	<i>Laterallus jamaicensis jamaicensis</i>	T	No Effect
Northern Aplomado Falcon	<i>Falco femoralis septentrionalis</i>	E	No Effect
Piping Plover	<i>Charadrius melodus</i>	T	May affect, but not likely to adversely affect
Red Knot	<i>Calidris canutus rufa</i>	T	May affect, but not likely to adversely affect
Whooping Crane	<i>Grus americana</i>	E	May affect, but not likely to adversely affect
REPTILES			
Green Sea Turtle	<i>Chelonia mydas</i>	T	May affect, but not likely to adversely affect
Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	No Effect
Kemp’s Ridley Sea Turtle	<i>Lepidochelys kempii</i>	E	May affect, but not likely to adversely affect
Leatherback Sea Turtle	<i>Dermochelys coricea</i>	E	No Effect
Loggerhead Sea Turtle	<i>Caretta caretta</i>	E	May affect, but not likely to adversely affect

Source: USFWS (2021a) and NOAA (2021a)

E = Endangered, T = Threatened

West Indian Manatee

The threatened West Indian manatee (*Trichechus manatus*) is an aquatic mammal which inhabits brackish water bays, large rivers, and saltwater. Manatees feed upon submergent, emergent, and floating vegetation with the diet varying according to plant availability (Davis and Schmidly, 1994; USFWS, 2008). Historically, the manatee inhabited the Laguna Madre, Gulf of Mexico, and tidally influenced portions of rivers. Historical records from Texas waters include Cow Bayou, Sabine Lake, Copano Bay, Bolivar Peninsula, the Laguna Madre, and the mouth of the Rio Grande (Schmidly and Bradley, 2021). Presently, manatees are uncommon in Texas waters and the most recent sightings are likely individuals migrating or

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wandering from Florida waters. It is highly unlikely that the species would be found regularly due to lack of seagrass, therefore, the population of West Indian manatee is not anticipated to be affected by the project.

Gulf Coast Jaguarundi

Gulf Coast Jaguarundi is one of the rarest cats in Texas. They are slightly larger than the domestic housecat and have dark brown, black, or rusty-colored coat. They are one of the few feline species active during the day. Jaguarundis are typically found in the Tamaulipan Biotic Providence in thorny shrublands, grasslands, and woodlands with dense canopy cover. The United States contains a small portion of the Gulf Coast Jaguarundi's range. There are no historical records of jaguarundis existing north of the Rio Grande Valley. The last confirmed Texas jaguarundi sighting was a roadkill specimen in 1986 near Brownsville, Texas (USFWS, 2013). The USFWS has not designated Critical Habitat for the Gulf Coast Jaguarundi within the United States (USFWS, 2021b). The Gulf Coast Jaguarundi has not been sighted in Texas in over 30 years and suitable habitat is not found within the study area. It is unlikely that jaguarundi occur within the project area; therefore, no effect on the species is expected.

Eastern Black Rail

The Eastern Black Rail are small black birds with white speckling on their back and wings with long dark legs and red eyes. Black Rails occupy salt, brackish, and freshwater marshes. The Gulf coast subspecies can be found in higher elevation wetland areas with shrubby vegetation and dense cover. They may also be found in inland coastal prairies and associated wetlands. Black Rails are found year-round in Texas, Florida, South Carolina, and North Carolina (USFWS, 2020a). No Critical Habitat was designated for the species (USFWS, 2021b). It is likely that Eastern Black Rails are found within intertidal marshes near Schicke Point, however, there are no planned actions that would directly impact coastal marshes so no effect on the species is anticipated.

Northern Aplomado Falcon

Historically, the Northern Aplomado Falcon was found from Trans-Pecos and south Texas, southern New Mexico, and southeastern Arizona (USFWS, 2014). Since their listing, there have been reintroduction efforts in west Texas, the King Ranch in Kleberg County, Matagorda Island, and Laguna Atascosa NWR (TPWD, 2021b). There are established nesting populations in Brownsville and on Matagorda Island in Texas (USFWS, 2014). Habitat for the Northern Aplomado Falcon is typically coastal prairie and desert grasslands. In Texas, the falcons can be found in open honey mesquite, oak (*Quercus* sp.), acacia (*Acacia* sp.) and yucca (*Yucca* sp.) woodlands, grassland savannahs, and coastal prairie dunes. The falcons hunt in pairs over grasslands with low cover and an abundance of small mammals and insects. The Northern Aplomado Falcon pairs prefer nesting on stick platforms abandoned by other raptors and corvids. Breeding pairs have also been known to nest on the ground, and on powerlines, trees, and yucca (USFWS, 2014). No Critical Habitat has been designated for the Northern Aplomado Falcon (USFWS, 2021b). The northern aplomado falcon range occurs includes the study area (eBird, 2021). It is likely populations of aplomado falcons will occur throughout Matagorda Bay including Mad Island, Aransas NWR and Matagorda Island. Since the falcons are known to only nest and hunt along upland areas along coastal barrier islands, it is not likely that the project activities will affect the falcons.

Piping Plover

The threatened piping plover (*Charadrius melodus*) is a small shorebird that inhabits coastal beaches and tidal flats (Haig and Elliott-Smith, 2004). Approximately 35 percent of the known global population of piping plovers winters along the Texas Gulf coast, where they spend 60 to 70 percent of the year (Campbell, 2003). The piping plover population that winters in Texas breeds on the northern Great Plains

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and around the Great Lakes. From September to March, piping plovers are typically found along the Gulf coast shoreline using beaches, sandflats, tidal mudflats, dunes, and dredge islands as loafing and foraging areas (Haig and Elliott-Smith, 2004). eBird (2021) and TPWD (2021a) show observations of piping plovers around Matagorda Bay. There is the potential that piping plovers can utilize the shoreline north of the breakwaters and may be temporarily disturbed by nearby construction activity. However, the breakwaters are located approximately 600 feet from the shoreline and would not affect benthic macroinvertebrates or habitat used by piping plovers. Construction of the breakwaters would also be phased to begin towards the end of the wintering period for the birds. The project may affect, but not likely to adversely affect the species.

Red Knot

The threatened red knot (*Calidris canutus rufa*) is a medium-sized, stocky, short-necked sandpiper with a short, straight bill. The *rufa* subspecies, one of three subspecies occurring in North America, has one of the longest distance migrations known, travelling between its breeding grounds in the central Canadian Arctic to wintering areas in South America (USFWS, 2011). During migration and winter in Texas, red knots may be found feeding in small groups on sandy, shell-lined beaches, bay flats, and lagoons (Oberholser, 1974). It is an uncommon to common migrant along the coast, and a rare to casual inland visitor, primarily in the eastern half of the state (USFWS, 2011). There are recorded observations of red knots along Matagorda Bay (TPWD, 2021a; eBird, 2021). There is the potential that red knots can utilize the shoreline north of the breakwaters and may be temporarily disturbed by nearby construction activity. However, the breakwaters are located approximately 600 feet from the shoreline and would not affect benthic macroinvertebrates or habitat used by red knots. Construction of the breakwaters would also be phased to begin towards the end of the wintering period for the birds. The project may affect, but not likely to adversely affect the species.

Whooping Crane

Whooping Crane are the tallest birds in North America and are known for their call, size, and white plumage. The wintering habitat in Texas within the Aransas NWR and adjacent areas on the Gulf coast are comprised of salt flats, marshes, and grasslands. Typical vegetation of these habitats includes salt grass (*Distichlis spicata*), smooth cordgrass (*Spartina alterniflora*), Gulf cordgrass (*Spartina spartinae*), and sea ox-eye daisy (*Borrchia frutescens*). During the summer and migration period, they feed primarily on frogs, crayfish, insects, berries, and fish (USFWS, 2012). The USFWS designated Aransas NWR and adjacent lands including San Antonio Bay, Mesquite Bay, portions of Matagorda Island, and Espiritu Santo Bay as Critical Habitat (43 FR 20942, USFWS, 1978). The migratory Texas population breeds and nests in Wood Buffalo National Park in northern Alberta, Canada during the summer and flies south to Aransas NWR near Rockport, Texas where they spend the winter (USFWS, 2012). According to eBird (2021) data, Whooping Cranes have been observed within and around Matagorda Bay near Tres Palacios Bay and The Nature Conservancy's Mad Island Marsh Preserve. Populations of Whooping Cranes could be temporarily disturbed by construction related activities near the shoreline. However, breakwaters can be used to stabilize shoreline and protect foraging habitat for the cranes. Construction of the breakwaters would also be phased to begin towards the end of the wintering period for the birds. The project may affect but is not likely to adversely affect Whooping Cranes.

Green Sea Turtle

Threatened green sea turtles (*Chelonia mydas*) inhabit shallow tropical and subtropical waters inside reefs, bays, and inlets. Females prefer to nest along minimally disturbed sandy beaches along the Texas

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Gulf Coast (NOAA, 2021b). Green Sea Turtles are found worldwide in tropical and subtropical waters. The North Atlantic population includes species within the U.S. Virgin Islands, Puerto Rico, and the continental United States from Massachusetts to Texas. Green sea turtles are common within Texas waters and have been observed within Matagorda Bay. There was no documented green sea turtle nesting around Matagorda Bay area in 2021 (NPS, 2021a). Construction contractors will be educated on sea turtles and will pause work if there are sea turtles observed within the project area. The project may affect, but not likely to adversely affect the species.

Atlantic Hawksbill Sea Turtle

The endangered Atlantic hawksbill sea turtle (*Eretmochelys imbricata*) is widely distributed in the Caribbean Sea and western Atlantic Ocean, with representatives of at least some life history stages regularly occurring in southern Florida and the northern Gulf (especially Texas), south to Brazil (NOAA, 2021c). The hawksbill generally inhabits coastal reefs, bays, rocky areas, passes, estuaries, and lagoons, where it occurs at depths less than 70 feet (Mortimer and Donnelly, 2008). Like some other sea turtle species, hatchlings are sometimes found floating in masses of marine plants (e.g., *Sargassum* rafts) in the open ocean. In the continental U.S., the hawksbills typically occur in Florida and Texas. Most of these sightings involve post-hatchlings and juveniles and are primarily associated with stone jetties. These small turtles are believed to originate from nesting beaches in Mexico (NOAA, 2021c). The only documented nest on the Texas coast was found in 1998 at the Padre Island National Seashore and remains the only recorded nest in Texas (NPS, 2021a). Construction contractors will be educated on sea turtles and will pause work if there are sea turtles observed within the project area. It is unlikely that Atlantic hawksbill sea turtles occur within the project area; therefore, no effect on the species is expected.

Kemp's Ridley Sea Turtle

The endangered Kemp's ridley sea turtle (*Lepidochelys kempii*) inhabits shallow coastal and estuarine waters, usually over sand or mud bottoms where prey can be found. Adults are primarily restricted to the Gulf, although juveniles may range throughout the Atlantic Ocean since they have been observed as far north as Nova Scotia (USFWS, 2015a). Kemp's ridleys occur in Texas in small numbers and in many cases, may be in transit between crustacean-rich feeding areas in the northern Gulf and breeding grounds in Mexico. Almost the entire population of Kemp's ridley nests on a 16-mile stretch of coastline near Rancho Nuevo, Tamaulipas, Mexico, approximately 190 miles south of the Rio Grande. Nesting in Texas occurs on a much smaller scale (NOAA, 2021d; NPS, 2021a). In 2021, a total of 195 nests were documented along the entire Texas coast, with the majority occurring at the Padre Island National Seashore. Nests have been documented on Matagorda Island and Matagorda Peninsula (NPS, 2021a). Construction contractors will be educated on sea turtles and will pause work if there are sea turtles observed within the project area. The project may affect, but not likely to adversely affect the species.

Leatherback Sea Turtle

The endangered leatherback sea turtle (*Dermochelys coriacea*) is probably the most wide-ranging of all sea turtle species. It occurs in the Atlantic, Pacific, and Indian oceans; as far north as British Columbia, Newfoundland, Great Britain, and Norway; and as far south as Australia, Cape of Good Hope, and Argentina (USFWS, 2015b). The leatherback is mainly pelagic, inhabiting the open ocean, and seldom approaches land except for nesting, reproduction, or when following concentrations of jellyfish, when it can be found in inshore waters, bays, and estuaries (NOAA, 2021e; TPWD, 2021b). They can dive to depths of 4,200 feet and stay down for up to 85 minutes. Leatherbacks nest primarily in tropical regions and only sporadically in some of the Atlantic and Gulf states of the continental U.S. (NOAA, 2021e). In the Atlantic

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and Caribbean, the largest nesting assemblages occur in the U.S. Virgin Islands, Puerto Rico, and Florida (NPS, 2021c; NOAA, 2021e). Until 2008, leatherback nests had not been recorded in Texas for 80 years when one nest was located at Padre Island National Seashore (NPS, 2021). Leatherback sea turtles are rare along the Texas coast and tend to keep to deeper offshore waters where their primary food source, jellyfish, occur (TPWD, 2021b; NPS, 2021c). There are no documented leatherback nests on the Texas coast in 2021 (NPS, 2021). Construction contractors will be educated on sea turtles and will pause work if there are sea turtles observed within the project area. Since leatherback sea turtles are mainly pelagic, the species is unlikely to occur in the project area. No effect to the species is anticipated to occur.

Loggerhead Sea Turtle

The endangered loggerhead sea turtle (*Caretta caretta*) is widely distributed in tropical and subtropical seas, being found in the Atlantic Ocean from Nova Scotia to Argentina, Gulf of Mexico, Mediterranean Sea, and Indian and Pacific oceans (although it is rare in the eastern and central Pacific) (NOAA, 2021f; USFWS, 2021c). In the continental U.S., loggerheads nest along the Atlantic coast from Florida to as far north as New Jersey and sporadically along the Gulf coast, including Texas (NOAA, 2021f; NPS, 2021d). Loggerhead populations have been in decline due to humans (shrimp trawling) and predators (NPS, 2021d). They prefer shallow inner continental shelf waters and occurring very infrequently in the bays. They can often be seen around offshore oil rig platforms, reefs, and jetties where they feed on crabs, mollusks, jellyfish, and Portuguese man-o-war (NPS, 2021d; NOAA, 2021f). There have been documented loggerhead sea turtle nests in Texas (NPS, 2021a). Construction contractors will be educated on sea turtles and will pause work if there are sea turtles observed within the project area. The project may affect, but not likely to adversely affect the species.

DISCUSSION

Threatened and Endangered Species

There are twelve federally listed species that potentially occur within Calhoun County (USFWS, 2021a). A desktop evaluation and habitat assessment were performed to determine any effects to federally listed species that would result from the project. Green, Kemp's ridley, and Loggerhead sea turtles have the potential to occur within the construction area. Construction contractors will be notified about the potential for West Indian manatees and sea turtles within the bay during construction. If any federally listed species are observed within the project area during construction, construction activity will be paused until the animal is outside of the limits of construction. The project may impact but is not likely to adversely impact populations of West Indian manatees and sea turtles. Piping plovers and red knots could potentially occur onshore near the project area and may be temporarily disturbed and displaced by construction activities. However, after construction is complete, the breakwaters will provide additional foraging and loafing habitat for the species. The project may impact but is not likely to adversely impact populations of piping plovers and red knots.

REFERENCES

- Campbell, L. 2003. Endangered and threatened animals of Texas: Their life history and management. Endangered Resource Branch, Texas Parks and Wildlife Department, Austin.
- eBird. 2021. eBird: An online database of bird distribution and abundance. eBird, Ithaca, New York. Available: <http://www.ebird.org>.
- Haig, S.M., and E. Elliott-Smith. 2004. Piping plover. The birds of North America Online. (A. Poole, Ed.) Ithaca: Cornell Laboratory of Ornithology; Retrieved from The Birds of North American Online database. <https://birdsna.org/Species-Account/bna/species/pipplo/introduction>.
- Mortimer, J.A and Donnelly, M. (IUCN SSC Marine Turtle Specialist Group). 2008. *Eretmochelys imbricata*. The IUCN Red List of Threatened Species. <http://www.iucnredlist.org/details/8005/0>.
- National Oceanic and Atmospheric Administration (NOAA). 2021a. ESA Threatened & Endangered. <https://www.fisheries.noaa.gov/species-directory/threatened-endangered>.
- .2021b. Green Turtle. <https://www.fisheries.noaa.gov/species/green-turtle>.
- .2021c. Hawksbill Turtle. <https://www.fisheries.noaa.gov/species/hawksbill-turtle>.
- .2021d. Kemp’s Ridley Turtle. <https://www.fisheries.noaa.gov/species/kemps-ridley-turtle>.
- .2021e. Leatherback Turtle. <https://www.fisheries.noaa.gov/species/leatherback-turtle>.
- .2021f. Loggerhead Turtle. <https://www.fisheries.noaa.gov/species/loggerhead-turtle>.
- National Park Service (NPS). 2021a. Current Sea Turtle Nesting Season. <https://www.nps.gov/pais/learn/nature/current-nesting-season.htm>.
- . 2021b. The Kemp’s Ridley Sea Turtle. <http://www.nps.gov/pais/learn/nature/kridley.htm>.
- . 2021c. The Leatherback Sea Turtle. <http://www.nps.gov/pais/learn/nature/leatherback.htm>.
- . 2021d. The Loggerhead Sea Turtle. <http://www.nps.gov/pais/learn/nature/loggerhead.htm>.
- Oberholser, H.C. 1974. The Bird Life of Texas. 2 vols. University of Texas Press, Austin.
- Schmidly, D. and R. Bradley. 2021. The Mammals of Texas-Online edition. Texas Parks and Wildlife Department. https://www.depts.ttu.edu/nsrl/mammals-of-texas-onlineedition/Table_of_Contents/Table_of_Contents.php.
- Texas Parks and Wildlife Department (TPWD). 2021a. Texas Natural Diversity Database (TXNDD) information request for Calhoun County. Request received on August 13, 2021.

- . 2021b. Leatherback Sea Turtle (*Dermochelys coriacea*).
<http://tpwd.texas.gov/huntwild/wild/species/lethback/>.
- U.S. Fish and Wildlife Service (USFWS). 2008. West Indian manatee (*Trichechus manatus*). USFWS Fact Sheet. February 2008. <https://www.fws.gov/verobeach/MSRPPDFs/WestIndianManatee.pdf>.
- . 2011. Endangered and Threatened Wildlife and Plants; Findings for Petitioned Candidate Species – Red knot (*Calidris canutus rufa*). U.S. Fish and Wildlife Service, Department of the Interior. Federal Register: October 26, 2011 (Volume 76, No. 207).
- . 2013. Gulf Coast Jaguarundi Recovery Plan (*Puma yagouaroundi cacomitli*). https://ecos.fws.gov/docs/recovery_plan/FINAL%20Gulf%20Coast%20Jaguarundi%20Recovery%20Plan.pdf.
- . 2014. Northern Aplomado Falcon (*Falco femoralis septentrionalis*) 5-Year Review: Summary and Evaluation. Albuquerque, New Mexico. 46 pp.
- . 2015. Kemp’s ridley sea turtle (*Lepidochelys kempii*).
<http://www.fws.gov/northflorida/SeaTurtles/Turtle%20Factsheets/PDF/Kemps-Ridley-Sea-Turtle.pdf>.
- . 2018. Leatherback Sea Turtle (*Dermochelys coriacea*).
<https://www.fws.gov/northflorida/SeaTurtles/Turtle%20Factsheets/leatherback-sea-turtle.htm>
- . 2020a. Eastern Black Rail. <https://www.fws.gov/southeast/wildlife/birds/eastern-black-rail/>.
- . 2020b. Loggerhead Sea Turtle (*Caretta caretta*).
<https://www.fws.gov/northflorida/SeaTurtles/Turtle%20Factsheets/loggerhead-sea-turtle.htm>.
- . 2021a. IPaC Environmental Conservation Online System (ECOS). <https://ecos.fws.gov/ipac/>.
- . 2021b. IPaC: Threatened & Endangered Species Active Critical Habitat Report.
<https://ecos.fws.gov/ecp/report/table/critical-habitat.html>.

MEMORANDUM



Innovative approaches
Practical results
Outstanding service

10431 Morado Circle, Suite 300 • Austin, Texas 78759 • 512-617-3100 • fax 512-617-3101

www.freese.com

TO: Ms. Kristi McMillan, U.S. Army Corps of Engineers (USACE)- Galveston District

CC: Bill Balboa, Matagorda Bay Foundation

FROM: Tam Tran, Freese and Nichols, Inc. (FNI)

SUBJECT: Cultural Resource Investigation

DATE: August 20, 2021

PROJECT: MBF21580: Schicke Point Breakwater Extension

The Cultural Resource investigation was conducted in 2016 by FNI and submitted with the original permit application (SWG-2016-00111, Schicke Point Living Shoreline Project). The results of that investigation (Attached), which included the extended breakwater sections, showed no historic structures or historic properties within the Area of Potential Effect. The proposed Schicke Point breakwater structures will be located approximately 600 feet from the intertidal shoreline.

Since the results of the original cultural resource investigation are only five years old, the Matagorda Bay Foundation and FNI would like to submit the same Cultural Resource Investigation for the Schicke Point Breakwater Extension Project for your consideration.

May 31, 2016

Arianne Logwood
US Army Corps of Engineers
PO Box 1229
Galveston, TX 77553

RE: SWG-2016-00111 Pre-construction Notification for the Schicke Point Living Shoreline Project, Matagorda Bay, Calhoun County, TX, under Nationwide Permit 27: Aquatic Habitat, Restoration, Establishment, and Enhancement Activities.

Dear Ms. Logwood,

On behalf of Mr. Hasty Johnson who owns the property on Schicke Point, Calhoun County, TX, Freese and Nichols, Inc. (FNI) requests National Historic Preservation Act (NHPA) concurrence for the Schicke Point living shoreline project in Matagorda Bay, Calhoun County, Texas (**Figures 1 and 2**). The living shoreline, 1.29 miles long by 26 feet wide, would be placed in Matagorda Bay parallel to the shoreline of Schicke Point which separates the east shore of Carancahua Bay from Matagorda Bay in Calhoun County (**Figure 1**). The living shoreline would extend from the western tip of Schicke Point south-southeast into Matagorda Bay then curve to the east and parallel the Matagorda Bay shoreline along Schicke Point. This area has experienced severe marsh loss and shoreline erosion since 1995. Depths in this area range from 1-5 feet. The bay bottom slopes very gradually to the south and west beyond the proposed location of the living shoreline. The living shoreline would approximately follow the 1995 shoreline and be parallel to, and about 300 feet from the 2016 shoreline.

The Area of Potential Effect (APE) for archeological resources is defined as the area where construction activities will cause ground disturbance. The APE is defined in three dimensions, including the project limits, width, acreage, and depth of impacts. The APE encompasses the entirety of the project area to the maximum area of construction. The APE for the shoreline project is approximately 1.29 miles in length and has a width of 26 Feet, totaling approximately 4.16 acres. The vertical depth of impact ranges from 1-5 feet within previously disturbed soil due to heavy shoreline erosion since 1995 (**Figure 2**).

Texas Archeological Sites Atlas Review

The archeological records review available on the THC Texas Archeological Sites Atlas (TASA) was conducted on May 27, 2016 to determine if any previously recorded archeological sites or historic properties listed in the National Register of Historic Places (NRHP), State Antiquities Landmarks (SAL), and Recorded Texas Historic Landmarks (RTHL) are located within or adjacent to the proposed project areas. The records review revealed no historic standing structures or historic properties listed in the NRHP, SAL's, historic cemeteries or RTHL's within the APE. There are no previously recorded archeological sites located within the APE. A single previous archeological survey was located within a 0.5-mile search radius of the APE (Atlas Number 8500001310). The survey was conducted in November 1987 and no archeological sites were recorded during the survey.

Conclusion

The majority of the APE has been subject to heavy marsh loss and severe shoreline erosion since 1995 (**Figure 2**). The current depth of impact to establish the living shoreline is situated in water depths of 1-5

feet. The Project is needed to protect the Schicke Point shoreline from further eroding. The proposed project has been previously disturbed (erosion) and should have no effect on historic properties.

Please review the proposed project to identify issues relative to any cultural resources that should be considered by Mr. Hasty Johnson, property owner of Schicke Point. If possible, we would like to receive your comments in 30 days. If you have any questions or need additional information regarding the archeological records review, please feel free to contact me at (512) 617-3175 or bck@freese.com.

Sincerely,

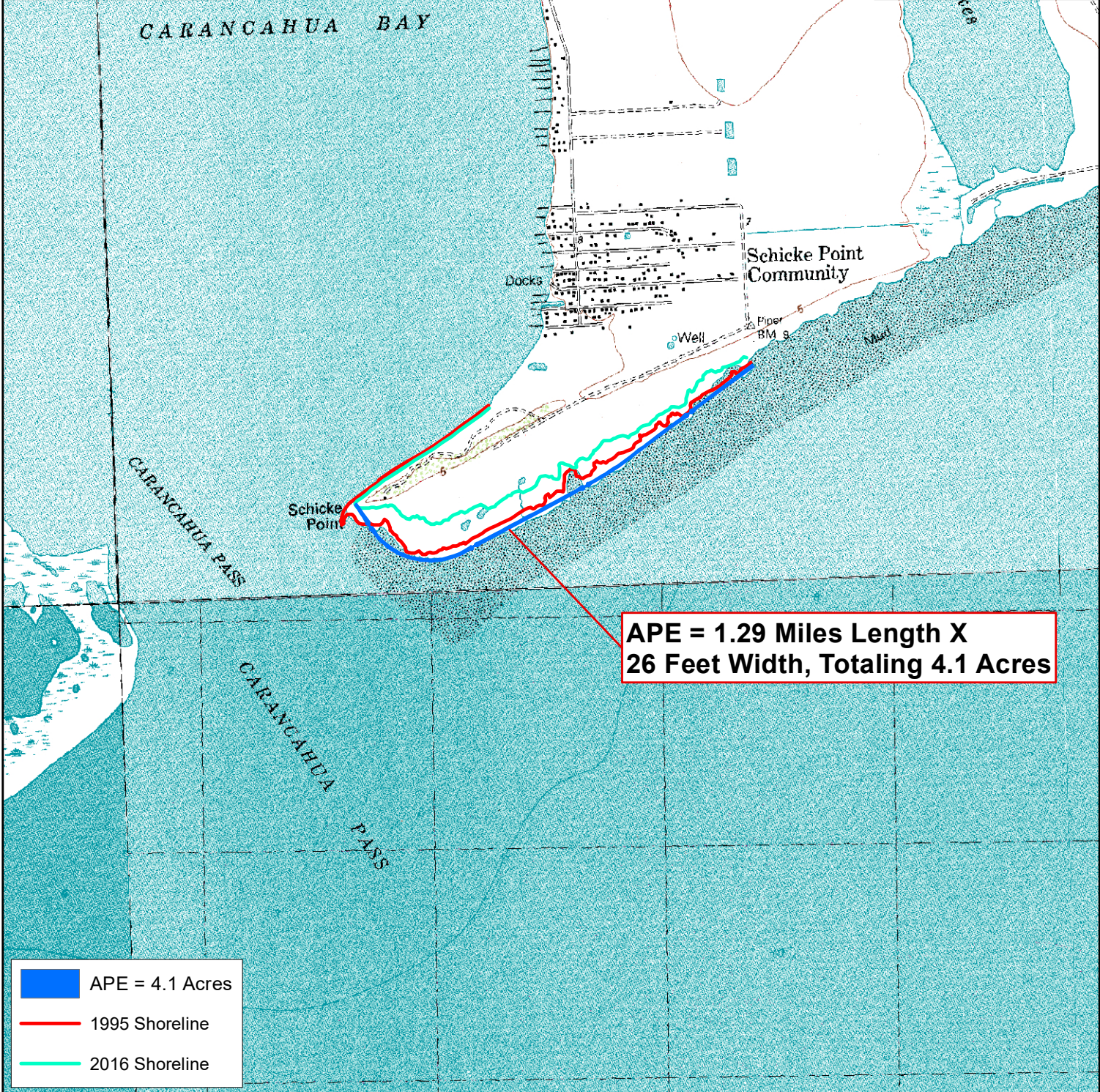
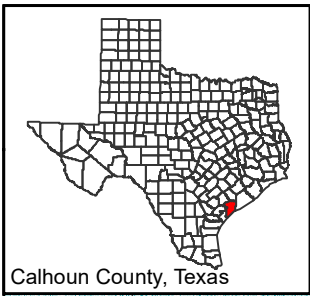
Brian King, RPA, GISP, CFM
Archeologist / GIS Analyst V

A handwritten signature in black ink that reads "Brian King". The signature is written in a cursive, flowing style.

Attachments

Figure 1: 1-Topo

Figure 2: 2-Aerial



**APE = 1.29 Miles Length X
 26 Feet Width, Totaling 4.1 Acres**

- APE = 4.1 Acres
- 1995 Shoreline
- 2016 Shoreline

FNI PROJECT NUMBER	CRN16268
DATE CREATED	Date: 5/31/2016
DATUM & COORDINATE SYSTEM	NAD83 State Plane (Feet) Texas South Central
FILE NAME	Name: 1_Topo
PREPARED BY	BCK

FRESE AND NICHOLS, INC.
 10431 MORADO CIRCLE
 SUITE 300
 AUSTIN, TEXAS 78759
 PHONE: 512-617-3100
 FAX: 512-617-3101

0 1,000 2,000 4,000 Feet

Schicke Point Living Shoreline Project

USGS Topographic Map

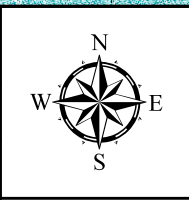
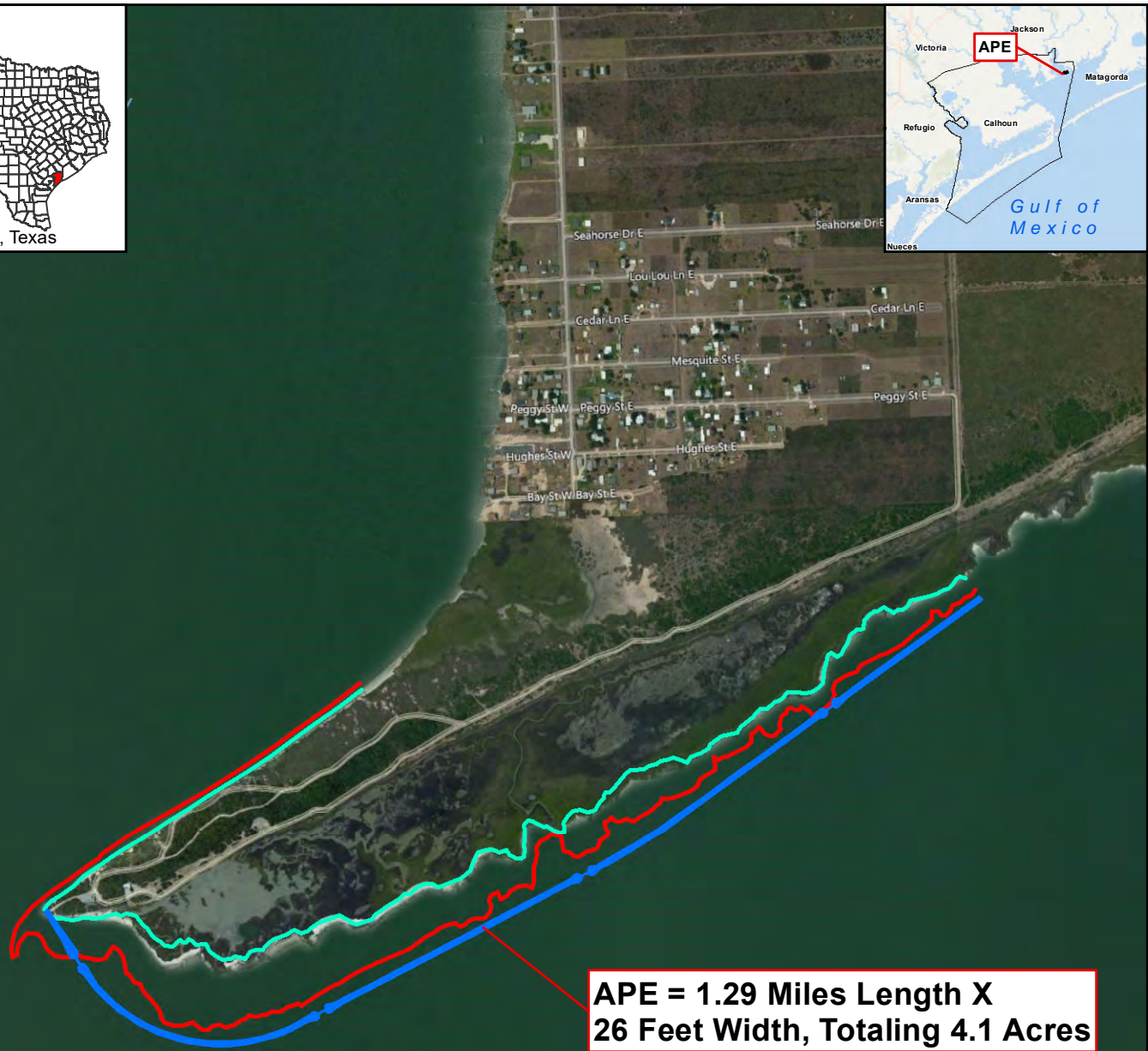


FIGURE
 1



**APE = 1.29 Miles Length X
26 Foot Width, Totaling 4.1 Acres**

APE = 4.1 Acres

1995 Shoreline

2016 Shoreline

Matagorda Bay

FNI PROJECT NUMBER	CIN16268
DATE CREATED	Date: 5/31/2016
DATUM & COORDINATE SYSTEM	NAD83 State Plane (Feet) Texas South Central
FILE NAME	Name: 2_Aerial
PREPARED BY	BCK

FRESE AND NICHOLS, INC.
 10431 MORADO CIRCLE
 SUITE 300
 AUSTIN, TEXAS 78759
 PHONE: 512-617-3100
 FAX: 512-617-3101

0 500 1,000 2,000 Feet

Schicke Point Living Shoreline Project

USGS Topographic Map

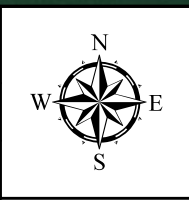


FIGURE
2



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Tier I (Small Projects) Checklist

Incorporation of Best Management Practices (BMPs) into a proposed project will allow an individual Section 404 permit application to proceed without further review by the Texas Commission on Environmental Quality (TCEQ). The basic standards for the BMPs described in items I-III are included in this packet. Tier I projects are those which will result in a direct impact of three acres or less of waters in the state or 1500 linear feet of streams. If a project has a combination of impacts that exceed the threshold or is submitted after the fact, it does not qualify as a Tier I project (one acre of impact is considered equal to 500 linear feet of stream). The provisions of the checklist, including BMPs selected by an applicant, will become part of the Section 404 permit. If an applicant fails to implement these provisions and BMPs, the permit is subject to enforcement. Applicants who do not wish to incorporate all the provisions of the checklist into their project or desire to use alternatives may seek individual 401 review and certification from the TCEQ.

I. Erosion Control

Disturbed areas must be stabilized to prevent the introduction of sediment to adjacent wetlands or water bodies during wet weather conditions (erosion). *At least one* of the following BMPs must be maintained and remain in place until the area has been stabilized. Please check the BMP(s) you will incorporate into your project.

- Temporary Vegetation
- Blankets/Matting
- Mulch
- Sod
- Erosion Control Composts*
- Compost Filter Berms and Socks*
- Mulch Filter Berms and Socks*

II. Post-Construction TSS Control

After construction has been completed and the site is stabilized, total suspended solids (TSS) loadings shall be controlled by *at least one* of the following BMPs. Please check the BMP(s) you will incorporate into your project.

- Retention/Irrigation
- Extended Detention Basin
- Vegetative Filter Strips
- Constructed Wetlands
- Wet Basins

III. Sedimentation Control

Prior to project initiation, the project area must be isolated from adjacent wetlands and water bodies by the use of BMPs to confine sediment. *At least one* of the following BMPs must be maintained and remain in place until project completion. Please check the BMP(s) you will incorporate into your project.

- Sand Bag Berm
- Silt Fence
- Triangular Filter Dike
- Rock Berm
- Hay Bale Dike
- Erosion Control Compost*
- Compost Filter Berms and Socks*
- Mulch Filter Berms and Socks*

Dredged material shall be placed in such a manner that prevents sediment runoff into water in the state, including wetlands. Water bodies can be isolated by the use of one or more of the required BMPs identified for sedimentation control. These BMPs must be maintained and remain in place until the dredged material is stabilized.

Hydraulically dredged material shall be disposed of in contained disposal areas. Effluent from contained disposal areas shall not exceed a TSS concentration of 300 mg/L.

IV. Contaminated Dredge Material

If contaminated dredge material that was not anticipated or provided for in the permit application is encountered during dredging, operations shall cease immediately. Pursuant to § 26.039 (b) of the Texas Water Code, the individual operating or responsible for the dredging operations shall

notify the commission's emergency response team at (512)463-7727 as soon as possible, and not later than 24 hours after the discovery of the material. The applicant shall also notify the U.S. Army Corps of Engineers (Corps) that activities have been temporarily halted. Contaminated dredge material shall be remediated or disposed of in accordance with TCEQ rules. Dredging activities shall not be resumed until authorized in writing by the Commission.

"Contaminated dredge material" is defined as dredge material which has been chemically, physically, or biologically altered by man-made or man-induced contaminants which include, but not limited to "solid waste", "hazardous waste", and "hazardous waste constituent" as those terms are defined by 30 Texas Administration Code (TAC) Chapter 335, "Pollutants" as defined by Texas Water Code § 26.001 and "Hazardous Substances" as defined in the Texas Health and Safety Code, §361.003.

V. Wetland Mitigation Requirements

Where wetland mitigation is determined to be necessary by the Corps, the applicant must satisfy the minimum success criteria established by the Corps including wetland hydrology, hydrophytic vegetation, and two years of monitoring. If that criteria includes less than two years of monitoring, the applicant may request water quality certification under Section 401.

***VI. Compost Requirements**

New types of erosion control compost (ECC) and compost and mulch filter berms and socks are continuously being developed. The Texas Department of Transportation (TxDOT) has established minimum performance standards which must be met for any products seeking to be approved for use within any of TxDOT's construction or maintenance activities. Material used within any TxDOT construction or maintenance activities must meet material specifications in accordance with current TxDOT specifications. TxDOT maintains a website at http://www.dot.state.tx.us/services/general_services/recycling/compost_on_row.htm that provides information on Use of Compost and Shredded Wood on Rights of Way. This website also contains information on areas where the TCEQ restricts the use of certain compost products.

ECC and compost and mulch filter berms and socks used for projects not related to TxDOT should also be of quality materials by meeting performance standards and compost specification data. To ensure the quality of compost used as an ECC, products should meet all applicable state and federal regulations, including but not limited to the United States Environmental Protection Agency (USEPA) Code of Federal Regulations (CFR), Title 40, Part 503 Standards for Class A biosolids and Texas Natural Resource Conservation Commission (now named TCEQ) Health and Safety Regulations as defined in the TAC, Chapter 332, and all other relevant requirements for compost products outlined in TAC, Chapter 332. Testing requirements required by the TCEQ are defined in TAC Chapter 332, including Sections §332.71 Sampling and Analysis Requirements for Final Products and §332.72 Final Product Grades. Compost specification data approved by TxDOT are appropriate to use for ensuring the use of quality compost materials or for guidance.

Testing standards are dependent upon the intended use for the compost and ensures product safety, and product performance regarding the product's specific use. The appropriate compost sampling and testing protocols included in the United States Composting Council (USCC) Test

Methods for the Examination of Composting and Compost (TMECC) should be conducted on compost products. TMECC information can be found at <http://www.tmecc.org/tmecc/index.html>. The USCC Seal of Testing Assurance (STA) program contains information regarding compost STA certification. STA program information can be found at <http://compostingcouncil.org/section.cfm?id=35>.

VII. Coastal Zone Management Act

In accordance with 31 TAC § 506, all projects located in the coastal zone boundary shall be consistent with the Texas Coastal Management Program.

Applicant should sign and return the original statement and completed checklist to the U.S. Army Corps of Engineers and send a copy to the TCEQ. Questions regarding the checklist should be directed to the TCEQ.

U.S. Army Corps of Engineers
Regulatory Branch

Fax: _____

Water Quality Assessment Section - 401 Coordinator
Texas Commission on Environmental Quality
MC-150
P.O. Box 13087
Austin, Texas 78711
(512) 239-5366
Fax (512)239-4420

Applicant's Name (please print): _____

Corps Project Manager or Regulatory Specialist (if known):

Permit Number (if known): _____

I will incorporate all of the above requirements and selected BMPs (Items I, II, and III) into my proposed project. I understand that these requirements and BMPs as described above will be part of my Section 404 permit, and failure to implement any of them will constitute a permit violation.

Date: _____

Applicant Signature: _____

CONSISTENCY WITH THE TEXAS COASTAL MANAGEMENT PROGRAM

THE APPLICANT SHOULD SIGN THIS STATEMENT AND RETURN WITH APPLICATION PACKET TO:

COASTAL PERMIT SERVICE CENTER
602 N. STAPLES STREET, SUITE 240
CORPUS CHRISTI, TX 78401
FAX: (361) 888-9305

FOR USACE USE ONLY:

PERMIT #: _____

PROJECT MGR: _____

APPLICANT'S NAME AND ADDRESS (PLEASE PRINT):

Title First Last Suffix

Mailing Address Home

Work

City State Zip Code Mobile

Country Email Fax

The Texas Coastal Management Program (CMP) coordinates state, local, and federal programs for the management of Texas coastal resources. Activities within the CMP boundary must comply with the enforceable policies of the Texas Coastal Management Program and be conducted in a manner consistent with those policies. The boundary definition is contained in the CMP rules (31 TAC §503.1).

• To determine whether your proposed activity lies within the CMP boundary, please contact the Permit Service Center at permitting.assistance@glo.texas.gov

PROJECT DESCRIPTION:

Is the proposed activity at a waterfront site or within coastal, tidal, or navigable waters? Yes No

If Yes, name affected coastal, tidal, or navigable waters: _____

Is the proposed activity water dependent? Yes No (31 TAC §501.3(a)(14))

<http://tinyurl.com/CMPdefinitions>

Please briefly describe the project and all possible effects on coastal resources:

Indicate area of impact: _____ acres or square feet

ADDITIONAL PERMITS/ AUTHORIZATIONS REQUIRED:

- Coastal Easement - Date application submitted: _____
- Coastal Lease - Date application submitted: _____
- Stormwater Permit- Date application submitted: _____
- Water Quality Certification - Date application submitted: _____
- Other state/federal/local permits/authorizations required: _____

The proposed activity must not adversely affect coastal natural resource areas (CNRAs).

PLEASE CHECK ALL COASTAL NATURAL RESOURCE AREAS THAT MAY BE AFFECTED:

- | | | |
|---|---|---|
| <input type="checkbox"/> Coastal Barriers | <input type="checkbox"/> Critical Erosion Areas | <input type="checkbox"/> Submerged Lands |
| <input type="checkbox"/> Coastal Historic Areas | <input type="checkbox"/> Gulf Beaches | <input type="checkbox"/> Submerged Aquatic Vegetation |
| <input type="checkbox"/> Coastal Preserves | <input type="checkbox"/> Hard Substrate Reefs | <input type="checkbox"/> Tidal Sand or Mud Flats |
| <input type="checkbox"/> Coastal Shore Areas | <input type="checkbox"/> Oyster Reefs | <input type="checkbox"/> Waters of Gulf of Mexico |
| <input type="checkbox"/> Coastal Wetlands | <input type="checkbox"/> Special Hazard Areas | <input type="checkbox"/> Waters Under Tidal Influence |
| <input type="checkbox"/> Critical Dune Areas | | |

The applicant affirms that the proposed activity, its associated facilities, and their probable effects comply with the relevant enforceable policies of the CMP, and that the proposed activity will be conducted in a manner consistent with such policies.

PLEASE CHECK ALL APPLICABLE ENFORCEABLE POLICIES:

<http://tinyurl.com/CMPpolicies>

	§501.15 Policy for Major Actions
	§501.16 Policies for Construction of Electric Generating and Transmission Facilities
	§501.17 Policies for Construction, Operation, and Maintenance of Oil and Gas Exploration and Production Facilities
	§501.18 Policies for Discharges of Wastewater and Disposal of Waste from Oil and Gas Exploration and Production Activities
	§501.19 Policies for Construction and Operation of Solid Waste Treatment, Storage, and Disposal Facilities
	§501.20 Policies for Prevention, Response and Remediation of Oil Spills
	§501.21 Policies for Discharge of Municipal and Industrial Wastewater to Coastal Waters
	§501.22 Policies for Nonpoint Source (NPS) Water Pollution
	§501.23 Policies for Development in Critical Areas
	§501.24 Policies for Construction of Waterfront Facilities and Other Structures on Submerged Lands
	§501.25 Policies for Dredging and Dredged Material Disposal and Placement
	§501.26 Policies for Construction in the Beach/Dune System
	§501.27 Policies for Development in Coastal Hazard Areas
	§501.28 Policies for Development Within Coastal Barrier Resource System Units and Otherwise Protected Areas on Coastal Barriers
	§501.29 Policies for Development in State Parks, Wildlife Management Areas or Preserves
	§501.30 Policies for Alteration of Coastal Historic Areas
	§501.31 Policies for Transportation Projects
	§501.32 Policies for Emission of Air Pollutants
	§501.33 Policies for Appropriations of Water
	§501.34 Policies for Levee and Flood Control Projects

Please explain how the proposed project is consistent with the applicable enforceable policies identified above. Please use additional sheets if necessary. *For example: If you are constructing a pier with a covered boathouse, then the applicable enforceable policy is: §501.24 Policies for Construction of Waterfront Facilities and Other Structures on Submerged Lands. The project is consistent because it will not interfere with navigation, natural coastal processes, and avoids/minimizes shading.*

BY SIGNING THIS STATEMENT, THE APPLICANT IS STATING THAT THE PROPOSED ACTIVITY COMPLIES WITH THE TEXAS COASTAL MANAGEMENT PROGRAM AND WILL BE CONDUCTED IN A MANNER CONSISTENT WITH SUCH PROGRAM

Signature of Applicant/Agent

Date

Any questions regarding the Texas Coastal Management Program should be referred to:

Jesse Solis
Texas General Land Office
602 N. Staples St., Suite 240
Corpus Christi, Texas 78401
Phone: (361) 886-1630
Fax: (361) 888-9305
permitting.assistance@glo.texas.gov

Texas General Land Office
Coastal Protection Division
1700 North Congress Avenue, Room 330
Austin, Texas 78701-1495
Toll Free: 1-800-998-4GLO
federal.consistency@glo.texas.gov

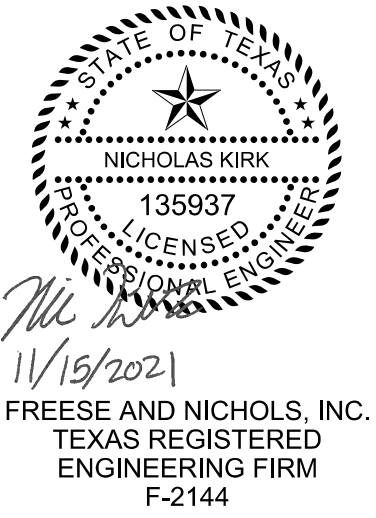
Attachment 3: Bid Specifications

**CONTRACT DOCUMENTS
FOR CONSTRUCTION OF
SCHICKE POINT BREAKWATER
EXTENSION
MBF21580**



10/1/2021

00 01 07 DESIGN PROFESSIONAL SEALS

 <p> <i>Nicholas Kirk</i> 11/15/2021 FREESE AND NICHOLS, INC. TEXAS REGISTERED ENGINEERING FIRM F-2144 </p>	Specification Sections Sealed		
	00 43 13	01 11 00	31 32 19.15
00 45 02	01 26 00	31 37 00	
00 61 13	01 29 00		
00 61 16	01 29 01		
00 72 00	01 31 00		
00 73 00	01 31 13		
00 73 43	01 33 00		
00 73 46	01 33 01		
	01 33 05		
	01 40 00		
	01 57 00		
	01 70 00		
Freese and Nichols, Inc. Texas Registered Engineering Firm F-2144			

END OF SECTION

00 43 13 BID BOND

<p>Offeror as Principal</p> <p>Name:</p> <p>Mailing address (principal place of business):</p>	<p>Surety</p> <p>Name:</p> <p>Mailing address (principal place of business):</p>
<p>Owner</p> <p>Name: Matagorda Bay Foundation</p> <p>Mailing address (principal place of business): 15918 County Road 946 Brazora, Texas 77422</p>	<p>Physical address (principal place of business):</p> <p>Telephone (Main):</p> <p>Telephone (Claims):</p>
<p>Contract</p> <p>Project name and number: Schicke Point Breakwater Extension MBF21580</p> <p>Bid/Proposal Due Date: 11/26/2021</p>	<p>Surety's state of incorporation:</p> <p><i>By submitting this bond, Surety affirms it is authorized to do business and licensed to execute bonds in [specify state].</i></p>
<p>Bond</p> <p>Contract Price Offered:</p> <p>Penal Sum of Bond: 5% of Contract Price offered</p> <p>Date of Bond:</p>	<p>Local Agent for Surety</p> <p>Name:</p> <p>Company:</p> <p>Mailing address (principal place of business):</p> <p>Telephone (Main):</p>

Surety and Offeror, intending to be legally bound by this bond, do each cause this bond to be duly executed on its behalf by its authorized officer, agent, or representative. The Offeror and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally to this bond. The condition of this obligation is such that if Owner accepts Offeror's Bid or Proposal and Offeror delivers the executed Agreement and the required bonds and evidence of insurance within the time stipulated in the Bidding or Proposal Documents this obligation is null and void. Payment under this bond will be due and payable upon default by Offeror and within 30 calendar days after receipt by Offeror and Surety of written notice of default from Owner. Venue lies exclusively in Calhoun County, Texas for any legal action.

Offeror as Principal	Surety
Signature: _____	Signature: _____
Name: _____	Name: _____
Title: _____	Title: _____
Email: _____	Email: _____
	<i>(Attach Power of Attorney)</i>

END OF SECTION

00 61 13 PERFORMANCE BOND

<p>Contractor as Principal</p> <p>Name:</p> <p>Mailing address (principal place of business):</p>	<p>Surety</p> <p>Name:</p> <p>Mailing address (principal place of business):</p>
<p>Owner</p> <p>Name: Matagorda Bay Foundation</p> <p>Mailing address (principal place of business): 15918 County Road 946 Brazora, Texas 77422</p>	<p>Physical address (principal place of business):</p> <p>Telephone (Main):</p> <p>Telephone (Claims):</p>
<p>Contract</p> <p>Project name and number: Schicke Point Breakwater Extension MBF21580</p> <p>Contract Price:</p> <p>Effective Date of Contract:</p>	<p>Surety's state of incorporation:</p> <p><i>By submitting this bond, Surety affirms that it is licensed to provide and execute this bond and authorized to do business in Texas.</i></p> <p>Local Agent for Surety</p> <p>Name:</p> <p>Mailing address (principal place of business):</p>
<p>Bond</p> <p>Bond Amount: 100 percent of Contract Price</p> <p>Date of Bond: (Date of Bond cannot be earlier than Effective Date of Contract)</p>	<p>Telephone (Main):</p> <p><i>The address of the surety company to which any notice of claim should be sent may be obtained from the Texas Dept. of Insurance by calling the following toll-free number: 1-800-252-3439.</i></p>

Surety and Contractor, intending to be legally bound and obligated to Owner, do each cause this performance bond to be duly executed on its behalf by its authorized officer, agent, or representative. The Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally to this bond. The condition of this obligation is such that if the Contractor as Principal faithfully performs the Work required by the Contract then this obligation will be null and void; otherwise the obligation is to remain in full force and effect. Provisions of this bond shall be pursuant to the terms and provisions of Texas Government Code Chapter 2253 as amended and all liabilities on this bond shall be determined in accordance with the terms and provisions of said Chapter to the same extent as if it were copied at length herein. Venue lies exclusively in Calhoun County, Texas for any legal action.

Contractor as Principal	Surety
Signature: _____	Signature: _____
Name: _____	Name: _____
Title: _____	Title: _____
Email: _____	Email: _____
	<i>(Attach Power of Attorney and place surety seal below)</i>

END OF SECTION

00 61 16 PAYMENT BOND

<p>Contractor as Principal</p> <p>Name:</p> <p>Mailing address (principal place of business):</p>	<p>Surety</p> <p>Name:</p> <p>Mailing address (principal place of business):</p>
<p>Owner</p> <p>Name: Matagorda Bay Foundation</p> <p>Mailing address (principal place of business): 15918 County Road 946 Brazora, Texas 77422</p>	<p>Physical address (principal place of business):</p> <p>Telephone (Main):</p> <p>Telephone (Claims):</p>
<p>Contract</p> <p>Project name and number: Schicke Point Breakwater Extension MBF21580</p> <p>Contract Price:</p> <p>Effective Date of Contract:</p>	<p>Surety's state of incorporation:</p> <p><i>By submitting this bond, Surety affirms that it is licensed to provide and execute this bond and authorized to do business in Texas.</i></p> <p>Local Agent for Surety</p> <p>Name:</p> <p>Mailing address (principal place of business):</p>
<p>Bond</p> <p>Bond Amount: 100 percent of Contract Price</p> <p>Date of Bond: (Date of Bond cannot be earlier than Effective Date of Contract)</p>	<p>Telephone (Main):</p> <p><i>The address of the surety company to which any notice of claim should be sent may be obtained from the Texas Dept. of Insurance by calling the following toll-free number: 1-800-252-3439.</i></p>

Surety and Contractor intending to be legally bound and obligated to Owner do each cause this payment bond to be duly executed on its behalf by its authorized officer, agent, or representative. The Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally to this bond. The condition of this obligation is such that if the Contractor as Principal pays all claimants providing labor or materials to Contractor or to a Subcontractor in the prosecution of the Work required by the Contract then this obligation will be null and void; otherwise the obligation is to remain in full force and effect. Provisions of the bond shall be pursuant to the terms and provisions of Texas Government Code Chapter 2253 as amended and all liabilities on this bond shall be determined in accordance with the terms and provisions of said Chapter to the same extent as if it were copied at length herein. Venue lies exclusively in Calhoun County, Texas for any legal action.

Contractor as Principal

Signature: _____
 Name: _____
 Title: _____
 Email: _____

Surety

Signature: _____
 Name: _____
 Title: _____
 Email: _____

(Attach Power of Attorney and place surety seal below)

END OF SECTION

00 72 00 GENERAL CONDITIONS

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

- A. A term with initial capital letters, including the term’s singular and plural forms, has the meaning indicated in this Paragraph wherever used in the Bidding Requirements or Proposal Requirements or Contract Documents. In addition to the terms specifically defined, terms with initial capital letters in the Contract Documents may include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Documents issued prior to the receipt of Bids or Proposals which clarify or modify the Bidding Requirements/Proposal Requirements or the proposed Contract Documents.
 2. *Agreement*—The document signed by Owner and Contractor that establishes the Contract Price and Contract Times, and designates the specific documents that are Contract Documents.
 3. *Application for Payment*—The documents used by Contractor to request payments from Owner and the supporting documentation required by the Contract Documents.
 4. *Bid; Proposal*—An offer submitted to Owner for the Project setting forth the Contract Price and Contract Times for the Work to be performed.
 5. *Bidding Documents; Proposal Documents*—The Bidding Requirements or Proposal Requirements, the proposed Contract Documents, and Addenda.
 6. *Bidding Requirements; Proposal Requirements*—The Invitation to Bid or Request for Proposals, Instructions to Offerors, Bid Security or Proposal Security, Bid Form or Proposal Form and attachments, and required certifications and affidavits.
 7. *Bid Security; Proposal Security*—The financial security provided by Offeror at the time the Bid or Proposal is submitted and held by Owner until the Agreement is executed and the evidence of insurance and bonds required by the Contract Documents are provided.
 8. *Change Order*—A document issued on or after the Effective Date of the Contract and signed by Owner and Contractor which modifies the Work, Contract Price, Contract Times, or terms and conditions of the Contract.
 9. *Change Proposal*—A document submitted by Contractor in accordance with the requirements of the Contract Documents:
 - a. Requesting an adjustment in Contract Price or Contract Times;
 - b. Contesting an initial decision concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents;
 - c. Challenging a Set-off against payment due; or
 - d. Seeking other relief with respect to the terms and conditions of the Contract.
 10. *Claim*—A demand or assertion by Owner or Contractor submitted in accordance with the requirements of the Contract Documents. A demand for money or services by an entity other than Owner or Contractor is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning any hazardous, toxic, or dangerous waste, substance, or material.
12. *Construction Manager*—The individual or entity named as Construction Manager in the Agreement and the consultants, subconsultants, individuals, or entities directly or indirectly employed or retained by them to provide construction management as advisor services to Owner.
13. *Construction Manager at Risk (CMAR)*—The individual or entity selected by Owner to construct the Project using the Construction Manager at Risk project delivery method. The term Contractor means Construction Manager at Risk in the Contract Documents when the Construction Manager at Risk project delivery method is used.
14. *Contract*—The entire integrated set of documents concerning the Work and describing the relationship between the Owner and Contractor.
15. *Contract Amendment*—A document issued on or after the Effective Date of the Contract and signed by Owner and Contractor which:
 - a. Authorizes new phases of the Work and establishes the Contract Price, Contract Times, or terms and conditions of the Contract for the new phase of Work; or
 - b. Modifies the terms and conditions of the Contract, but does not make changes in the Work.
16. *Contract Documents*—Those items designated as Contract Documents in the Agreement.
17. *Contract Price*—The monetary amount stated in the Agreement and as adjusted by Modifications, and increases or decreases in unit price quantities, if any, that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
18. *Contract Times*—The number of days or the dates by which Contractor must achieve specified Milestones, achieve Substantial Completion, and complete the Work.
19. *Contractor*—The individual or entity with which Owner has contracted to perform the Work.
20. *Contractor's Team*—Contractor, Subcontractors, Suppliers, and individuals or entities directly or indirectly employed or retained by Contractor, Subcontractors, or Suppliers to perform part of the Work, or anyone for whose acts they may be liable.
21. *Cost of the Work*—The sum of costs incurred for the performance of the Work as allowed by Article 13.
22. *Day*—A day of 24 hours measured from midnight to the next midnight.
23. *Defective*—When applied to Work, refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. Does not conform to the Contract Documents;

- b. Does not meet the requirements of applicable inspections, reference standards, tests, or approvals referred to in the Contract Documents; or
 - c. Has been damaged prior to Construction Manager's recommendation of final payment unless responsibility for the protection of the Work has been assumed by Owner at Substantial Completion in accordance with Paragraphs 15.03 or 15.04.
24. *Design Professional*—The individuals or entity named as the Architect or Engineer in the Agreement and the subconsultants, individuals, or entities directly or indirectly employed or retained by Design Professional to provide design or other technical services to Owner. Design Professional has responsibility for design and technical issues related to the Contract Documents.
25. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work. Shop Drawings and other documents generated by Contractor's Team are not Drawings.
26. *Effective Date of the Contract*—The date indicated in the Agreement on which the Contract becomes effective.
27. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including Shop Drawings and other Submittals, that are in an electronic or digital format.
28. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.
29. *Field Order*—A document issued by Construction Manager or Design Professional requiring changes in the Work that do not change the Contract Price or the Contract Times.
30. *Final Completion*—The point where the Work is complete in accordance with the Contract Documents, items and documents required by the Contract Documents have been accepted by Owner and the Project is ready for Final Payment.
31. *Guaranteed Maximum Price (GMP)*—The maximum amount to be paid by Owner for the sum of the Cost of the Work plus Contractor's fee as set forth in the Agreement, subject to increases or decreases for changes in the Work, when the Construction Manager at Risk project delivery method is used.
32. *Hazardous Environmental Condition*—The presence of Constituents of Concern at the Site in quantities or circumstances that may present a danger to persons or property exposed to Constituents of Concern. The presence of Constituents of Concern at the Site necessary for the execution of the Work or to be incorporated into the Work is not a Hazardous Environmental Condition provided these Constituents of Concern are

controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract.

- a. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
33. *Indemnified Costs*—All costs, losses, judgments, and damages resulting from claims or demands against Owner’s Indemnitees. These costs include fees for design professionals, attorneys, and other professionals and any legal, court, arbitration, or other dispute resolution costs.
 34. *Laws and Regulations; Laws or Regulations*—Applicable laws, statutes, rules, regulations, ordinances, codes, permits, and binding decrees, resolutions, and orders of governmental bodies, agencies, authorities, and courts having jurisdiction over the Project.
 35. *Liens*—Charges, security interests, or encumbrances upon Contract related funds, real property, or private property.
 36. *Manufacturer*—The individual or entity that designs, casts, fabricates, manufactures, assembles, tests, and provides materials or equipment to be incorporated in the Work.
 37. *Milestone*—A principal event in the performance of the Work that Contractor is required by Contract to complete by a specified date or within a specified time.
 38. *Modification*—Change made to the Contract Documents by Contract Amendment, Change Order, Field Order, or Work Change Directive.
 39. *Notice of Award*—The notice of Owner’s acceptance of the Successful Offeror’s Bid or Proposal.
 40. *Notice to Proceed*—A notice to Contractor of the Contract Times and the date Work is to begin.
 41. *Offeror*—An individual or entity that submits a Bid or Proposal to Owner.
 42. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
 43. *Owner’s Budget*—The amount budgeted by Owner for the construction of the Project.
 44. *Owner’s Indemnitees*—Each member of OPT and their officers, directors, members, partners, employees, agents, consultants, and subcontractors.
 45. *Owner’s Project Team (OPT)*—The Owner, Design Professional, Construction Manager, and the other entities identified in the Supplementary Conditions and the consultants, subconsultants, individuals or entities directly or indirectly employed or retained by them to provide services to Owner.

46. *Progress Schedule*—A schedule prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
47. *Project*—The total undertaking to be accomplished for Owner under the Contract Documents.
48. *Project Construction Manager (PCM)*—The authorized representative of OPT assigned to assist Construction Manager at the Site. The term Project Construction Manager includes assistants and field staff of Construction Manager.
49. *Project Management Information System (PMIS)*—The online project management system that will be used by OPT and Contractor to submit and share documentation and other related communications and information for this Project.
50. *Samples*—Physical examples of materials, equipment, or workmanship representing some portion of the Work that are used to establish the standards for that portion of the Work.
51. *Schedule of Anticipated Payments*—A detailed tabulation, prepared and maintained by Contractor, showing the anticipated amount of each Application for Payment and the month in which they will be submitted.
52. *Schedule of Submittals*—A detailed tabulation, prepared and maintained by Contractor, of each required submittal and the time requirements for review and approval of each submittal.
53. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for Contractor’s Applications for Payment.
54. *Set-off*—A reduction in payment due to Contractor under Article 15.
55. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by Contractor’s Team and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
56. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed. The Site includes rights-of-way, easements, and other lands or areas furnished by Owner which are designated for use by Contractor.
57. *Specifications*—The part of the Contract that describes the requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
58. *Subcontractor*—An individual or entity having a direct contract with Contractor or with other Subcontractors or Suppliers for the performance of a part of the Work.
59. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Construction Manager, or that is indicated as a Submittal in the Schedule of Submittals accepted by Construction Manager. Submittals, whether approved or accepted by OPT, are not Contract Documents.

60. *Substantial Completion*—The point where the Work or a specified part of the Work is sufficiently complete to be used for its intended purpose in accordance with the Contract Documents.
61. *Successful Offeror*—The Offeror to which Owner awards the Contract.
62. *Supplementary Conditions*—The part of the Contract that amends or supplements the General Conditions.
63. *Supplier*—A Manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with Subcontractors or other Suppliers to furnish materials or equipment to be incorporated in the Work.
64. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions with respect to either:
 - a. Existing subsurface conditions at or adjacent to the Site;
 - b. Existing physical conditions at or adjacent to the Site including existing surface or subsurface structures at the Site, except Underground Facilities; or
 - c. Hazardous Environmental Conditions at the Site.
65. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site , including those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
66. *Unit Price Work*—Work to be paid for based on unit prices.
67. *Work*—The construction of the Project or its component parts as required by the Contract Documents. Work includes and is the result of performing and providing all labor, services, and documentation to construct the Project; providing all materials and equipment to be incorporated into the Project, and providing related services for testing, startup and commissioning, all as required by the Contract Documents.
68. *Work Change Directive*—A directive issued to Contractor on or after the Effective Date of the Contract ordering an addition, deletion, or revision in the Work. The Work Change Directive serves as a memorandum of understanding regarding the directive until a Change Order can be issued.

1.02 Terminology

- A. The words and terms discussed in this Paragraph 1.02 are not defined terms that require initial capital letters, but when used in the Bidding Requirements or Proposal Requirements or Contract Documents, have the indicated meaning.
- B. Contract Documents are written using imperative language:
 1. Simple imperative sentence structure is used which places a verb as the first word in the sentence. It is understood that the words “furnish,” “install,” “perform,” “provide,”

or similar words include the meaning of the phrase "Contractor shall..." before these words.

2. Unless specifically stated that action is to be taken by OPT or others, it is understood that the action described is a requirement of Contractor.
- C. The use of the words "furnish," "install," "perform," and "provide" have the following meanings when used relating to services, materials, or equipment:
1. Furnish means to supply and deliver the specified services, materials, or equipment to the Site or other specified location ready for use or installation.
 2. Install means to complete construction or assembly of the specified services, materials, or equipment so they are ready for their intended use.
 3. Perform or provide means to furnish and install specified services, materials, or equipment, complete and ready for their intended use.
 4. Perform or provide the specified services, materials, or equipment complete and ready for intended use if the Contract Documents require specific services, materials, or equipment, but do not expressly use the words "furnish," "install," "perform," or "provide."
- D. The meaning and intent of certain terms or adjectives are described as follows:
1. The terms "as allowed," "as approved," "as ordered," "as directed," or similar terms in the Contract Documents indicate an exercise of professional judgment by OPT.
 2. Adjectives like "reasonable," "suitable," "acceptable," "proper," "satisfactory," or similar adjectives are used to describe a determination of OPT regarding the Work.
 3. Any exercise of professional judgment by OPT will be made solely to evaluate the Work for general compliance with the Contract Documents unless there is a specific statement in the Contract Documents indicating otherwise.
 4. The use of these or similar terms or adjectives does not assign a duty or give OPT authority to supervise or direct the performance of the Work, or assign a duty or give authority to OPT to undertake responsibilities contrary to the provisions of Article 9, Article 10 or other provisions of the Contract Documents.
- E. Requirements apply to all Work of the same kind, class, and type even though the word "all" or "any" is not stated.
- F. The terms "includes" and "including" are used as terms of enlargement and not of limitation or exclusive enumeration, and use of these terms does not create a presumption that components not expressed are excluded. The terms "consist of" or "consisting of" limits the interpretation to only those items specifically listed.
- G. It is understood that the cost of providing Work is included in the Contract Price and no additional compensation is to be paid by Owner unless specifically stated otherwise in the Contract Documents. Expressions like "at no additional cost to Owner," "at Contractor's expense," or similar words mean that Contractor is to include the cost of this Work in their Contract Price and perform or provide specified Work without an increase in the Contract Price.

- H. Words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with this recognized meaning unless stated otherwise in the Contract Documents.
- I. Written documents are required where reference is made to notices, reports, approvals, consents, statements, instructions, opinions, or other types of documentation or communications required by the Contract Documents. Approval and consent documents must be received by Contractor prior to the action or decision for which approval or consent is given. These may be made in printed or electronic format through OPT's Project Management Information System or other electronic media as required by the Contract Documents or approved by Construction Manager.
- J. Giving notice as required by the Contract Documents may be by printed or electronic media using a method that requires acknowledgment of the receipt of that notice.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. Provide required bonds and evidence of insurance required by the Contract Documents to Construction Manager with the executed Agreement.
- B. Evidence of insurance must include copies of the insurance policies, including all endorsements, and identification of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

2.02 Copies of Documents

- A. OPT will furnish one copy of the executed Contract Documents in electronic portable document format (PDF). This document is the Project Record Copy of the Contract Documents.

2.03 Before Starting Construction

- A. Provide the following preliminary documents in accordance with the Contract Documents within 10 days after the Effective Date of the Contract:
 - 1. Progress Schedule;
 - 2. Schedule of Submittals;
 - 3. Schedule of Values; and
 - 4. Schedule of Anticipated Payments.
- B. Designate the specific individuals authorized to act as representatives of Contractor. These individuals must have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of Contractor.
- C. Owner will designate the specific individuals authorized to act as representatives of Owner and the limits of their authority regarding acting on behalf of Owner.

2.04 Electronic Transmittals

- A. Except as otherwise stated elsewhere in the Contract Documents, the OPT and Contractor will send and accept Electronic Documents sent by Electronic Means using the protocols specified in Section 01 33 00 "Document Management."

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

- A. Requirements of each part of the Contract Documents are as binding as if required by all Contract Documents. It is the intent of the Contract Documents to describe a functionally complete project. The Contract Documents do not indicate or describe all the Work required to complete the Project. Additional details required for construction of the Project are to be provided by Contractor and coordinated with OPT.
- B. Provide the labor, documentation, services, materials, or equipment that may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result, whether specifically called for in the Contract Documents or not. Include these related costs in the offered Contract Price.
- C. Provide equipment that is functionally complete as described in the Contract Documents. The Drawings and Specifications do not indicate or describe all the Work required to complete the installation of equipment purchased by the Owner or Contractor. Additional details required for the correct installation of selected equipment are to be provided by Contractor and coordinated with Design Professional through Construction Manager.
- D. Comply with the most stringent requirements where compliance with two or more standards is specified and they establish different or conflicting requirements for the Work, unless the Contract Documents indicate otherwise.
- E. Provide materials and equipment comparable in quality to similar materials and equipment incorporated in the Project or as required to meet the minimum requirements of the application if the materials and equipment are shown in the Drawings but are not included in the Specifications.
- F. The Project Record Copy of the Contract Documents governs if there is a discrepancy between the Project Record Copy of the Contract Documents and subsequent electronic or digital versions of the Contract Documents, including printed copies derived from these electronic or digital versions.
- G. The Contract supersedes all prior written or oral negotiations, representations, and agreements. The Contract Documents comprise the entire Agreement between Owner and Contractor. The Contract Documents may be modified only by a Modification.
- H. Request clarification from Construction Manager for a decision before proceeding if Contractor is not clear on the meaning of the Contract Documents. Construction Manager is to issue clarifications and interpretations of the Contract Documents in accordance with the Contract Documents.

- I. Organization of the Documents:
 - 1. Organization of the Contract Documents is not intended to control or lessen the responsibility of Contractor when dividing Work among Subcontractors or Suppliers, or to establish the extent of Work to be performed by trades, Subcontractors, or Suppliers, except on multi-prime contracts. Specifications or details do not need to be indicated or specified in each Specification or Drawing. Items shown in the Contract Documents are applicable regardless of their location in the Contract Documents.
 - 2. Standard Paragraph titles and other identifications of subject matter in the Specifications are intended to aid in locating and recognizing various requirements of the Specifications. Titles do not define, limit, or otherwise restrict Specification text.
 - 3. The Contract requirements described in the General Conditions, Supplementary Conditions, and General Requirements (Division 01 Sections of the Specifications) apply to Work regardless of where it is described in the Contract Documents, unless specifically noted otherwise.
 - 4. Specifications or details do not need to be indicated or specified in each Specification or Drawing. Items shown in the Contract Documents are applicable regardless of their location in the Contract Documents.
- J. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- K. Nothing in the Contract Documents creates:
 - 1. a contractual relationship between OPT and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 - 2. an obligation on the part of OPT to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 Reference Standards

- A. Standard Specifications, Codes, Laws and Regulations:
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of technical societies, organizations, or associations, or to Laws or Regulations, whether specific or implied, are those in effect at the time Contractor's Bid or Proposal is submitted or when Contractor negotiates the Contract Price unless specifically stated otherwise in the Contract Documents.
 - 2. No provision of referenced standard specifications, manuals, reference standards, codes, or instructions of a Supplier changes the duties or responsibilities of OPT or Contractor from those described in the Contract Documents or assigns a duty to or gives authority to OPT to supervise or direct the performance of the Work or undertake responsibilities inconsistent with the Contract Documents.

3. The provisions of the Contract Documents take precedence over standard specifications, manuals, reference standards, codes, or instructions of a Supplier unless specifically stated otherwise in the Contract Documents.
- B. Comply with applicable construction industry standards, whether referenced or not.
1. Standards referenced in the Contract Documents govern over standards not referenced but recognized as applicable in the construction industry.
 2. Comply with the requirements of the Contract Documents if they produce a higher quality of Work than the applicable construction industry standards.
 3. Submit questions regarding which code or standard is applicable to Construction Manager. Design Professional will determine whether a code or standard is applicable, which of several codes or standards are applicable, or if the Contract Documents produce a higher quality of Work. Construction Manager will respond to the question as appropriate.
- C. Make copies of reference standards available if requested by Construction Manager.

3.03 Reporting and Resolving Discrepancies

- A. Reporting Discrepancies:
1. Carefully study the Drawings and verify pertinent figures and dimensions with respect to actual field measurements before undertaking the Work. Immediately report conflicts, errors, ambiguities, or discrepancies that Contractor discovers or has actual knowledge of to Construction Manager.
 2. Immediately notify the Construction Manager of conflicts, errors, ambiguities, or discrepancies in the Contract Documents or discrepancies between the Contract Documents and:
 - a. Applicable Laws or Regulations;
 - b. Actual field conditions;
 - c. Standard specifications, manuals, reference standards, or codes; or
 - d. Instructions of Suppliers.
 3. Do not proceed with affected Work until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation from Construction Manager or by a Modification to the Contract Documents issued pursuant to Paragraph 11.01, except in an emergency as required by Paragraph 7.12.
 4. Contractor is liable to OPT for failure to report conflicts, errors, ambiguities, or discrepancies in the Contract Documents of which Contractor has actual knowledge.
 5. Contractor is deemed to have included the most expensive item, system, procedure, etc. in the Contract Price if a conflict, error, ambiguity, or discrepancy in the Contract Documents was known, but not reported prior to submitting the Bid or Proposal or when Contractor negotiates the Contract Price.

3.04 Interpretation of the Contract Documents

- A. Submit questions concerning the non-technical or contractual/administrative requirements of the Contract Documents to Construction Manager immediately after the question arises. Construction Manager will provide an interpretation of the Contract Documents regarding these questions and will coordinate the response of OPT to Contractor.
- B. Submit questions regarding the design of the Project described in the Contract Documents to Construction Manager immediately after the question arises. Construction Manager will request an interpretation of the Contract Documents from Design Professional. Construction Manager will coordinate the response of OPT to Contractor.
- C. OPT may initiate a Modification to the Contract Documents through Construction Manager if a response to the question indicates that a change in the Contract Documents is required. Contractor may appeal Design Professional's or Construction Manager's interpretation by submitting a Change Proposal.

3.05 Reuse of Documents

- A. Contractor's Team has no rights to the Contract Documents and may not use the Contract Documents or copies or electronic media editions of the Contract Documents other than for the construction of this Project. This provision survives final payment or termination of the Contract.
- B. Contractor can retain a copy of the Contract Documents for record purposes, unless specifically prohibited by Owner for security reasons. Surrender paper and digital copies of the Contract Documents and other related documents and remove these documents from computer equipment or storage devices as a condition of final payment if Owner so directs.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 Commencement of Contract Times; Notice to Proceed

- A. The Contract Times commence to run on the date indicated in the Notice to Proceed. If a Notice to Proceed is not issued, the Contract Times will commence to run 15 days after the Contract is signed by all parties.
- B. Begin performing the Work on the date indicated in the Notice to Proceed. Do not begin Work before the date indicated in the Notice to Proceed or prior to providing evidence that insurance required in Article 6 is in effect.

4.02 Progress Schedule

- A. Construct the Work in accordance with the Progress Schedule established in accordance with the Contract Documents.
 - 1. Adjust the Progress Schedule as required to accurately reflect actual progress on the Work.
 - 2. Submit proposed adjustments in the Progress Schedule that change the Contract Times in accordance with the requirements of Article 11.

- B. Continue performing Work and adhere to the Progress Schedule during disputes or disagreements with Owner. Do not delay or postpone Work pending resolution of disputes or disagreements, or during an appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree.

4.03 Delays in Contractor's Progress

- A. Contractor is not entitled to an adjustment in Contract Price or Contract Times for delays, disruptions, or interference caused by or within the control of Contractor's Team.
- B. Contractor is entitled to an equitable adjustment in Contract Price or Contract Times if OPT directly delays, disrupts, or interferes with the performance or progress of the Work. Contractor is not entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Owner if this delay is concurrent with a delay, disruption, or interference attributable to or within the control of Contractor's Team.
- C. Contractor is entitled to an equitable adjustment in the Contract Times, but not Contract Price, if Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of OPT or Contractor. These adjustments in Contract Times are Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. These unanticipated causes include:
 - 1. Severe and unavoidable natural catastrophes e.g. fires, floods, epidemics, and earthquakes;
 - 2. Acts of war or terrorism;
 - 3. Acts or failures to act of utility owners or other third-party entities other than those third-party utility owners performing other work at or adjacent to the Site as arranged by Owner and, as contemplated in Article 8;
 - 4. The existence of a differing subsurface or physical condition;
 - 5. An Underground Facility not shown or not indicated with reasonable accuracy by the Contract Documents;
 - 6. Hazardous Environmental Conditions; and
 - 7. Delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site unless this other work also for Owner.
- D. Contractor is entitled to an equitable adjustment in the Contract Times, but not Contract Price, if Contractor's performance or progress is delayed or disrupted by weather conditions provided such weather conditions exceed those that could normally be expected for the Site in that month of the year, unless other provisions for Weather related delays are included in the Contract Documents. Contractor is to include time associated with normal weather-related delays in the Project Schedule and assumes the risks, including costs, associated with delays related to normal weather conditions.
- E. Contractor is only entitled to an adjustment of the Contract Times for specific delays, disruptions, and interference to the performance or progress of the Work that can be

demonstrated to directly impact the ability of Contractor to complete the Work within the Contract Times. No adjustments in Contract Times are allowed for delays on components of the Work which were or could have been completed without impacting the Contract Times.

- F. Notify Construction Manager immediately of a potential delaying, disrupting, or interfering event. Submit a Change Proposal seeking an adjustment in Contract Price or Contract Times within 30 days of the commencement of the delaying, disrupting, or interfering event. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11. Change Proposal seeking an increase in Contract Times or Contract Price submitted must include supporting data that details the following:
1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference;
 5. A revised Progress Schedule indicating all the activities affected by the delay, disruption, or interference;
 6. An explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work;
 7. The impact on Contract Price, in accord with the provisions of Paragraph 11.07; and
 8. Such additional supporting documentation as OPT may require.

ARTICLE 5 – SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner will furnish the Site and inform Contractor of encumbrances or restrictions known to Owner related to use of the Site with which Contractor must comply in performing the Work.
- B. Provide for additional lands and access Contractor requires for temporary construction facilities or storage of materials and equipment, other than those identified in the Contract Documents. Provide documentation of authority to use these additional lands to Construction Manager before using them.

5.02 Use of Site and Other Areas

- A. Confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Owner or Contractor has arranged to use through construction easements or agreements, and other adjacent areas as permitted by Laws and Regulations. Assume full responsibility for damage or injuries which result from the performance of the Work or from other actions or conduct of Contractor's Team, including:
1. Damage to the Site;
 2. Damage to adjacent areas used for Contractor's Team's operations;
 3. Damage to other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and
 4. Injuries and losses sustained by the owners or occupants of these lands or areas.
- B. Take the following action if a damage or injury claim is made by the owner or occupant of adjacent land or area because of the performance of the Work, or because of other actions or conduct of Contractor's Team:
1. Take immediate corrective or remedial action as required by Paragraph 7.09; and
 2. Attempt to settle the claim through negotiations with the owner or occupant, or otherwise resolve the claim by mediation or other dispute resolution proceeding or at law; and
 3. **TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES FROM AND AGAINST ANY SUCH CLAIM AND ALL INDEMNIFIED COSTS ARISING OUT OF OR RELATING TO ANY CLAIM OR ACTION BROUGHT BY ANY SUCH OWNER OR OCCUPANT AGAINST OWNER'S INDEMNITEES TO THE EXTENT CAUSED DIRECTLY OR INDIRECTLY, IN WHOLE OR IN PART BY, OR BASED UPON, CONTRACTOR'S PERFORMANCE OF THE WORK, OR BECAUSE OF OTHER ACTIONS OR CONDUCT OF CONTRACTOR'S TEAM.**

5.03 Subsurface and Physical Conditions

- A. The Supplementary Conditions identify:
1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data; and
 2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site, except Underground Facilities, that contain Technical Data.
 3. Technical Data contained in these reports and drawings.
- B. If no Technical Data have been identified in the Supplementary Conditions, then Technical Data is defined, with respect to conditions at the Site, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, or environmental, or

other Site or facilities conditions report prepared for the Project and made available to Contractor.

- C. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
- D. Contractor may rely upon the accuracy of the Technical Data contained in these reports and drawings, but these reports and drawings are not Contract Documents. Except for this reliance on Technical Data, Contractor may not rely upon or make claims against Owner's Indemnitees with respect to:
 - 1. The completeness of reports and drawings for Contractor's purposes, including aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, or Contractor's safety precautions and programs; or
 - 2. Other data, interpretations, opinions, and information contained in these reports or shown or indicated in the drawings; or
 - 3. The contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
 - 4. Contractor's interpretation of or conclusions drawn from Technical Data or other data, interpretations, opinions, or information.

5.04 Differing Subsurface or Physical Conditions

- A. Notify Construction Manager immediately, but in no event later than 3 days, after becoming aware of a subsurface or physical condition that is uncovered or revealed at the Site, and before further disturbing the subsurface or physical conditions or performing any related Work that:
 - 1. Establishes that the Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
 - 2. Requires a change in the Drawings or Specifications;
 - 3. Differs materially from that shown or indicated in the Contract Documents; or
 - 4. Is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.
- B. Do not further disturb or perform Work related to this subsurface or physical condition, except in an emergency as required by Paragraph 7.12, until permission do so is issued by Construction Manager.
- C. Construction Manager is to notify OPT after receiving notice of a differing subsurface or physical condition from Contractor. OPT will:
 - 1. Promptly review the subsurface or physical condition;
 - 2. Determine the necessity of OPT's obtaining additional exploration or tests with respect the subsurface or physical condition;

3. Determine if the subsurface or physical condition falls within one or more of the differing site condition categories in Paragraph 5.04.A;
 4. Prepare recommendations regarding Contractor's resumption of Work relating to the subsurface or physical condition in question;
 5. Determine the need for changes in the Drawings or Specifications; and
 6. Advise Contractor of OPT's findings, conclusions, and recommendations.
- D. Construction Manager is to issue a statement to Contractor regarding the subsurface or physical condition in question and recommend action as appropriate after review of OPT's findings, conclusions, and recommendations. Construction Manager may instruct Contractor to resume Work if OPT determines that the subsurface or physical condition in question has been adequately documented.
- E. Contractor is entitled to an equitable adjustment in Contract Price or Contract Times to the extent that a differing subsurface or physical condition causes a change in Contractor's cost or time to perform the Work provided the condition falls within one or more of the categories described in Paragraph 5.04.A. Any adjustment in Contract Price for Work that is paid for on a unit price basis is subject to the provisions of Paragraph 13.03. Contractor is not entitled to an adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
1. Contractor knew of the existence of the subsurface or physical condition at the time Contractor made an offer to Owner with respect to Contract Price and Contract Times;
 2. The existence of the subsurface or physical condition could have been discovered or revealed by examinations, investigations, explorations, tests, or studies of the Site and contiguous areas expressly required by the Bidding Requirements or Proposal Requirements or the Contract Documents prior to when Contractor's Bid or Proposal is submitted or when Contractor negotiates the Contract Price; or
 3. Contractor failed to give notice as required by Paragraph 5.04.A.
- F. Contractor may submit a Change Proposal no later than 30 days after Construction Manager's issuance of the OPT's statement to Contractor regarding the subsurface or physical condition in question.

5.05 Underground Facilities

- A. The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to OPT by the owners of these Underground Facilities or by others. OPT is not responsible for the accuracy or completeness of information or data provided by others that OPT makes available to Contractor. Contractor is responsible for:
1. Reviewing and checking available information and data regarding existing Underground Facilities at the Site;
 2. Complying with Laws and Regulations related to locating Underground Facilities before beginning Work;
 3. Locating Underground Facilities shown or indicated in the Contract Documents;

4. Coordinating the Work with the owners, including Owner, of Underground Facilities during construction; and
 5. The safety and protection of existing Underground Facilities at or adjacent to the Site and repairing damage resulting from the Work.
- B. Notify Construction Manager and the owner of the Underground Facility immediately if an Underground Facility is uncovered or revealed at the Site that was not shown in the Contract Documents or was not shown with reasonable accuracy in the Contract Documents. Do not further disturb conditions or perform Work affected by this discovery, except in the event of an emergency as required by Paragraph 7.12.
- C. OPT is to take the following action after receiving notice from Construction Manager:
1. Promptly review the Underground Facility to determine if the Underground Facility was shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy;
 2. Identify and communicate with the owner of the Underground Facility;
 3. Prepare recommendations to OPT regarding Contractor's resumption of Work relating to this Underground Facility;
 4. Determine the extent to which a change is required in the Drawings or Specifications to document the consequences of the existence or location of the Underground Facility; and
 5. Construction Manager will advise Contractor of OPT's findings, conclusions, and recommendations and provide revised Drawings and Specifications if required.
- D. Construction Manager is to issue a statement to Contractor regarding the Underground Facility in question and recommend action as appropriate after review of OPT's findings, conclusions, and recommendations.
- E. Contractor is entitled to an equitable adjustment in the Contract Price or Contract Times as provided in Paragraphs 11.04 and 11.05 to the extent that the existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy. Any adjustment in Contract Price for Work that is paid for on a unit price basis is subject to the provisions of Paragraph 13.03.
- F. Contractor is not entitled an adjustment in the Contract Price or Contract Times with respect to an existing Underground Facility at the Site if:
1. Contractor knew of the existence of the existing Underground Facility at the Site at the time Contractor made an offer to Owner with respect to Contract Price and Contract Times;
 2. The existence of the existing Underground Facility at the Site could have been discovered or revealed by examinations, investigations, explorations, tests, or studies of the Site and contiguous areas expressly required by the Bidding Requirements or Proposal Requirements or the Contract Documents prior to when Contractor's Bid or Proposal is submitted or when Contractor negotiates the Contract Price; or
 3. Contractor failed to give notice as required by Paragraph 5.05.B.

- G. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of adjustments in the Contract Price or Contract Times no later than 30 days after Construction Manager's issuance of OPT's statement to Contractor regarding the Underground Facility.

5.06 Hazardous Environmental Conditions at Site

- A. The Supplementary Conditions identify those reports and drawings known to OPT relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and the Technical Data contained in these reports and drawings.
- B. Contractor may rely upon the accuracy of the Technical Data contained in reports and drawings relating to Hazardous Environmental Conditions identified in the Supplementary Conditions, but these reports and drawings are not Contract Documents. Except for the reliance on expressly identified Technical Data, Contractor may not rely upon or make claims against Owner's Indemnitees with respect to:
 - 1. The completeness of these reports and drawings for Contractor's purposes, including aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor or Contractor's safety precautions and programs related to Hazardous Environmental Conditions;
 - 2. Other data, interpretations, opinions, and information contained in these reports or shown or indicated in the drawings; or
 - 3. Any Contractor interpretation of or conclusion drawn from Technical Data or other data, interpretations, opinions, or information.
- C. The results of tests performed on materials described in environmental reports specifically prepared for the Project and made available to Contractor are defined as Technical Data unless Technical Data has been defined more specifically in the Supplementary Conditions.
- D. Contractor is not responsible for removing or remediating Hazardous Environmental Conditions encountered, uncovered, or revealed at the Site unless this removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- E. Contractor is responsible for controlling, containing, and duly removing and remediating Constituents of Concern brought to the Site by Contractor's Team and paying associated costs.
 - 1. Owner may remove and remediate the Hazardous Environmental Condition and impose a Set-off against payments to Contractor for associated costs if Contractor's Team creates a Hazardous Environmental Condition and Contractor does not take acceptable action to remove and remediate the Hazardous Environmental Condition.
 - 2. **TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS ARISING OUT OF OR RELATING TO THE FAILURE TO CONTROL, CONTAIN, OR REMOVE A CONSTITUENT OF CONCERN BROUGHT TO THE SITE BY CONTRACTOR'S TEAM, OR TO A HAZARDOUS ENVIRONMENTAL CONDITION CREATED BY CONTRACTOR'S TEAM. NOTHING IN THIS PARAGRAPH SHALL OBLIGATE CONTRACTOR TO INDEMNIFY ANY INDIVIDUAL OR**

ENTITY FROM AND AGAINST THE CONSEQUENCES OF THAT INDIVIDUAL'S OR ENTITY'S OWN NEGLIGENCE.

- F. Immediately notify Construction Manager and take the following action if Contractor uncovers or reveals a Hazardous Environmental Condition at the Site or adjacent areas used by Contractor's Team that was not created by Contractor's Team:
1. Secure or otherwise isolate this condition;
 2. Stop Work in affected areas or connected with the condition, except in an emergency as required by Paragraph 7.12; and
 3. Do not resume Work relating to the Hazardous Environmental Condition or in affected areas until after OPT has obtained required permits and Construction Manager sends notice to Contractor:
 - a. Specifying that this condition and affected areas are or have been rendered safe for the resumption of Work; or
 - b. Specifying special conditions under which Work may be resumed safely.
 4. Owner may order the portion of the Work that is in the area affected by the Hazardous Environmental Condition to be deleted from the Work following the procedures in Article 11 if Contractor does not agree to:
 - a. Resume the Work based on a reasonable belief it is unsafe; or
 - b. Resume the Work under the special conditions provided by Construction Manager.
 5. Owner may have this deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- G. Contractor may submit a Change Proposal or Owner may impose a Set-off if an agreement is not reached within 10 days of Construction Manager's notice regarding the resumption of Work as to whether Contractor is entitled to an adjustment in Contract Price or Contract Times or on the amount or extent of adjustments resulting from this Work stoppage or special conditions under which Contractor agrees to resume Work.
- H. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

- A. Furnish a performance bond in an amount equal to the Contract Price as security for the faithful performance of Work. Contractor is to use amounts paid by Owner to Contractor under the Contract for the performance of the Contract. This bond is to remain in effect until 1 year after the date of final payment.
- B. Furnish a payment bond in an amount equal to the Contract Price as security to ensure payment of Contractor's obligations under the Contract Documents. This bond is to remain in effect until 1 year after the date of final payment.

1. Notify Construction Manager of claims filed against the payment bond. Notify the claimant and Construction Manager of undisputed amounts and the basis for challenging disputed amounts when a claimant has satisfied the conditions prescribed by Laws and Regulations. Promptly pay undisputed amounts.
 2. Owner is not liable for payment of costs or expenses of claimants under the payment bond. Owner has no obligations to pay, give notice, or take other action to claimants under the payment bond.
 3. OPT will provide a copy of the payment bond and payment information to Subcontractors, Suppliers, or other persons or entities claiming to have furnished labor or materials used in the performance of the Work that request this information in accordance with Laws and Regulations.
- C. Notify Construction Manager immediately if the surety on bonds furnished by Contractor:
1. Is declared bankrupt, or becomes insolvent;
 2. Has its right to do business in state in which the Project is located is terminated; or
 3. Ceases to meet the requirements of Paragraph 6.02.
- Provide a bond and surety which comply with the requirements of Paragraph 6.02 within 20 days after the event giving rise to this notification.
- D. Furnish other bonds as required by the Contract Documents.
- E. Owner may exclude Contractor from the Site and exercise Owner's termination rights under Article 16 if Contractor fails to obtain or maintain required bonds.

6.02 Licensed Sureties

- A. Provide bonds in the form prescribed by the Contract Documents from sureties named in the U.S. Department of the Treasury's Listing of Approved Sureties (Department Circular 570 "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies").
- B. Provide bonds required by the Contract Documents from surety companies that are duly licensed or authorized to provide bonds in the state in which the Project is constructed.

6.03 Insurance - General Provisions

- A. Obtain and maintain insurance with coverage amounts equal to or greater than the amounts specified in Section 00 73 16 "Insurance Requirements" or greater where required by Laws and Regulations.
- B. Obtain insurance from companies that are duly licensed or authorized in the state in which the Project is constructed to issue insurance policies and that have an A.M. Best rating of A-VIII or better.
- C. Deliver evidence of insurance in accordance with Section 00 73 16 "Insurance Requirements" to Owner to demonstrate that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Provide copies of these certificates to Owner and additional insured.

- D. Furnish copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles upon request by Owner or any additional insured. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this paragraph.
- E. OPT's failure to demand such certificates or other evidence of Contractor's full compliance with the insurance requirements or failure to identify a deficiency in compliance from the evidence provided is not a waiver of Contractor's obligation to obtain and maintain the insurance required by the Contract Documents.
- F. Notify Owner if Contractor fails to purchase or maintain the insurance required by the Contract Documents. Do not perform any Work on the Project unless the required insurance policies are in effect. Owner may exclude Contractor from the Site and exercise Owner's termination rights under Article 16 if Contractor fails to obtain or maintain the required insurance.
- G. Owner may elect to obtain equivalent insurance to protect Owner's interests without prejudice to any other right or remedy if Contractor fails to obtain or maintain the required insurance. Owner may impose a reasonable Set-off against payments due under Article 15 to recover the cost of the insurance.
- H. Owner does not represent that the insurance coverage and limits established in this Contract are adequate to protect Contractor or Contractor's interests.
- I. The required insurance and insurance limits do not limit Contractor's liability under the indemnities granted to Owner's Indemnitees in the Contract Documents.
- J. Provide for an endorsement that the "other insurance" clause will not apply to OPT where OPT is an additional insured shown on the policy. Contractor's insurance is primary and non-contributory with respect to any insurance or self-insurance carried by OPT for liability arising out of operations under this Agreement.
- K. Include and list OPT and any other individuals or entities identified in the Section 00 73 16 "Insurance Requirements" as additional insureds on all policies except for the workers' compensation policy and Contractor's professional liability policy.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 Contractor's Means and Methods of Construction

- A. Contractor is solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. Provide professional engineering or other design services if the Contract Documents require such services or if Contractor determines that such services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety. Engineering or other design services are to be provided by a properly licensed design professional authorized to provide these services in the state in which the Project is constructed. Such services are not Owner-delegated professional design services under this Contract, and OPT does not have any responsibility with respect to:
 - 1. Contractor's determination of the need for such services;

2. The qualifications or licensing of the design professionals retained or employed by Contractor;
3. The performance of such services; or
4. Any errors, omissions, or defects in such services.

7.02 Supervision and Superintendence

- A. Supervise, inspect, and direct the performance of the Work.
- B. Provide a competent resident superintendent acceptable to OPT. The resident superintendent or acceptable qualified assistant is to always be present when Work is being done. Do not replace this resident superintendent except under extraordinary circumstances. Provide a replacement resident superintendent equally competent to the previous resident superintendent if replacement is required. Notify Owner prior to replacing the resident superintendent and obtain Owner's consent to the change in superintendent.

7.03 Labor; Working Hours

- A. Provide competent, suitably qualified personnel to complete the Work. Maintain good discipline and order at the Site. Contractor is responsible for all acts and omissions of Contractor's Team.
- B. Perform Work at the Site during regular working hours except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent to the Site and except as otherwise stated in the Contract Documents.
- C. Do not perform Work on a Saturday, Sunday, or Owner-observed holiday without Construction Manager's consent. If a legal holiday falls on a Saturday, it will be observed the preceding Friday. If a legal holiday falls on a Sunday, it will be observed the following Monday.
- D. Pay additional cost incurred by Owner for services of Construction Manager to observe Work constructed outside of regular working hours. Construction Manager will issue a Set-off in the Application for Payment for this cost per Paragraph 15.01.B.

7.04 Services, Materials, and Equipment

- A. Provide services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and other facilities and incidentals necessary for the performance, testing, startup, and completion of the Work, whether or not these items are specifically called for in the Contract Documents.
- B. Provide new materials and equipment to be incorporated into the Work. Provide special warranties and guarantees required by the Contract Document. Provide satisfactory evidence, including reports of required tests, as to the source, kind, and quality of materials and equipment as required by the Contract Documents or as requested by Construction Manager.

- C. Store, apply, install, connect, erect, protect, use, clean, and condition materials and equipment in accordance with instructions of the applicable Supplier, unless otherwise required by the Contract Documents.

7.05 Concerning Subcontractors, and Suppliers

- A. Contractor may retain Subcontractors and Suppliers which are acceptable to Owner for the performance of parts of the Work. Contractor must retain specific Subcontractors or Suppliers if required to do so by the Contract Documents. Contractor must use Subcontractors or Suppliers named in the Bid or Proposal if Contractor was selected in part based on these named Subcontractors or Suppliers.
- B. Submit a list of proposed Subcontractors and Suppliers to Construction Manager prior to entering into binding subcontracts or purchase orders. These proposed Subcontractors or Suppliers are deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 10 days after receiving this list.
- C. Owner may require the replacement of Subcontractors or Suppliers retained by Contractor. Provide an acceptable replacement for the rejected Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements, subject to Contractor's reasonable objections.
- D. Contractor may be entitled to an adjustment in Contract Price or Contract Times with respect to a replacement of Subcontractors or Suppliers required by Owner. Notify Construction Manager immediately if a replacement of Subcontractors or Suppliers increases the Contract Price or Contract Times. Initiate a Change Proposal for the adjustment within 10 days of Owner's notice to replace a Subcontractor or Supplier. Do not make the replacement until the change in Contract Price or Contract Times has been accepted by Owner if Change Proposal is to be submitted. Contractor is not entitled to an adjustment in Contract Price or Contract Times if OPT requires the replacement of the Subcontractor or Supplier based on an unacceptable safety record, lack of experience or qualifications, or other cause.
- E. Acceptance by Owner of Subcontractors, Suppliers, or other individuals or entities, whether initially or as a replacement, does not constitute a waiver of the obligation of Contractor to complete the Work in accordance with the Contract Documents.
- F. Maintain a current and complete list of Subcontractors and Suppliers that are to perform or furnish part of the Work.
- G. Contractor is fully responsible for the acts and omissions of Subcontractors and Suppliers and is solely responsible for scheduling and coordinating their Work.
- H. Require Subcontractors, Suppliers, and other individuals or entities performing or furnishing Work to communicate with OPT through Contractor.
- I. Contracts between Contractor and their Subcontractors or Suppliers may specifically bind the Subcontractors or Suppliers to the applicable terms and conditions of the Contract Documents. Contractor is responsible for meeting the requirements of the Contract Documents if they choose to not bind the Subcontractors or Suppliers to applicable terms or conditions of the Contract Documents.

J. OPT may furnish information about amounts paid to Contractor for Work provided by Subcontractors or Suppliers to the entity providing the Work.

K. Nothing in the Contract Documents:

1. Creates a contractual relationship between members of OPT and members of Contractor's Team.
2. Creates an obligation on the part of Owner to pay or to see to the payment of money due members of Contractor's Team, except as may be required by Laws and Regulations.

7.06 Patent Fees and Royalties

A. Pay license fees, royalties, and costs incident to the use of inventions, designs, processes, products, or devices which are patented or copyrighted by others in the performance of the Work, or to incorporate these inventions, designs, processes, products, or devices which are patented or copyrighted by others in the Work. The Contract Documents identify inventions, designs, processes, products, or devices OPT knows are patented or copyrighted by others, or that its use is subject to patent rights or copyrights calling for the payment of a license fee or royalty to others. Contractor is to include the cost associated with the use of patented or copyrighted products or processes, whether specified or selected by Contractor, in the Contract Price.

B. TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS ARISING OUT OF OR RELATING TO ANY INFRINGEMENT OF PATENT RIGHTS OR COPYRIGHTS BY CONTRACTOR'S TEAM INCIDENT TO THE USE IN THE PERFORMANCE OF THE WORK OR RESULTING FROM THE INCORPORATION IN THE WORK OF ANY INVENTION, DESIGN, PROCESS, PRODUCT, OR DEVICE.

7.07 Permits

A. Obtain and pay for construction permits and licenses, and certificates of occupancy, if required. OPT is to assist Contractor in obtaining permits and licenses when required to do so by applicable Laws and Regulations. Pay governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time the Contractor's Bid or Proposal is submitted or when Contractor negotiates the Contract Price.

7.08 Taxes

A. Contractor is responsible for all taxes and duties arising out of the Work. Contractor is responsible for including in the Contract Price any applicable sales and use taxes and is responsible for complying with all applicable Laws and Regulations. Pay sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations.

7.09 Laws and Regulations

A. Give required notices and comply with Laws and Regulations applicable to the performance of the Work. OPT is not responsible for monitoring Contractor's compliance with Laws or Regulations except where expressly required by applicable Laws and Regulations.

- B. Pay costs resulting from actions taken by Contractor that are contrary to Laws or Regulations. Contractor is not responsible for determining that the design aspects of the Work described in the Contract Documents is in accordance with Laws and Regulations. This does not relieve Contractor of its obligations under Paragraph 3.03.
- C. **TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD OWNER'S INDEMNITEES HARMLESS FROM ALL CLAIMS AND INDEMNIFIED COSTS RESULTING FROM ACTIONS TAKEN BY CONTRACTOR'S TEAM THAT ARE CONTRARY TO LAWS OR REGULATIONS.**
- D. Owner or Contractor may give notice to the other party of changes in Laws or Regulations that may affect the cost or time of performance of the Work, including:
 - 1. Changes in Laws or Regulations affecting procurement of permits; and
 - 2. Sales, use, value-added, consumption, and other similar taxes which come into effect after Contractor's Bid or Proposal is submitted or when Contractor negotiates the Contract Price.
- E. Contractor may submit a Change Proposal or Owner may initiate a Claim within 30 days of this notice if Owner and Contractor are unable to agree on entitlement to or on the amount or extent of adjustments in Contract Price or Contract Times resulting from these changes.

7.10 Safety and Protection

- A. Contractor is solely responsible for initiating, maintaining, and supervising safety precautions and programs relating to the Work. This responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their Work, nor for compliance with applicable safety Laws and Regulations.
- B. Take necessary precautions for the safety of persons on the Site or who may be affected by the Work, and provide the necessary protection to prevent damage, injury, or loss to:
 - 1. Work and materials and equipment to be incorporated in the Work, whether stored on or off the Site; and
 - 2. Other property at or adjacent to the Site, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement during construction.
- C. Comply with applicable Laws and Regulations relating to the safety and protection of persons or property. Erect and maintain necessary safeguards for safety and protection. Notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site when prosecution of the Work may affect them. Cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- D. Remedy damage, injury, or loss to property referred to in Paragraph 7.09.B caused by Contractor's Team. Pay remediation costs unless the damage or loss is:
 - 1. Attributable to the fault of the Contract Documents,
 - 2. Attributable to acts or omissions of OPT, or

3. Not attributable to the actions or failure to act of Contractor's Team.
- E. Contractor's duties and responsibilities for safety and protection of persons or the Work or property at or adjacent to the Site continues until Work is completed and resumes whenever Contractor's Team returns to the Site to fulfill warranty or correction obligations or to conduct other tasks.
- F. Comply with the applicable requirements of the Owner's safety program if required to do so in the Supplementary Conditions. A copy of the Owner's safety program will be provided in the Bidding Documents or Proposal Documents.
- G. Provide a qualified and experienced safety representative at the Site whose duties and responsibilities are the prevention of accidents and maintaining and supervising safety programs.

7.11 Hazard Communication Programs

- A. Coordinate the exchange of safety data sheets or other hazard communication information required to be made available or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.12 Emergencies

- A. Act to prevent threatened damage, injury, or loss in emergencies affecting the safety or protection of persons or the Work or property at or adjacent to the Site. Notify Construction Manager immediately if Contractor believes that significant changes in the Work or variations from the Contract Documents have been caused or are required because of this need to act. A Modification is to be issued by Construction Manager if OPT determines that the incident giving rise to the emergency action was not the responsibility of Contractor and that a change in the Contract Documents is required because of the action taken by Contractor in response to this emergency.

7.13 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that Work is in accordance with the Contract Documents and is not Defective. Owner is entitled to rely on Contractor's warranty and guarantee. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 7.14. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.13 is limited only by applicable Laws and Regulations restricting actions to enforce such rights. Assume and bear responsibility for costs and time delays associated with variations from the requirements of the Contract Documents.
- B. This Contractor's warranty and guarantee excludes defects or damage caused by abuse, improper maintenance or operation, or modification by OPT; or normal wear and tear under normal usage.

- C. Contractor's obligation to perform and complete Work in accordance with the Contract Documents is absolute. None of the following constitute an acceptance of Defective Work, a release of Contractor's obligation to perform Work in accordance with the Contract Documents or a release of Owner's warranty or guarantee rights under this Paragraph:
1. Observations by OPT;
 2. Recommendation by Construction Manager or payment by Owner of progress or final payments;
 3. The issuance of a certificate of Substantial Completion;
 4. The issuance of a certificate of Final Completion
 5. The end of the correction period established in Paragraph 7.14
 6. Use or occupancy of part of the Work by Owner;
 7. Review and approval of a Shop Drawing or Sample;
 8. Inspections, tests, or approvals by others; or
 9. Correction of Defective Work by Owner.
- D. The Contract Documents may require Contractor to accept the assignment of a contract between the Owner and a contractor or supplier. The specific warranties, guarantees, and correction obligations contained in an assigned contract govern with respect to Contractor's performance obligations to Owner for the Work described in an assigned contract.

7.14 Correction Period

- A. Promptly correct Defective Work without cost to Owner for 1 year after the date of Substantial Completion or longer periods of time prescribed by the terms of the Contract Documents.
- B. Promptly correct damages to the Site or adjacent areas that Contractor has arranged to use through construction easements or other agreements. Promptly correct damages to Work or the work of others. Make corrections without cost to Owner.
- C. Owner may have the Defective Work and damages described in Paragraphs 7.14.A and 7.14.B corrected if Contractor does not comply with the terms of Construction Manager's instructions, or in an emergency where delay would cause serious risk of loss or damage.
- D. **NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT OR THE CONTRACT DOCUMENTS AND TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD OWNER'S INDEMNITEES HARMLESS FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS ARISING OUT OF OR RELATING TO THE CORRECTION OF DEFECTIVE WORK.**
- E. The correction period starts to run from the date when a specific item of equipment or systems are placed in continuous beneficial use by Owner before Substantial Completion of Work if so provided in the Specifications or if accepted for beneficial use by Owner.
- F. The correction period is extended for an additional period of 1 year for Defective Work corrected after the date of Substantial Completion or after the accepted date the

correction period starts to run as described in Paragraph 7.14.E. This extended correction period starts to run when Defective Work has been satisfactorily corrected under this Paragraph 7.14.

- G. Contractor's obligations under this Paragraph 7.14 are in addition to other obligations or warranties. The provisions of this Paragraph 7.14 are not a substitute for, or a waiver of, the provisions of applicable statutes of limitation or repose.

7.15 Indemnification

- A. **TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, AND IN ADDITION TO ANY OTHER OBLIGATIONS OF CONTRACTOR UNDER THE CONTRACT OR OTHERWISE, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS ARISING OUT OF OR RELATING TO THE PERFORMANCE OF THE WORK, PROVIDED THAT ANY SUCH CLAIM, ACTION, LOSS, OR DAMAGE IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE, OR DEATH, OR TO DAMAGE TO OR DESTRUCTION OF TANGIBLE PROPERTY (OTHER THAN THE WORK ITSELF), INCLUDING THE LOSS OF USE RESULTING THEREFROM BUT ONLY TO THE EXTENT CAUSED BY ANY NEGLIGENT ACT OR OMISSION OF CONTRACTOR'S TEAM.**
- B. The indemnification obligation under Paragraph 7.15.A is not limited by the amount or type of damages, compensation, or benefits payable by or for members of Contractor's Team or other individuals or entities under workers' compensation acts, disability benefit acts, or other employee benefit acts in claims against Owner's Indemnitees by an employee or the survivor or personal representative of employee of Contractor's Team.

7.16 Delegation of Professional Design Services

- A. Contractor is to provide professional design services required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures.
- B. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. This delegation will specify the performance and design criteria that such services must satisfy and the Submittals that Contractor must furnish to Construction Manager with respect to Owner delegated design. Contractor is not required to provide these professional services in violation of applicable Laws and Regulations.
- C. Owner-delegated professional design services provided through Contractor are to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and other Submittals prepared by such design professional. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Construction Manager, then such Shop Drawing or other Submittal must bear the design professional's written approval when submitted by Contractor to Construction Manager.
- D. OPT is entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by Contractor's design professionals, provided OPT has specified to Contractor the performance and design criteria that these services must satisfy.

- E. Pursuant to this Paragraph 7.16, OPT's review and approval of design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this paragraph;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor is not responsible for the adequacy of the performance or design criteria specified by OPT. Advise OPT if the performance or design criteria are known or considered likely to be inadequate or otherwise deficient.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 Other Work

- A. Owner may arrange for other work at or adjacent to the Site which is not part of the Contractor's Work. This other work may be performed by Owner's employees or through other contractors. Utility owners may perform work on their utilities and facilities at or adjacent to the Site. Include costs associated with coordinating with entities performing other work or associated with connecting to this other work in the Contract Price if this other work is shown in the Contract Documents.
- B. OPT is to notify Contractor of other work prior to starting the work and provide any knowledge they have regarding the start of utility work at or adjacent to the Site to Contractor.
- C. Provide other contractors:
 - 1. Proper and safe access to the Site;
 - 2. Reasonable opportunity for the introduction and storage of materials and equipment; and
 - 3. Reasonable opportunity to execute their work.
- D. Provide cutting, fitting, and patching of the Work required to properly connect or integrate with other work. Do not endanger the work of others by cutting, excavating, or otherwise altering the work of others without the consent of Construction Manager and the others whose work will be affected.
- E. Inspect the work of others and immediately notify Construction Manager if the proper execution of part of Contractor's Work depends upon work performed by others and this work has not been performed or is unsuitable for the proper execution of Contractor's Work. Contractor's failure to notify Construction Manager constitutes an acceptance of this other work as acceptable for integration with Contractor's Work. This acceptance does not apply to latent defects or deficiencies in the work of others.
- F. Take adequate measures to prevent damages, delays, disruptions, or interference with the work of Owner, other contractors, or utility owners performing other work at or adjacent to the Site.

- G. The provisions of this Article 8 are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.03.

8.02 Coordination

- A. Owner has sole authority and responsibility for coordination of this other work unless otherwise provided in the Contract Documents. Owner is to identify the entity with authority and responsibility for coordination of the activities of the various contractors, the limitations of their authority, and the work to be coordinated prior to the start of other work at or adjacent to the Site.

8.03 Legal Relationships

- A. Contractor may be entitled to a change in Contract Price or Contract Times if, while performing other work at or adjacent to the Site for Owner, the OPT, other contractor, or utility owner:
 - 1. Damages the Work or property of Contractor's Team;
 - 2. Delays, disrupts, or interferes with the execution of the Work; or
 - 3. Increases the scope or cost of performing the Work through their actions or inaction.
- B. Notify Construction Manager immediately of the event leading to a potential Change Proposal so corrective or mitigating action can be taken. Submit the Change Proposal within 30 days of the event if corrective action has not adequately mitigated the impact of the actions or inactions of others. Information regarding this other work in the Contract Documents is used to determine if Contractor is entitled to a change in Contract Price or Contract Times. Changes in Contract Price require that Contractor assign rights against the other contractor or utility owner to Owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Changes in Contract Times require that the time extension is essential to Contractor's ability to complete the Work within the Contract Times.
- C. Take prompt corrective action if Contractor's Team damages, delays, disrupts, or interferes with the work of Owner's employees, other contractors, or utility owners performing other work at or adjacent to the Site or agree to compensate other contractors or utility owners for correcting the damage. Promptly attempt to settle claims with other contractors or utility owners if Contractor damages, delays, disrupts, or interferes with the work of other contractors or utility owners performing other work at or adjacent to the Site.
- D. Owner may impose a Set-off against payments due to Contractor and assign the Owner's contractual rights against Contractor with respect to the breach of the obligations described in this Paragraph 8.03 to other contractors or utility owners if damages, delays, disruptions, or interference occur.
- E. **NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT OR THE CONTRACT DOCUMENTS AND TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD OWNER'S INDEMNITEES**

HARMLESS FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS RESULTING FROM CONTRACTOR'S TEAM'S ACTION OR INACTION RELATED TO DAMAGES, DELAYS, DISRUPTIONS, OR INTERFERENCE WITH THE WORK OF OWNER'S EMPLOYEES, OTHER CONTRACTORS, OR UTILITY OWNERS PERFORMING OTHER WORK AT OR ADJACENT TO THE SITE.

ARTICLE 9 – OWNER'S AND OPT'S RESPONSIBILITIES

9.01 Communications to Contractor

- A. OPT issues communications to Contractor through Construction Manager except as otherwise provided in the Contract Documents.

9.02 Replacement of Owner's Project Team Members

- A. Owner may replace members of OPT at its discretion.

9.03 Furnish Data

- A. OPT is to furnish the data required of OPT under the Contract Documents.

9.04 Pay When Due

- A. Owner is to make payments to Contractor when due as described in Paragraphs 15.01.D and 15.06.D.

9.05 Lands and Easements; Reports and Tests

- A. Owner's duties with respect to providing lands and easements are described in Paragraph 5.01. OPT will make copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site available to Contractor in accordance with Paragraph 5.03.

9.06 Insurance

- A. Owner's responsibilities with respect to purchasing and maintaining insurance are described in Article 6.

9.07 Modifications

- A. Owner's responsibilities with respect to Modifications are described in Article 11.

9.08 Inspections, Tests, and Approvals

- A. OPT's responsibility with respect to certain inspections, tests, and approvals are described in Paragraph 14.02.

9.09 Limitations on OPT's Responsibilities

- A. OPT does not supervise, direct, or have control or authority over, and is not responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or related safety precautions and programs, or for failure of Contractor to comply with Laws

and Regulations applicable to the performance of the Work. OPT is not responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

- B. OPT is not responsible for the acts or omissions of Contractor's Team. No actions or failure to act, or decisions made in good faith to exercise or not exercise the authority or responsibility available under the Contract Documents creates a duty in contract, tort, or otherwise of OPT to the Contractor or members of Contractor's Team.

9.10 Undisclosed Hazardous Environmental Condition

- A. OPT's responsibility for undisclosed Hazardous Environmental Conditions is described in Paragraph 5.06.

9.11 Compliance with Safety Program

- A. Contractor is to inform OPT of its safety programs and OPT is to comply with the specific applicable requirements of this program.

ARTICLE 10 – DESIGN PROFESSIONAL'S AND CONSTRUCTION MANAGER'S STATUS DURING CONSTRUCTION

10.01 Owner's Representative

- A. Construction Manager is Owner's representative. The duties and responsibilities and the limitations of authority of Construction Manager as Owner's representative are described in the Contract Documents.

10.02 Visits to Site

- A. Design Professional is to make periodic visits to the Site to observe the progress and quality of the Work. Design Professional is to determine, in general, if the Work is proceeding in accordance with the Contract Documents based on observations made during these visits. Design Professional is not required to make exhaustive or continuous inspections to check the quality or quantity of the Work. Design Professional is to inform OPT of issues or concerns and Construction Manager is to work with Contractor to address these issues or concerns. Design Professional's visits and observations are subject to the limitations on Design Professional's authority and responsibility described in the Contract Documents.
- B. Construction Manager is to observe the Work to check the quality and quantity of Work, implement Owner's quality assurance program and administer the Contract as Owner's representative as described in the Contract Documents. Construction Manager's visits and observations are subject to the limitations on Construction Manager's authority and responsibility described in the Contract Documents.

10.03 Rejecting Defective Work

- A. OPT has the authority to reject Work in accordance with Article 14. Construction Manager is to notify Contractor of Defective Work of which it is aware and document when Defective Work has been corrected or accepted in accordance with Article 14.

10.04 Decisions on Requirements of Contract Documents and Acceptability of Work

- A. Construction Manager is to render decisions regarding non-technical or contractual/administrative requirements of the Contract Documents and will coordinate the response of OPT to Contractor.
- B. Design Professional is to render decisions regarding the conformance of the Work to the requirements of the Contract Documents. Design Professional will render a decision to either correct the Defective Work, or accept the Work under the provisions of Paragraph 14.04, if Work does not conform to the Contract Documents. Construction Manager will coordinate the response of OPT to Contractor.
- C. Construction Manager will issue a Request for a Change Proposal if a Modification is required. Construction Manager will provide documentation for changes related to the non-technical or contractual/administrative requirements of the Contract Documents. Design Professional will provide documentation if design related changes are required through Construction Manager.
- D. Contractor may appeal OPT's decision by submitting a Change Proposal if Contractor does not agree with the OPT's decision.

ARTICLE 11 – CHANGES TO THE CONTRACT

11.01 Amending and Supplementing the Contract Documents

- A. A Contract Amendment, Change Order, Work Change Directive, or Field Order may modify the Contract Documents. Modifications that include a change in the Contract Price or Contract Times can only be made in a Contract Amendment or Change Order.
- B. Changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other design or technical matters, must be supported by Design Professional's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of Design Professional.
- C. Proceed with the Changes in the Work or, in the case of a deletion in the Work, immediately cease construction activities related to the deleted Work upon receipt of the Modification.
- D. Contractor is not entitled to an increase in the Contract Price or an extension of the Contract Times with respect to Work performed that is not required by the Contract Documents, except in the case of an emergency as provided in Paragraph 7.12, or in the case of uncovering Work as provided in Paragraph 14.05. Contractor is responsible for costs and time delays associated with variations from the requirements of the Contract Documents unless the variations are specifically approved by Change Order.
- E. Acceptance of a Modification by Contractor constitutes agreement that the compensation provided by that Modification is the full, complete, and final compensation for all costs Contractor has or may incur because of or relating to this Modification whether these costs are known, unknown, foreseen, or unforeseen at this time, including any cost for delay, extended overhead, ripple or impact cost, or any other effect on changed or unchanged Work as a result of this Modification.

- F. Acceptance of a Modification by Contractor constitutes agreement that the changes in Contract Times are the complete and final adjustments for direct impacts to the ability of Contractor to complete the Work within the Contract Times and are the only adjustments to which Contractor is entitled.
- G. Perform added or revised Work under the applicable provisions of the Contract Documents for the same or similar Work unless different Drawings, Specifications, or directions are provided in the Modification.
- H. Nothing in this paragraph obligates Contractor to undertake Work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.02 Contract Amendments

- A. Owner and Contractor may modify the terms and conditions of the Contract Documents without the recommendation of Design Professional using a Contract Amendment.
- B. A Contract Amendment may also be used for authorizing a new task order for task order contracts or a new phase of the Work when using phased construction or purchasing Goods and Special Services to be incorporated into the Project. The Contract Amendment may be used to establish the Contract Price, Contract Times, or terms and conditions of the Contract for the new task order or phase of Work if not already established in the Contract Documents.

11.03 Change Orders

- A. All changes to the Contract Documents that include a change in the Contract Price or the Contract Times for previously authorized Work and changes to the Work requiring Design Professional's approval must be made by a Change Order. Change Orders prepared by Construction Manager may cover:
 - 1. Changes in Contract Price or Contract Times which are submitted by Contractor as a Change Proposal and agreed to by the parties;
 - 2. Changes in Contract Price or Contract Times to pay for undisputed Work performed in accordance with a Work Change Directive;
 - 3. Changes in Contract Price or Contract Times making final adjustments for Work covered under Alternates and Allowances;
 - 4. Changes in Contract Price or Contract Times making final adjustments to actual quantities for Unit Price Work;
 - 5. Changes in Contract Price resulting from an Owner Set-off, unless the set off has been successfully challenged by Contractor
 - 6. Changes in Contract Price or Contract Times resulting from resolution of Claims;
 - 7. Changes in Contract Price or Contract Times required because of Owner's acceptance of Defective Work under Paragraph 14.04 or Owner's correction of Defective Work under Paragraph 14.07, or
 - 8. Other similar provisions that will modify the Contract Price or Contract Times.

- B. A Change Order may also be used to establish modifications of the Contract Documents that do not affect the Contract Price or Contract Times.

11.04 Work Change Directives

- A. A Work Change Directive does not change the Contract Price or the Contract Times, but is evidence that the parties expect that the modifications ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations on the Contract Price and Contract Times.
- B. Contractor must submit a Change Proposal seeking an adjustment of the Contract Price or the Contract Times no later than 30 days after the completion of the Work set out in the Work Change Directive if negotiations are unsuccessful under the terms of the Contract Documents governing adjustments, expressly including Paragraphs 11.04 and 11.05.

11.05 Field Orders

- A. Design Professional may require minor changes in the Work that do not change the Contract Price or Contract Times using a Field Order through Construction Manager. Construction Manager may issue a Field Order for non-technical, administrative issues. Submit a Change Proposal if Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times before proceeding with the Work described in the Field Order.

11.06 Change Proposals

- A. Submit a Change Proposal to Construction Manager to:
 - 1. Request an adjustment in the Contract Price or Contract Times;
 - 2. Contest an initial decision by OPT concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents;
 - 3. Contest a Set-off against payment due; or
 - 4. Seek other relief under the Contract Documents.
- B. Notify Construction Manager immediately if a Change Proposal is to be submitted. Submit each Change Proposal to Construction Manager no later than 30 days after the event initiating the Change Proposal. Submit the following as part of the Change Proposal:
 - 1. Any proposed change in Contract Price, Contract Times, or other relief, accompanied by a statement that the requested Change Order is the entire adjustment to which Contractor believes it is entitled;
 - 2. The reason for the proposed change; and
 - 3. Supporting data, accompanied by a statement that the supporting data is accurate and complete.
- C. Construction Manager is to advise OPT regarding the Change Proposal. OPT is to review each Change Proposal and Contractor's supporting data, and within 30 days after receipt of the documents, direct Construction Manager to either approve or deny the Change Proposal in whole or in part. Construction Manager is to issue a Change Order for an approved Change Proposal. Change Proposals are denied if Construction Manager does not

act on the Change Proposal within 30 days. Contractor may start the time for appeal of the denial under Article 12.

11.07 Change of Contract Price; Contract Times

- A. Change Proposals for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.07. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12. An adjustment of the Contract Times is subject to the limitations described in Paragraph 4.03.
- B. An adjustment in the Contract Price is to be determined as follows:
 - 1. By applying unit prices to the quantities of the items involved, subject to the provisions of Paragraph 13.03, where the Work involved is covered by unit prices in the Contract Documents;
 - 2. By a mutually agreed lump sum where the Work involved is not covered by unit prices in the Contract Documents; or
 - 3. Payment based on the Cost of the Work determined as provided in Article 13 when the Work involved is not covered by unit prices in the Contract Documents or the parties do not reach a mutual agreement to a lump sum.
- C. The original Contract Price may not be increased by more than 25 percent unless further limited by Laws and Regulations. Owner may decrease the Work by up to 25 percent of the Contract Price without adjusting Contractor's fee.

11.08 Execution of Change Orders and Contract Amendments

- A. Each Change Order or Contract Amendment must be specific and final as to changes in Contract Price and Contract Times for the changes described in the Change Order or Contract Amendment. Acceptance of a Change Order or Contract Amendment by Contractor constitutes a full accord and satisfaction for all claims and costs of any kind, whether direct or indirect, including impact, delay, or acceleration damages related to the Change Order or Contract Amendment. The execution of a Change Order or Contract Amendment by Contractor constitutes conclusive evidence of Contractor's agreement to the ordered changes in the Work, with no reservations or other provisions allowing for future changes in the Contract Price or Contract Times. This Contract, as amended, forever releases any claim against Owner for additional time or compensation for matters relating to or arising out of or resulting from the Work included within or affected by the executed Change Order or Contract Amendment. This release applies to claims related to the cumulative impact of all Change Orders or Contract Amendment and to any claim related to the effect of a change on unchanged Work.
- B. A Change Order or Contract Amendment is deemed to be in full force as if executed by Contractor if Contractor refuses to execute a Change Order or Contract Amendment that is required to be executed under the terms of this Paragraph 11.08.

11.09 Notice to Surety

- A. Notify the surety of Modifications affecting the general scope of the Work, changes in the provisions of the Contract Documents, or changes in Contract Price or Contract Times. Adjust the amount of each bond when Modifications change the Contract Price.

ARTICLE 12 – CLAIMS

12.01 Claims

- A. Follow the Claims process described in this Article for a demand or assertion by Contractor:
 - 1. Contesting an initial decision by OPT concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents;
 - 2. Contesting OPT's decision regarding a Change Proposal;
 - 3. Seeking resolution of a contractual issue that OPT has declined to address;
 - 4. Seeking other relief with respect to the terms of the Contract; or
 - 5. Any issue, request, demand, or dispute arising after Construction Manager's recommendation of Final Payment not specifically listed in the Certificate of Final Completion.
- B. Notify Construction Manager no later than 7 days after the start of the event giving rise to the Claim or, in the case of appeals regarding Change Proposals, within 7 days of the decision under appeal. The responsibility to substantiate a Claim rests with the entity making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Price or Contract Times, Contractor must certify that the Claim is made in good faith, that the supporting data is accurate and complete, and that to the best of Contractor's knowledge and belief, the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. The entity receiving a Claim is to review the Claim and consider its merits. The Owner and Contractor are to seek to resolve the Claim through the exchange of information and direct negotiations. The Owner and Contractor may extend the time for resolving the Claim by mutual agreement. Notify Construction Manager of actions taken on a Claim.
- D. Owner and Contractor may mutually agree to mediate the underlying dispute at any time after initiation of a Claim.
 - 1. The agreement to mediate suspends the Claims process.
 - 2. Owner or Contractor may unilaterally terminate the mediation process after 60 days from the agreement to mediate and resume the Claims process as of the date of the termination. The Claim process resumes as of the date of the conclusion of the mediation, as determined by the mediator, if the mediation is unsuccessful in resolving the dispute.
 - 3. Owner and Contractor are to each pay one-half of the mediator's fees and costs.
- E. If the entity receiving a Claim approves the Claim in part or denies it in part, this action is final and binding unless the other entity invokes the procedure described in Article 17 for final resolution of disputes within 30 days of this action.

- F. Notify Construction Manager if efforts to resolve the Claim are not successful and the Claim is denied. A denial of the Claim is final and binding unless the other entity invokes the procedure described in Article 17 for the final resolution of disputes within 30 days of the denial.
- G. The results of the agreement or action on the Claim is to be incorporated in a Change Order by Construction Manager to the extent they affect the Contract Documents, the Contract Price, or the Contract Times if the Owner and Contractor reach an agreement regarding a Claim.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

- A. The Cost of the Work is the sum of costs described in this Paragraph 13.01, except those excluded in Paragraph 13.01.D, necessary for the proper performance of the Work. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price under cost-plus, time-and-materials, or other cost-based terms; or
 - 2. To determine the value of a Change Order, Change Proposal, Claim, Set-off, or other adjustment in Contract Price.
- B. Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the events giving rise to the adjustment when the value of the adjustment is determined on the basis of the Cost of the Work.
- C. Costs included in the Cost of the Work may not exceed the costs commonly incurred in the proximate area of the Site for similar work unless agreed to by Owner. Cost of the Work includes only the following items:
 - 1. Payroll costs for Contractor's employees performing the Work, including one foreman per crew, and other required and agreed upon personnel for the time they are employed on the Work. Employees are to be paid according to wage rates for job classifications as agreed to by Owner in advance of the Work. Rates paid for this Work are to be the same as paid for Contract Work as established by certified payroll. Payroll costs may include:
 - a. Actual costs paid for salaries and wages;
 - b. Actual cost paid for fringe benefits, which consists of:
 - 1) Social security contributions,
 - 2) Unemployment,
 - 3) Excise and payroll taxes,
 - 4) Workers' compensation,
 - 5) Health and retirement benefits, and
 - 6) Paid time off for sick leave, vacations and holidays; and

- c. Actual cost of additional compensation paid for performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, to the extent authorized by Owner.
2. Cost of materials and equipment furnished and incorporated in the Work, including transportation and storage costs and required Suppliers' field services. Contractor may retain cash discounts unless Owner provided funds to Contractor for early payment of these materials and equipment. Cash discounts are to be credited to Owner if Owner provides funds for early payment. Make provisions for trade discounts, rebates, refunds, and returns from sale of surplus materials and equipment and reduce the Cost of the Work by these amounts.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. Obtain competitive bids from Subcontractors acceptable to Owner if required by OPT. Bids are to be opened in the presence of Construction Manager and other designated members for OPT. Provide copies of bids to Construction Manager to use in determining, with OPT, which bids are acceptable. The Subcontractor's Cost of the Work and fee are determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01 if the subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee.
4. Supplemental costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work;
 - b. Costs of materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site including transportation and maintenance costs related specifically to the Work;
 - c. Costs of engineers, architects, testing laboratories, surveyors, employed or retained for services specifically related to the Work.
 - d. Actual cost for construction equipment, including the costs of transporting, loading, unloading, assembling, dismantling, and removing construction equipment, whether owned by Contractor or rented from others.
 - 1) Cost for construction equipment must not exceed the cost shown in the most current edition of the rental rate book named in the Supplemental Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
 - 2) With respect to Work that is the result of a Change Order, Change Proposal, Claim, Set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

- e. Applicable sales, consumer, use, and other similar taxes related to the Work for which Owner is not exempt, and which Contractor pays consistent with Laws and Regulations;
 - f. Deposits lost for causes other than negligence of Contractor's Team;
 - g. Royalty payments and fees for permits and licenses;
 - h. Cost of additional utilities, fuel, and sanitary facilities at the Site;
 - i. Minor expense items directly required by the Work; and
 - j. Premiums for bonds and insurance required by the Contract Documents.
- D. The Cost of the Work does not include the following administrative costs which are to be covered by the Contractor's fee:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, safety managers, superintendents, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office, for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.C.1.
 - 2. The cost of purchasing, renting or furnishing any tool or equipment whose current price would be less than \$500 if purchased new at retail.
 - 3. Office expenses other than Contractor's office at the Site.
 - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 5. Costs due to the actions of Contractor's Team for the correction of Defective Work, disposal of materials or equipment that do not comply with Specifications, and correcting damage to property.
 - 6. Losses, damages, and related expenses caused by damage to the Work or sustained by Contractor in connection with the performance of the Work. Contractor is entitled to recover costs if covered by Owner's insurance, if applicable. Such losses may include settlements made with the approval of Owner. Do not include these losses, damages, and expenses in the Cost of the Work when determining Contractor's fee.
 - 7. Expenses incurred in preparing and advancing Claims.
 - 8. Any Indemnified Cost paid with regard to Contractor's indemnification of Owner's Indemnitees.
 - 9. Other overhead or general expense costs and the costs of items not described in Paragraph 13.01.C.
 - 10. Contractor's fee is determined in accordance with the Agreement when the Work is performed on a cost-plus basis.

- E. Contractor's Fee is determined as follows for Work included in a Change Proposal.
 - 1. Contractor's fee is 15 percent of the costs included in the Cost of the Work per Paragraph 13.01.C.1 for payroll cost and per Paragraph 13.01.C.2 for cost of materials and equipment furnished and incorporated in the Work.
 - 2. Contractor's fee is 5 percent of costs included in the Cost of the Work paid by Contractor for Work performed by Subcontractors per Paragraph 13.01.C.3.
 - 3. No fee will be payable for costs included in the Cost of the Work for supplemental costs per Paragraph 13.01.C.4.
 - 4. Fees are to be determined as follows where one or more tiers of Subcontracts are used:
 - a. The Subcontractor's fee is 15 percent for costs incurred under Paragraphs 13.01.C (excluding Paragraph 13.01.C.3) for the Subcontractor that performs the Work;
 - b. The Contractor and Subcontractors of a tier higher than that of the Subcontractor that performs the Work are allowed a fee of 5 percent of the total costs incurred by the next lower tier Subcontractor; and
 - c. Regardless of the number of subcontractor tiers involved, the maximum total fee to be paid by Owner will be no greater than 27% of the costs incurred by the Subcontractor that performs the Work.
- F. When a Change Proposal includes additions and credits, the Contractor's fee will be calculated on the sum of costs for each cost category in Paragraph 13.01.C. and applying the appropriate fee from Paragraph 13.01.E. The amount to be credited by Contractor to Owner for any Change Proposal which results in a net decrease in the Cost of Work will be the amount of the actual net decrease in the Cost of Work plus an additional amount equal to 5% of the actual net decrease in the Cost of Work.
- G. Establish and maintain records in accordance with generally accepted accounting practices and submit these records, including an itemized cost breakdown together with supporting data, in a form and at intervals acceptable to Construction Manager whenever the Cost of the Work is to be determined pursuant to this Paragraph 13.01.

13.02 Allowances

- A. Include allowances specified in the Contract Documents in the Contract Price and provide Work covered by the allowance as authorized by Owner through Construction Manager.
- B. Contractor agrees that:
 - 1. The cash allowance is used to compensate Contractor for the cost of furnishing materials and equipment for the Work covered by the allowance item in the Contract Documents. Cost may include applicable taxes. Make provisions for trade discounts, rebates, and refunds and reduce the allowance costs by these amounts.
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances; and

3. Costs for cash allowances and installation costs as described in Paragraphs 13.02.B.1 and 13.02.B.2 above are included in the Contract Price.
- C. Construction Manager will issue a Change Order to adjust the Contract Price by the difference between the allowance amount and the actual amount paid by Contractor for Work covered by the allowance. The Change Order will be issued at the time costs are incurred by Contractor for Work covered by the allowance and this Work is included on the Application for Payment.

13.03 Unit Price Work

- A. The initial Contract Price for Unit Price Work is equal to the sum of the unit price line items in the Agreement. Each unit price line item amount is equal to the product of the unit price for each line item times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparing offers and determining an initial Contract Price. Payments to Contractor for Unit Price Work are to be based on actual quantities measured for Work in place.
- C. Each unit price is deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Construction Manager is to determine the actual quantities and classifications of Unit Price Work performed by Contractor to be incorporated into each Application for Payment. Construction Manager's decision on actual quantities is final and binding, subject to the provisions of Paragraph 13.03.E.
- E. Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price within 30 days of Construction Manager's decision under Paragraph 13.03.D, if:
 1. The total cost of a particular item of Unit Price Work amounts to 20 percent or more of the total Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 20 percent from the estimated quantity of an item indicated in the Agreement;
 2. There is no corresponding adjustment with respect to other items of Work; and
 3. Contractor believes it has incurred additional expense as a result of this condition or if Owner believes that the quantity variation entitles Owner to an adjustment in the Contract Price.
- F. Construction Manager will issue a Change Order adjusting estimated quantities to actual quantities to determine the final Contract Price.

13.04 Contingencies

- A. Contingency funds may be included in the Contract Price to pay for Work not defined specifically by the Contract Documents that is essential to the completion of the Project. Contingency funds will be as described in the Agreement.

- B. The contingency funds may be used for costs incurred by Contractor, provided these costs are approved by Owner. Costs are to be determined and documented in accordance with Paragraph 13.01. The contingency funds are not to be used for the following items:
 - 1. Cost overruns due to changes in material costs after the Contract Price is established, unless specific price escalation provisions are made in the Agreement.
 - 2. Rework required to correct Defective Work.
 - 3. Inefficiencies in completing the Work due to Contractor's selected means, methods, sequences, or procedures of construction.
 - 4. Work Contractor failed to include in the Contract Price.
 - 5. Changes required by changes in Laws and Regulations enacted after the Contract Price is established.
 - 6. Any Work that does not constitute a change in Scope in the Work included in the Contract Price.
- C. Construction Manager is to issue a Change Order for approved expenditures from contingency funds. When the Change Order is issued, the costs are to be added to the Application for Payment. Contractor is to maintain a tabulation showing the contingency amount, adjustments to the contingency amount, and amounts remaining as the Project progresses.
- D. Any contingency amounts that are not included in a Change Order are retained by Owner. A Change Order will be issued to deduct unused contingency amounts from the Contract Price prior to Final Payment.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 Access to Work

- A. Provide safe access to the Site and the Work for the observation, inspection, and testing of the Work in progress. Contractor can require compliance with Contractor's safety procedures and programs as part of providing safe access.

14.02 Tests, Inspections, and Approvals

- A. OPT may retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform inspections. Cooperate with inspection and testing personnel and assist with providing access for required inspections, tests, and handling test specimens or Samples.
- B. Arrange for and facilitate inspections, tests, and approvals required by Laws or Regulations of governmental entities having jurisdiction that require Work to be inspected, tested, or approved by an employee or other representative of that entity. Pay associated costs and furnish Construction Manager with the required certificates of inspection or approval.
- C. Arrange, obtain, and pay for inspections and tests required:
 - 1. By the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to OPT;

2. To attain OPT's acceptance of materials or equipment to be incorporated in the Work;
 3. By manufacturers of equipment furnished under the Contract Documents;
 4. For testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work;
 5. For acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work;
 6. For re-inspecting or retesting Defective Work, including any associated costs incurred by the testing laboratory for cancelled tests or standby time; and
 7. For retesting due to failed tests.
- D. Provide independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to OPT to provide these inspections and tests.

14.03 Defective Work

- A. It is Contractor's obligation to ensure that the Work is not Defective.
- B. OPT has the authority to determine whether Work is Defective and to reject Defective Work.
- C. Construction Manager is to notify Contractor of Defective Work of which OPT has actual knowledge.
- D. Promptly correct Defective Work.
- E. Take no action that would void or otherwise impair Owner's special warranties or guarantees when correcting Defective Work.
- F. Pay claims, costs, losses, and damages arising out of or relating to Defective Work, including:
 1. Costs for correction, removal, and replacement of Defective Work;
 2. Cost of the inspection and testing related to correction of Defective Work;
 3. Costs for Design Professional's fees associated with review and approval of design modifications for correction, removal, and replacement of Defective Work.
 4. Fines levied against Owner by governmental authorities because of Defective Work; and
 5. Costs of repair or replacement of work of others resulting from Defective Work.

14.04 Acceptance of Defective Work

- A. Owner may elect to accept Defective Work instead of requiring correction or removal and replacement of Defective Work provided:
 1. This acceptance occurs prior to final payment;
 2. Design Professional confirms that the Defective Work is in general accordance with the design intent and applicable design principles; and

3. Design Professional confirms that acceptance of the Defective Work does not endanger public health or safety.
- B. Owner may impose a reasonable Set-off against payments due under Article 15 for costs associated with OPT's evaluation of Defective Work to determine if it can be accepted and to determine the diminished value of the Work. Owner may impose a reasonable Set-off against payments due under Article 15 if the parties are unable to agree as to the decrease in the Contract Price to compensate Owner for the diminished value of Defective Work accepted. Construction Manager is to issue a Change Order for acceptance of the Defective Work prior to final payment. Pay an appropriate amount to Owner if the acceptance of Defective Work occurs after final payment.

14.05 Uncovering Work

- A. OPT has the authority to require inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. Work that is covered prior to approval of Construction Manager must be uncovered for OPT's observation if requested by Construction Manager. Pay for uncovering Work and its subsequent restoration unless Contractor has given Construction Manager timely notice of Contractor's intention to cover the Work and Construction Manager fails to act with reasonable promptness in response to this notice.
- C. Provide necessary labor, material, and equipment and uncover, expose, or otherwise make available the portion of the Work suspected of being Defective for observation, inspection, or testing if OPT considers it necessary or advisable that covered Work be observed by Design Professional or inspected or tested by others as directed by Construction Manager.
 1. Pay for claims, costs, losses, and damages associated with uncovering, exposing, observing, inspecting, and testing if it is found that the uncovered Work is Defective. Pay costs for correction of Defective Work. Pay for reconstruction, repair, or replacement of work of others if it is found that the uncovered Work is Defective.
 2. Submit a Change Proposal for an increase in the Contract Price or an extension of the Contract Times directly attributable to this uncovering, exposure, observation, inspection, testing, and reconstruction if the uncovered Work is found to not be Defective.

14.06 Owner May Stop the Work

- A. Owner may order Contractor to stop the Work if:
 1. The Work is Defective;
 2. Contractor fails to supply sufficient skilled workers or suitable materials or equipment;
or
 3. Contractor performs Work that may fail to conform to the Contract Documents when completed.
- B. This stop work order is to remain in effect until the reason for the stop work order has been eliminated. Owner's right to stop the Work does not create a duty to exercise this right for the benefit of Contractor's Team or surety.

14.07 Owner May Correct Defective Work

- A. Owner may remedy Defective Work after 7 days' notice to Contractor if Contractor fails to correct Defective Work, or to remove and replace Defective Work as required by OPT;
- B. Owner may:
 - 1. Exclude Contractor from the Site;
 - 2. Take possession of the Work and suspend Contractor's services related to the Work; and
 - 3. Incorporate stored materials and equipment in the Work.
- C. Allow OPT access to the Site and off-site storage areas to enable Owner to exercise the rights and remedies under this paragraph.
- D. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 are to be charged against Contractor as a Set-off against payments due under Article 15. These claims, costs, losses, and damages include costs of repair and the cost of replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's Defective Work.
- E. Contractor is not allowed an extension of the Contract Times because of delays in the performance of the Work attributable to the exercise of the Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; FINAL COMPLETION

15.01 Progress Payments

- A. Progress payments are to be submitted to Construction Manager on the Application for Payment form provided by Construction Manager following procedures in the Contract Documents.
 - 1. Progress payments for lump sum Work are to be paid based on the earned value to date at the amounts shown in the Schedule of Values submitted as required by Paragraph 2.03. Final payment will be for the total lump sum amount.
 - 2. Progress payments for Unit Price Work are based on the number of units completed as determined under the provisions of Paragraph 13.03.
 - 3. Progress payments for Work to be paid based on the Cost of the Work per Paragraphs 13.01, 13.02 and 13.04 are to be paid for Work completed by Contractor during the pay period.
- B. Reduction in Payment by Owner:
 - 1. Owner is entitled to impose a Set-off against payment based on the following:
 - a. Claims made against Owner or costs, losses, or damages incurred by Owner related to:
 - 1) Contractor's conduct in the performance of the Work, including workplace injuries, non-compliance with Laws and Regulations, or patent infringement; or

- 2) Contractor's failure to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site, including workplace injuries, property damage, and non-compliance with Laws and Regulations.
 - b. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - c. Work is Defective, or completed Work has been damaged by Contractor's Team, requiring correction or replacement;
 - d. Owner has been required to correct Defective Work or complete Work in accordance with Paragraph 14.07;
 - e. The Contract Price has been reduced by Change Orders;
 - f. Events have occurred that would constitute a default by Contractor justifying a termination for cause;
 - g. Liquidated or other damages have accrued because of Contractor's failure to achieve Milestones, Substantial Completion, or completion of the Work;
 - h. Liens have been filed regarding the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of these Liens;
 - i. Owner has been notified of failure to make payments to Subcontractors, Suppliers, or Employees;
 - j. Failure to submit up-to-date record documents as required by the Contract Documents;
 - k. Failure to submit monthly Progress Schedule updates or revised schedules as requested by Construction Manager;
 - l. Failure to provide Project photographs required by the Contract Documents;
 - m. Failure to provide Certified Payroll required by the Contract Documents;
 - n. Compensation for OPT for overtime charges of Construction Manager, third review of Shop Drawings, review of substitutions, re-inspection fees, inspections or designs related to correction of Defective Work, or other services identified as requiring payment by Contractor;
 - o. Costs for tests performed by Owner to verify that Work previously tested and found to be Defective has been corrected;
 - p. OPT has actual knowledge of the occurrence of events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents with associated cost impacts;
 - q. Payment would result in an over-payment of the Contract Price; or
 - r. Other items entitling Owner to a Set-off against the amount recommended.
2. Compensation for services of OPT staff is to be at the rates established in the Supplementary Conditions.

3. Construction Manager is to notify Contractor stating the amount and the reasons for an imposed Set-off. Owner is to pay Contractor amounts remaining after deduction of the Set-off. Owner is to pay the Set-off amount agreed to by Owner and Contractor if Contractor remedies the reasons for the Set-off. Contractor may submit a Change Proposal contesting the Set-off.
- C. No payment will be made for Work authorized by a Work Change Directive until the Work Change Directive is incorporated into a Change Order, unless arrangements or interim payments have been included in the Work Change Directive. Payment can be included in an Application for Payment when the Change Order is approved.
- D. Owner is to pay the amount of payment recommended by Construction Manager within 30 days after receipt of the Application for Payment and accompanying documentation from Construction Manager.
- E. Contractor certifies that all Work, including materials, covered by each Application for Payment have been completed or delivered and stored in accordance with the Contract Documents, that all amounts have been paid for Work, materials, and equipment for which previous payment has been made by Owner, and that the current payment amount shown in this Application for Payment is due.

15.02 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to the Work, materials, and equipment furnished under the Contract is to pass to Owner free and clear of Liens, title defects, and patent, licensing, copyright, or royalty obligations no later than 7 days after the time of payment by Owner of the Application for Payment which includes these items.

15.03 Substantial Completion

- A. Notify Construction Manager when the Work or portion of the Work to be accepted under Paragraph 15.04 is substantially complete and request a Certificate of Substantial Completion.
- B. OPT is to inspect the Work after Contractor's notification to determine if the Work is substantially complete. Construction Manager is to either issue the Certificate of Substantial Completion which sets the date of Substantial Completion or notify Contractor of the reasons the Project is not considered to be substantially complete.
- C. The OPT and Contractor are to meet to discuss Owner's use or occupancy of the Work following Substantial Completion. Items to be discussed at this meeting include:
 1. Review of insurance policies with respect to the end of the Contractor's coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner;
 2. Owner's assumption of responsibility for security, operation, protection of the Work, maintenance, and utilities upon Owner's use or occupancy of the Work;
 3. Contractor's obligations for operations and maintenance during performance and acceptance testing;
 4. Contractor's access to the Site to complete punch list items; and

5. Procedures for correction of Defective Work during the one-year correction period.

15.04 Partial Utilization

- A. Owner may use or occupy substantially completed parts of the Work which are specifically identified in the Contract Documents, or which OPT and Contractor agree constitutes a separately functioning and usable part of the Work prior to Substantial Completion of the Work. Owner must be able to use that part of the Work for its intended purpose without significant interference with Contractor's performance of the remainder of the Work. Contractor and OPT are to follow the procedures of Paragraph 15.03 for this part of the Work.
- B. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Article 6.

15.05 Final Inspection

- A. OPT is to make a final inspection upon notice from Contractor that the entire Work or portion to be accepted under Paragraph 15.04 is complete. Construction Manager is to notify Contractor of Work determined to be incomplete or Defective. Immediately take corrective measures to complete the Work and correct Defective Work.
- B. Notify Construction Manager when the entire Project and ready for Final Payment under Paragraph 15.06 and request a Certificate of Final Completion.
- C. OPT is to inspect the Work after Contractor's notification to determine if the Project is complete. Construction Manager is to either issue the Certificate of Final Completion which sets the date of Final Completion or notify Contractor of the reasons the Project is not considered to be complete.

15.06 Final Payment

- A. Make application for final payment after completing required corrections identified during the final inspection and delivering items and documents required by the Contract Documents. Provide the following with the final Application for Payment:
 - 1. Consent of Surety to Final Payment acknowledging unsettled disputes; or
 - 2. Affidavit of Payment of Debts and Claims or Affidavit of Release of Liens or furnish receipts or releases from Subcontractors and Suppliers when a payment bond is not required.
- B. Construction Manager is to either recommend payment of the final Application for Payment to Owner if OPT is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled or notify Contractor of OPT's reasons for not recommending final payment.
- C. The Work is complete, subject to surviving obligations, when it is ready for final payment as established by the Construction Manager's recommendation of payment of the final Application for Payment to Owner and the issuance of a Certificate of Final Completion.
- D. Owner is to pay the amount of final payment recommended by Construction Manager within 30 days after receipt of the final Application for Payment and accompanying

documentation from Construction Manager; unless additional time is required for approval of a governing board or entity. Payment will be within 30 days of approval by the governing board or entity.

15.07 Waiver of Claims

- A. The making of final payment does not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from:
 - 1. Unsettled Liens or claims for non-payment;
 - 2. Defective Work appearing after final inspection pursuant to Paragraph 15.05;
 - 3. Contractor's failure to comply with the terms of special guarantees specified in the Contract Documents;
 - 4. Outstanding Claims or express reservation of rights by Owner; or
 - 5. Contractor's continuing obligations under the Contract Documents.
- B. Contractor waives claims and rights against Owner by accepting final payment except for those Claims made in accordance with the provisions of Article 17 and specifically noted in the Certificate of Final Completion.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 Owner May Suspend Work

- A. Owner may suspend the Work or a portion of the Work for a period of not more than 90 consecutive days, at any time and without cause, by notice to Contractor. This notice fixes the date on which Contractor is to resume Work. Contractor is entitled to adjustments in the Contract Price and Contract Times directly attributable to this suspension. Submit a Change Proposal seeking an adjustment no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

- A. The occurrence of one or more of the following events constitutes a default by Contractor and justifies termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents, including failure to supply sufficient skilled workers or suitable materials or equipment;
 - 2. Failure to adhere to the Progress Schedule;
 - 3. Failure of Contractor to provide a satisfactory replacement bond or insurance in the event either is lost or canceled;
 - 4. Failure of Contractor to maintain financial solvency to adequately complete the Project as indicated by one or more of the following:
 - a. A petition of bankruptcy is filed by or against Contractor,
 - b. Contractor is adjudged as bankrupt or insolvent,

- c. Contractor or surety makes a general assignment for the benefit of creditors,
 - d. A receiver is appointed for the benefit of Contractor's creditors, or
 - e. A receiver is appointed because Contractor's insolvency;
 - 5. Contractor's disregard of Laws or Regulations of public bodies having jurisdiction; or
 - 6. Contractor's repeated disregard of the authority of OPT.
- B. Contractor and surety must provide adequate assurance of future performance in accordance with the Contract Documents that is satisfactory to Owner if Contractor is believed to be in financial distress due to the existence of one or more of the indicators listed in Paragraph 16.02.A.4. Owner may terminate this Contract if Contractor and surety fail to provide adequate documentation satisfactory to Owner within 10 days of Construction Manager's request for this information.
- C. Owner may declare Contractor to be in default, give notice to Contractor and surety that the Contract is terminated, and enforce the rights available to Owner under the performance bond after giving Contractor and surety 10 days' notice that one or more of the events identified in Paragraph 16.02.A has occurred.
- D. Owner may exclude Contractor from the Site, take possession of the Work, incorporate the materials and equipment stored and complete the Work as Owner may deem expedient if Owner has terminated the Contract for cause.
- E. Owner may elect not to proceed with termination of the Contract under this Paragraph 16.02 if Contractor begins to cure the cause for termination within 7 days of receipt of notice of intent to terminate.
- F. Contractor is not entitled to receive further payments until the Work is completed if Owner proceeds as provided in this Paragraph 16.02. The amount of the Contract Price remaining is to be paid to Contractor if the unpaid balance exceeds the cost to complete the Work. This cost to complete the Work may include related claims, costs, losses, damages, and the fees and charges of engineers, architects, attorneys, and other professionals retained by Owner. Pay the difference to Owner if the cost to complete the Work including related claims, costs, losses, and damages exceeds the unpaid balance of the Contract Price. Claims, costs, losses, and damages incurred by Owner are to be reviewed as to their reasonableness and incorporated in a Change Order by Construction Manager. Owner is not required to obtain the lowest price for the Work performed when exercising its rights or remedies under this paragraph.
- G. Termination does not affect the rights or remedies of Owner against Contractor or against surety under the payment bond or performance bond. Owner does not release Contractor from liability by paying or retaining money due Contractor.

16.03 Owner May Terminate for Convenience

- A. Owner may terminate the Contract without cause after giving 7 days' notice to Contractor of the effective date of termination. Contractor is to be paid for the following if Owner terminates for convenience:
- 1. Work completed in accordance with the Contract Documents prior to the effective date of termination;

2. Actual costs sustained prior to the effective date of termination for Work in progress, plus a fair and reasonable amount for overhead and profit; fee calculated in accordance with Paragraph 11.04.D; and
 3. Reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor will not be paid for loss of anticipated profits or revenue, post termination overhead costs, or other economic loss arising out of or resulting from this termination.

16.04 Contractor May Stop Work or Terminate

- A. Contractor may terminate the Contract and issue a Change Proposal requesting payment from Owner on the same terms as provided in Paragraph 16.03 after 10 days' notice to Construction Manager provided that, through no act or fault of Contractor:
1. The Work is suspended for more than 90 consecutive days by Owner;
 2. Construction Manager fails to act on an Application for Payment within 30 days after it is submitted; or
 3. Owner fails to pay Contractor sums determined to be due, other than the final payment, within 30 days after payment is recommended by Construction Manager; and
 4. OPT does not remedy this suspension or failure within 10 days after receipt of the notice.
- B. Contractor may stop Work, without prejudice to other rights or remedies in lieu of terminating the Contract if Construction Manager has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed to pay Contractor within 30 days after payment is recommended by Construction Manager. The provisions of this Paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times for damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 Methods and Procedures

- A. The Owner or Contractor may appeal a Claim, approved or denied in part or in full, by:
1. Electing to invoke the dispute resolution process if one is provided for in the Supplementary Conditions;
 2. Agreeing with the other party to submit the dispute to a dispute resolution process; or
 3. Notifying the other party of the intent to submit the dispute to a court of competent jurisdiction if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to.

ARTICLE 18 – MISCELLANEOUS

18.01 Computation of Times

- A. Exclude the first day and include the last day when determining dates for a period referred to in the Contract Documents by days. The last day of this period is to be omitted from the determination if it falls on a Saturday, Sunday, or a legal holiday.
- B. All references and conditions for a calendar day contract in the Contract Documents apply for a Fixed Date Contract. A fixed date contract is one in which the calendar dates for reaching Substantial Completion and/or Final Completion are specified in lieu of identifying the number of calendar days involved.

18.02 Independent Contractor

- A. Contractor is to perform its duties under this Contract as an independent contractor. Contractor's Team and their personnel are not considered to be employees or agents of Owner. Nothing in this Agreement is to be interpreted as granting Contractor's Team the right or authority to make commitments for Owner. This Agreement does not constitute or create a joint venture, partnership, or formal business organization of any kind.

18.03 Cumulative Remedies

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available to the Owner or Contractor by these General Conditions are in addition to, and are not a limitation of, the rights and remedies which are otherwise imposed or available by:
 - 1. Laws or Regulations;
 - 2. Special warranties or guarantees; or
 - 3. Other provisions of the Contract Documents.
- B. The provisions of this Paragraph are as effective as if repeated specifically in the Contract Documents regarding each duty, obligation, right, and remedy to which they apply.

18.04 Limitation of Damages

- A. Owner's Indemnitees are not liable to Contractor for claims, costs, losses, or damages sustained by Contractor's Team associated with other projects or anticipated projects.

18.05 No Waiver

- A. The failure of Owner or Contractor to enforce any provision of this Contract does not constitute a waiver of that provision, affect the enforceability of that provision, or the enforceability of the remainder of this Contract.

18.06 Severability

- A. If a court of competent jurisdiction renders a part of this Contract invalid or unenforceable, that part is to be severed and the remainder of this Contract continues in full force.

18.07 Survival of Obligations

- A. Representations, indemnifications, warranties, guarantees, and continuing obligations required by the Contract Documents survive completion and acceptance of the Work or termination of the Contract.

18.08 No Third-Party Beneficiaries

- A. Nothing in this Contract can be construed to create rights in any entity other than the Owner and Contractor. Neither the Owner nor Contractor intends to create third party beneficiaries by entering into this Contract.

18.09 Successors and Assigns

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents

18.10 Assignment of Contract

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights or interests in the Contract will be binding on the other party without the written consent of the other party. Money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.11 No Waiver of Sovereign Immunity

- A. Owner has not waived its sovereign immunity by entering into and performing its obligations under this Contract.

18.12 Controlling Law

- A. This Contract is to be governed by the law of the state in which the Project is located.
- B. Venue for legal proceedings lies exclusively in the county in which the Owner's home office is located unless specified elsewhere in the Contract Documents.

END OF SECTION

00 73 00 SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement Section 00 72 00 "General Conditions." The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below.

The paragraph numbers used in the Supplementary Conditions correspond to the General Condition paragraphs they modify with the prefix "SC" added—for example, "Paragraph SC-4.05." modifies General Conditions Paragraph 4.05.

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

SC-1.01 Defined Terms

- A. The Owner’s Project Team as defined in the Paragraph 1.01.A.45 of the General Conditions consists of the following organizations:
 - 1. Matagorda Bay Foundation
15918 County Road 946
Brazoria, Texas 77422
 - 2. Nic Kirk, P.E.
801 Cherry Street, Suite 2700
Fort Worth, Texas 76102

ARTICLE 5 – SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 Subsurface and Physical Conditions

- A. This Supplementary Condition identifies the reports and drawings referenced in Paragraph 5.03 of the General Conditions related to subsurface and physical conditions.
 - 1. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Report Date	Technical Data
N/A		

- 2. The following table lists the drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data, and specifically identifies the Technical Data upon which Contractor may rely:

Drawing Title	Drawing Date	Technical Data
N/A		

Drawing Title	Drawing Date	Technical Data

3. Copies of reports and drawings may be downloaded from the procurement website.

SC-5.06 Hazardous Environmental Conditions at Site

- A. This Supplementary Condition identifies the reports and drawings referenced in Paragraph 5.06 of the General Conditions related to Hazardous Environmental Conditions at the Site.

1. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

Report Title	Report Date	Technical Data
N/A		

2. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely:

Drawing Title	Drawing Date	Technical Data
N/A		

3. Copies of reports and drawings may be downloaded from the procurement website.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

SC-7.15 Indemnification

- A. Supplement Paragraph 7.15 by adding the following paragraph:
 - “C. Contractor’s obligations to indemnify or hold Owner’s Indemnitees harmless against losses, damages, or expenses specified in these General Conditions shall be subject to the applicable limitations of Chapter 130 of the Texas Civil Practice and Remedies Code.”

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-13.01 Cost of the Work

- A. Supplement Paragraph 13.01.C.4.d.1) by adding the following sentence:

“The equipment rental rate book that governs the included costs for the rental of machinery and equipment owned by Contractor (or a related entity) under the Cost of the

Work provisions of this Contract is the most current edition of EquipmentWatch Cost Recovery Rental Rate Blue Book.”

END OF SECTION

00 73 43 WAGE RATE REQUIREMENTS

ARTICLE 1 – PAYMENT OF PREVAILING WAGE RATES

- 1.01 Contractor and Subcontractors employed on this Project must pay not less than the rates established by the Owner as required by Tex. Gov't Code Chapter 2258.
- 1.02 The minimum wage rates for various labor classifications as established by the Owner are included in Section 00 73 46 "Wage Determination Schedule."

ARTICLE 2 – PENALTY

- 2.01 In accordance with Section 2258.023(b), any Contractor or Subcontractor who violates the requirements of Chapter 2258 shall pay the Owner \$60 for each worker employed or each calendar day or part of the day that the worker is paid less than the wage rates stipulated in the Contract.
- 2.02 Failure to comply with the requirements of Chapter 2258 may subject the Owner, Contractor, or Subcontractor(s) to additional civil and criminal penalties.

ARTICLE 3 – RECORDS

- 3.01 In accordance with Section 2258.024, the Contractor and its Subcontractors, if any, shall keep a record showing:
 - A. The name and occupation of each worker employed by the Contractor or Subcontractor in the construction of the Work; and
 - B. The actual per diem wages paid to each worker.
- 3.02 This record shall be open at all reasonable hours to inspection by the officers and agents of the OPT.

ARTICLE 4 – ENFORCEMENT

- 4.01 Owner will enforce the provisions related to the payment of prevailing wage rates as required by Chapter 2258, Subchapter C.
- 4.02 Owner may be required to withhold money forfeited or required to be withheld under Chapter 2258 from the payments to the Contractor. If required, these amounts will be withheld from payments to the Contractor through a Set-off in accordance with the General Conditions.

END OF SECTION

00 73 46 WAGE DETERMINATION SCHEDULE

General Decision Number: TX20210045 01/01/2021

Superseded General Decision Number: TX20200045

State: Texas

Construction Type: Heavy

Counties: Aransas, Austin, Calhoun and Goliad Counties in Texas.

HEAVY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015.

If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections

under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number Publication Date

0 01/01/2021

SUTX2005-023 09/08/2005

	Rates
Asphalt Distributor Operator	\$ 12.57
Asphalt paving machine operator.....	\$ 11.60
Asphalt Raker	\$ 10.63
Asphalt Shoveler	\$ 9.23
Broom or Sweeper Operator	\$ 9.32
Bulldozer operator	\$ 11.69
CARPENTER	\$ 11.70
Concrete Finisher, Paving.....	\$ 11.64
Concrete Finisher, Structures	\$ 10.23
Concrete Rubber	\$ 9.00
Crane, Clamshell, Backhoe, Derrick, Dragline, Shovel Operator	\$ 12.00
Flagger.....	\$ 8.60
Form Builder/Setter, Structures	\$ 10.51
Form Setter, Paving & Curb	\$ 9.48
Foundation Drill Operator, Truck Mounted.....	\$ 14.58
Front End Loader Operator.....	\$ 10.62
Laborer, common.....	\$ 8.91
Laborer, Utility	\$ 9.21
MECHANIC	\$ 12.18
Motor Grader Operator Fine Grade.....	\$ 15.15
Motor Grader Operator Rough.....	\$ 12.95
Pavement Marking Machine Operator	\$ 13.32
Pipelayer	\$ 9.71
Roller Operator, Pneumatic, Self-Propelled	\$ 8.90
Roller Operator, Steel Wheel, Flat Wheel/Tamping	\$ 9.30
Roller Operator, Steel Wheel, Plant Mix Pavement	\$ 10.59
Scraper Operator	\$ 9.85

Servicer	\$ 11.18
Spreader Box Operator	\$ 13.00
Traveling Mixer Operator.....	\$ 12.67
Truck Driver Single Axle Heavy	\$ 10.87
Truck Driver Single Axle, Light.....	\$ 10.85
Truck driver, lowboy-Float.....	\$ 13.70
Truck Driver, Tandem Axle, Semi-Trailer	\$ 10.05
Work Zone Barricade Servicer	\$ 9.63

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is

based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request

review and reconsideration from the Wage and Hour Administrator
(See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

END OF SECTION

01 11 00 SUMMARY OF WORK

PART 1 - GENERAL

1.01 SUMMARY

- A. Construct Work as described in the Contract Documents.
 - 1. Provide the materials, equipment, and incidentals required to make the Project completely and fully operable.
 - 2. Provide the labor, equipment, tools, and consumable supplies required for a complete Project.
 - 3. Provide the civil, architectural, structural, mechanical, electrical, instrumentation, and all other Work required for a complete and operable Project.
 - 4. Test and place the completed Project in operation.
 - 5. Provide the special tools, spare parts, lubricants, supplies, or other materials as indicated in the Contract Documents for the operation and maintenance of the Project.
 - 6. The Contract Documents do not indicate or describe all Work required to complete the Project. Additional details required for the correct installation of selected products are to be provided by the Contractor and coordinated with the Construction Manager.
- B. Owner may pre-select or pre-purchase goods for this Project per Section 01 64 00 "Owner-Furnished Goods and Special Services." Install these goods and coordinate the performance of specified special services.

1.02 DESCRIPTION OF WORK

- A. Work is described in general, non-inclusive terms as:
 - 1. Construction of 5 segments of a nearshore rubble-mound breakwater approximately 0.62 miles in length. Each segment of the breakwater is approximately 600-feet long.
- B. Location of Work
 - 1. The project site is located in Calhoun County in the north central shoreline of the back bay of Matagorda Bay, on the western peninsula of the confluence of Carancahua Bay and Matagorda Bay at Schicke Point. Access to the project site is via Schicke Road (Hwy 312), with property entrance from Peggy Street or by boat from Carancahua Bay or Matagorda Bay.
- C. Construction Access
 - 1. All work for project construction will be conducted from the water using barge operations.
- D. Project Site Conditions
 - 1. It is the Contractor's responsibility to become familiar with the project site prior to bidding, and to verify the accuracy of the information provided.
- E. Owner Obtained Permits

1. USACE Permit No.: SWG-2021-_____
2. TXGLO Coastal Surface Lease No: SL20160038

1.03 WORK UNDER OTHER CONTRACTS

- A. The Owner has no knowledge of work, other than the Work included in this Contract, which may impact construction scheduling, testing, and startup.

1.04 WORK BY OWNER

The Owner has no knowledge of work, other than the Work included in this Contract that may impact construction scheduling, testing, and startup.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 26 00 CHANGE MANAGEMENT

PART 1 - GENERAL

1.01 REQUESTS FOR CHANGE PROPOSAL

- A. Construction Manager will initiate Modifications by issuing a Request for Change Proposal (RCP).
 - 1. Construction Manager and Design Professional will prepare a description of proposed Modifications.
 - 2. Construction Manager will issue the Request for Change Proposal form to Contractor. A number will be assigned to the Request for a Change Proposal when issued.
 - 3. Return a Change Proposal in accordance with Paragraph 1.02 for evaluation by the OPT.

1.02 CHANGE PROPOSALS

- A. Submit a Change Proposal (CP) to the Construction Manager for Contractor initiated changes in the Contract Documents or in response to a Request for Change Proposal. Submit the Change Proposal and attach the forms provided by the Construction Manager.
 - 1. Use the Change Proposal form provided by the Construction Manager.
 - 2. Include with the Change Proposal:
 - a. A complete description of the proposed Modification if Contractor initiated or proposed changes to the OPT's description of the proposed Modification.
 - b. The reason the Modification is requested, if not in response to a Request for a Change Proposal.
 - c. A detailed breakdown of the cost of the change if the Modification requires a change in Contract Price. The itemized breakdown is to include:
 - 1) List of materials and equipment to be installed;
 - 2) Man hours for labor by classification;
 - 3) Equipment used in construction;
 - 4) Consumable supplies, fuels, and materials;
 - 5) Royalties and patent fees;
 - 6) Bonds and insurance;
 - 7) Overhead and profit;
 - 8) Field office costs;
 - 9) Home office cost; and
 - 10) Other items of cost.
 - d. Provide the level of detail outlined in the paragraph above for each Subcontractor or Supplier actually performing the Work if Work is to be provided by a

Subcontractor or Supplier. Indicate appropriate Contractor mark ups for Work provided through Subcontractors and Suppliers. Provide the level of detail outlined in the paragraph above for self-performed Work.

- e. Submit Change Proposals that comply with the General Conditions for Cost of Work.
 - f. Provide a revised schedule. Show the effect of the change on the Project Schedule and the Contract Times.
- B. Submit a Change Proposal to the Construction Manager to request a Field Order.
 - C. A Change Proposal is required for all substitutions or deviations from the Contract Documents.
 - D. Request changes to products in accordance with Section 01 33 02 "Shop Drawings."

1.03 CONSTRUCTION MANAGER WILL EVALUATE THE REQUEST FOR A MODIFICATION

- A. Construction Manager will issue a Modification per the General Conditions if the Change Proposal is acceptable to the Owner. Construction Manager will issue a Change Order or Contract Amendment for any changes in Contract Price or Contract Times.
 - 1. Change Orders and Contract Amendments will be sent to the Contractor for execution with a copy to the Owner recommending approval. A Work Change Directive may be issued if Work needs to progress before the Change Order or Contract Amendment can be authorized by the Owner.
 - 2. Work Change Directives, Change Orders, and Contract Amendments can only be approved by the Owner.
 - a. Work performed on the Change Proposal prior to receiving a Work Change Directive or approval of the Change Order or Contract Amendment is performed at the Contractor's risk.
 - b. No payment will be made for Work on Change Orders or Contract Amendments until approved by the Owner.
- B. Contractor may be informed that the Change Proposal is not approved and construction is to proceed in accordance with the Contract Documents.

1.04 EQUAL NON-SPECIFIED PRODUCTS

- A. The products of the listed manufacturers are to be furnished where the Specifications list several manufacturers and do not specifically list "or equal" or "or approved equal" products. Use of any products other than those specifically listed is a substitution. Follow the procedures in Paragraph 1.05 for a substitution.
- B. Contractor may submit other manufacturers' products that are in full compliance with the Specifications where Specifications list one or more manufacturers followed by the phrase "or equal" or "or approved equal."
 - 1. Prove that the product is equal. It is not the OPT's responsibility to prove the product is not equal.

- a. Indicate on a point-by-point basis for each specified feature that the product is equal to the Contract Document requirements.
 - b. Make a direct comparison with the specified manufacturer's published data sheets and available information. Provide this printed material with the Shop Drawing.
 - c. The decision of the Design Professional regarding the acceptability of the proposed product is final.
2. Provide a certification that, in furnishing the proposed product as an equal, the Contractor:
- a. Has thoroughly examined the proposed product and has determined that it is equal or superior in all respects to the product specified.
 - b. Has determined that the product will perform in the same manner and result in the same process as the specified product.
 - c. Will provide the same warranties and/or bonds as for the product specified.
 - d. Will assume all responsibility to coordinate any modifications that may be necessary to incorporate the product into the construction and will waive all claims for additional Work which may be necessary to incorporate the product into the Project which may subsequently become apparent.
 - e. Will maintain the same time schedule as for the specified product.
- C. A Change Proposal is not required for any product that is in full compliance with the Contract Documents. If the product is not in full compliance, it may be offered as a Substitution.

1.05 SUBSTITUTIONS

- A. Substitutions are defined as any product that the Contractor proposes to provide for the Project in lieu of the specified product. Submit a Change Proposal per Paragraph **[1.02]** to request approval of a substitution.
- B. Prove that the product is acceptable as a substitute. It is not the Design Professional's responsibility to prove the product is not acceptable as a substitute.
 - 1. Indicate on a point-by-point basis for each specified feature that the product is acceptable to meet the intent of the Contract Documents requirements.
 - 2. Make a direct comparison with the specified Suppliers published data sheets and available information. Provide this printed material with the Shop Drawing.
 - 3. The decision of the Design Professional regarding the acceptability of the proposed substitute product is final.
- C. Provide a certification that, in making the substitution request, the Contractor:
 - 1. Has determined that the substituted product will perform in substantially the same manner and result in the same ability to meet the specified performance as the specified product;

2. Will provide the same warranties and/or bonds for the substituted product as specified or as would be provided by the manufacturer of the specified product;
3. Will assume all responsibility to coordinate any modifications that may be necessary to incorporate the substituted product into the Project and will waive all claims for additional Work which may be necessary to incorporate the substituted product into the Project which may subsequently become apparent; and
4. Will maintain the same time schedule as for the specified product.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 29 00 APPLICATION FOR PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

- A. Submit Applications for Payment for completed Work and for materials and equipment in accordance with the General Conditions, the Supplementary Conditions, the Agreement, and this Section. The Contract Price is to include costs for:
1. Providing the Work in accordance with the Contract Documents;
 2. Installing Owner furnished equipment and materials, if any;
 3. Providing Work for alternates and allowances, if any;
 4. Providing Work for extra work items, if any and if authorized
 5. Commissioning, startup, training, and initial maintenance and operation;
 6. Acceptance testing at the manufacturer’s facilities or at the Site;
 7. All home office overhead costs and expenses, including profit made directly or indirectly from the Project;
 8. Project management, contract administration, and field office and field operations staff including supervision, clerical support, and technology system support;
 9. Professional services including design fees, legal fees, and other professional services;
 10. Bonds and insurance;
 11. Permits, licenses, patent fees, and royalties;
 12. Taxes;
 13. Providing all documentation and Samples required by the Contract Documents;
 14. Facilities and equipment at the Site including:
 - a. Field offices, office furnishings, and all related office supplies, software, and equipment,
 - b. Storage facilities for Contractor’s use and storage facilities for stored materials and equipment including spare parts storage,
 - c. Shops, physical plant, construction equipment, small tools, vehicles, and technology and telecommunications equipment,
 - d. Safety equipment and facilities to provide safe access and working conditions for workers and for others working at the Site,
 - e. Temporary facilities for power and communications,
 - f. Potable water and sanitation facilities, and
 - g. Mobilization and demobilization for all these facilities and equipment.
 15. Products, materials, and equipment stored at the Site or other suitable location in accordance with Section 01 31 00 “Project Management and Coordination”;

16. Products, materials, and equipment permanently incorporated into the Project;
 17. Temporary facilities for managing water including facilities for pumping, storage, and treatment as required for construction and protection of the environment;
 18. Temporary facilities for managing environmental conditions and Constituents of Concern;
 19. Temporary facilities such as sheeting, shoring, bracing, formwork, embankments, storage facilities, working areas, and other facilities required for construction of the Project;
 20. Temporary and permanent facilities for protection of all overhead, surface, or underground structures or features;
 21. Temporary and permanent facilities for removal, relocation, or replacement of any overhead, surface, or underground structures or features;
 22. Products, materials, and equipment consumed during the construction of the Project;
 23. Contractor labor and supervision to complete the Project including that provided through Subcontractors or Suppliers;
 24. Correcting Defective Work during the Contract Times, during the Correction Period, or as required to meet any warranty provision of the Contract Documents;
 25. Risk associated with weather and environmental conditions, startup, and initial operation of facilities including equipment, processes, and systems;
 26. Contractor safety programs, including management, administration, and training;
 27. Maintenance of facilities including equipment, processes, and systems until operation is transferred to Owner;
 28. Warranties, extended or special warranties, or extended service agreements;
 29. Cleanup and disposal of any and all surplus materials; and
 30. Demobilization of all physical, temporary facilities not incorporated into the Project.
- B. Include the cost not specifically set forth as an individual payment item but required to provide a complete and functional system in the Contract Price.
- C. Provide written approval of the surety company providing performance and payment bonds for the Schedule of Values, Application for Payment form, and method of payment prior to submitting the first Application for Payment. Submit approval using the "Consent of Surety Company to Payment Procedures" form provided by the Construction Manager. Payment will not be made without this approval.
- D. Construction Manager may withhold processing the Applications for Payment if any of the following processes or documentation is not up to date:
1. Record Documents per Section 01 31 13 "Project Coordination."

1.02 SCHEDULE OF VALUES

- A. Divide the Contract Price into an adequate number of line items to allow more accurate determination of the earned value for each line item when evaluating progress payments.

Submit a detailed Schedule of Values for the Project at least 10 days prior to submitting the first Application for Payment using forms provided by the Construction Manager.

- B. Do not apply for payment until the Schedule of Values has been approved by the Construction Manager.
- C. Divide the cost associated with each line item in the Schedule of Values into installation and materials components.
 - 1. Installation cost is to include all cost associated with the line item except materials cost.
 - 2. Materials cost is the direct cost (as verified by invoice values) for products, materials, and equipment to be permanently incorporated into the Project associated with the line item.
 - 3. Installation cost is to include all direct costs and a proportionate amount of the indirect costs for the Work associated with each line item. Include costs not specifically set forth as an individual payment item but required to provide a complete and functional system.
 - 4. The sum of materials and installation costs for all line items must equal the Contract Price.
- D. Use each unit price line item in the Agreement as a line item in the Schedule of Values. The sum of materials and installation costs for each line item for unit price contracts must equal the value of the line item in the Agreement. In addition to the installation cost described in Paragraph 1.02.C.3, installation costs for unit price items are to include costs for waste and overages.
 - 1. Installation and materials cost may be left as a single installation component if:
 - a. Contractor does not intend to request payment for stored materials for that line item; or
 - b. Work in the line item will be completed within a single payment period.
 - 2. Provide adequate detail to allow a more accurate determination of the earned value for installation costs, expressed as a decimal fraction of Work completed, for each line item.
 - 3. Installation cost line items may not exceed \$50,000.00. Items that are not subdivided into smaller units may only be included in the Application for Payment when Work on the entire unit is complete.
 - 4. Lump sum items may be divided into an estimated number of units to estimate earned value. The estimated number of units times the cost per unit must equal the lump sum amount for that line item.
 - 5. Include Contractor's overhead and profit in the installation costs each line item in proportion to the value of the line item to the Contract Price.
 - 6. Include cost not specifically set forth as an individual payment item but required to provide a complete and functional system in the Contract Price for each item.
 - 7. Line items may be used to establish the value of Work to be added or deleted from the Project.

- E. Include a breakdown of both mobilization and demobilization costs in the Schedule of Values. The total cost for both mobilization and demobilization may not exceed 5 percent of the total Contract Price. Payment for mobilization and demobilization will be based on the earned value of Work completed. Payment for these costs will only be made for Work completed for the following:
 - 1. Bonds and insurance;
 - 2. Transportation and setup for equipment;
 - 3. Transportation and/or erection of all field offices, sheds, and storage facilities;
 - 4. Salaries for preparation of documents required before the first Application for Payment; and
 - 5. Salaries for field personnel directly related to the mobilization of the Project.

1.03 SCHEDULE OF ANTICIPATED PAYMENTS

- A. Submit a schedule of the anticipated Application for Payments showing the anticipated application numbers, submission dates, and the amount to be requested for each Application for Payment on the form provided by the Construction Manager.
- B. Update the schedule of anticipated payments as necessary to provide a reasonably accurate indication of the funds required to make payments each month to the Contractor for Work performed.

1.04 ALTERNATES, ALLOWANCES, AND EXTRA WORK ITEMS

- A. Include line items and amounts for specified alternate Work and allowances for Work in the Agreement, if any.
- B. Include line items and amounts for Extra Work items in the Agreement, if any, and as described in Section 01 29 01 "Measurement and Basis for Payment."

1.05 RETAINAGE AND SET-OFFS

- A. Retainage will be withheld from each Application for Payment per the Agreement.
- B. Reduce payments for set-offs per the General Conditions as directed by the Construction Manager.

1.06 PROCEDURES FOR SUBMITTING AN APPLICATION FOR PAYMENT

- A. Submit a draft Application for Payment to the Construction Manager each month at least 20 days before the date established in the Agreement for Owner to make progress payments. Do not submit Applications for Payment more often than monthly. Review the draft Application for Payment with the Construction Manager to determine concurrence with:
 - 1. Values requested for materials and equipment, stored or incorporated into the Project as documented by invoices;
 - 2. The earned value for installation costs for each line item in the Application for Payment form expressed as a percent complete for that line item;

3. The quantity of Work completed for each unit price item;
 4. Amount of retainage to be withheld; and
 5. Set-offs included in the Application for Payment.
- B. Submit Applications for Payment to the Construction Manager after agreement has been reached on the draft Application for Payment with the Construction Manager.
- C. Provide all information requested in the Application for Payment form. Do not leave any blanks incomplete. If information is not applicable, enter "N/A" in the space provided.
1. Number each application sequentially and include the dates for the application period.
 2. Complete the "Contract Time Summary" section on the Application for Payment form. If the Final Completion date shows the Project is more than 30 days behind schedule, revise the Schedule of Anticipated Payments to correspond to the updated schedule required per Section 01 33 05 "Construction Progress Schedule."
 3. Complete the "Summary of Earned Value and Set-offs" section on the Application for Payment form. Show the total amounts for earned value of original Contract performed, earned value for Work on approved Contract Amendments and Change Orders, retainage and set-offs.
 4. Sign and date the Contractor's Certification on the Application for Payment form that all Work, including materials, covered by this Application for Payment have been completed or delivered and stored in accordance with the Contract Documents, that all amounts have been paid for Work, materials, and equipment for which previous Payment has been made by the Owner, and that the current payment amount shown in this Application for Payment is now due.
 5. Include "Attachment A - Tabulation of Earned Value of Original Contract Performed" to show the value of materials stored and successfully incorporated into the Project and the earned value for installation of the Work for each line item in the Application for Payment for Work. Attachment A includes Work on the original Contract Price and on approved Contract Amendments and Change Orders.
 6. Include "Attachment B - Tabulation of Values for Materials and Equipment" to track invoices used to support amounts requested as materials in Attachment A. Enter materials to show the amount of the invoice assigned to each item in Attachment A if an invoice includes materials used on several line items.
 7. Include "Attachment C - Summary of Set-offs" to document set-offs made per the Contract Documents. Show each set-off as it is applied. Show a corresponding line item to reduce the set-off amount if a payment held by a set-off is released for payment.
 8. Include "Attachment D - Retainage Calculation" to show method for calculating retainage. The amount of retainage with respect to progress payments is stipulated in the Agreement. Any request for a reduction in retainage must be accompanied by a Consent of Surety to Reduction or Partial Release of Retainage.
 9. Include "Attachment E - EVA Calculation" and the EVA Chart showing the anticipated and actual total earned value of fees, Work, and materials. Create a graphic representation (curve) of the anticipated progress on the Project each month.

Compare the anticipated cumulative total earned value of fees, Work, and materials to the actual total earned value of fees, Work, and materials to determine performance on budget and schedule. Adjust the table and curve to incorporate Modifications.

- D. Submit attachments in Portable Document Format (PDF).
 - 1. Generate attachments to the Application for Payment using the Excel spreadsheet provided by the Construction Manager.
 - 2. Submit PDF documents with adequate resolution to allow documents to be printed in a format equivalent to the document original. Documents are to be scalable to allow printing on standard 8-1/2 x 11 or 11 x 17 paper.

1.07 ADJUSTMENTS TO THE SCHEDULE OF VALUES IN THE APPLICATION FOR PAYMENT

- A. Submit a Change Proposal to request any changes to the Schedule of Values incorporated into the Application for Payment once approved. A Field Order will be issued by the Construction Manager to modify the Application for Payment form if approved.
- B. Payment for materials and equipment shown in the Application for Payment will be made for the total of associated invoice amounts, up to the value shown for materials in the Application for Payment for that line item.
 - 1. If the total amount for invoices for materials and equipment for a line item are less than the amount shown for the materials component of that line item in the Application for Payment, and it can be demonstrated that no additional materials or equipment are required to complete Work described in that item, the difference between the total invoice for materials and equipment and the materials component for that line item can be added to the installation component of that Work item.
 - 2. Costs for material and equipment in excess of the value shown in the Schedule of Values may not be paid for under other line items.

1.08 CONSTRUCTION MANAGER'S RESPONSIBILITY

- A. Construction Manager will review each draft Application for Payment with Contractor to reach an agreement on the amount to be recommended to Owner for payment. Contractor is to revise the Application for Payment to incorporate changes, if any, resulting from this review process.
- B. Construction Manager will review the Application for Payment to determine that the Application for Payment has been properly submitted and is in accordance with the agreed to draft Application for Payment.
- C. Construction Manager will either recommend payment of the Application for Payment to Owner or notify the Contractor of the reasons for not recommending payment. Contractor may make necessary corrections and resubmit the Application for Payment. Construction Manager will review resubmitted Application for Payment and reject or recommend payment of the Application for Payment to Owner as appropriate.
- D. Construction Manager's recommendation of the Application for Payment constitutes a representation that based on its experience and the information available:
 - 1. The Work has progressed to the point indicated;

2. The quality of the Work is generally in accordance with the Contract Documents; and
 3. Requirements prerequisite to payment have been met.
- E. This representation is subject to:
1. Further evaluation of the Work as a functioning whole;
 2. The results of subsequent tests called for in the Contract Documents; or
 3. Any other qualifications stated in the recommendation.
- F. Construction Manager does not represent by recommending payment that:
1. Inspections made to check the quality or the quantity of the Work as it was performed were exhaustive or extended to every aspect of the Work in progress; or
 2. Other matters or issues that might entitle Contractor to additional compensation or entitle Owner to withhold payment to Contractor exist.
- G. Neither Construction Manager's review of Contractor's Work for the purposes of recommending payments nor Construction Manager's recommendation of payment imposes responsibility on the Construction Manager or Owner:
1. To supervise, direct, or control the Work;
 2. For the means, methods, techniques, sequences, or procedures of construction, or safety precautions and programs;
 3. For Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 4. To make examinations to ascertain how or for what purposes Contractor has used the monies paid on account of the Contract Price; or
 5. To determine that title to the Work, materials, or equipment has passed to Owner free and clear of Liens.

1.09 FINAL APPLICATION FOR PAYMENT

- A. Include adjustments to the Contract Price in the final Application for Payment for:
1. Approved Change Orders and Contract Amendments;
 2. Allowances not previously adjusted by Change Order;
 3. Deductions for Defective Work that have been accepted by the Owner;
 4. Penalties and bonuses;
 5. Deduction for all final set-offs; and
 6. Other adjustments if needed.
- B. Construction Manager will prepare a final Change Order reflecting the approved adjustments to the Contract Price which have not been covered by previously approved Change Orders and, if necessary, to reconcile estimated unit price quantities with actual quantities.

- C. Submit the final Application for Payment per the General Conditions, including the final Change Order. Provide the following with the final Application for Payment:
 - 1. Evidence of payment or release of Liens on the forms provided by the Construction Manager and as required by the General Conditions.
 - 2. Consent from surety to final payment.
- D. Final payment will also require additional procedures and documentation per Section 01 70 00 "Execution and Closeout Requirements."

1.10 PAYMENT BY OWNER

- A. Owner is to pay the amount recommended for monthly payments within 30 days after receipt of the Construction Manager's recommended Application for Payment.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 29 01 MEASUREMENT AND BASIS FOR PAYMENT

PART 1 - GENERAL

1.01 PAYMENT FOR MATERIALS AND EQUIPMENT

- A. Payment will be made for materials and equipment materials properly stored and successfully incorporated into the Project less the specified retainage.
- B. Provide a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of Liens. Provide documentation of payment for materials and equipment with the next Application for Payment. Remove items from the tabulation of materials and equipment if this documentation is not provided with the next Application for Payment.
- C. Provide evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest.
- D. The Work covered by progress payments becomes the property of the Owner at the time of payment. The Contractor's obligations with regard to proper care and maintenance, insurance, and other requirements are not changed by this transfer of ownership until final acceptance in accordance with the General Conditions.
- E. Payment for materials and equipment does not constitute acceptance of the product.

1.02 MEASUREMENT AND BASIS FOR PAYMENTS ON LUMP SUM ITEMS

- A. Measurement for progress payments is the invoice value for stored materials and the earned value for all other cost for constructing each item. Earned value is expressed as the value of the Work completed divided by the total value of installation cost. The total amount paid will be equal to the total lump sum amount for that item.

1.03 MEASUREMENT AND BASIS FOR PAYMENTS ON UNIT PRICE ITEMS

- A. Measure the Work using the unit of measure indicated in this Section for each unit price line item. Payment will be made only for the actual measured unit and/or computed length, area, solid contents, number, and weight unless other provisions are made in the Contract Documents. Payment on a unit price basis will not be made for Work outside dimensions shown in the Contract Documents.
- B. Payment will be made for the actual quantity of Work completed and for materials and equipment stored during the payment period. Payment amount is the Work quantity measured per Paragraph A above multiplied by the unit price for that line item in the Agreement.

1.04 MEASUREMENT AND BASIS FOR PAYMENT FOR BASE ITEMS

- A. Item 01 – Mobilization/Demobilization:
 - 1. Measuring for payment is on a lump sum basis. Payment for Mobilization/Demobilization will be based on the earned value of Work completed.

B. Item 02 – Geotextile Fabric:

1. Measure for payment is on a square yard basis. Payment for Geotextile Fabric will be based on the installed amount in accordance with 01 70 00 "Execution and Closeout Requirements."

C. Item 03 – Rock Rip Rap:

1. Measure for payment is on a tonnage basis. Payment for Rock Rip Rap will be based on the installed amount in accordance with 01 70 00 "Execution and Closeout Requirements."

D. Item 04 – Ten (10) Aids to Navigation w/ Lights:

1. Measuring for payment is on a lump sum basis. Payment for Ten (10) Aids to Navigation w/ Lights will be based on the earned value of Work completed.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 31 00 PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 SUMMARY

- A. Furnish resources required to complete the Project in accordance with the Contract Documents and within the Contract Times.
- B. Construct Project in accordance with current safety practices.
- C. Manage Site to allow access to Site and control construction operations.
- D. Construct temporary facilities to provide and maintain control over environmental conditions at the Site. Remove temporary facilities when no longer needed.
- E. Provide temporary controls for pollution, management of water, and management of excess earth as required in Section 01 57 00 "Temporary Controls."

1.02 STANDARDS

- A. Perform Work to comply with:
 - 1. Requirements of the Contract Documents;
 - 2. Laws and Regulations; and
 - 3. Specified industry standards.

1.03 DOCUMENTATION

- A. Provide documents in accordance with Section 01 33 00 "Document Management."
- B. Provide copies of Supplier's printed storage instructions prior to furnishing materials or products and installation instructions prior to beginning the installation.
- C. Incorporate field notes, sketches, recordings, and computations made by the Contractor in Record Drawings per Section 01 31 13 "Project Coordination."

1.04 PERMITS

- A. Obtain building permits for the Project from the local authorities having jurisdiction.
- B. Obtain environmental permits required for construction at the Site.
- C. Provide required permits for transporting heavy or oversized loads.
- D. Provide other permits required to conduct any part of the Work.
- E. Arrange for inspections and certification by agencies having jurisdiction over the Work and include the cost for these inspections and certifications in the Contract Price.
- F. Make arrangements with private utility companies and pay fees associated with obtaining services or inspections.
- G. Retain copies of permits and licenses at the Site and comply with all regulations and conditions of the permit or license.

1.05 SAFETY REQUIREMENTS

- A. Manage safety to protect the safety and welfare of persons at the Site.
- B. Provide safe access to move through the Site. Provide protective devices to warn and protect from hazards at the Site.
- C. Provide safe access for those performing tests and inspections.
- D. Maintain a supply of personal protective equipment for visitors to the Site.
- E. Comply with latest provisions of the Occupational Health and Safety Administration (OSHA) and other Laws and Regulations.
- F. Cooperate with accident investigations. Provide two copies of all reports, including insurance company reports, prepared concerning accidents, injuries, or deaths related to the Project to the Construction Manager as Record Data per Section 01 31 13 "Project Coordination."

1.06 ACCESS TO THE SITE

- A. Maintain access to the facilities at all times. Do not obstruct roads, pedestrian walks, or access to the various buildings, structures, stairways, or entrances. Provide safe access for normal operations during construction.
- B. Provide adequate and safe access for inspections. Leave ladders, bridges, scaffolding, and protective equipment in place until inspections have been completed. Construct additional safe access if required for inspections.
- C. Use roadways for construction traffic only with written approval of the appropriate representatives of each entity. Roadways may not be approved for construction traffic. Obtain written approval to use roads to deliver heavy or oversized loads to the Site. Furnish copies of the written approvals to the Construction Manager as Record Data per Section 01 31 13 "Project Coordination."

1.07 CONTRACTOR'S USE OF THE SITE

- A. Limit the use of Site for Work and storage to those areas designated on the Drawings or approved by the Construction Manager. Coordinate the use of the Site with the Construction Manager.
- B. Provide security at the Site as necessary to protect against vandalism and loss by theft.
- C. Park construction equipment in designated areas only and provide spill control measures as discussed in Section 01 57 00 "Temporary Controls."
- D. Park employees' vehicles in designated areas only.
- E. Obtain written permission of the property owner before entering privately-owned land outside of the Owner's property, rights-of-way, or easements.
- F. Cooperate with public and private agencies with facilities operating within the limits of the Project. Provide 48 hours' notice to any applicable agency when Work is anticipated to proceed in the vicinity of any facility by using 811 - call before you dig.

G. Conduct of Contractor's or Subcontractor's Employees:

1. Do not permit alcoholic beverages or illegal substances on the Site. Do not allow persons under the influence of alcoholic beverages or illegal substances to enter or remain on the Site at any time. Persons on Site under the influence of alcoholic beverages or illegal substances will be permanently prohibited from returning to the Site. Criminal or civil penalties may also apply.
2. Do not allow the use of offensive language or sexual harassment in any form. These actions will cause immediate and permanent removal of the offender from the premises. Criminal or civil penalties may apply.
3. Require workers to wear clothing that is inoffensive and meets safety requirements. Do not allow sleeveless shirts, shorts, or any exceedingly torn, ripped, or soiled clothing to be worn on the Site.
4. Do not allow the use, possession, concealment, transportation, promotion, or sale of the following prohibited items anywhere on the Site:
 - a. Firearms (including air rifles and pistols and BB or pellet guns) and ammunition;
 - b. Bows, crossbows, arrows, bolts, or any other projectile weapons;
 - c. Explosives of any kind, including fireworks;
 - d. Illegal knives;
 - e. Other weapons prohibited by state Laws and Regulations; and
 - f. Any other item that has been designed or intended to be used as a weapon.

No exceptions will be made for the possession of a firearm by a person that has a valid state-issued license to carry a firearm. Remove any of the prohibited items listed above from the Site immediately and permanently. Any person found to be in possession of any prohibited item must also be removed from the Site and may be reported to local law enforcement.

1.08 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. Examine the Site and review the available information concerning the Site. Locate utilities, underground facilities, and existing structures. Verify the elevations of the structures adjacent to excavations. Report any discrepancies from information in the Contract Documents to the Construction Manager before beginning construction.
- B. Determine if existing structures, poles, piping, or other utilities at excavations will require relocation or replacement. Prepare a Plan of Action per Section 01 31 13 "Project Coordination." Coordinate Work with local utility company and others for the relocation or replacement.
- C. Protect utilities, underground facilities and existing structures unless they are shown to be replaced or relocated on the Drawings. Restore damaged items to the satisfaction of the Owner and utility or property owner.
- D. Carefully support and protect all structures and/or utilities so that there will be no failure or settlement where excavation or demolition endangers adjacent structures and utilities. Do not take existing utilities out of service unless required by the Contract Documents or

approved by the Construction Manager. Notify and cooperate with the utility owner if it is necessary to move services, poles, guy wires, pipelines, or other obstructions.

- E. Protect existing trees and landscaping at the Site. Mark trees that may be removed during construction and review with the Construction Manager for approval before removing. Protect trees to remain from damage limiting activity, including stockpiling of materials within the drip line of the tree.
- F. Protect buildings from damage when handling material or equipment. Protect finished surfaces, including floors, doors, and jambs. Remove doors and install temporary wood protective coverings over jambs, if needed.

1.09 DISRUPTION TO SERVICES/CONTINUED OPERATIONS

- A. Owner's facilities are to continue in service as usual during the construction unless noted otherwise. Owner or utilities must be able to operate and maintain the facilities. Keep disruptions to existing utilities, piping, process piping, or electrical services to a minimum.
 - 1. Do not restrict access to critical valves, operators, or electrical panels.
 - 2. Do not store material or products inside structures unless authorized by the Construction Manager.
 - 3. Limit operations to the minimum amount of space needed to complete the specified Work.
 - 4. Maintain storm sewers and sanitary sewers in service at all times. Provide temporary service around the construction or otherwise construct the Work in a manner that flow is not restricted.
- B. Provide a Plan of Action in accordance with Section 01 35 00 "Special Procedures" if facilities must be taken out of operation.

1.10 FIELD VERIFICATION

- A. Perform complete field measurements prior to purchasing products or beginning construction for products required to fit existing conditions.
- B. Verify property lines, control lines, grades, and levels indicated on the Drawings.
- C. Verify pipe class, equipment capacities, existing electrical systems, and power sources for existing conditions.
- D. Check Shop Drawings and indicate the actual dimensions available where products are to be installed.
- E. Include field measurements in Record Documents as required in Section 01 31 13 "Project Coordination."

1.11 REFERENCE DATA AND CONTROL POINTS

- A. Construction Manager will provide the following control points:
 - 1. Base line or grid reference points for horizontal control.
 - 2. Benchmarks for vertical control.

- B. Locate and protect control points prior to starting the Work and preserve permanent reference points during construction. Designated control points may be on an existing structure or monument. Do not change or relocate points without prior approval of the Construction Manager. Notify Construction Manager when a reference point is lost, destroyed, or requires relocation. Replace Project control points on the basis of the original survey. Control points or benchmarks damaged, disturbed or destroyed as a result of the Contractor's negligence will be restored by the Construction Manager. Owner will impose a set-off as compensation for the effort required.
- C. Provide complete engineering layout of the Work needed for construction.
 - 1. Provide competent personnel. Provide equipment including accurate surveying instruments, stakes, platforms, tools, and materials.
 - 2. Provide Record Data per Section 01 31 13 "Project Coordination" and measurements per standards.

1.12 DELIVERY AND STORAGE

- A. Deliver products and materials to the Site in time to prevent delays in construction.
- B. Deliver packaged products to Site in original undamaged containers with identifying labels attached. Open cartons as necessary to check for damage and to verify invoices. Reseal cartons and store properly until used. Leave products in original packages or other containers until installed. If original packages or containers are damaged, repackage in containers and include packing slips, labels and other information from the original packaging.
- C. Deliver products that are too large to fit through openings to the Site in advance of the time enclosing walls and roofs are erected. Set in place, raised above floor on cribs or pallets.
- D. Assume full responsibility for the protection and safekeeping of products stored at the Site.
- E. Store products at locations acceptable to the Construction Manager and to allow Owner access to maintain and operate existing facilities.
- F. Store products in accordance with the Supplier's storage instructions immediately upon delivery. Leave seals and labels intact. Arrange storage to allow access for maintenance of stored items and for inspection. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.
- G. Provide additional storage areas as needed for construction. Store products subject to damage by elements in substantial weather-tight enclosures or storage sheds. Provide and maintain storage sheds as required for the protection of products. Provide temperature, humidity control, and ventilation within the ranges stated in the Supplier's instructions. Remove storage facilities at the completion of the Project.
- H. Protect the pipe interior. Keep all foreign materials such as dirt, debris, animals, or other objects out of the pipe during the Work.
- I. Provide adequate exterior storage for products that may be stored out-of-doors.

1. Provide substantial platforms, blocking, or skids to support materials and products above ground which has been sloped to provide drainage. Protect products from soiling or staining.
 2. Cover products subject to discoloration or deterioration from exposure to the elements, with impervious sheet materials. Provide ventilation to prevent condensation below covering.
 3. Store loose, granular materials on clean, solid surfaces, or on rigid sheet materials, to prevent mixing with foreign matter.
 4. Provide surface drainage to prevent erosion and ponding of water.
 5. Prevent mixing of refuse or chemically injurious materials or liquids with stored materials.
 6. Pipes and conduits stored outdoors are to have open ends sealed to prevent the entrance of dirt, moisture, and other injurious materials. Protect PVC pipe from ultraviolet light exposure.
 7. Store products to prevent wind damage.
- J. Protect and maintain mechanical and electrical equipment in storage.
1. Provide Supplier's service instructions on the exterior of the package.
 2. Service equipment on a regular basis as recommended by the Supplier. Maintain a log of maintenance services. Submit the log as Record Data per Section 01 31 13 "Project Coordination" when Owner assumes responsibility for maintenance and operation.
 3. Provide power to and energize space heaters for all equipment for which these devices are provided.
 4. Provide temporary enclosures for all electrical equipment, including electrical systems on mechanical devices. Provide and maintain heat in the enclosures until equipment is energized.
- K. Maintain storage facilities. Inspect stored products on a weekly basis and after periods of severe weather to verify that:
1. Storage facilities continue to meet specified requirements;
 2. Supplier's required environmental conditions are continually maintained; and
 3. Products that can be damaged by exposure to the elements are not adversely affected.
- L. Replace any stored item damaged by inadequate protection or environmental controls.
- M. Payment may be withheld for any products not properly stored.

1.13 CLEANING DURING CONSTRUCTION

- A. Provide positive methods to minimize raising dust from construction operations and provide positive means to prevent air-borne dust from discharging into the atmosphere. Control dust and dirt from demolition, cutting, and patching operations.

- B. Clean the Site as Work progresses and dispose of waste materials, keeping the Site free from accumulations of waste or rubbish. Provide containers at the Site for waste collection. Do not allow waste materials or debris to blow around or off of the Site. Control dust from waste materials. Transport waste materials with as few handlings as possible.
- C. Comply with Laws and Regulations. Do not burn or bury waste materials. Remove waste materials, rubbish, and debris from the Site and legally dispose of these at public or private disposal facilities.

1.14 MAINTENANCE OF ROADS, DRIVEWAYS, AND ACCESS

- A. Maintain roads and streets in a manner that is suitable for safe operations of public vehicle during all phases of construction unless the Owner approves a street closing. Do not close public roads overnight. Coordinate and arrange for emergency vehicle access when streets are to be closed.
- B. Submit a Notification by Contractor for Owner's approval of a street closing. The request must state:
 - 1. The reason for closing the street.
 - 2. How long the street will remain closed.
 - 3. Procedures to be taken to maintain the flow of traffic.
- C. Obtain permits and permissions of the entity that owns the road prior to any Work and provide a copy of the permit or permission Record Data per Section 01 31 13 "Project Coordination."
- D. Construct temporary detours, including by-pass roads around construction, with adequately clear width to maintain the free flow of traffic at all times. Maintain barricades, signs, and safety features around the detour and excavations. Maintain barricades, signs, and safety features around the Work in accordance with all provisions of the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- E. Assume responsibility for any damage resulting from construction along roads or drives.

1.15 BLASTING

- A. Blasting is not allowed for any purpose.

1.16 ARCHAEOLOGICAL REQUIREMENTS

- A. Cease operations immediately and contact the Owner for instructions if historical or archaeological artifacts are found during construction.
- B. Conduct all construction activities to avoid adverse impact of the sites where significant historical or archaeological artifacts are found or identified as an area where other artifacts could be found.
 - 1. Obtain details for working in these areas from regulatory agencies.
 - 2. Maintain confidentiality regarding the site(s) of artifacts.
 - 3. Adhere to the requirements of applicable local, state, and federal Laws and Regulations.

4. Notify the Construction Manager and any local, state, or federal agency as required by applicable Laws and Regulations.
- C. Do not disturb archaeological sites.
 1. Obtain the services of a qualified archaeological specialist to instruct construction personnel on how to identify and protect archaeological finds on an emergency basis.
 2. Coordinate activities to permit archaeological work to take place within the area.
 - a. Attempt to archaeologically clear areas needed for construction as soon as possible.
 - b. Provide a determination of priority for such areas.
- D. Assume responsibility for any unauthorized destruction that might result to such sites by construction personnel, and pay all penalties assessed by state or federal agencies for non-compliance with these requirements.
- E. Contract Times will be modified to compensate for delays caused by such archaeological finds. No additional compensation will be paid for delays.

1.17 ENDANGERED SPECIES RESOURCES

- A. Do not perform any activity that is likely to destroy or adversely modify the habitat or jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the Federal Endangered Species Act (ESA) or applicable state Laws and Regulations.
- B. Cease Work immediately in the area of the encounter and notify the Construction Manager if a threatened or endangered species is encountered during construction. Construction Manager will implement actions in accordance with the ESA and applicable state statutes. Resume construction in the area of the encounter when authorized to do so by the Construction Manager.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 31 13 PROJECT COORDINATION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Administer contract requirements to construct the Project. Provide documentation per the requirements of this Section. Provide information as requested by the OPT.

1.02 DOCUMENTATION

- A. Provide documents in accordance with Section 01 33 00 "Document Management."

1.03 COMMUNICATION DURING THE PROJECT

- A. Construction Manager is to be the first point of contact for all parties on matters concerning this Project.
- B. Construction Manager will coordinate correspondence concerning:
 - 1. Contract administration;
 - 2. Clarification and interpretation of the Contract Documents;
 - 3. Contract modifications;
 - 4. Observation of Work and testing; and
 - 5. Claims.
- C. Construction Manager will normally communicate only with the Contractor. Any required communication with Subcontractors or Suppliers will only be with the direct involvement of the Contractor.
- D. Direct written communications to the Construction Manager at the address indicated at the pre-construction conference. Include the following with communications as a minimum:
 - 1. Name of the Owner;
 - 2. Project name;
 - 3. Contract title;
 - 4. Project number;
 - 5. Date; and
 - 6. A reference statement.
- E. Submit communications on the forms referenced in this Section or in Section 01 33 00 "Document Management."

1.04 PROJECT MEETINGS

- A. Pre-Construction Conference:
 - 1. Attend a pre-construction conference;
 - 2. The location of the conference will be determined by the Construction Manager;

3. The time of the conference will be determined by the Construction Manager, but will be after the Notice of Award is issued and not later than 15 days after the Notice to Proceed is issued;
 4. The OPT, Contractor's project manager and superintendent, representatives of utility companies, and representatives from major Subcontractors and Suppliers may attend the conference; and
 5. Provide and be prepared to discuss:
 - a. Preliminary construction schedule per Section 01 33 05 "Construction Progress Schedule";
 - b. Preliminary Schedule of Documents per Section 01 33 00 "Document Management";
 - c. Schedule of Values and anticipated schedule of payments per Section 01 29 00 "Application for Payment Procedures";
 - d. List of Subcontractors and Suppliers;
 - e. Contractor's organizational chart as it relates to this Project; and
 - f. Letter indicating the agents of authority for the Contractor and the limit of that authority with respect to the execution of legal documents, contract modifications, and payment requests.
- B. Progress Meetings:
1. Attend meetings with the Construction Manager, Design Professional, and Owner.
 - a. Meet monthly or as requested by the Construction Manager to discuss the Project.
 - b. Meet at the Site or other location as designated by the Construction Manager.
 - c. Contractor's superintendent and other key personnel are to attend the meeting. Other individuals may be requested to attend to discuss specific matters.
 - d. Notify the Construction Manager of any specific items to be discussed a minimum of 1 week prior to the meeting.
 2. Provide information as requested by the Construction Manager, Design Professional or Owner concerning this Project. Prepare to discuss:
 - a. Status of overall project schedule;
 - b. Contractor's detailed schedule for the next month;
 - c. Anticipated delivery dates for equipment;
 - d. Coordination with the Owner;
 - e. Status of documents;
 - f. Information or clarification of the Contract Documents;
 - g. Claims and proposed modifications to the Contract;
 - h. Field observations, problems, or conflicts; and

- i. Maintenance of quality standards.
 - 3. Construction Manager will prepare a record of meeting proceedings. Review the record of the meeting and notify the Construction Manager of any discrepancies within 10 days of the date the record of the meeting is provided. The record will not be corrected after the 10 days have expired. Corrections will be reflected in the record of the following meeting.
- C. Pre-Documentation and Pre-Installation Meetings:
 - 1. Conduct pre-documentation and pre-installation meetings as required in the individual technical Specifications or as determined necessary by the Construction Manager (for example, instrumentation, roofing, concrete mix design, etc.).
 - 2. Set the time and location of the meetings when ready to proceed with the associated Work. Submit a Notification by Contractor in accordance with Paragraph **[1.07]** for the meeting 2 weeks before the meeting. OPT must approve of the proposed time and location.
 - 3. Attend the meeting and require the participation of appropriate Subcontractors and Suppliers in the meeting.
 - 4. Construction Manager will prepare a record of meeting proceedings. Review the record of the meeting and notify the Construction Manager of any discrepancies within 10 days of the date the record of the meeting is provided. The record will not be corrected after the 10 days have expired. Corrections will be reflected in the record of the following meeting.
- D. Weekly Coordination Meetings: Meet on a weekly basis with the Construction Manager or designated on-site representative of the OPT to discuss Work planned for the following week, review coordination issues, testing required, or other issues. Records of these meetings are not required.

1.05 REQUESTS FOR INFORMATION

- A. Submit a Request for Information to the Construction Manager to obtain additional information or clarification of the Contract Documents.
 - 1. Submit a separate Request for Information for each item on the form provided by the Construction Manager.
 - 2. Attach adequate information to permit a response without further clarification. Construction Manager will return requests that do not have adequate information to the Contractor for additional information. Contractor is responsible for all delays resulting from multiple reviews due to inadequate information.
 - 3. A response will be made when adequate information is provided. The response will be made on the Request for Information form provided by the Construction Manager.
- B. Response to a Request for Information is given to provide additional information, interpretation, or clarification of the requirements of the Contract Documents, and does not modify the Contract Documents.
 - 1. Submit a Change Proposal per Section 01 26 00 "Change Management" if a contract modification is suggested or required.

- C. Use the Decision Register to document decisions made at meetings and actions to be taken in accordance with Paragraph 1.06.
- D. Use the Action Item Register to document assignments for actions to be taken in accordance with Paragraph 1.06.

1.06 DECISION AND ACTION ITEM REGISTER

- A. Construction Manager will maintain a Decision Register to document key decisions made during meetings, telephone conversations, or visits to the Site using the format provided by the Construction Manager:
 - 1. Review the Decision Register prior to each regular meeting.
 - 2. Report any discrepancies to the Construction Manager for correction or discussion at the next monthly meeting.
- B. Construction Manager will maintain an Action Item Register in conjunction with the Decision Register to track assignments made during meetings, telephone conversations or visits to the Site using the format provided by the Construction Manager:
 - 1. Review the Action Item Register prior to each regular meeting.
 - 2. Report actions taken after the previous progress meeting on items in the register assigned to the Contractor or through the Contractor to a Subcontractor or Supplier to the Construction Manager. Report on status of progress 1 week prior to each progress meeting established in Paragraph 1.04 to allow Construction Manager to update the register prior to the Progress Meetings.
 - 3. Be prepared to discuss the status at each meeting.
- C. Decisions or action items in the register that require a change in the Contract Documents will have the preparation of a Modification as an action items if appropriate. The Contract Documents can only be changed by a Modification.

1.07 NOTIFICATION BY CONTRACTOR

- A. Notify the Construction Manager of:
 - 1. Need for testing;
 - 2. Intent to work outside regular working hours;
 - 3. Request to shut down facilities or utilities;
 - 4. Proposed utility connections;
 - 5. Required observation by Construction Manager, Engineer, or inspection agencies prior to covering Work; and
 - 6. Training.
- B. Provide notification a minimum of 2 weeks in advance to allow OPT time to respond appropriately to the notification.
- C. Use the Notification by Contractor form provided by the Construction Manager.

1.08 REQUESTS FOR MODIFICATIONS

- A. Submit requests for Modifications per Section 01 26 00 "Change Management."

1.09 RECORD DATA

- A. Submit information required by the Contract Documents that is not related to a product as Record Data using the form provided by the Construction Manager.

1.10 RECORD DOCUMENTS

- A. Maintain one complete set of printed Record Documents at the Site including:
 - 1. Drawings;
 - 2. Specifications;
 - 3. Addenda;
 - 4. Modifications;
 - 5. Product Data and approved Shop Drawings;
 - 6. Construction photographs;
 - 7. Test Reports;
 - 8. Clarifications and other information provided in Request for Information responses; and
 - 9. Reference standards.
- B. Store printed Record Documents and Samples in the Contractor's field office.
 - 1. Record Documents are to remain separate from documents used for construction.
 - 2. Provide files and racks for the storage of Record Documents.
 - 3. Provide a secure storage space for the storage of Samples.
 - 4. Maintain Record Documents in clean, dry, legible conditions, and in good order.
 - 5. Make Record Documents and Samples available at all times for inspection by the OPT.
- C. Maintain an electronic record of Specifications and Addenda to identify products provided in PDF format.
 - 1. Reference the Product Data number, Shop Drawing number, and O&M manual number for each product and item of equipment furnished or installed.
 - 2. Reference Modifications by type and number for all changes.
- D. Maintain an electronic record of Drawings in PDF format.
 - 1. Reference the Product Data number, Shop Drawing number, and O&M manual number for each product and item of equipment furnished or installed.
 - 2. Reference Modifications by type and number for all changes.
 - 3. Record information as construction is being performed. Do not conceal any Work until the required information is recorded.

4. Mark drawings to record actual construction.
 - a. Depths of various elements of the foundation in relation to finished first floor datum or the top of walls.
 - b. Horizontal and vertical locations of underground utilities and appurtenances constructed, and existing utilities encountered during construction.
 - c. Location of utilities and appurtenances concealed in the Work. Refer measurements to permanent structures on the surface. Include the following equipment:
 - 1) Piping;
 - 2) Ductwork;
 - 3) Equipment and control devices requiring periodic maintenance or repair;
 - 4) Valves, unions, traps, and tanks;
 - 5) Services entrance;
 - 6) Feeders; and
 - 7) Outlets.
 - d. Changes of dimension and detail.
 - e. Changes by Modifications.
 - f. Information in Requests for Information or included in the Decision Register.
 - g. Details not on the original Drawings. Include field verified dimensions and clarifications, interpretations, and additional information issued in response to Requests for Information.
 5. Mark Drawings with the following colors:
 - a. Highlight references to other documents, including Modifications in blue.
 - b. Highlight mark ups for new or revised Work (lines added) in yellow.
 - c. Highlight items deleted or not installed (lines to be removed) in red.
 - d. Highlight items constructed per the Contract Documents in green.
 6. Submit Record Documents to Construction Manager for review and acceptance 30 days prior to Final Completion of the Project.
- E. Applications for Payment will not be recommended for payment if Record Documents are found to be incomplete or not in order. Final payment will not be recommended without complete Record Documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 33 00 DOCUMENT MANAGEMENT

PART 1 - GENERAL

1.01 SUMMARY

- A. Submit documentation as required by the Contract Documents and as requested by the Construction Manager.

1.02 QUALITY ASSURANCE

- A. Submit legible, accurate, complete documents presented in a clear, easily understood manner. Documents not meeting these criteria will be returned without review as “Not Approved.”

1.03 CONTRACTOR’S RESPONSIBILITIES

- A. Review documents prior to submission. Make certifications as required by the Contract Documents and as indicated on Construction Manager provided forms.
- B. Provide a Schedule of Documents to list the documents that are to be submitted, the dates on which documents are to be sent to the Construction Manager for review. Use the form provided by the Construction Manager for this list.
- C. Incorporate the dates for processing documents into the Progress Schedule required by Section 01 33 05 “Construction Progress Schedule.”
 - 1. Provide documents in accordance with the schedule so construction of the Project is not delayed.
 - 2. Allow a reasonable time for the review of documents when preparing the Progress Schedule. Assume a 14-day review cycle for each document unless a longer period of time is indicated in the Contract Documents or agreed to by Construction Manager and Contractor.
 - 3. Schedule delivery of review documents to provide all information for interrelated Work at one time.
 - 4. Allow adequate time for processing documents so construction of the Project is not delayed.

1.04 FORMS AND WORKFLOWS

- A. Use the forms or workflow process provided by the Construction Manager for project documentation.

1.05 DOCUMENT PREPARATION AND DELIVERY PROCEDURES

- A. Deliver documents in electronic format as directed by the Construction Manager.
 - 1. Do not leave any blanks incomplete. If information is not applicable, enter NA in the space provided.
 - 2. Deliver all documents in Portable Document Format (PDF).

- a. Create PDF document using Bluebeam Revu software.
- b. Create PDF documents from native format files unless files are only available from scanned documents.
- c. Rotate pages so that the top of each document appears at the top of the monitor screen when opened in PDF viewing software.
- d. Provide PDF document with adequate resolution to allow documents to be printed in a format equivalent to the document original. Documents are to be scalable to allow printing on standard 8-1/2 x 11 or 11 x 17 paper.
- e. Submit color PDF documents where color is required to interpret the document.
- f. Create or convert documents to allow text to be selected for comments or searched using text search features. Run scanned documents through Optical Character Recognition (OCR) software if necessary.
- g. Flatten markups in documents to prevent markups made by Contractor from being moved or deleted. Flatten documents to allow markup recovery.
- h. Use Bluebeam Revu software to reduce file size using default settings except the option for "Drop Metadata". Uncheck the "Drop Metadata" box when reducing file size.
- i. Add footers to each document with the name of the Project.

B. Software Requirements:

1. OPT and Contractor will each acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the following software formats:

Document	Document Format
Email	.htm, .rtf, or .txt without formatting that impairs legibility of content on screen or in printed copies
Submittals	Bluebeam PDF
Applications for Payment	Bluebeam PDF and Microsoft® Excel
Progress Schedules	PDF and Schedule in Native Format
Layouts and drawings to be submitted to Owner for future use and modification.	Autodesk® AutoCAD .dwg format
Document submitted to OPT for future word processing use and modification.	Microsoft® Word
Spreadsheets and data submitted to OPT for future data processing use and modification.	Microsoft® Excel

2. Software will be the version currently published at the time Contract is signed, unless a specific software version is listed in the Supplementary Conditions. Prior to using any updated version of the software required in this Section for sending Electronic Documents to the other party, the originating party will first notify and receive

concurrency from the other party for use of the updated version or convert to comply with this Paragraph 1.05.B.

1.06 DOCUMENT NUMBERING

- A. Assign a document number to the Contractor originated document to allow tracking of the document during the review process.
1. Assign the number consisting of a prefix, a sequence number, and a letter suffix. Prefixes will be as follows:

Prefix	Description
AP	Application for Payment
CP	Change Proposal
CTR	Certified Test Report
EIR	Equipment Installation Report
GD	Graphic Documentation
NBC	Notification by Contractor
O&M	Operation and Maintenance Manuals
PD	Product Data
RD	Record Data
RFI	Request for Information
SD	Shop Drawing
SCH	Schedule of Progress

2. Issue sequence numbers in chronological order for each type of document as directed by the Construction Manager.
 3. Issue numbers for resubmittals that have the same number as the original document followed by an alphabetical suffix indicating the number of times the same document has been sent to the Construction Manager for processing. For example: SD-025 A represents Shop Drawing number 25 and the letter "A" designates this is the second time this document has been sent for review.
 4. Clearly note the document number on each page or sheet of the document.
 5. Correct assignment of numbers is essential since different document types are processed in different ways.
- B. Include reference to the Drawing number and/or Specification Section, detail designation, schedule, or location that corresponds with the data submitted on the Document Transmittal form. Other identification may also be required, such as layout drawings or schedules to allow the reviewer to determine where a particular product is to be used.

1.07 DOCUMENTATION

- A. Furnish documents as indicated in Section 01 33 01 "Document Register" or in the individual Specification Sections. Submit documents per the procedures described in the Contract Documents.

B. Submit documents per the Specification Sections shown in the following table:

Document Type	Specification Section
Application for Payment	01 29 00
Certified Test Report	01 33 02 for approval of product 01 40 00 to demonstrate compliance
Change Management	01 26 00
Notification by Contractor	01 31 13
Progress Schedules	01 33 05
Record Data	01 31 13
Request for Information	01 31 13
Schedule of Values	01 29 00
Substitutions	01 26 00
Suppliers and Subcontractors	01 31 13

1.08 Electronic Documents Protocol

A. The parties shall follow the provisions in this Section, referred to as the Electronic Documents Protocol (“EDP”), for exchange of electronic transmittals.

B. Basic Requirements:

1. Except as otherwise stated elsewhere in the Contract Documents, the OPT and Contractor will send and accept Electronic Documents sent by Electronic Means using the protocols provided in this Section.
2. The contents of the information in any Electronic Document will be the responsibility of the transmitting party. Electronic Documents may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, and are subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
3. Provisions of this Contract regarding Electronic Documents must be incorporated into other agreements or subcontracts on the Project. Nothing in this paragraph reduces or eliminates requirements:
 - a. to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations;
 - b. to comply with any applicable Law or Regulation governing the signing and sealing of design documents and related Modifications or the signing and electronic transmission of any other documents; or
 - c. to comply with the notice requirements.
4. When sending Electronic Documents by Electronic Means the sending party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient’s use of software application packages, operating systems, or computer hardware differing from those used in the drafting or sending Electronic Documents.

- C. System Infrastructure for Electronic Document Exchange:
1. Contractor will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions (“System Infrastructure”) at its own cost. System Infrastructure must comply with these requirements.
 2. The maximum size of an email attachment for exchange of Electronic Documents under this EDP is 35 MB. Attachments larger than that may be exchanged in parts or by using large file transfer functions or physical media.
 3. Contractor assumes full and complete responsibility for its own costs, delays, deficiencies, and errors associated with converting, translating, updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software.
 4. Contractor is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology (“IT”) for maintaining operations of its System Infrastructure during the Project, including coordination with individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.
 5. Contractor will operate and maintain industry-standard, industry-accepted, ISO standard, commercial-grade security software and systems that are intended to protect others from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. Contractor will not be liable to others for any breach of system security to the extent that Contractor maintains and operates required security software and systems.
 6. In the case of disputes, conflicts, or modifications to the use of Electronic Documents required to address issues affecting System Infrastructure, Contractor and OPT will cooperatively resolve the issues; but, failing resolution, OPT is authorized to make and require reasonable and necessary changes meet its original intent. Contractor may submit a Change Proposal if the changes cause additional cost or time to Contractor that could not have reasonably been anticipated.
 7. Contractor and OPT are both responsible for their own back-up and archive of documents sent and received during the term of the contract. Contractor and OPT remain solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract as each party deems necessary for its own purposes.
 8. If a Contractor or OPT receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.
 9. OPT will operate a project information management system (Project Website) for use of OPT and Contractor during the Project for exchange and storage of Project-related

communications and information. Except as otherwise provided in this Contract, use of the Project Website will be mandatory for exchange of Project documents, communications, submittals, and other Project-related information.

D. Software Requirements:

1. OPT and Contractor will each acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the following software formats:

Document	Document Format
Email	.htm, .rtf, or .txt without formatting that impair legibility of content on screen or in printed copies
Submittals	Bluebeam PDF
Applications for Payment	Bluebeam PDF and Microsoft® Excel
Progress Schedules	PDF and Schedule in Schedule in Native Format
Layouts and drawings to be submitted to Owner for future use and modification	Autodesk® AutoCAD .dwg format
Document submitted to OPT for future word processing use and modification	Microsoft® Word
Spreadsheets and data submitted to OPT for future data processing use and modification	Microsoft® Excel

2. Software will be the version currently published at the time Contract is signed, unless a specific software version is listed in the Supplementary Conditions. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or convert to comply with this Section.
3. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 33 05 CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.01 SUMMARY

- A. Prepare and submit a Progress Schedule for the Work and update the schedule on a monthly basis for the duration of the Project.
- B. Provide Progress Schedule in adequate detail to allow Owner to monitor progress and to relate submittal processing to sequential activities of the Work.
- C. Incorporate Contract Milestones into the schedule and show activities leading to achievement of these milestones.
- D. Assume complete responsibility for maintaining the progress of the Work per the Progress Schedule submitted.

1.02 DOCUMENTATION

- A. Submit the schedules to the Construction Manager. Send all documents in digital format for processing.
- B. Do not leave any blanks incomplete. If information is not applicable, enter NA in the space provided.
- C. Provide schedules, schedule updates and revisions to the Construction Manager in electronic format in its originating software and in Portable Document Format (PDF) as required by Section 01 33 00 "Document Management."
- D. Submit a preliminary Progress Schedule at the pre-construction conference.
- E. Submit a detailed Progress Schedule at least 10 days prior to the first payment request.
- F. Submit Progress Schedule updates monthly within 10 days after submitting Applications for Payment to indicate the progress made on the Project to the closing date for the Application for Payment. Failure to submit Progress Schedules will cause delay in the review and approval of subsequent Applications for Payment.

1.03 PROGRESS SCHEDULE REQUIREMENTS

- A. Progress Schedule is to be in adequate detail to:
 - 1. Ensure adequate planning, scheduling, and reporting during the execution of the Work;
 - 2. Ensure the coordination of the Work of the Contractor and the various Subcontractors and Suppliers;
 - 3. Monitor the progress of the Work; and
 - 4. Evaluate the impact of proposed changes to the Contract Times and Project Schedule.
- B. Provide personnel with 5 years' minimum experience in scheduling construction work comparable to this Project. Prepare the Progress Schedule using acceptable scheduling software.

- C. Provide the Progress Schedule in the form of a computer-generated critical path schedule which includes Work to be performed on the Project. It is intended that the Progress Schedule accomplish the following:
1. Give early warning of delays in time for correction.
 2. Provide detailed plans for the execution of the Work in the form of future activities and events in sequential relationships.
 3. Establish relationships of significant planned Work activities and provide a logical sequence for planned Work activities.
 4. Provide continuous current status information.
 5. Allow analysis of the Contractor's program for the completion of the Project.
 6. Permit schedules to be revised when the existing schedule is not achievable.
 7. Log the progress of the Work as it actually occurs.
- D. Provide a time-scaled horizontal bar chart which indicates graphically the Work scheduled at any time during the Project. The chart is to indicate:
1. Complete sequence of construction by activity;
 2. Identification of the activity by structure, location, and type of Work;
 3. Chronological order of the start of each item of Work;
 4. The activity start and stop dates;
 5. The activity duration; and production rates used to determine the duration;
 6. Successor and predecessor relationships for each activity;
 7. A clearly indicated single critical path; and
 8. Projected percentage of completion, based on dollar value of the Work included in each activity as of the first day of each month.
- E. Provide a Progress Schedule for Submittals:
1. Indicate the specific dates each document is to be delivered to the Construction Manager.
 2. Allow a reasonable time to review each document, taking into consideration the size and complexity of the document, other documents being processed, and other factors that may affect review time.
 3. Include time for making revisions to the Shop Drawings and resubmitting the Shop Drawing for at least a second review.
 4. Assume a 14-day review cycle for each time a Shop Drawing is submitted for review unless a longer period is indicated in the Contract Documents or provided by the Construction Manager.
 5. Contractor is responsible for delays associated with additional time required to review incomplete or erroneous documents and for time lost when documents are submitted for products that do not meet specification requirements.

1.04 PROGRESS SCHEDULE REVISIONS

- A. Revise the Progress Schedule if it appears that the schedule no longer represents the actual progress of the Work.
 - 1. Submit a Plan of Action for schedule recovery if the Progress Schedule or earned value analysis indicates that the Project is more than 30 days behind schedule. The report is to include:
 - a. Number of days behind schedule;
 - b. Narrative description of the steps to be taken to bring the Project back on schedule; and
 - c. Anticipated time required to bring the Project back on schedule.
 - 2. Submit a revised Progress Schedule indicating the action that the Contractor proposes to take to bring the Project back on schedule.
- B. Revise the Progress Schedule to indicate any adjustments in Contract Times approved by a Modification.
 - 1. Include a revised Progress Schedule with Change Proposals if a change in Contract Times is requested.
 - 2. Construction Manager will deem any Change Proposal that does not have a revised Progress Schedule and request for a change in Contract Times as having no impact on the ability of the Contractor to complete the Project within the Contract Times.
- C. Updating the Progress Schedule to reflect actual progress is not considered a revision to the schedule.
- D. Applications for Payment will not be recommended for payment without a revised Progress Schedule and if required, the report indicating the Contractor's plan for bringing the Project back on schedule.

1.05 FLOAT TIME

- A. Define float time as the amount of time between the earliest start date and the latest start date of a chain of activities on the construction schedule.
- B. Float time is not for the exclusive use or benefit of either the Contractor or Owner.
- C. Where several subsystems each have a critical path, the subsystem with the longest time of completion is the critical path and float time is to be assigned to other subsystems.
- D. Schedule completion date must be the same as the Contract completion date. Time between the end of construction and the Contract completion date is float time.

1.06 MODIFICATION OF CONTRACT TIMES

- A. Contract Times cannot be changed by the submission of a Progress Schedule. Contract Times can only be modified by a Change Order or Contract Amendment.
- B. Submit a Change Proposal for any proposed change in Contract Times, and include justification for the change in accordance with the provisions of the Contract Documents.

1.07 NEAR-TERM LOOK AHEAD SCHEDULES

- A. Provide a near-term look ahead schedule (NTLA Schedule) every 30 days, typically at periodic coordination meetings, using the form provided by the Construction Manager which shows the days of planned activity for the following:
 - 1. Submittals to be provided and day of anticipated return;
 - 2. Equipment and material deliveries;
 - 3. Arrival and departure of key construction equipment; and
 - 4. Activities for the Contractor and each Subcontractor.
- B. Coordinate NTLA Schedule with Project Schedule. Submit a report with each NTLA Schedule identifying deviations from the Project Schedule.
- C. Submit a report of near-term work planned in the previous NTLA Schedule that was delayed or not executed by marking actual activity on the previous near term look ahead schedule. Provide explanation of why planned work was not executed and plan to execute in the future and regain time lost.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 40 00 QUALITY MANAGEMENT

PART 1 - GENERAL

1.01 OVERVIEW

- A. Quality management refers to the overall process of delivering a completed Project to the Owner that complies with the requirements of the Contract Documents. Quality management applies to documentation, products, services and the Work.
- B. The Contractor is responsible for the quality of documentation, products, services and the Work provided.
 - 1. Contractor is to integrate quality control procedures into the execution of the Work that are adequate to produce a Project that meets the requirements of the Contract Documents while minimizing loss of time and increased cost. Contractor is solely responsible for time and cost impacts of correcting Defective Work.
 - 2. Contractor is to provide all testing and inspection required to control the quality of the Work in progress to determine that completed Work will comply with the requirements of the Contract Documents.
 - 3. Contractor is to provide verification or acceptance testing as required by the Contract Documents to demonstrate that the completed Work complies with the requirements of the Contract Documents, except for those test that the OPT has determined are to be conducted independent of the Contractor and identified as OPT testing in the Owner's Quality Management Plan.

1.02 STANDARDS

- A. Provide testing laboratories that comply with the American Council of Independent Laboratories (ACIL) "Recommended Requirements for Independent Laboratory Qualifications."
- B. Perform testing per recognized test procedures as listed in the various Sections of the Specifications, standards of the State Department of Transportation, ASTM International (American Society for Testing and Materials), or other testing associations. Perform tests in accordance with published procedures for testing issued by these organizations.

1.03 DOCUMENTATION

- A. Provide documentation which includes:
 - 1. Contractor's Quality Management Plan that establishes the methods of ensuring compliance with the Contract Documents. Submit this plan as Product Data per Section 01 31 13 "Project Coordination."
 - 2. A statement of qualifications for any proposed testing laboratory that includes a list of the engineers and technical staff that will provide testing services on the Project, descriptions of the qualifications of these individuals, list of tests that can be performed, equipment used with date of last certification, and a list of recent projects for which testing has been performed with references for those projects.

3. Certified Test Reports for products to be incorporated into the Project. Provide reports to indicate that the proposed products comply with the Contract Documents or indicate that the proposed products do not comply with the Contract Documents and why those products do not comply.
4. Certified Test Reports for inspections and testing required in this Section and in other Sections of the Specifications. Provide reports to indicate that the Work complies with the Contract Documents or indicate that the Work does not comply with the Contract Documents and why the Work does not comply. Submit these test reports on forms provided by the Construction Manager per Section 01 33 00 "Document Management."
5. Certified Test Reports of Defective Work and Certified Test Reports documenting that successful corrective action has produced Work that complies with the Contract Documents. Construction Manager will maintain a Defective Work register. Progress on correction of Defective Work will be discussed at progress meetings as described in Paragraph 1.05.E. The final Defective Work register will be incorporated into closeout documentation required per Section 01 70 00 "Execution and Closeout Requirements" as a record that all Defective Work has been corrected.

1.04 OWNER'S QUALITY MANAGEMENT ACTIVITIES

- A. OPT may perform its own verification testing independent of the Contractor. Owner's Quality Management Plan describes the OPT's anticipated verification testing program for this Project. The preliminary testing plan is shown in Paragraph 3.04. This plan outlines the anticipated testing in general terms and may not reflect the actual testing performed by the OPT. Actual testing will depend on the Contractor's means, methods, and procedures of construction which will not be known until the Contractor submits the Contractor's Quality Control Plan (CQCP) to the OPT. There is no guarantee that all testing in the preliminary OQMP included in the Bidding/Proposal Documents will be performed by the OPT. Contractor will arrange and pay for all production control testing deemed necessary by the Contractor to produce quality results.
- B. Quality management activities of the OPT are for verifying the results of the Contractor's Work complies with the requirements of the Contract Documents. Performance or non-performance of verification activities by the OPT:
 1. Does not relieve the Contractor of its responsibility to provide Work and furnish products that comply with the requirements of the Contract Documents;
 2. Does not relieve the Contractor of its responsibility to provide adequate quality control measures to produce quality documents, products, services or Work;
 3. Does not relieve the Contractor of its responsibility for damage to or loss of Work or products before OPT's acceptance; and
 4. Does not affect the continuing rights of the Owner after OPT's acceptance of the completed Work.
- C. The Work is subject to OPT's observations or testing at any time. Products which have been tested or inspected and accepted by the OPT at a supply source or staging area may be inspected or tested again by the OPT before, during, or after incorporation into the Work and rejected if products do not comply with the Contract Documents. Verification testing

performed by the OPT will be paid for by the Owner, except for testing related to Defective Work as discussed in Paragraph 3.03.

1.05 CONTRACTOR'S RESPONSIBILITIES

- A. Review the OQMP and provide a Contractor's Quality Control Plan (CQCP) outlining testing to be provided by the Contractor per Paragraph 1.07.
- B. Implement the CQCP to provide Work that complies with the requirements of the Contract Documents.
 - 1. Provide quality documents meeting the requirements of the Contract Documents.
 - 2. Provide services meeting the requirements of the Contract Documents.
 - 3. Provide the services of a Construction Materials Inspection and Testing (CMIT) provider meeting the requirements of this Section to provide testing required by the Contract Documents to demonstrate that products proposed for the Project in Shop Drawings and Product Data fully comply with the Contract Documents.
 - 4. Inspect and test products to be incorporated into the Project to identify defects before installing them. Do not install Defective products. Conspicuously mark Defective products and remove from the Site. If products are installed before the defect is recognized, remove the Defective products, mark them as Defective and remove them from the Site when the defect is recognized.
 - 5. Integrate production quality control measures into construction activities to produce Work meeting the requirements of the Contract Documents. Inspect self-performed Work and the Work of Subcontractors and Suppliers to identify defects. Correct or replace Defective Work.
 - 6. Provide facilities, equipment, and Samples required for inspections and tests.
 - a. Give the Construction Manager adequate notice before proceeding with Work that would interfere with inspections or testing.
 - b. Notify the Construction Manager and CMIT provider prior to the time that testing is required, providing adequate lead time to allow arrangements for inspections or testing to be performed.
 - c. Do not proceed with Work that would impact the ability to correct defects, or with Work that would require that it be removed to correct defects, until testing is complete, and test results indicate that the corrected Work is acceptable.
 - d. Provide safe access for all CMIT activities, including those to be conducted as part of the Owner's Quality Management Program.
 - e. Cooperate fully with the performance of sampling, inspection, and testing. Provide personnel to assist with sampling or to assist in making inspections and field tests.
 - f. Provide Samples and products in adequate quantities for testing at the Site or at the production source of the product for testing.
 - g. Provide facilities required to store and cure test Samples.

- h. Provide calibrated scales and measuring devices for OPT's use in performing inspections and testing.
 - i. Provide adequate lighting to allow OPT observations.
 - j. Make Contract Documents available to testing agencies when requested.
- C. Perform tests as indicated in Contract Documents. All verification testing is to be observed by the Construction Manager or its designated representative.
 - D. Submit test reports to the Construction Manager.
 - E. Provide an update on quality control activities performed the previous month and planned for the coming month at monthly progress meetings required by Section 01 31 13 "Project Coordination."
 - F. Determine testing or inspections required to implement the CQCP. Include costs for additional testing and inspections required to meet Contractor's quality control obligations in the Contract Price.

1.06 CONTRACTOR'S QUALITY CONTROL MANAGER

- A. Provide a Quality Control Manager for the Project. The Quality Control Manager must have authority to reject Defective Work, redirect the efforts of the Contractor, Subcontractor and Suppliers to correct Defective Work and implement steps to prevent future Defective Work.
- B. The resident superintendent or an approved assistant can serve as Quality Control Manager, provided other duties will allow adequate time to serve in this capacity.

1.07 CONTRACTOR'S QUALITY CONTROL PLAN

- A. Provide a CQCP that describes testing and inspections for Work performed at the Site and at remote locations. Include Work by Subcontractors and Suppliers. The CQCP is to include:
 - 1. A description of the quality control organization, including an organization chart showing lines of authority to control the quality of Work;
 - 2. Documentation describing name, qualifications (in resume format), duties, responsibilities, and level of authority of the Quality Control Manager.;
 - 3. The name, qualifications (in resume format), duties, responsibilities, and authorities of other persons assigned a quality control function;
 - 4. Procedures for scheduling, reviewing, certifying, and managing documentation including documentation provided by Subcontractors and Suppliers;
 - 5. Control, verification, and acceptance testing procedures for each specific test. Include:
 - a. Name of tests to be performed,
 - b. Specification paragraph requiring test,
 - c. Parameters of Work to be tested,
 - d. Test frequency,
 - e. Persons responsible for each test, and

- f. Applicable industry testing standards and laboratory facilities to be used for the test;
 - 6. Incorporate the testing specified in the OQMP into the CQCP, specifically identifying the tests or inspections that will be provided by the OQMP;
 - 7. Procedures for tracking and documenting quality management efforts per Paragraph 1.03.
 - 8. Reporting procedures which incorporate the use of forms provided by the Construction Manager.
 - 9. The name of the proposed testing laboratories along with documentation of qualifications per Paragraph 1.03.
- B. Use the Contractor's Quality Control Plan Checklist provided by the Construction Manager to review the CQCP before submitting and include a copy of the completed checklist with the CQCP. Do not begin Work until the CQCP is accepted. Submit an interim plan covering only the portion of Work to be performed if the Contractor plans to begin Work prior to submitting the complete CQCP for the Project. Do not begin Work on other parts of the Project until the complete CQCP is accepted.
 - C. Meet with the OPT 7 days after CQCP is submitted and before start of construction to discuss the CQCP.
 - D. Notify the Construction Manager of any changes to the CQCP or quality control personnel.

1.08 CONTRACTOR'S USE OF OWNER'S TEST REPORTS

- A. Contractor will receive copies of all test reports documenting Owner's verification tests. Contractor is entitled to rely on the accuracy of these tests results and use these as part of its quality control efforts.
- B. Contractor may submit a Change Proposal if the Owner's testing program deviates significantly from the OQMP. Contractor must demonstrate that actual testing and inspection costs were incurred implementing the CQCP as a result of OPT's decision to not provide testing described in the OQMP.

1.09 LIMITATION OF AUTHORITY OF THE TESTING LABORATORY

- A. The testing laboratory representatives are limited to providing testing services and interpreting the results of the test performed.
- B. The testing laboratory is not authorized to:
 - 1. Alter the requirements of the Contract Documents;
 - 2. Accept or reject any portion of the Work;
 - 3. Perform any of the duties of the Contractor; or
 - 4. Direct or stop the Work.

1.10 TEST REPORTS

- A. Certified Test Reports are to be prepared for all tests.

1. Tests performed by testing laboratories may be submitted on their standard test report forms if acceptable to the OPT using the process directed by the Construction Manager. These reports must include the following:
 - a. Name of the Owner, Project title and number, and name of the Contractor;
 - b. Name, address, and telephone number of the laboratory;
 - c. Name and signature of the laboratory personnel performing the test;
 - d. Description of the product being sampled or tested;
 - e. Date and time of sampling, inspection, and testing;
 - f. Date the report was issued;
 - g. Description of the test performed;
 - h. Weather conditions and temperature at time of test or sampling;
 - i. Location at the Site or structure where the test was taken;
 - j. Standard or test procedure used in making the test;
 - k. A description of the results of the test;
 - l. Statement of compliance or non-compliance with the Contract Documents; and
 - m. Interpretations of test results, if appropriate.
 2. Submit reports on tests performed by Contractor, Subcontractors, or Suppliers as directed by the Construction Manager.
 3. OPT will prepare test reports on tests performed by the OPT.
- B. Submit test reports as directed by the Construction Manager within 24 hours of completing the test. Flag tests reports with results that do not comply with Contract Documents for immediate attention. Notify the Construction Manager using acceptable means other than the test report, immediately of any test that fails to comply with the Contract Documents.

1.11 DELIVERY, STORAGE, AND HANDLING

- A. Handle and protect test specimens of products and construction materials at the Site in accordance with recognized test procedures. Provide facilities for storing, curing, and processing test specimens as required by test standards to maintain the integrity of Samples. Transport test specimens in a manner to prevent damage to specimens while in transit.

PART 2 - PRODUCTS

2.01 TESTING APPARATUS

- A. Furnish testing apparatus and related accessories necessary to perform the tests.

2.02 SAMPLE PRODUCTS

- A. Provide Samples of products in adequate quantity for testing.

PART 3 - EXECUTION

3.01 IMPLEMENTING CONTRACTOR'S QUALITY CONTROL PLAN

- A. Perform quality control observations and testing as required in each Section of the Specifications and where indicated on the Drawings.
- B. Include the following phases for each definable work task. A definable work task is one which is separate and distinct from other tasks, has separate control requirements, may be provided by different trades or disciplines, or may be work by the same trade in a different environment.
 - 1. Planning Phase: Perform the following before beginning each definable work task:
 - a. Review the Contract Documents.
 - b. Review documents the Contractor will submit and determine that they are complete in accordance with the Contract Documents.
 - c. Check to ensure that all materials and/or equipment have been tested, submitted, and approved.
 - d. Examine the work area to ensure that all required preliminary Work has been completed and complies with the Contract Documents.
 - e. Examine required materials, equipment, and sample Work to ensure that they are on hand, conform to Contract Documents, Shop Drawings and Product Data, and are properly stored.
 - f. Review requirements for quality control inspection and testing.
 - g. Discuss procedures for controlling quality of the Work. Document construction tolerances and workmanship standards for the work task.
 - h. Check that the portion of the plan for the Work to be performed incorporates document review comments.
 - i. Discuss results of planning phase with the Construction Manager. Conduct a meeting attended by the Construction Manager, Quality Control Manager, superintendent, other quality control personnel as applicable, and the foreman responsible for the work task. Instruct applicable workers as to the acceptable level of workmanship required to meet the requirements of the Contract Documents. Document the results of the planning phase actions by separate meeting minutes prepared by the Quality Control Manager and attached to the quality control report.
 - j. Do not move to the next phase unless results of investigations required for the planning phase indicate that requirements have been met.
 - 2. Work Phase: Complete this phase after the planning phase:
 - a. Notify the Construction Manager at least 1 week in advance of beginning the Work and discuss the review of the planning phase effort to indicate that requirements have been met.

- b. Check the Work to ensure that it is in full compliance with the Contract Documents.
 - c. Verify adequacy of controls to ensure full compliance with Contract Documents. Verify required control inspection and testing is performed.
 - d. Verify that established levels of workmanship meet acceptable workmanship standards. Compare with required Sample panels as appropriate.
 - e. Repeat the work phase for each new crew to work on-site, or any time acceptable specified quality standards are not being met.
3. Follow-Up Phase: Perform daily checks to ensure control activities, including control testing, are providing continued compliance with contract requirements:
- a. Make checks daily and record observations in the quality control documentation.
 - b. Conduct follow-up checks and correct all defects prior to the start of additional work tasks that may be affected by the Defective Work. Do not build upon nor conceal Defective Work.
 - c. Conduct a review of the Work at least 1 month prior to the expiration of the correction period prescribed in the General Conditions with the OPT. Correct defects as noted during the review.
- C. Conduct additional planning and work phases if:
- 1. The quality of on-going Work is unacceptable;
 - 2. Changes are made in applicable quality control staff, on-site production supervision, or crews;
 - 3. Work on a task is resumed after a substantial period of inactivity; or
 - 4. Other quality problems develop.

3.02 DEFECTIVE WORK

- A. Immediately correct any Defective Work or notify the Construction Manager why the Work is not to be corrected immediately and when corrective action will be completed.
- B. Work performed that is connected or adjacent to Defective Work or Work that would have to be removed to correct Defective Work is also considered to be Defective. Contractor is responsible for all costs associated with replacing any acceptable Work that must be removed, or might be damaged by corrective actions.
- C. Document Defective Work, corrective actions taken to correct defects and that corrected Work complies with the Contract Documents.
- D. Implement countermeasures to prevent future Defective Work.
- E. No payment will be made for Defective Work. Remove Work from the Application for Payment if Work paid for on a previous Application for Payment is found to be Defective.
- F. Owner will withhold payment for Defective Work or Work that has not been tested or inspected in accordance with the CQCP, OQCP, or the Contract Documents.

3.03 VERIFICATION TESTING FOR CORRECTED DEFECTS

- A. Provide verification testing on corrected Work when corrective action is complete to demonstrate that the corrected Work complies with the Contract Documents. Conduct the same tests or inspections used to determine that the original Work was Defective. Different tests or methods may be used if approved by the OPT. Document that Defective Work has been corrected with the Construction Manager.
- B. Pay for verification testing until Work meets quality requirement set forth in the Contract Documents. OPT may perform verification testing as part of its Quality Management Program and impose a Set-off to recover the cost for this testing.

3.04 OWNER'S PRELIMINARY QUALITY CONTROL PLAN

Spec. Section	Test / Frequency	OPT or Contractor
31 32 19.15	Geotextile tensile testing	Contractor
31 32 19.15	Geotextile puncture testing	Contractor
31 37 00	Rock Rip Rap Gradation analysis	Contractor
31 37 00	Rock Rip Rap Density analysis	Contractor

END OF SECTION

01 57 00 TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 SUMMARY

- A. Provide labor, materials, equipment, and incidentals necessary to construct temporary facilities to provide and maintain control over environmental conditions at the Site. Remove temporary facilities when no longer needed.
- B. Construct temporary impounding works, channels, diversions, furnishing, and operation of pumps, installing piping and fittings, and other construction for control of conditions at the Site. Remove temporary controls at the end of the Project.

1.02 DOCUMENTATION

- A. Provide copies of notices, records, and reports required by the Contract Documents or Laws and Regulations as Product Data in accordance with Section 01 31 13 "Project Coordination."

1.03 QUALITY ASSURANCE

- A. Construct and maintain temporary controls with adequate workmanship using durable materials to provide effective environmental management systems meeting the requirements of the Contract Documents and Laws and Regulations. Use materials that require minimal maintenance to prevent disruption of construction activities while providing adequate protection of the environment.
- B. Periodically inspect systems to determine that they are meeting the requirements of the Contract Documents.

1.04 POLLUTION CONTROL

- A. Prevent the contamination of soil, water, or atmosphere by the discharge of noxious substances from construction operations. Provide adequate measures to prevent the creation of noxious air-borne pollutants. Prevent dispersal of pollutants into the atmosphere. Do not dump or otherwise discharge noxious or harmful fluids into drains or sewers, nor allow noxious liquids to contaminate public waterways in any manner.
- B. Provide equipment and personnel and perform emergency measures necessary to contain any spillage.
 - 1. Contain chemicals in protective areas and do not dump on soil. Dispose of such materials at off-site locations in an acceptable manner.
 - 2. Excavate contaminated soil and dispose at an off-site location if contamination of the soil does occur. Fill resulting excavations with suitable backfill and compact to the density of the surrounding undisturbed soil.
 - 3. Provide documentation to the Owner which states the nature and strength of the contaminant, method of disposal, and the location of the disposal site.
 - 4. Comply with Laws and Regulations regarding the disposal of pollutants.

- C. Groundwater or run-off water which has come into contact with noxious chemicals, sludge, or contaminated soil is considered contaminated. Do not allow contaminated water to enter streams or water courses, leave the Site in a non-contained form, or enter non-contaminated areas of the Site.
 - 1. Construct temporary holding ponds or take other precautions and measures as required to contain the contaminated water and pump to a designated storage area.
 - 2. Wash any equipment used for handling contaminated water or soil within contaminated areas three times with uncontaminated water prior to using such equipment in an uncontaminated area. Dispose of wash water used to wash such equipment as contaminated water.

1.05 EARTH CONTROL

- A. Remove excess soil, spoil materials, and other earth not required for backfill. Control stockpiled materials to eliminate interference with Contractor and Owner's operations.
- B. Dispose of excess earth off the Site. Provide written approval from the property owner for soils deposited on private property as Product Data per Section 01 31 13 "Project Coordination." Obtain approval of the OPT if this disposal impacts the use of Site or other easements.

1.06 AIR POLLUTION CONTROL

- A. Air Pollution Watch Days:
 - 1. Air Pollution Watch Days (APWD) may occur in the following times:
 - a. Typical Ozone Season: May 1 through October 31.
 - b. Critical Emission Time: 6:00 a.m. to 10:00 a.m.
 - 2. Watch Days:
 - a. State or local environmental regulatory agencies, in coordination with the National Weather Service, may designate the following day as an APWD by 3:00 p.m. on the prior afternoon.
 - b. Begin work after 10:00 a.m. on designated APWD if work requires the use of heavy construction equipment for run times in excess of 1 hour prior to 10:00 a.m. Heavy construction equipment may be used prior to 10:00 a.m. if equipment is certified by EPA as "Low Emitting" or equipment burns Ultra Low Sulfur Diesel (ULSD), diesel emulsions, or alternative fuels such as CNG.
- B. Obtain air permit for construction activities per requirements of Laws and Regulations.

1.07 TEMPORARY STORMWATER POLLUTION CONTROL

- A. Provide temporary stormwater pollution control per Section 01 57 23 "Temporary Stormwater Pollution Control."

1.08 MANAGEMENT OF WATER

- A. Manage water resulting from rains or ground water at the Site. Maintain trenches and excavations free of water at all times.
- B. Lower the water table in the construction area by acceptable means if necessary to maintain a dry and workable condition at all times. Provide drains, sumps, casings, well points, and other water control devices as necessary to remove excess water.
- C. Provide continuous operation of water management actions. Maintain standby equipment to provide proper and continuous operation for water management.
- D. Ensure that water drainage does not damage adjacent property. Divert water into the same natural watercourse in which its headwaters are located, or other natural stream or waterway as approved by the Owner. Assume responsibility for the discharge of water from the Site.
- E. Remove the temporary construction and restore the Site in a manner acceptable to the Construction Manager and to match surrounding material at the conclusion of the Work.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Provide materials that comply with Laws and Regulations.

PART 3 - EXECUTION

3.01 CONSTRUCTING, MAINTAINING, AND REMOVING TEMPORARY CONTROLS

- A. Construct temporary controls in accordance with Laws and Regulations.
- B. Maintain controls in accordance with regulatory requirements where applicable or in accordance with the requirements of the Contract Documents.
- C. Remove temporary control when no longer required, but before the Project is complete. Correct any damage or pollution that occurs as the result of removing controls while they are still required.

END OF SECTION

01 70 00 EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

- A. Comply with requirements of the General Conditions and specified administrative procedures in closing out the Contract.

1.02 DOCUMENTATION

- A. Submit affidavits and releases on forms provided by the Construction Manager.

1.03 SUBSTANTIAL COMPLETION

- A. The following requirements must be met for the Project or a designated portion of the Work to be Substantially Complete per the General Conditions:
 - 1. Work must be fully functional and able to operate in accordance with the Contract Documents without special or extraordinary efforts on the part of the Owner.
- B. Conduct inspections with superintendent, Subcontractors, and Suppliers for the Work or a designated portion of the Work prior to calling for a Substantial Completion inspection by the OPT. Create a list of deficiencies in the Work that must be completed for the Project to qualify for Substantial Completion. Review the list with the Construction Manager or the designated member of the OPT. The Construction Manager or the designated member of the OPT may assist the Contractor with this effort; however, it is the Contractor's responsibility to create and manage this list of deficiencies until corrections are made.
- C. Correct the identified deficiencies prior to calling for a Substantial Completion inspection.
- D. Notify the Construction Manager that the Work or a designated portion of the Work is Substantially Complete per the General Conditions. Include a list of the items remaining to be completed or corrected before the Project will be considered for Final Completion.
- E. OPT will visit the Site to observe the Work within a reasonable time after notification is received to determine the status of the Project.
- F. Construction Manager will notify the Contractor that the Work is either Substantially Complete or that additional Work must be performed before the Project will be considered Substantially Complete.
 - 1. Construction Manager will notify the Contractor of items that must be completed before the Project will be considered Substantially Complete.
 - 2. Correct the noted deficiencies in the Work.
 - 3. Notify the Construction Manager when the items of Work in the Construction Manager's notice have been completed.
 - 4. OPT will revisit the Site and repeat the process.
 - 5. Construction Manager will issue a Certificate of Substantial Completion to the Contractor when the OPT considers the Project to be Substantially Complete. The

certificate will include a tentative list of items to be corrected before Final Payment will be recommended.

6. Review the list and notify the Construction Manager of any objections to items on the list within 10 days after receiving the Certificate of Substantial Completion.

1.04 TRANSFER OF UTILITIES

- A. Transfer utilities to the Owner when the Certificate of Substantial Completion has been issued.
- B. Submit final meter readings for utilities and similar data as of the date the Owner occupied the Work.

1.05 CLOSEOUT REQUIREMENTS

- A. Provide the following before Final Completion:
 1. Record Documents per Section 01 31 13 "Project Coordination";
 2. Keys and keying schedule;
 3. Warranties, bonds, and service agreements;
 4. Equipment Installation Reports;
 5. Shop Drawings, Product Data, operation and maintenance manuals, and other documentation required by the Contract Documents;
 6. Specified spare parts and special tools;
 7. Certificates of occupancy, operating certificates, or other similar releases required to allow the Owner unrestricted use of the Work and access to services and utilities; and
 8. Evidence of continuing insurance and bond coverage as required by the Contract Documents.

1.06 WARRANTIES, BONDS, AND SERVICES AGREEMENTS

- A. Provide warranties, bonds, and service agreements required by Section 01 33 00 "Document Management" or by the individual Sections of the Specifications.
- B. The date for the start of warranties, bonds, and service agreements is established per the General Conditions.
- C. Compile warranties, bonds, and service agreements and review these documents for compliance with the Contract Documents.
 1. Each document is to be signed by the respective Supplier or Subcontractor.
 2. Each document is to include:
 - a. The product or Work item description;
 - b. The firm name, with the name of the principal, address, and telephone number;
 - c. Scope of warranty, bond, or services agreement;

- d. Date, duration, and expiration date for each warranty bond and service agreement;
 - e. Procedures to be followed in the event of a failure; and
 - f. Specific instances that might invalidate the warranty or bond.
- D. Submit digital copies of the documents to the Construction Manager for review.
 - E. Submit warranties, bonds, and services agreements within 10 days after equipment or components placed in service.

1.07 FINAL COMPLETION

- A. Conduct inspections with Superintendent, Subcontractors, and Suppliers prior to calling for a Final Completion inspection by the OPT. Create a list of deficiencies in the Work that must be completed for the Project to qualify for the Final Completion inspection. Review the list with the Construction Manager or the designated member of the OPT. The Construction Manager or the designated member of the OPT may assist the Contractor with this effort; however, it is the Contractor's responsibility to create and manage this list of deficiencies until corrections are made.
- B. Identify, list, and correct deficiencies prior to calling for a Final Completion inspection. The Project at the call for Final Completion represents the Contractor's interpretation of a project completed in conformance with the Contract Documents and reflects the Contractor's representation of a quality project meeting the Owner's expectations.
- C. Notify the Construction Manager when:
 - 1. Work has been completed and complies with the Contract Documents;
 - 2. Equipment and systems have been tested per the Contract Documents and are fully operational;
 - 3. Final operation and maintenance manuals have been provided to the Owner and all operator training has been completed;
 - 4. Specified spare parts and special tools have been provided;
 - 5. Work is complete and ready for final inspection;
 - 6. Final documentation for all outstanding Modifications and Claims (other than those listed on the Certificate of Final Completion) have been processed and are ready for incorporation into the final Application for Payment; and
 - 7. Closeout requirements in Paragraph 1.05 have been completed.
- D. OPT will visit the Site to determine if the Project is complete and ready for final payment within a reasonable time after the notice is received.
- E. Construction Manager will notify the Contractor that the Project is complete or will notify the Contractor that Work is Defective.
- F. Take immediate steps to correct Defective Work. Notify the Construction Manager when Defective Work has corrected. OPT will visit the Site to determine if the Project is complete and the Work is acceptable. Construction Manager will issue a Certificate of Final

Completion to the Contractor when the Project is complete or will notify the Contractor that Work is Defective.

- G. Submit the request for final payment with closeout documentation described in Paragraph 1.06 if notified that the Project is complete and the Work is acceptable.

1.08 REINSPECTION FEES

- A. Owner may impose a set-off against the Application for Payment in accordance with the General Conditions to compensate the OPT for additional visits to the Project if additional Work is required.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

31 32 19.15 GEOTEXTILE

1.00 GENERAL

1.01 WORK INCLUDED

A. Furnish labor, materials, equipment and incidentals necessary to install geotextile. Use geotextile to provide for the following applications:

1. Protection/Erosion Protection:
 - a. Under riprap along shores and waterways.

1.02 QUALITY ASSURANCE

A. Design Criteria:

1. The geotextile fabric shall be inert to commonly encountered chemicals, hydrocarbons, mildew and rot resistant, resistant to ultraviolet light exposure, insect and rodent resistant, and conform to the properties in the following table.
2. The minimum average roll value (MARV) in the weakest principle direction for strength properties of any individual roll tested from the manufacturing lot or lots of a particular shipment shall be in excess of the minimum average roll value (MARV) in the weakest principle direction stipulated herein.

Geotextile			
Property	Test Method	Units	MARV
Grab Tensile Strength	ASTM D4632-91	lb.	180
Grab Tensile Elongation	ASTM D4632-91	%	40
Trapezoid Tear Strength	ASTM D4533-91	lb.	110
CBR Puncture Strength	ASTM D6241	lb.	125
AOS	ASTM D4751-87	U.S. Standard Sieve Size	0.212
Permittivity	ASTM D4491-92	Sec-1	0.1

- B. Packing and Identification Requirements: Provide the geotextile in rolls wrapped with protective covering to protect the fabric from mud, dirt, dust, and debris. The fabric shall be free of defects or flaws which significantly affect its physical properties. Label each roll of fabric in the shipment with a number or symbol to identify that production run.
- C. Sampling and Compliance Requirements: A competent laboratory must be maintained by the producer of the fabric at the point of manufacture to ensure quality control in accordance with ASTM testing procedures. The laboratory shall maintain records of its quality control results and provide a manufacturer’s certificate upon request to the Engineer prior to shipment. The certificate shall include:
1. Name of manufacturer.
 2. Chemical composition.
 3. Product description.

4. Statement of compliance to specification requirements.
5. Signature of legally authorized official attesting to the information required.

1.03 SUBMITTALS

- A. Submittals shall be in accordance with Section 01 33 00 "Document Management" and shall include:
 1. Submit Manufacturer's certificate as stipulated in Paragraph 1.02.C.
 2. Samples.

2.00 PRODUCTS

2.01 MATERIALS

- A. Geotextile: Non-woven fabric composed of polypropylene fibers, formed into a stable network by needle punching.

3.00 EXECUTION

3.01 INSTALLATION

1. Exposure of geotextiles to the elements between laydown and cover shall be a maximum of 14 days to minimize damage potential. Install the geotextile fabric in accordance with the Drawings. Construction vehicles will not be allowed to traffic directly on the fabric. Place and anchor geotextile on a smooth graded surface approved by the Engineer. The geotextile shall be placed so that placement of the overlying materials will not excessively stretch or tear the fabric. Anchoring of the terminal ends of the geotextile shall be accomplished through the use of key trenches or aprons at the crest and the toe of the slope. Successive geotextile sheets shall be overlapped so that the upstream sheet is placed over the downstream sheet and/or upslope over downslope. In underwater applications, the geotextile and required thickness of backfill material shall be placed the same day. The geotextile shall be placed so that placement of the overlying materials will not excessively stretch or tear the fabric. Overlaps when placed under water shall be a minimum of 36 inches. Use securing pins when necessary to ensure proper anchoring of the fabric, with securing pins spaced at 5- to 10-foot centers. Securing pins shall be 3/16-inch steel bars, pointed at one end and fabricated with a head to retain a steel washer having an outside diameter of not less than 1-1/2 inches. The pin length shall not be less than 19 inches. U-shaped pins or special staples shall be an acceptable option, if approved by the Engineer. Damaged geotextile shall be repaired with geotextile patch placed over the damaged area and extended 3 feet beyond the perimeter of the tear or damage.
2. The backfill placement shall begin at the toe and proceed up the slope. Back-dump the aggregate onto the fabric and spread in a uniform lift maintaining design aggregate thickness. Avoid over-stressing the soil by utilizing equipment in spreading and dumping that exerts only moderate pressures on the soil. Severe rutting at the time of placement is an indication of over-stressing the soil. Such soil over-stressing must be avoided. Increasing aggregate depths and reducing loads are two methods of reducing pressures

on the soil. Fill any ruts that develop during spreading or compacting with additional aggregate rather than blading from surrounding areas.

END OF SECTION

APPENDIX A

A1.00 MEASUREMENT AND PAYMENT

A1.01 MEASUREMENT

- A. Geotextile shall be measured to the neat lines and grades indicated on the Drawings for payment by the square yard in place. Measurement will be the nearest square yard. No allowance will be made for material in laps and seams.

A1.02 PAYMENT

- A. Payment will be made at the contract unit price bid for “Geotextile”, which price and payment shall constitute full compensation for furnishing labor, material, equipment, and performing operations in connection with placing the geotextile as shown on the Drawings. No measurement nor payment will be made for damaged fabric due to the fault or negligence of the Contractor.

END OF APPENDIX A

31 37 00 ROCK RIPRAP

1.00 GENERAL

1.01 WORK INCLUDED

- A. Furnish labor, materials, equipment, tools and incidentals necessary to produce and place the rock riprap and gravel bedding material.

1.02 SUBMITTALS

- A. Submittals shall be in accordance with Section 01 33 00 "Document Management."
- B. Certified Test Reports: soundness (ASTM C88), gradation (ASTM C136/ASTM D5519), and unit weight (ASTM C127).

1.03 STANDARDS

- A. Sampling and testing of material shall comply with the latest revision of the following except where specifically modified:
 - 1. ASTM International (ASTM):

ASTM C88	Standard Specification for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium sulfate
ASTM C127	Standard Specification for Specific Gravity and Absorption of Coarse Aggregates
ASTM C136	Standard Specification for Sieve Analysis of Fine and Coarse Aggregates
ASTM D5519	Standard Test Methods for Particle Size Analysis of Natural and Man-Made Riprap Materials

1.04 DELIVERY AND STORAGE; ROCK RIPRAP STOCKPILE

- A. Rock Riprap temporarily stockpiled for construction purposes shall be located in an area approved by the Owner. Rock riprap materials shall not be located so as to block or restrict equipment and vehicle access to existing structures.

2.00 PRODUCTS

2.01 MATERIALS

- A. Rock Riprap:
 - 1. Stone for rock riprap shall be durable and of a suitable quality for permanence in the structure and in the climate which it is to be used. The stone shall be free from cracks, seams, and other defects which would tend to increase unduly its deterioration from natural causes and shall be reasonably well graded between the prescribed limits as specified herein.
 - 2. Except as otherwise specified, the rock fragments shall be angular to subrounded. The least dimension of an individual stone fragment shall be not less than one-third the greatest dimension of the stone.

3. Rock riprap shall have a minimum unit weight of 155 pounds per solid cubic foot based upon the bulk specific gravity (saturated surface dry) when tested in accordance with ASTM C127. A minimum of one bulk specific gravity (saturated surface dry) shall be performed on rock riprap material delivered to the Site.
4. Rock riprap shall have a loss of less than 18 percent after five cycles when tested for soundness in magnesium sulfate in accordance with ASTM C88. A minimum of one soundness-in-magnesium sulfate test shall be performed on rock riprap material delivered to the Site.
5. Rock Riprap gradation shall be as shown on the Drawings. Acceptance of rock riprap material shall be based upon in-place gradations.

2.02 MANUFACTURED PRODUCTS

- A. Geotextile Fabric: Geotextile fabric shall be in accordance with Section 31 32 19.15 "Geotextile."

3.00 EXECUTION

3.01 FOUNDATION PREPARATION

- A. Trim and dress areas on which rock riprap are to be placed to conform to cross-sections shown on the Drawings within an allowable tolerance of plus or minus 6 inches from the slope lines and grades shown on the Drawings.

3.02 GEOTEXTILE FABRIC

- A. Store and place fabric as specified by the manufacturer. Place the geotextile fabric after the foundation is prepared and cover immediately with rock riprap.
- B. Place fabric with the length running up and down the slope unless otherwise approved. The geotextile shall be placed so that placement of the overlying materials will not excessively stretch or tear the fabric. Anchoring of the terminal ends of the geotextile shall be accomplished through the use of key trenches or aprons at the crest and the toe of the slope.
- C. Make a minimum 36-inch lap on all joints. Secure fabric with pins. Use U-shaped pins with legs at least 9 inches long. Space pins at a maximum of 10 feet in each direction and 5 feet along the seams. Alternative anchor spacing may be used when approved.
- D. Construction vehicles will not be allowed to traffic directly on the fabric. Damaged geotextile shall be repaired with geotextile patch placed over the damaged area and extended 3 feet beyond the perimeter of the tear or damage.

3.03 ROCK RIPRAP PLACEMENT

- A. Place stone for rock riprap in such manner as to produce a reasonably well-graded mass of rock with the minimum practicable percentage of voids, and construct within the specified tolerance to the lines and grades shown on the Drawings or staked in the field. A tolerance of plus 6 or minus 0 inches from the slope lines and grades shown on the Drawings shall be allowed in the finished surface of the rock riprap. Place rock riprap to its full course thickness at one operation and in such a manner as to avoid displacing the bedding material.

Distribute the larger stones evenly and conform the entire mass of stones in their final position to the specified gradation.

- B. The finished rock riprap shall be free from objectionable pockets of small stones and clusters of larger stones. Place rock riprap loads along horizontal rows and progress up the slope. Place each load against previously placed rock riprap. Placing rock riprap in layers shall not be permitted. Placing rock riprap by dumping from top of slope, dumping into chutes, or by similar methods likely to cause segregation of the various sizes shall not be permitted. The desired distribution of the various sizes of stones throughout the mass shall be obtained by methods of placement which produces the specified results. Rearrange individual stones by mechanical equipment or by hand to the extent necessary to obtain a reasonably well graded distribution of stone sizes. Maintain the rock riprap protection until accepted and replace any material displaced by any cause to the lines and grades shown on the Drawings.
- C. Rock riprap shall be placed in a manner to prevent damage to structures. Hand placing is required as necessary to prevent damage to any new and existing structures.

3.04 FIELD QUALITY CONTROL TESTING

- A. Contractor shall be responsible for providing all testing to demonstrate compliance with the requirements of the Contract Documents. Particle size analysis shall be performed in accordance with ASTM D5519, Test Method A or B. The analysis shall be performed at the work site on a test pile of representative rock. The mass of the test pile shall be at least 20 times the mass of the largest rock in the pile. The results of the test shall be compared to the gradation required for the Project prior to beginning placement. Test pile results that do not meet the construction specifications shall be cause for the rock to be rejected. The test pile that meets contract requirements shall be left on the job site as a sample for visual comparison. The test pile shall be used as part of the last rock riprap to be placed.

END OF SECTION

APPENDIX A

A1.00 MEASUREMENT AND PAYMENT

A1.01 MEASUREMENT

- A. Measurement for Rock Riprap shall be per ton of material. Provide certified delivery tickets on each load of rock riprap. The ticket shall show the truck number, time and date the load was dispatched, tare weight, loaded weight, and net weight of material shipped. The basis of payment shall be the net weight of material shipped. Weight measurements shall be made on state certified scales. Proof of State Certification on scales shall be provided prior to the first shipment.
- B. Geotextile fabric shall be measured by the square yard of material placed in accordance with the Contract Documents. No allowance will be made for material in laps, seams or anchor trenches.

A1.02 PAYMENT

- A. Rock Riprap: Payment for rock riprap material shall be made at the unit price bid per ton for "Rock Riprap" which payment shall be full compensation for labor, equipment and materials, and for performing all operations necessary to furnish, transport, haul, handle, place, and test the rock riprap as specified and as indicated on the Drawings.

END OF APPENDIX A

Attachment 4: Antiquities Code Review

David Buzan

From: Cherie OBrien <Cherie.OBrien@tpwd.texas.gov>
Sent: Wednesday, February 16, 2022 2:22 PM
To: David Buzan
Cc: Bill Balboa; David Buzan; Nic Kirk; Tam Tran
Subject: FW: Section 106 Submission

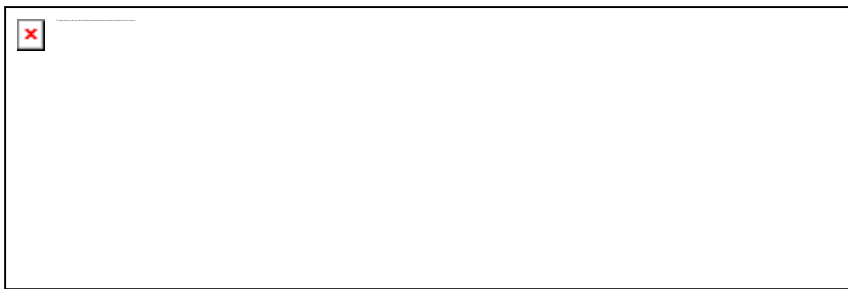
This is an email from an EXTERNAL source. DO NOT click links or open attachments without positive sender verification of purpose. Never enter USERNAME, PASSWORD or sensitive information on linked pages from this email. Please report all suspicious messages using the Report Message button in Outlook.

FYI - see below email. But no problems encountered.

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202205673
Date: 02/16/2022
Schicke Point Wetlands and Restoration
in Matagorda Bay by 1149 Point Lane
Palacios, TX 77465

From: noreply@thc.state.tx.us <noreply@thc.state.tx.us>
Sent: Wednesday, February 16, 2022 2:10 PM
To: Cherie OBrien <Cherie.OBrien@tpwd.texas.gov>; reviews@thc.state.tx.us; Jerry.L.Androy@usace.army.mil
Subject: Section 106 Submission

ALERT: This email came from an external source. Do not open attachments or click on links in unknown or unexpected emails.



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202205673

Date: 02/16/2022

Schicke Point Wetlands and Restoration
in Matagorda Bay by 1149 Point Lane
Palacios, TX 77465

Description: construction of approximately 3,400 linear-foot segment(s) of living shoreline / rock breakwater; five 600-foot-long segments with four 100-foot-long gaps

Dear cherie.obrien@tpwd.texas.gov:

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Amy Borgens, has completed its review and has made the following determinations based on the information submitted for review:

Archeology Comments

- No identified underwater archeological sites, historic shipwrecks, and/or significant remote-sensing targets present or affected. However, if buried cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We have the following comments: A review of later 19th-century and early 20th-century navigation charts suggests the project area was at the shoreline or part of the terrestrial landscape historically. The project description states that dredging will not be conducted for the installation of the breakwater and that this will be accomplished by a barge-mounted backhoe. Based on the current project description, an underwater archeological survey is not requested. However, archeological survey may be warranted if the project is modified to include barge access channels. Please coordinate with the THC if the proposed project or construction plans change. THC records suggest that the THC did not review the first installment of the breakwater project at Schicke Point (SWG 2016-00111).

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: amy.borgens@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit <http://thc.texas.gov/etrac-system>.

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

cc: Jerry.L.Androy@usace.army.mil</p

David Buzan

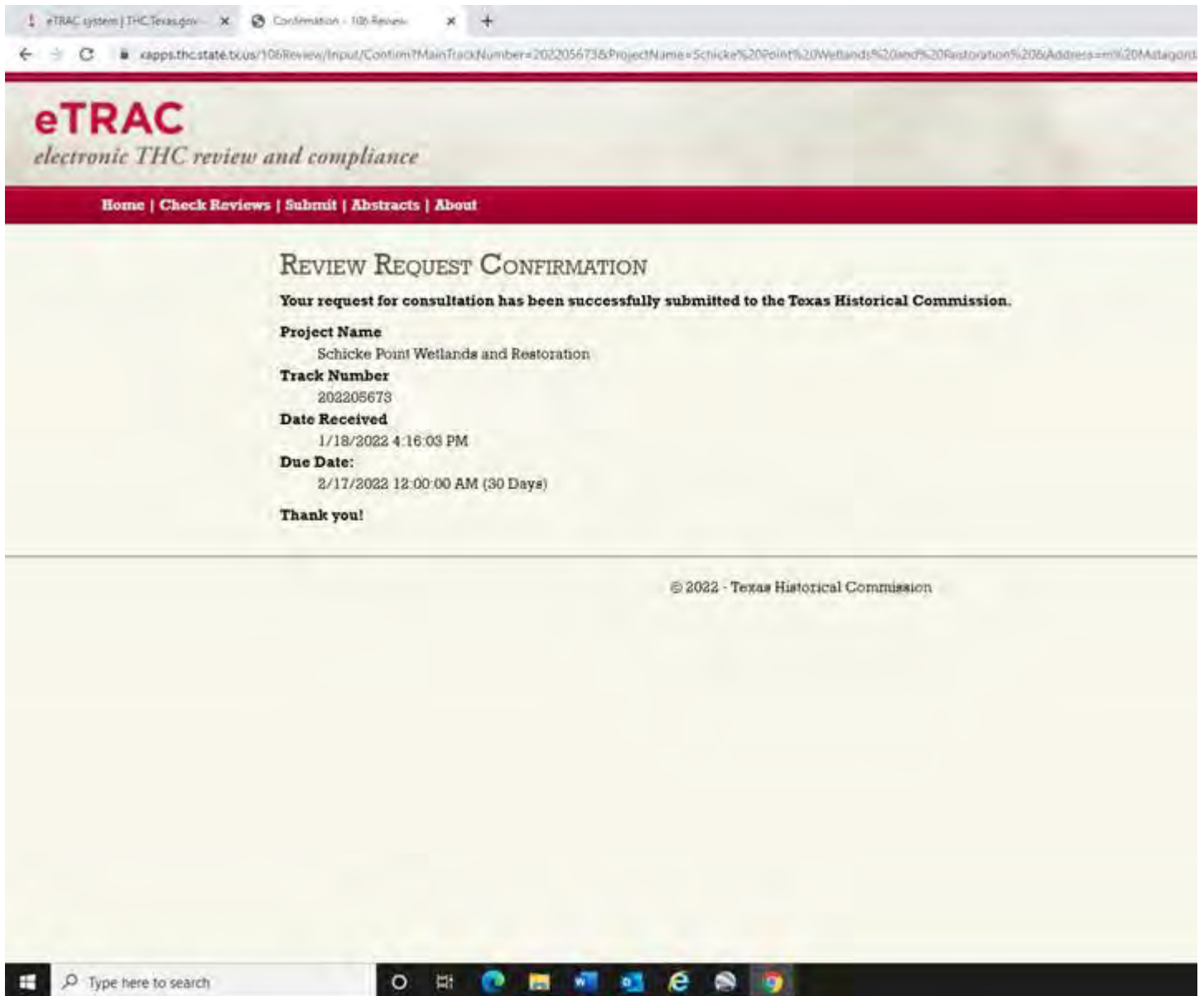
From: Cherie OBrien <Cherie.OBrien@tpwd.texas.gov>
Sent: Tuesday, January 18, 2022 4:35 PM
To: David Buzan
Cc: Nic Kirk
Subject: RE: Schicke Point drone photo

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Hi Dave- It has been submitted.

Since the project is on state-owned submerged land its required to go through an Antiquities Code of Texas review (in Addition to the Section 106 of the National Historic Preservation Act). The USACE permit application triggers the Section 106 review because the USACE is the lead federal agency on issuing a federal permit but it does not trigger the Antiquities Code of Texas review...

Submitting it is the right thing to do.



From: David Buzan <David.Buzan@freese.com>
Sent: Tuesday, January 18, 2022 3:18 PM
To: Cherie OBrien <Cherie.OBrien@tpwd.texas.gov>
Cc: Nic Kirk <Nic.Kirk@freese.com>
Subject: RE: Schicke Point drone photo

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Yes. That is my understanding also. Dave

From: Cherie OBrien <Cherie.OBrien@tpwd.texas.gov>
Sent: Tuesday, January 18, 2022 2:44 PM
To: David Buzan <David.Buzan@freese.com>

Cc: Nic Kirk <Nic.Kirk@freese.com>

Subject: RE: Schicke Point drone photo

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Hi Dave- It worked thanks. The gap between the existing and proposed breakwater looks a little wide.... But I think its ok for submittals to THC.

We agreed that I should resubmit and request a Section 106 of the National Historic Preservation Act and Antiquities Code of Texas review, correct?

From: David Buzan <David.Buzan@freese.com>

Sent: Tuesday, January 18, 2022 1:36 PM

To: Cherie OBrien <Cherie.OBrien@tpwd.texas.gov>

Cc: Nic Kirk <Nic.Kirk@freese.com>

Subject: RE: Schicke Point drone photo

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Cherie:

Please let me know if this doesn't work.

Dave

From: Cherie OBrien <Cherie.OBrien@tpwd.texas.gov>

Sent: Tuesday, January 18, 2022 12:14 PM

To: David Buzan <David.Buzan@freese.com>

Cc: Nic Kirk <Nic.Kirk@freese.com>

Subject: RE: Schicke Point drone photo

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Hi Dave – there should be multiple files that make up the shapefile. Similar to below. Cherie

Name	Type	Compressed size	Password ...	Size
Schicke Point Breakwater.dbf	DBF File	1 KB	No	
Schicke Point Breakwater.idx	IDX File	2 KB	No	
Schicke Point Breakwater.prj	PRJ File	1 KB	No	
Schicke Point Breakwater.shp	SHP File	408 KB	No	
Schicke Point Breakwater.shx	SHX File	1 KB	No	

From: David Buzan <David.Buzan@freese.com>
Sent: Tuesday, January 18, 2022 11:14 AM
To: Cherie OBrien <Cherie.OBrien@tpwd.texas.gov>
Cc: Nic Kirk <Nic.Kirk@freese.com>
Subject: RE: Schicke Point drone photo

ALERT: This email came from an external source. Do not open attachments or click on links in unknown or unexpected emails.

Cherie:

I tried this and it seemed to work. Try it and let me know what you think.

Dave

This electronic mail message is intended exclusively for the individual or entity to which it is addressed. This message, together with any attachment, may contain the sender's organization's confidential and privileged information. The recipient is hereby notified to treat the information as confidential and privileged and to not disclose or use the information except as authorized by sender's organization. Any unauthorized review, printing, retention, copying, disclosure, distribution, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is prohibited. If you received this message in error, please immediately contact the sender by reply email and delete all copies of the material from any computer. Thank you for your cooperation.

Attachment 5: Nationwide Permit 27 Preconstruction Notice
Verification



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT
2000 FORT POINT RD
GALVESTON, TEXAS 77550

February 2, 2022

Evaluation Branch

SUBJECT: Permit No. SWG-2021-00698; Nationwide Permit Verification

Matagorda Bay Foundation
c/o: Bill Balboa
15918 County Road 946
Brazoria, Texas 77422

Dear Mr. Balboa,

This is in reference to your request, received October 8, 2021, to discharge 2,475 cubic yards of fill material into 1.04 acres for the construction of approximately 3,073 linear foot breakwater associated with the Schicke Point Breakwater Extension. This project is located in intertidal marsh of Matagorda Bay at Schicke Point, Calhoun County, Texas.

You may proceed with this proposed activity, as shown on the project plans dated October 8, 2021. This Nationwide Permit (NWP) 27 verification is valid provided the activity is compliant with the NWP General/Regional Conditions, Section 401 Water Quality Certification, and the Coastal Management Program, which can be found at: <https://www.swg.usace.army.mil/Missions/Regulatory/Permits/Nationwide-General-Permits/>. A hard copy can be provided to you upon request.

NWP 27. Aquatic Habitat Restoration, Enhancement, and Establishment Activities: Activities in waters of the United States associated with the restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas.

Based on available information, there appear to be "waters of the United States" and/or "navigable waters of the United States" on the project site. Therefore, your letter resulted in the initiation of the pre-construction notification (PCN) procedure specified for NWP 27. Your application was considered complete on October 8, 2021. The time period to process the PCN expired on November 22, 2021. Therefore, according to the NWP regulations, the project is verified under NWP 27.

The NWP verification is valid until the NWP is modified, reissued, or revoked. All of the existing NWPs are scheduled to be modified, reissued, or revoked prior to March 18, 2022. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the

relevant NWP is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

This letter does not address nor include any consideration for geographic jurisdiction on aquatic resources and shall not be interpreted as such. A copy of your plans in 13 sheets is enclosed. If you have any question regarding this verification, please contact Andria Davis at the letterhead address or by telephone at 409-766-6389. Please notify the Chief of the Compliance Branch in the Galveston District Regulatory Division in writing at the letterhead address, upon completion of the authorized project.

FOR THE DISTRICT COMMANDER:

A handwritten signature in black ink, appearing to read "Kristi N. McMillian". The signature is fluid and cursive, written over a light blue horizontal line.

Kristi N. McMillian
Chief, Evaluation Branch

cc w/Encl.

Freese and Nichols, Inc. via email: tam.tran@freese.com

Eighth Coast Guard District, New Orleans, LA

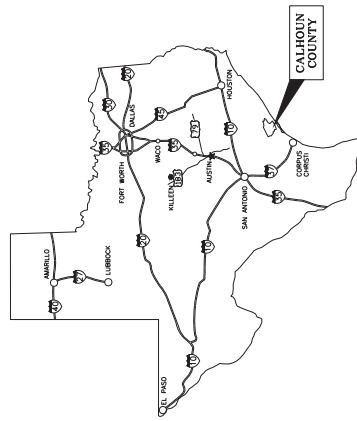
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Coast & Geodetic Survey, Silver Spring, MD

Texas Commission on Environmental Quality

Texas General Land Office

MATAGORDA BAY FOUNDATION

SCHICKE POINT LIVING SHORELINE IMPROVEMENTS



LOCATION MAP
N.E.S.

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
1	COVER
2	GENERAL NOTES: GENERAL NOTES 1
3	SECTION
4	SET BACK
5	BREAKAWAY SECTIONS 1 OF 4
6	BREAKAWAY SECTIONS 2 OF 4
7	BREAKAWAY SECTIONS 3 OF 4
8	BREAKAWAY SECTIONS 4 OF 4
9	BREAKAWAY SECTIONS 1 OF 4
10	BREAKAWAY SECTIONS 2 OF 4
11	BREAKAWAY NO. 1 DETAILS
12	BREAKAWAY NO. 2 DETAILS
13	BREAKAWAY NO. 3 DETAILS
14	BREAKAWAY NO. 4 DETAILS
15	BREAKAWAY NO. 7 DETAILS

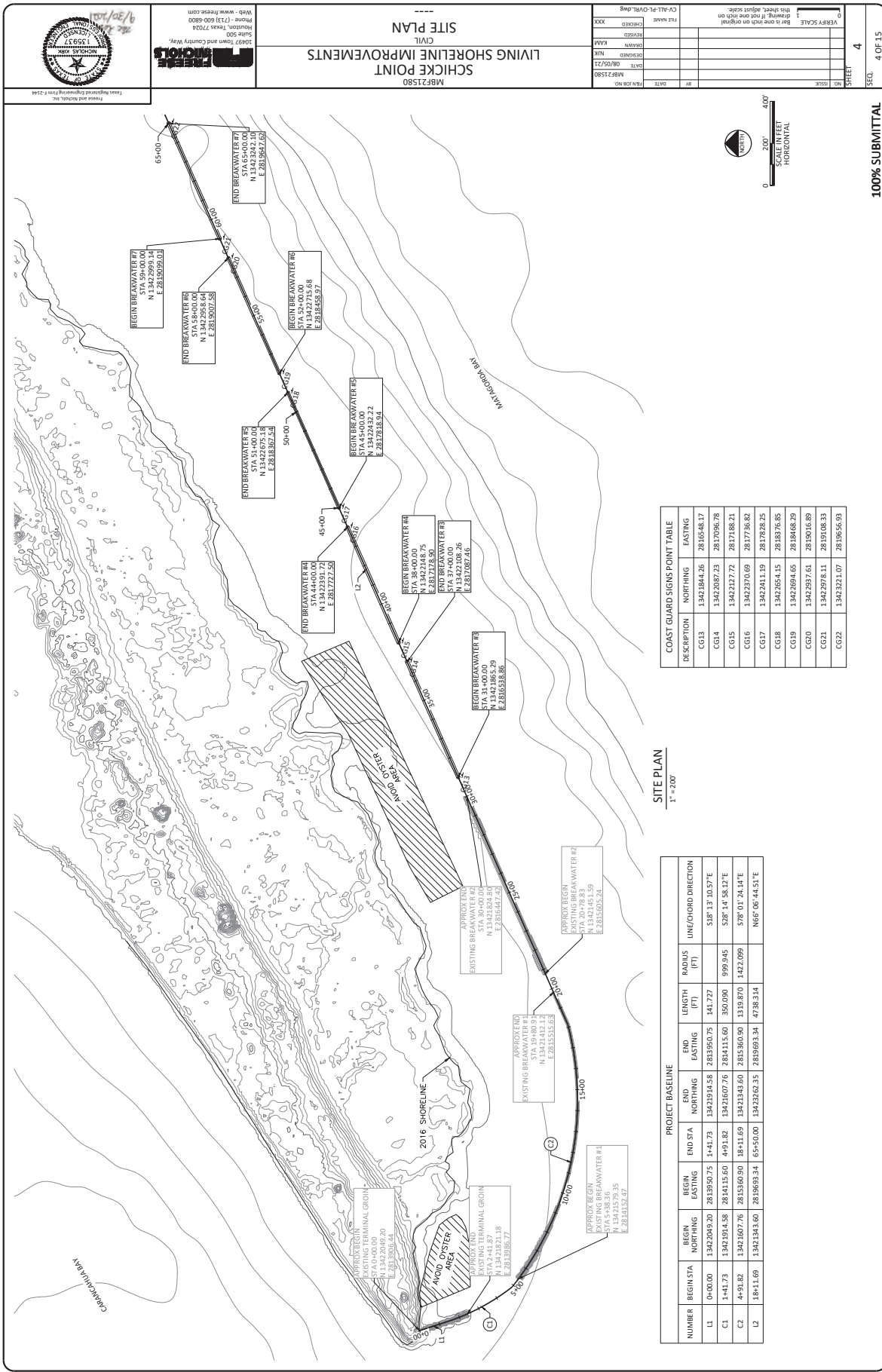


PROJECT LOCATION
VICINITY MAP
N.E.S.

OCTOBER 2021 100% SUBMITTAL



Freesse and Nelson, Inc.
 Texas Registered Professional Engineer
 License No. 17324
 MBEF21580



COAST GUARD SIGNS POINT TABLE

DESCRIPTION	NORTHING	EASTING
CG13	13421844.26	2816548.17
CG14	13422087.23	2817096.78
CG15	13422127.72	2817188.21
CG16	13422370.69	2817736.82
CG17	13422411.19	2817928.25
CG18	13422654.15	2818376.85
CG19	13422694.65	2818468.29
CG20	13422937.61	2819016.89
CG21	13422976.11	2819108.33
CG22	13423221.07	2819656.03

SITE PLAN
1" = 200'

PROJECT BASELINE

NUMBER	BEGIN STA	BEGIN NORTHING	BEGIN EASTING	END STA	END NORTHING	END EASTING	LENGTH (FT)	RADIUS (FT)	LINE/OHOD DIRECTION
L1	0+00.00	13422049.20	2813950.75	1+41.73	13421944.58	2813950.75	141.727		S18°17'10.57"E
C1	1+41.73	13421914.58	2814115.60	4+91.82	13421607.76	2814115.60	350.090	999.945	S28°14'58.12"E
C2	4+91.82	13421607.76	2815160.90	18+111.69	13421243.60	2815160.90	1319.870	1422.099	S78°01'24.14"E
L2	18+111.69	13421343.60	2815969.34	65+50.00	13423262.35	2815969.34	4738.314		N66°06'44.51"E



FRYHOFF
 10497 Town and Country Way,
 Houston, Texas 77024
 Phone: (713) 600-8000
 Web: www.fryhoff.com

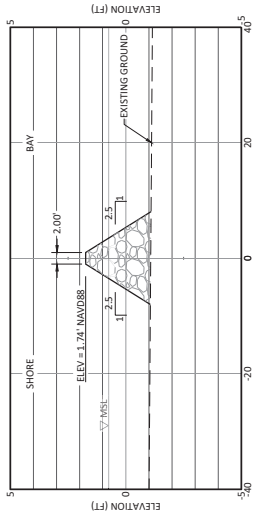
SCHICKE POINT
 LIVING SHORELINE IMPROVEMENTS
 CIVIL
 SITE PLAN

DATE	08/05/21
DATE	MAR21580
FILE NAME	XXXX
CHECKED	
DESIGNED	
DRAWN	
SCALE	
DATE	
DATE	

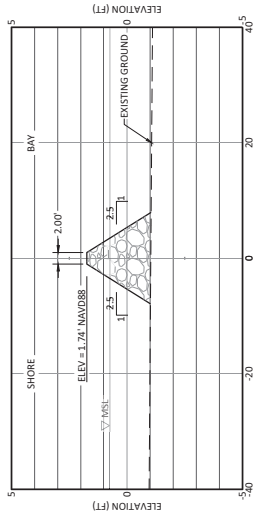
100% SUBMITTAL

4 OF 15

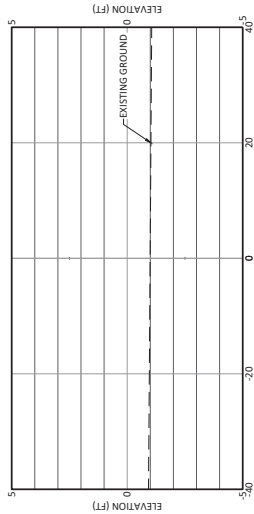
SHEET 4



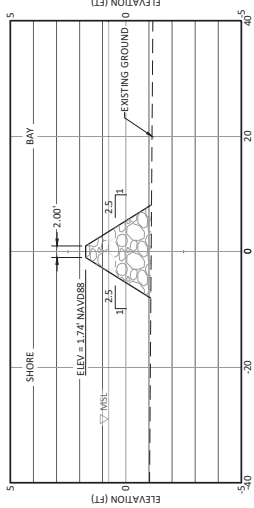
STA. 34+00



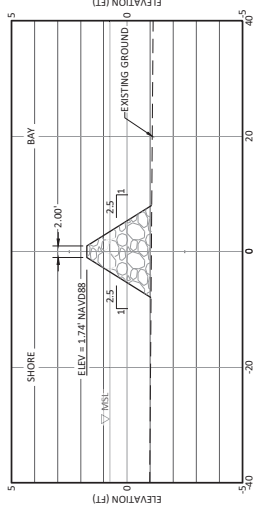
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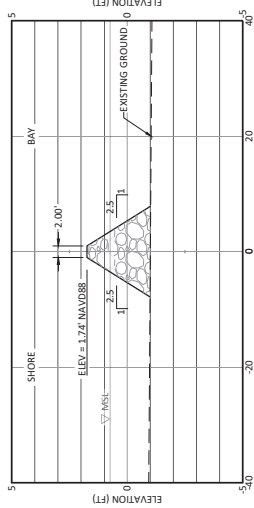
STA. 30+50



STA. 35+00



STA. 33+00



STA. 31+00



100% SUBMITTAL

SHEET 5
SEC. 5 OF 15

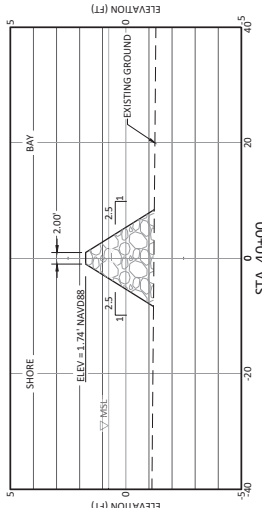


FRANKLIN ENGINEERS
10697 Town and Country Way,
Houston, Texas 77024
Phone: (713) 634-8800
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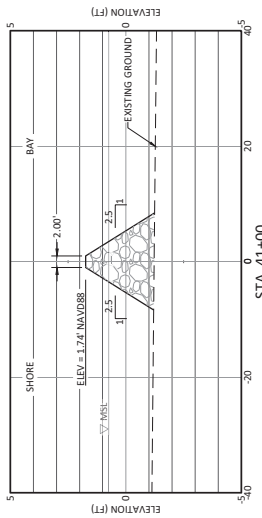
**SCHICKE POINT
LIVING SHORELINE IMPROVEMENTS**
CIVIL
SHEET 1 OF 6

PROJECT NO.	MBF21580
DATE	08/05/21
DESIGNED BY	NJM
SKETCH BY	
CHECKED BY	KAM
DATE	
PROJECT NAME	CV-ALL-SECT.dwg

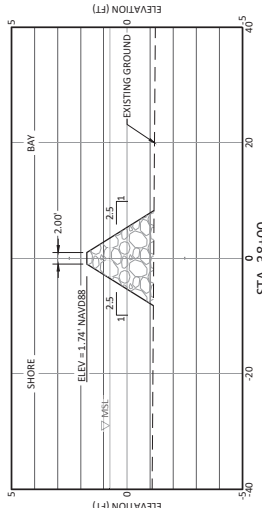
VERIFY SCALE
1 drawing if not one inch on this sheet, adjust scale.



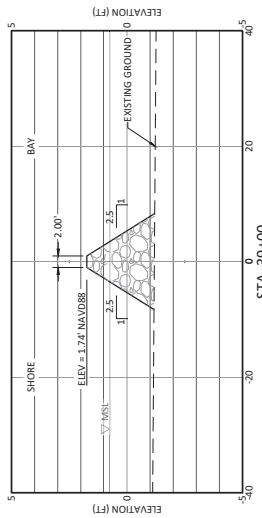
STA. 40+00



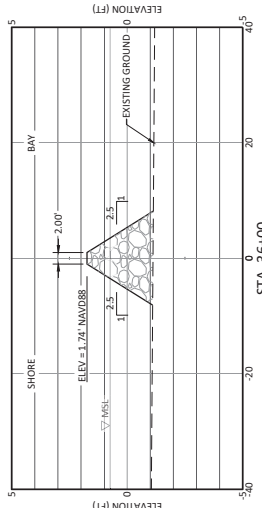
STA. 41+00



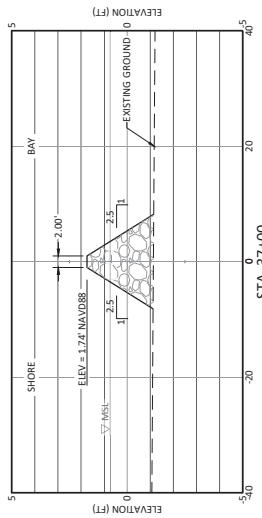
STA. 38+00



STA. 39+00



STA. 36+00



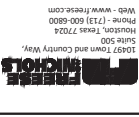
STA. 37+00

VERIFY SCALE
 1 Bar is one inch on original drawing if not one inch on this sheet, adjust scale.

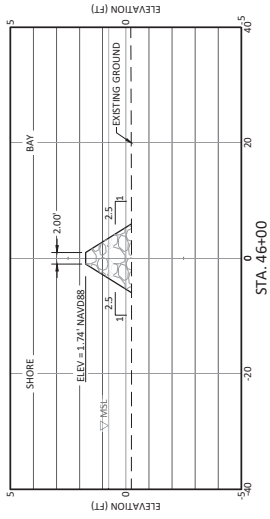
SCALE IN FEET
 HORIZONTAL 1" = 20'
 VERTICAL 1" = 5'

100% SUBMITTAL
 SEQ. 6 OF 15
 SHEET 6

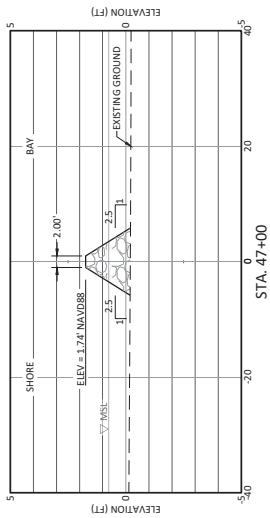
MBF21580
 SCHICKE POINT
 LIVING SHORELINE IMPROVEMENTS
 CIVIL
 BREAKWATER SECTIONS
 SHEET 2 OF 6



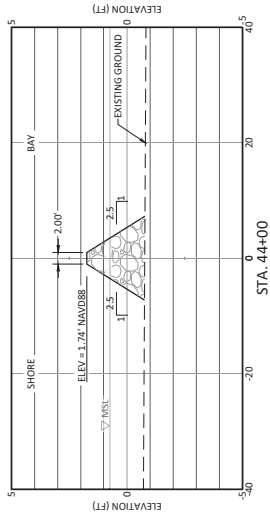
DATE	BY	DATE	BY
MBF21580		MBF21580	
DESIGNED NIM		DESIGNED NIM	
SKETCH KAM		SKETCH KAM	
CHECKED KXX		CHECKED KXX	
PROJECT NAME	CV-ALL-SECT.dwg	PROJECT NAME	CV-ALL-SECT.dwg



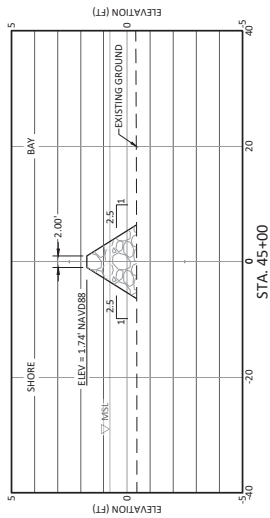
STA. 46+00



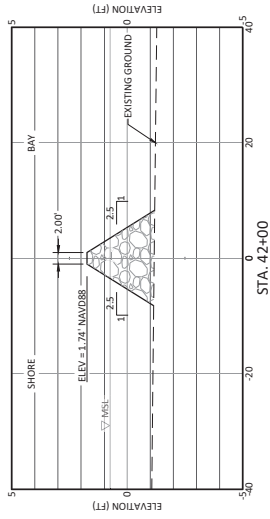
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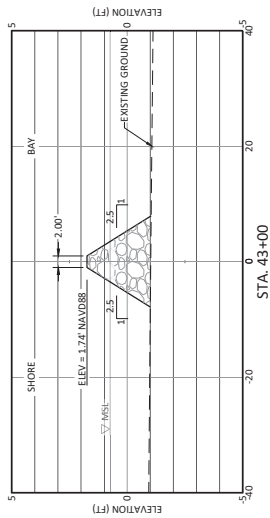
STA. 44+00



STA. 45+00



STA. 42+00



STA. 43+00

VERIFY SCALE
 1 drawing if not one inch on this sheet, adjust scale.

SCALE IN FEET
 HORIZONTAL 2:5
 VERTICAL 10':1

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SHEET 7
 SEQ. 7 OF 15



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 Mechanical Engineering Firm #2144

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 Fax: (713) 634-8800
 Web: www.fninc.com

**SCHECK POINT
 LIVING SHORELINE IMPROVEMENTS**

MBF21580
 CIVIL
 SHEET 3 OF 6

DATE	BY	DESCRIPTION
08/05/21	MBF	DESIGNED
		DRAWN
		CHECKED
		APPROVED
		PROJECT
		CLIENT

MBF21580
 PLAN NO. 00

DATE

BY

DESCRIPTION

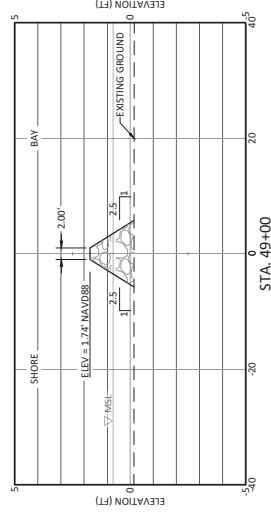
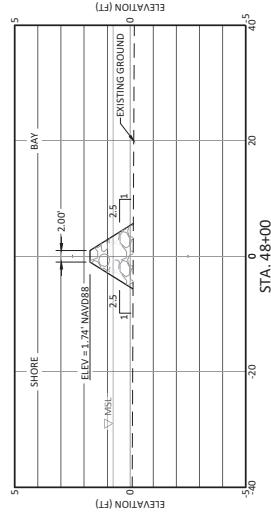
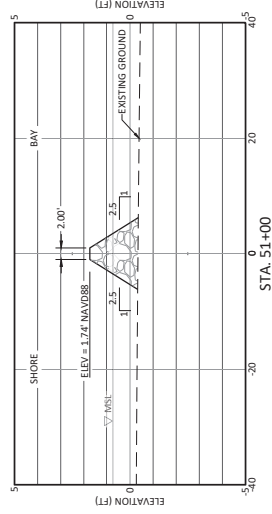
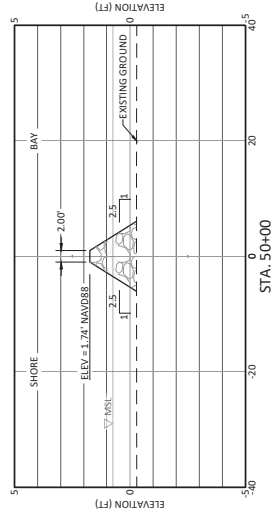
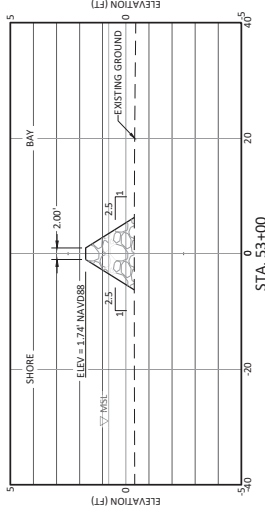
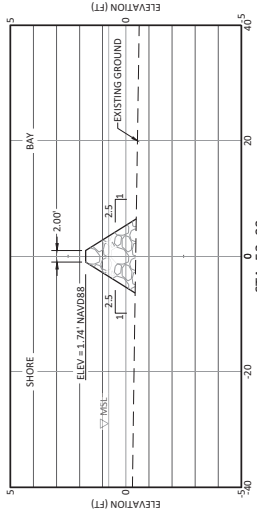
DESIGNED

DRAWN

CHECKED

PROJECT

CLIENT



VERIFY SCALE
 1 drawing if not one inch on this sheet, adjust scale.
 0

SCALE IN FEET
 HORIZONTAL
 1" = 20'
 2" = 5'

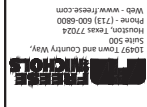
SCALE IN FEET
 VERTICAL
 1" = 5'
 2" = 10'

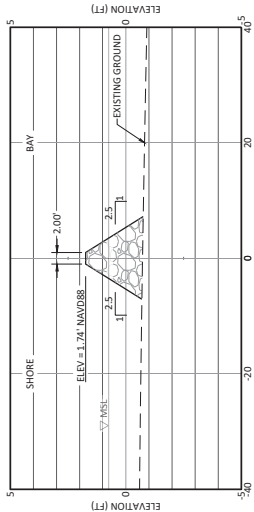
NO. 8
 SHEET
 SEQ. 8 OF 15

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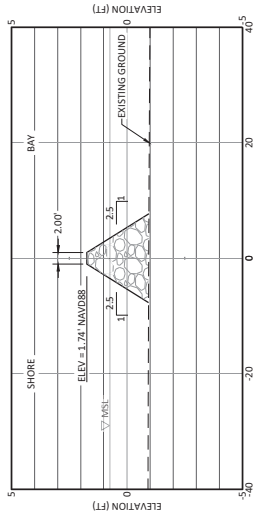
MBF21580
 SCHICKE POINT
 LIVING SHORELINE IMPROVEMENTS
 CIVIL
 BREAKWATER SECTIONS
 SHEET 4 OF 6

DATE	DATE	BY	DATE
MBF21580	MBF21580	MBF21580	MBF21580
DESIGNED	DESIGNED	DESIGNED	DESIGNED
DATE 08/05/21	DATE 08/05/21	DATE 08/05/21	DATE 08/05/21
NAME	NAME	NAME	NAME
SKINN	SKINN	SKINN	SKINN
CHECKED	CHECKED	CHECKED	CHECKED
XXX	XXX	XXX	XXX
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C:\ALL-SECT.dwg	C:\ALL-SECT.dwg	C:\ALL-SECT.dwg	C:\ALL-SECT.dwg

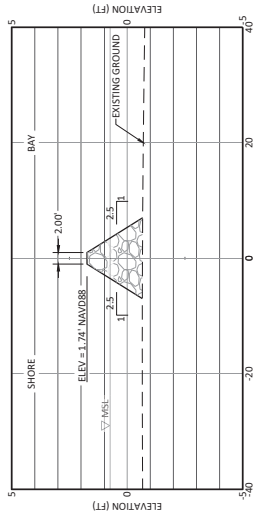




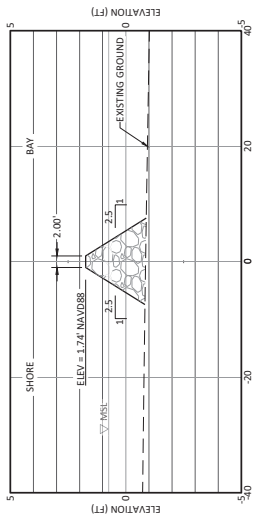
STA. 58+00



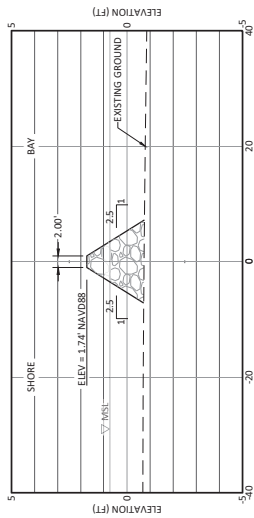
STA. 56+00



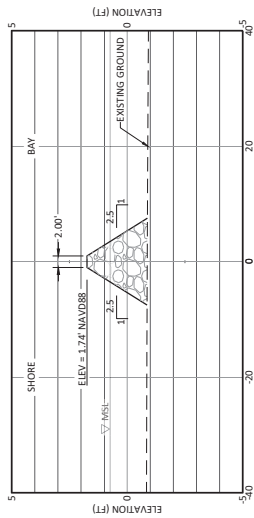
STA. 54+00



STA. 59+00



STA. 57+00



STA. 55+00

VERIFY SCALE
 1 drawing if not on original
 0 this sheet, adjust scale.

SCALE IN FEET
 HORIZONTAL
 0 5 10
 SCALE IN FEET
 VERTICAL
 0 5 10

100% SUBMITTAL

NO. 9
 SHEET 9 OF 15

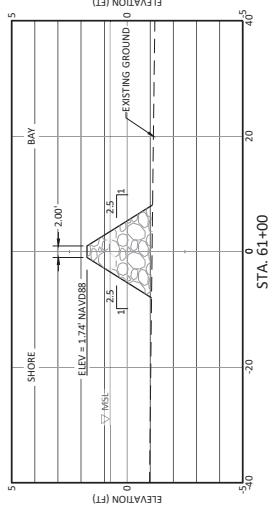
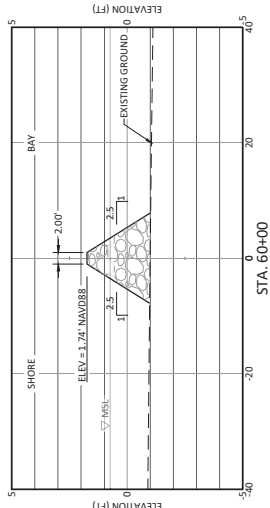
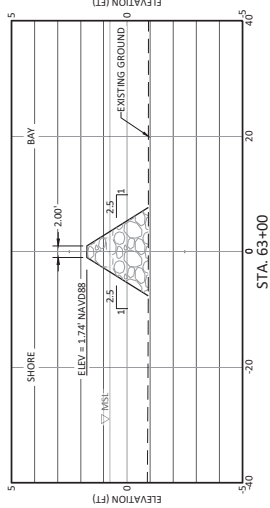
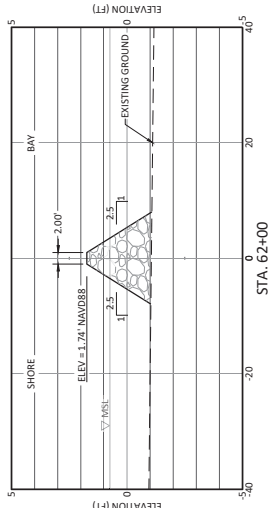
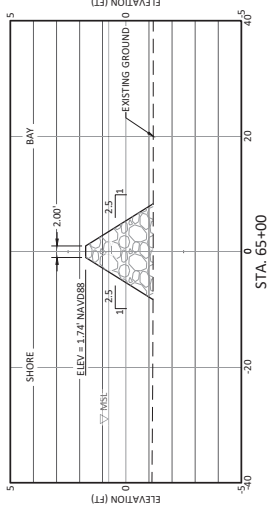
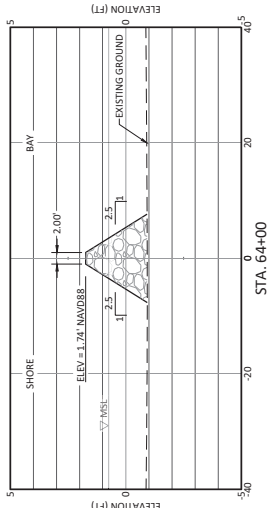


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 Texas Registered Professional Engineers
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 Fax: (713) 624-8800
 www.freese.com

MBF21580
 SCHICKE POINT
 LIVING SHORELINE IMPROVEMENTS
 BREAKWATER SECTIONS
 CIVIL
 SHEET 5 OF 6

DATE	DATE	BY	DATE
08/05/21			
DESIGNED	DATE	BY	DATE
NR	08/05/21		
DRAWN	DATE	BY	DATE
KAM			
CHECKED	DATE	BY	DATE
XXX			
PROJECT	DATE	BY	DATE
CV-ALL-SECT.dwg			

ACAD Rpt: 24.05 (LMS Tech)
 LMS Saved: 9/29/2021 12:31 PM
 Plot Date: 9/30/2021 10:59 AM
 Plot By: 02762
 Filename: N:\WBD\Drawings\CV-ALL-SECT.dwg



VERIFY SCALE
 1 Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SCALE IN FEET
 HORIZONTAL 1" = 20'
 VERTICAL 1" = 5'

NO. 10
 SHEET 10 OF 15
 SEQ. 10 OF 15

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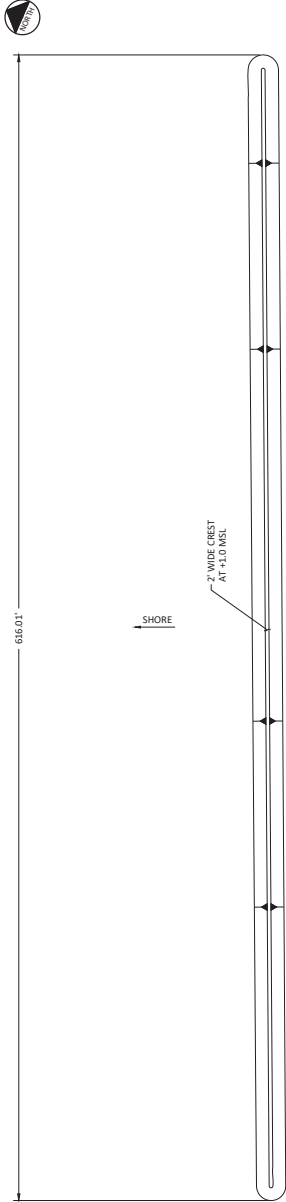
MBF21580
 SCHICKE POINT
 LIVING SHORELINE IMPROVEMENTS
 CIVIL
 BREAKWATER SECTIONS
 SHEET 6 OF 6

DATE	BY	DATE	BY
08/05/21			
DESIGNED	DATE	BY	DATE
NR	08/05/21		
SKETCH			
REVISION			
CHECKED			
XXX			

PROJECT NO. MBF21580
 DRAWING NO. CIVIL-S-SECT-046



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 Mechanical Engineering
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SHORE

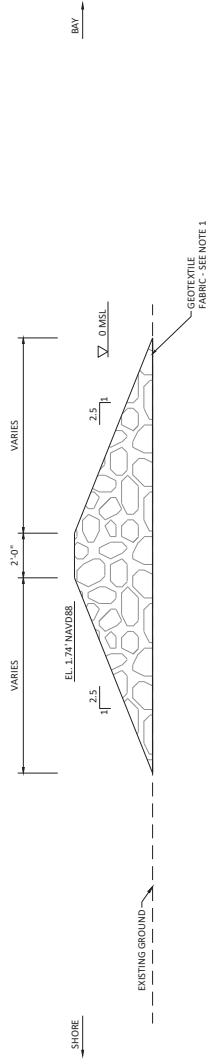
BAY

2-WIRE CREST
AT +4.0 MSL



BREAK WATER #3 DETAIL

0' 10' 20' 30' 40' 60'
SCALE IN FEET



SHORE

BAY

2.5'

2'-0"

VARIES

VARIES

ELL. 7 1/2\"/>

2.5'

0. MSL

EXISTING GROUND

GEOTEXTILE
FABRIC - SEE NOTE 1

BREAK WATER #3
TYPICAL SECTION

0' 2.5' 5'
SCALE IN FEET

FRANK AND METCALF, INC.
Texas Registered Engineering Firm # 2344



Suite 500
Houston, Texas 77024
Phone - (713) 600-6000
Web - www.fredco.com

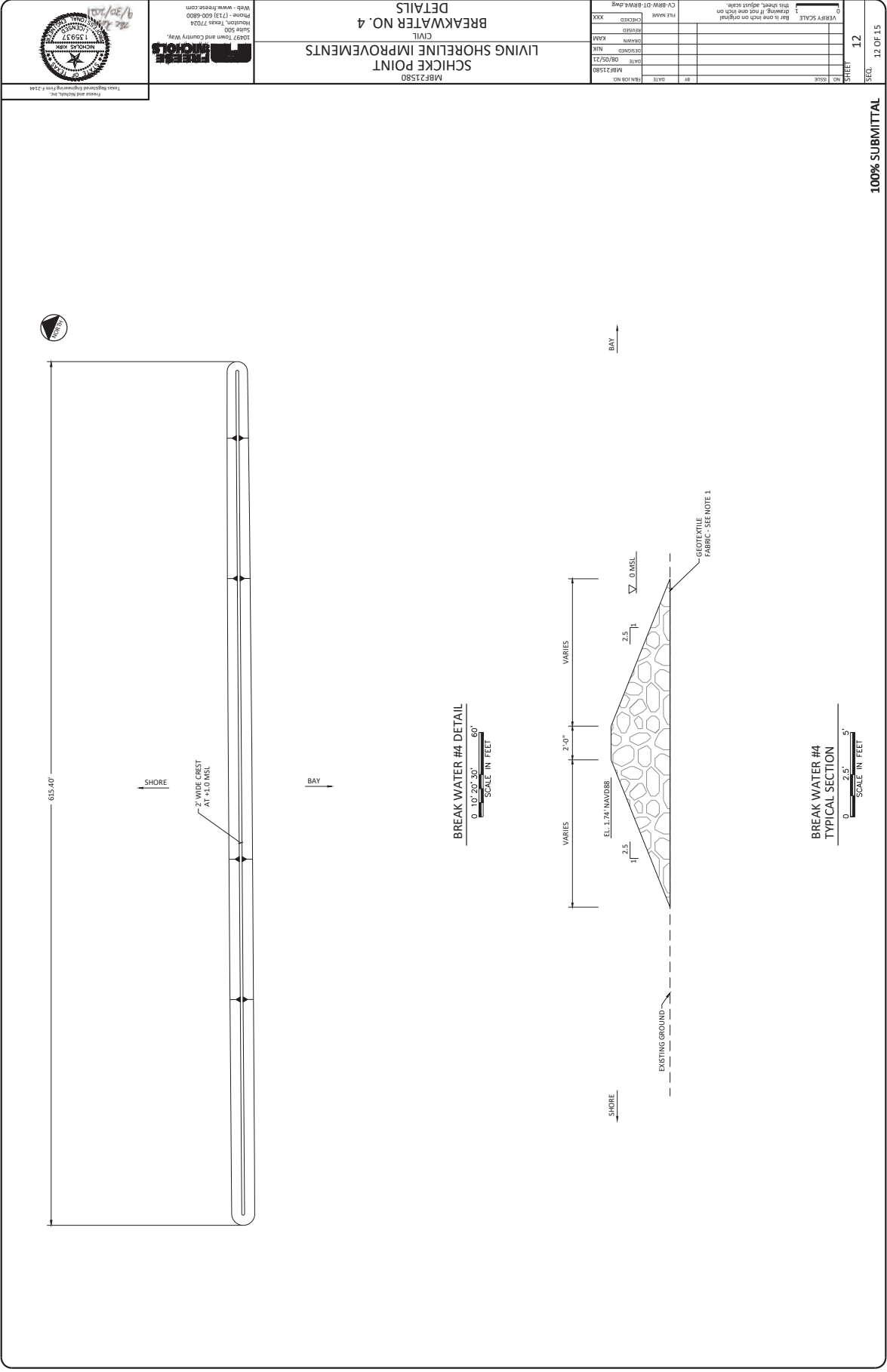
MRF1580
SCHICKE POINT
LIVING SHORELINE IMPROVEMENTS
CIVIL
BREAKWATER NO. 3
DETAILS

NO.	DATE	BY	DATE	BY	FILE NAME	CHECKED	FILE NAME
01	08/05/21	NJK			CV-BRW-OT-BRW3.dwg	XXX	XXX

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11
11 OF 15

100% SUBMITTAL

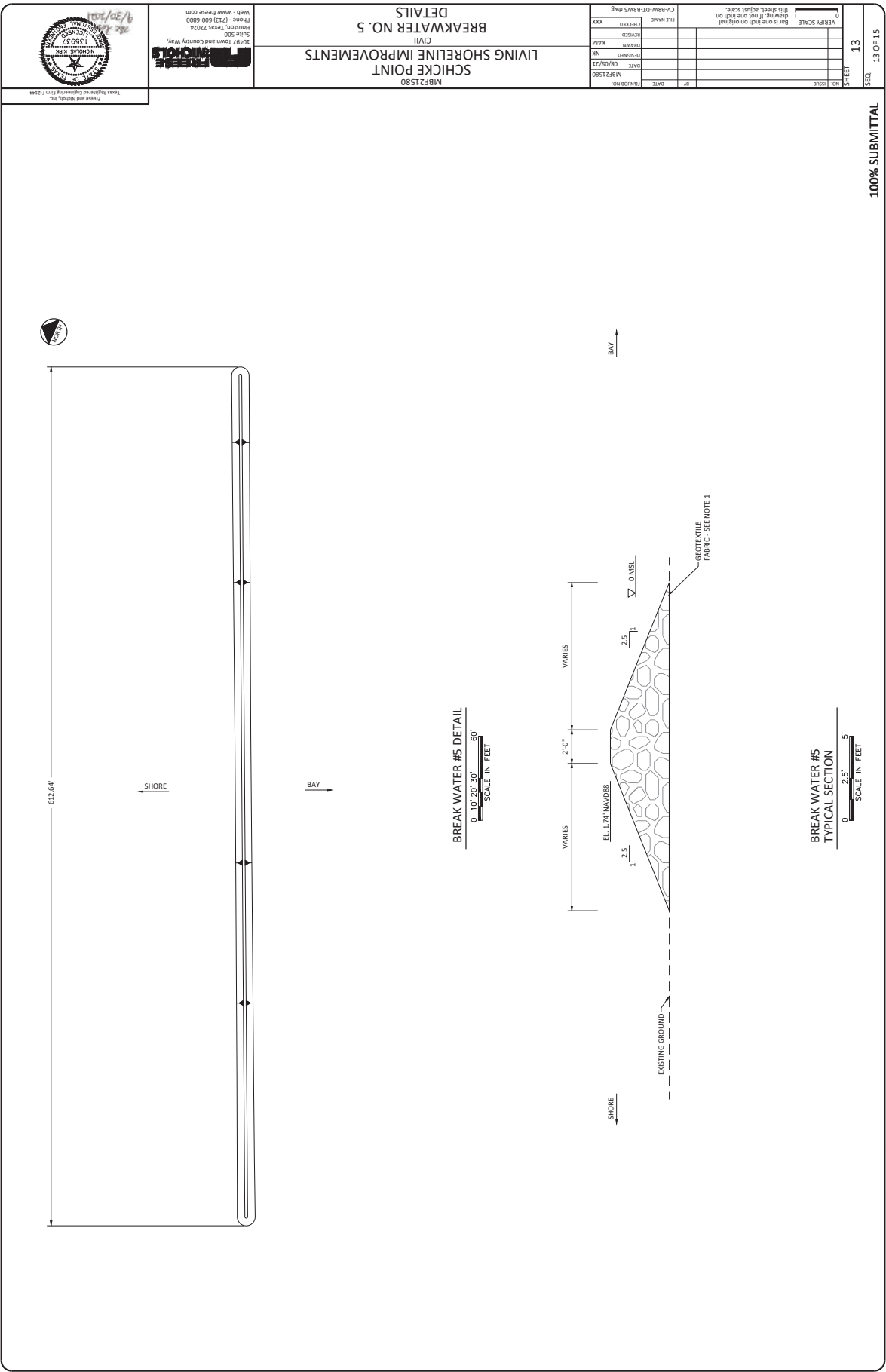


FRANK AND MITCHELL, INC.
 Texas Registered Engineering Firm # 2344
 10497 Town and Country Way,
 Suite 500
 Houston, Texas 77024
 Phone: (713) 606-6000
 Web: www.frank.com

SCHICKE POINT
 LIVING SHORELINE IMPROVEMENTS
 CIVIL
BREAKWATER NO. 4
 DETAILS

NO.	DATE	BY	DATE	FILE NAME	FILE NAME
0				XXXX	XXXX
1	08/05/21	NJK	08/05/21	XXXX	XXXX
1. If drawing is not one plot on original this sheet, adjust scale.					
2. If drawing is not one plot on original this sheet, adjust scale.					

12 OF 15
 SHEET
 100% SUBMITTAL



100% SUBMITTAL

13

13 OF 15

Plot Date: 9/30/2021 8:25:20 AM Plot By: 02782 File Name: N:\WRD\Drawings\CV\BRW-OT-BRW5.dwg

KAD File: 24.0a (14x5 T40)
 File Name: N:\WRD\Drawings\CV\BRW-OT-BRW5.dwg
 Plot Date: 9/24/2021 12:28 PM
 Plot By: 02782

NO.	DATE	BY	DATE	DESCRIPTION
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2	08/05/21			DATE
3	08/05/21			DATE
4	08/05/21			DATE
5	08/05/21			DATE

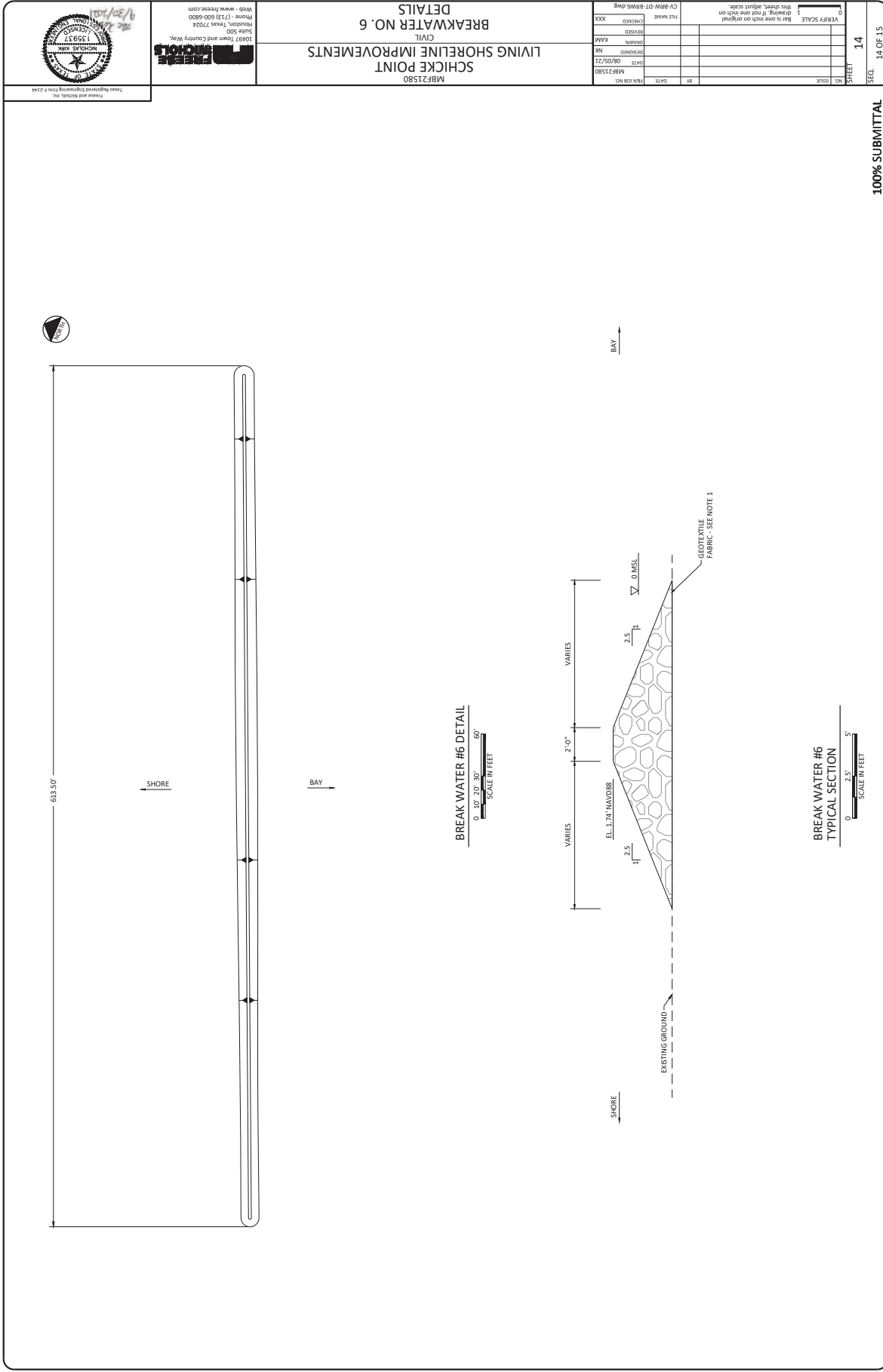
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CHECKED	XXXX
DATE	
DESIGNED	NK
DATE	08/05/21
PROJECT	KAM
SCALE	1"=100'
TITLE	BREAKWATER NO. 5
DATE	08/05/21
BY	
DATE	
DESCRIPTION	

MBF1580
 SCHICKE POINT
 LIVING SHORELINE IMPROVEMENTS
 CIVIL
 BREAKWATER NO. 5
 DETAILS

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 Phone: (713) 606-6000
 Website: www.freeflow.com

130531
 9/30/2021





BREAK WATER #6 DETAIL
0' 10' 20' 30' 40' 50' 60'
SCALE IN FEET

BREAK WATER #6
TYPICAL SECTION
0' 2.5' 5'
SCALE IN FEET

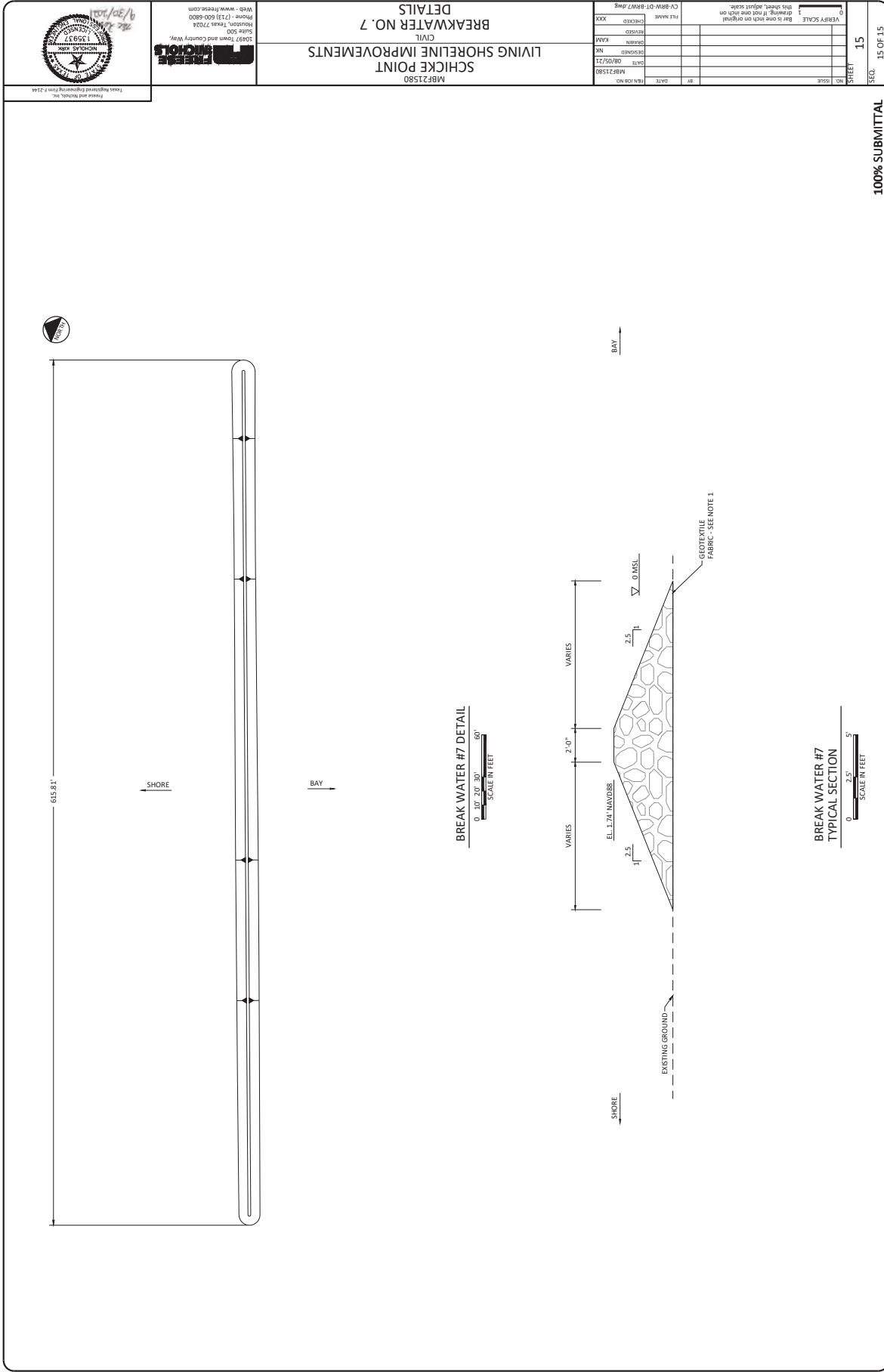


FRANK AND MITCHELL
 Frank and Mitchell, Inc.
 Texas Registered Engineering Firm # 2344
 Suite 500
 10497 Town and Country Way,
 Houston, Texas 77024
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SCHICKE POINT
 LIVING SHORELINE IMPROVEMENTS
 CIVIL
 BREAKWATER NO. 6
 DETAILS

FILE NAME	CV-BRW-OT-BRW6.dwg
CHECKED	XXXX
DATE	08/05/21
DESIGNED	NK
DRAWN	KAM
DATE	08/05/21
PROJECT	MB21580
DATE	
SCALE	
NO.	14
SHEET	14
SECTION	14 OF 15

100% SUBMITTAL



BREAK WATER #7 DETAIL
0' 10' 20' 30' 40' 50' 60'
SCALE IN FEET

BREAK WATER #7
TYPICAL SECTION
0' 2'-5" 5'
SCALE IN FEET



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 Houston, Texas 77024

SCHICKE POINT
 LIVING SHORELINE IMPROVEMENTS
 CIVIL
 BREAKWATER NO. 7
 DETAILS

FILE NO.	DATE	BY	DATE	FILE NAME
MB21580	08/05/21	NK		CV-BRW-OT-BRW7.dwg
DATE	BY	DATE	FILE NAME	
08/05/21	NK		MB21580	
DATE	BY	DATE	FILE NAME	
08/05/21	NK		MB21580	
DATE	BY	DATE	FILE NAME	
08/05/21	NK		MB21580	
DATE	BY	DATE	FILE NAME	
08/05/21	NK		MB21580	

15 OF 15
 SHEET 15
 SEQ.

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Attachment 6: Charles “Hasty” Johnson Contract
with Matagorda Bay Foundation

AGREEMENT FOR PROFESSIONAL SERVICES

STATE OF TEXAS §

COUNTY OF MATAGORDA §

This AGREEMENT is entered into by Mr. C. H. "Hasty" Johnson, hereinafter called "OWNER" and the Matagorda Bay Foundation, hereinafter called "MBF." **This AGREEMENT replaces the AGREEMENT between Mr. Johnson and the Matagorda Bay Foundation executed on January 12, 2022. The January 12, 2022 AGREEMENT is null and void upon the date of execution of this AGREEMENT.** In consideration of the AGREEMENTS herein, the parties agree as follows:

- I. In accordance with the terms of this AGREEMENT: OWNER agrees to employ MBF; MBF agrees to perform professional services in connection with the Project; OWNER agrees to pay MBF for a proportion of the costs to construct the Schicke Point Breakwater Extension. The Project is the **Schicke Point Breakwater Extension**.

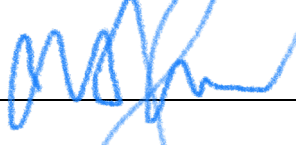
- II. **SCOPE OF SERVICES:** A 3,400-foot extension (including gaps) of the Schicke Point Breakwater will be constructed from the east end of the existing Schicke Point Breakwater. MBF shall coordinate payment of funds from the Matagorda Bay Mitigation Trust (contribution of \$500,000) and the OWNER to the selected contractor to build the project. The project is managed by Texas Parks and Wildlife Department, (TPWD) who will ensure the project is permitted, designed, constructed, and monitored according to grant requirements of the U. S. Fish and Wildlife Service. TPWD and the MBF will manage disbursement of \$750,000 of grant funds from the U. S. Fish and Wildlife Service to the construction contractor as the project is constructed.

- III. **COMPENSATION:** OWNER agrees to pay MBF for a portion of the construction costs of the Schicke Point Breakwater an amount not to exceed \$80,449 (Eighty thousand and four hundred and forty-nine 00/100 dollars) upon receipt of an invoice for construction from MBF.

Nothing under this AGREEMENT shall be construed to give any rights or benefits in this AGREEMENT to anyone other than OWNER and MBF, and all duties and responsibilities undertaken pursuant to this AGREEMENT will be for the sole and exclusive benefit of OWNER and MBF and not for the benefit of any other party.

This AGREEMENT constitutes the entire AGREEMENT between OWNER and MBF and supersedes all prior written or oral understandings.

This contract is executed in two counterparts.
IN TESTIMONY HEREOF, they have executed this AGREEMENT, the 2 day of April, 2022.

C.H. Johnson
By: 

Print or Type Name and Title

Matagorda Bay Foundation
By: William Balboa
Bill Balboa
Executive Director

RESPONSIBILITIES OF MBF and OWNER

RESPONSIBILITIES OF MBF: MBF shall perform the following services in a timely and professional manner so as not to delay the services:

1. Ensure all requirements of the Matagorda Bay Mitigation Trust grant for construction of the Schicke Point Breakwater Extension are met and funds from the Trust are dispersed to the selected construction contractor within 30 days of receipt of invoice from the construction contractor.
2. Ensure all requirements of the U. S. Fish and Wildlife Service National Coastal Wetland Restoration grant for construction of the Schicke Point Breakwater Extension are met and funds from the grant are dispersed to the selected construction contractor within 30 days of receipt of invoice from the construction contractor.
3. Invoice OWNER for an amount not to exceed \$70,000 (Seventy thousand and 00/100 dollars) for funds which will be paid to the selected construction contractor for construction of the Schicke Point Breakwater Extension and for no other purpose. Owner will be invoiced 30 days prior to receipt of invoice from the construction contractor.
4. Ensure construction does not commence before all necessary permits, whether local, state, or federal are obtained and in place.
5. Provide monthly status reports to the OWNER about construction progress. Construction is expected to be complete before August 31, 2022.
6. Provide a copy of the project final as-built report after construction is complete.

RESPONSIBILITIES OF OWNER: OWNER shall perform the following in a timely manner so as not to delay the services of MBF:

- A. Designate in writing a person to act as OWNER’s representative with respect to the services to be rendered under this AGREEMENT. Such person shall have contract authority to transmit instructions, receive information, interpret and define OWNER’s policies and decisions with respect to MBF’s services for the Project.
- B. Arrange for access to and make all provisions for MBF to enter upon public and private property as required for MBF to perform services under this AGREEMENT. The only access to private property is expected to be placement of a temporary base station near the shore each day to facilitate surveying the breakwater as it is constructed.
- C. Give prompt written notice to MBF whenever OWNER observes or otherwise becomes aware of any development that affects the scope or timing of MBF’s services, or any defect or nonconformance of the work of any Contractor.

DESIGNATED REPRESENTATIVES: MBF and OWNER designate the following representatives:

Owner’s Designated Representative – Mr. C. H. Johnson, 3209 Avalon Place, Houston, Texas 77019.
Email: hasty.johnson@hines.com

MBF’s Designated Representative – Bill Balboa, Executive Director, Matagorda Bay Foundation,
Phone: (301) 781-2171, email: bbalboa@matbay.org

Attachment 7: Matagorda Bay Foundation Contract with
Apollo Environmental for Construction

00 52 13 AGREEMENT

This Agreement is between Matagorda Bay Foundation (Owner) and APOLLO Environmental Strategies, Inc. (Contractor).

Owner and Contractor agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is designated as follows:

Schicke Point Breakwater Extension
MBF21580

ARTICLE 2 – DESIGN PROFESSIONAL

2.01 The Design Professional for this Project is:

Nicholas Kirk
801 Cherry St. Suite 2800
Fort Worth, Texas 76102

ARTICLE 3 – CONSTRUCTION MANAGER

3.01 The Construction Manager for this Project is:

Tina Moore
P.O. Box 12114 (6000 Highland Avenue)
Beaumont, Texas 77726

ARTICLE 4 – CONTRACT TIMES

4.01 Contract Times

A. The Work is required to be substantially complete within 90 days after the date when the Contract Times commence to run as provided in the General Conditions and complete and ready for final payment in accordance with the General Conditions within 14 days after the date of Substantial Completion.

4.02 Liquidated Damages

A. Owner and Contractor recognize that the Contract Times specified for Substantial Completion and Final Completion are of the essence in the Contract. Owner and Contractor recognize that the Owner will suffer financial loss if the Work is not completed within the Contract Times specified in this Agreement as may be adjusted in accordance with the General Conditions. Owner and Contractor also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed within the Contract Times. Accordingly, instead of



requiring proof of the amount of these damages, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Contractor agrees to pay Owner \$100 for each day that expires after the time specified in this Agreement for Substantial Completion until the Work is substantially complete.
 2. Contractor agrees to pay Owner \$100 for each day that expires after the time specified in this Agreement for Final Completion until the Work is completed and ready for final payment in accordance with the General Conditions.
- B. Liquidated damages for failing to timely attain Substantial Completion and Final Completion are not additive and will not be imposed concurrently.
- C. OPT will determine whether the Work has been completed within the Contract Times. Assessment of liquidated damages by the Owner does not waive the Owner's right to assess or collect additional damages which the Owner may sustain by the failure of the Contractor to perform in accordance with the terms of the Contract.

ARTICLE 5 – CONTRACT PRICE

- 5.01 Owner will pay Contractor for completion of the Work in accordance with the Contract Documents at the prices shown in this Agreement. The Contract Price has been computed in accordance with the General Conditions. Contractor acknowledges that for unit price items, estimated quantities are not guaranteed and are solely for the purpose of comparing Bids, and that final payment will be based on actual quantities determined in accordance with the Contract Documents.

ARTICLE 6 – PAYMENT PROCEDURES

- 6.01 Submit Applications for Payment in accordance with the General Conditions. Applications for Payment will be processed by the Construction Manager per Section 01 29 00 "Application for Payment Procedures."
- 6.02 Owner will make progress payments on or about the 25th day of each month during performance of the Work. Payment is based on the total earned value of Work completed in the previous month in accordance with the Schedule of Values established as provided in the General Conditions.
- 6.03 Payment will be made for the total earned value of Work completed in the previous month after deducting:
- A. Retainage calculated per this Agreement;
 - B. Set-offs determined in accordance with the General Conditions; and
 - C. The total amount of payments previously made.
- 6.04 Retainage
- A. Progress payments will be made in an amount equal to 90 percent of the total earned value to date for completed Work and properly stored materials. The remaining 10 percent of the total earned value to date will be held as retainage in accordance with Tex. Prop. Code Chapter 53.



- 6.05 Release or reduction in retainage is contingent upon the consent of surety to the reduction in retainage. Submit a Consent of Surety Company to Reduction of or Partial Release of Retainage form as provided by or approved by the Construction Manager.
- 6.06 Owner will pay the remainder of the Contract Price as recommended by Construction Manager in accordance with the General Conditions upon Final Completion and acceptance of the Work.

ARTICLE 7 – PAYMENT OF INTEREST

- 7.01 No interest payments will be paid to the Contractor for invoices not paid when due as provided in the General Conditions.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 The Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. Contractor is familiar with Laws and Regulations that may affect cost, progress, and performance of the Work.
 - C. Contractor has carefully studied the following Site related reports and drawings as identified in the Supplementary Conditions:
 - 1. Geotechnical Data Reports regarding subsurface conditions at or adjacent to the Site;
 - 2. Drawings of physical conditions relating to existing surface or subsurface structures at the Site;
 - 3. Underground Facilities referenced in reports and drawings;
 - 4. Reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site; and
 - 5. Technical Data related to each of these reports and drawings.
 - D. Contractor has considered the:
 - 1. Information known to Contractor;
 - 2. Information commonly known to contractors doing business in the locality of the Site;
 - 3. Information and observations obtained from visits to the Site; and
 - 4. The Contract Documents.
 - E. Contractor has considered the items identified in this Article with respect to the effect of such information, observations, and documents on:
 - 1. The cost, progress, and performance of the Work;
 - 2. The means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and
 - 3. Contractor's safety precautions and programs.
 - F. Based on the information and observations referred to in the preceding paragraphs, Contractor agrees that no further examinations, investigations, explorations, tests, studies,



or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

- G. Contractor is aware of the general nature of Work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has correlated the information known to the Contractor, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
- I. Contractor has given the Construction Manager written notice of all conflicts, errors, ambiguities, or discrepancies that the Contractor has discovered in the Contract Documents, and the written resolution provided by the Construction Manager is acceptable to the Contractor.
- J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- K. Contractor's entry into this Agreement constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – ACCOUNTING RECORDS

- 9.01 Accounting Record Availability: Contractor is to establish and maintain, in accordance with generally accepted accounting practices, full and detailed accounting records of materials incorporated into the Project, and labor, tools, materials, and equipment used for the Work, consistent with the requirements of the General Conditions and as necessary for proper financial management under this Agreement. Subject to prior written notice, provide Owner reasonable access during normal business hours to Contractor's records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and the Contractor's fee. Preserve all such documents for a period of 3 years after the final payment by the Owner.

ARTICLE 10 – OTHER REQUIREMENTS

- 10.01 Workers' Compensation Insurance
- A. By signing this Agreement, Contractor certifies that it provides workers' compensation insurance coverage for all employees employed on this Project pursuant to Tex. Lab. Code Section 406.096(a).
 - B. As required by Section 406.096(b), Contractor must require each Subcontractor to certify in writing to the Contractor that the Subcontractor provides workers' compensation insurance coverage for all of the employees it employs on this Project. Contractor must provide these certifications to the Owner within 10 days of the Effective Date of the Agreement.



10.02 Prohibition on Contracts with Companies Engaged in Business with Iran, Sudan, or Foreign Terrorist Organizations

- A. Tex. Gov't Code Chapter 2252, Subchapter F, prohibits the award of governmental contracts to companies engaged in business with Iran, Sudan, or foreign terrorist organizations.
- B. By signing this Agreement, Contractor certifies that it is not ineligible to be awarded this Contract under Chapter 2252, Subchapter F.

10.03 Prohibition on Contracts with Certain Companies that Boycott Israel

- A. Tex. Gov't Code Chapter 2271 prohibits the award of governmental contracts to companies boycotting Israel.
- B. By signing this Agreement, Contractor certifies that it does not boycott Israel and will not boycott Israel during the term of this Contract.

ARTICLE 11 – VENUE

11.01 Contractor agrees that venue lies exclusively in Calhoun County, Texas for any legal action.

ARTICLE 12 – CONTRACT DOCUMENTS

12.01 Contract Documents

- A. Specifications Sections listed in Section 00 01 10 "Table of Contents" except as specifically excluded in Paragraph 12.02.
- B. Drawings listed in the Sheet Index on the Drawings.
- C. Addenda (Number 00 91 01).
- D. The following are also Contract Documents which may be delivered or issued on or after the Effective Date of the Contract:
 - 1. Notice to Proceed.
 - 2. Contract Amendment(s).
 - 3. Change Order(s).
 - 4. Field Order(s).
 - 5. Work Change Directive(s).
- E. There are no Contract Documents other than those listed above in this Paragraph. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

12.02 Bidding Requirements and Informational Documents

- A. The following Bidding Requirements are not Contract Documents:
 - 1. 00 43 13 – Bid Bond
 - 2. 00 45 02 – Non-Collusion Certification



The Effective Date of the Contract is 04/18/2022.

Owner: Matagorda Bay Foundation
(typed or printed)

By: William Balboa
(individual's signature)

Name: William Balboa
(typed or printed)

Title: Executive Director
(typed or printed)

Contractor: Apollo Environmental Strategies, Inc.
(typed or printed)

By: Sandy Elms Pres.
(individual's signature)

Name: Sandy Elms
(typed or printed)

Title: Pres.
(typed or printed)
(Attach evidence of authority to sign)

Address for giving notice:

15918 CR 946
Brazoria, Texas 77422

Address for giving notice:

Po Box 12114
Braunton TX
77726

Designated representative:

Name: _____

Title: _____

Address: _____

Designated representative:

Name: Tina Moore

Title: Engineer

Address: _____

Po Box 12114
Braunton TX 77726

Phone: _____

Email: _____

Phone: 469.964.7802

Email: tmoore@apolloenviro.com

END OF SECTION

**A MEETING OF THE
BOARD OF DIRECTORS
OF
APOLLO ENVIRONMENTAL STRATEGIES, INC.**


Present at the meeting were the Directors of APOLLO Environmental Strategies, Inc. At this meeting the following business was conducted, and on a motion duly made, seconded and carried, the following resolution was adopted:

WHEREAS, the Directors of APOLLO Environmental Strategies, Inc. (APOLLO) hereby resolve to authorize Sandy Elms as President of APOLLO to bind the corporation with his/her signature with regard to the contract between APOLLO Environmental Strategies, Inc. and Matagorda Bay Foundation for the project named Schicke Point Breakwater Extension in (N/A), Calhoun County, Texas.

Dated this 22nd day of April, 2022.



Director



Director



Attachment 8: National Marine Fisheries Service Concurrence

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Person: Tammy Brooks

Telephone Number: 512-389-8680

Date: 3/17/2022

I. Region: Southwest Region 2

II. Service Activity (i.e. Grant Program): National Coastal Wetlands

III. Pertinent Species and Habitat:

A. Listed Species and/or Their Critical Habitat within the Action Area:

Note: This list of species includes all species listed from the IPAC review in the Project area. Species included in this Intra-service consultation are those that the USFWS has authorities to manage and consult on. Species not included in this consultation, but are rather included in a section 7 Consultation with NMFS include: Giant Manta Ray Hawksbill Sea Turtle, Kemp's Ridley Sea Turtle, Leatherback Sea Turtle, Green Sea Turtle, and Loggerhead Sea Turtle. These species are under the regulatory jurisdiction of NMFS and are therefore not addressed further in this consultation.

Mammals

Gulf Coastal Jaguarundi	<i>Herpailurus (=Felis) yagouaroundi cacomitli</i>	E
West Indian Manatee	<i>Trichechus manatus</i>	T

Birds

Attwater's greater prairie-chicken	<i>Tympanuchus cupido attwateri</i>	E
Northern Aplomado Falcon	<i>Falco femoralis septentrionalis</i>	E
Whooping Crane	<i>Grus americana</i>	E
Eastern black rail	<i>Laterallus jamaicensis</i>	T
Piping Plover	<i>Charadrius melodus</i>	T
Red Knot	<i>Calidris canutus rufa</i>	T

B. Proposed Species and/or Proposed Critical Habitat within the Action Area:

Critical habitat

None

C. Candidate Species within the Action Area:

Insects

Monarch butterfly	<i>Danau plexippus</i>	C
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IV. Geographic Area and Action:

The project is in Matagorda Bay at the east side of the mouth of Carancahua Bay, a secondary bay in the Matagorda Bay system. Schicke Point is the peninsula extending from the east to the west separating Carancahua and Matagorda bays. It is on the central Texas coast in Calhoun County. Project coordinates are west end — 28°37'40.76"N and 96°21'22.52"W, and east end — 28°37'54.68"N and 96°20'49.76"W.

Counties: Calhoun County, Texas

V. Location:

- A. Ecoregion:** Matagorda and Carancahua bays
- B. County and State:** Calhoun County, Texas
- C. Section, Township, and Range (or Latitude and Longitude):** Matagorda and Palacios Texas
- D. Distance (Miles) and Direction to Nearest Town:**

VI. Description of Proposed Action:

Schicke Point, the peninsula separating Matagorda Bay from Carancahua Bay on the central Texas coast, is a unique ecosystem with intertidal wetlands, oyster beds, and coastal forest. Schicke Point peninsula protects Carancahua Bay and its surrounding communities from coastal storms. Marsh along the Matagorda Bay shore of the peninsula receded from 8 to 46 feet/year from 1995 to 2016. Without protection, erosion rates are expected to increase nonlinearly with small increases in sea level rise. Shell hash berms pushed onto eroding marsh by high waves bury marsh vegetation and block tidal inlets to the marsh, reducing tidal interchange with the marsh.

Schicke Point's contribution to an ecologically healthy coast and resilience to coastal storms is recognized by the state of Texas. The state included protection of Schicke Point's shoreline as a priority in the state's Coastal Resiliency Master Plan.

The project will protect an estuarine intertidal emergent wetland, which is a Smooth Cordgrass (*Spartina alterniflora*)/Black Mangrove (*Avicennia germinans*)/Eastern Oyster (*Crassostrea virginica*) marsh complex. It will create 2 acres of marine intertidal habitat as a living shoreline colonized by oysters. Sediment capture allowing intertidal emergent wetland to reestablish will be supported. The project will protect marsh and prevent the Schicke Point peninsula from breaching where elevations are less than 3 feet. Emergent marsh in this area protects the peninsula from breaching.

An approximately 3, 400-foot breakwater with four 100-foot-long will be constructed about 400 feet from the existing shoreline. The approximate height of the structure will be Mean Higher High Water plus 1.0 foot.

The project will conserve and protect existing wetlands, oyster beds and Tamaulipan scrub-shrub (coastal forest) with the following expected benefits:

- Increase area and quality of emergent marsh nursery habitat for ecologically, recreationally, and commercially important species of fish and shellfish.
- Increase area and quality of foraging and nesting habitat for wading birds, shorebirds and waterfowl relying on emergent marsh complexes.
- Increase sediment accumulation along the shore to reestablish lost marsh.
- Protect the hydrodynamic integrity of Carancahua Bay by reducing erosion threatening to breach the Schicke Point peninsula.
- Protect Schicke Point from significant erosion.
- Prevent loss of coastal forest providing habitat for neotropical migratory birds.
- Provide habitat complexity by increasing hard substrate with vertical relief for intertidal reef-dwelling organisms near marsh.

If emergent marsh is lost and the peninsula is breached, estuarine emergent marsh on the opposite shore of the peninsula will be destroyed and the estuarine integrity of Carancahua Bay, a secondary bay in the Matagorda Bay system, will be lost. Communities on Carancahua Bay like Schicke Point Community and Port Alto will lose protection provided by Schicke Point from storm surges and wave attack. Emergent marsh also protects nearby maritime forest which is being used by neotropical migratory songbirds.

VII. Determination of Effects:

A. Explanation of effects of the action:

No Effect:

Gulf Coastal Jaguarundi	<i>Herpailurus (=Felis) yagouaroundi cacomitli</i>	E
Northern Aplomado Falcon	<i>Falco femoralis septentrionalis</i>	E
Attwater’s greater prairie-chicken	<i>Tympanuchus cupido attwateri</i>	E
Eastern black rail	<i>Laterallus jamaicensis</i>	T
Whooping Crane	<i>Grus americana</i>	E
Red Knot	<i>Calidris canutus rufa</i>	T

The Gulf coastal jaguarundi was last documented in 1986 in Brownsville, Texas approximately 200 miles south of Caranchua Bay (TPWD 2022).

The northern aplomado falcon has not been documented in the vicinity of Caranchua Bay and is not expected to occur at the project site (eBird 2022).

The Attwater's greater prairie-chicken is a terrestrial grassland species and habitat for this species is not present within the vicinity of the site (USFWS 2010).

The eastern black rail occupies dense herbaceous grasslands containing which are not present in the vicinity of the project (USFWS 2019).

The whooping crane has not been documented to occur in the Caranchua Bay region and thus is unlikely to be present at the site (eBird 2022).

The red knot has not been documented to occur in the Caranchua Bay region (eBird 2022)

May Affect Not likely to Adversely Affect

West Indian Manatee	<i>Trichechus manatus</i>	T
Piping Plover	<i>Charadrius melodus</i>	T

It is possible that a West Indian manatee could be present in waters nearby the work area. However, this would be an unlikely occurrence. Water depths within the work area are very shallow and it would be difficult for a manatee to enter the work area. There is no sufficient habitat for manatees in the project foot print.

Piping plovers have been documented to occur in the Caranchua Bay region (eBird 2022). The species primary habitat used during its overwintering and migratory periods are beachfront littoral zones, sand flats and intertidal mudflats behind barrier island systems. If a bird was present within the work area it may be disturbed by activities. Most of the work activities will take place in the water over 400 feet from the shoreline were piping plovers may be present. Any disturbance would be negligible and discountable.

Not Likely to Jeopardize:

Monarch butterfly	<i>Danau plexippus</i>	C
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Monarch butterfly would be present at the project site during its migratory journeys south and north. The project will not have any effect on habitat it may use for reproduction. It is possible that vehicles traveling to and from the work area may injure or kill migrating butterflies. These effects would be negligible to the migrating population.

B. Actions to be implemented to reduce adverse effects:

- The long-term impacts of this Project are to conserve and protect the

existing shore-line habitat for the benefit of native and listed species.

- The project will follow the NOAA Fisheries Southeast Regional Office’s Protected Species Construction Conditions (2021).
- All vessels associated with the construction project shall operate at “No wake/idle” speeds at all times while in the project area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom.
- All construction personnel will be responsible for observing water-related activities for the presence of listed species. If a listed species is observed within 150 feet of operating or construction activities, work will be stopped immediately in order to further reduce the risk of an interaction. Any interaction with a protected species shall be reported immediately to NOAA Fisheries SERO PRD and the local authorized stranding/rescue organization.
- Best Management Practices will be followed in accordance with the following;
 - NMFS’s Sea Turtle and Smalltooth Sawfish Construction Conditions (revised March 23, 2006)
 - NMFS’s Measures for Reducing Entrapment Risk to Protected Species (revised May 22, 2012)
 - NMFS’s Vessel Strike Avoidance Measures and Reporting for Mariners (revised February 2008)
- If piping plovers are observed on the shoreline, any project related activities will maintain a 150-foot buffer from the shoreline.
- Once breakwaters are completed, winter blow-outs behind the proposed breakwater will trap sediment. The breakwater is expected to increase their feeding habitat for piping plover and red knot.

VIII. Effect determination and response requested:

State Recommendation:

A. Listed species/designated critical habitat:

No effect:

Gulf Coastal Jaguarundi
Eastern black rail
Attwater’s greater prairie-chicken
Northern Aplomado Falcon
Whooping Crane
Red Knot

May Affect Not Likely to Adversely Affect:

West Indian Manatee
Piping Plover

Not Likely to Jeopardize:

Monarch butterfly

Signature

Date

Federal Assistance Determination:

A. Listed species/designated critical habitat:

<u>Determination</u>	<u>Response requested</u>
no effect: Gulf Coastal Jaguarundi Eastern black rail Attwater's greater prairie-chicken Northern Aplomado Falcon Whooping Crane Red Knot	
may effect, is not likely to adversely affect: Piping Plover Monarch butterfly	X Concur
may effect, is likely to adversely affect:	<u> </u> Formal Consultation

D. Remarks I concur with determinations and justifications in this consultation. Species with a no effect determination have not been documented in the project area and suitable habitat is lacking. West Indian Manatee may be in the nearby vicinity of the project, in the bay, however they are not expected to be in the footprint of the project because the water is shallow, and habitat is lacking. Piping plover may also be in the vicinity of the project; however, most project activities are in the water at a depth that the birds do not use.

Federal Assistance Grant Manager



Signature

_____**3/17/2022**_____

Date

U.S. Fish and Wildlife Service. 2019. Species status assessment report for the eastern black rail (*Laterallus jamaicensis jamaicensis*), Version 1.3. August 2019. Atlanta, GA.

U.S. Fish and Wildlife Service. 2010. Attwater's Prairie-Chicken Recovery Plan, Second Revision. Albuquerque, New Mexico.

Texas Parks and Wildlife Department. 2022. Webpage accessed March 14, 2022. <https://tpwd.texas.gov/huntwild/wild/species/jag/#:~:text=They%20live%2016%20to%2022,was%20in%20Brownsville%20in%201986>.

eBird. 2022. Webpage accessed March 14, 2022. <https://ebird.org/explore>



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Post Office Box 1306
Albuquerque, New Mexico 87103

In Reply Refer To:
FWS/R2/WSFR

June 16, 2022

Mr. David Bernhart
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service
Southeast Regional Office
263 13th Ave S.
St. Petersburg, Florida 33791

Subject: Request for Initiation of Expedited Informal Consultation under section 7(a)(2) of the Endangered Species Act for the Schicke Point Breakwater Restoration Project.

Dear Mr. Bernhart:

The U.S. Fish and Wildlife Service (Service) will provide funding to the Texas Parks and Wildlife Department (TPWD) for Federal financial assistance pursuant to the Coastal Wetlands Planning, Protection, and Restoration Act of 1990, P.L. 101-646, 104 Stat. 4778 (Title III) 16 U.S.C. §§ 3951—3956. The proposed project, Schicke Point Breakwater Extension Project (Project), is for the construction of five rock breakwaters positioned parallel to Schicke Point. The project is located along the northern shoreline of Matagorda Bay, Calhoun County, Texas. We request initiation of informal consultation under section 7(a)(2) of the Endangered Species Act (ESA) for this restoration Project. The Service has determined that there will be no effect to hawksbill and leatherback sea turtles, due to the species' very specific life history strategies, which are not supported at the project site. Leatherback sea turtles have pelagic, deepwater life history, where they forage primarily on jellyfish. Hawksbill sea turtles typically inhabit inshore reef and hard bottom areas where they forage primarily on encrusting sponges. Historical occurrence of sea turtles in the Matagorda Bay System during the last 20 years can be characterized as seasonal utilization of Matagorda Bay (south of its juncture with Lavaca Bay) by a limited assemblage of Green Sea Turtles (*Chelonia mydas*), Kemp's ridleys (*Lepidochelys kempii*), and loggerheads (*Caretta caretta*). The Service has determined that the proposed activity may affect, but is not likely to adversely affect, Giant Manta Ray (*Mobula birostris*), Green Sea Turtle, Kemp's Ridley Sea Turtle, and Loggerhead Sea Turtle. Our supporting analysis is provided below. We request your written concurrence with our determinations.

Pursuant to our request for expedited informal consultation, we are providing, enclosing, or otherwise identifying the following information:

- A description of the action to be considered;
- A description of the action area;
- A description of any listed species or critical habitat that may be affected by the action; and
- An analysis of the potential routes of effect on any listed species or critical habitat.

Proposed Action

The purpose of the Project is to protect existing intertidal marsh, encourage sediment accumulation which will support marsh reestablishment, and protect valuable upland habitat for neotropical migrating songbirds. Protection of an estimated 3,415 feet (ft) of shoreline is anticipated. The breakwater structure would also provide habitat for reef dependent invertebrates and fish, shoreline protection for the north shore of Matagorda Bay, and benefit avian species that would utilize the oyster reefs for foraging and loafing. This area has experienced severe marsh loss and shoreline erosion since 1995. Since the initial living shoreline structures were constructed in 2017, increased sediment accumulation and oyster colonization around the existing structures have been documented. This proposed action would provide additional hard substrate for oyster colonization, increase essential fish habitat for reef dependent species, and protect the shoreline and marsh from continued erosion. The Project will result in net ecological benefits to the aquatic ecosystem. Ecosystem benefits include establishment of substrate for oyster colonization and increased essential fish habitat for reef-dependent species. The structures may provide a spawning stock and larval supply for oyster colonization throughout Matagorda Bay. As an additional benefit, the placement of rock breakwaters would provide shoreline protection to Schicke Point shoreline.

The TPWD will construct a series of five rock breakwaters positioned parallel to Schicke Point along the northern shoreline of Matagorda Bay. The majority of the reestablished reefs will be within 600 ft of the shoreline. The breakwater structures will have an average bottom base width of 15 ft and top crest width of 2 ft. The total area and volume of fill for the rock breakwaters are 45,315 ft² and 2,475 cubic yards, respectively, with a bay bottom footprint of 1.04 acres (ac). The rock breakwaters will be constructed to estimated maximum elevation 1 ft above Mean Sea Level (MSL) (+1.74 NAVD 88), with gaps between the breakwater structures on average 85.7 ft apart (Attachment A - Plans and Profile Figures). Construction will use an excavator on a barge to place fill material. Equipment staging will be from barges anchored in Matagorda Bay. Rock will be removed from a light-loaded barge using an excavator (to ensure it does not disturb the bottom). There will be no dredging associated with this project. Project activities will only occur during daylight hours. We estimate a total of 2 to 3 months to complete construction.

The project will conserve and protect existing wetlands, oyster beds and Tamaulipan scrub-shrub (coastal forest) with the following expected benefits:

- Increase area and quality of emergent marsh nursery habitat for ecologically, recreationally, and commercially important species of fish and shellfish.
- Increase area and quality of foraging and nesting habitat for wading birds, shorebirds and waterfowl relying on emergent marsh complexes.
- Increase sediment accumulation along the shore to reestablish lost marsh.
- Protect the hydrodynamic integrity of Carancahua Bay by reducing erosion threatening to breach the Schicke Point peninsula.
- Protect Schicke Point from significant erosion.
- Prevent loss of coastal forest providing habitat for neotropical migratory birds.
- Provide habitat complexity by increasing hard substrate with vertical relief for intertidal reef-dwelling organisms near marsh.

If emergent marsh is lost and the peninsula is breached, estuarine emergent marsh on the opposite shore of the peninsula will be destroyed and the estuarine integrity of Carancahua Bay, a secondary bay in the Matagorda Bay system, will be lost. Communities on Carancahua Bay like Schicke Point Community and Port Alto will lose protection provided by Schicke Point from storm surges and wave attack. Emergent marsh also protects nearby maritime forest which is being used by neotropical migratory songbirds.

Conservation Measures and BMPs

- The long-term impacts of this Project are to conserve and protect the existing shoreline habitat for the benefit of native and listed species.
- The project will follow the NOAA Fisheries Southeast Regional Office's Protected Species Construction Conditions (2021).
- All vessels associated with the construction project shall operate at "No wake/idle" speeds at all times while in the project area and while in water depths where the draft of the vessel provides less than a two-foot clearance from the bottom.
- All construction personnel will be responsible for observing water-related activities for the presence of listed species. If a listed species is observed within 150 ft of operating or construction activities, work will be stopped immediately in order to further reduce the risk of an interaction. Any interaction with a protected species shall be reported immediately to NOAA Fisheries SERO PRD and the local authorized stranding/rescue organization.
- Best Management Practices will be followed in accordance with the following;
 - NMFS's Protected Species Construction Conditions, NOAA Fisheries Southeast Regional Office (revised May 2021) PROTECTED
 - NMFS's Measures for Reducing Entrapment Risk to Protected Species (revised May 22, 2012)
 - NMFS's Vessel Strike Avoidance Measures, NOAA Fisheries Southeast Regional Office (revised May 2021)

o If and when the applicant becomes aware of any known reported capture, entanglement, stranding, or other take, the applicant shall immediately notify NMFS SERO PRD via this online form: <https://forms.gle/85fP2da4Ds9jEL829>. Please include the species involved, the circumstances of the interaction, the fate and disposition of the species involved, photos (if available), and contact information for the person who can provide additional details if requested. Please include the following in the subject line of email reports: **Schicke Point Breakwater Restoration Project**.

Description of the Action Area

The *action area* is all areas to be affected by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). *Effects of the action* are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur.

Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. The action area is distinct from and can be larger than the project footprint because some elements of the project may affect listed species or critical habitat some distance from the project footprint. The action area, therefore, extends out to a point where no effects from the project are expected to occur.

The Project action area includes the area directly or indirectly affected by the activities funded by the Service's Coastal Wetlands Planning, Protection, and Restoration Act of 1990 for the Project in Matagorda Bay, Texas (Figure A).

Schicke Point, the peninsula separating Matagorda Bay from Carancahua Bay on the central Texas coast, is a unique ecosystem with intertidal wetlands, oyster beds, and coastal forest. Schicke Point peninsula protects Carancahua Bay and its surrounding communities from coastal storms. Marsh along the Matagorda Bay shore of the peninsula receded from 8 to 46 ft/year from 1995 to 2016. Without protection, erosion rates are expected to increase nonlinearly with small increases in sea level rise. Shell hash berms pushed onto eroding marsh by high waves bury marsh vegetation and block tidal inlets to the marsh, reducing tidal interchange with the marsh.

Schicke Point's contribution to an ecologically healthy coast and resilience to coastal storms is recognized by the state of Texas. The state included protection of Schicke Point's shoreline as a priority in the state's Coastal Resiliency Master Plan.

The project will protect and reestablish an estuarine intertidal emergent wetland, which is a Smooth Cordgrass (*Spartina alterniflora*)/Black Mangrove (*Avicennia germinans*)/Eastern Oyster (*Crassostrea virginica*) marsh complex. It will create 2 ac of marine intertidal habitat as a living shoreline colonized by oysters. Sediment capture allowing intertidal emergent wetland to reestablish will be supported. The project will protect marsh and prevent the Schicke Point peninsula from breaching where elevations are less than 3 ft. Emergent marsh in this area protects the peninsula from breaching.

In 2016 the Schicke Point living shoreline project was started and serves as the ecological reference for the breakwater extension project. The current Project extends the shoreline footprint of this effort. The original project was partially completed but lacked the necessary funds to finish. The existing living shoreline structure is located at (Lat: 28.626678, Long: -96.362231) and consists of a terminal groin and two living shoreline structures in Matagorda Bay adjacent to Carancahua Bay. The previous living shoreline was constructed in spring of 2017. The terminal is approximately 220 ft long, and the living shoreline structures are 1,430 and 1,480 ft long.

Due to its proximity to Carancahua Bay, the point receives erosional flows from incoming and outgoing tides. The fetch across Matagorda Bay is approximately 10 miles. The Schicke Point shoreline had experienced major erosion and the intertidal marsh was receding at a rapid rate. Within 11 years (1995 to 2016) the shoreline had experienced over 400 ft of erosion. Within 70 days post-construction, the living shoreline had oyster spat colonizing the hard structure. During the most recent site visit on April 1, 2021, FNI and TPWD personnel observed oysters continuing to grow and settle on the living shoreline and continued marsh expansion towards the bay. Sediment appears to continue to accumulate behind the structure. Because of the similar nature of the project and the site's proximity, we believe this would be a suitable reference site. There are no existing seagrass beds within the proposed Project area and no existing oyster reefs within the footprint of the project area. The proposed breakwater extension has been designed and will be constructed in a similar manner to the original living shoreline project. The proposed breakwater extension project is expected to achieve similar results to the original project.

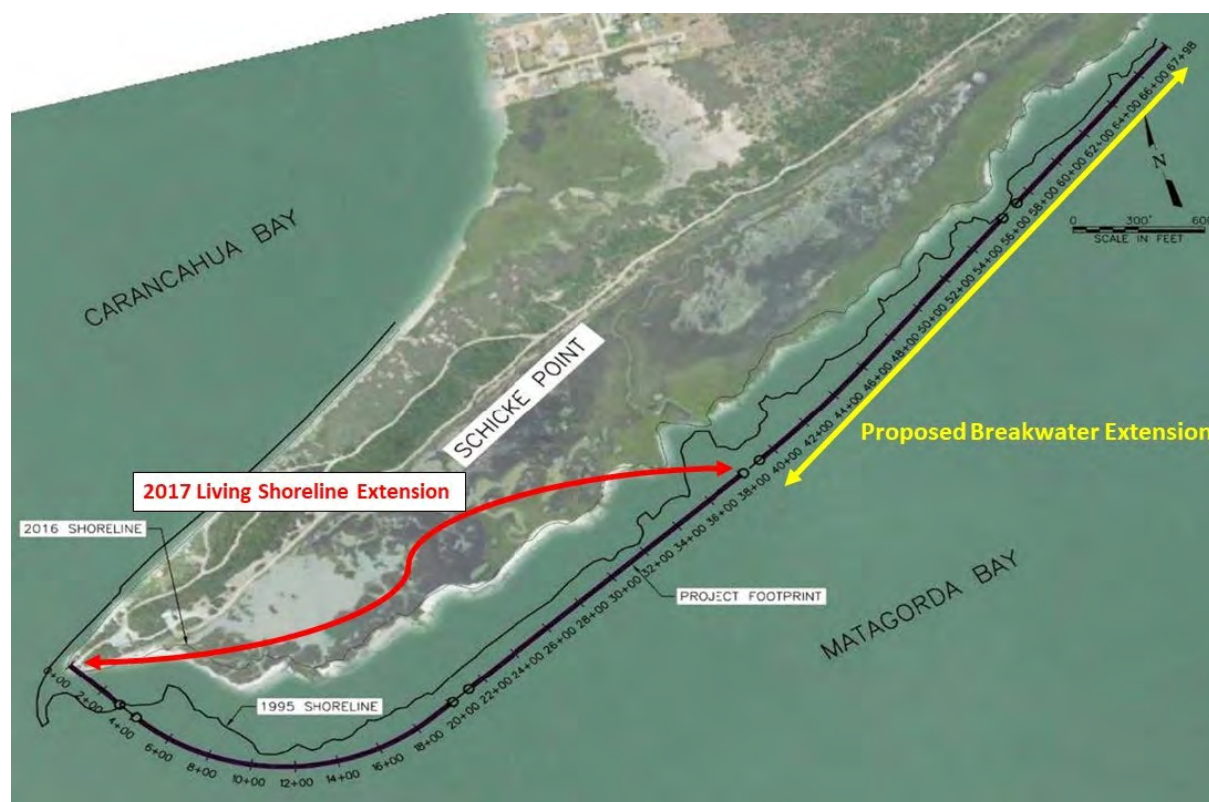


Figure 1. The figure shows the previous living shoreline structure in red and the proposed extension footprint in yellow.

Potentially Affected NMFS ESA-Listed Species and Critical Habitat

We have assessed the listed species that may be present in the action area; Giant Manta Ray, Green Sea Turtle, Kemp's Ridley Sea Turtle, and Loggerhead Sea Turtle. We have determined the Project may effect, but is not likely to adversely effect, these species in the short-term construction phase of this project, and will have an overall positive ecological effect in this geographic area in the long-term.

Any of the other four species of sea turtles may possibly be present in the water within the work area. No nesting habitat is present within the Carancahua Bay region.

The project is not located in critical habitat for any of the species listed, and there are no potential routes of effect to any critical habitat.

Effects of the Action**ROUTE(S) OF EFFECT TO ESA-LISTED SPECIES:***Direct Physical Effects from Construction Activities*

Direct physical effects could occur from barge movement to and from the Project area and placement of fill material along the bay bottom. Conservation measures are in place that will limit the possibility of impacts to listed species should they be in the area during construction. We believe these effects will be insignificant due to the species' ability to move away from the project site if disturbed. Mobile species, such as manta rays, and sea turtles can avoid slow-moving equipment and support vessels and the placement of material. In addition, the implementation of NMFS's Protected Species Construction Conditions will require all construction workers to observe in-water activities for the presence of these species. If a protected species is seen within 150 ft of the active daily construction operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. Operation of any mechanical construction equipment shall cease immediately if a protected species is seen within a 150-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition. Further, construction would be limited to daylight hours so construction workers would be more able to see listed species, if present, and avoid interactions with them.

Turbidity

We believe the effect of turbidity on manta rays and sea turtles will be insignificant due to the short duration and limited bay bottom footprint of construction activities.

Potential Entanglement in Construction Materials

Manta rays and sea turtles may be disturbed in-water equipment and fill placement. However, we believe this is extremely unlikely to occur because the following measures are included as part of the proposed action. All in-water equipment will be properly secured with materials that reduce the risk of entanglement of marine species. In all instances, in-water equipment will be placed in a manner that does not entrap species within the project area or block access for them to navigate around the project area.

Exclusion from Areas During Construction

Manta rays and sea turtles might be adversely affected by short-term disturbance in project area and species for foraging, refuge, and/or nursery habitat, due to their avoidance of construction activities, and related noise. We have determined that these effects will be insignificant. Sea turtles and manta rays may forage in the area but the size of the area from which animals will avoid and be excluded is relatively small in comparison to the available habitat nearby. In addition, any disturbances to listed species will be temporary, limited to 30 days of in-water construction, after which the site conditions are expected to return to background levels and animals will be able to return immediately after fill placement.

There will be no permanent negative effect to habitat, but a planned positive increased rehabilitation and protection of the ecological function of the area from the proposed action.

Vessel Strikes

See Direct Physical Effects from Construction Activities above.

Noise

Noise created by in-water construction activities can physically injure animals or change animal behavior in project areas. Injurious effects can occur in 2 ways. First, immediate adverse effects can occur to listed species if a single noise event exceeds the threshold for direct physical injury. Second, effects can result from prolonged exposure to noise levels that exceed the daily cumulative exposure threshold for the animals, and these can constitute adverse effects if animals are exposed to the noise levels for sufficient periods. Behavioral effects can be adverse if such effects interfere with animals migrating, feeding, resting, or reproducing.

Although this project does not include typical pile-on installation methods, we anticipate the noise level of placement of fill material to be less than these actions. Our evaluation of effects to listed species because of noise created by construction activities is based on the analysis prepared in support of the Opinion for SAJ-82 (NMFS 2014). The noise analysis in this consultation evaluates effects to ESA-listed sea turtles and giant manta ray identified by the Service.

We anticipate there to be a temporary “harassment zone” defined as “The distance from a noise within which behavioral reactions or temporary threshold shift may occur.” However, noise associated with this Project will not raise to the level of injury as defined in the SAJ-82 Opinion (NMFS 2014). Given the mobility of manta rays and sea turtles, we expect them to move away from noise disturbances in the “harassment zone.” Because there is similar habitat nearby, we believe this effect will be insignificant. If an individual chooses to remain within the behavioral response zone, it could be exposed to behavioral noise impacts during fill placement. Since installation will occur only during the day, these species will be able to resume normal activities during quiet periods between construction activities and at night. Therefore, this project will not result in any injurious noise effect, and we anticipate any behavioral effects will be insignificant.

Conclusion

The Service has reviewed the proposed project for its effects to ESA-listed species and their critical habitat. Based on the analysis above, we have determined that the Schicke Point Breakwater Restoration Project is not likely to adversely affect any listed species under NMFS's jurisdiction. We have used the best scientific and commercial data available to complete this analysis. We request your concurrence with this determination.

If you have any questions, please contact Jessica Gwinn, Grants Manager, at jessica_gwinn@fws.gov.

Sincerely,

For Cliff Schleusner, Regional Manager
Wildlife and Sport Fish Restoration Program

Attachment

Literature Cited

National Marine Fisheries Service (NMFS). 2021. Protected species construction conditions, NOAA Fisheries Southeast Regional Office. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, revised May 2021, Saint Petersburg, FL.

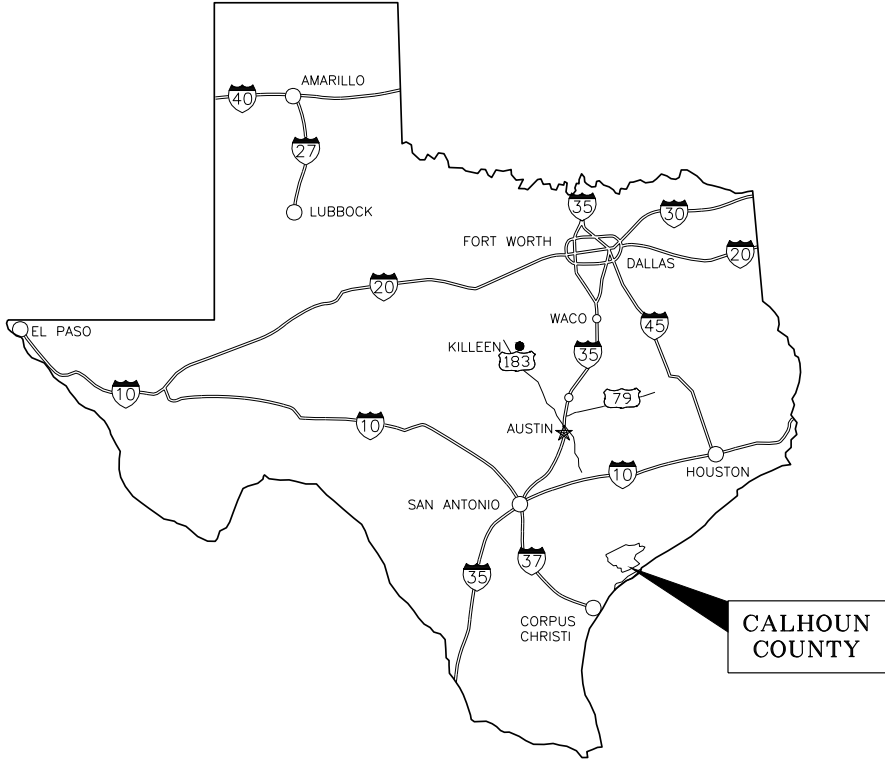
NMFS. 2021. Vessel Strike Avoidance Measures, NOAA Fisheries Southeast Regional Office. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Regional Office, revised May 2021, Saint Petersburg, FL.

NMFS. 2014. Biological Opinion on the Regional General Permit SAJ-82 (SAJ-2007-1590), Florida Keys, Monroe County, Florida. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, SER-2008-2958, Saint Petersburg, FL.

**Attachment A. Plan and Profile
Drawings (100% Engineering Design)**

MATAGORDA BAY FOUNDATION

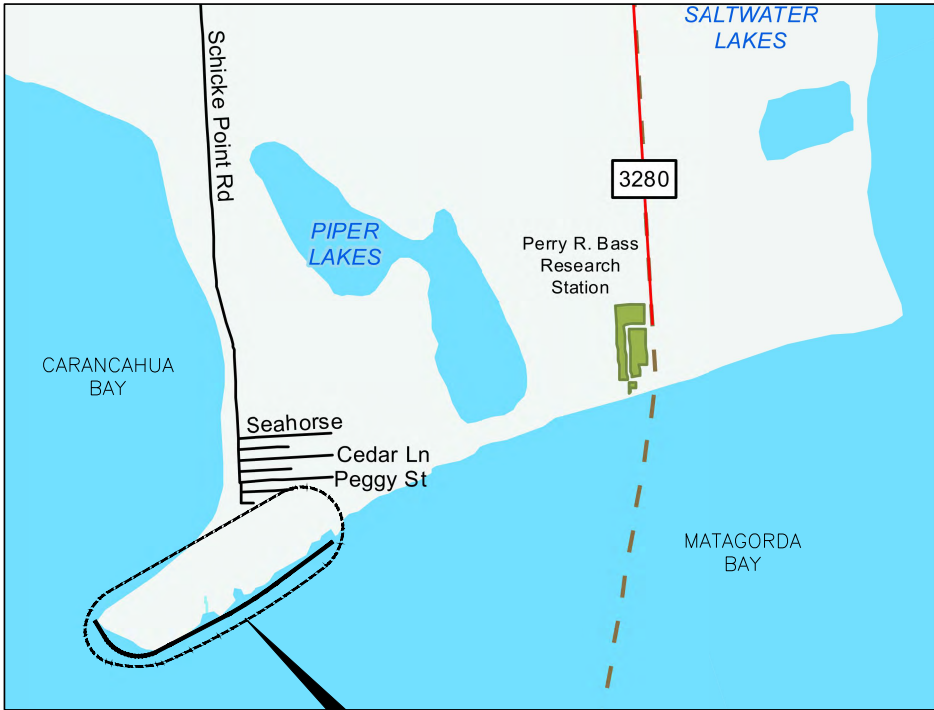
SCHICKE POINT LIVING SHORELINE IMPROVEMENTS



LOCATION MAP
N.T.S.

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
GENERAL	
1	COVER
2	GENERAL NOTES 1
3	GENERAL NOTES 2
SITE CIVIL	
4	SITE PLAN
5	BREAKWATER SECTIONS (1 OF 6)
6	BREAKWATER SECTIONS (2 OF 6)
7	BREAKWATER SECTIONS (3 OF 6)
8	BREAKWATER SECTIONS (4 OF 6)
9	BREAKWATER SECTIONS (5 OF 6)
10	BREAKWATER SECTIONS (6 OF 6)
11	BREAKWATER NO. 3 DETAILS
12	BREAKWATER NO. 4 DETAILS
13	BREAKWATER NO. 5 DETAILS
14	BREAKWATER NO. 6 DETAILS
15	BREAKWATER NO. 7 DETAILS



PROJECT LOCATION

VICINITY MAP
N.T.S.

OCTOBER 2021

100% SUBMITTAL

FREESE & NICHOLS
 10497 Town and Country Way,
 Suite 500
 Houston, Texas 77024
 Phone - (713) 600-6800
 Web - www.freese.com



Nick Kirk
9/30/2021

Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144

MBF21580

GENERAL NOTES:

- ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
- GRID COORDINATES ARE IN FEET, AND ARE REFERENCED TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983.
- THE CONTRACTOR'S SURVEYOR WILL PROVIDE HORIZONTAL AND VERTICAL CONTROL AT THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING HORIZONTAL AND VERTICAL ACCURACY DURING CONSTRUCTION. SURVEYOR MUST BE LICENSED IN THE STATE OF TEXAS.
- MEAN SEA LEVEL (MSL) IS +0.74FT NAVD88. ELEVATION DETERMINED BY NAISMITH MARINE. IN 2017.
- ALL CONSTRUCTION ACTIVITY WILL BE CONDUCTED DURING DAYLIGHT HOURS FROM ONE HALF-HOUR AFTER SUNRISE TO ONE HALF-HOUR BEFORE SUNSET.
- ALL WORK WILL BE COMPLETED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- ALL WORK WILL BE COMPLETED WITHIN DESIGNATED AREAS AND TO DESIGNATED ELEVATIONS.
- CONTRACTOR TO IDENTIFY STAGING AREA IN MATAGORDA BAY AND TO OBTAIN OWNERS APPROVAL.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES OR OTHER OBJECTS PRIOR TO COMMENCING WORK AT THE SITE. ANY UTILITIES OR OTHER ITEMS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT NO COST TO THE MATAGORDA BAY FOUNDATION (OWNER).
- REPAIR AND REPLACEMENT OF ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION OF EQUAL TO, OR BETTER THAN EXISTING CONDITIONS UNLESS SPECIFICALLY EXEMPTED BY THE PLANS.
- ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO SHALL BE OF LATEST REVISIONS AND/OR LATEST EDITION UNLESS OTHERWISE NOTED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.
- CONSTRUCTION TRAFFIC SHALL NOT IMPEDE THE SAFE AND EFFICIENT USE OF SURROUNDING ROADWAYS.
- CONTRACTOR SHALL NOT OCCUPY PRIVATE LAND OUTSIDE OF WORK AREA.
- IF ARCHEOLOGICAL OR HISTORIC RESOURCES ARE ENCOUNTERED THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY AND STOP WORK UNTIL DIRECTED TO RESTART.
- BEST MANAGEMENT PRACTICES FOR EROSION AND TURBIDITY CONTROL, INCLUDING BUT NOT LIMITED TO THE USE OF STAKED HAY BALES, TURBIDITY BARRIERS, AND SILT SCREENS, SHALL BE USED AND MAINTAINED AS NECESSARY AT ALL TIMES DURING THE PROJECT. THE OWNER REPRESENTATIVE WILL EVALUATE THE IMPLEMENTATION, DEPLOYMENT, AND EFFECTIVENESS OF SILTATION CONTROL DEVICES.

SITE CLEARING AND PREPARATION NOTES:

- ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.
- CONTRACTOR SHALL HAVE THE SOLE RESPONSIBILITY OF SATISFYING ITSELF CONCERNING THE NATURE AND LOCATION OF THE WORK AND THE GENERAL AND LOCAL CONDITIONS, AND PARTICULARLY, BUT WITHOUT LIMITATION, WITH RESPECT TO THE FOLLOWING: THOSE AFFECTING TRANSPORTATION, ACCESS, DISPOSAL, HANDLING AND STORAGE OF MATERIALS; AVAILABILITY AND QUALITY OF LABOR; WATER AND ELECTRIC POWER; AVAILABILITY AND CONDITION OF ROADS; WORK AREA; LIVING FACILITIES; CLIMATIC CONDITIONS AND SEASONS; PHYSICAL CONDITIONS AT THE WORK-SITE AND THE PROJECT AREA AS A WHOLE; TOPOGRAPHY AND GROUND SURFACE CONDITIONS; NATURE AND QUANTITY OF THE SURFACE MATERIALS TO BE ENCOUNTERED; SUBSURFACE CONDITIONS; EQUIPMENT AND FACILITIES NEEDED PRELIMINARY TO AND DURING PERFORMANCE OF THE WORK; AND ALL OTHER COSTS ASSOCIATED WITH SUCH PERFORMANCE.

CONSTRUCTION NOTES:

- DAMAGE TO ANY PROPERTY, UTILITIES, STRUCTURES OR NATURAL RESOURCES SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR IN A TIMELY MANNER AT THE CONTRACTOR'S EXPENSE.
- ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS AFTER DISTURBANCE.

- ANY PRIVATELY OWNED FEATURES LOCATED ON PRIVATE PROPERTY AND OUTSIDE THE DESIGNATED AREA OF CONSTRUCTION DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE REPAIRED IN A TIMELY MANNER, AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL DISTURB NO MORE GROUND THAN WHAT IS NECESSARY FOR CONSTRUCTION. NO OPEN EXCAVATED TRENCH, OR OTHER UNSAFE CONDITION, WILL BE LEFT OVERNIGHT. ALL WORK SITES WILL BE COMPLETELY RESTORED WITHIN SEVEN (7) CALENDAR DAYS OF SITE COMPLETION. THE INTENT OF THIS PROVISION IS TO "SAFE UP" THE PROJECT SITE AS WORK PROGRESSES, AND SHALL INCLUDE REMOVING FORMS, FILLING HOLES, GRADING, AND REMOVAL OF DEBRIS.

BREAK WATER CONSTRUCTION NOTES:

- ALL STONE SHALL BE HARD, DURABLE QUALITY STONE SUCH THAT IT WILL NOT DISINTEGRATE UNDER THE ELEMENTS AND IT WILL NOT BREAK UNDER HANDLING. ALL STONE SHALL BE CLEAN AND FREE FROM EARTH, DUST, OR OTHER REFUSE.
- THE FACES OF INDIVIDUAL PIECES OF STONE SHALL BE ROUGHLY ANGULAR, NOT ROUNDED, IN SHAPE. THE LEAST DIMENSION OF EACH STONE SHALL NOT BE LESS THAN ONE-THIRD (1/3) OF THE GREATEST DIMENSION OF THAT STONE.
- THE STONES SHALL BE PLACED IN SUCH A MANNER THAT THEY WILL BE PROPERLY INTERLOCKED WITH THE UNDERLYING OR ADJACENT STONES TO RESIST DISPLACEMENT BY WAVE ACTION AND FORM A UNIFORM AND COMPACT SECTION. EACH STONE SHALL BE FIRMLY SET AND WELL-SUPPORTED BY UNDERLYING AND ADJACENT STONE. NO HEAD SIZE OR SMALLER STONES MAY BE FREE ON THE SURFACE.
- BREAK WATER STONE SHALL CONSIST OF SOUND, HARD, DURABLE LIMESTONE, FREE OF OPEN OR INCIPIENT CRACKS, SOFT SEAMS, OR OTHER STRUCTURAL DEFECTS, CONSISTING OF BROKEN STONE WITH A SPECIFIC GRAVITY OF AT LEAST 2.5. ENSURE THAT STONES ARE ROUGH AND ANGULAR WITH A MEDIAN DIAMETER OF 1.25 FEET. FOR THIS APPLICATION, USE BROKEN STONE MEETING THE FOLLOWING GRADATION AND THICKNESS REQUIREMENTS:

WEIGHT MAXIMUM	450 LBS
WEIGHT 50%	260 LBS
WEIGHT MINIMUM	40 LBS

- ENSURE AT LEAST 97% OF THE MATERIAL BY WEIGHT IS SMALLER THAN WEIGHT MAXIMUM POUNDS.
- ENSURE NO MORE THAN 50% OF THE MATERIAL BY WEIGHT IS SMALLER THAN WEIGHT 50% POUNDS.
- ENSURE NO MORE THAN 10% OF THE MATERIAL BY WEIGHT IS SMALLER THAN WEIGHT MINIMUM POUNDS.

REMOVAL AND STOCKPILING:

- DEBRIS, SUCH AS STUMPS, ROCKS, ROCK FRAGMENTS, ROOTS, LOGS, TRASH, VEGETATION, ETC. AND ANY OTHER OBJECTS (EXCEPT ARCHEOLOGICAL OR HISTORIC RESOURCES) THAT EXIST WITHIN THE PROJECT FOOTPRINT OR ARE UNEARTHED DURING OPERATIONS, SHALL BE REMOVED AND STOCKPILED ON-SITE SO THAT THE CONTRACTOR CAN TRANSPORT, AND DISPOSE OF MATERIAL APPROPRIATELY. DEBRIS SHOULD BE EXPECTED TO BE ENCOUNTERED DURING THE OPERATIONS AND WILL NOT CONSTITUTE A CHANGE OF CONDITION TO THE CONTRACT/AGREEMENT. STOCKPILING OF DEBRIS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR IN ITS ENTIRETY. STOCKPILING OF DEBRIS AND OBSTRUCTIONS SHALL NOT BE PROVIDED FOR SEPARATE PAYMENT. THESE SPECIFICATIONS ARE NOT AN ALL-INCLUSIVE REFERENCE OF DEBRIS TYPES, WHICH MAY BE ENCOUNTERED. IT IS ANTICIPATED THAT DURING CLEARING/CONSTRUCTION ACTIVITY DEBRIS (INCLUDED BUT NOT LIMITED TO VEGETATION, TREES, ROOTS, ROCKS, BEDROCK, CONCRETE, ASPHALT, WOOD, TRASH, GARBAGE, UNUSABLE SOIL, METAL, ETC.) WILL BE ENCOUNTERED. THE CONTRACTOR SHALL BE PREPARED AND RESPONSIBLE FOR PROPER STOCKPILING OF MATERIAL.

RECORD DRAWINGS AND AS-BUILT SURVEYS:

- ENGINEER OF RECORD IS THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE PROJECT.

CONTACT: Nicholas J. Kirk, P.E.
 Freese and Nichols, Inc
 Houston, Texas 77024
 EMAIL: nic.kirk@freese.com
 PHONE: 832-425-7573

- DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL RECORD ALL INFORMATION REQUIRED TO COMPLETE A SET OF RECORD SHOP DRAWINGS. INFORMATION TO BE INCLUDED ON THE RECORD SHOP DRAWINGS SHALL BE RECORDED ON ONE WORKING SET OF CONSTRUCTION DRAWINGS DURING THE COURSE OF THE WORK, AND SHALL INCLUDE ACTUAL DIMENSIONS AND ELEVATIONS. IF FIELD CHANGES ARE MADE TO MODIFY THE WORK IN ANY WAY, SUCH FIELD CHANGES SHALL BE DOCUMENTED ON THE RECORD SHOP DRAWINGS BY DIMENSION, DETAIL AND DATE. THE WORKING SET OF CONSTRUCTION DRAWINGS SHALL BE KEPT AT THE SITE AND AVAILABLE FOR REVIEW BY THE OWNER AND THE ENGINEER DURING THE PROGRESS OF THE WORK. PRIOR TO SUBSTANTIAL COMPLETION OF THE WORK, THE CONTRACTOR SHALL TRANSFER THE INFORMATION TO A FINAL PROJECT RECORD SET OF REPRODUCIBLE DRAWINGS, AND SUBMIT THE DRAWINGS TO THE OWNER THROUGH THE ENGINEER, ALONG WITH A CERTIFICATION AS TO THE ACCURACY AND COMPLETENESS OF THE DRAWINGS. PRIOR TO FINAL PAYMENT, THE RECORD SHOP DRAWINGS SHALL BE REVISED BY THE CONTRACTOR TO REFLECT ANY CHANGES WHICH HAVE OCCURRED.

SITE CONDITIONS:

- INFORMATION AND DATA FURNISHED OR REFERRED TO HEREIN ARE FOR THE CONTRACTOR'S INFORMATION; HOWEVER, IT IS EXPRESSLY UNDERSTOOD THAT THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY INTERPRETATION OR CONCLUSION DRAWN THERE FROM BY THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH LOCAL CONDITIONS THAT MAY IN ANY MANNER AFFECT PERFORMANCE OF THE WORK.

NOTICE TO MARINERS:

- THE CONTRACTOR SHALL NOTIFY THE COAST GUARD IN SUFFICIENT TIME TO ALLOW FOR PUBLICATION OF A NOTICE TO MARINERS. PROOF OF NOTIFICATION, AND PUBLICATION, OF THE REQUESTED NOTICE TO MARINERS WILL BE PROVIDED TO THE CLIENT BEFORE CONSTRUCTION COMMENCES. THE LOCAL COAST GUARD OFFICE IS:
 COMMANDER
 8TH COAST GUARD DISTRICT
 HALE BOGGS FEDERAL BUILDING
 500 POYDRAS STREET
 NEW ORLEANS, LA 70130-3396
 ATTN: (LNM)

- THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE U.S. COAST GUARD FOR ALL TEMPORARY BUOYS, MARKERS, AND OTHER NAVIGATION AIDS FOR CONSTRUCTION ACTIVITIES PRIOR TO INSTALLATION. CONSTRUCTION AIDS, LIGHTS OR TARGETS SHALL NOT BE PLACED OR COLORED IN A MANNER THAT THEY WILL OBSTRUCT OR BE CONFUSED WITH NAVIGATION AIDS.

- THE CONTRACTOR SHALL NOT REMOVE, CHANGE THE LOCATION OF, OBSTRUCT, WILLFULLY DAMAGE, MAKE FAST TO, OR INTERFERE WITH ANY AID TO NAVIGATION. WITHIN 7 CALENDAR DAYS FOLLOWING RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL NOTIFY THE COMMANDER, EIGHTH COAST GUARD DISTRICT, NEW ORLEANS, LA, OF HIS PLAN TO OPERATE ADJACENT TO ANY AIDS WHICH REQUIRE RELOCATION TO FACILITATE CONSTRUCTION.

SUBSTANTIAL AND FINAL COMPLETION CONSTRUCTION NOTES:

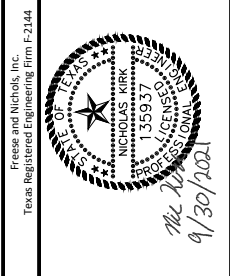
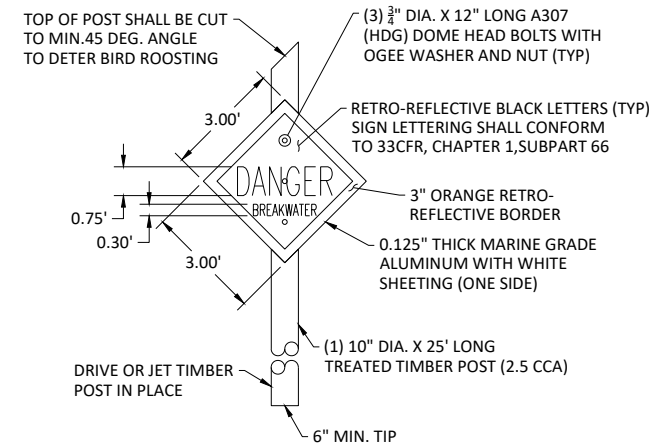
- IN ORDER FOR THE PROJECT TO BE DEEMED SUBSTANTIAL COMPLETE THE BASE BID ROCK PLACEMENT (AT MINIMUM) AND SMOOTHING OF PLACED MATERIAL MUST BE COMPLETED WITHIN (3) THREE MONTHS OF NOTICE TO PROCEED. THE CONTRACTOR'S FAILURE TO HAVE THE "BASE BID" PORTION OF THE WORK COMPLETED BY THIS DATE WILL BE CAUSE FOR THE OWNER TO BILL THE CONTRACTOR FOR THE OWNER'S ADDITIONAL INSPECTION COSTS AND POSSIBLE LIQUIDATED DAMAGES.
- TEN (10) BUSINESS DAYS PRIOR TO COMPLETION DATE, THE CONTRACTOR WILL CONDUCT A POST-CONSTRUCTION SURVEY. THE OWNER/ENGINEER WILL THOROUGHLY EXAMINE THE ROCK PLACEMENT PROJECT PORTIONS OF THE WORK FOR DETERMINATION OF ACCEPTABILITY OF PERFORMANCE. SHOULD ANY SCARPS, NON-UNIFORM CONTOURS, OR ANY OTHER IRREGULARITY NOT SHOWN IN THE PLANS OR SPECIFICATIONS (I.E. LACK OF ACCEPTABLE CONTRACT PERFORMANCE) BE DISCLOSED BY THIS EXAMINATION, THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH THE CONTRACT BY CORRECTING THE AFFECTED SURFACE UNTIL THE CONDITION IS CORRECTED. IF ADDITIONAL CONSTRUCTION IS REQUIRED TO CORRECT THE UNACCEPTABLE WORK, THE CONSTRUCTION WILL NOT BE PAID FOR ABOVE THE MAXIMUM PAYMENT SET FORTH IN THE CONTRACT. FINAL ACCEPTANCE OF A CORRECTED WORK AREA SHALL NOT CHANGE THE TIME OF PAYMENT, WORK SCHEDULE, RETAINED PERCENTAGES OF THE WHOLE OR ANY PART OF THE WORK.
- THE FINAL COMPLETION DATE FOR THIS PROJECT IS MARCH 31ST 2022. THE CONTRACTOR MUST HAVE ALL EQUIPMENT, BARGES, SUPPORT VESSELS, TRASH, DEBRIS, ETC. CLEAR OF ALL STAGING AREAS BY THIS DATE.

- NEAR COMPLETION OF THE PROJECT THE ENGINEER AND CONTRACTOR WILL CONDUCT A PRE-FINAL INSPECTION. THE OWNER/ENGINEER WILL INSPECT FOR DEMOBILIZATION AND CLEAN-UP OF TEMPORARY STAGING AREAS. THE OWNER WILL PERFORM THE PRE-FINAL INSPECTION TO VERIFY WORK IS COMPLETE AND READY FOR FINAL ACCEPTANCE. THE OWNER PRE-FINAL INSPECTION MAY RESULT IN ADDITIONAL WORK TO BE DONE. THE CONTRACTOR SHALL ENSURE ITEMS ARE CORRECTED BEFORE NOTIFYING THE OWNER SO THAT A FINAL INSPECTION CAN BE SCHEDULED. ANY ITEMS NOTED ON THE PRE-FINAL INSPECTION SHALL BE CORRECTED IN A TIMELY MANNER. PRE-FINAL INSPECTION AND DEFICIENCY CORRECTIONS SHALL BE ACCOMPLISHED WITHIN THE PROJECT COMPLETION PERIOD AT NO ADDITIONAL COST TO THE OWNER.

- FINAL INSPECTION WILL BE SCHEDULED BY THE OWNER/ENGINEER BASED UPON THE RESULTS OF PRE-FINAL INSPECTION. THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER WHEN READY FOR THE FINAL INSPECTION AND THE OWNER WILL SCHEDULE THE INSPECTION TO BE PERFORMED WITHIN SEVEN (7) BUSINESS DAYS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ASSURING THAT WORK WILL BE COMPLETE AND ACCEPTABLE BY THE FINAL INSPECTION DATE.

AIDS TO NAVIGATION:

- LOCATION OF AIDS TO NAVIGATION ARE APPROXIMATE. TO BE FIELD VERIFIED.
- SIGNAGE SHOULD MEET USCG REGULATIONS FOR "INLAND WATERS OBSTRUCTION MARK". (33CFR 62-32(b); 33CFR 66)
- AIDS TO NAVIGATION SHALL BE LIGHTED AND SHOULD BE MEET USCG REGULATIONS FOR "INLAND WATERS OBSTRUCTION MARK". (33CFR 62-32(b); 33CFR 66)
- AIDS TO NAVIGATION SHALL EXTEND AT LEAST 6 FEET ABOVE THE WATER SURFACE ELEVATION.



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MBF21580
SCHICKE POINT
LIVING SHORELINE IMPROVEMENTS
 CIVIL
GENERAL NOTES
SHEET 1

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ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 SCOPE

THIS SECTION COVERS PREVENTION OF ENVIRONMENTAL DAMAGE AS THE RESULT OF OPERATIONS UNDER THIS CONTRACT. FOR THE PURPOSE OF THIS SPECIFICATION, ENVIRONMENTAL DAMAGE IS DEFINED AS THE PRESENCE OF HAZARDOUS PHYSICAL, CHEMICAL, OR BIOLOGICAL ELEMENTS OR AGENTS WHICH ADVERSELY AFFECT HUMAN HEALTH OR WELFARE; UNFAVORABLY ALTER ECOLOGICAL BALANCES; AFFECT OTHER SPECIES, BIOLOGICAL COMMUNITIES, OR ECOSYSTEMS; OR DEGRADE THE QUALITY OF THE ENVIRONMENT FOR AESTHETIC, CULTURAL, AND/OR HISTORICAL PURPOSES. THE CONTROL OF ENVIRONMENTAL DAMAGE REQUIRES CONSIDERATION OF LAND, WATER, AND AIR, AND INCLUDES MANAGEMENT OF VISUAL AESTHETICS, NOISE, SOLID WASTE, RADIANT ENERGY AND RADIOACTIVE MATERIALS, POLLUTANTS, AND OPERATIONS UNDER THIS CONTRACT.

1.2 QUALITY CONTROL

THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN QUALITY CONTROL FOR ENVIRONMENTAL PROTECTION OF ALL ITEMS SET FORTH HEREIN. THE CONTRACTOR SHALL RECORD ON DAILY QUALITY CONTROL REPORTS OR ATTACHMENTS THERETO, ANY PROBLEMS IN COMPLYING WITH LAWS, REGULATIONS AND ORDINANCES, AND CORRECTIVE ACTION TAKEN.

1.3 PERMITS

THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS UNDER THE TERMS AND CONDITIONS SET OUT IN ALL PERMIT(S) FOR WORK UNDER THIS CONTRACT.

1.4 SUBMITTALS

UNLESS WAIVED BY THE ENGINEER, THE CONTRACTOR SHALL SUBMIT AN ENVIRONMENTAL PROTECTION PLAN FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ACCEPTANCE OF THE CONTRACTOR'S PLAN SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ADEQUATE AND CONTINUING CONTROL OF POLLUTANTS AND OTHER ENVIRONMENTAL PROTECTION MEASURES. ACCEPTANCE OF THE PLAN IS CONDITIONAL AND PREDICATED ON SATISFACTORY PERFORMANCE DURING CONSTRUCTION. THE ENGINEER RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO MAKE CHANGES TO THE ENVIRONMENTAL PROTECTION PLAN OR OPERATIONS IF THE ENGINEER DETERMINES THAT ENVIRONMENTAL PROTECTION REQUIREMENTS ARE NOT BEING MET. NO PHYSICAL WORK AT THE SITE SHALL BEGIN PRIOR TO ACCEPTANCE OF THE CONTRACTOR'S PLAN OR AN INTERIM PLAN COVERING THE WORK TO BE PERFORMED. THE ENVIRONMENTAL PROTECTION PLAN SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

- a. A LIST OF FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, AND PERMITS CONCERNING ENVIRONMENTAL PROTECTION, POLLUTION CONTROL, AND ABATEMENT THAT ARE APPLICABLE TO THE CONTRACTOR'S PROPOSED OPERATIONS AND THE REQUIREMENTS IMPOSED BY THOSE LAWS, REGULATIONS, AND PERMITS.
b. METHODS FOR PROTECTION OF FEATURES TO BE PRESERVED WITHIN AUTHORIZED WORK AREAS. THE CONTRACTOR SHALL PREPARE A LISTING OF METHODS TO PROTECT RESOURCES NEEDING PROTECTION, I.E., TREES, SHRUBS, VINES, GRASSES AND GROUND COVER, LANDSCAPE FEATURES, AIR AND WATER QUALITY, FISH AND WILDLIFE, SOIL, HISTORICAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES.
c. PROCEDURES TO BE IMPLEMENTED TO PROVIDE THE REQUIRED ENVIRONMENTAL PROTECTION AND TO COMPLY WITH THE APPLICABLE LAWS AND REGULATIONS. THE CONTRACTOR SHALL PROVIDE WRITTEN ASSURANCE THAT IMMEDIATE CORRECTIVE ACTION WILL BE TAKEN TO CORRECT POLLUTION OF THE ENVIRONMENT DUE TO ACCIDENT, NATURAL CAUSES, OR FAILURE TO FOLLOW THE PROCEDURES SET OUT IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION PLAN.
d. ENVIRONMENTAL MONITORING PLANS FOR THE JOB SITE, INCLUDING LAND, WATER, AIR, AND NOISE MONITORING.
e. SPILL PREVENTION. THE CONTRACTOR SHALL SPECIFY ALL POTENTIALLY HAZARDOUS SUBSTANCES TO BE USED ON THE JOB SITE AND INTENDED ACTIONS TO PREVENT ACCIDENTAL OR INTENTIONAL INTRODUCTION OF SUCH MATERIALS INTO THE AIR, GROUND, WATER, WETLANDS, OR DRAINAGE AREAS. THE PLAN SHALL SPECIFY THE CONTRACTOR'S PROVISIONS TO BE TAKEN TO MEET FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS REGARDING LABELING, STORAGE, REMOVAL, TRANSPORT, AND DISPOSAL OF POTENTIALLY HAZARDOUS SUBSTANCES.
f. SPILL REMEDIATION PLAN FOR CLEANUP OF ALL HAZARDOUS, TOXIC, OR PETROLEUM MATERIAL.
g. IDENTIFICATION OF THE PERSON WHO SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE ENVIRONMENTAL PROTECTION PLAN. THE CONTRACTOR PERSONNEL RESPONSIBLE SHALL REPORT DIRECTLY TO THE CONTRACTOR'S TOP MANAGEMENT AND SHALL HAVE THE AUTHORITY TO ACT FOR THE CONTRACTOR IN ALL ENVIRONMENTAL PROTECTION MATTERS.

1.6 NOTIFICATION

THE ENGINEER WILL NOTIFY THE CONTRACTOR IN WRITING OF ANY OBSERVED NONCOMPLIANCE WITH THE FEDERAL, STATE, OR LOCAL LAWS OR REGULATIONS, PERMITS AND OTHER ELEMENTS OF THE CONTRACTOR'S ENVIRONMENTAL PROTECTION PLAN. THE CONTRACTOR SHALL, AFTER RECEIPT OF SUCH NOTICE, INFORM THE ENGINEER OF PROPOSED CORRECTIVE ACTION AND TAKE SUCH ACTION AS MAY BE REQUIRED. IF THE CONTRACTOR FAILS TO COMPLY PROMPTLY, THE ENGINEER MAY ISSUE AN ORDER STOPPING ALL OR PART OF THE WORK UNTIL SATISFACTORY CORRECTIVE ACTION HAS BEEN TAKEN BY THE CONTRACTOR. NO TIME EXTENSIONS SHALL BE GRANTED OR COSTS OR DAMAGES ALLOWED TO THE CONTRACTOR FOR ANY SUCH SUSPENSION.

ADDITIONALLY, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, OF THE OCCURRENCE OF ENVIRONMENTAL INCIDENTS.

PART 2 EXECUTION

2.1 PROTECTION OF ENVIRONMENTAL RESOURCES

2.1.1 GENERAL PROJECT ENVIRONMENTAL DESIGN AND INSTALLATION CRITERIA

AT ALL SITES, PROJECT PLANS SHOULD MINIMIZE DISTURBANCE TO EXISTING FEATURES AT THE SITE TO THE EXTENT POSSIBLE, INCLUDING VEGETATIVE, TOPOGRAPHIC, AND DRAINAGE PATTERN FEATURES. WETLAND IMPACTS (TEMPORARY ACCESS, DETOURS, STAGING AREAS, AND OTHER WORK AREA IMPACTS) TO PROJECT SITES SHOULD BE AVOIDED AND MAY REQUIRE SEPARATE PERMITTING ACTION.

IN THE EVENT ENVIRONMENTAL PROTECTION MEASURES FAIL, THE CONTRACTOR SHALL IMPLEMENT PROCEDURES TO CONTROL AND CORRECT ENVIRONMENTAL DAMAGE.

2.1.2 PROTECTION OF WATER RESOURCES

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE, MANAGEMENT, AND CONTROL TO AVOID POLLUTION OF SURFACE, GROUND WATERS, AND WETLANDS. THE CONTRACTOR SHALL PLAN HIS OPERATION AND PERFORM ALL WORK NECESSARY TO MINIMIZE ADVERSE IMPACT OR VIOLATION OF THE WATER QUALITY STANDARD. SPECIAL MANAGEMENT TECHNIQUES AS SET OUT BELOW SHALL BE IMPLEMENTED TO CONTROL WATER POLLUTION BY THE LISTED CONSTRUCTION ACTIVITIES, WHICH ARE INCLUDED IN THIS CONTRACT. THE CONTRACTOR'S CONSTRUCTION METHODS SHALL PROTECT WETLAND AND SURFACE WATER AREAS FROM DAMAGE DUE TO MECHANICAL GRADING, EROSION, SEDIMENTATION AND TURBID DISCHARGES. THERE SHALL BE NO STORAGE OR STOCKPILING OF EQUIPMENT, TOOLS, OR MATERIALS WITHIN WETLANDS OR ALONG THE SHORELINE WITHIN THE LITTORAL ZONE UNLESS SPECIFICALLY AUTHORIZED.

2.1.2.1 MONITORING OF WATER AREAS

MONITORING OF WATER AREAS AFFECTED BY CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL MONITOR ALL WATER AREAS AFFECTED BY CONSTRUCTION ACTIVITIES.

2.1.2.3 OIL, FUEL, AND HAZARDOUS SUBSTANCE SPILL PREVENTION AND MITIGATION

THE CONTRACTOR SHALL PREVENT OIL, FUEL, OR OTHER HAZARDOUS SUBSTANCES FROM ENTERING THE AIR, GROUND, DRAINAGE, LOCAL BODIES OF WATER, OR WETLANDS. THIS SHALL BE ACCOMPLISHED BY DESIGN AND PROCEDURAL CONTROLS. IN THE EVENT THAT A SPILL OCCURS DESPITE THE DESIGN AND PROCEDURAL CONTROLS, THE FOLLOWING SHALL OCCUR:

- (1)IMMEDIATE ACTION SHALL BE TAKEN TO CONTAIN AND CLEANUP ANY SPILL OF OIL, FUEL OR OTHER HAZARDOUS SUBSTANCE.
(2)SPILLS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
(3)SPILL CONTINGENCY PLANNING SHALL BE STRICTLY IN ACCORDANCE WITH THE CRITERIA OF 40 CFR, PART 109.
(4) TO CONTROL THE SPREAD OF ANY POTENTIAL SPILL, ABSORBENT MATERIALS SHALL BE READILY AVAILABLE AND CAPABLE OF ABSORBING THE CONTENTS OF THE SINGLE LARGEST TANK.
(5)TO CONTROL THE SPREAD OF ANY POTENTIAL SPILL, THE CONTRACTOR SHALL PROVIDE A WRITTEN CERTIFICATION OF COMMITMENT OF MANPOWER, EQUIPMENT, AND MATERIALS REQUIRED TO EXPEDITIOUSLY CLEANUP AND DISPOSE OF SPILL MATERIALS.

a. SPILL PREVENTIVE SYSTEMS: SYSTEM DESIGN AND INSTALLATION REQUIREMENTS HAVE BEEN DISCUSSED AT THE BEGINNING OF THIS SECTION. TEMPORARY OR PORTABLE TANKS SHALL CONFORM TO APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REQUIREMENTS AND SHALL NOT BE PLACED WHERE THEY MAY BE AFFECTED BY STORM, FLOODING, OR WASHOUT. DIVERSIONARY STRUCTURES FOR SPILLS SHALL BE PUT IN PLACE IN ADVANCE WHERE PRACTICAL. BOTH SPILL PREVENTIVE SYSTEMS AND ANY DEVIATIONS FROM ASSOCIATED REQUIREMENTS MUST BE APPROVED BY THE COUNTY/ENGINEER PRIOR TO IMPLEMENTATION.

b. LIABILITIES: THE CONTRACTOR SHALL BE LIABLE IN THE AMOUNTS ESTABLISHED IN 40 CFR, PART 113 WHEN IT CAN BE SHOWN THAT OIL WAS DISCHARGED AS A RESULT OF WILLFUL NEGLIGENCE OR WILLFUL MISCONDUCT. THE PENALTY FOR FAILURE TO REPORT THE DISCHARGE OF OIL SHALL BE IN ACCORDANCE WITH THE PROVISION OF 33 CFR, PART 153.2.1.3 WETLANDS PROTECTION

THE CONTRACTOR SHALL NOT ANCHOR, PLACE PIPELINES, OR STAGE EQUIPMENT IN A MANNER THAT WILL CAUSE ANY DAMAGE TO WETLANDS AND OYSTERS BEYOND THOSE SPECIFICALLY IDENTIFIED, ANTICIPATED, AND AUTHORIZED IN THESE SPECIFICATIONS AND ASSOCIATED DRAWINGS AND ENVIRONMENTAL DOCUMENTS. ANCHORING, PLACING PIPELINE, OR STAGING EQUIPMENT SHALL BE AVOIDED IN THESE SENSITIVE WETLAND AREAS. IF SUCH ACTIVITIES CANNOT BE DONE WITHOUT AFFECTING SENSITIVE AREAS OUTSIDE THE CONSTRUCTION AREA IDENTIFIED IN THE CONTRACT DOCUMENTS, THE ACTIVITIES SHALL CEASE, AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED (NO LATER THAN THE MORNING FOLLOWING THE WORKING DAY IF THE INCIDENT OCCURS AFTER NORMAL WORKING HOURS). ANY ACTUAL INCIDENT INVOLVING DAMAGE TO, OR DISTURBANCE OF, WETLANDS SHALL BE REPORTED.

2.1.4 PROTECTION OF FISH AND WILDLIFE RESOURCES

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE, MANAGEMENT, AND CONTROL TO MINIMIZE INTERFERENCE WITH, DISTURBANCE TO, AND DAMAGE OF FISH AND WILDLIFE.

PROTECT ALL OYSTER BEDS. AVOID ALL CONSTRUCTION IMPACTS TO EXISTING OYSTERS.

2.1.8 PROTECTION OF AIR RESOURCES

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE, MANAGEMENT, AND CONTROL TO MINIMIZE POLLUTION OF AIR RESOURCES. ALL ACTIVITIES, EQUIPMENT, PROCESSES AND WORK OPERATED OR PERFORMED BY THE CONTRACTOR IN ACCOMPLISHING THE SPECIFIED CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE APPLICABLE AIR POLLUTION STANDARDS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY'S AMBIENT AIR QUALITY STANDARDS.

ODORS SHALL BE CONTROLLED AT ALL TIMES FOR ALL CONSTRUCTION ACTIVITIES.

2.1.9 PROTECTION FROM SOUND INTRUSIONS

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE AND CONTROL TO MINIMIZE DAMAGE TO THE ENVIRONMENT BY NOISE.

2.2 POST-CONSTRUCTION CLEANUP

THE CONTRACTOR SHALL CLEAN UP ANY AREA(S) USED FOR CONSTRUCTION INCLUDING RESTORING ALL LANDSCAPE FEATURES, MARINE VEGETATION, OR OTHER SITE FEATURES DAMAGED OR DESTROYED DURING CONSTRUCTION OPERATIONS OUTSIDE THE LIMITS OF THE APPROVED WORK AREAS. THIS WORK SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S EXPENSE.

GEOTEXTILE FABRIC

- 1. THE GEOTEXTILE SHALL BE INSTALLED UNDER THE DESIGNATED GROINS AND BREAKWATER STRUCTURES.
2. THE GEOTEXTILE SHALL BE PERVIOUS, WOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE FIBERS, WHICH ARE FORMED INTO A STABLE NETWORK SUCH THAT THE FIBERS RETAIN THEIR RELATIVE POSITION.
3. THE MATERIAL SHALL BE FREE FROM DEFECTS OR TEARS. GEOTEXTILE MATERIAL SHALL BE INERT TO CHEMICALS COMMONLY FOUND IN NATURAL WATER, THE SOILS CONDITIONS ENCOUNTERED AT THE SITE, AND UV STABILIZED. THE EDGES OF THE GEOTEXTILE SHALL BE FINISHED TO PREVENT THE OUTER FIBER FROM PULLING AWAY FROM THE GEOTEXTILE.
4. THE AREA TO RECEIVE THE GEOTEXTILE SHALL BE CLEARED OF ANY DEBRIS OR OBSTRUCTIONS WHICH MAY DAMAGE THE GEOTEXTILE.
5. THE INSTALLED GEOTEXTILE SHALL HAVE NO TEARS OR PUNCTURES.
6. ALL NON-SEWN GEOTEXTILE FABRIC PANEL SEAMS SHALL BE OVERLAPPED AT A MINIMUM DISTANCE OF THREE (3) FEET.
7. GEOTEXTILE SHALL BE TEMPORARILY ANCHORED INTO ITS FINAL POSITION, USING SANDBAGS AND OTHER METHODS THAT WON'T RUPTURE THE GEOTEXTILE, PRIOR TO THE PLACEMENT OF STONE ON THE GEOTEXTILE.

STONE

- 1. THE STONE SHALL BE UNIFORMLY GRADED AND CONFORM TO THE FOLLOWING SIZE GRADATION FOR THE IN-PLACE CONDITION ON THE GROINS AND BREAKWATER STRUCTURES.

Table with 3 columns: Weight(lbs), Percent Retained, Dimension (in). Rows show gradation for 450+, 260-450, 40-260, 0-40 lbs and 0-3, 47-60, 30-50, 0-10 percent retained, and 18+, 15-18, 8-15, 0-8 dimension.

- 2. ALL DETERIORATED STRUCTURES, DEBRIS, AND ABANDONED PILING THAT LIE WITHIN THE TEMPLATE OF THE GROINS AND BREAKWATERS OR INTERFERE WITH CONSTRUCTION SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER.
3. STONE SHALL BE DELIVERED TO THE PROJECT SITE FOR INSTALLATION ON THE GROIN AND BREAKWATER STRUCTURES BY METHODS THAT WILL MINIMIZE MULTIPLE RE-HANDLING OF THE MATERIALS TO MINIMIZE BREAKAGE.
A. STONE SHALL BE MECHANICALLY PLACED ON THE SECURED GEOTEXTILE FABRIC L IN SUCH MANNER THAT WILL PRODUCE A WELL-KEYED MASS OF STONE (WITH MAXIMUM LEVEL OF STONE INTERLOCKING) SHALL BE CONSTRUCTED TO THE LINES, GRADES AND THICKNESS SHOWN. STONE SHALL BE PLACED TO ITS FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH MANNER AS TO AVOID DISPLACING THE UNDERLYING MATERIAL. PLACING STONE THROUGH CHUTES, DROPPING MORE THAN 2 FEET (ABOVE OR BELOW WATER SURFACE), AND OTHER METHODS WHICH MAY SEGREGATE THE VARIOUS SIZES OR DAMAGE THE ARMOR STONE OR UNDERLYING MATERIAL WILL NOT BE PERMITTED. THE LARGE STONES SHALL BE WELL DISTRIBUTED IN THE MASS OF STONES.
4. REARRANGING OF INDIVIDUAL ARMOR STONE MAY BE REQUIRED TO THE EXTENT NECESSARY TO SECURE THE RESULTS SPECIFIED.
5. ALL STONE SHALL BE PLACED BY CLAMSHELL BUCKET, STONE GRAB, OR BY SOME OTHER METHOD APPROVED BY THE ENGINEER THAT WILL NOT DROP OR CAST THE STONE, BUT WILL RELEASE THE STONE IN SUCH A MANNER THAT THEY WILL BE PROPERLY INTERLOCKED WITH THE UNDERLYING OR ADJACENT STONES TO RESIST DISPLACEMENT BY WAVE ACTION AND PROVIDE A UNIFORM AND COMPACT SECTION. STONES SHALL BE FIRMLY SET AND WELL SUPPORTED BY UNDERLYING OR ADJACENT STONES TO RESIST DISPLACEMENT BY WAVE ACTION AND PROVIDE A UNIFORM AND COMPACT SECTION.
6. THE CONTRACTOR SHALL PLACE THE STONE ON THE BREAKWATER STRUCTURES USING METHODS, TECHNIQUES, AND EQUIPMENT THAT WILL PRODUCE A TIGHT FITTING MASS OF STONE.
7. PLACING STONE BY DUMPING IT AT THE TOP OF THE SLOPE AND PUSHING IT DOWN THE SLOPE WILL NOT BE PERMITTED. THE DESIRED DISTRIBUTION OF THE VARIOUS SIZES OF STONES THROUGHOUT THE MASS SHALL BE OBTAINED BY SELECTIVE LOADING OF THE MATERIAL AT THE QUARRY OR OTHER SOURCE, BY CONTROLLED DUMPING OF SUCCESSIVE LOADS DURING FINAL PLACING, OR BY OTHER METHODS OF PLACEMENT THAT WILL PRODUCE THE SPECIFIED RESULTS.
8. PLACEMENT OF STONE SHALL START AT THE TOE OF THE STRUCTURE AND PROGRESS UP THE SLOPE, DIAGONALLY ACROSS THE FACE OF THE STRUCTURE. PLACING OF STONE BY METHODS THAT WILL LIKELY CAUSE SEGREGATION OF VARIOUS SIZES WILL NOT BE PERMITTED.

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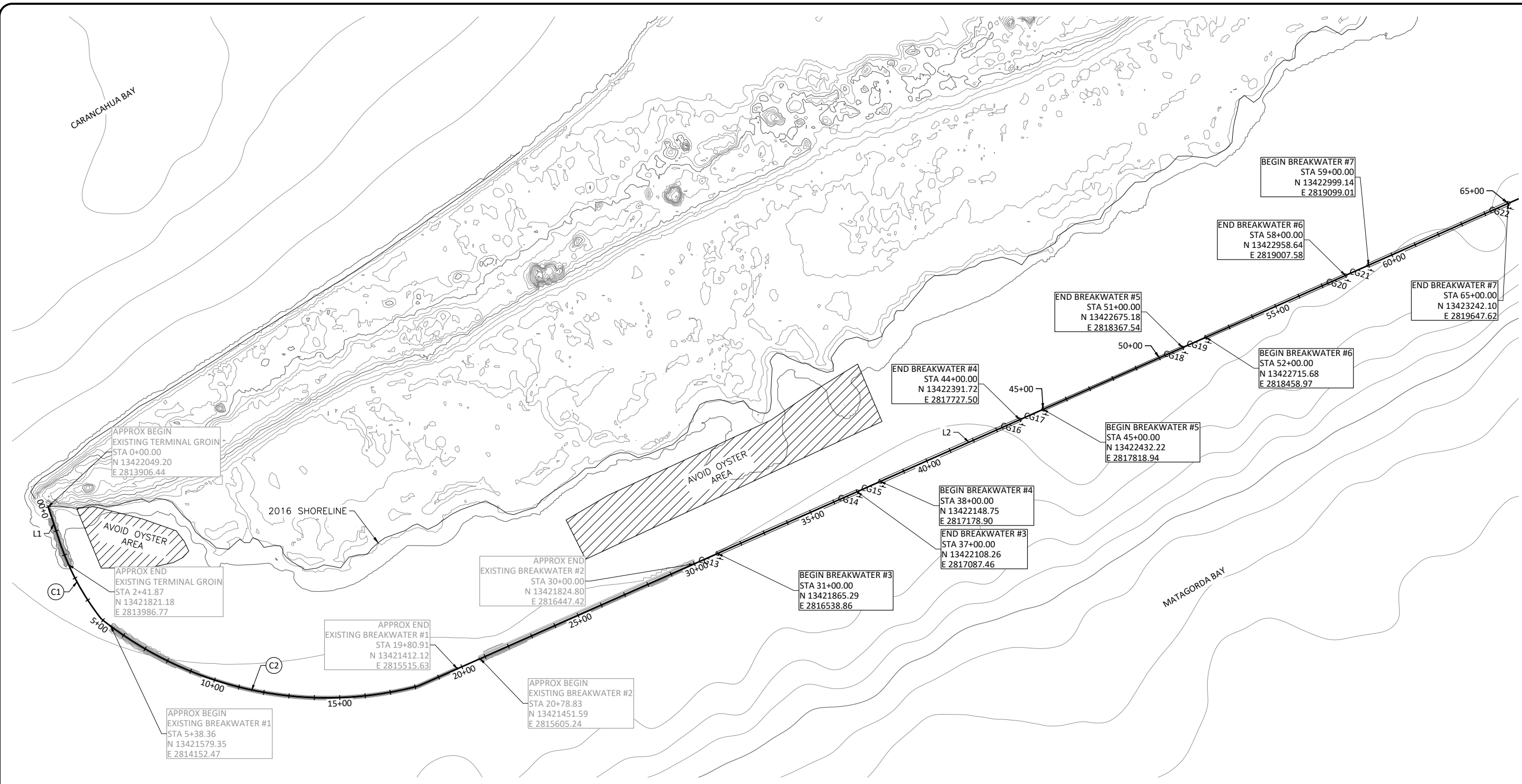
Freeze Nichols 10997 Town and Country Way, Suite 500 Houston, Texas 77024 Phone: (713) 600-6800 Web: www.freeze.com

MBF21580 SCHICKE POINT LIVING SHORELINE IMPROVEMENTS CIVIL GENERAL NOTES SHEET 2

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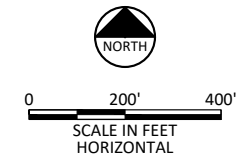
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SITE PLAN
1" = 200'

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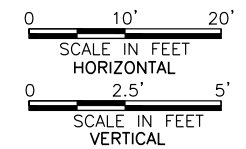
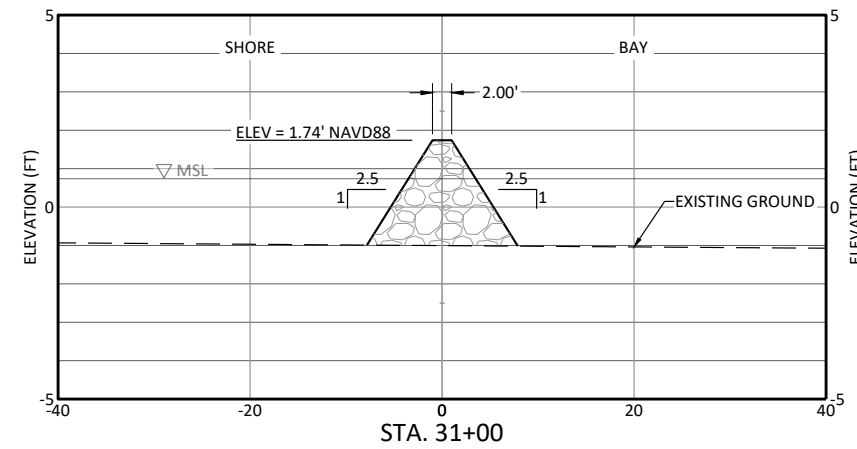
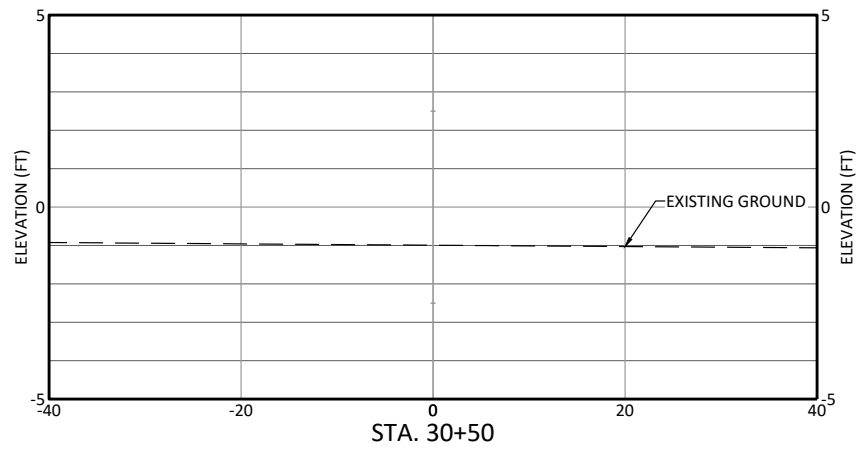
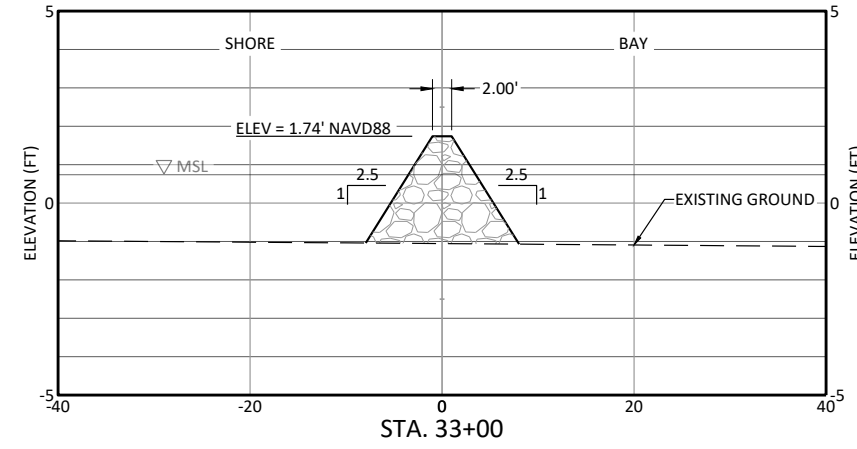
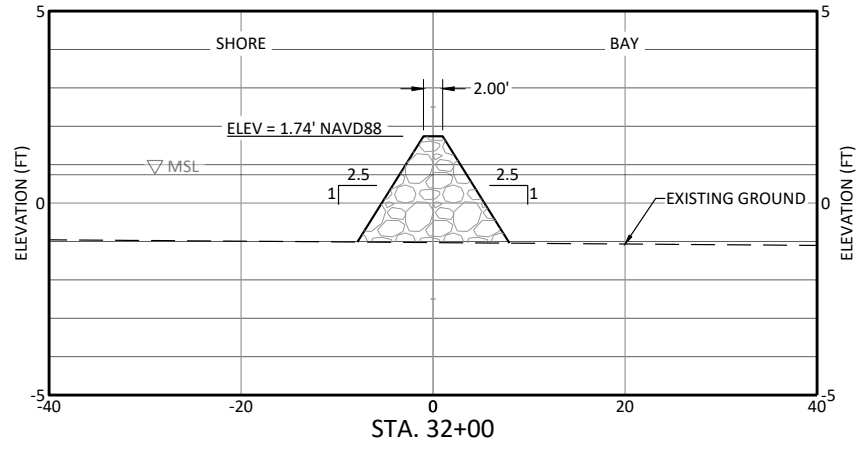
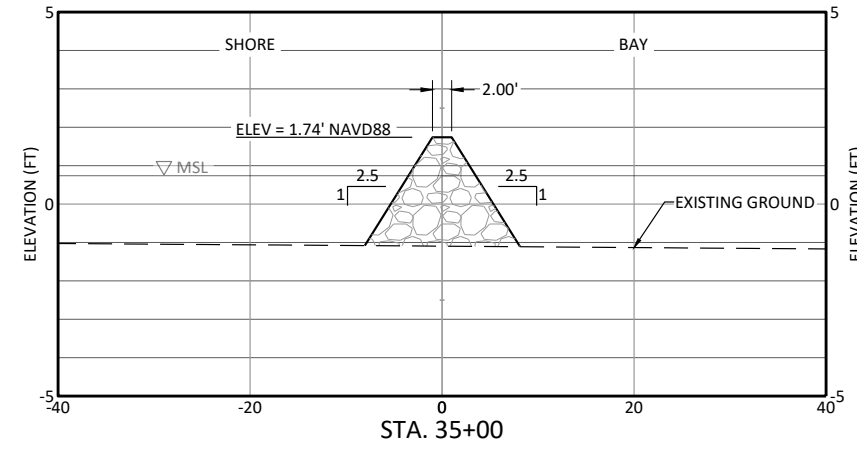
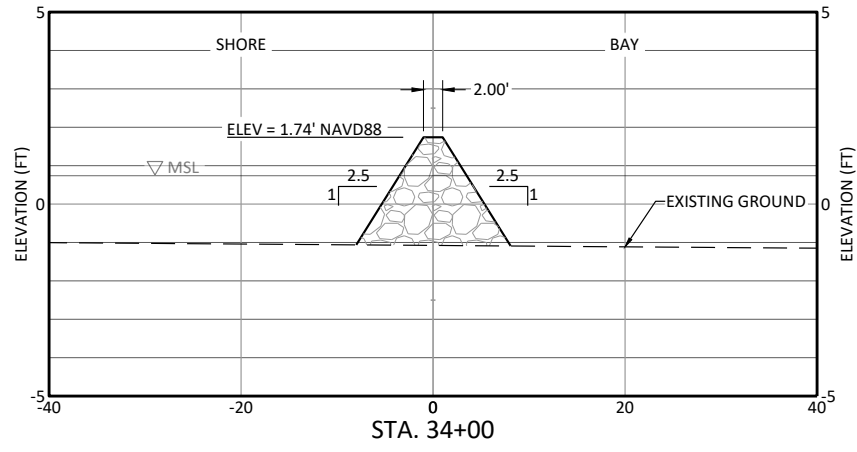
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SCHICKE POINT
LIVING SHORELINE IMPROVEMENTS
CIVIL
SITE PLAN

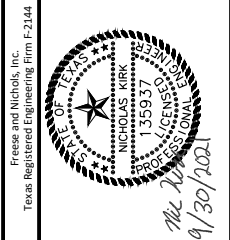
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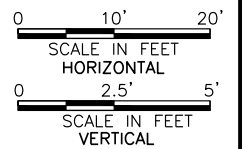
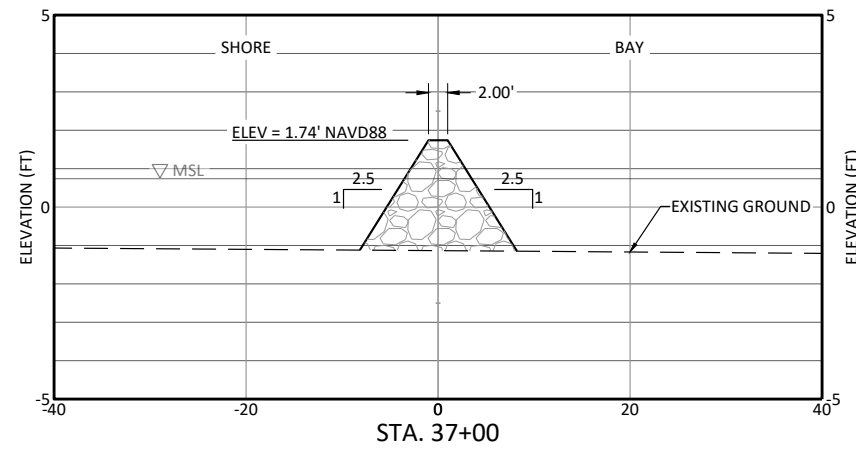
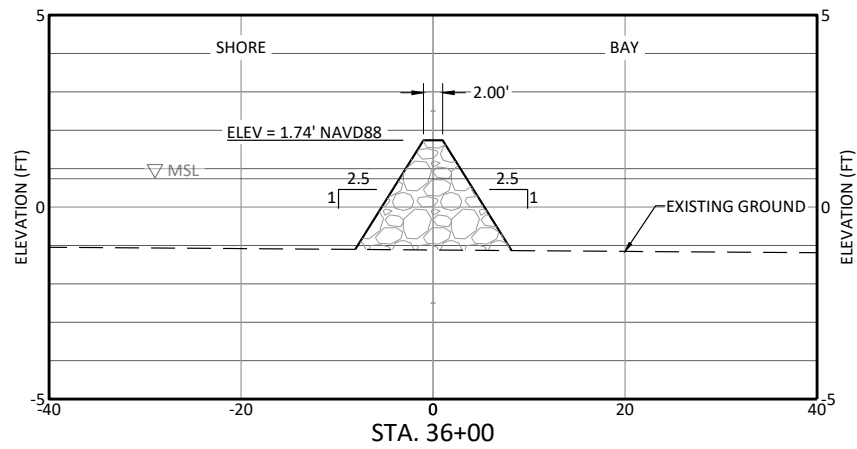
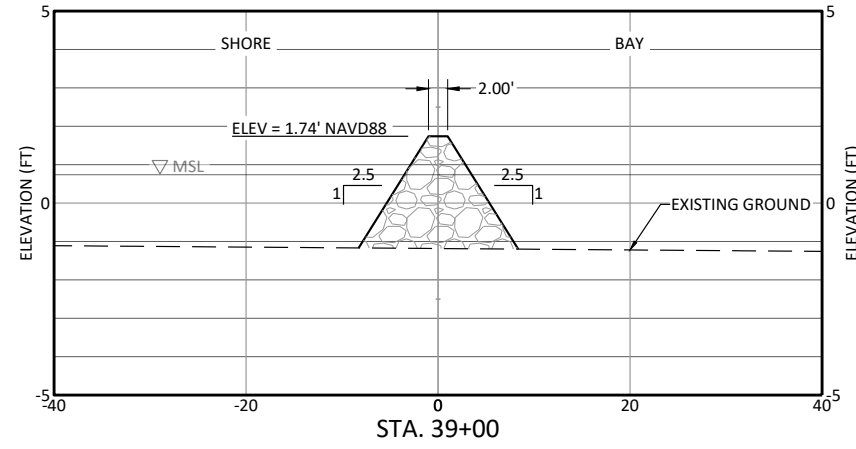
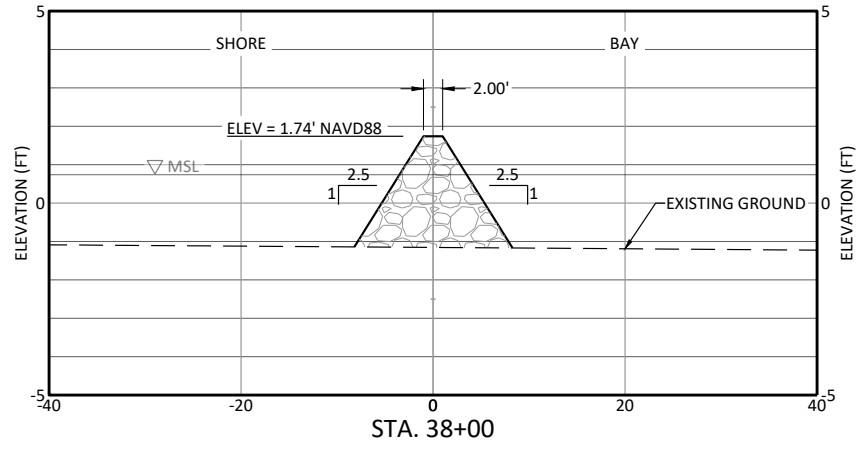
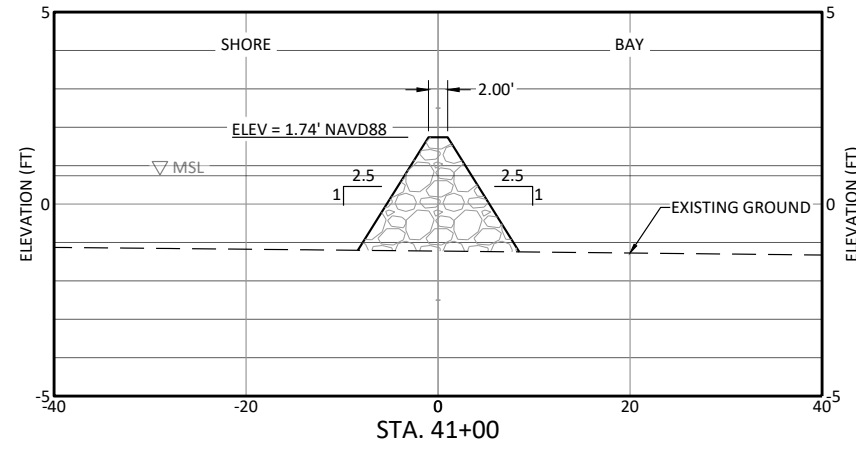
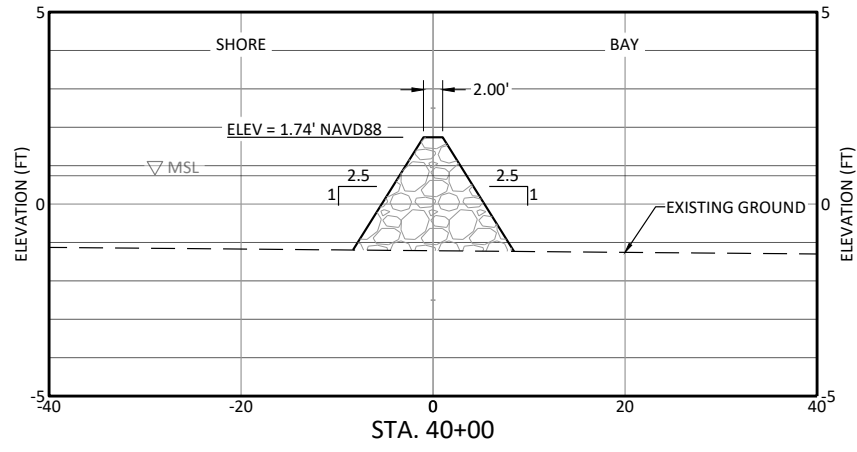
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SHEET 1 OF 6

NO.	ISSUE	DATE	BY	FILE NAME
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5	DESIGNED			
6	DATE	08/05/21		
7	MBF21580			
8	R&N JOB NO.			



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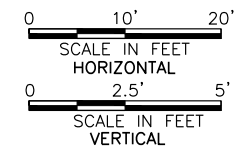
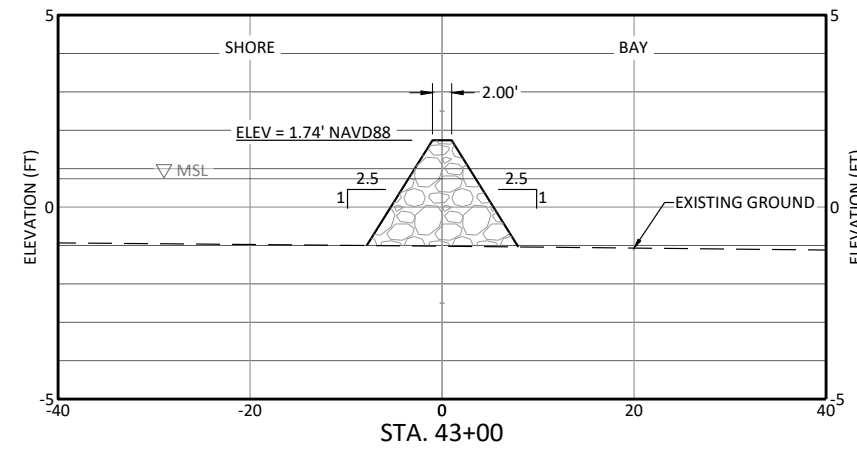
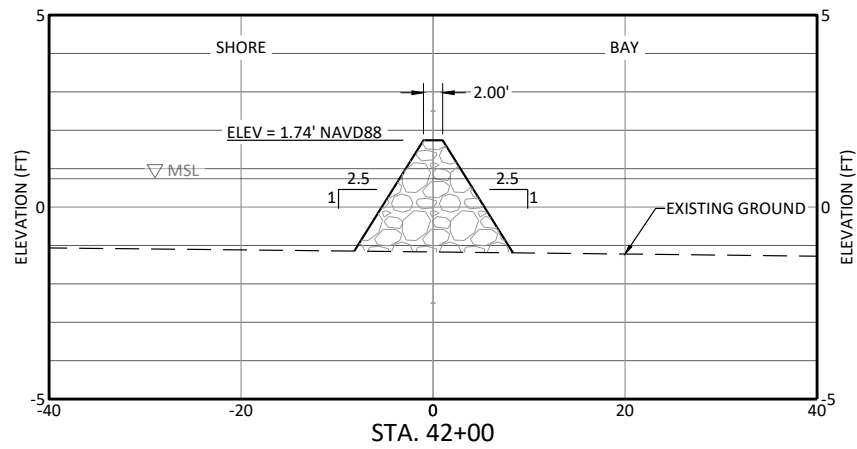
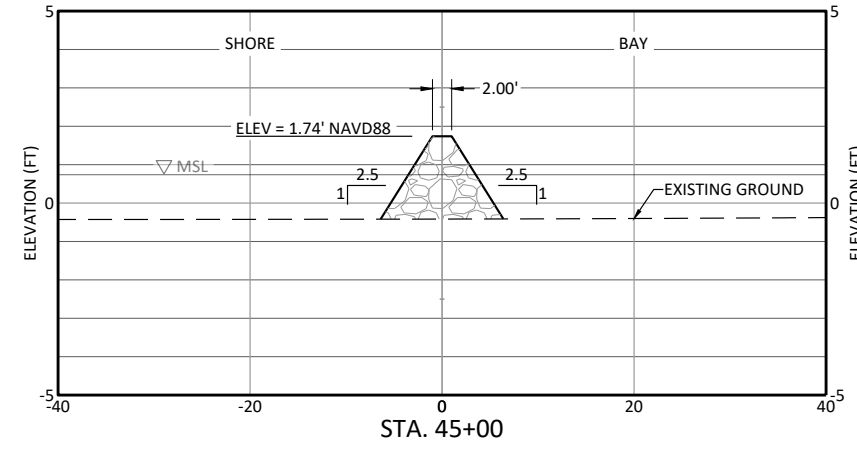
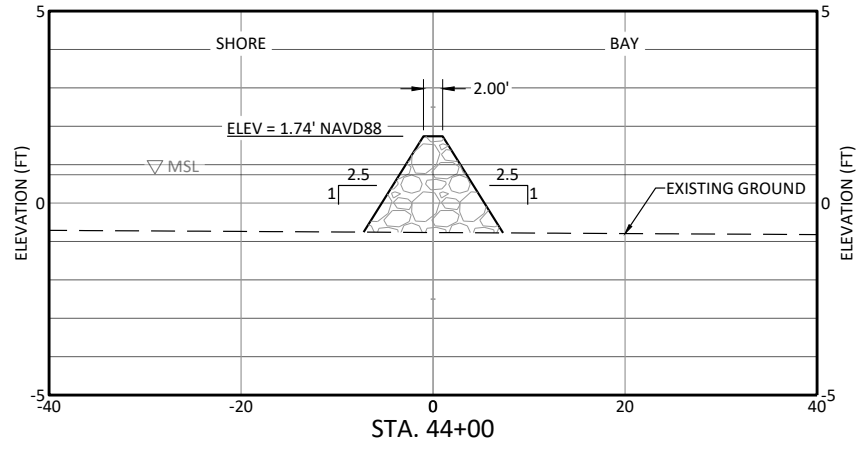
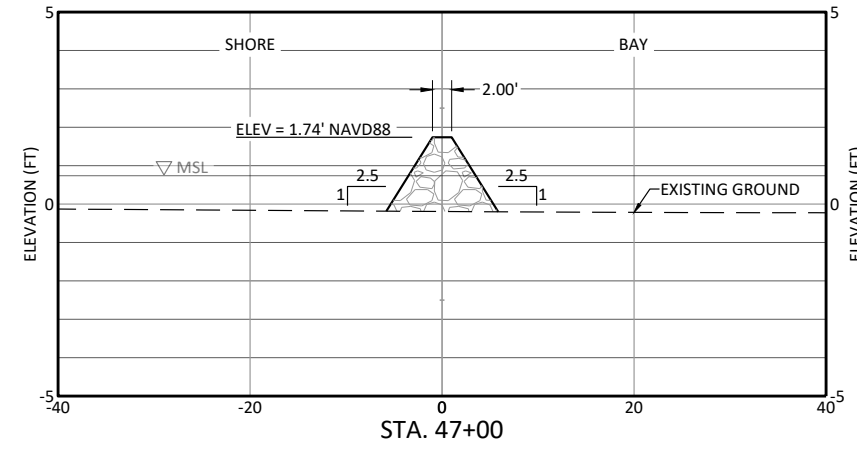
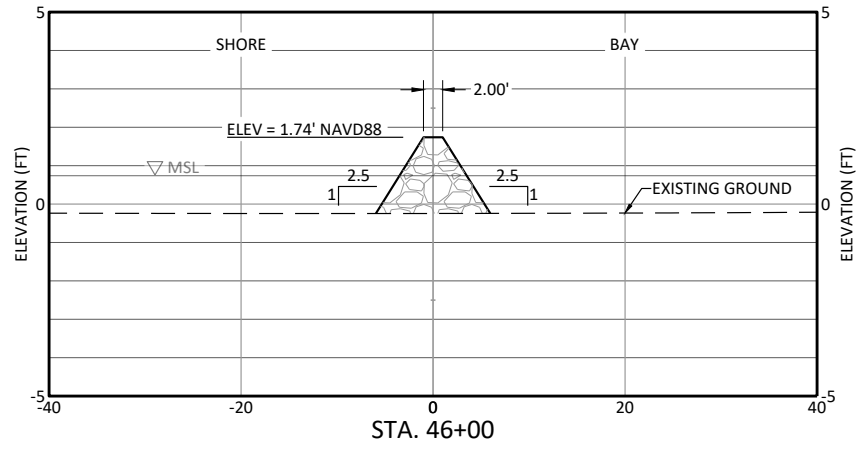
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SHEET 2 OF 6

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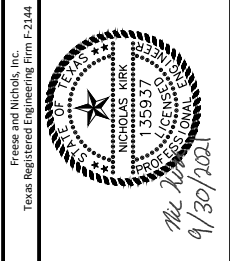
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SHEET 3 OF 6

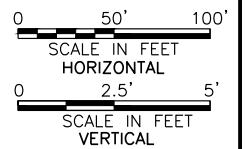
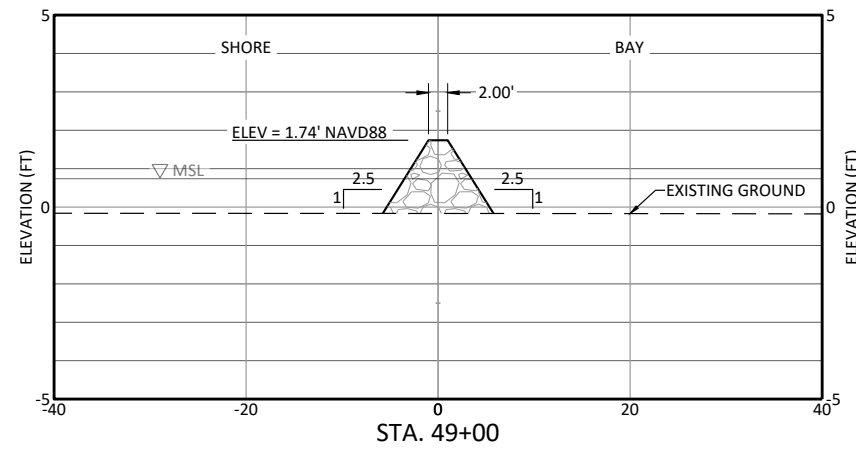
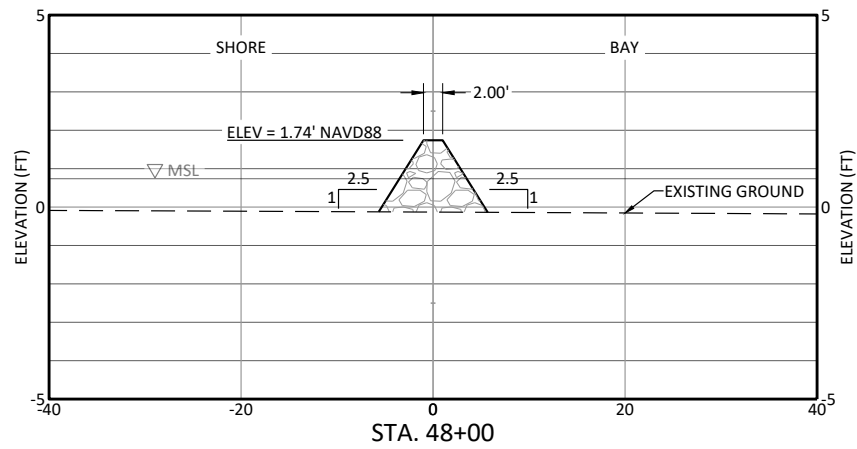
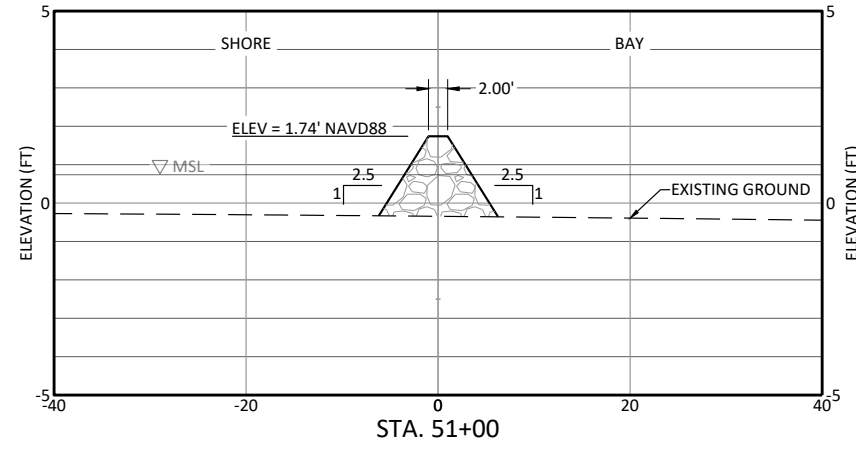
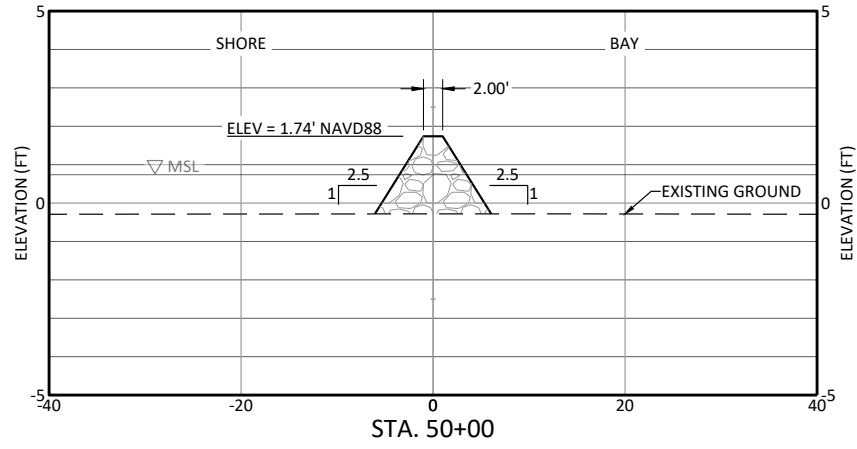
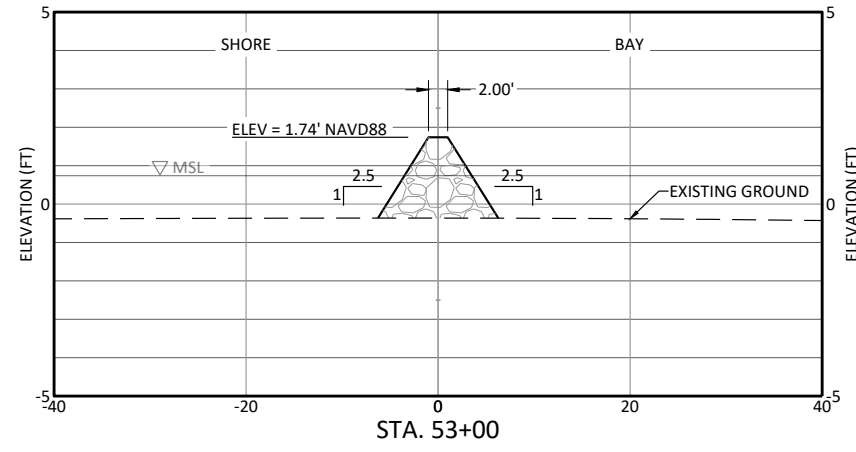
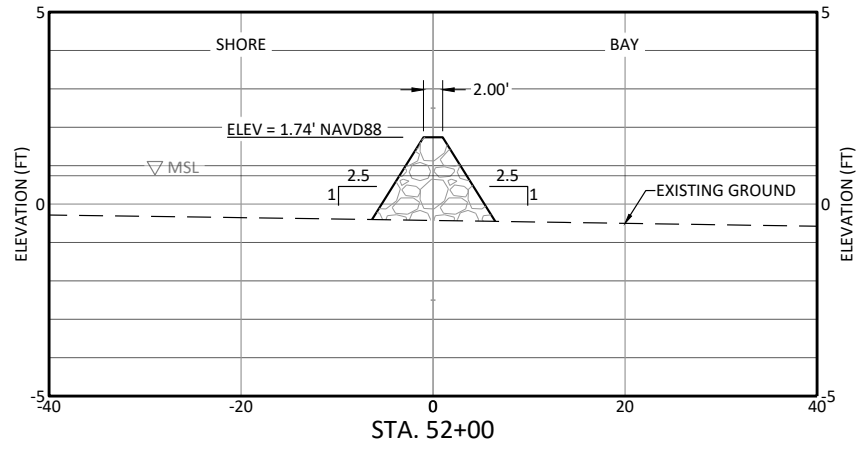
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SHEET **7**

SEQ. **7 OF 15**



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Nick Kirk
9/30/2021

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NO.	ISSUE	DATE	BY	FILE NAME
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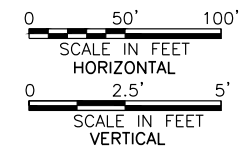
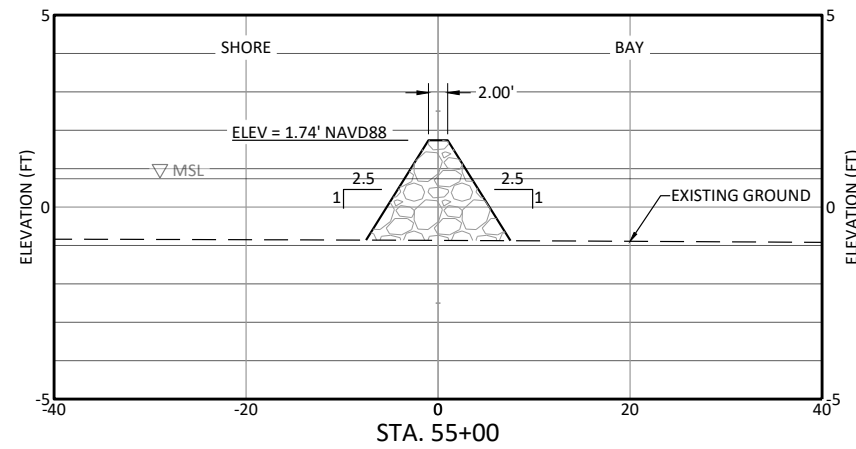
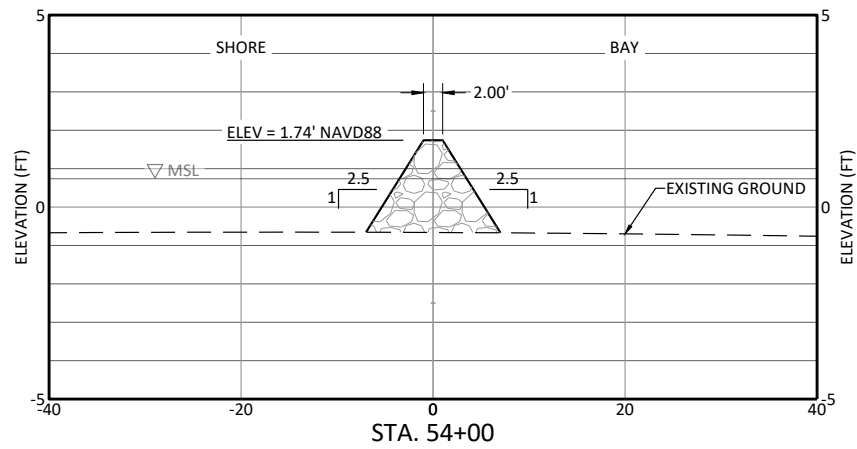
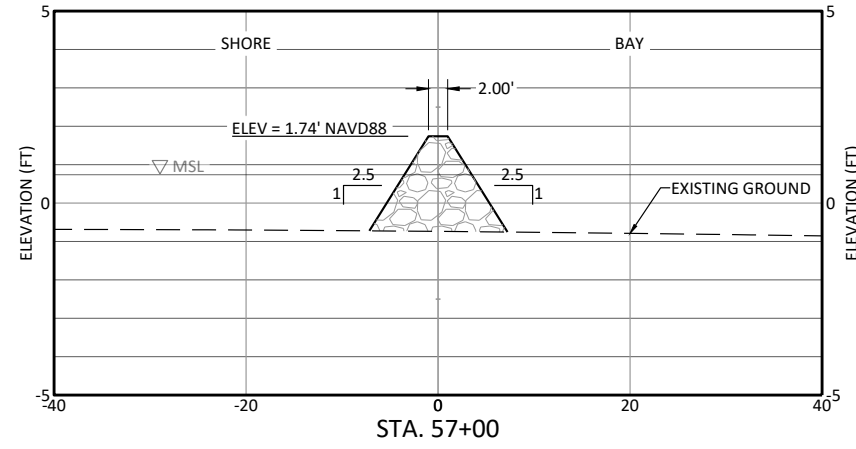
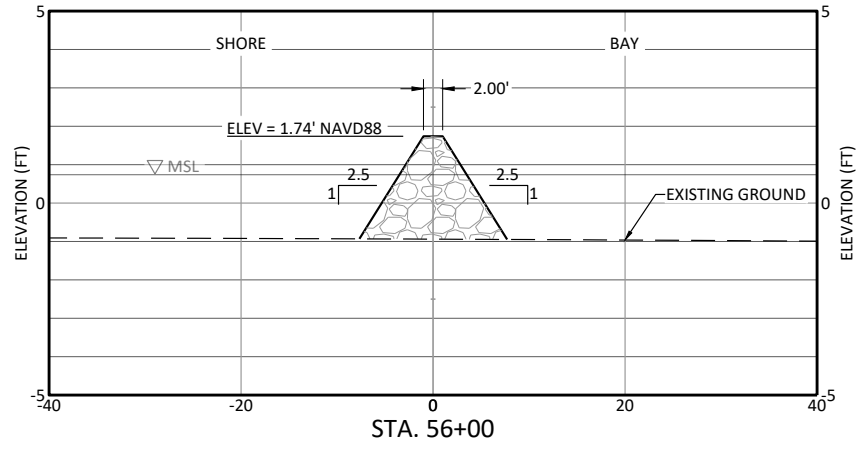
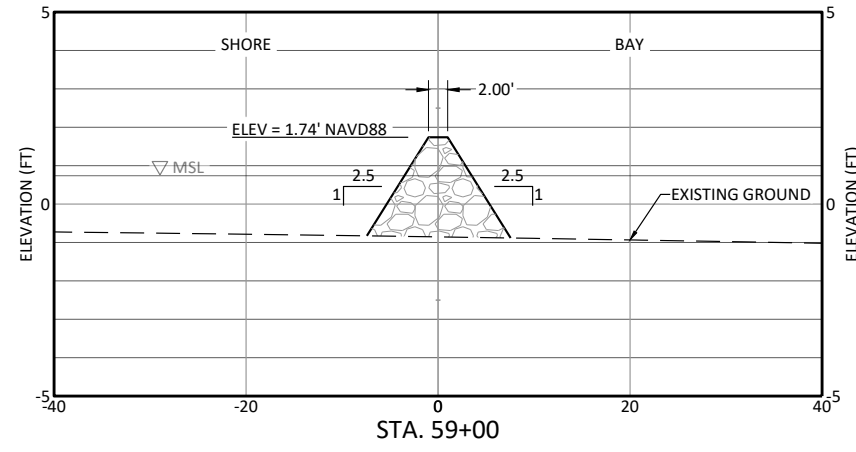
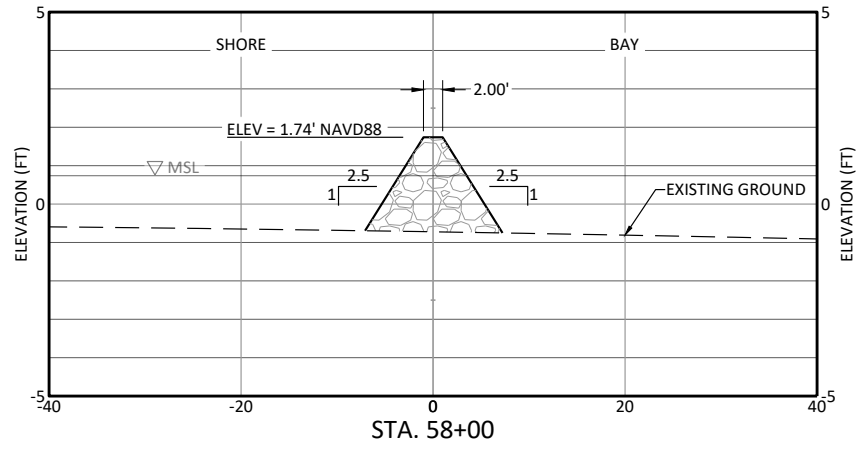
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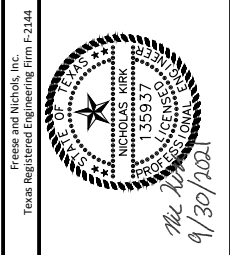
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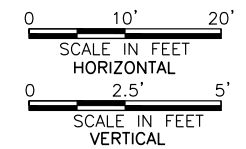
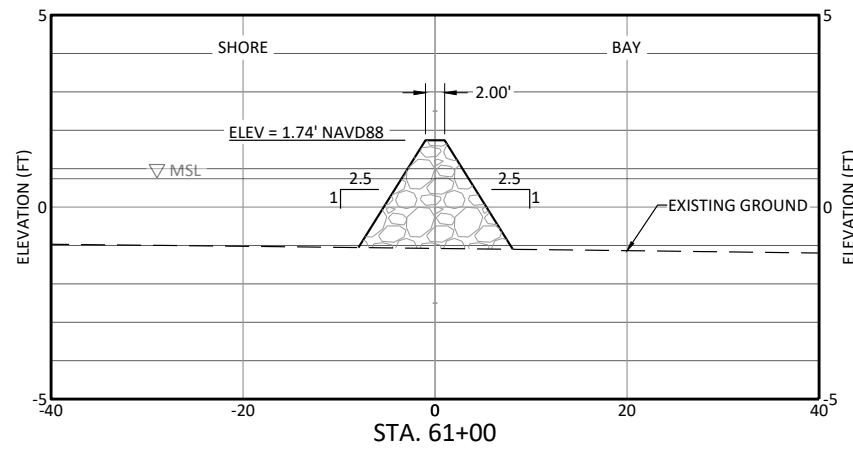
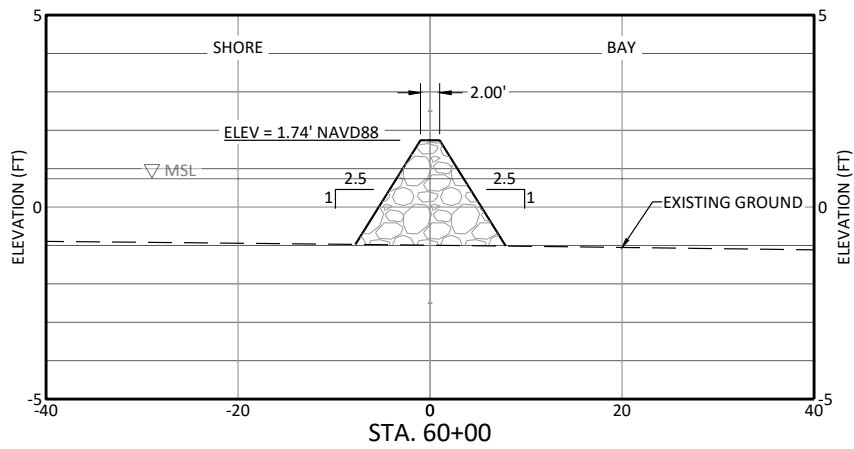
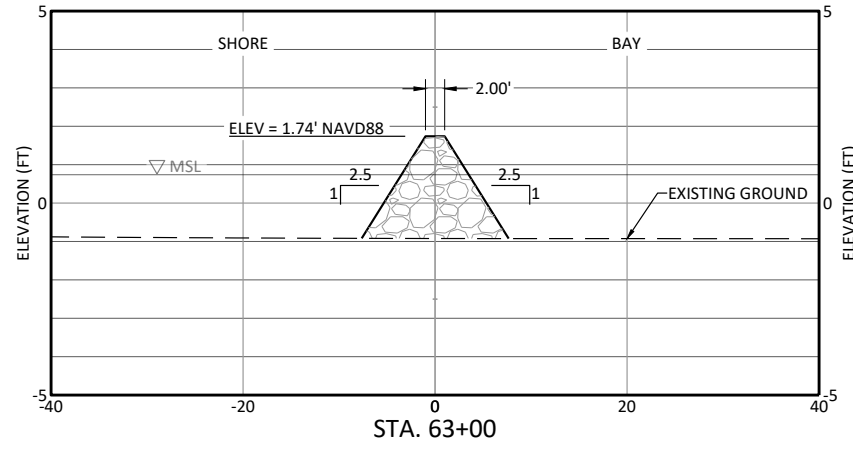
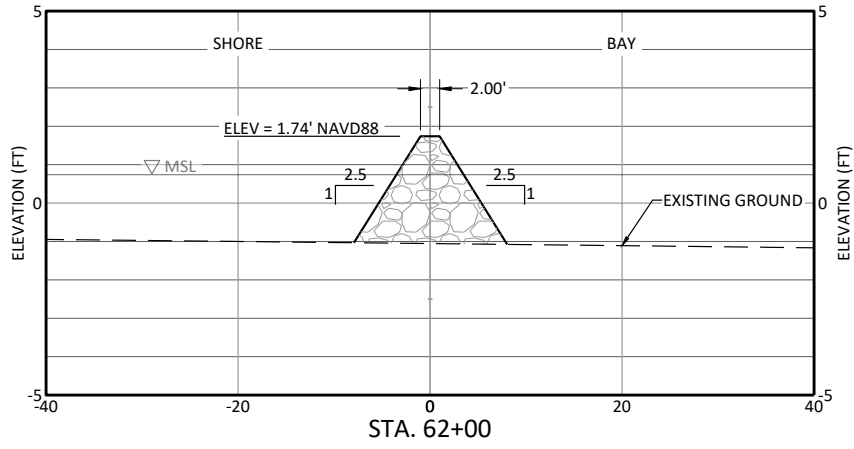
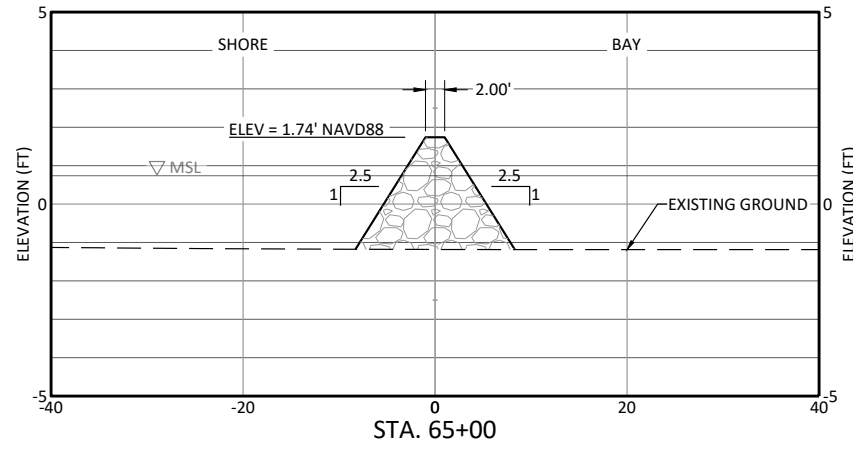
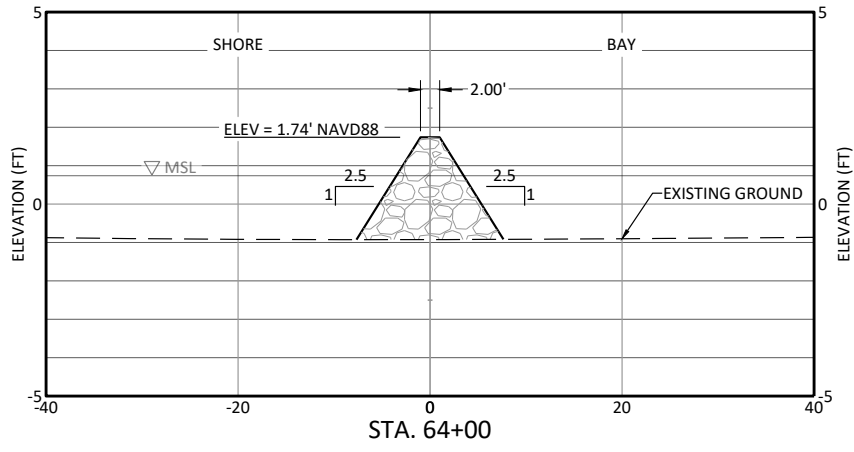


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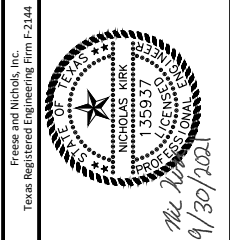
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BREAKWATER SECTIONS
SHEET 5 OF 6

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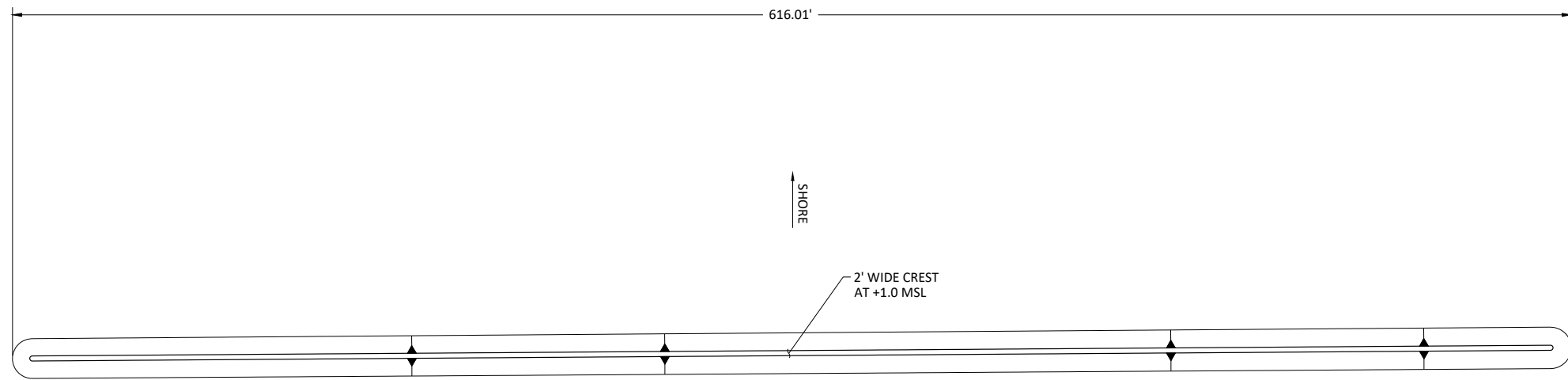


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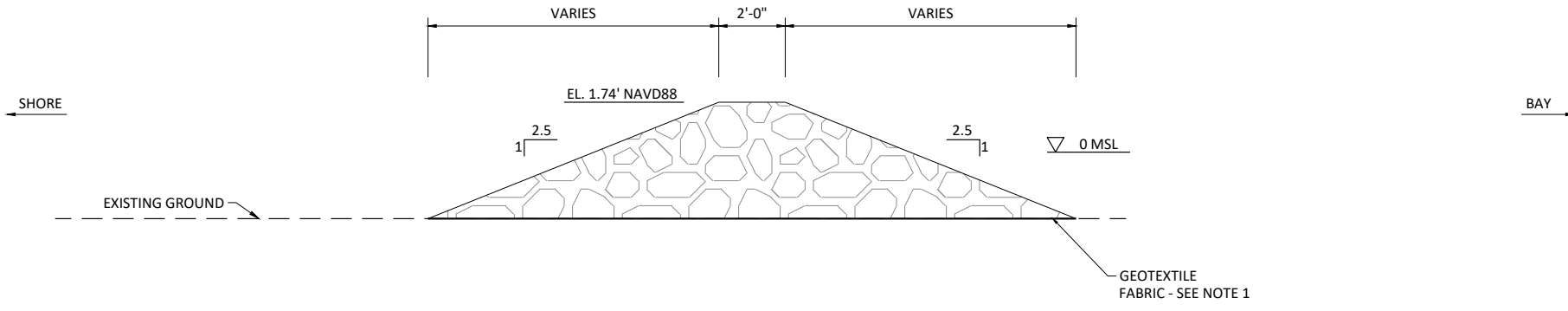
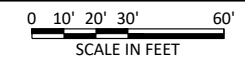
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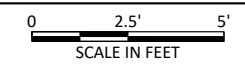
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BREAK WATER #3 DETAIL



BREAK WATER #3 TYPICAL SECTION



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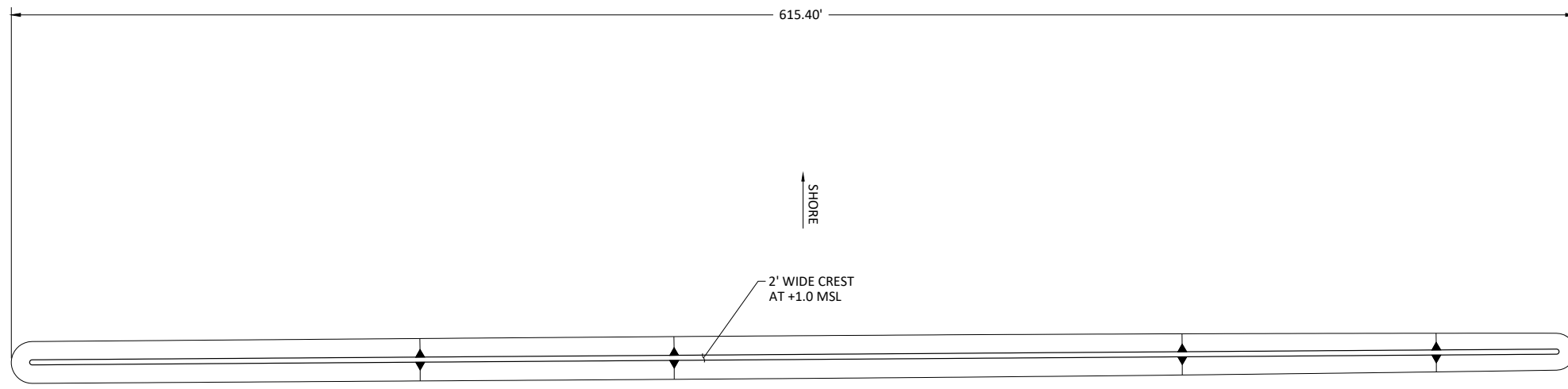
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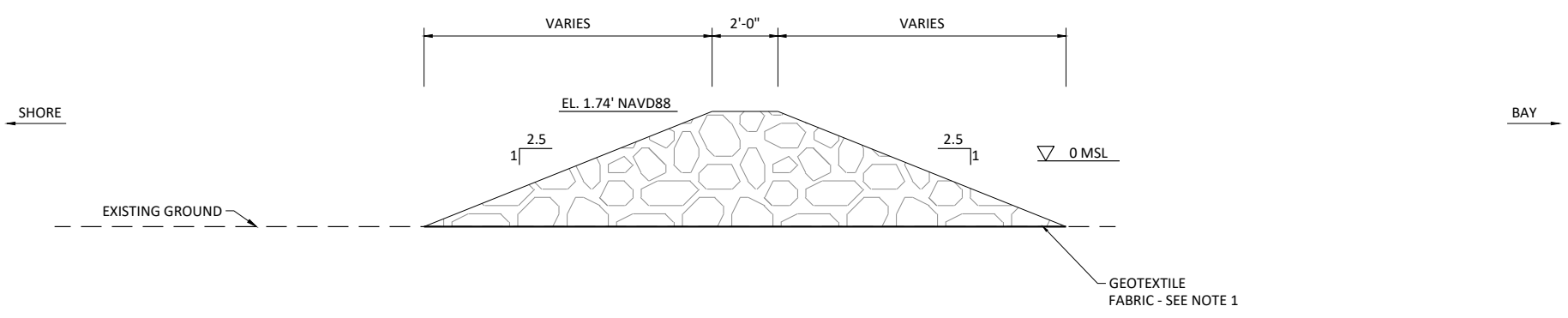
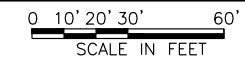
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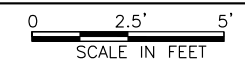
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BREAK WATER #4 DETAIL



**BREAK WATER #4
TYPICAL SECTION**



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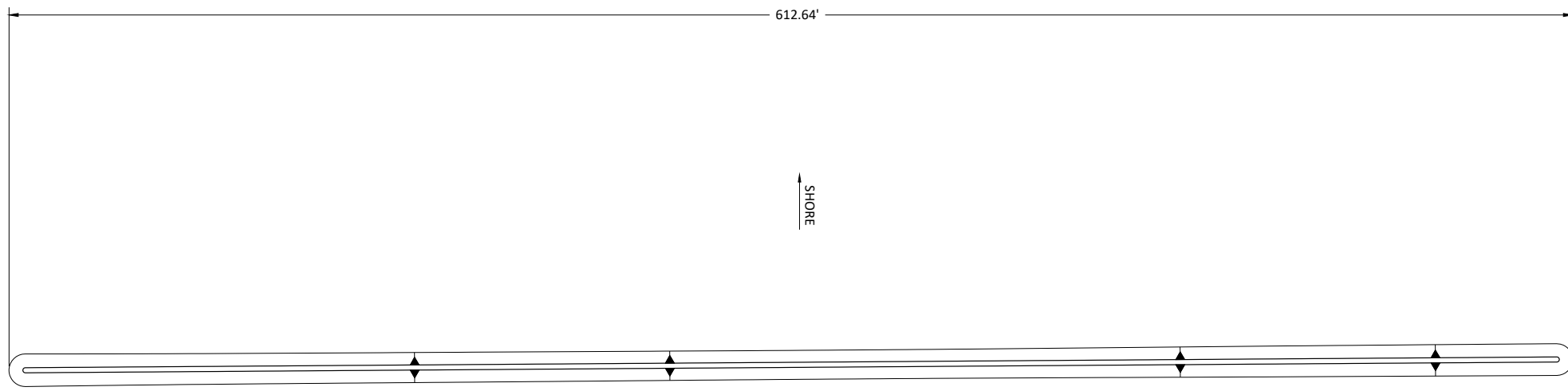
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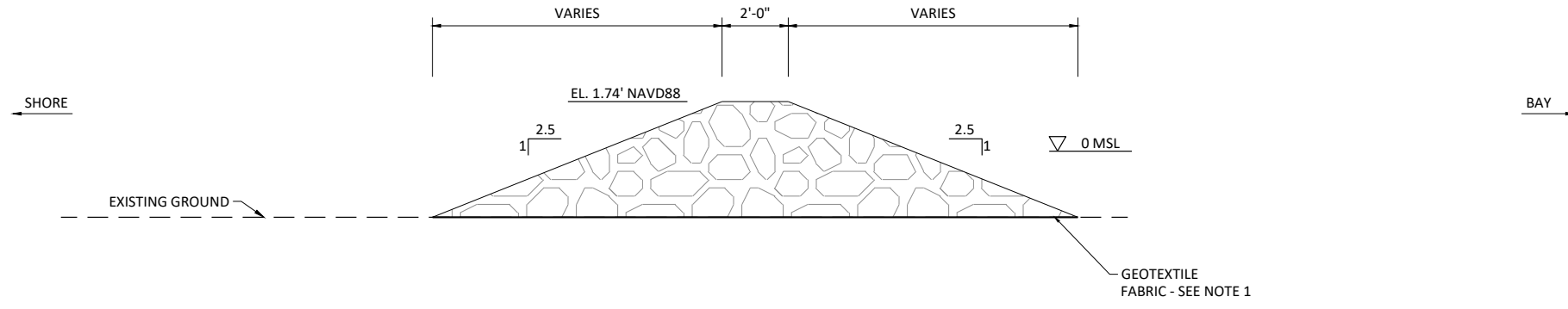
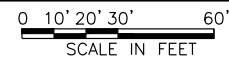
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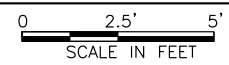
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BREAK WATER #5 DETAIL



**BREAK WATER #5
TYPICAL SECTION**



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Nick Kirk
 9/30/2021

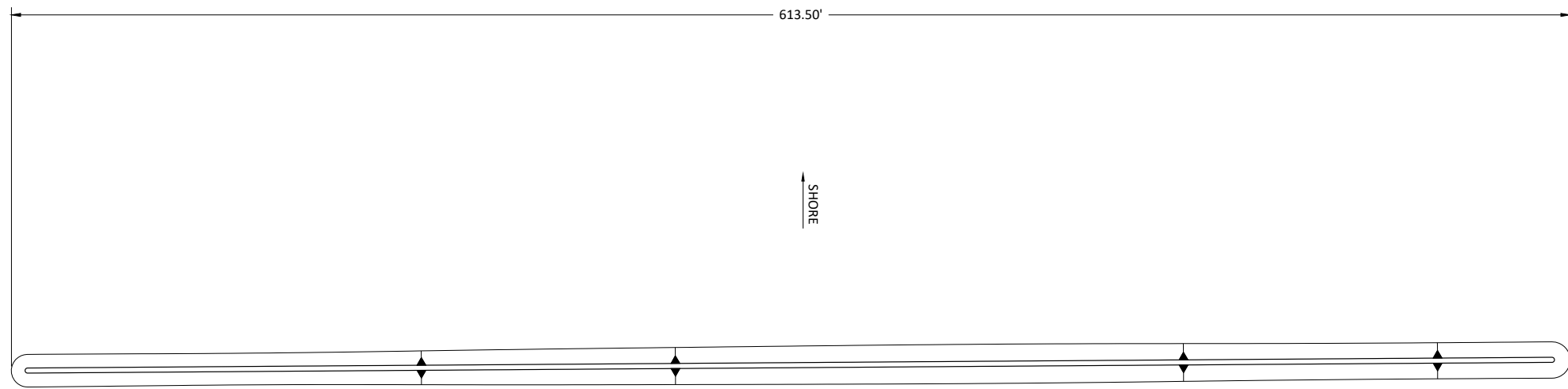
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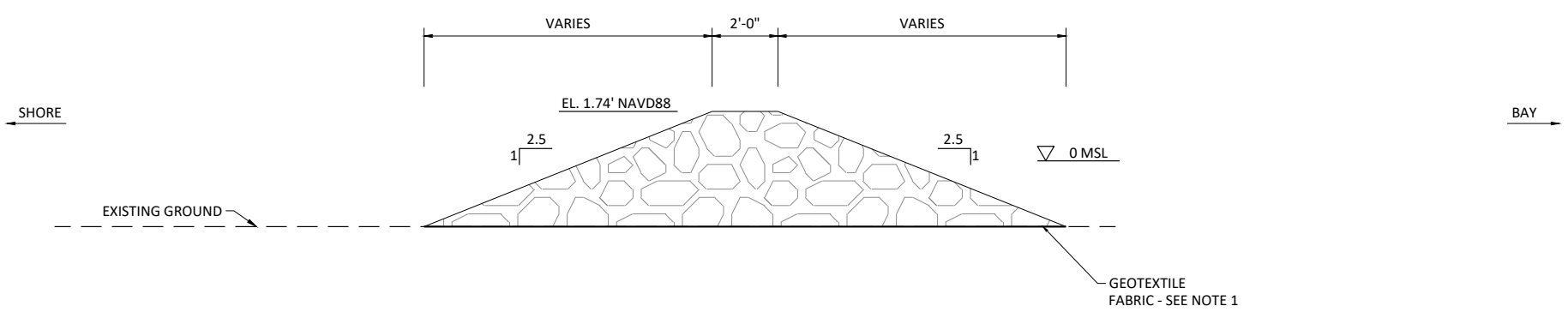
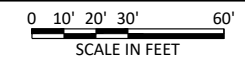
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SHEET **13**
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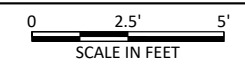
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BREAK WATER #6 DETAIL



**BREAK WATER #6
TYPICAL SECTION**



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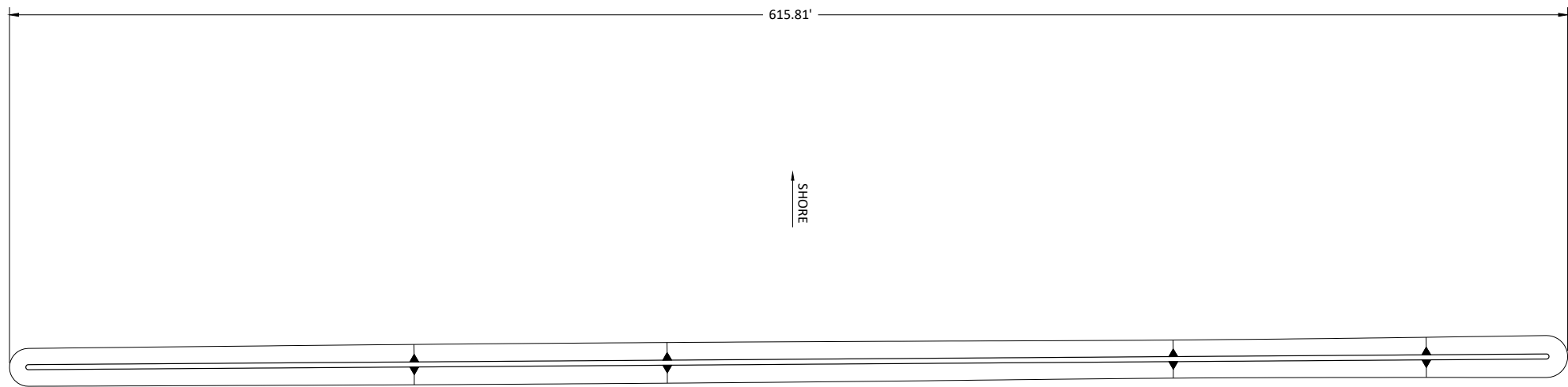
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CIVIL
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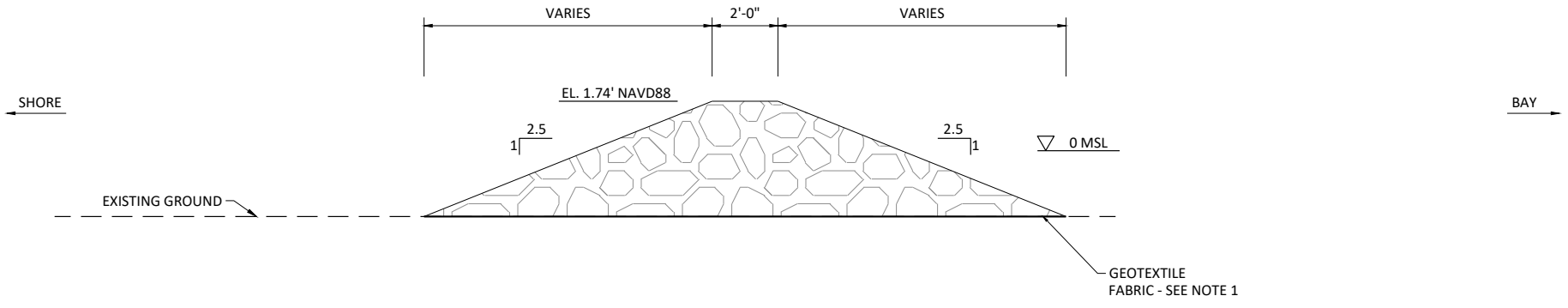
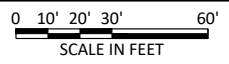
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SHEET **14**
SEQ. 14 OF 15

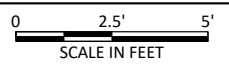
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BREAK WATER #7 DETAIL



BREAK WATER #7 TYPICAL SECTION



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CIVIL
BREAKWATER NO. 7 DETAILS

NO.	ISSUE	DATE	BY	MBF21580	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
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SEQ. 15 OF 15

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
<https://www.fisheries.noaa.gov/region/southeast>

6/22/2022

F/SER31:DPO
SERO-2022-00628

Cliff Schleusner
Regional Manager, Wildlife and Sport Fish Restoration Program
U.S. Fish and Wildlife Service
U.S. Department of the Interior
Post Office Box 1306
Albuquerque, New Mexico 87103

Ref.: Texas Parks and Wildlife Department, Project Type or Name from ECO/PATS, Schicke Point,
Matagorda Bay, Calhoun County, Texas – EXPEDITED TRACK

Dear Cliff Schleusner,

This letter responds to your June 16, 2022, request pursuant to Section 7 of the Endangered Species Act (ESA) for consultation with the National Marine Fisheries Service (NMFS) on the subject action.

We reviewed the action agency's consultation request document and related materials. Based on our knowledge, expertise, and the action agency's materials, we concur with the action agency's conclusions that the proposed action is not likely to adversely affect the NMFS ESA-listed species and/or designated critical habitat.

This concludes your consultation responsibilities under the ESA for species and/or designated critical habitat under NMFS's purview. Reinitiation of consultation is required and shall be requested by the action agency or by NMFS where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) take occurs; (b) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in this consultation; (c) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not previously considered in this consultation; or (d) if a new species is listed or critical habitat designated that may be affected by the action.

We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation, please contact Biologist's Daniel Owen, Consultation Biologist, at (727) 209-5961 or by email at Daniel.Owen@noaa.gov.

Sincerely,

REECE.KARLA.MICHELLE.1365
HELLE.1365885962
Digitally signed by
REECE.KARLA.MICHELLE.1365
885962
Date: 2022.06.22 16:52:59 -0400

for

David Bernhart
Assistant Regional Administrator
for Protected Resources

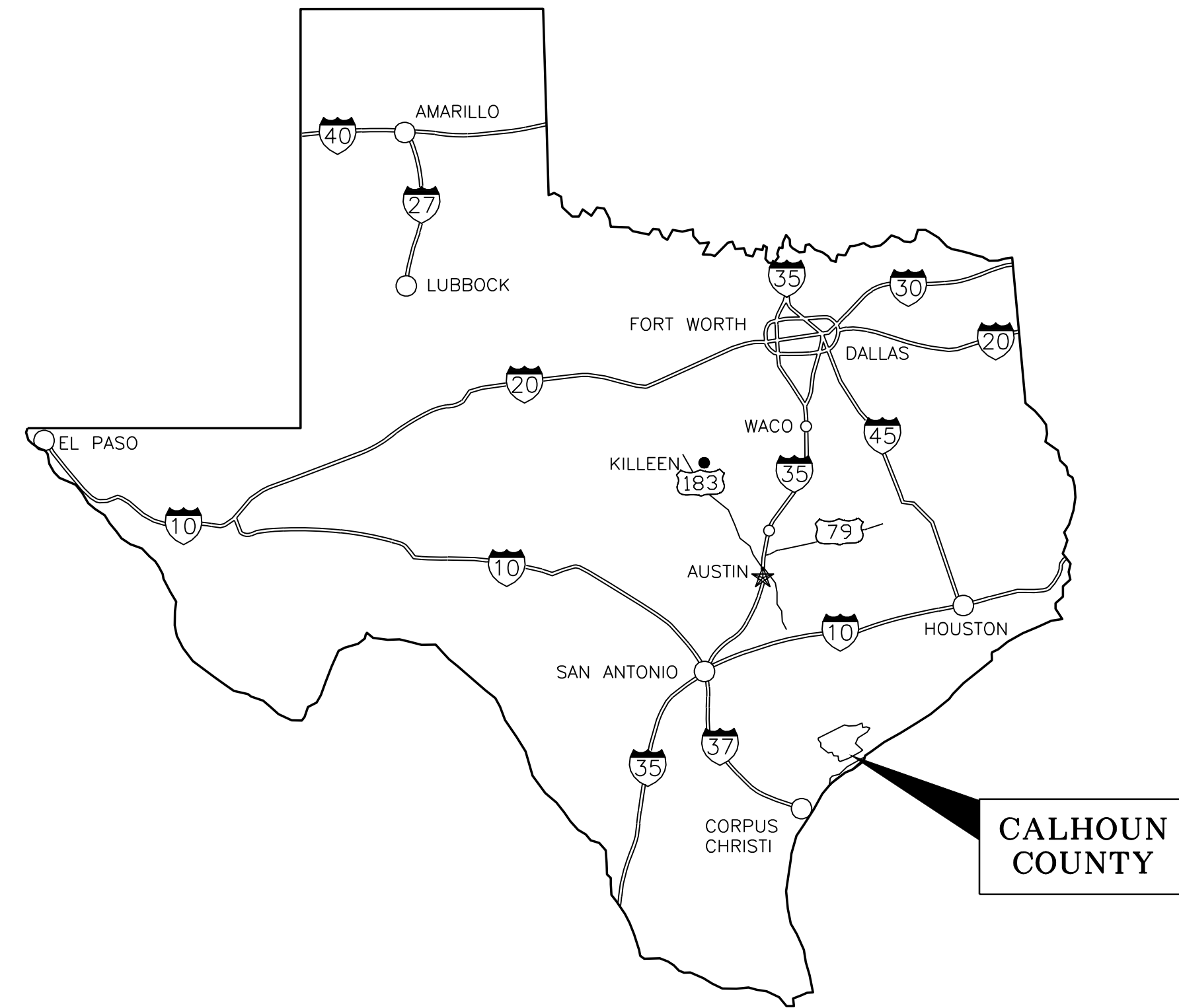
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Attachment 9: 100% Revised Design Plans

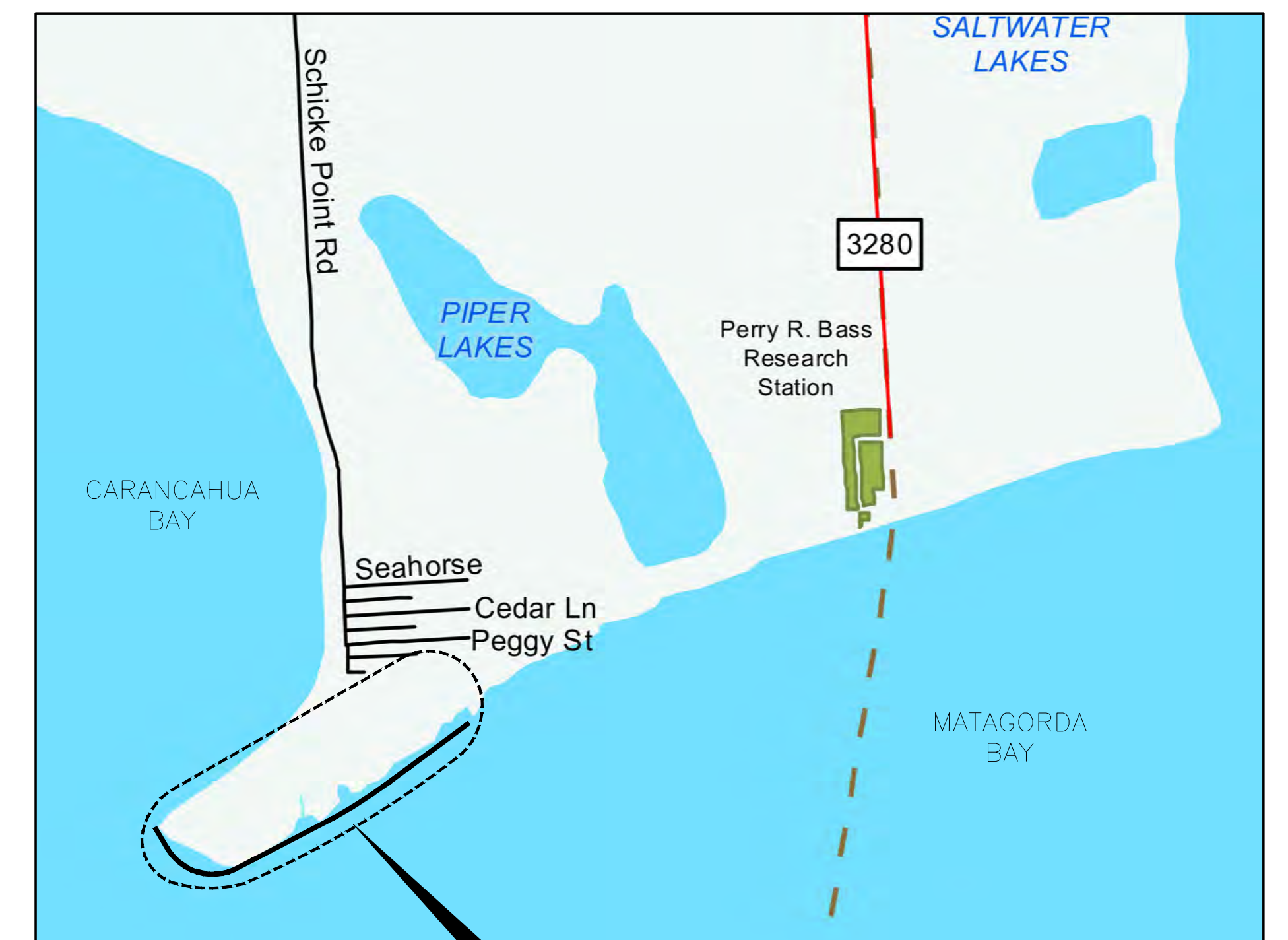
MATAGORDA BAY FOUNDATION

SCHICKE POINT LIVING SHORELINE IMPROVEMENTS



LOCATION MAP
N.T.S.

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
GENERAL	
1	COVER
2	GENERAL NOTES 1
3	GENERAL NOTES 2
SITE CIVIL	
4	SITE PLAN
5	BREAKWATER SECTIONS (1 OF 6)
6	BREAKWATER SECTIONS (2 OF 6)
7	BREAKWATER SECTIONS (3 OF 6)
8	BREAKWATER SECTIONS (4 OF 6)
9	BREAKWATER SECTIONS (5 OF 6)
10	BREAKWATER SECTIONS (6 OF 6)
11	BREAKWATER NO. 3 DETAILS
12	BREAKWATER NO. 4 DETAILS
13	BREAKWATER NO. 5 DETAILS
14	BREAKWATER NO. 6 DETAILS
15	BREAKWATER NO. 7 DETAILS



PROJECT LOCATION
VICINITY MAP
N.T.S.

OCTOBER 2021

100% SUBMITTAL

FREESSE & NICHOLS
10497 Town and Country Way,
Suite 500
Houston, Texas 77024
Phone - (713) 600-6800
Web - www.freesse.com

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

MBF21580

THIS DOCUMENT WAS ORIGINALLY
SIGNED, SEALED AND DATED BY:
AUTHORIZED BY: NICHOLAS KIRK P.E.
TEXAS NO: 135937
DATE: 9/30/2021
THE SEALED, SIGNED AND DATED DOCUMENTS
ARE MAINTAINED IN THE OFFICE OF FREESSE AND
NICHOLS AND MAY BE REVIEWED UPON REQUEST.

GENERAL NOTES:

- ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
- GRID COORDINATES ARE IN FEET, AND ARE REFERENCED TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983.
- THE CONTRACTOR'S SURVEYOR WILL PROVIDE HORIZONTAL AND VERTICAL CONTROL AT THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING HORIZONTAL AND VERTICAL ACCURACY DURING CONSTRUCTION. SURVEYOR MUST BE LICENSED IN THE STATE OF TEXAS.
- MEAN SEA LEVEL (MSL) IS +0.74FT NAVD88. ELEVATION DETERMINED BY NAISMITH MARINE. IN 2017.
- ALL CONSTRUCTION ACTIVITY WILL BE CONDUCTED DURING DAYLIGHT HOURS FROM ONE HALF-HOUR AFTER SUNRISE TO ONE HALF-HOUR BEFORE SUNSET.
- ALL WORK WILL BE COMPLETED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- ALL WORK WILL BE COMPLETED WITHIN DESIGNATED AREAS AND TO DESIGNATED ELEVATIONS.
- CONTRACTOR TO IDENTIFY STAGING AREA IN MATAGORDA BAY AND TO OBTAIN OWNERS APPROVAL.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES OR OTHER OBJECTS PRIOR TO COMMENCING WORK AT THE SITE. ANY UTILITIES OR OTHER ITEMS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT NO COST TO THE MATAGORDA BAY FOUNDATION (OWNER).
- REPAIR AND REPLACEMENT OF ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION OF EQUAL TO, OR BETTER THAN EXISTING CONDITIONS UNLESS SPECIFICALLY EXEMPTED BY THE PLANS.
- ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO SHALL BE OF LATEST REVISIONS AND/OR LATEST EDITION UNLESS OTHERWISE NOTED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.
- CONSTRUCTION TRAFFIC SHALL NOT IMPEDE THE SAFE AND EFFICIENT USE OF SURROUNDING ROADWAYS.
- CONTRACTOR SHALL NOT OCCUPY PRIVATE LAND OUTSIDE OF WORK AREA.
- IF ARCHEOLOGICAL OR HISTORIC RESOURCES ARE ENCOUNTERED THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY AND STOP WORK UNTIL DIRECTED TO RESTART.
- BEST MANAGEMENT PRACTICES FOR EROSION AND TURBIDITY CONTROL, INCLUDING BUT NOT LIMITED TO THE USE OF STAKED HAY BALES, TURBIDITY BARRIERS, AND SILT SCREENS, SHALL BE USED AND MAINTAINED AS NECESSARY AT ALL TIMES DURING THE PROJECT. THE OWNER REPRESENTATIVE WILL EVALUATE THE IMPLEMENTATION, DEPLOYMENT, AND EFFECTIVENESS OF SILTATION CONTROL DEVICES.

SITE CLEARING AND PREPARATION NOTES:

- ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.
- CONTRACTOR SHALL HAVE THE SOLE RESPONSIBILITY OF SATISFYING ITSELF CONCERNING THE NATURE AND LOCATION OF THE WORK AND THE GENERAL AND LOCAL CONDITIONS, AND PARTICULARLY, BUT WITHOUT LIMITATION, WITH RESPECT TO THE FOLLOWING: THOSE AFFECTING TRANSPORTATION, ACCESS, DISPOSAL, HANDLING AND STORAGE OF MATERIALS; AVAILABILITY AND QUALITY OF LABOR; WATER AND ELECTRIC POWER; AVAILABILITY AND CONDITION OF ROADS; WORK AREA; LIVING FACILITIES; CLIMATIC CONDITIONS AND SEASONS; PHYSICAL CONDITIONS AT THE WORK-SITE AND THE PROJECT AREA AS A WHOLE; TOPOGRAPHY AND GROUND SURFACE CONDITIONS; NATURE AND QUANTITY OF THE SURFACE MATERIALS TO BE ENCOUNTERED; SUBSURFACE CONDITIONS; EQUIPMENT AND FACILITIES NEEDED PRELIMINARY TO AND DURING PERFORMANCE OF THE WORK; AND ALL OTHER COSTS ASSOCIATED WITH SUCH PERFORMANCE.

CONSTRUCTION NOTES:

- DAMAGE TO ANY PROPERTY, UTILITIES, STRUCTURES OR NATURAL RESOURCES SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR IN A TIMELY MANNER AT THE CONTRACTOR'S EXPENSE.
- ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS AFTER DISTURBANCE.

- ANY PRIVATELY OWNED FEATURES LOCATED ON PRIVATE PROPERTY AND OUTSIDE THE DESIGNATED AREA OF CONSTRUCTION DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE REPAIRED IN A TIMELY MANNER, AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL DISTURB NO MORE GROUND THAN WHAT IS NECESSARY FOR CONSTRUCTION. NO OPEN EXCAVATED TRENCH, OR OTHER UNSAFE CONDITION, WILL BE LEFT OVERNIGHT. ALL WORK SITES WILL BE COMPLETELY RESTORED WITHIN SEVEN (7) CALENDAR DAYS OF SITE COMPLETION. THE INTENT OF THIS PROVISION IS TO "SAFE UP" THE PROJECT SITE AS WORK PROGRESSES, AND SHALL INCLUDE REMOVING FORMS, FILLING HOLES, GRADING, AND REMOVAL OF DEBRIS.

BREAK WATER CONSTRUCTION NOTES:

- ALL STONE SHALL BE HARD, DURABLE QUALITY STONE SUCH THAT IT WILL NOT DISINTEGRATE UNDER THE ELEMENTS AND IT WILL NOT BREAK UNDER HANDLING. ALL STONE SHALL BE CLEAN AND FREE FROM EARTH, DUST, OR OTHER REFUSE.
- THE FACES OF INDIVIDUAL PIECES OF STONE SHALL BE ROUGHLY ANGULAR, NOT ROUNDED, IN SHAPE. THE LEAST DIMENSION OF EACH STONE SHALL NOT BE LESS THAN ONE-THIRD (1/3) OF THE GREATEST DIMENSION OF THAT STONE.
- THE STONES SHALL BE PLACED IN SUCH A MANNER THAT THEY WILL BE PROPERLY INTERLOCKED WITH THE UNDERLYING OR ADJACENT STONES TO RESIST DISPLACEMENT BY WAVE ACTION AND FORM A UNIFORM AND COMPACT SECTION. EACH STONE SHALL BE FIRMLY SET AND WELL-SUPPORTED BY UNDERLYING AND ADJACENT STONE. NO HEAD SIZE OR SMALLER STONES MAY BE FREE ON THE SURFACE.
- BREAK WATER STONE SHALL CONSIST OF SOUND, HARD, DURABLE LIMESTONE, FREE OF OPEN OR INCIPIENT CRACKS, SOFT SEAMS, OR OTHER STRUCTURAL DEFECTS, CONSISTING OF BROKEN STONE WITH A SPECIFIC GRAVITY OF AT LEAST 2.5. ENSURE THAT STONES ARE ROUGH AND ANGULAR WITH A MEDIAN DIAMETER OF 1.25 FEET. FOR THIS APPLICATION, USE BROKEN STONE MEETING THE FOLLOWING GRADATION AND THICKNESS REQUIREMENTS:

WEIGHT MAXIMUM	450 LBS
WEIGHT 50%	260 LBS
WEIGHT MINIMUM	40 LBS

- ENSURE AT LEAST 97% OF THE MATERIAL BY WEIGHT IS SMALLER THAN WEIGHT MAXIMUM POUNDS.
- ENSURE NO MORE THAN 50% OF THE MATERIAL BY WEIGHT IS SMALLER THAN WEIGHT 50% POUNDS.
- ENSURE NO MORE THAN 10% OF THE MATERIAL BY WEIGHT IS SMALLER THAN WEIGHT MINIMUM POUNDS.

REMOVAL AND STOCKPILING:

- DEBRIS, SUCH AS STUMPS, ROCKS, ROCK FRAGMENTS, ROOTS, LOGS, TRASH, VEGETATION, ETC. AND ANY OTHER OBJECTS (EXCEPT ARCHEOLOGICAL OR HISTORIC RESOURCES) THAT EXIST WITHIN THE PROJECT FOOTPRINT OR ARE UNEARTHED DURING OPERATIONS, SHALL BE REMOVED AND STOCKPILED ON-SITE SO THAT THE CONTRACTOR CAN TRANSPORT, AND DISPOSE OF MATERIAL APPROPRIATELY. DEBRIS SHOULD BE EXPECTED TO BE ENCOUNTERED DURING THE OPERATIONS AND WILL NOT CONSTITUTE A CHANGE OF CONDITION TO THE CONTRACT/AGREEMENT. STOCKPILING OF DEBRIS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR IN ITS ENTIRETY. STOCKPILING OF DEBRIS AND OBSTRUCTIONS SHALL NOT BE PROVIDED FOR SEPARATE PAYMENT. THESE SPECIFICATIONS ARE NOT AN ALL-INCLUSIVE REFERENCE OF DEBRIS TYPES, WHICH MAY BE ENCOUNTERED. IT IS ANTICIPATED THAT DURING CLEARING/CONSTRUCTION ACTIVITY DEBRIS (INCLUDED BUT NOT LIMITED TO VEGETATION, TREES, ROOTS, ROCKS, BEDROCK, CONCRETE, ASPHALT, WOOD, TRASH, GARBAGE, UNUSABLE SOIL, METAL, ETC.) WILL BE ENCOUNTERED. THE CONTRACTOR SHALL BE PREPARED AND RESPONSIBLE FOR PROPER STOCKPILING OF MATERIAL.

RECORD DRAWINGS AND AS-BUILT SURVEYS:

- ENGINEER OF RECORD IS THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE PROJECT.

CONTACT: Nicholas J. Kirk, P.E.
 Freese and Nichols, Inc
 Houston, Texas 77024
 EMAIL: nic.kirk@freese.com
 PHONE: 832-425-7573

- DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL RECORD ALL INFORMATION REQUIRED TO COMPLETE A SET OF RECORD SHOP DRAWINGS. INFORMATION TO BE INCLUDED ON THE RECORD SHOP DRAWINGS SHALL BE RECORDED ON ONE WORKING SET OF CONSTRUCTION DRAWINGS DURING THE COURSE OF THE WORK, AND SHALL INCLUDE ACTUAL DIMENSIONS AND ELEVATIONS. IF FIELD CHANGES ARE MADE TO MODIFY THE WORK IN ANY WAY, SUCH FIELD CHANGES SHALL BE DOCUMENTED ON THE RECORD SHOP DRAWINGS BY DIMENSION, DETAIL AND DATE. THE WORKING SET OF CONSTRUCTION DRAWINGS SHALL BE KEPT AT THE SITE AND AVAILABLE FOR REVIEW BY THE OWNER AND THE ENGINEER DURING THE PROGRESS OF THE WORK. PRIOR TO SUBSTANTIAL COMPLETION OF THE WORK, THE CONTRACTOR SHALL TRANSFER THE INFORMATION TO A FINAL PROJECT RECORD SET OF REPRODUCIBLE DRAWINGS, AND SUBMIT THE DRAWINGS TO THE OWNER THROUGH THE ENGINEER, ALONG WITH A CERTIFICATION AS TO THE ACCURACY AND COMPLETENESS OF THE DRAWINGS. PRIOR TO FINAL PAYMENT, THE RECORD SHOP DRAWINGS SHALL BE REVISED BY THE CONTRACTOR TO REFLECT ANY CHANGES WHICH HAVE OCCURRED.

SITE CONDITIONS:

- INFORMATION AND DATA FURNISHED OR REFERRED TO HEREIN ARE FOR THE CONTRACTOR'S INFORMATION; HOWEVER, IT IS EXPRESSLY UNDERSTOOD THAT THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY INTERPRETATION OR CONCLUSION DRAWN THERE FROM BY THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH LOCAL CONDITIONS THAT MAY IN ANY MANNER AFFECT PERFORMANCE OF THE WORK.

NOTICE TO MARINERS:

- THE CONTRACTOR SHALL NOTIFY THE COAST GUARD IN SUFFICIENT TIME TO ALLOW FOR PUBLICATION OF A NOTICE TO MARINERS. PROOF OF NOTIFICATION, AND PUBLICATION, OF THE REQUESTED NOTICE TO MARINERS WILL BE PROVIDED TO THE CLIENT BEFORE CONSTRUCTION COMMENCES. THE LOCAL COAST GUARD OFFICE IS:
 COMMANDER
 8TH COAST GUARD DISTRICT
 HALE BOGGS FEDERAL BUILDING
 500 POYDRAS STREET
 NEW ORLEANS, LA 70130-3396
 ATTN: (LNM)
- THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE U.S. COAST GUARD FOR ALL TEMPORARY BUOYS, MARKERS, AND OTHER NAVIGATION AIDS FOR CONSTRUCTION ACTIVITIES PRIOR TO INSTALLATION. CONSTRUCTION AIDS, LIGHTS OR TARGETS SHALL NOT BE PLACED OR COLORED IN A MANNER THAT THEY WILL OBSTRUCT OR BE CONFUSED WITH NAVIGATION AIDS.
- THE CONTRACTOR SHALL NOT REMOVE, CHANGE THE LOCATION OF, OBSTRUCT, FULLY DAMAGE, MAKE FAST TO, OR INTERFERE WITH ANY AID TO NAVIGATION. WITHIN 7 CALENDAR DAYS FOLLOWING RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL NOTIFY THE COMMANDER, EIGHTH COAST GUARD DISTRICT, NEW ORLEANS, LA, OF HIS PLAN TO OPERATE ADJACENT TO ANY AIDS WHICH REQUIRE RELOCATION TO FACILITATE CONSTRUCTION.

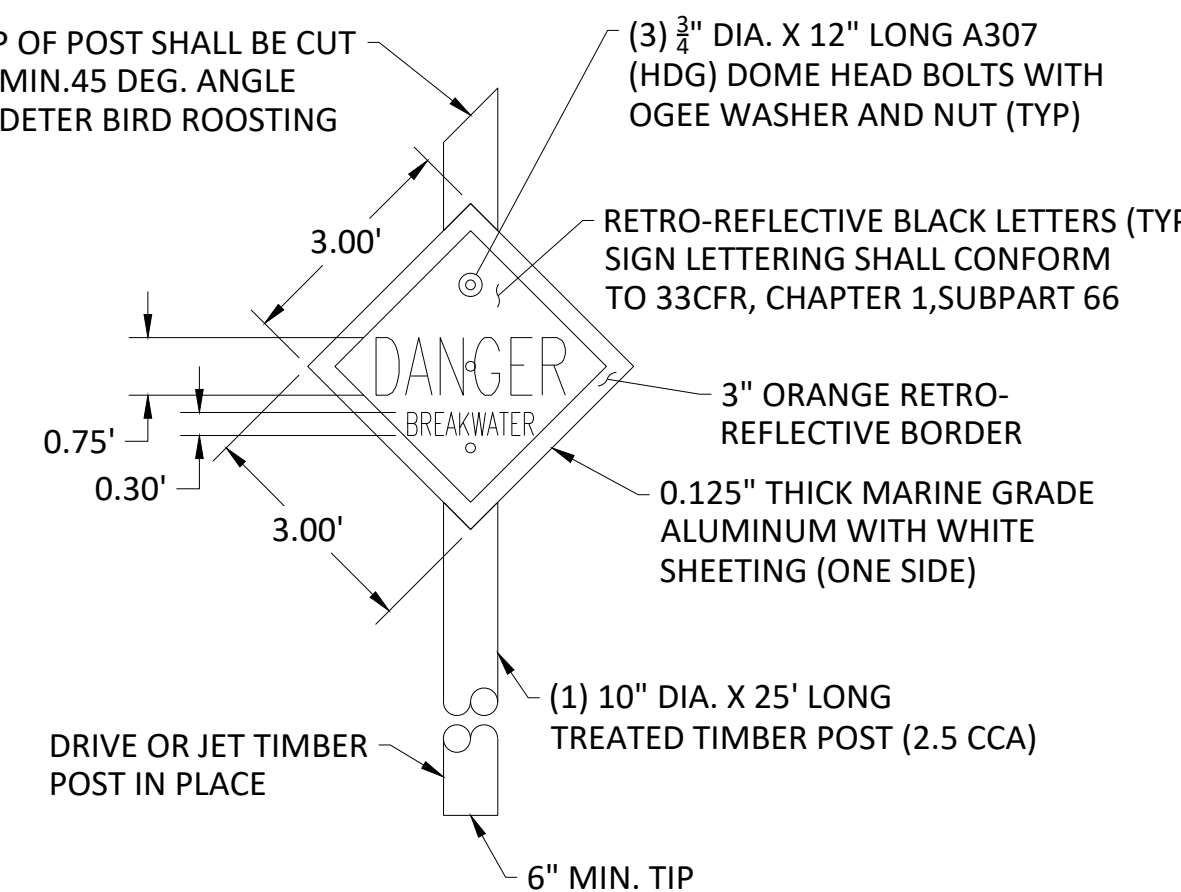
SUBSTANTIAL AND FINAL COMPLETION CONSTRUCTION NOTES:

- IN ORDER FOR THE PROJECT TO BE DEEMED SUBSTANTIAL COMPLETE THE BASE BID ROCK PLACEMENT (AT MINIMUM) AND SMOOTHING OF PLACED MATERIAL MUST BE COMPLETED WITHIN (3) THREE MONTHS OF NOTICE TO PROCEED. THE CONTRACTOR'S FAILURE TO HAVE THE "BASE BID" PORTION OF THE WORK COMPLETED BY THIS DATE WILL BE CAUSE FOR THE OWNER TO BILL THE CONTRACTOR FOR THE OWNER'S ADDITIONAL INSPECTION COSTS AND POSSIBLE LIQUIDATED DAMAGES.
- TEN (10) BUSINESS DAYS PRIOR TO COMPLETION DATE, THE CONTRACTOR WILL CONDUCT A POST-CONSTRUCTION SURVEY. THE OWNER/ENGINEER WILL THOROUGHLY EXAMINE THE ROCK PLACEMENT PROJECT PORTIONS OF THE WORK FOR DETERMINATION OF ACCEPTABILITY OF PERFORMANCE. SHOULD ANY SCARPS, NON-UNIFORM CONTOURS, OR ANY OTHER IRREGULARITY NOT SHOWN IN THE PLANS OR SPECIFICATIONS (I.E. LACK OF ACCEPTABLE CONTRACT PERFORMANCE) BE DISCLOSED BY THIS EXAMINATION, THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH THE CONTRACT BY CORRECTING THE AFFECTED SURFACE UNTIL THE CONDITION IS CORRECTED. IF ADDITIONAL CONSTRUCTION IS REQUIRED TO CORRECT THE UNACCEPTABLE WORK, THE CONSTRUCTION WILL NOT BE PAID FOR ABOVE THE MAXIMUM PAYMENT SET FORTH IN THE CONTRACT. FINAL ACCEPTANCE OF A CORRECTED WORK AREA SHALL NOT CHANGE THE TIME OF PAYMENT, WORK SCHEDULE, RETAINED PERCENTAGES OF THE WHOLE OR ANY PART OF THE WORK.
- THE FINAL COMPLETION DATE FOR THIS PROJECT IS MARCH 31ST 2022. THE CONTRACTOR MUST HAVE ALL EQUIPMENT, BARGES, SUPPORT VESSELS, TRASH, DEBRIS, ETC. CLEAR OF ALL STAGING AREAS BY THIS DATE.

- NEAR COMPLETION OF THE PROJECT THE ENGINEER AND CONTRACTOR WILL CONDUCT A PRE-FINAL INSPECTION. THE OWNER/ENGINEER WILL INSPECT FOR DEMOBILIZATION AND CLEAN-UP OF TEMPORARY STAGING AREAS. THE OWNER WILL PERFORM THE PRE-FINAL INSPECTION TO VERIFY WORK IS COMPLETE AND READY FOR FINAL ACCEPTANCE. THE OWNER PRE-FINAL INSPECTION MAY RESULT IN ADDITIONAL WORK TO BE DONE. THE CONTRACTOR SHALL ENSURE ITEMS ARE CORRECTED BEFORE NOTIFYING THE OWNER SO THAT A FINAL INSPECTION CAN BE SCHEDULED. ANY ITEMS NOTED ON THE PRE-FINAL INSPECTION SHALL BE CORRECTED IN A TIMELY MANNER. PRE-FINAL INSPECTION AND DEFICIENCY CORRECTIONS SHALL BE ACCOMPLISHED WITHIN THE PROJECT COMPLETION PERIOD AT NO ADDITIONAL COST TO THE OWNER.
- FINAL INSPECTION WILL BE SCHEDULED BY THE OWNER/ENGINEER BASED UPON THE RESULTS OF PRE-FINAL INSPECTION. THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER WHEN READY FOR THE FINAL INSPECTION AND THE OWNER WILL SCHEDULE THE INSPECTION TO BE PERFORMED WITHIN SEVEN (7) BUSINESS DAYS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ASSURING THAT WORK WILL BE COMPLETE AND ACCEPTABLE BY THE FINAL INSPECTION DATE.

AIDS TO NAVIGATION:

- LOCATION OF AIDS TO NAVIGATION ARE APPROXIMATE. TO BE FIELD VERIFIED.
- SIGNAGE SHOULD MEET USCG REGULATIONS FOR "INLAND WATERS OBSTRUCTION MARK". (33CFR 62-32(b); 33CFR 66)
- AIDS TO NAVIGATION SHALL BE LIGHTED AND SHOULD BE MEET USCG REGULATIONS FOR "INLAND WATERS OBSTRUCTION MARK". (33CFR 62-32(b); 33CFR 66)
- AIDS TO NAVIGATION SHALL EXTEND AT LEAST 6 FEET ABOVE THE WATER SURFACE ELEVATION.



Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144

THIS DOCUMENT HAS BEEN ORIGINALY SIGNED, SEALED AND DATED BY:
 AUTHORIZED BY: NICHOLAS KIRK P.E.
 TEXAS NO.: 136937
 DATE: 9/30/2021

THE SEALED, SIGNED AND DATED DOCUMENTS ARE MAINTAINED IN THE OFFICE OF FREESE AND NICHOLS AND MAY BE REVIEWED UPON REQUEST!

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 Web: www.freese.com

MBF21580
 SCHICKE POINT
 LIVING SHORELINE IMPROVEMENTS
 CIVIL
 GENERAL NOTES
 SHEET 1

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ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 SCOPE

THIS SECTION COVERS PREVENTION OF ENVIRONMENTAL DAMAGE AS THE RESULT OF OPERATIONS UNDER THIS CONTRACT. FOR THE PURPOSE OF THIS SPECIFICATION, ENVIRONMENTAL DAMAGE IS DEFINED AS THE PRESENCE OF HAZARDOUS PHYSICAL, CHEMICAL, OR BIOLOGICAL ELEMENTS OR AGENTS WHICH ADVERSELY AFFECT HUMAN HEALTH OR WELFARE; UNFAVORABLY ALTER ECOLOGICAL BALANCES; AFFECT OTHER SPECIES, BIOLOGICAL COMMUNITIES, OR ECOSYSTEMS; OR DEGRADE THE QUALITY OF THE ENVIRONMENT FOR AESTHETIC, CULTURAL, AND/OR HISTORICAL PURPOSES. THE CONTROL OF ENVIRONMENTAL DAMAGE REQUIRES CONSIDERATION OF LAND, WATER, AND AIR, AND INCLUDES MANAGEMENT OF VISUAL AESTHETICS, NOISE, SOLID WASTE, RADIANT ENERGY AND RADIOACTIVE MATERIALS, POLLUTANTS, AND OPERATIONS UNDER THIS CONTRACT.

1.2 QUALITY CONTROL

THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN QUALITY CONTROL FOR ENVIRONMENTAL PROTECTION OF ALL ITEMS SET FORTH HEREIN. THE CONTRACTOR SHALL RECORD ON DAILY QUALITY CONTROL REPORTS OR ATTACHMENTS THERETO, ANY PROBLEMS IN COMPLYING WITH LAWS, REGULATIONS AND ORDINANCES, AND CORRECTIVE ACTION TAKEN.

1.3 PERMITS

THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS UNDER THE TERMS AND CONDITIONS SET OUT IN ALL PERMIT(S) FOR WORK UNDER THIS CONTRACT.

1.4 SUBMITTALS

UNLESS WAIVED BY THE ENGINEER, THE CONTRACTOR SHALL SUBMIT AN ENVIRONMENTAL PROTECTION PLAN FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ACCEPTANCE OF THE CONTRACTOR'S PLAN SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ADEQUATE AND CONTINUING CONTROL OF POLLUTANTS AND OTHER ENVIRONMENTAL PROTECTION MEASURES. ACCEPTANCE OF THE PLAN IS CONDITIONAL AND PREDICATED ON SATISFACTORY PERFORMANCE DURING CONSTRUCTION. THE ENGINEER RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO MAKE CHANGES TO THE ENVIRONMENTAL PROTECTION PLAN OR OPERATIONS IF THE ENGINEER DETERMINES THAT ENVIRONMENTAL PROTECTION REQUIREMENTS ARE NOT BEING MET. NO PHYSICAL WORK AT THE SITE SHALL BEGIN PRIOR TO ACCEPTANCE OF THE CONTRACTOR'S PLAN OR AN INTERIM PLAN COVERING THE WORK TO BE PERFORMED. THE ENVIRONMENTAL PROTECTION PLAN SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

- a. A LIST OF FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, AND PERMITS CONCERNING ENVIRONMENTAL PROTECTION, POLLUTION CONTROL, AND ABATEMENT THAT ARE APPLICABLE TO THE CONTRACTOR'S PROPOSED OPERATIONS AND THE REQUIREMENTS IMPOSED BY THOSE LAWS, REGULATIONS, AND PERMITS.
b. METHODS FOR PROTECTION OF FEATURES TO BE PRESERVED WITHIN AUTHORIZED WORK AREAS. THE CONTRACTOR SHALL PREPARE A LISTING OF METHODS TO PROTECT RESOURCES NEEDING PROTECTION, I.E., TREES, SHRUBS, VINES, GRASSES AND GROUND COVER, LANDSCAPE FEATURES, AIR AND WATER QUALITY, FISH AND WILDLIFE, SOIL, HISTORICAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES.
c. PROCEDURES TO BE IMPLEMENTED TO PROVIDE THE REQUIRED ENVIRONMENTAL PROTECTION AND TO COMPLY WITH THE APPLICABLE LAWS AND REGULATIONS. THE CONTRACTOR SHALL PROVIDE WRITTEN ASSURANCE THAT IMMEDIATE CORRECTIVE ACTION WILL BE TAKEN TO CORRECT POLLUTION OF THE ENVIRONMENT DUE TO ACCIDENT, NATURAL CAUSES, OR FAILURE TO FOLLOW THE PROCEDURES SET OUT IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION PLAN.
d. ENVIRONMENTAL MONITORING PLANS FOR THE JOB SITE, INCLUDING LAND, WATER, AIR, AND NOISE MONITORING.
e. SPILL PREVENTION. THE CONTRACTOR SHALL SPECIFY ALL POTENTIALLY HAZARDOUS SUBSTANCES TO BE USED ON THE JOB SITE AND INTENDED ACTIONS TO PREVENT ACCIDENTAL OR INTENTIONAL INTRODUCTION OF SUCH MATERIALS INTO THE AIR, GROUND, WATER, WETLANDS, OR DRAINAGE AREAS. THE PLAN SHALL SPECIFY THE CONTRACTOR'S PROVISIONS TO BE TAKEN TO MEET FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS REGARDING LABELING, STORAGE, REMOVAL, TRANSPORT, AND DISPOSAL OF POTENTIALLY HAZARDOUS SUBSTANCES.
f. SPILL REMEDIATION PLAN FOR CLEANUP OF ALL HAZARDOUS, TOXIC, OR PETROLEUM MATERIAL.
g. IDENTIFICATION OF THE PERSON WHO SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE ENVIRONMENTAL PROTECTION PLAN. THE CONTRACTOR PERSONNEL RESPONSIBLE SHALL REPORT DIRECTLY TO THE CONTRACTOR'S TOP MANAGEMENT AND SHALL HAVE THE AUTHORITY TO ACT FOR THE CONTRACTOR IN ALL ENVIRONMENTAL PROTECTION MATTERS.

1.6 NOTIFICATION

THE ENGINEER WILL NOTIFY THE CONTRACTOR IN WRITING OF ANY OBSERVED NONCOMPLIANCE WITH THE FEDERAL, STATE, OR LOCAL LAWS OR REGULATIONS, PERMITS AND OTHER ELEMENTS OF THE CONTRACTOR'S ENVIRONMENTAL PROTECTION PLAN. THE CONTRACTOR SHALL, AFTER RECEIPT OF SUCH NOTICE, INFORM THE ENGINEER OF PROPOSED CORRECTIVE ACTION AND TAKE SUCH ACTION AS MAY BE REQUIRED. IF THE CONTRACTOR FAILS TO COMPLY PROMPTLY, THE ENGINEER MAY ISSUE AN ORDER STOPPING ALL OR PART OF THE WORK UNTIL SATISFACTORY CORRECTIVE ACTION HAS BEEN TAKEN BY THE CONTRACTOR. NO TIME EXTENSIONS SHALL BE GRANTED OR COSTS OR DAMAGES ALLOWED TO THE CONTRACTOR FOR ANY SUCH SUSPENSION.

ADDITIONALLY, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, OF THE OCCURRENCE OF ENVIRONMENTAL INCIDENTS.

PART 2 EXECUTION

2.1 PROTECTION OF ENVIRONMENTAL RESOURCES

2.1.1 GENERAL PROJECT ENVIRONMENTAL DESIGN AND INSTALLATION CRITERIA

AT ALL SITES, PROJECT PLANS SHOULD MINIMIZE DISTURBANCE TO EXISTING FEATURES AT THE SITE TO THE EXTENT POSSIBLE, INCLUDING VEGETATIVE, TOPOGRAPHIC, AND DRAINAGE PATTERN FEATURES. WETLAND IMPACTS (TEMPORARY ACCESS, DETOURS, STAGING AREAS, AND OTHER WORK AREA IMPACTS) TO PROJECT SITES SHOULD BE AVOIDED AND MAY REQUIRE SEPARATE PERMITTING ACTION.

IN THE EVENT ENVIRONMENTAL PROTECTION MEASURES FAIL, THE CONTRACTOR SHALL IMPLEMENT PROCEDURES TO CONTROL AND CORRECT ENVIRONMENTAL DAMAGE.

2.1.2 PROTECTION OF WATER RESOURCES

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE, MANAGEMENT, AND CONTROL TO AVOID POLLUTION OF SURFACE, GROUND WATERS, AND WETLANDS. THE CONTRACTOR SHALL PLAN HIS OPERATION AND PERFORM ALL WORK NECESSARY TO MINIMIZE ADVERSE IMPACT OR VIOLATION OF THE WATER QUALITY STANDARD. SPECIAL MANAGEMENT TECHNIQUES AS SET OUT BELOW SHALL BE IMPLEMENTED TO CONTROL WATER POLLUTION BY THE LISTED CONSTRUCTION ACTIVITIES, WHICH ARE INCLUDED IN THIS CONTRACT. THE CONTRACTOR'S CONSTRUCTION METHODS SHALL PROTECT WETLAND AND SURFACE WATER AREAS FROM DAMAGE DUE TO MECHANICAL GRADING, EROSION, SEDIMENTATION AND TURBID DISCHARGES. THERE SHALL BE NO STORAGE OR STOCKPILING OF EQUIPMENT, TOOLS, OR MATERIALS WITHIN WETLANDS OR ALONG THE SHORELINE WITHIN THE LITTORAL ZONE UNLESS SPECIFICALLY AUTHORIZED.

2.1.2.1 MONITORING OF WATER AREAS

MONITORING OF WATER AREAS AFFECTED BY CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL MONITOR ALL WATER AREAS AFFECTED BY CONSTRUCTION ACTIVITIES.

2.1.2.3 OIL, FUEL, AND HAZARDOUS SUBSTANCE SPILL PREVENTION AND MITIGATION

THE CONTRACTOR SHALL PREVENT OIL, FUEL, OR OTHER HAZARDOUS SUBSTANCES FROM ENTERING THE AIR, GROUND, DRAINAGE, LOCAL BODIES OF WATER, OR WETLANDS. THIS SHALL BE ACCOMPLISHED BY DESIGN AND PROCEDURAL CONTROLS. IN THE EVENT THAT A SPILL OCCURS DESPITE THE DESIGN AND PROCEDURAL CONTROLS, THE FOLLOWING SHALL OCCUR:

- (1)IMMEDIATE ACTION SHALL BE TAKEN TO CONTAIN AND CLEANUP ANY SPILL OF OIL, FUEL OR OTHER HAZARDOUS SUBSTANCE.
(2)SPILLS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
(3)SPILL CONTINGENCY PLANNING SHALL BE STRICTLY IN ACCORDANCE WITH THE CRITERIA OF 40 CFR, PART 109.
(4) TO CONTROL THE SPREAD OF ANY POTENTIAL SPILL, ABSORBENT MATERIALS SHALL BE READILY AVAILABLE AND CAPABLE OF ABSORBING THE CONTENTS OF THE SINGLE LARGEST TANK.
(5)TO CONTROL THE SPREAD OF ANY POTENTIAL SPILL, THE CONTRACTOR SHALL PROVIDE A WRITTEN CERTIFICATION OF COMMITMENT OF MANPOWER, EQUIPMENT, AND MATERIALS REQUIRED TO EXPEDITIOUSLY CLEANUP AND DISPOSE OF SPILL MATERIALS.

a. SPILL PREVENTIVE SYSTEMS: SYSTEM DESIGN AND INSTALLATION REQUIREMENTS HAVE BEEN DISCUSSED AT THE BEGINNING OF THIS SECTION. TEMPORARY OR PORTABLE TANKS SHALL CONFORM TO APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REQUIREMENTS AND SHALL NOT BE PLACED WHERE THEY MAY BE AFFECTED BY STORM, FLOODING, OR WASHOUT. DIVERSIONARY STRUCTURES FOR SPILLS SHALL BE PUT IN PLACE IN ADVANCE WHERE PRACTICAL. BOTH SPILL PREVENTIVE SYSTEMS AND ANY DEVIATIONS FROM ASSOCIATED REQUIREMENTS MUST BE APPROVED BY THE COUNTY/ENGINEER PRIOR TO IMPLEMENTATION.

b. LIABILITIES: THE CONTRACTOR SHALL BE LIABLE IN THE AMOUNTS ESTABLISHED IN 40 CFR, PART 113 WHEN IT CAN BE SHOWN THAT OIL WAS DISCHARGED AS A RESULT OF WILLFUL NEGLIGENCE OR WILLFUL MISCONDUCT. THE PENALTY FOR FAILURE TO REPORT THE DISCHARGE OF OIL SHALL BE IN ACCORDANCE WITH THE PROVISION OF 33 CFR, PART 153.2.1.3 WETLANDS PROTECTION

THE CONTRACTOR SHALL NOT ANCHOR, PLACE PIPELINES, OR STAGE EQUIPMENT IN A MANNER THAT WILL CAUSE ANY DAMAGE TO WETLANDS AND OYSTERS BEYOND THOSE SPECIFICALLY IDENTIFIED, ANTICIPATED, AND AUTHORIZED IN THESE SPECIFICATIONS AND ASSOCIATED DRAWINGS AND ENVIRONMENTAL DOCUMENTS. ANCHORING, PLACING PIPELINE, OR STAGING EQUIPMENT SHALL BE AVOIDED IN THESE SENSITIVE WETLAND AREAS. IF SUCH ACTIVITIES CANNOT BE DONE WITHOUT AFFECTING SENSITIVE AREAS OUTSIDE THE CONSTRUCTION AREA IDENTIFIED IN THE CONTRACT DOCUMENTS, THE ACTIVITIES SHALL CEASE, AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED (NO LATER THAN THE MORNING FOLLOWING THE WORKING DAY IF THE INCIDENT OCCURS AFTER NORMAL WORKING HOURS). ANY ACTUAL INCIDENT INVOLVING DAMAGE TO, OR DISTURBANCE OF, WETLANDS SHALL BE REPORTED.

2.1.4 PROTECTION OF FISH AND WILDLIFE RESOURCES

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE, MANAGEMENT, AND CONTROL TO MINIMIZE INTERFERENCE WITH, DISTURBANCE TO, AND DAMAGE OF FISH AND WILDLIFE.

PROTECT ALL OYSTER BEDS. AVOID ALL CONSTRUCTION IMPACTS TO EXISTING OYSTERS.

2.1.8 PROTECTION OF AIR RESOURCES

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE, MANAGEMENT, AND CONTROL TO MINIMIZE POLLUTION OF AIR RESOURCES. ALL ACTIVITIES, EQUIPMENT, PROCESSES AND WORK OPERATED OR PERFORMED BY THE CONTRACTOR IN ACCOMPLISHING THE SPECIFIED CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE APPLICABLE AIR POLLUTION STANDARDS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY'S AMBIENT AIR QUALITY STANDARDS.

ODORS SHALL BE CONTROLLED AT ALL TIMES FOR ALL CONSTRUCTION ACTIVITIES.

2.1.9 PROTECTION FROM SOUND INTRUSIONS

THE CONTRACTOR SHALL KEEP CONSTRUCTION ACTIVITIES UNDER SURVEILLANCE AND CONTROL TO MINIMIZE DAMAGE TO THE ENVIRONMENT BY NOISE.

2.2 POST-CONSTRUCTION CLEANUP

THE CONTRACTOR SHALL CLEAN UP ANY AREA(S) USED FOR CONSTRUCTION INCLUDING RESTORING ALL LANDSCAPE FEATURES, MARINE VEGETATION, OR OTHER SITE FEATURES DAMAGED OR DESTROYED DURING CONSTRUCTION OPERATIONS OUTSIDE THE LIMITS OF THE APPROVED WORK AREAS. THIS WORK SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S EXPENSE.

GEOTEXTILE FABRIC

- 1. THE GEOTEXTILE SHALL BE INSTALLED UNDER THE DESIGNATED GROINS AND BREAKWATER STRUCTURES.
2. THE GEOTEXTILE SHALL BE PERVIOUS, WOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE FIBERS, WHICH ARE FORMED INTO A STABLE NETWORK SUCH THAT THE FIBERS RETAIN THEIR RELATIVE POSITION.
3. THE MATERIAL SHALL BE FREE FROM DEFECTS OR TEARS. GEOTEXTILE MATERIAL SHALL BE INERT TO CHEMICALS COMMONLY FOUND IN NATURAL WATER, THE SOILS CONDITIONS ENCOUNTERED AT THE SITE, AND UV STABILIZED. THE EDGES OF THE GEOTEXTILE SHALL BE FINISHED TO PREVENT THE OUTER FIBER FROM PULLING AWAY FROM THE GEOTEXTILE.
4. THE AREA TO RECEIVE THE GEOTEXTILE SHALL BE CLEARED OF ANY DEBRIS OR OBSTRUCTIONS WHICH MAY DAMAGE THE GEOTEXTILE.
5. THE INSTALLED GEOTEXTILE SHALL HAVE NO TEARS OR PUNCTURES.
6. ALL NON-SEWN GEOTEXTILE FABRIC PANEL SEAMS SHALL BE OVERLAPPED AT A MINIMUM DISTANCE OF THREE (3) FEET.
7. GEOTEXTILE SHALL BE TEMPORARILY ANCHORED INTO ITS FINAL POSITION, USING SANDBAGS AND OTHER METHODS THAT WON'T RUPTURE THE GEOTEXTILE, PRIOR TO THE PLACEMENT OF STONE ON THE GEOTEXTILE.

STONE

- 1. THE STONE SHALL BE UNIFORMLY GRADED AND CONFORM TO THE FOLLOWING SIZE GRADATION FOR THE IN-PLACE CONDITION ON THE GROINS AND BREAKWATER STRUCTURES.

Table with 3 columns: Weight(lbs), Percent Retained, Dimension (in). Rows show gradation for 450+, 260-450, 40-260, 0-40, 0-3, 47-60, 30-50, 0-10, 18+, 15-18, 8-15, 0-8.

- 2. ALL DETERIORATED STRUCTURES, DEBRIS, AND ABANDONED PILING THAT LIE WITHIN THE TEMPLATE OF THE GROINS AND BREAKWATERS OR INTERFERE WITH CONSTRUCTION SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER.
3. STONE SHALL BE DELIVERED TO THE PROJECT SITE FOR INSTALLATION ON THE GROIN AND BREAKWATER STRUCTURES BY METHODS THAT WILL MINIMIZE MULTIPLE RE-HANDLING OF THE MATERIALS TO MINIMIZE BREAKAGE.
A. STONE SHALL BE MECHANICALLY PLACED ON THE SECURED GEOTEXTILE FABRIC L IN SUCH MANNER THAT WILL PRODUCE A WELL-KEYED MASS OF STONE (WITH MAXIMUM LEVEL OF STONE INTERLOCKING) SHALL BE CONSTRUCTED TO THE LINES, GRADES AND THICKNESS SHOWN. STONE SHALL BE PLACED TO ITS FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH MANNER AS TO AVOID DISPLACING THE UNDERLYING MATERIAL. PLACING STONE THROUGH CHUTES, DROPPING MORE THAN 2 FEET (ABOVE OR BELOW WATER SURFACE), AND OTHER METHODS WHICH MAY SEGREGATE THE VARIOUS SIZES OR DAMAGE THE ARMOR STONE OR UNDERLYING MATERIAL WILL NOT BE PERMITTED. THE LARGE STONES SHALL BE WELL DISTRIBUTED IN THE MASS OF STONES.
4. REARRANGING OF INDIVIDUAL ARMOR STONE MAY BE REQUIRED TO THE EXTENT NECESSARY TO SECURE THE RESULTS SPECIFIED.
5. ALL STONE SHALL BE PLACED BY CLAMSHELL BUCKET, STONE GRAB, OR BY SOME OTHER METHOD APPROVED BY THE ENGINEER THAT WILL NOT DROP OR CAST THE STONE, BUT WILL RELEASE THE STONE IN SUCH A MANNER THAT THEY WILL BE PROPERLY INTERLOCKED WITH THE UNDERLYING OR ADJACENT STONES TO RESIST DISPLACEMENT BY WAVE ACTION AND PROVIDE A UNIFORM AND COMPACT SECTION. STONES SHALL BE FIRMLY SET AND WELL SUPPORTED BY UNDERLYING OR ADJACENT STONES TO RESIST DISPLACEMENT BY WAVE ACTION AND PROVIDE A UNIFORM AND COMPACT SECTION.
6. THE CONTRACTOR SHALL PLACE THE STONE ON THE BREAKWATER STRUCTURES USING METHODS, TECHNIQUES, AND EQUIPMENT THAT WILL PRODUCE A TIGHT FITTING MASS OF STONE.
7. PLACING STONE BY DUMPING IT AT THE TOP OF THE SLOPE AND PUSHING IT DOWN THE SLOPE WILL NOT BE PERMITTED. THE DESIRED DISTRIBUTION OF THE VARIOUS SIZES OF STONES THROUGHOUT THE MASS SHALL BE OBTAINED BY SELECTIVE LOADING OF THE MATERIAL AT THE QUARRY OR OTHER SOURCE, BY CONTROLLED DUMPING OF SUCCESSIVE LOADS DURING FINAL PLACING, OR BY OTHER METHODS OF PLACEMENT THAT WILL PRODUCE THE SPECIFIED RESULTS.
8. PLACEMENT OF STONE SHALL START AT THE TOE OF THE STRUCTURE AND PROGRESS UP THE SLOPE, DIAGONALLY ACROSS THE FACE OF THE STRUCTURE. PLACING OF STONE BY METHODS THAT WILL LIKELY CAUSE SEGREGATION OF VARIOUS SIZES WILL NOT BE PERMITTED.

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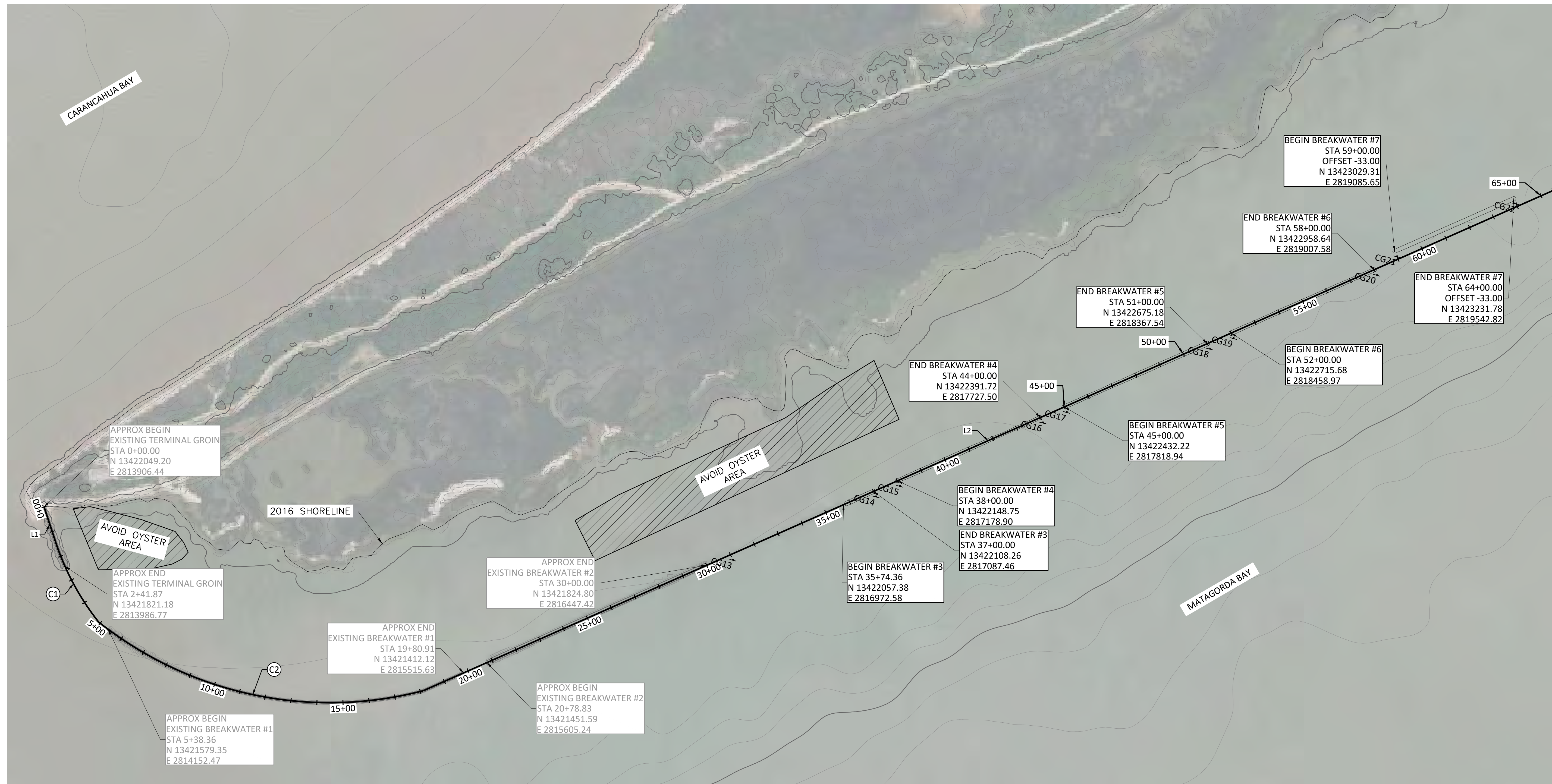
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MBF21580 SCHICKE POINT LIVING SHORELINE IMPROVEMENTS CIVIL GENERAL NOTES SHEET 2

Table with columns: NO., ISSUE, DATE, BY, DESIGNED, DRAWN, REVISION, CHECKED, FILE NAME. Includes a scale bar and sheet number 3 of 15.

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MBF21580
**SCHICKE POINT
LIVING SHORELINE IMPROVEMENTS**
CIVIL
SITE PLAN

PRJ JOB NO.	MBF21580
DATE	08/05/21
DESIGNED	NIK
DRAWN	KAM
REVIEWED	
CHECKED	CAS
FILE NAME	CV-ALL-PL-OVRL.dwg

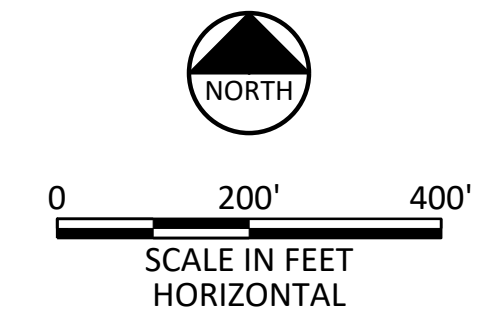
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SHEET **4**
SEQ. 4 OF 15

PROJECT BASELINE									
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L1	0+00.00	13422049.20	2813950.75	1+41.73	13421914.58	2813950.75	141.727		S18° 13' 10.57"E
C1	1+41.73	13421914.58	2814115.60	4+91.82	13421607.76	2814115.60	350.090	999.945	S28° 14' 58.12"E
C2	4+91.82	13421607.76	2815360.90	18+11.69	13421343.60	2815360.90	1319.870	1422.099	S78° 01' 24.14"E
L2	18+11.69	13421343.60	2819693.34	65+50.00	13423262.35	2819693.34	4738.314		N66° 06' 44.51"E

SITE PLAN
1" = 200'

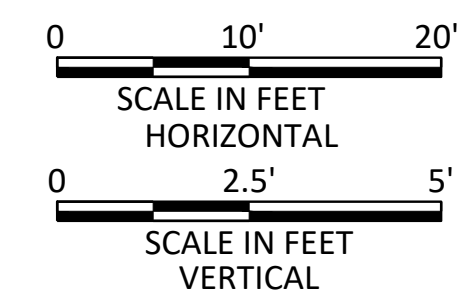
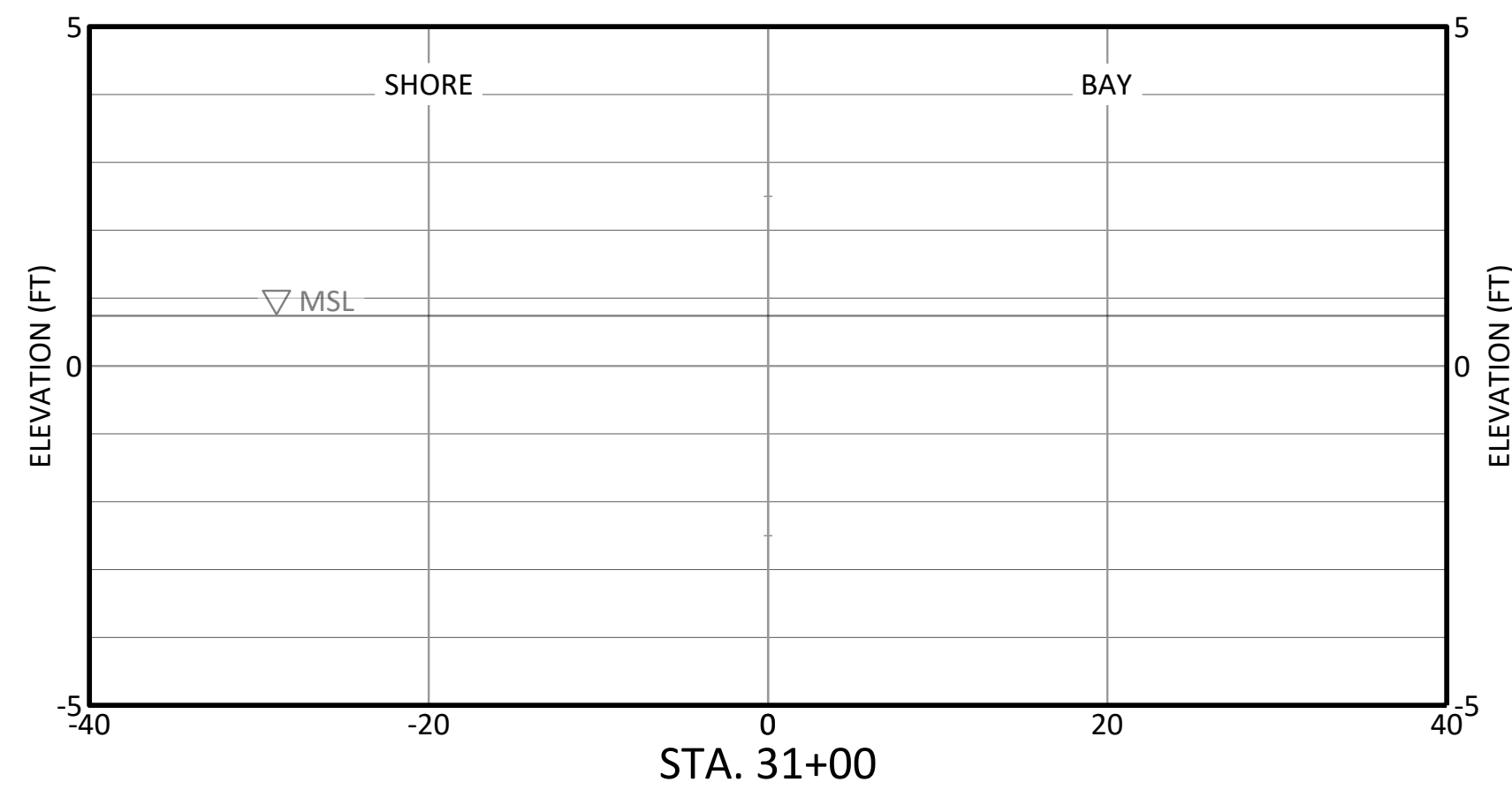
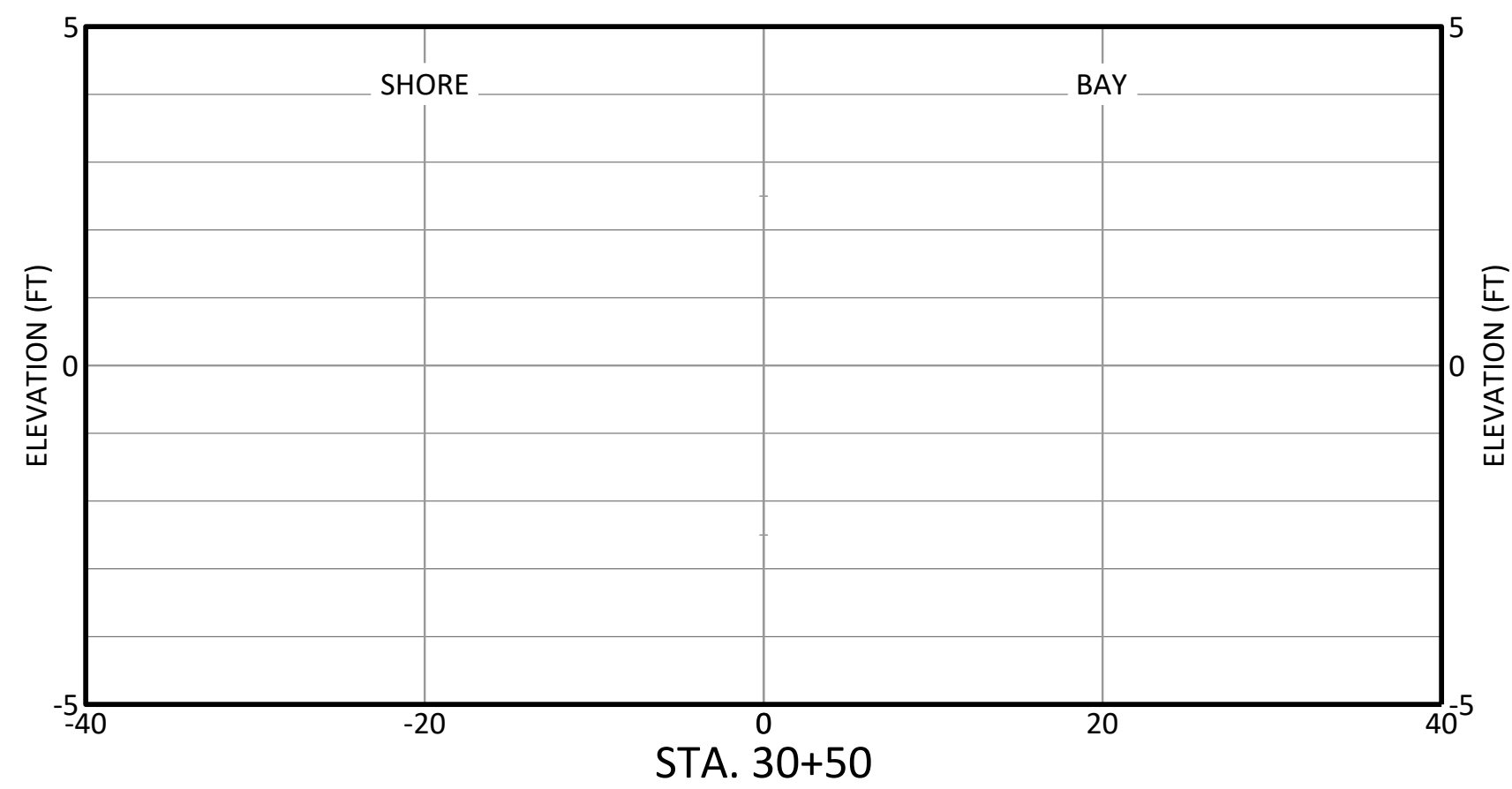
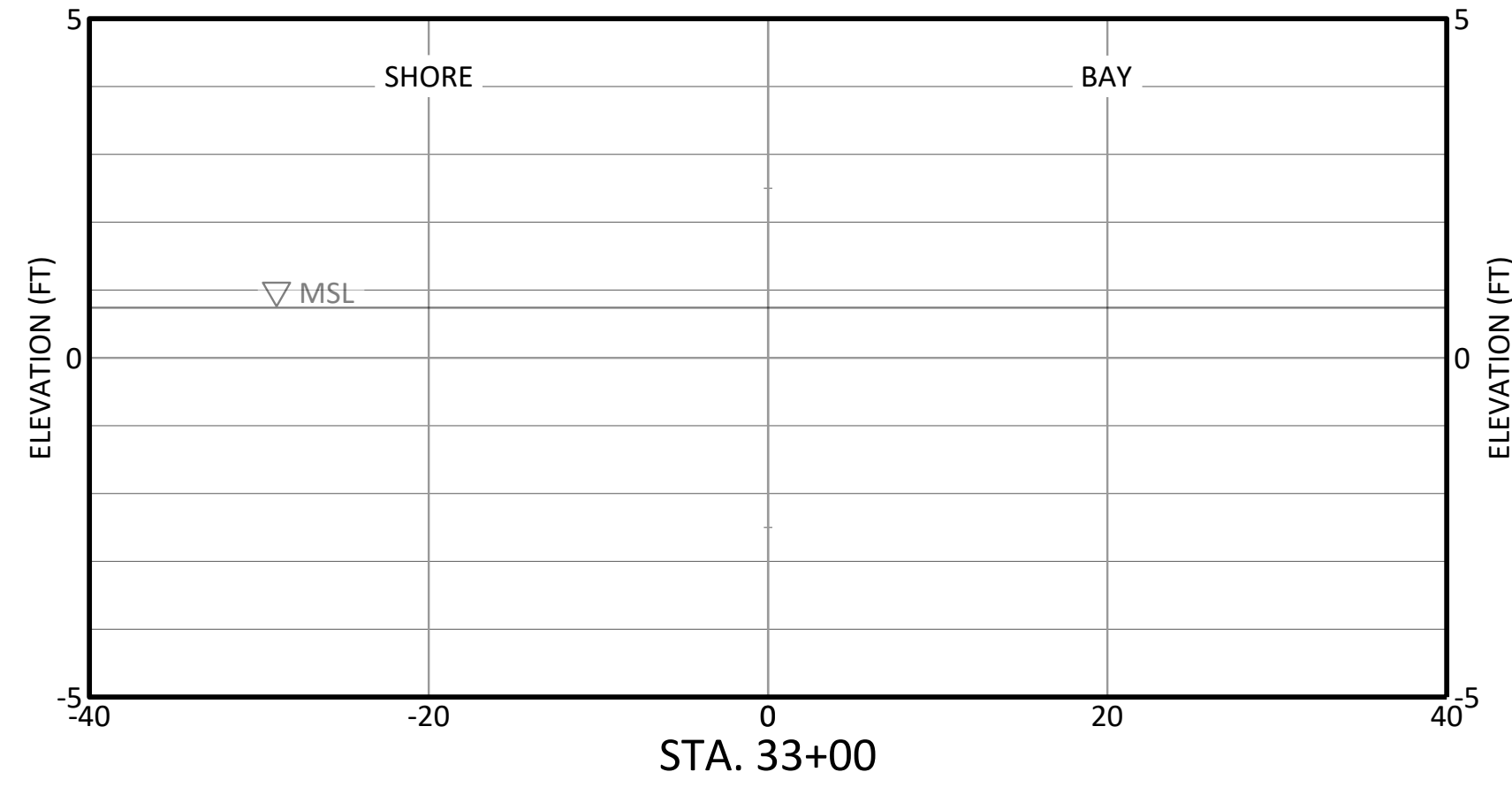
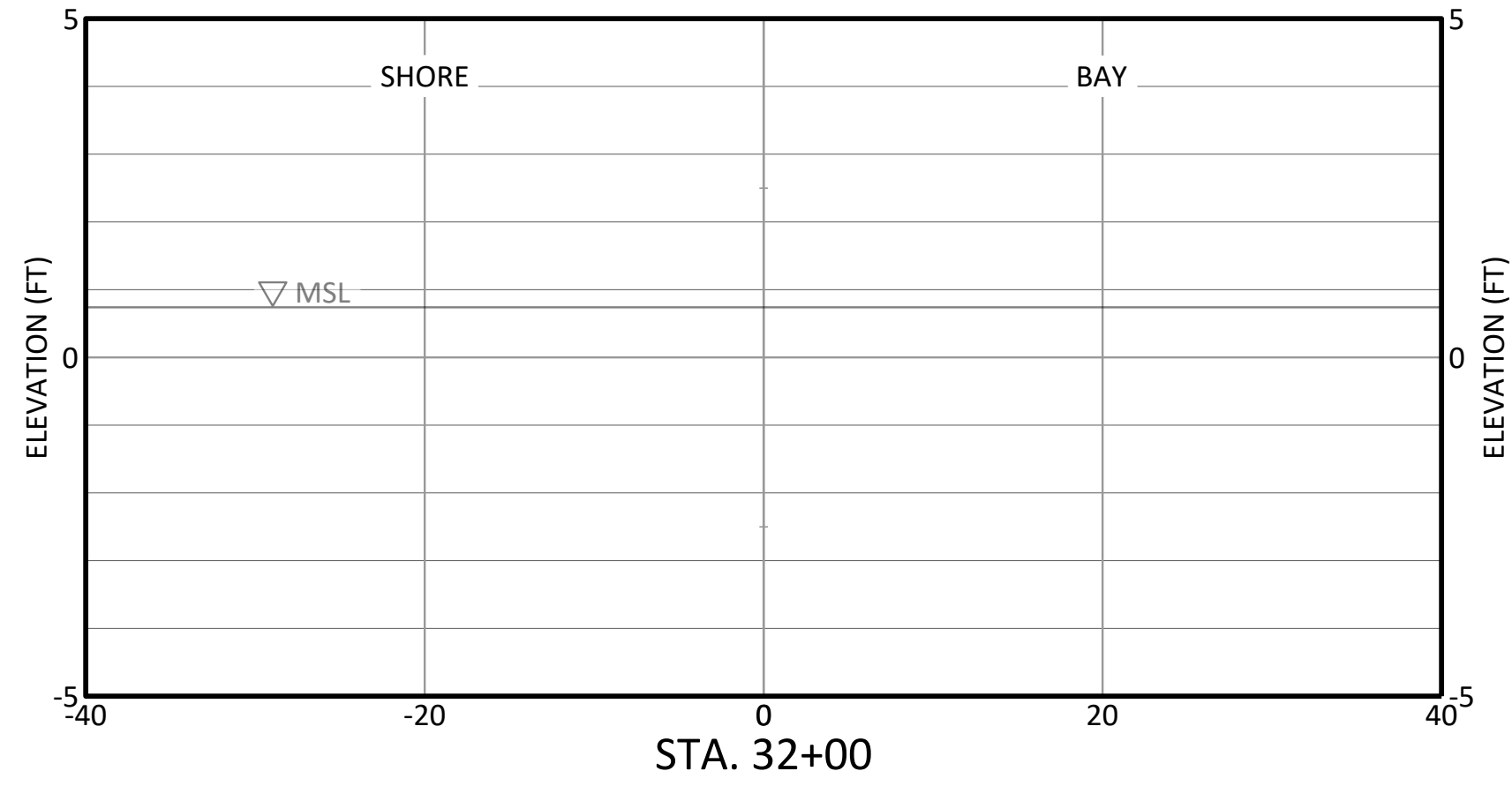
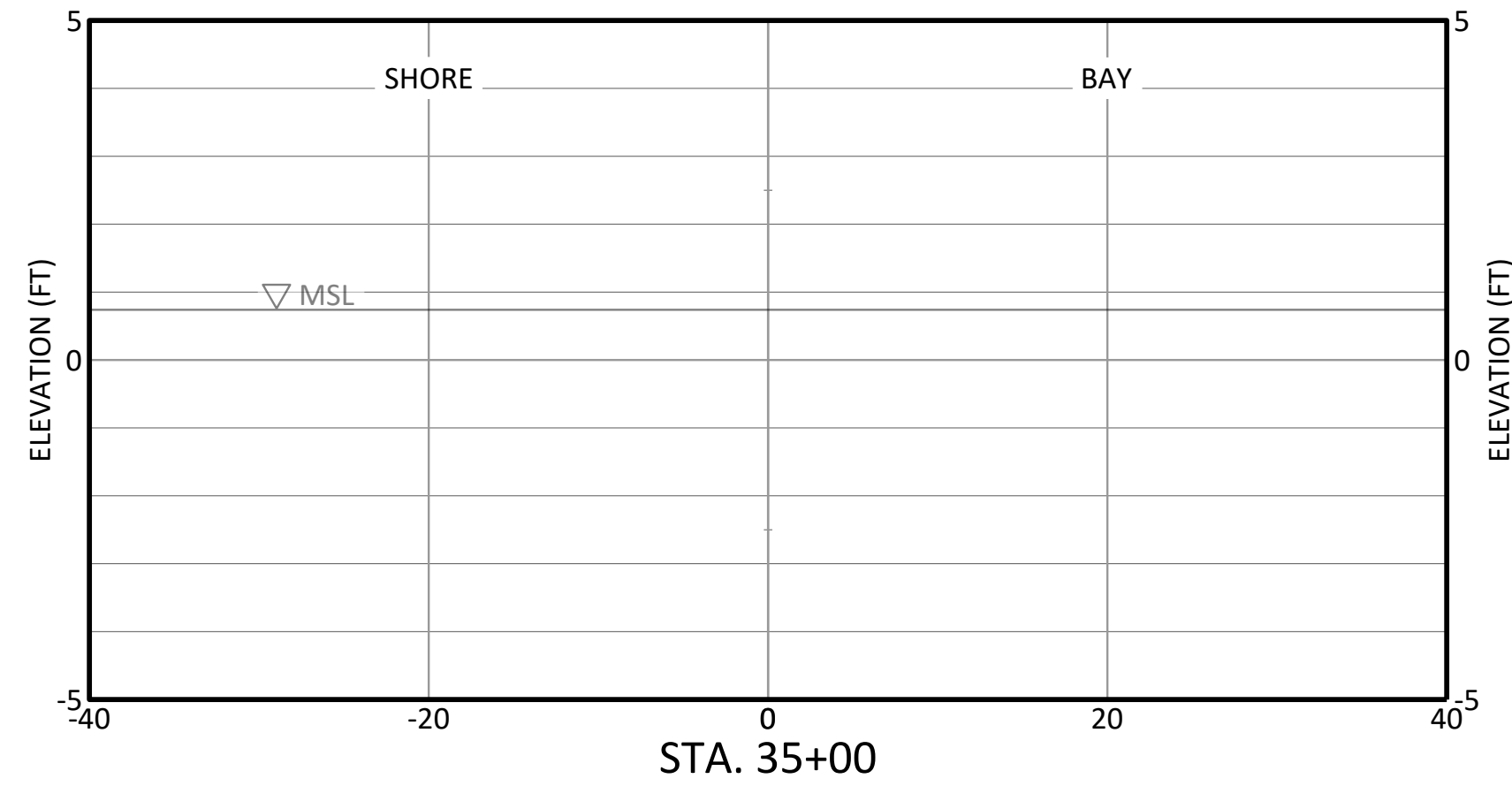
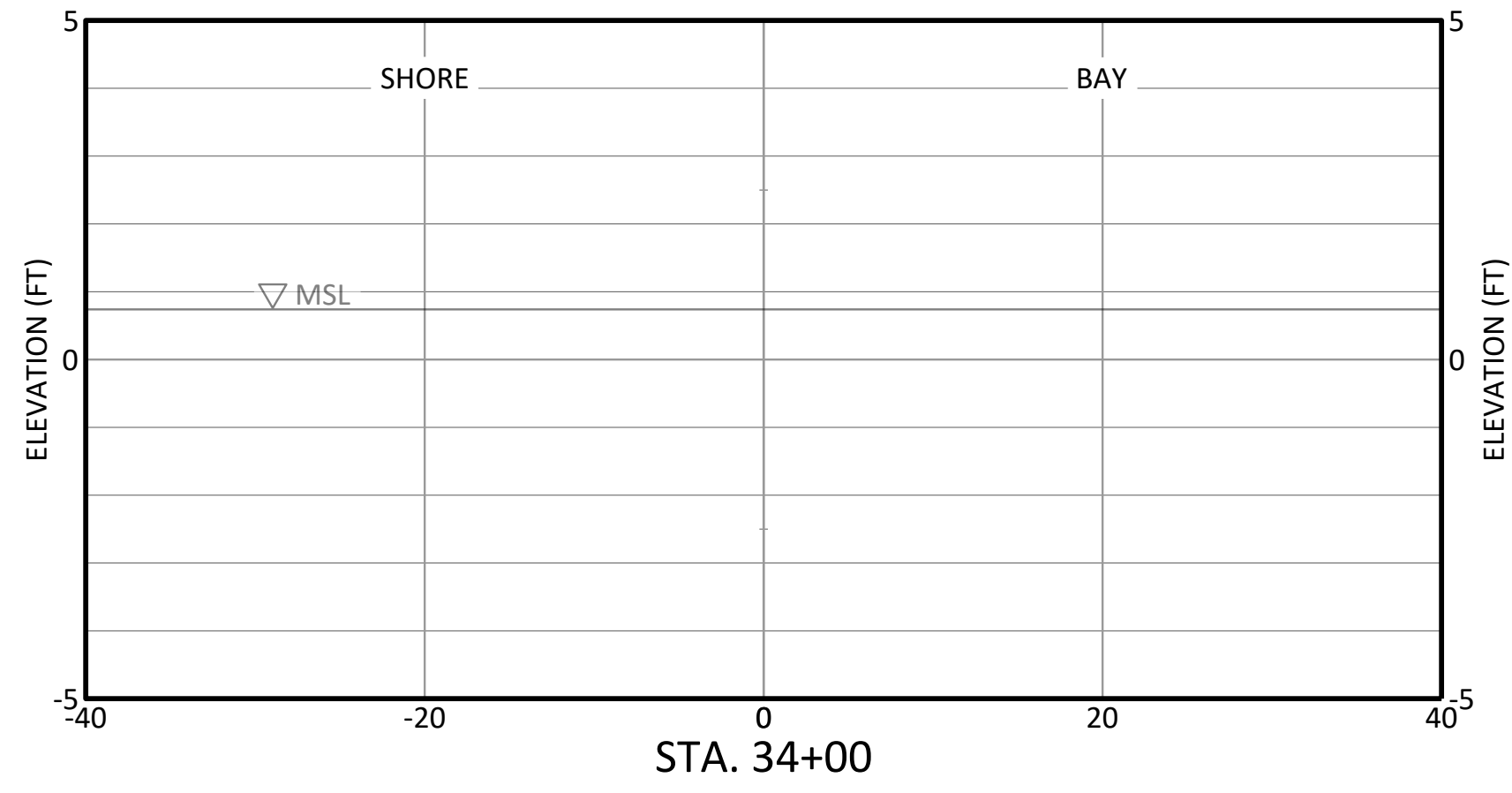
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CG14	13422087.23	2817096.78
CG15	13422127.72	2817188.21
CG16	13422370.69	2817736.82
CG17	13422411.19	2817828.25
CG18	13422654.15	2818376.85
CG19	13422694.65	2818468.29
CG20	13422937.61	2819016.89
CG21	13423008.28	2819094.96
CG22	13423210.75	2819552.13



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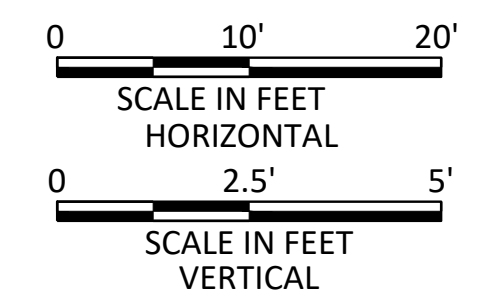
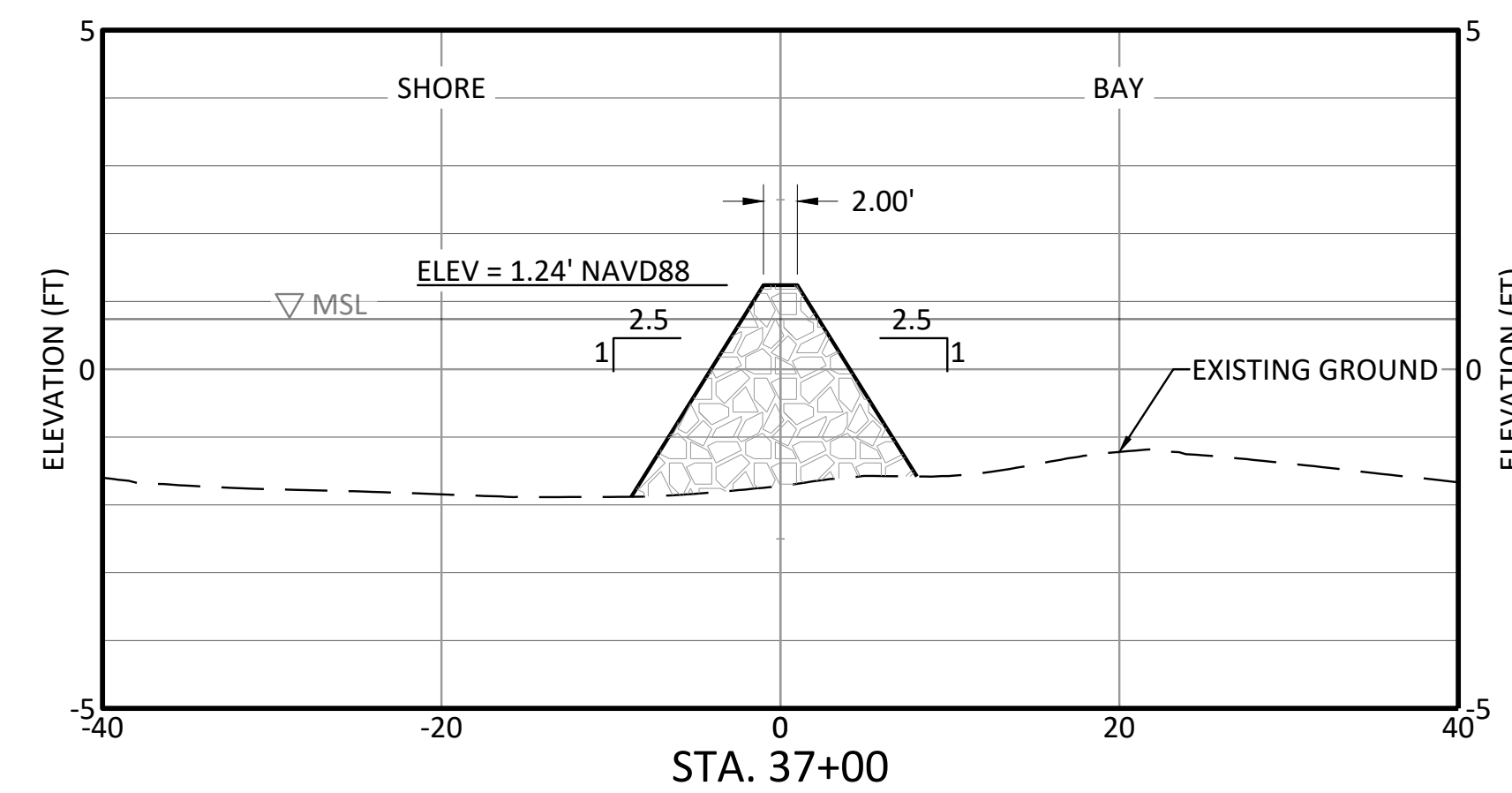
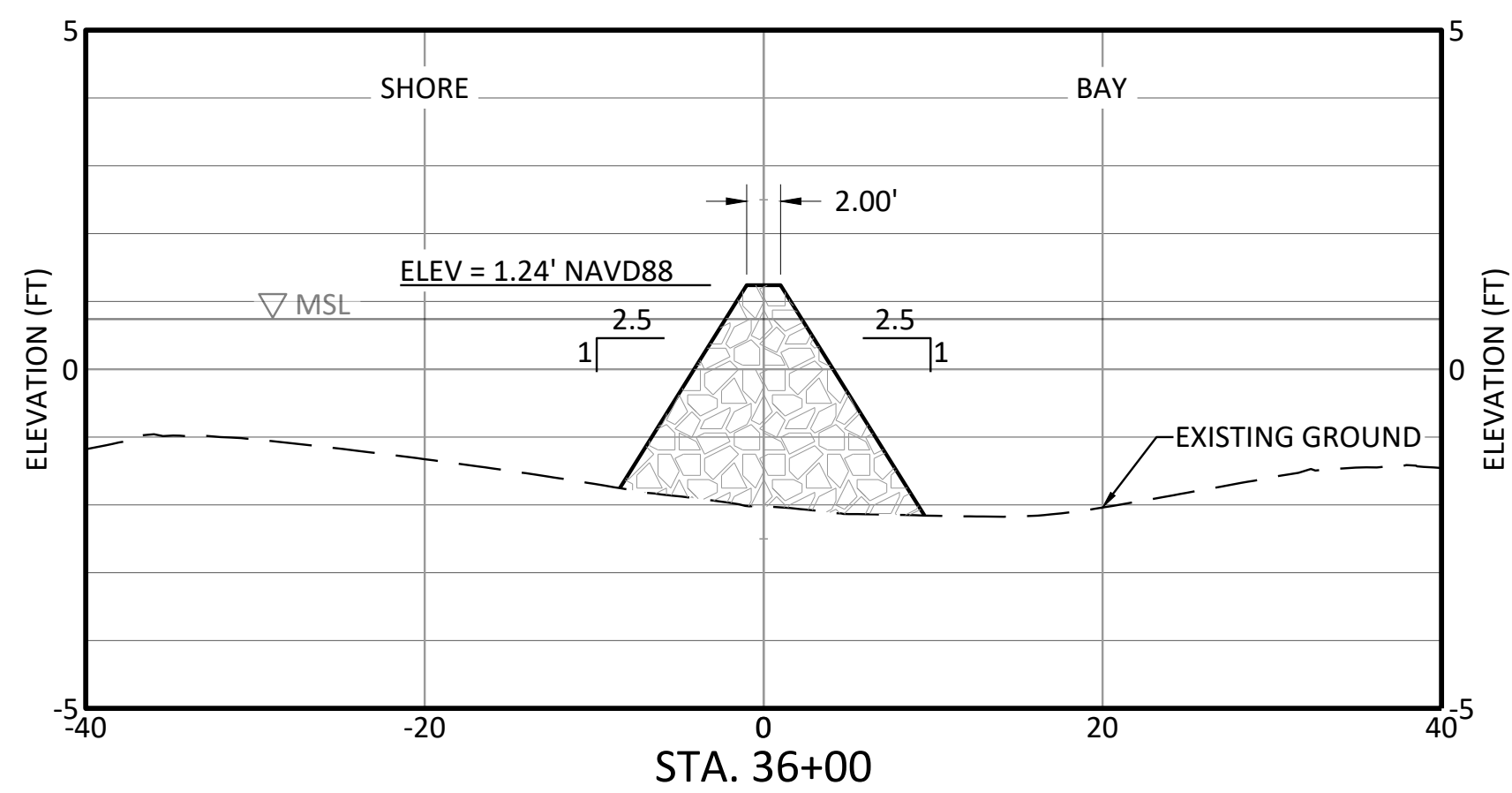
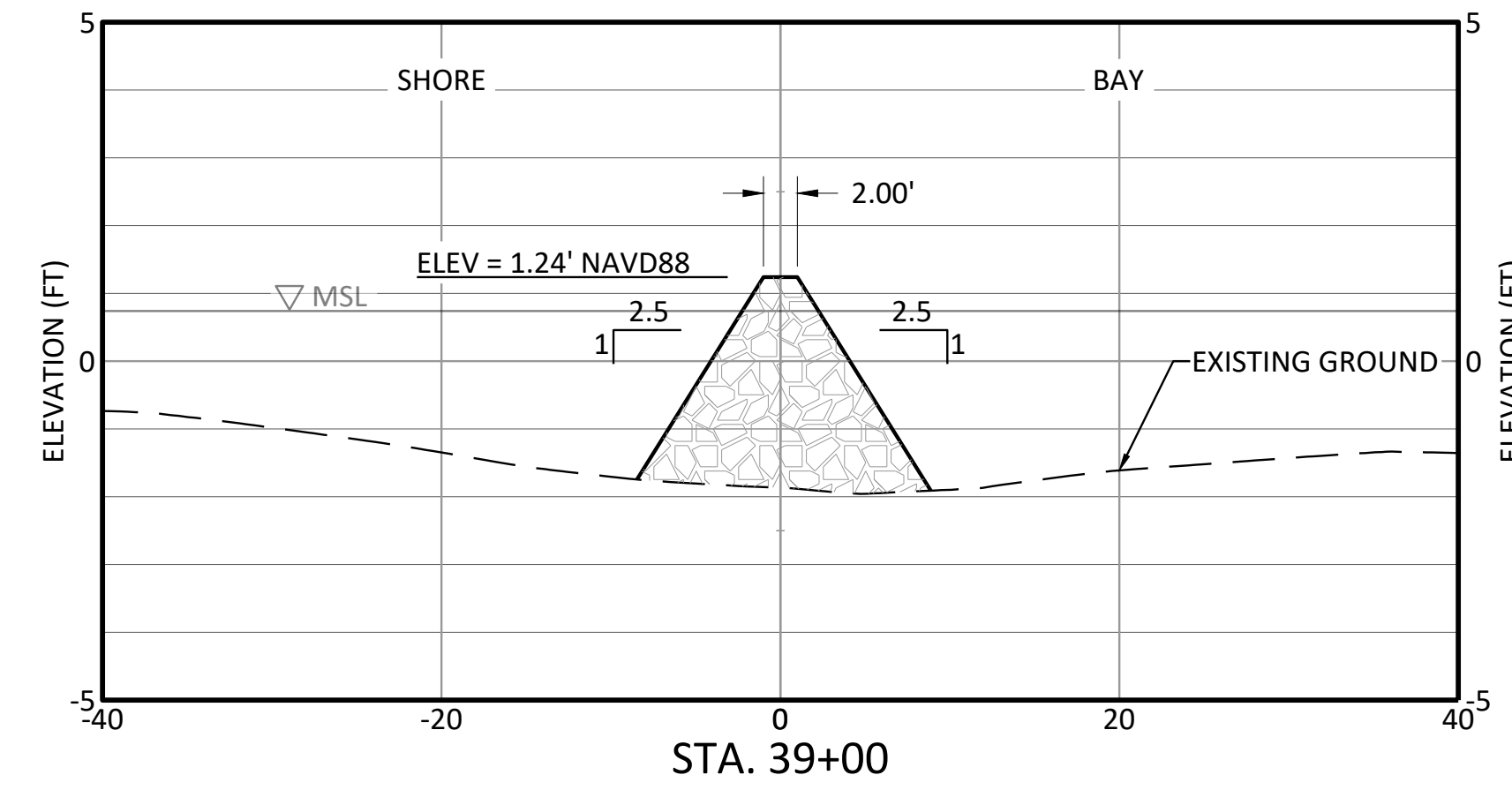
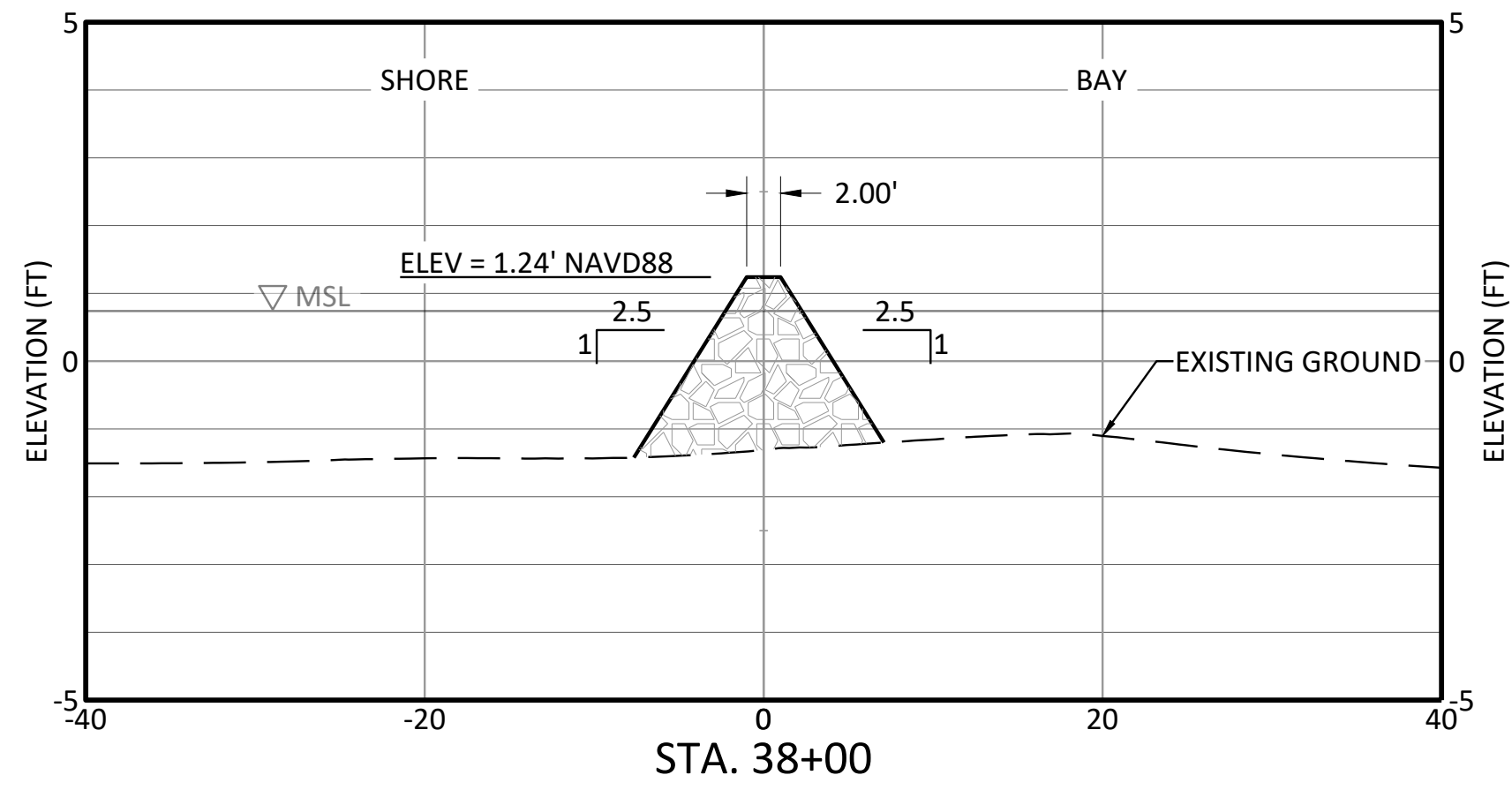
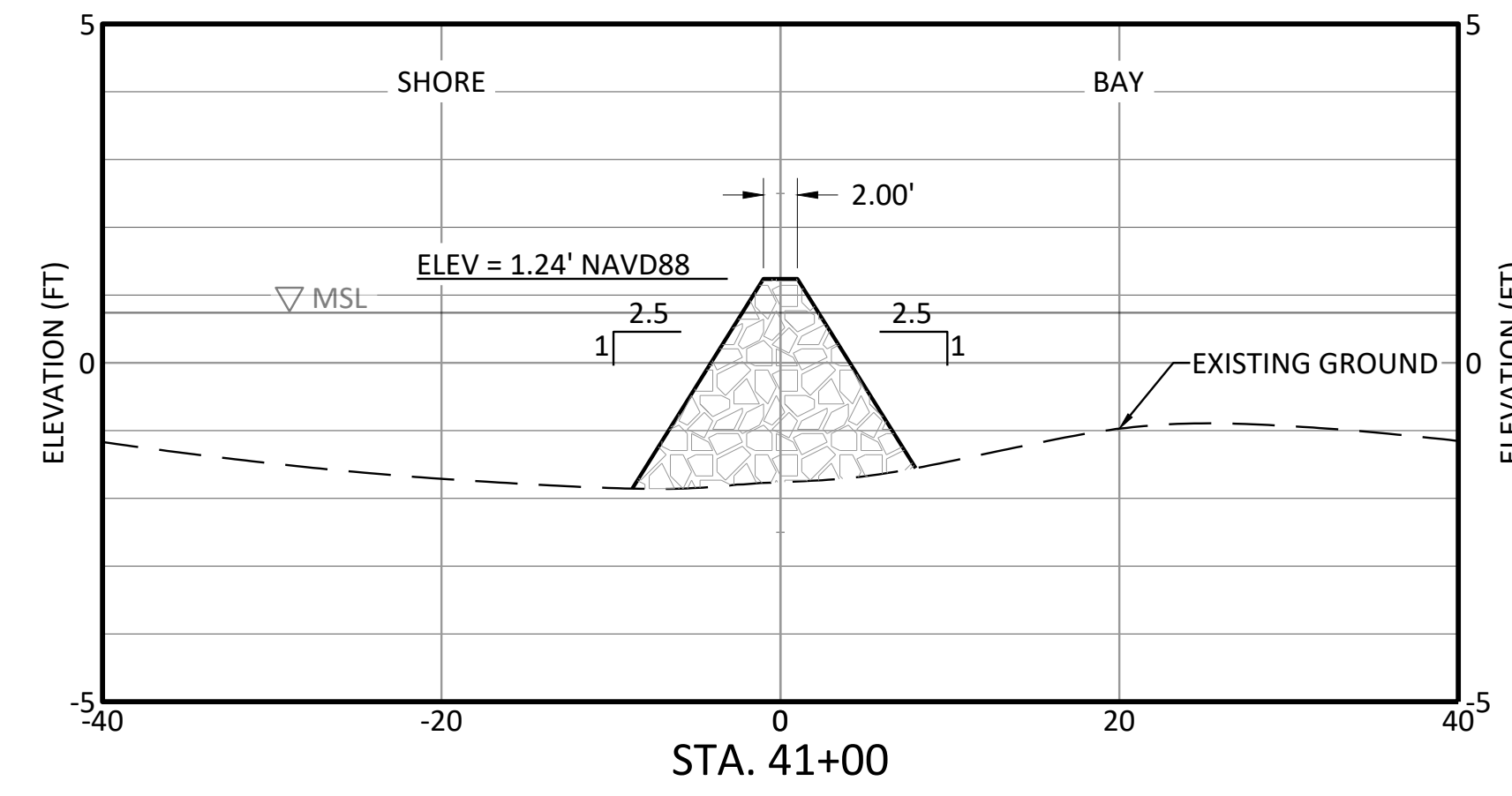
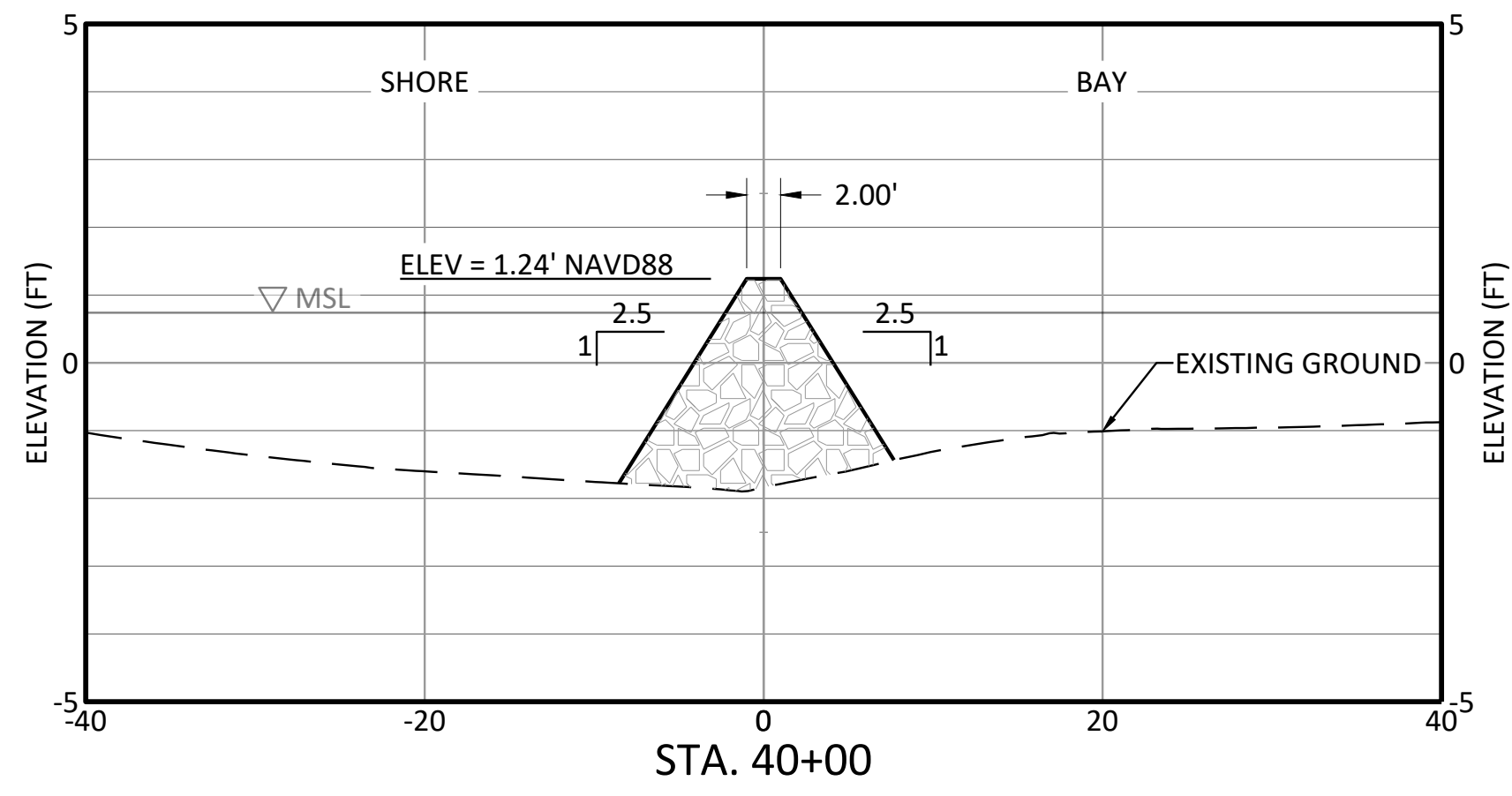
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SCHICKE POINT
LIVING SHORELINE IMPROVEMENTS
 CIVIL
BREAKWATER SECTIONS
SHEET 1 OF 6

NO.	ISSUE	BY	DATE	FRN JOB NO.	MBF21580
				DATE	08/05/21
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				REVISED	
				CHECKED	CAS
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SEQ.				5 OF 15	



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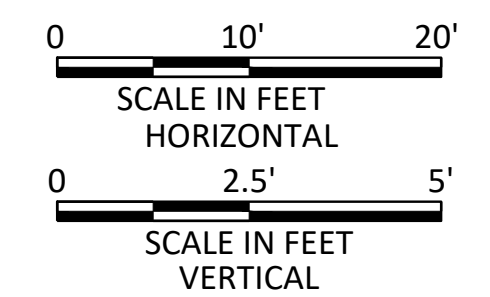
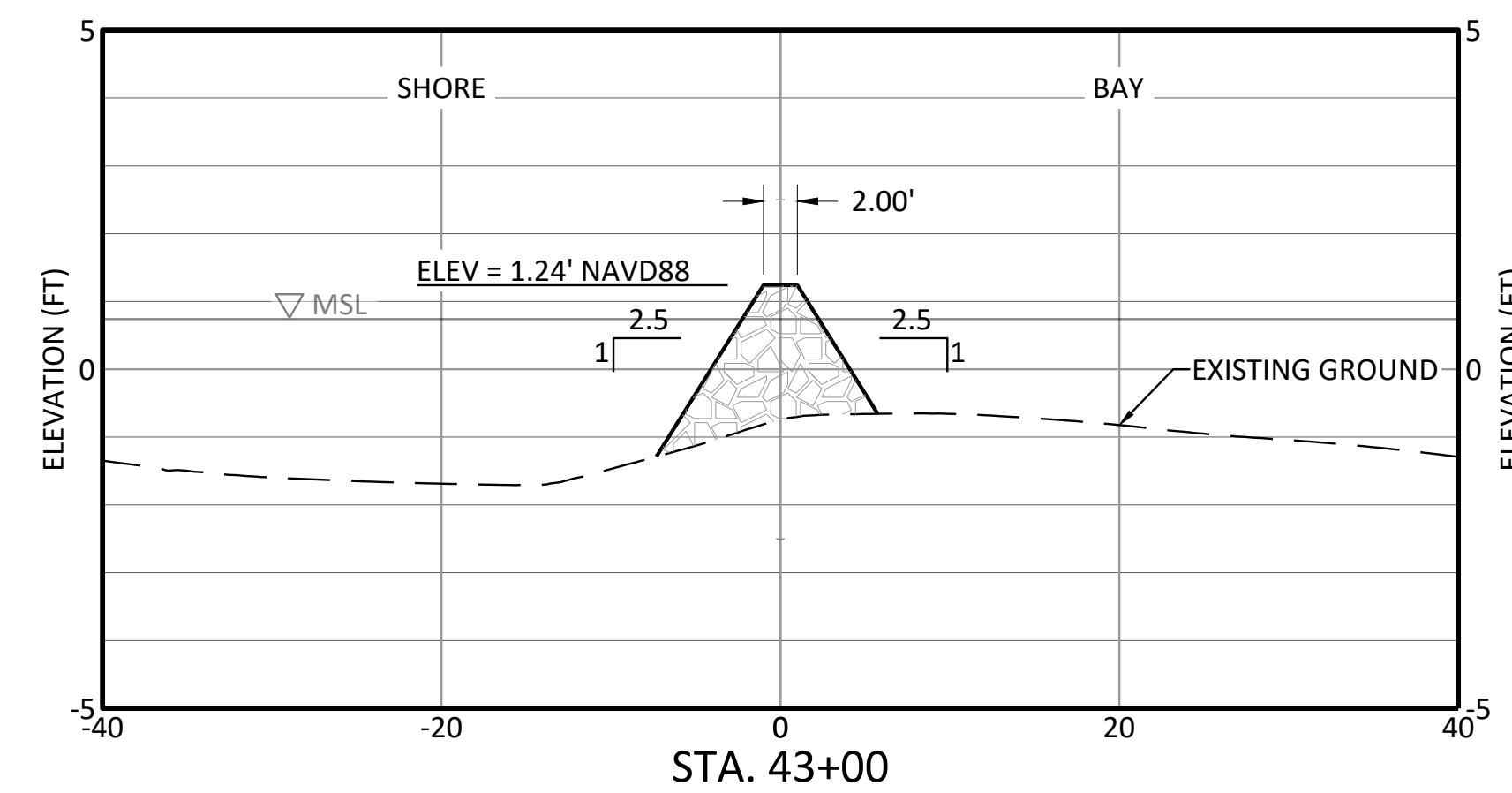
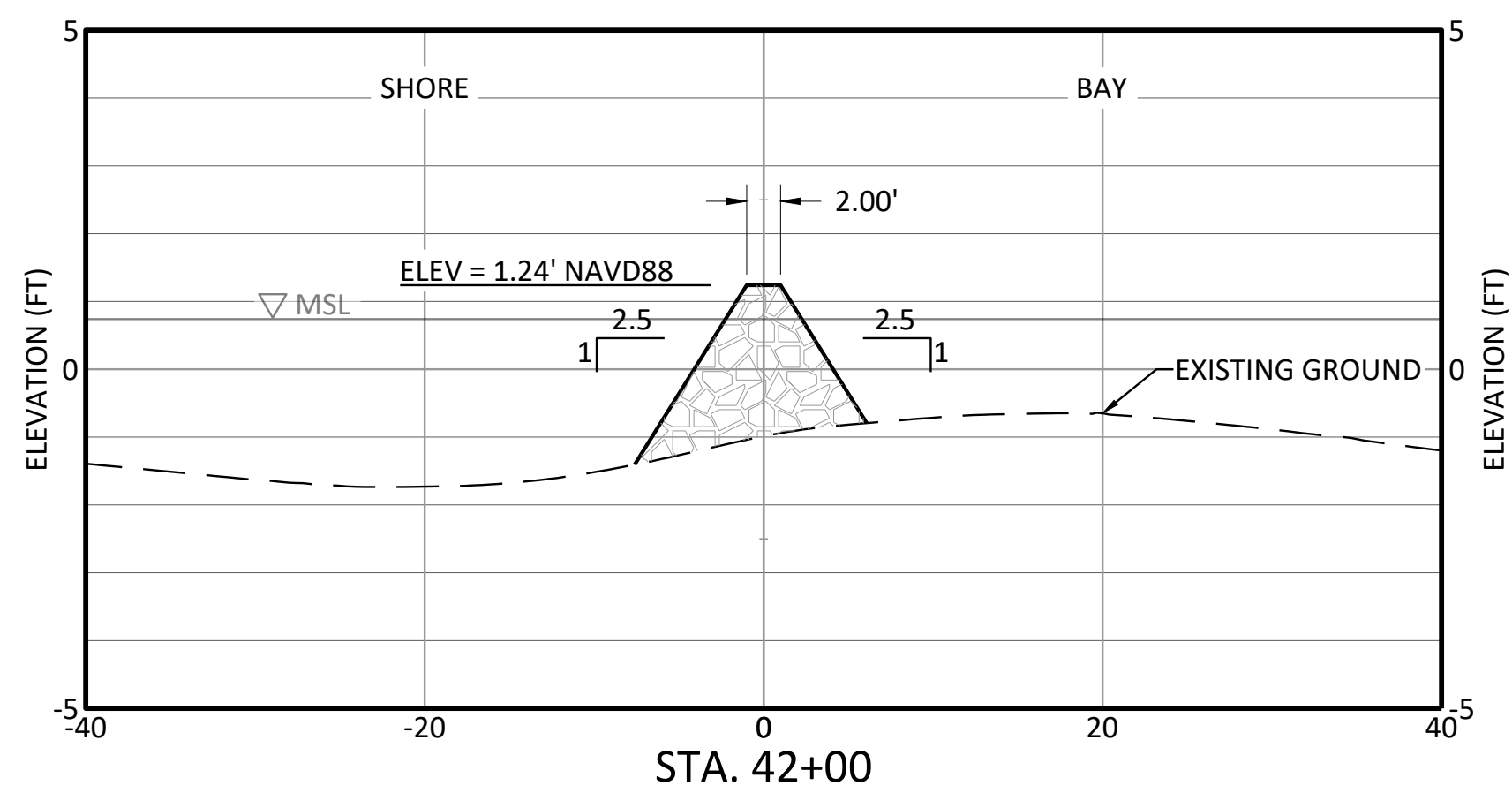
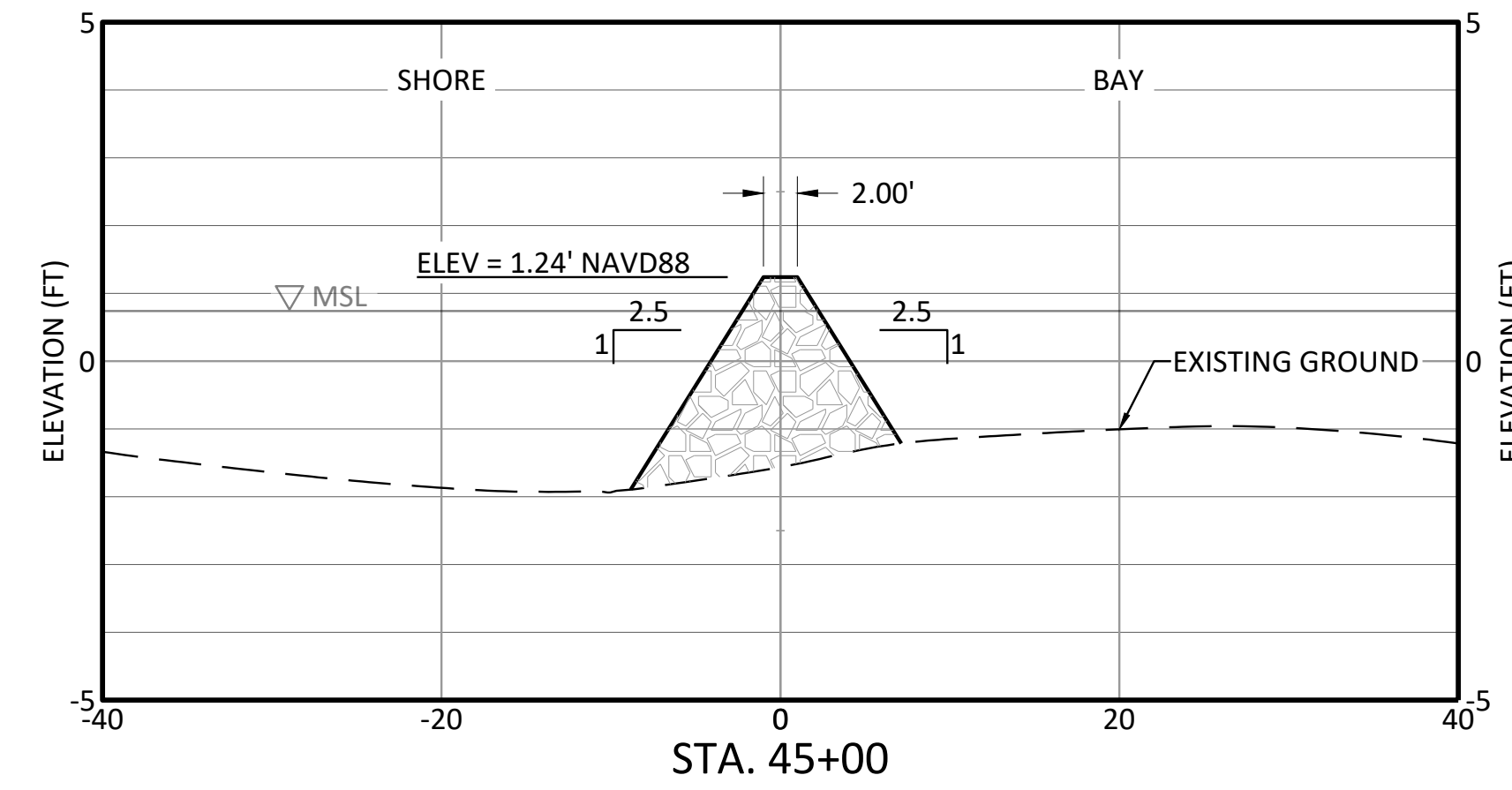
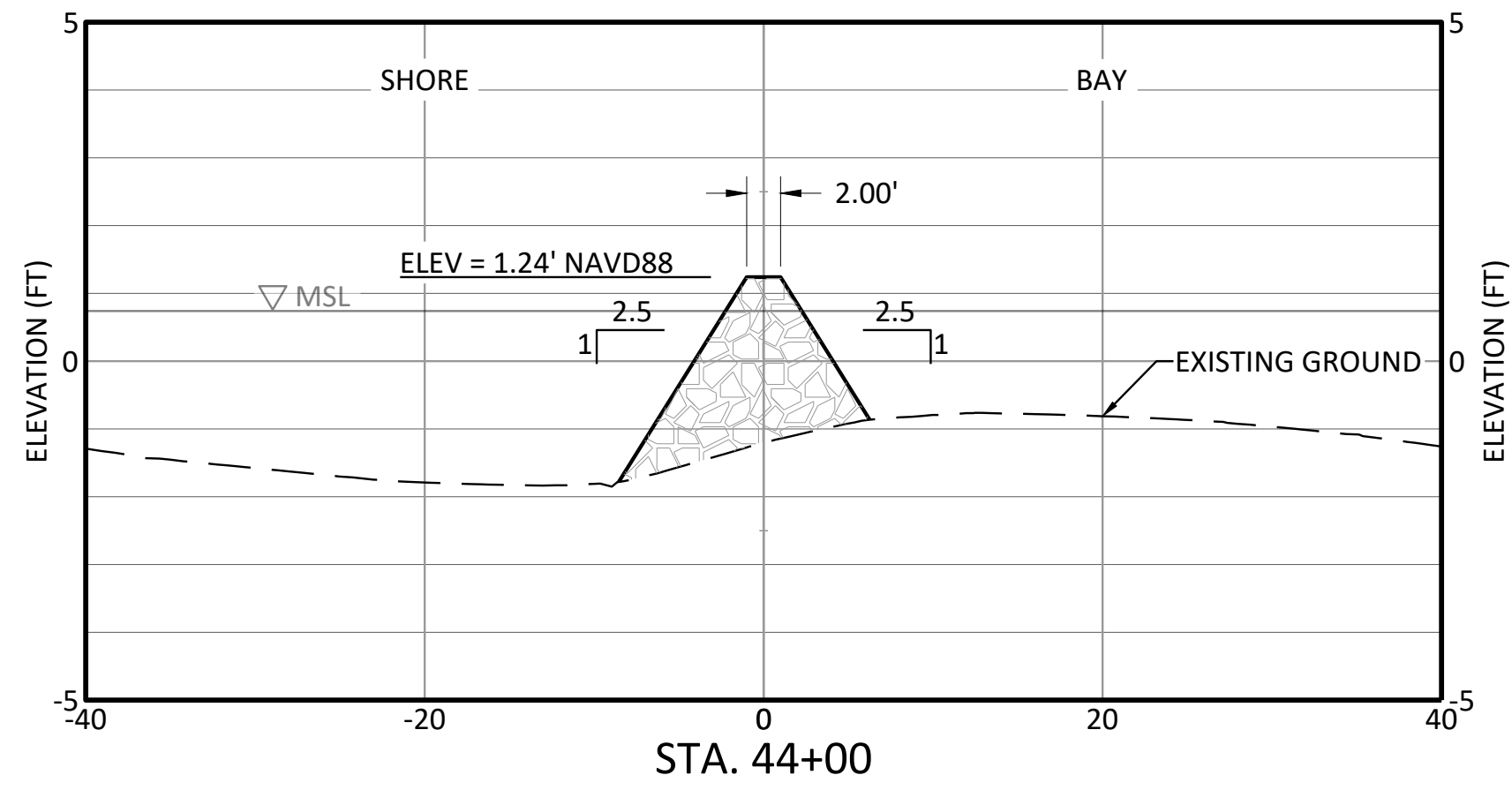
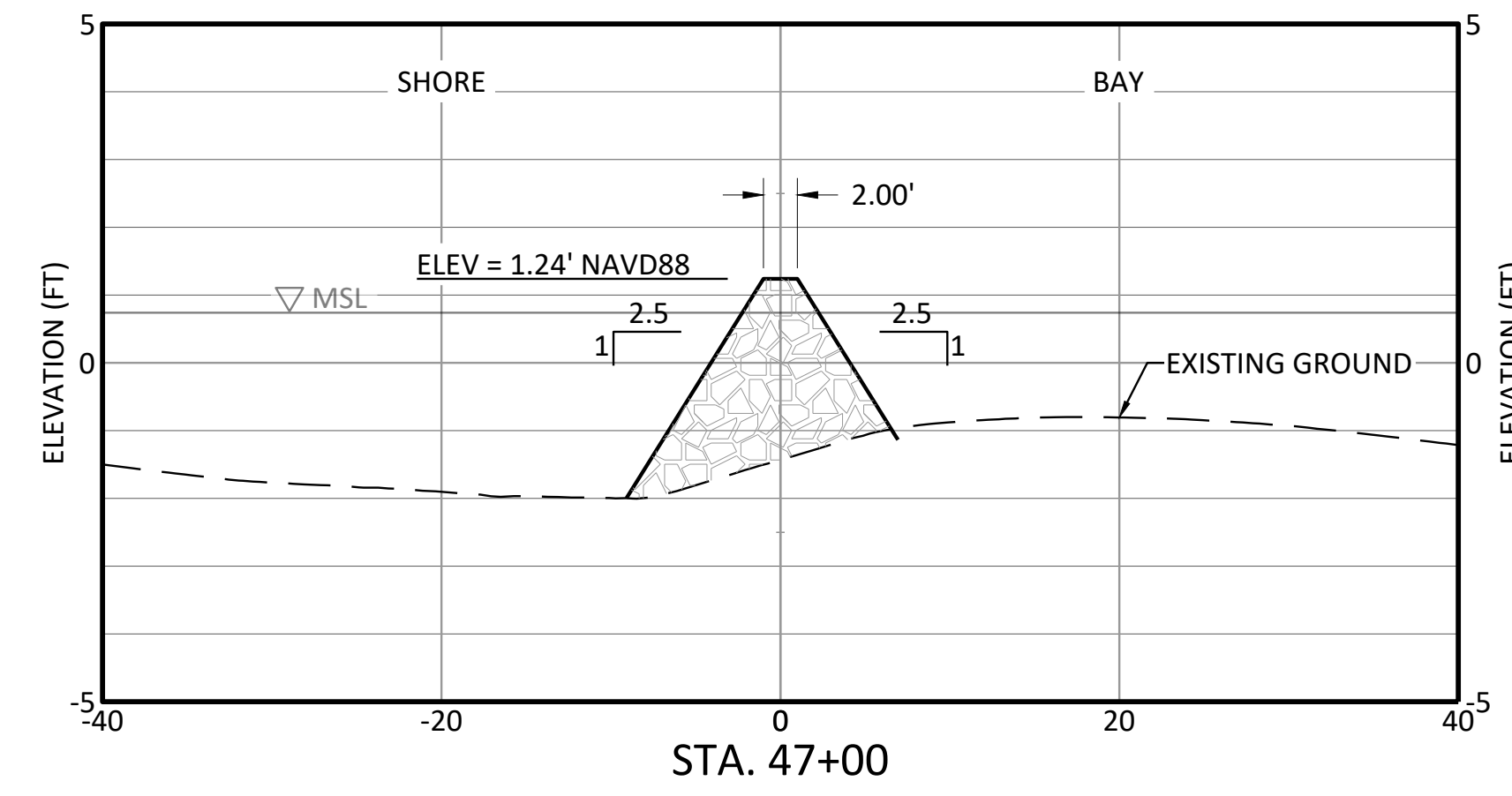
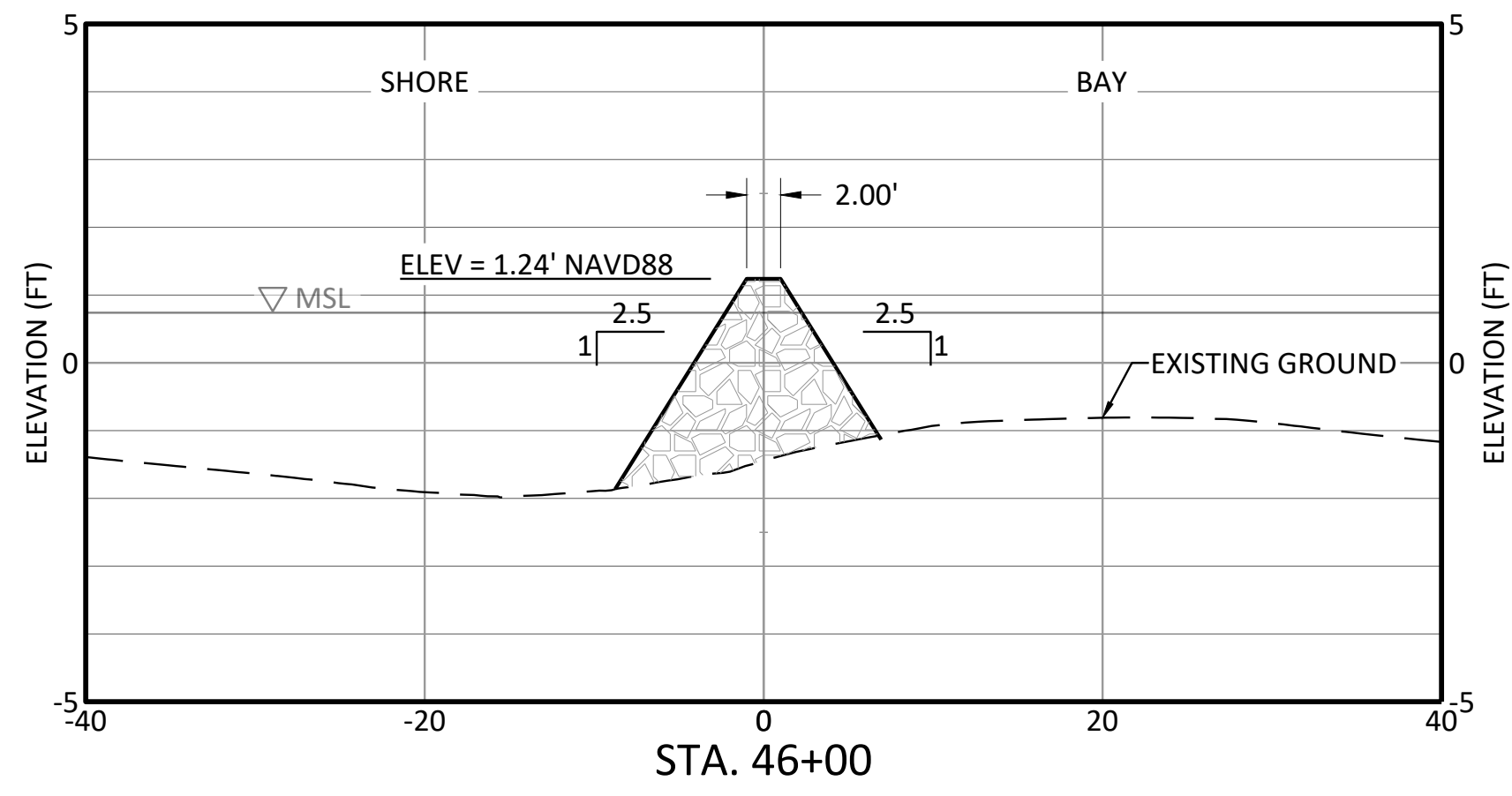
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SHEET 2 OF 6

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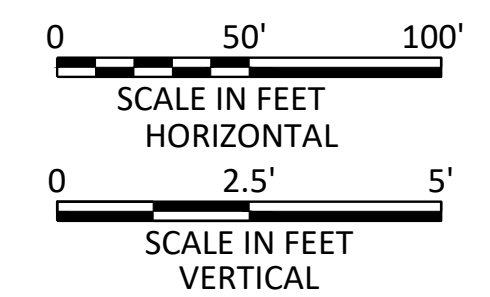
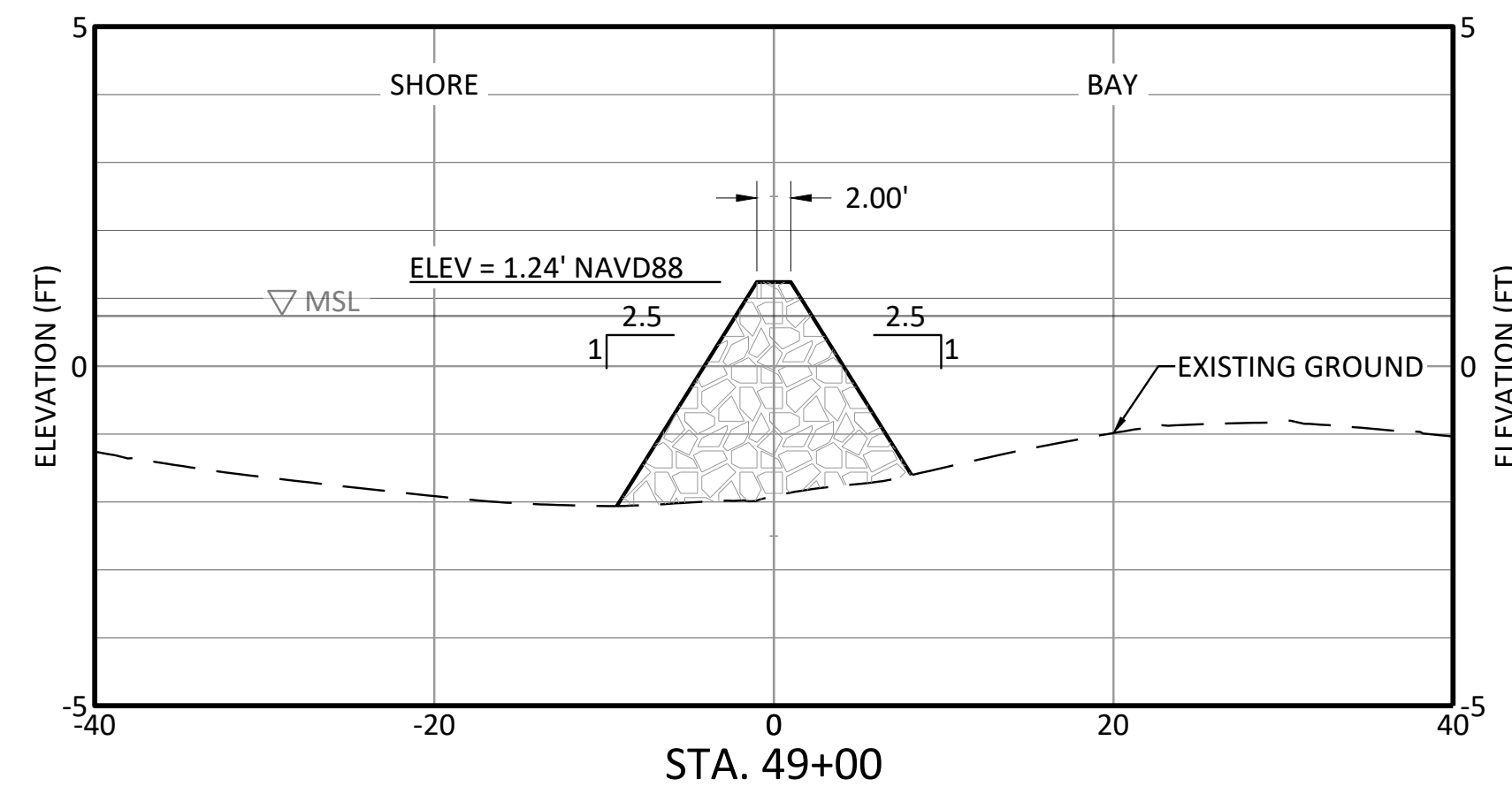
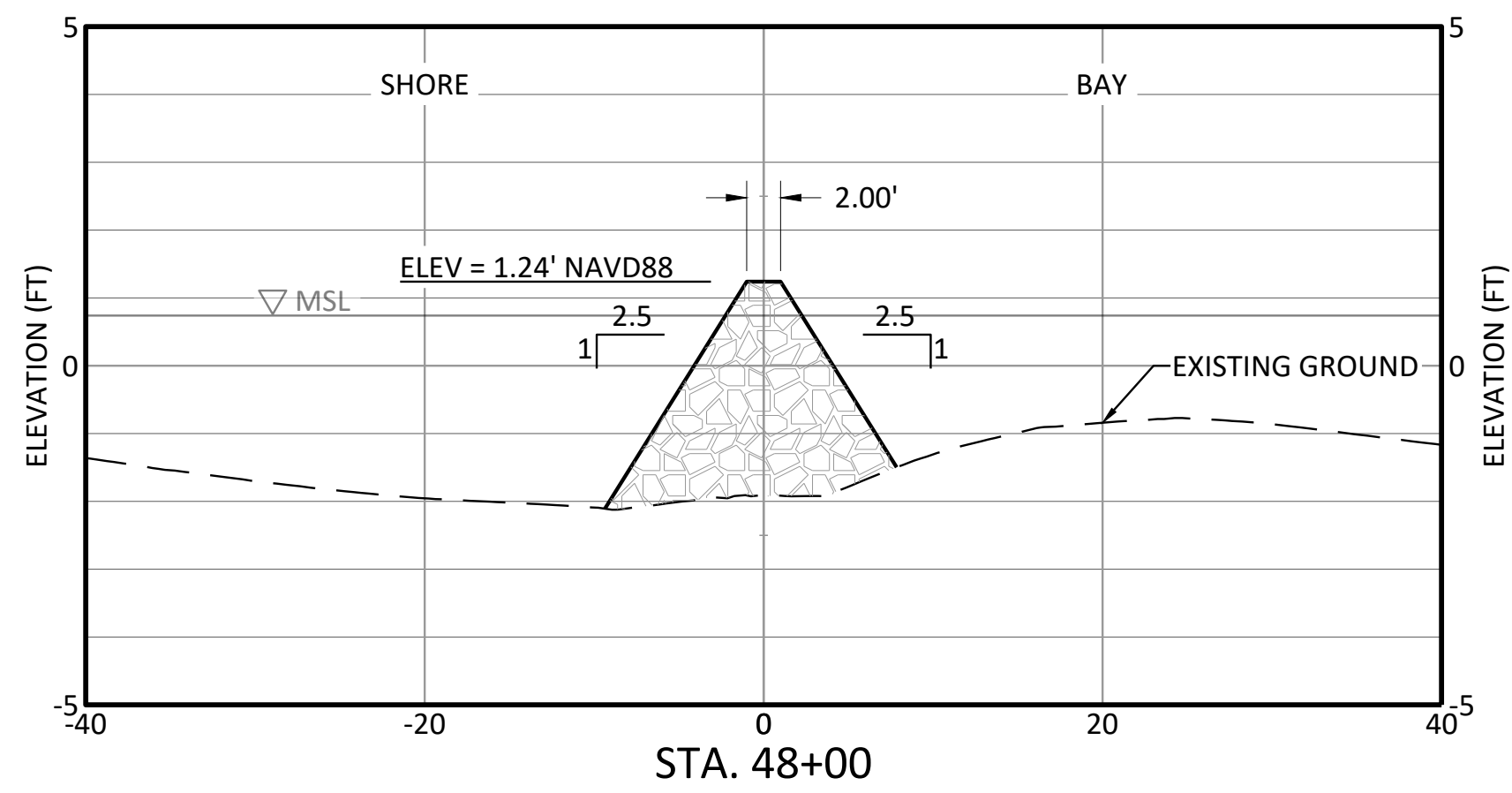
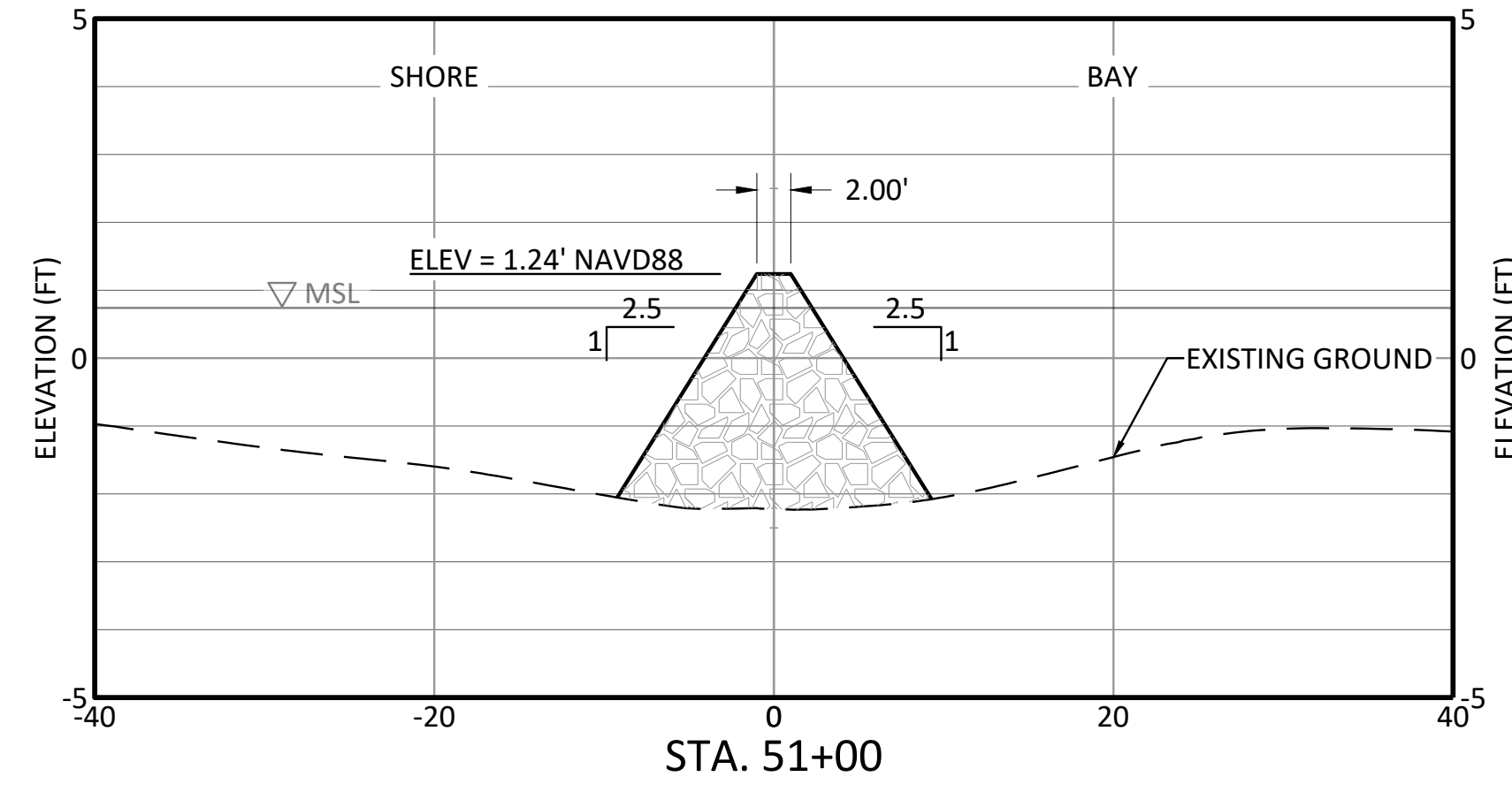
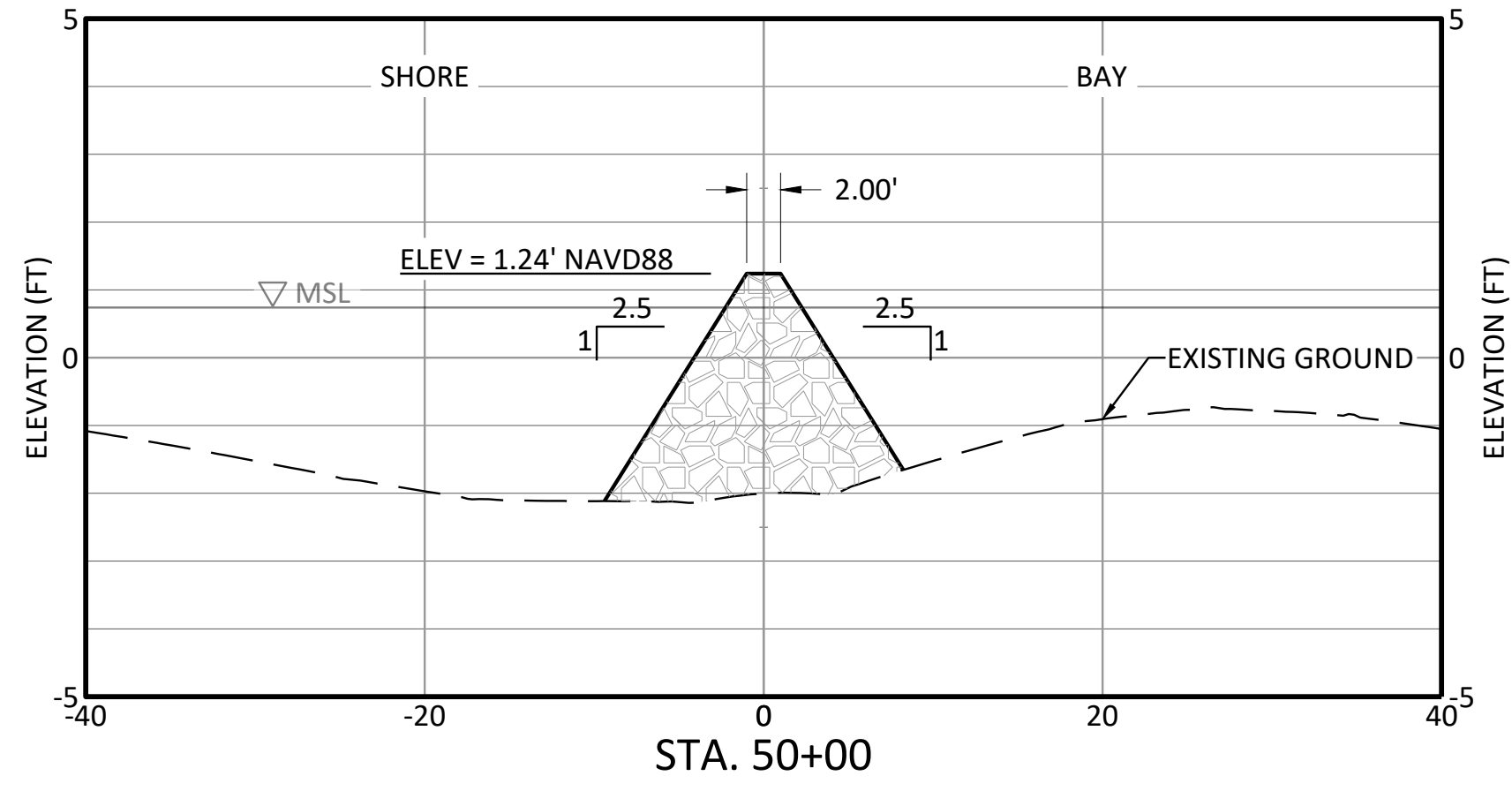
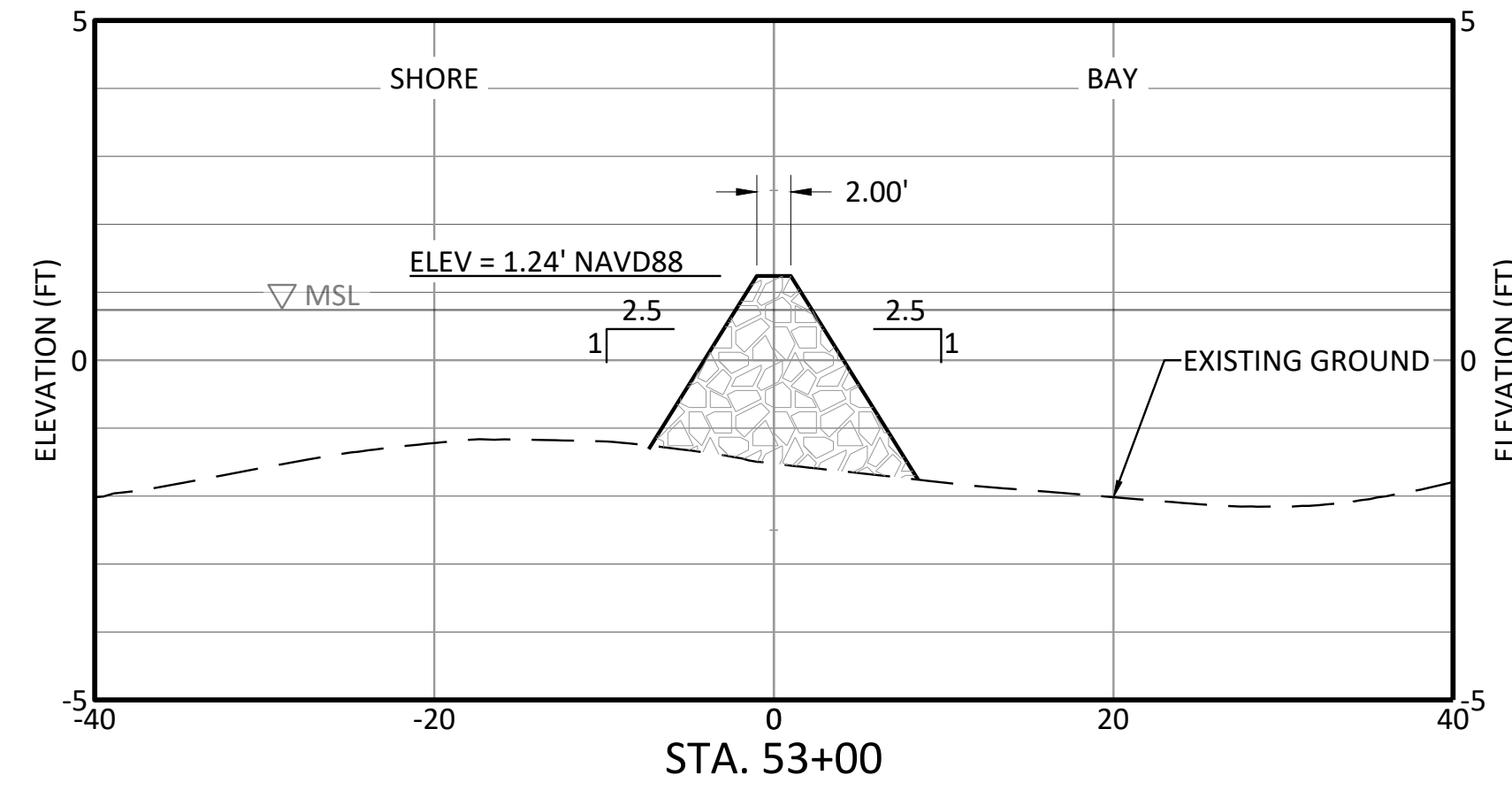
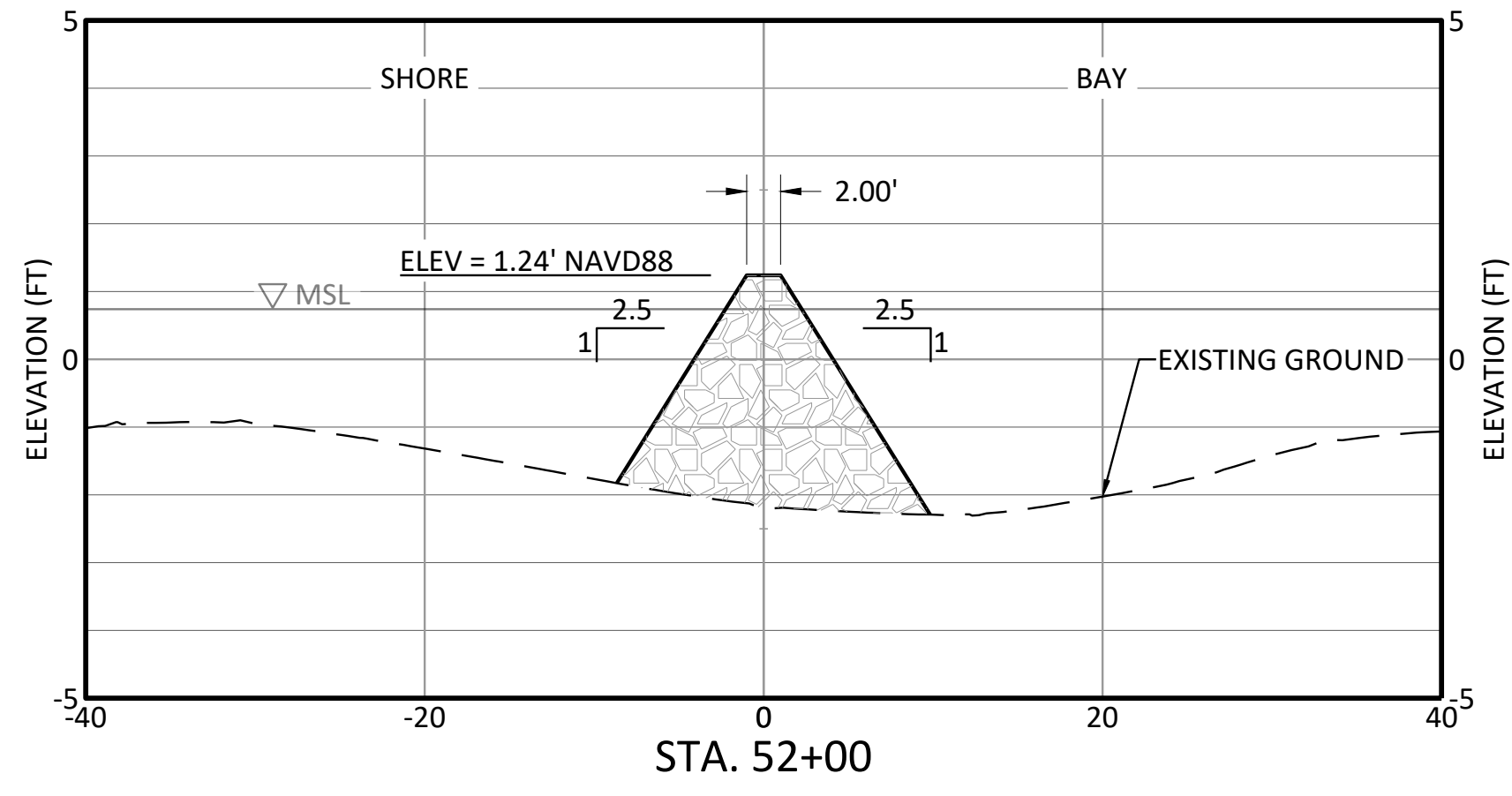
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CIVIL
**BREAKWATER SECTIONS
SHEET 3 OF 6**

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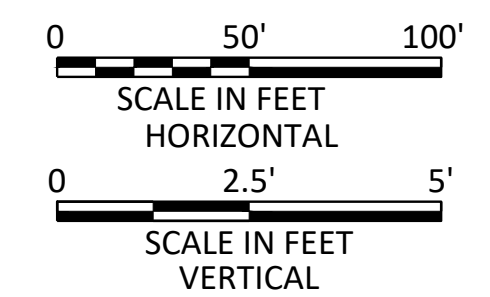
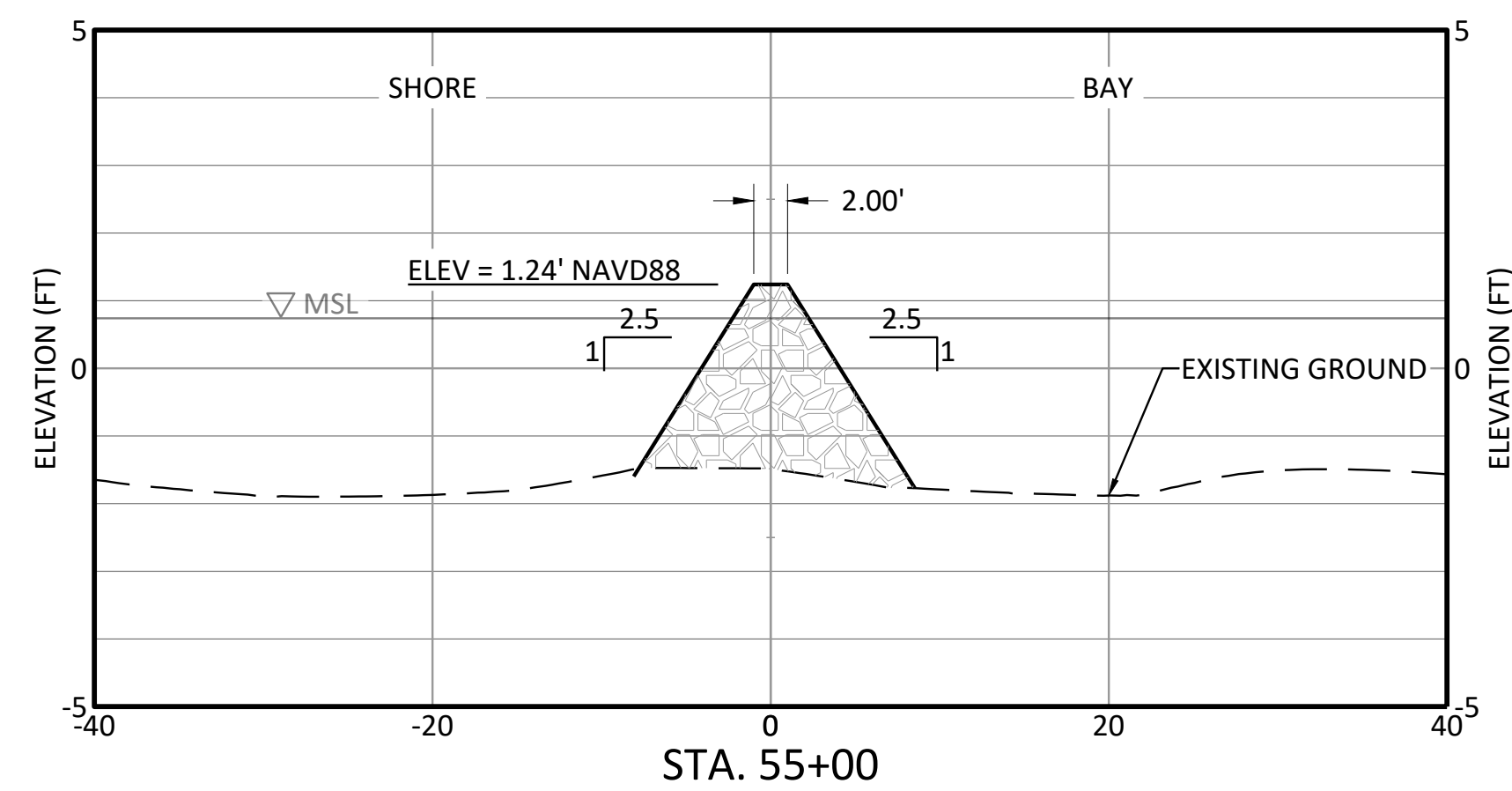
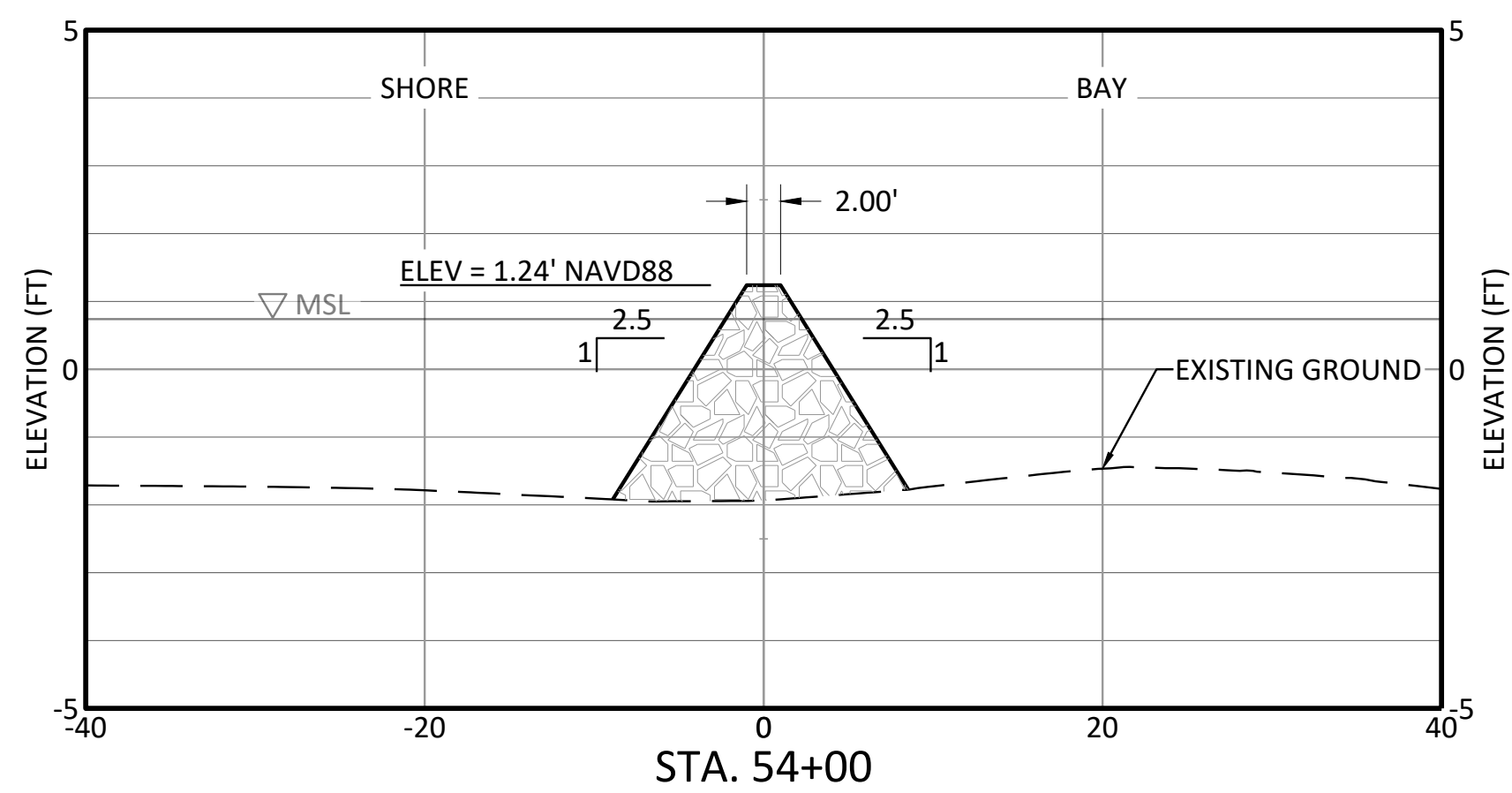
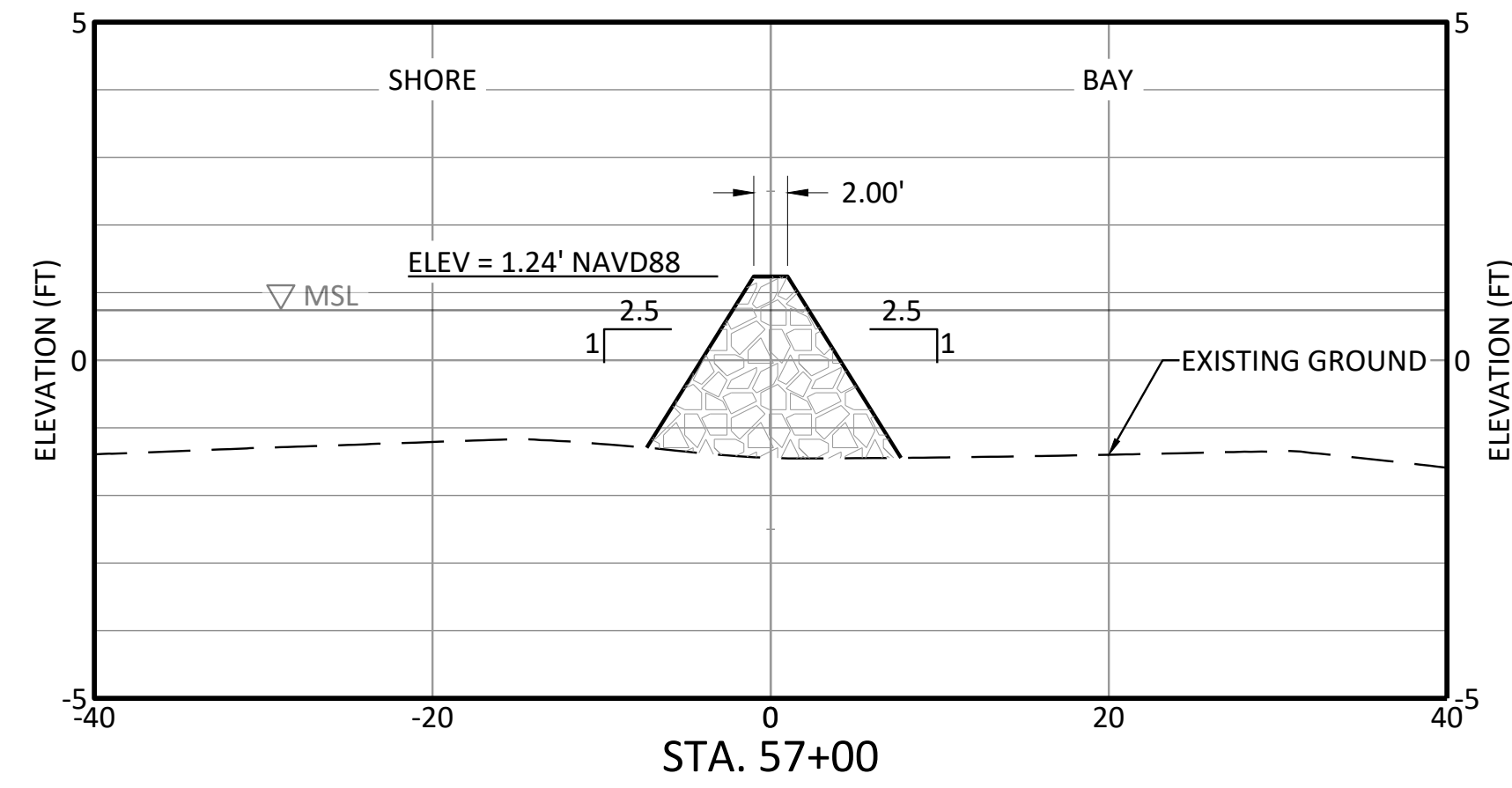
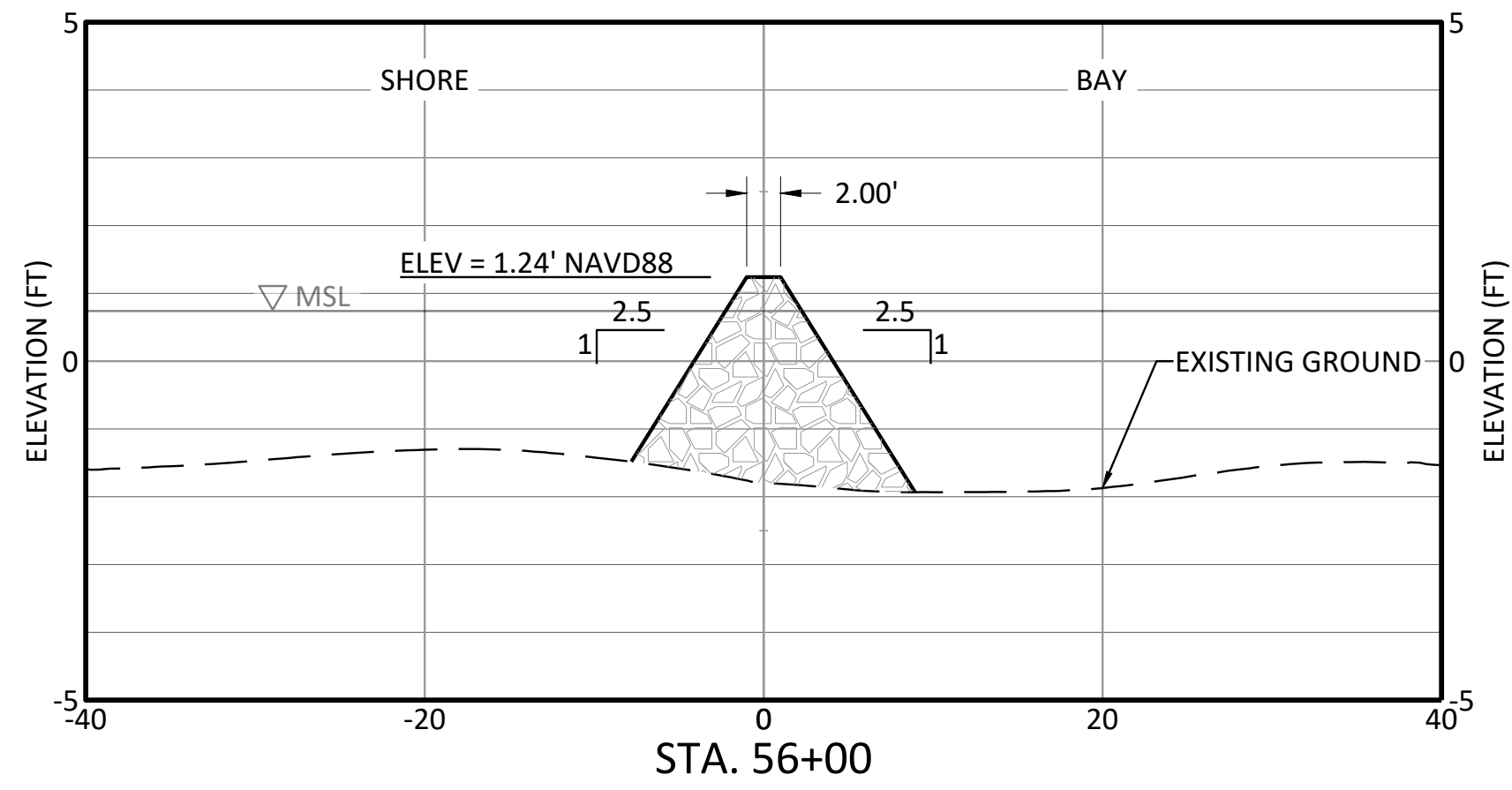
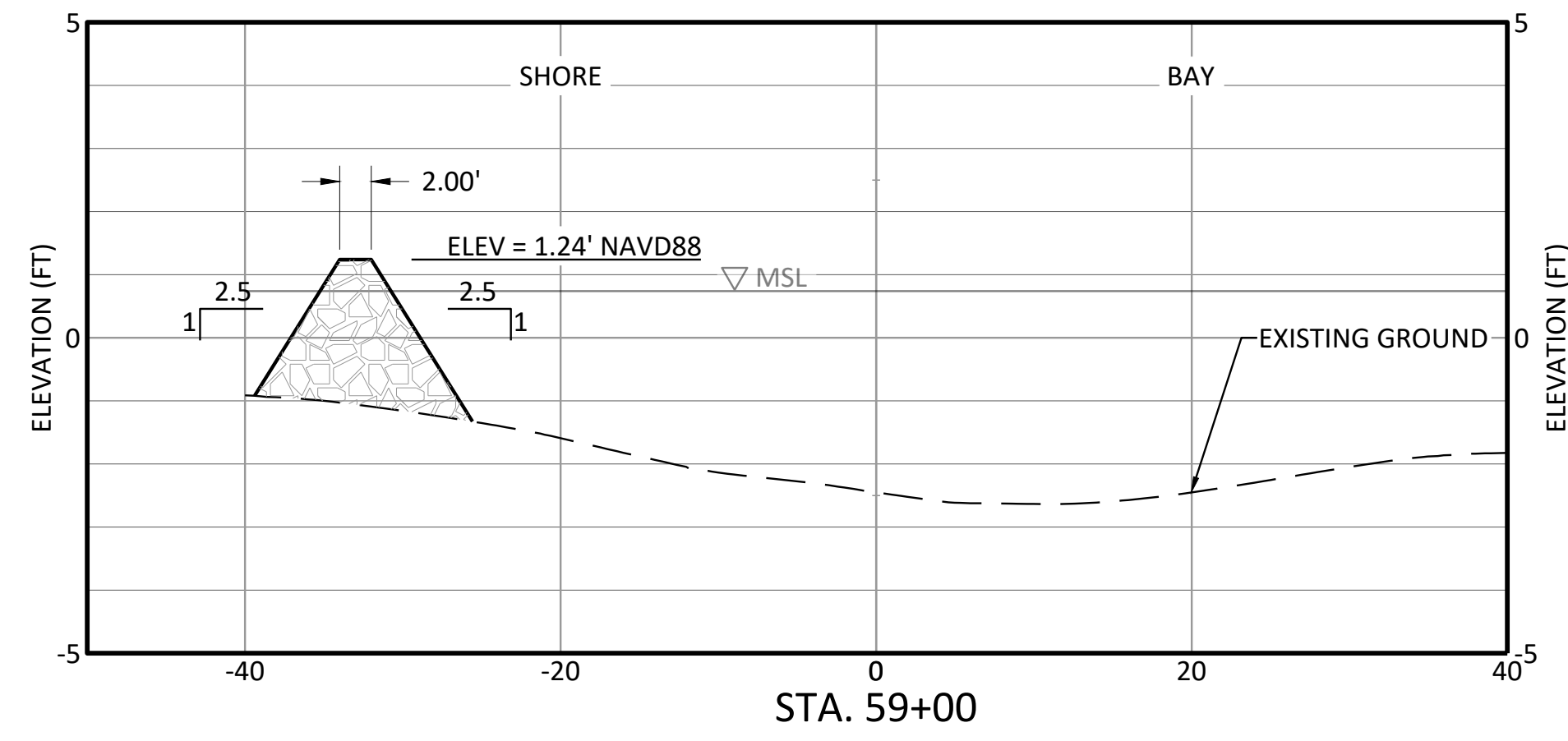
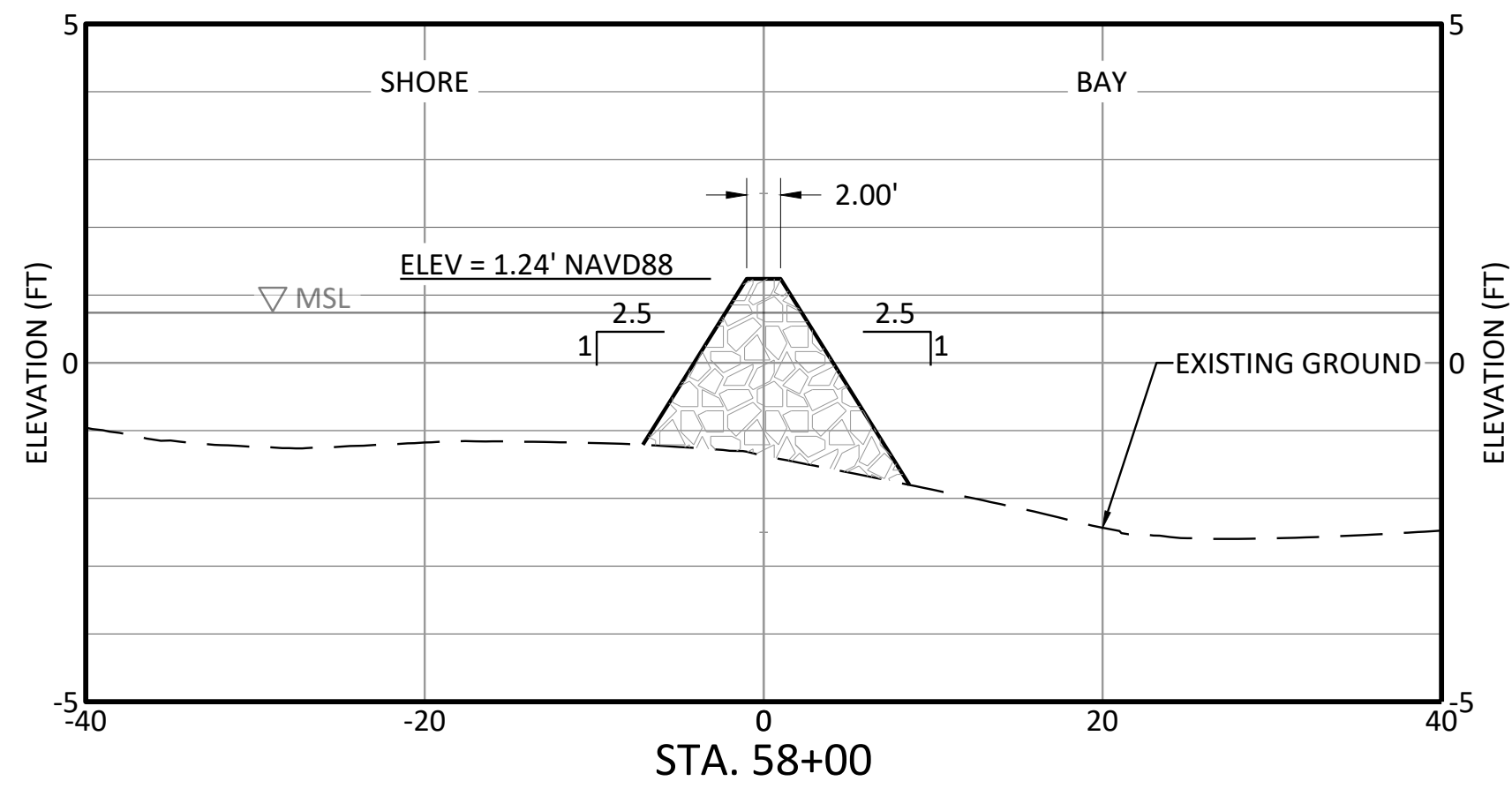
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CIVIL
**BREAKWATER SECTIONS
SHEET 4 OF 6**

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SHEET **8**
SEQ. 8 OF 15

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Last Saved: 8/11/2022 10:57 AM Saved By: 02736



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Texas Registered Engineering Firm F-2144

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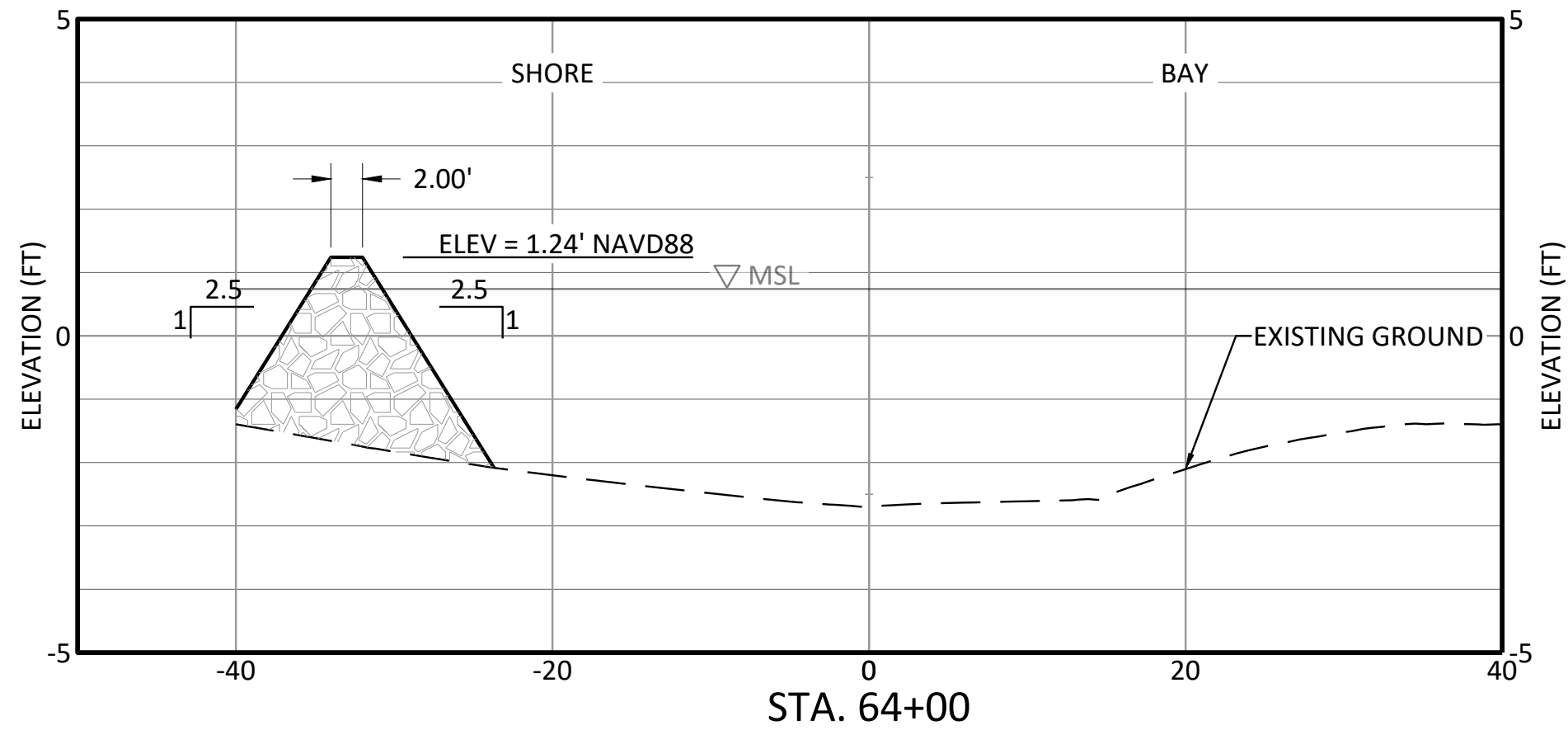
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& NICHOLS**
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Suite 500 Texas 77024
Houston, TX 77024
Phone: (713) 600-6800
Web: www.freese.com

MBF21580
**SCHICKE POINT
LIVING SHORELINE IMPROVEMENTS**
CIVIL
**BREAKWATER SECTIONS
SHEET 5 OF 6**

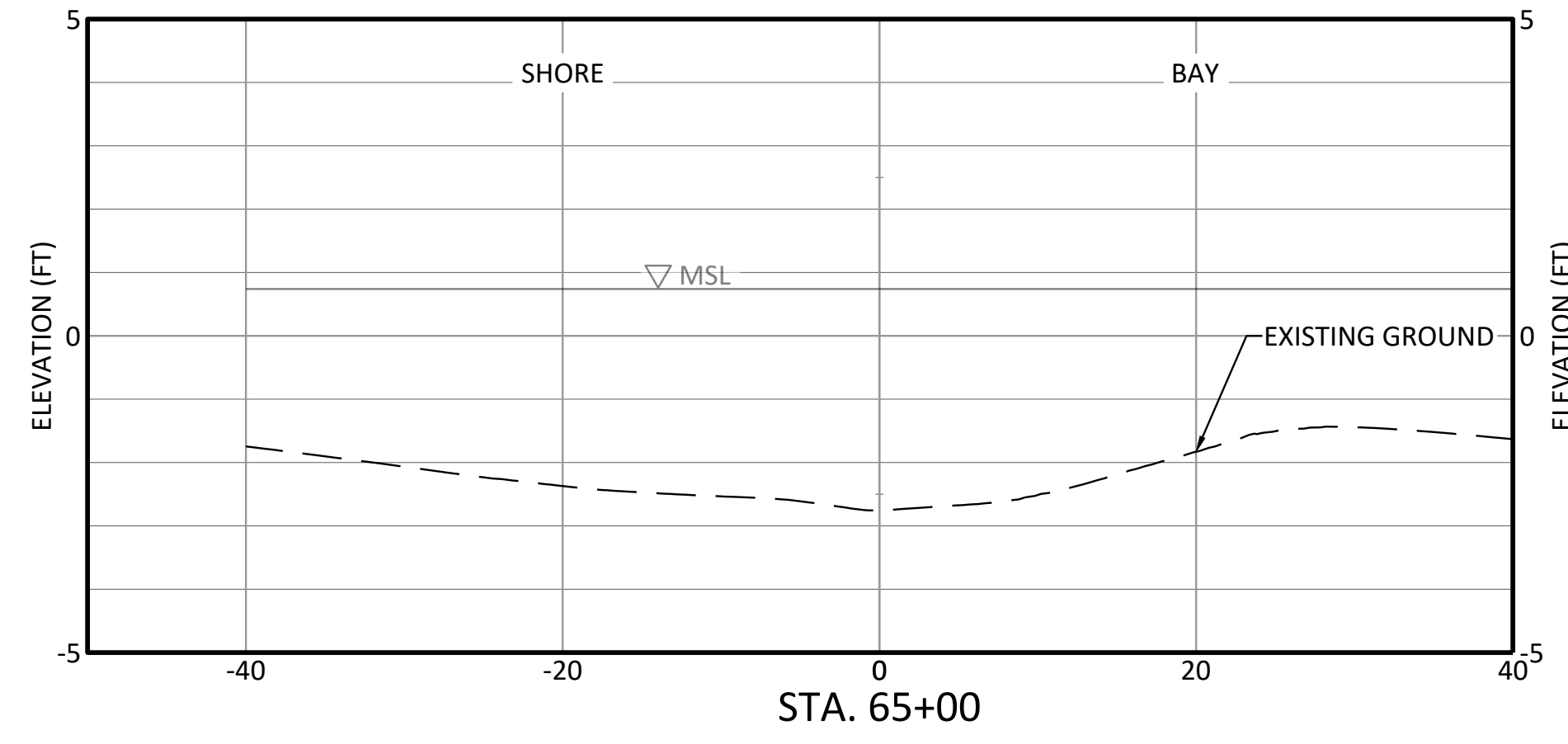
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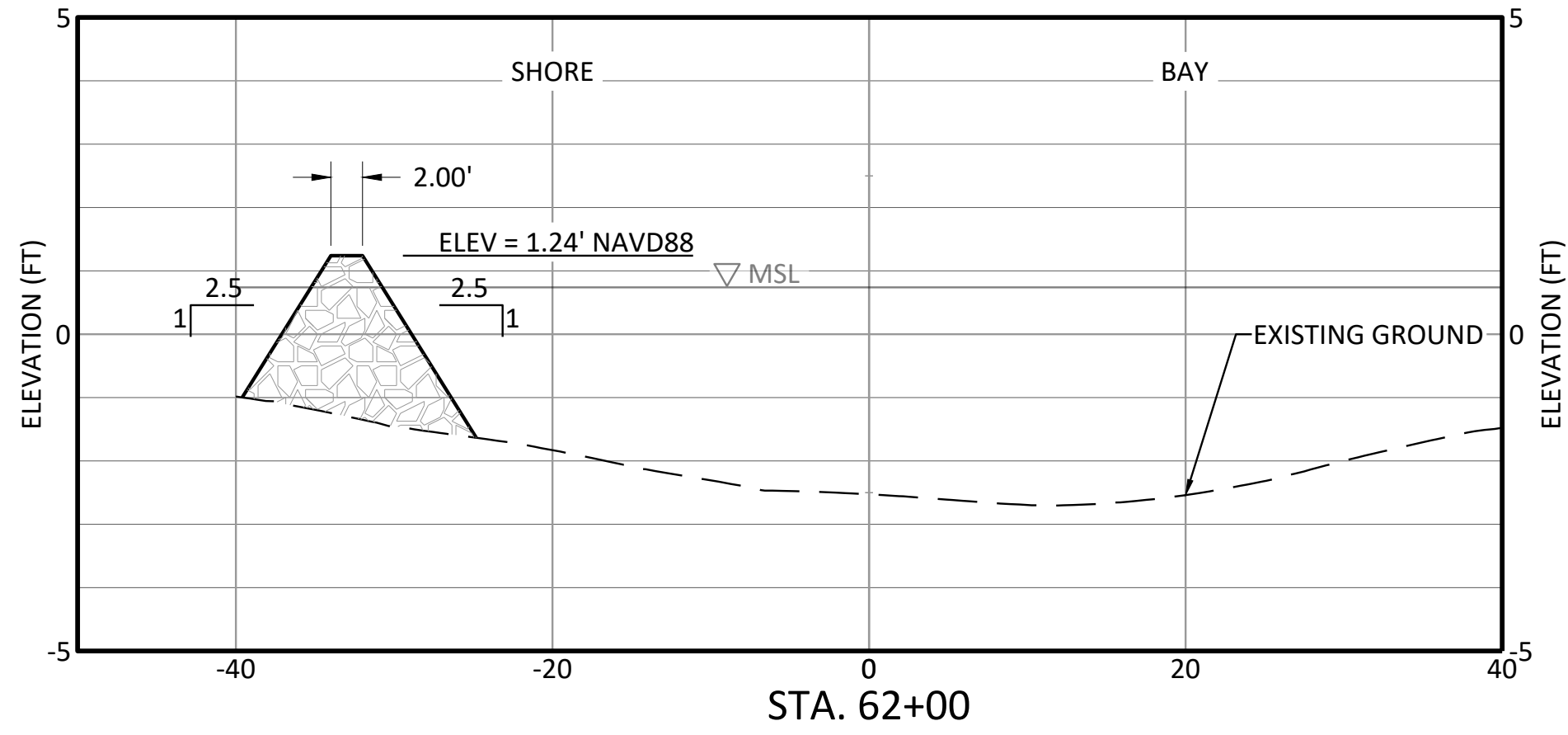
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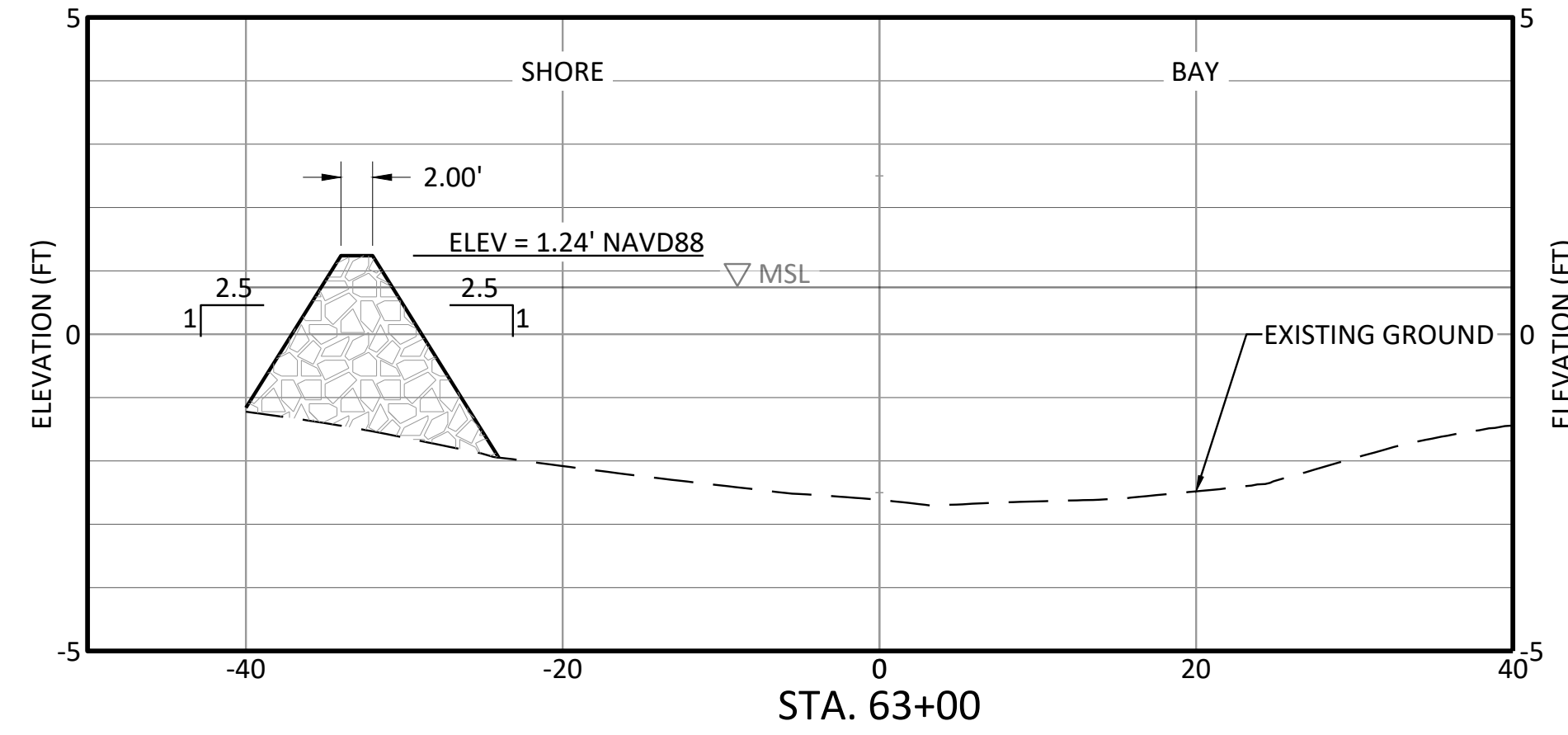
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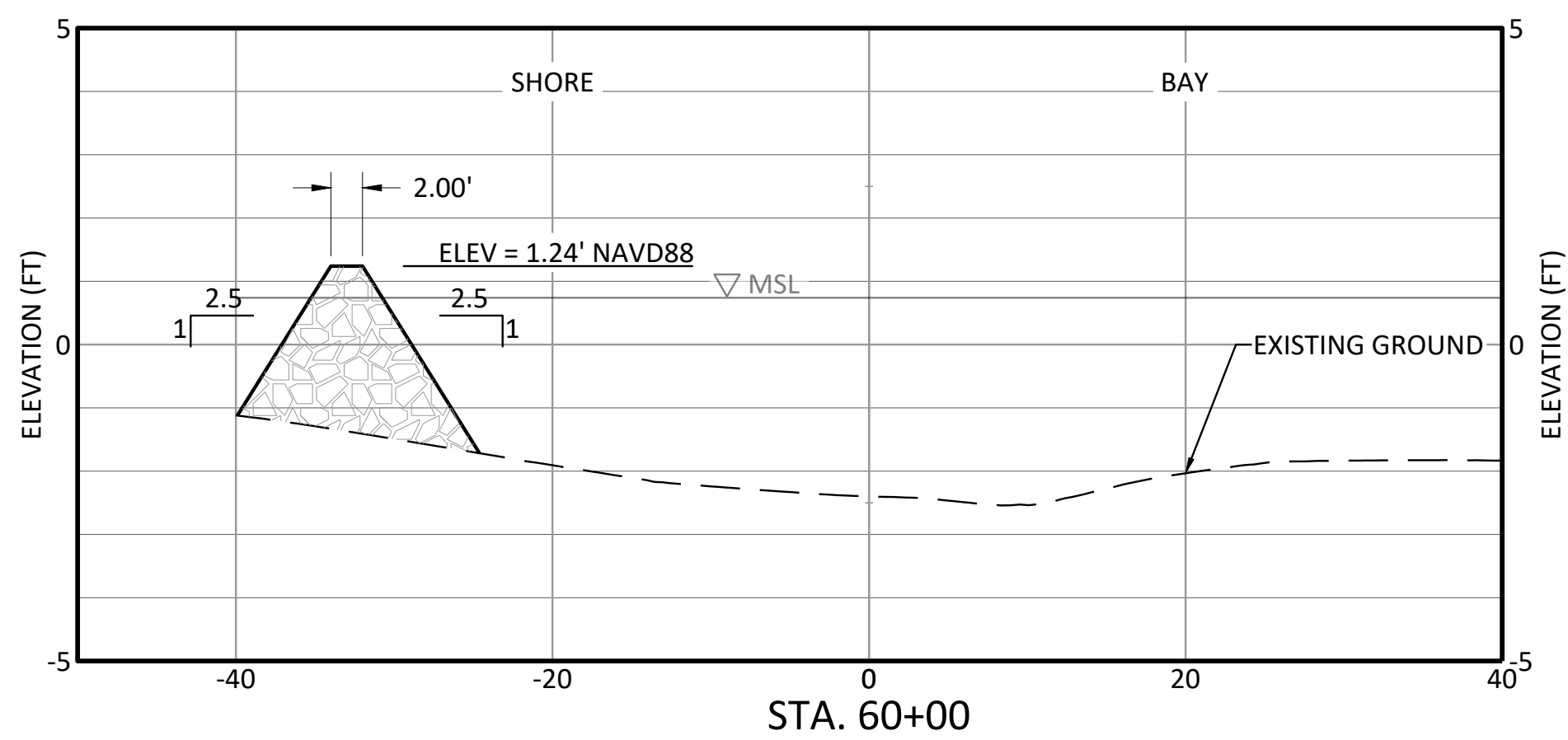
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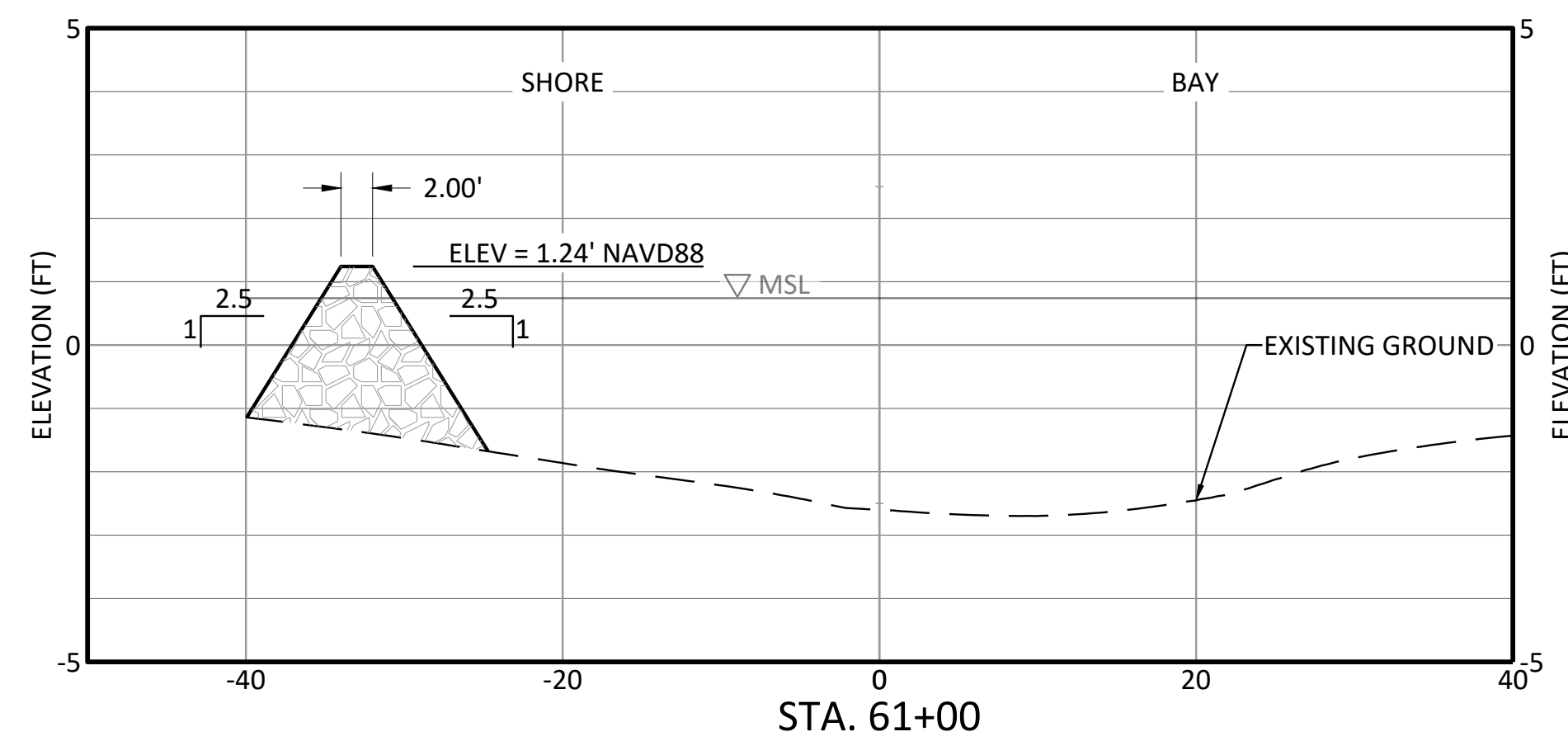
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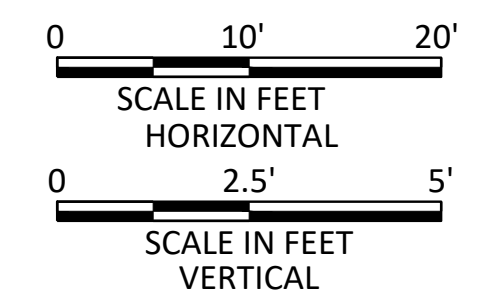
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STA. 60+00



STA. 61+00



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**SCHICKE POINT
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CIVIL
**BREAKWATER SECTIONS
SHEET 6 OF 6**

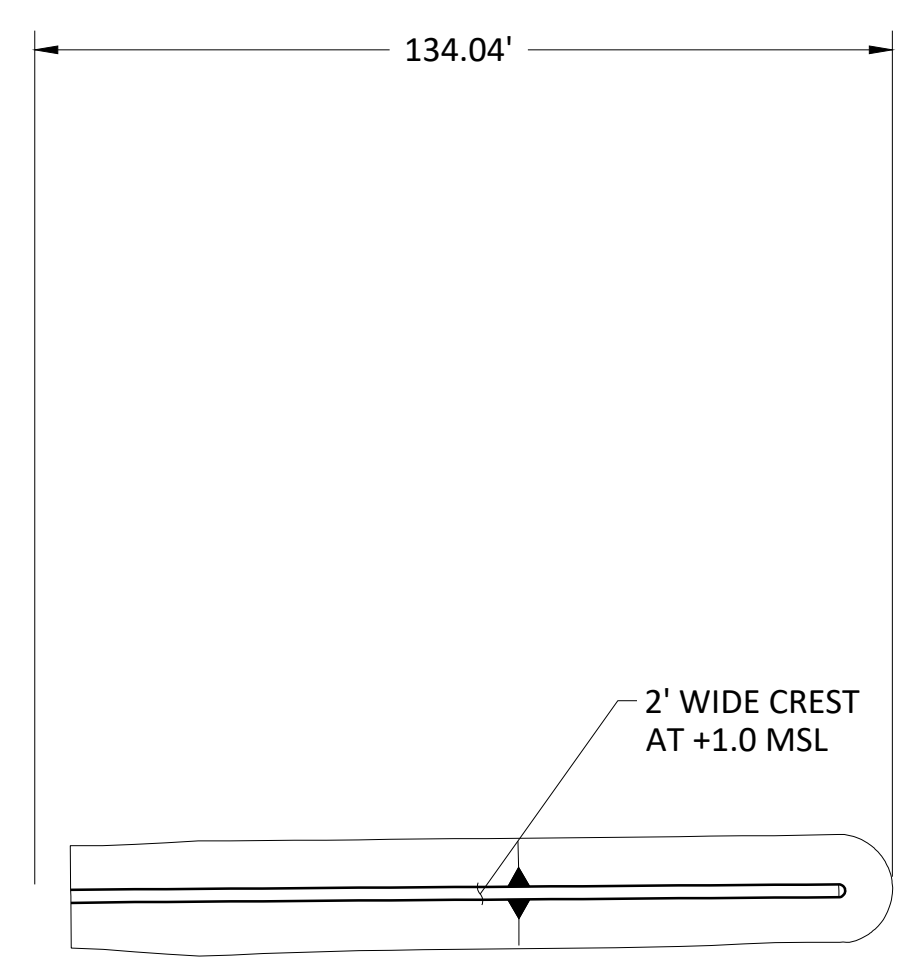
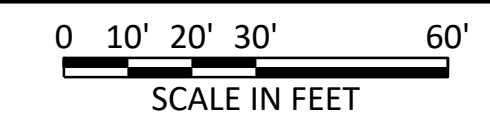
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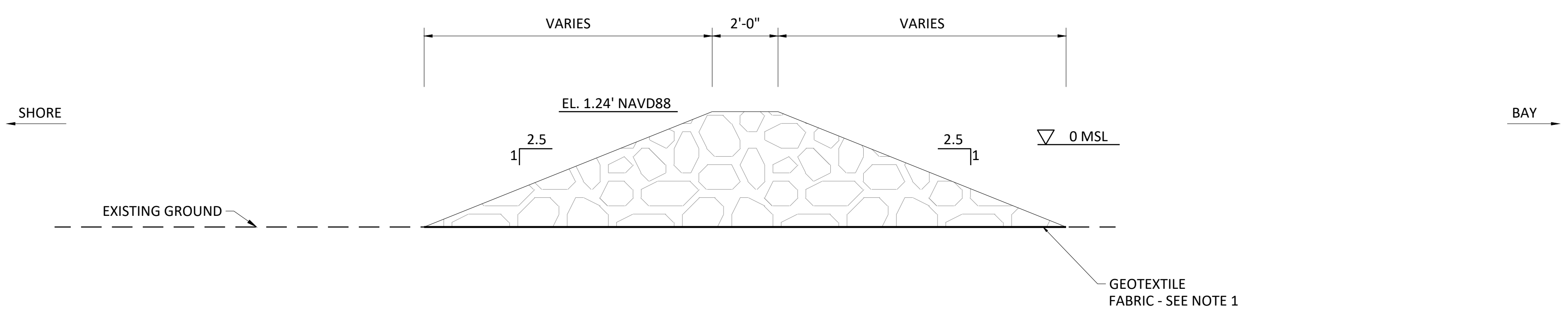
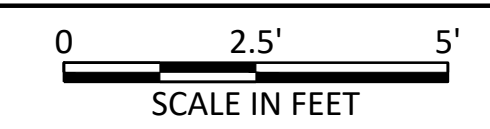
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BREAK WATER #3 DETAIL



BREAK WATER #3 TYPICAL SECTION



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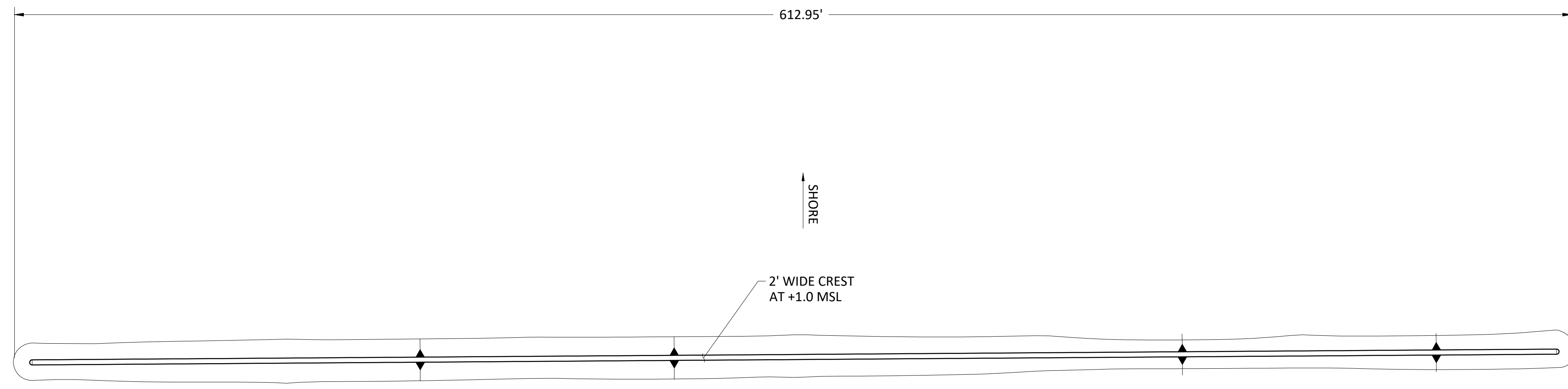
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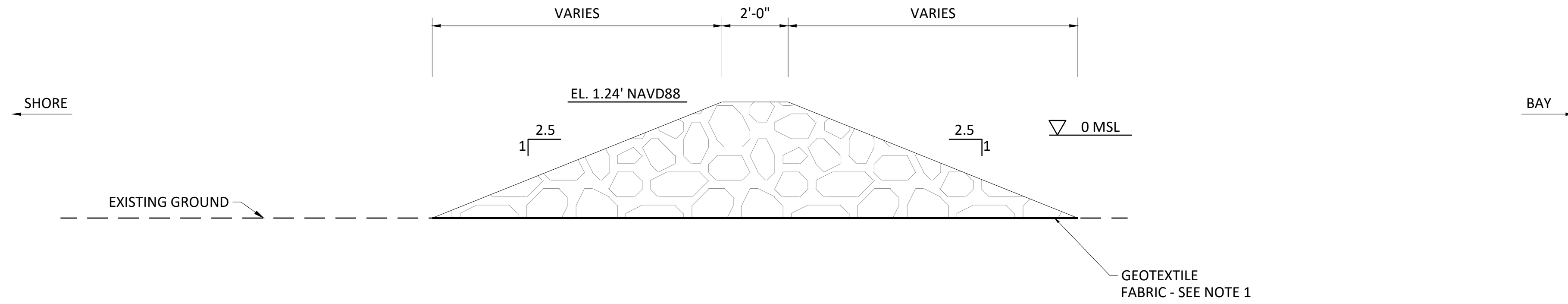
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SCHICKE POINT LIVING SHORELINE IMPROVEMENTS
 CIVIL
BREAKWATER NO. 3 DETAILS

NO.	ISSUE	BY	DATE	DATE	MBF21580	FILE NAME
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BREAK WATER #4 DETAIL



**BREAK WATER #4
TYPICAL SECTION**



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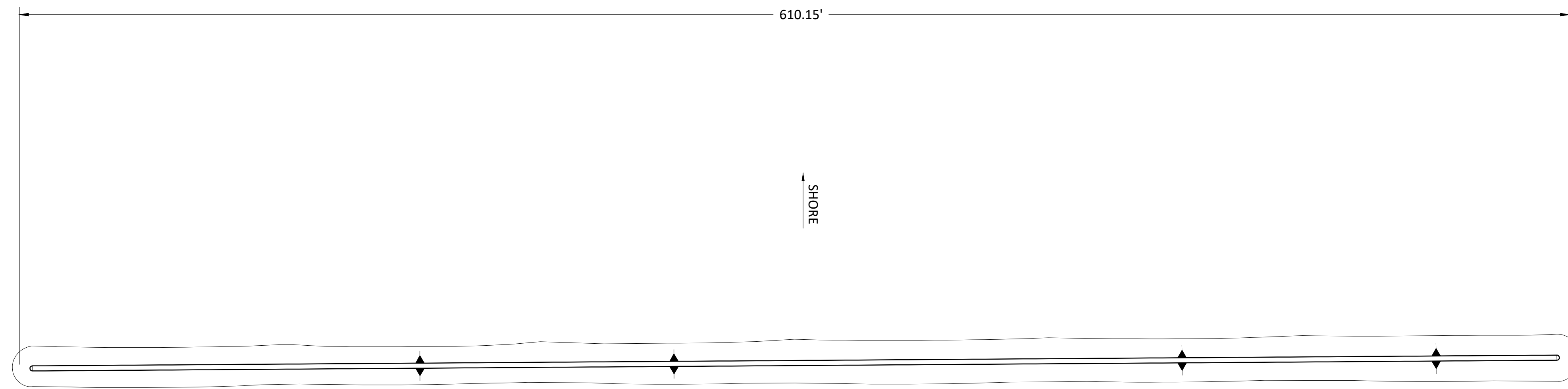
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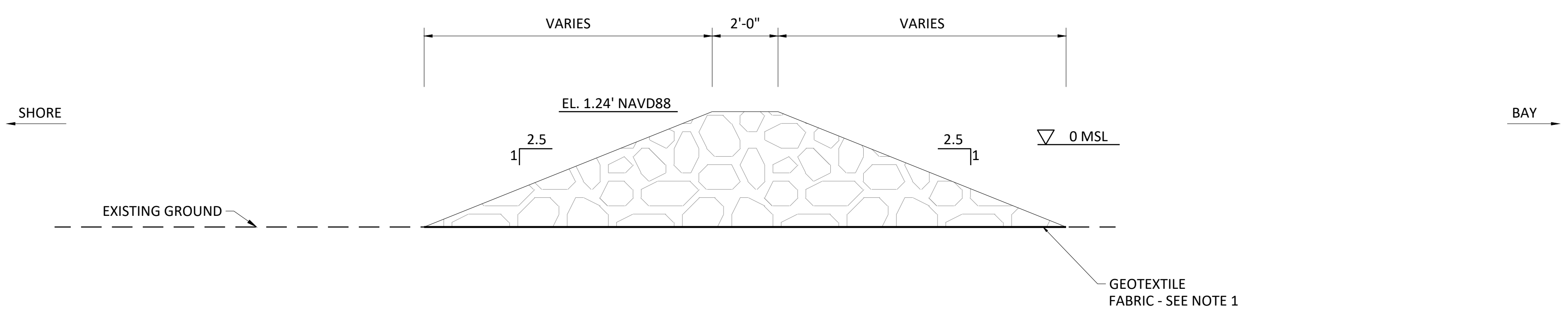
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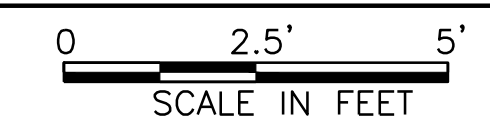
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BREAK WATER #5 DETAIL



**BREAK WATER #5
 TYPICAL SECTION**



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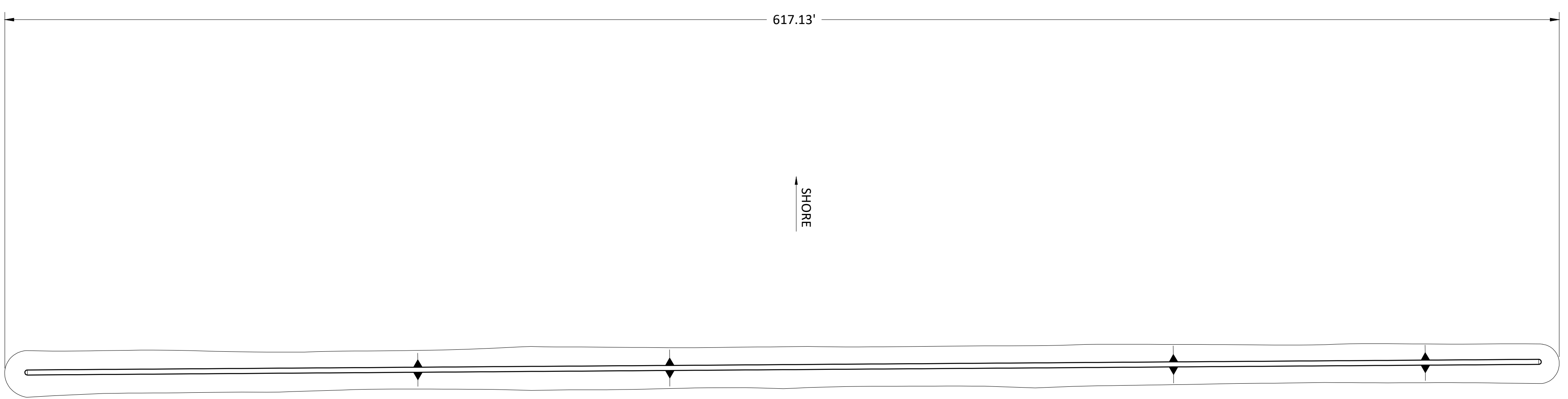
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**BREAKWATER NO. 5
 DETAILS**

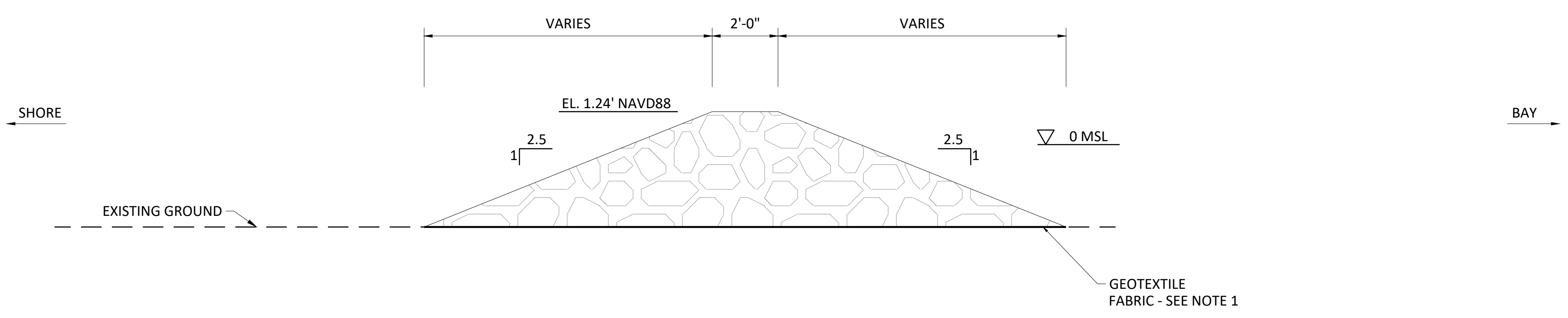
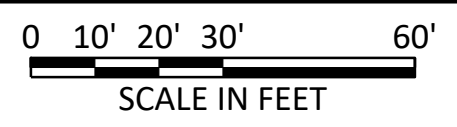
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SHEET **13**
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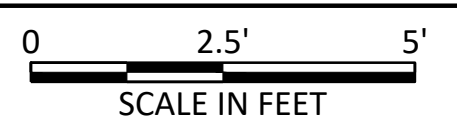
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BREAK WATER #6 DETAIL



BREAK WATER #6
TYPICAL SECTION



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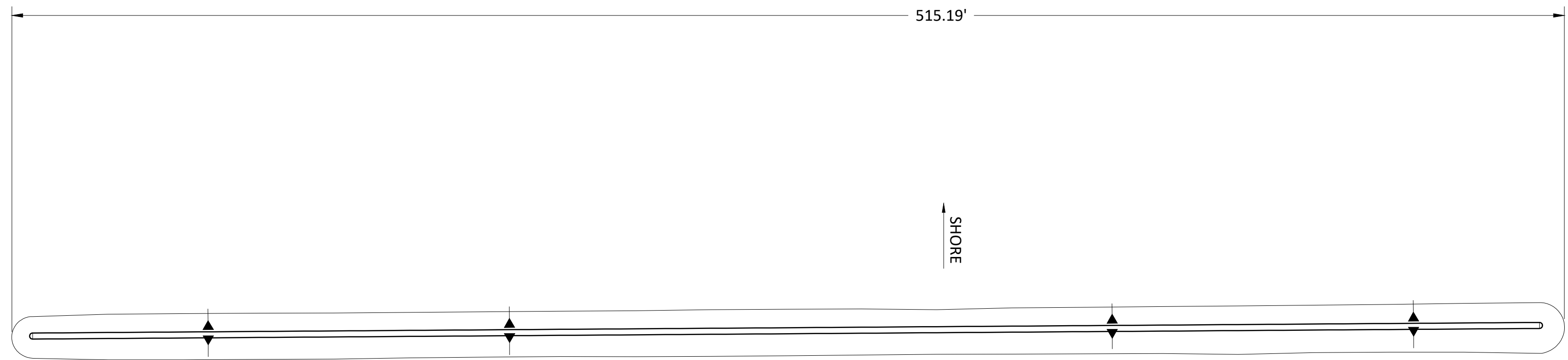
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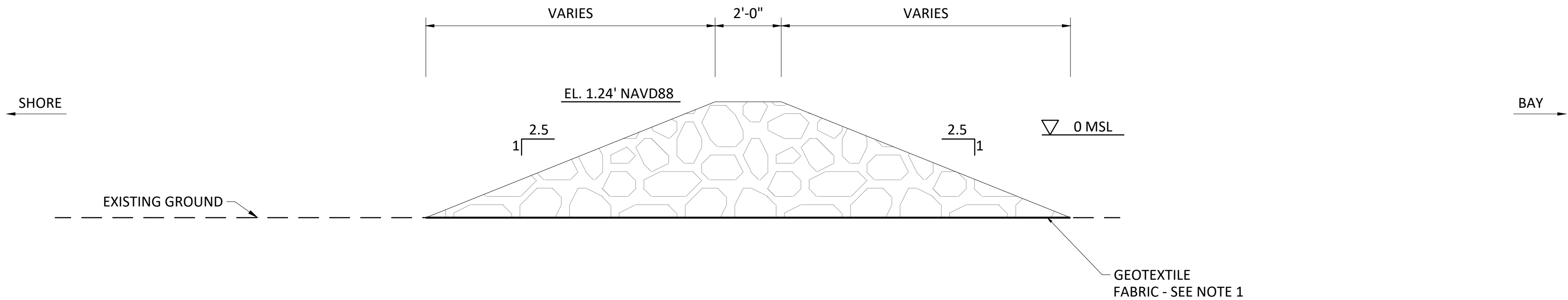
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SHEET 14
SEQ. 14 OF 15

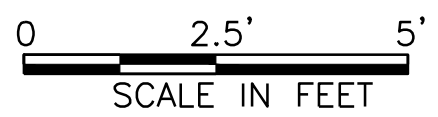
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BREAK WATER #7 DETAIL



BREAK WATER #7 TYPICAL SECTION



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LIVING SHORELINE IMPROVEMENTS

BREAKWATER NO. 7 DETAILS

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CIVIL

MBF21580

08/05/21

DESIGNED NK

DRAWN KAM

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DATE

BY

FILE NAME

CV-BRW-DT-BRW7.dwg

NO.

ISSUE

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SHEET

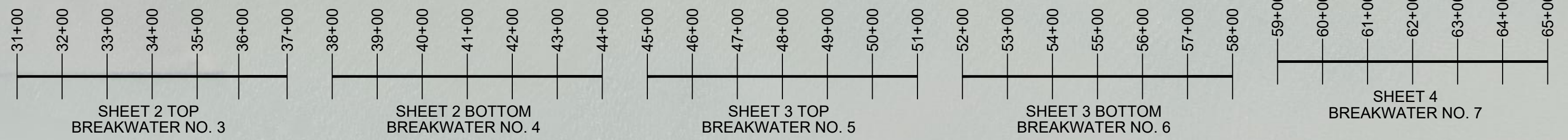
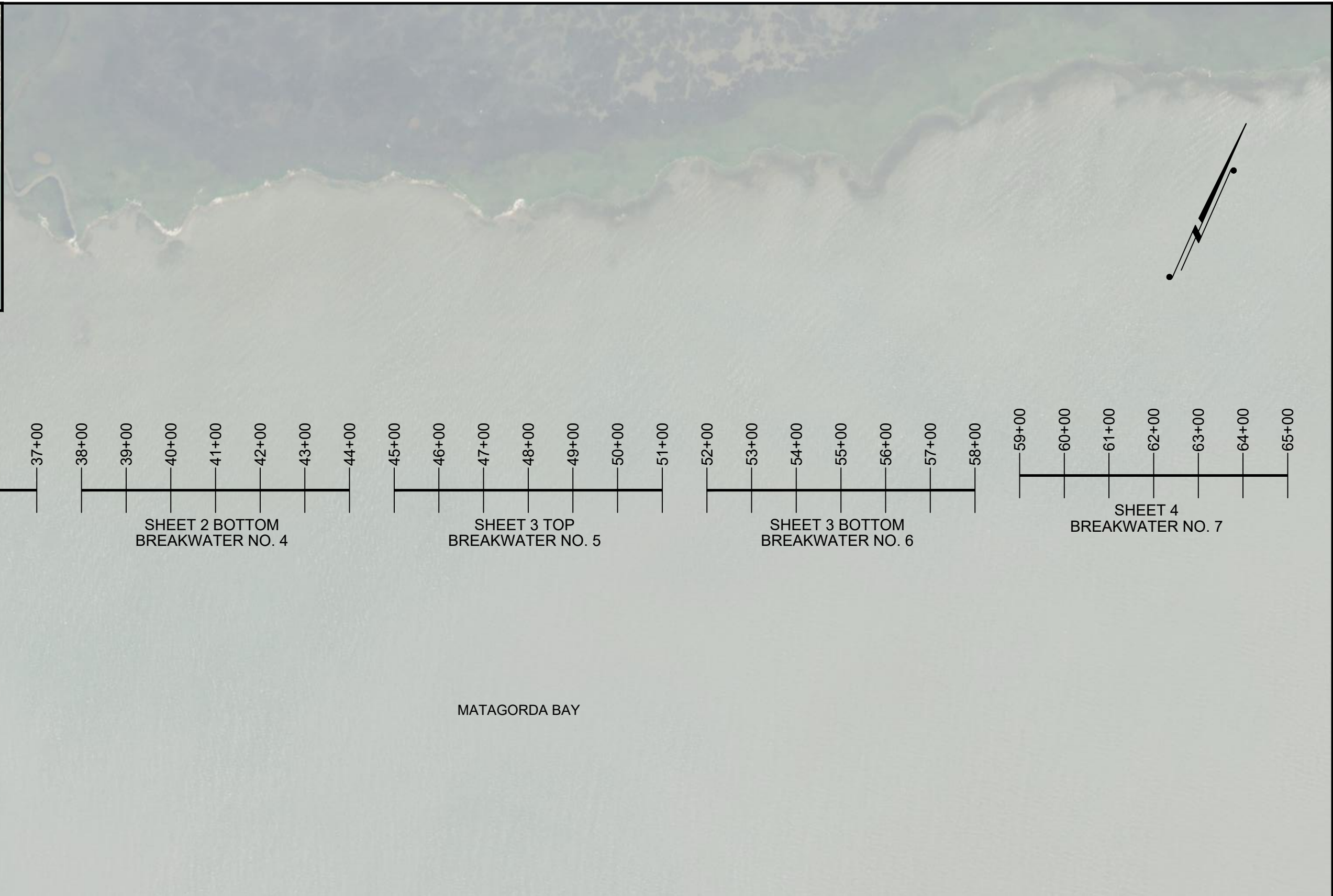
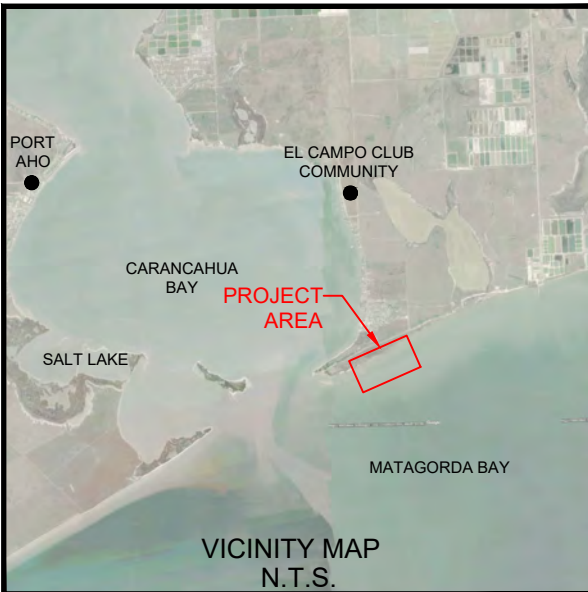
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SEQ.

15 OF 15

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Attachment 10: Apollo Environmental As-built Survey



MATAGORDA BAY

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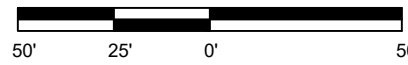
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 2. HORIZONTAL DATUM: NAD83 (2011), TEXAS SOUTH CENTRAL ZONE. ALL DISTANCES ARE U.S. SURVEY FEET (GRID).
 3. VERTICAL: NAVD88 (GEOID 18)

"E OY"
 N: 13,424,489.8'
 E: 2,817,141.7'
 ELEV: 1.9' NAVD88



T. BAKER SMITH
 A CENTURY OF SOLUTIONS
 3854 FM 1069
 Aransas Pass, TX 78336
 (361)334-5719 - tbsmith.com
 TBPLS #10194575

SCALE: 1" = 50'



50' 25' 0' 50'

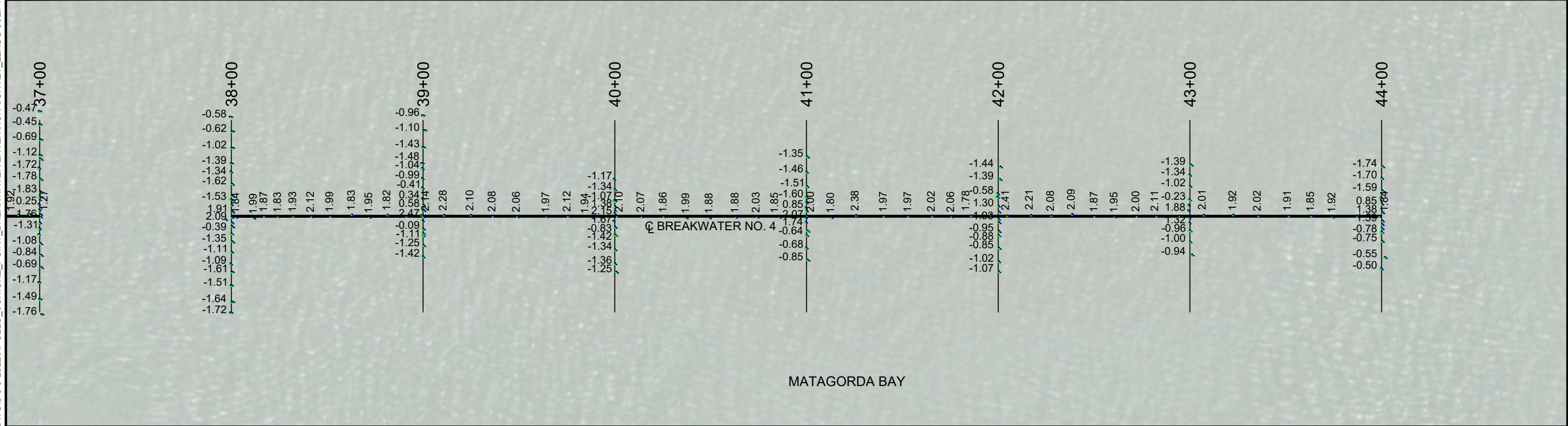
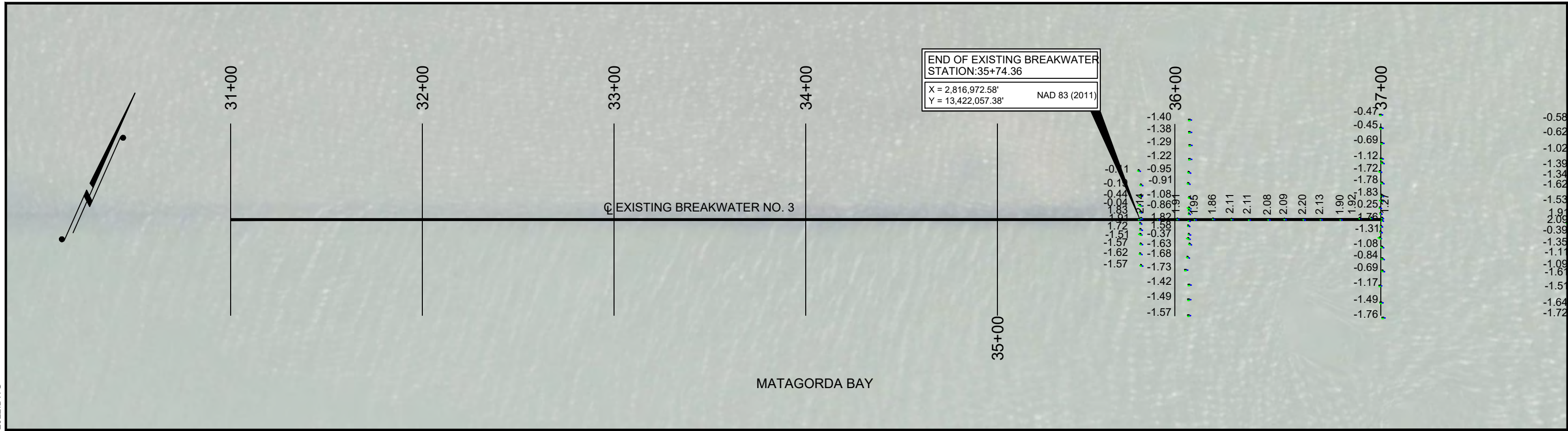
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PROJECTION: TEXAS STATE PLANE SOUTH CENTRAL GEO. DATUM: NAD83 (2011) VERT. DATUM: NAVD88 GRID UNITS: US SURVEY FEET	
SHEET NO: 1	OF 9

TOPOGRAPHIC SURVEY

APOLLO ENVIRONMENTAL STRATEGIES, INC.
 FINAL INTERIM SCHICKE POINT BREAKWATER EXTENSION
 AN EXHIBIT OF A
 TOPOGRAPHIC SURVEY
 LOCATED IN
 PALACIOS, TEXAS

--- P:\Y-2022\2022.1076\DWG\3-9-6-2022\APOLLO_SCHICKE_POINT_BREAKWATER_EXTENSION_SURVEY_22AUG6SEPT2022.DWG



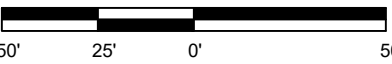
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SCALE: 1" = 50'



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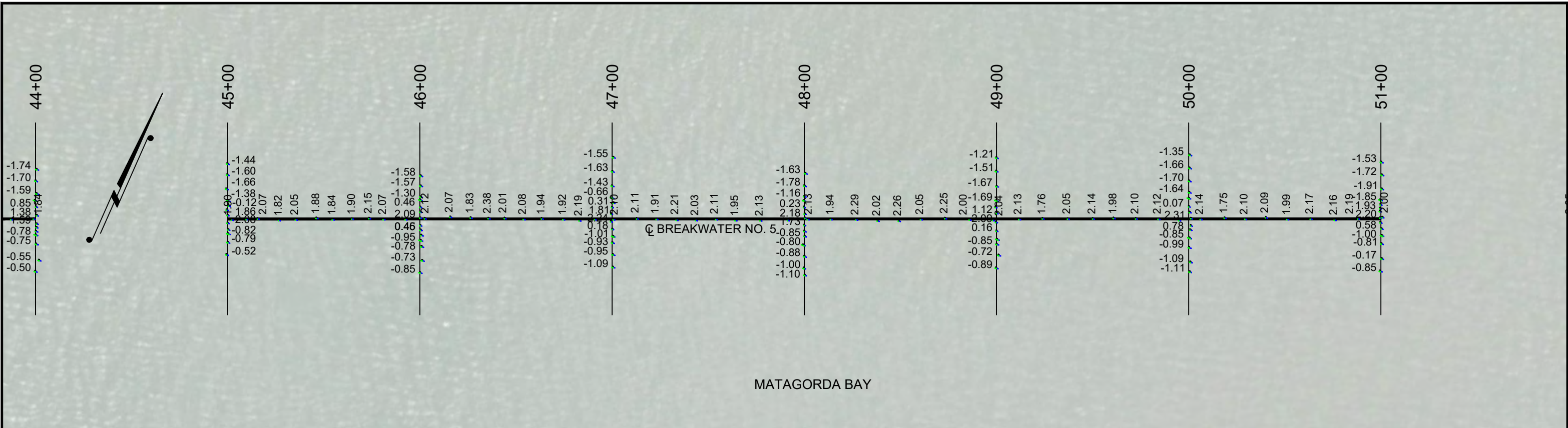
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PROJECTION: TEXAS STATE PLANE SOUTH CENTRAL GEO. DATUM: NAD83 (2011) VERT. DATUM: NAVD88 GRID UNITS: US SURVEY FEET	
SHEET NO: 2	OF 9

TOPOGRAPHIC SURVEY

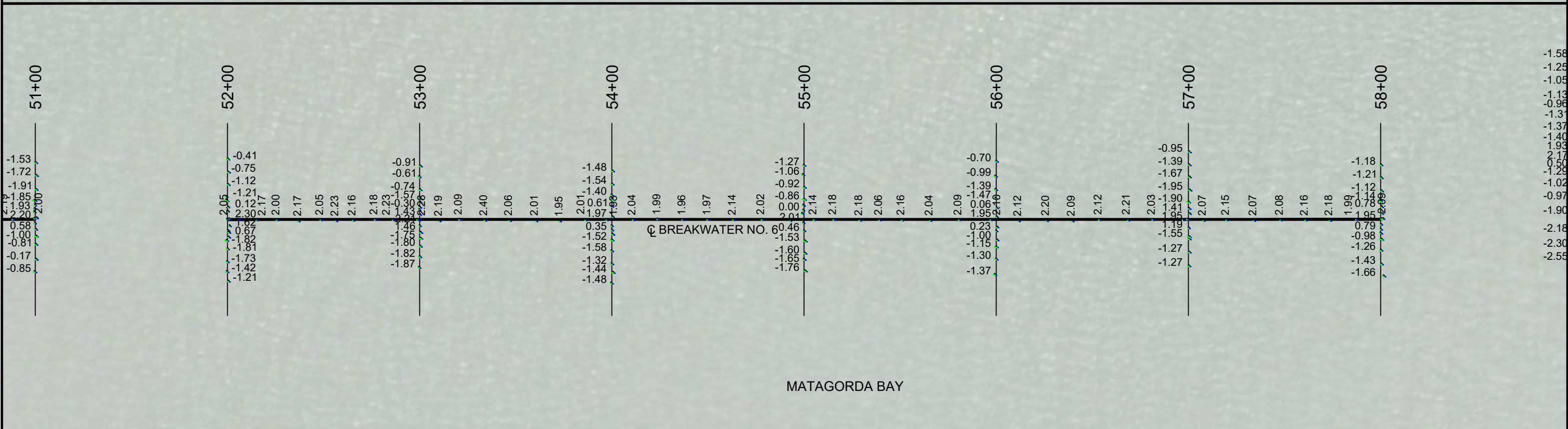
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AN EXHIBIT OF A
 TOPOGRAPHIC SURVEY
 LOCATED IN
 PALACIOS, TEXAS

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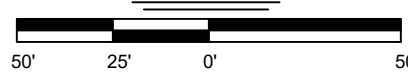
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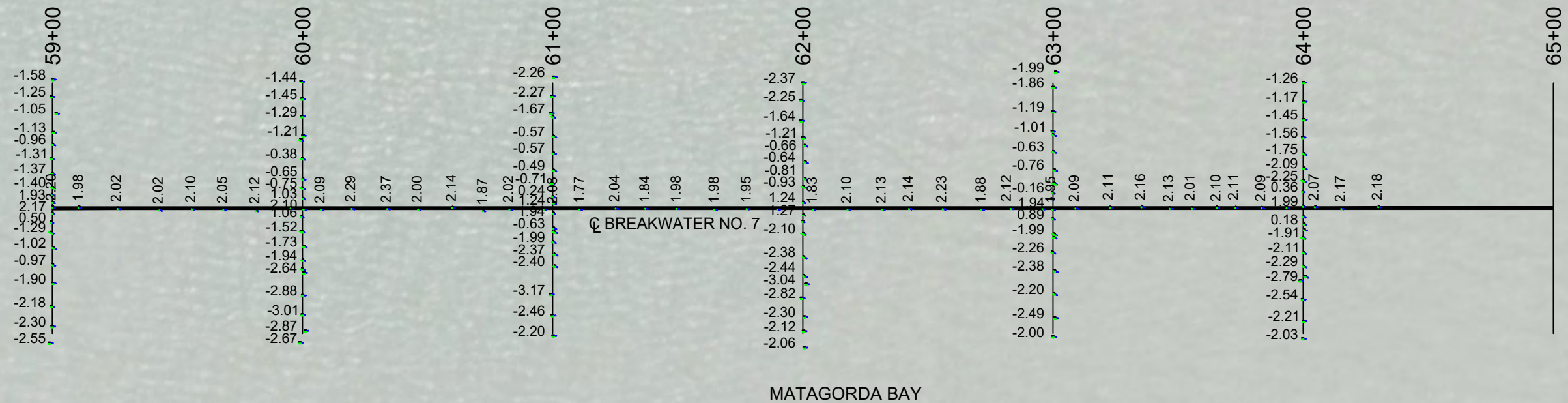
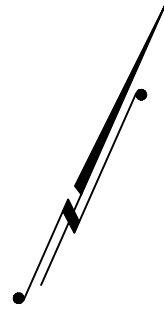


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GRID UNITS: US SURVEY FEET			
SHEET NO:	3	OF	9

TOPOGRAPHIC SURVEY
APOLLO ENVIRONMENTAL STRATEGIES, INC.
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 AN EXHIBIT OF A
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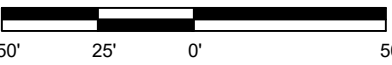
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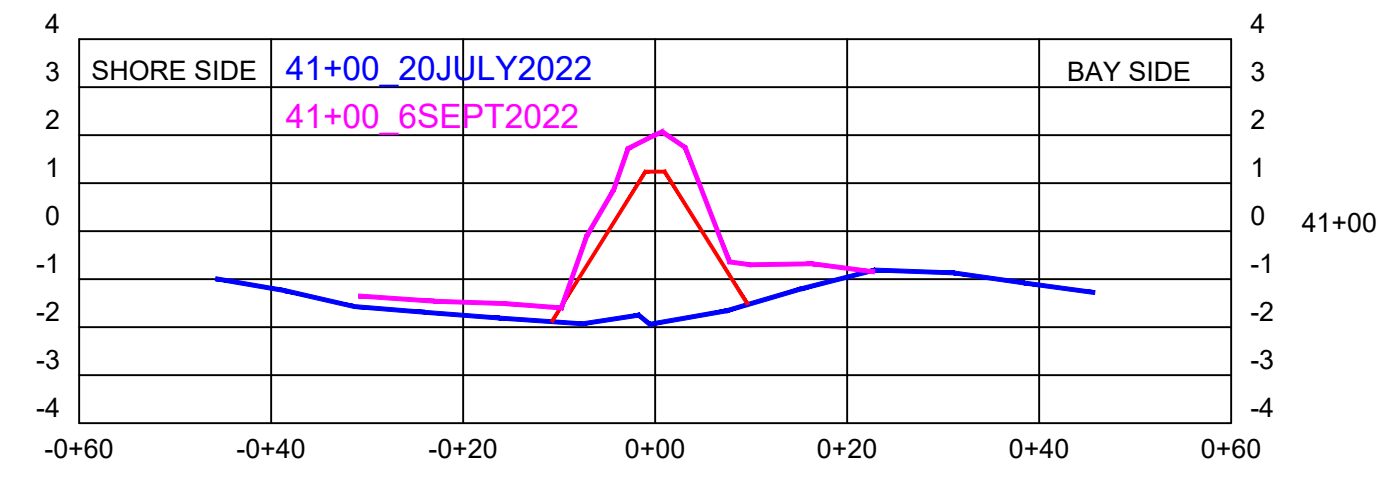
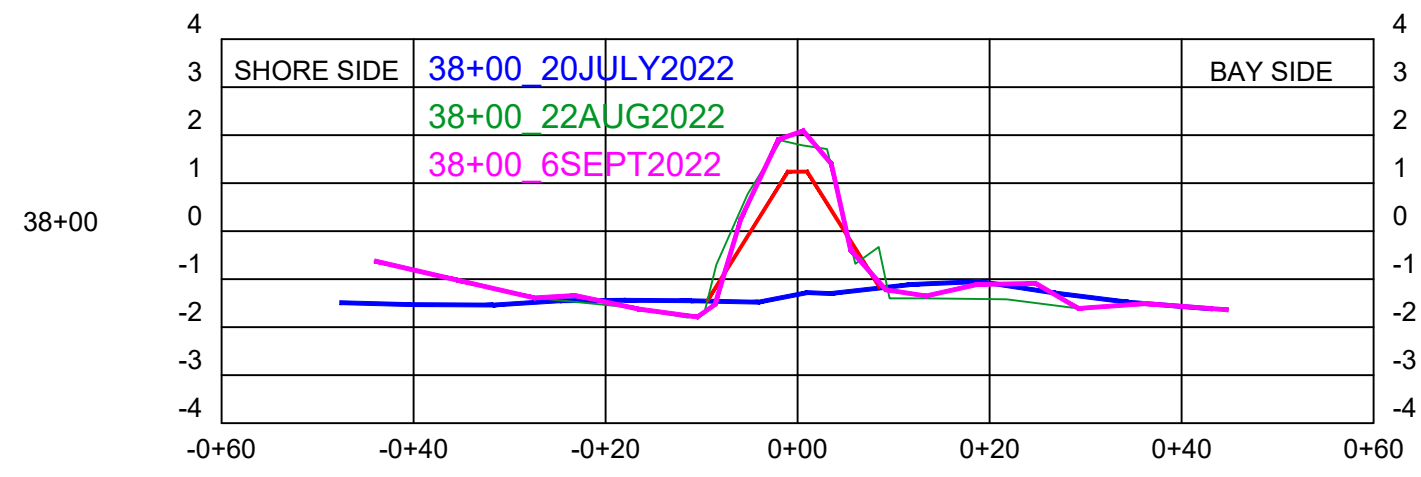
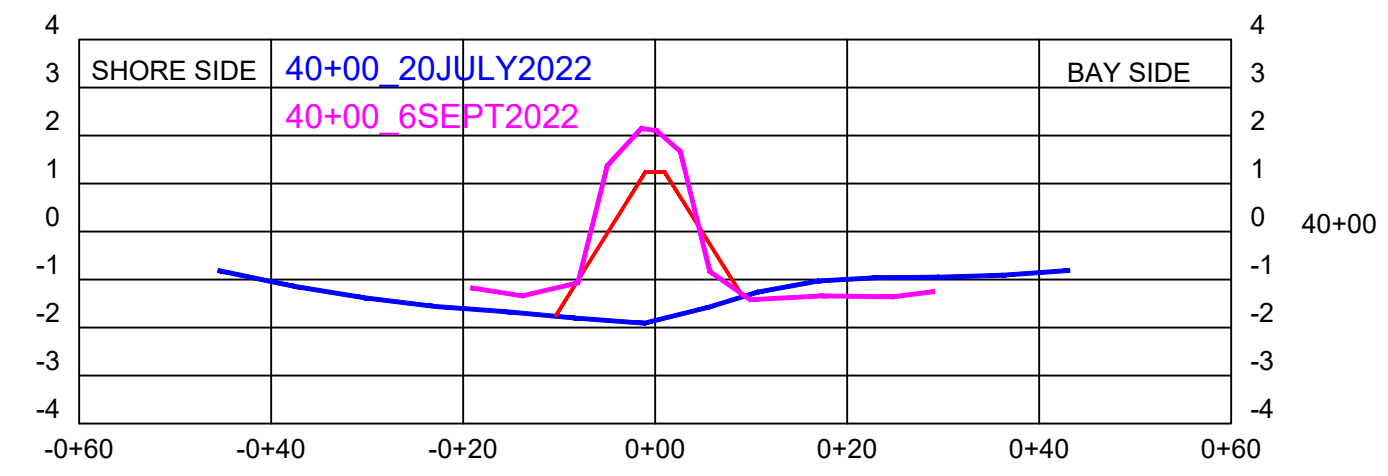
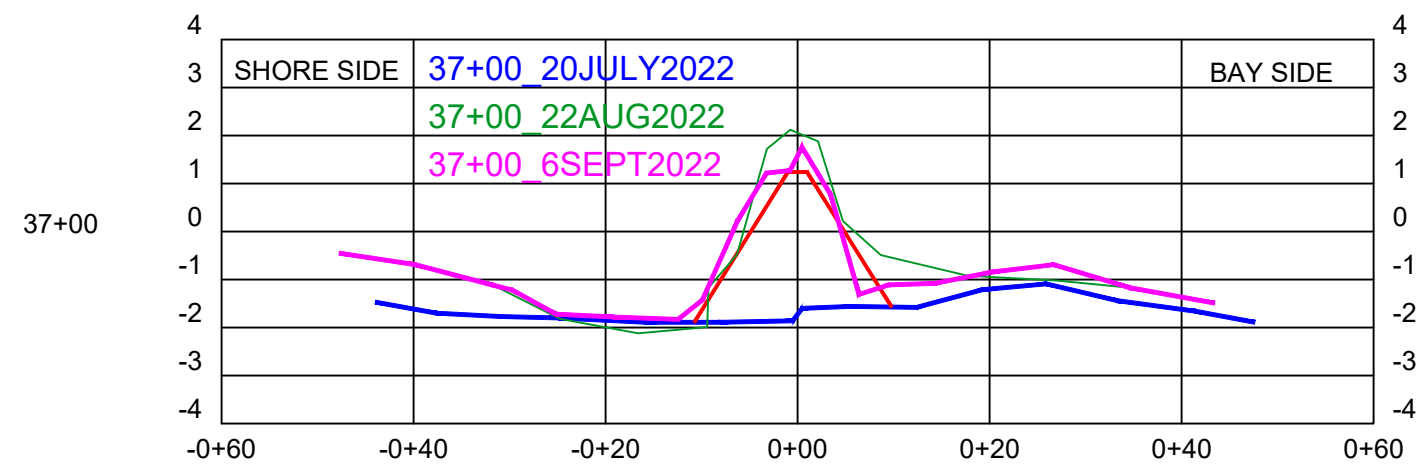
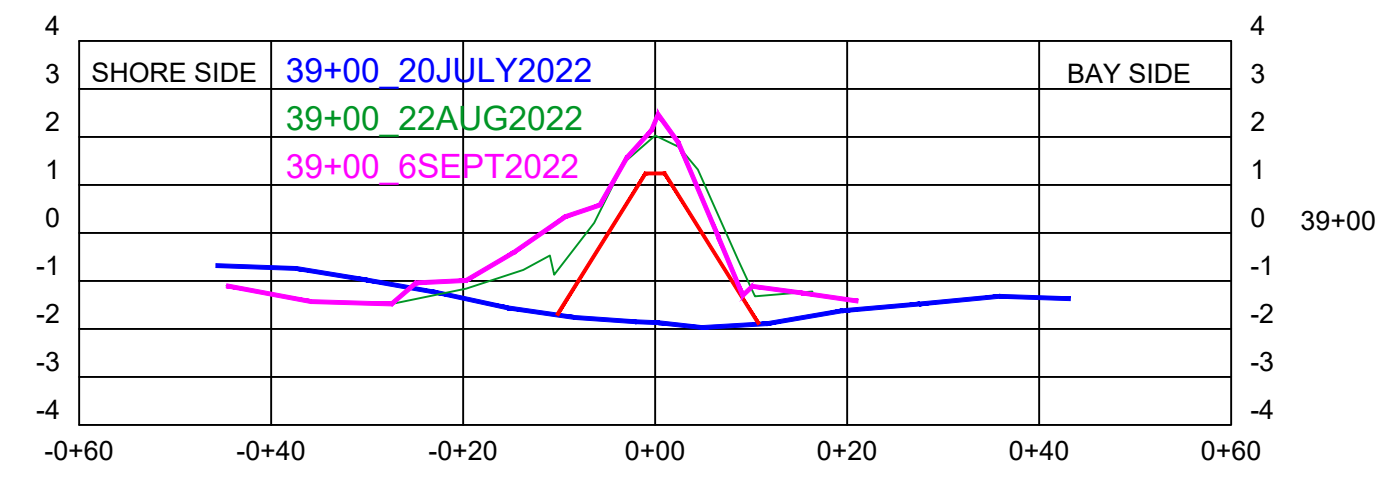
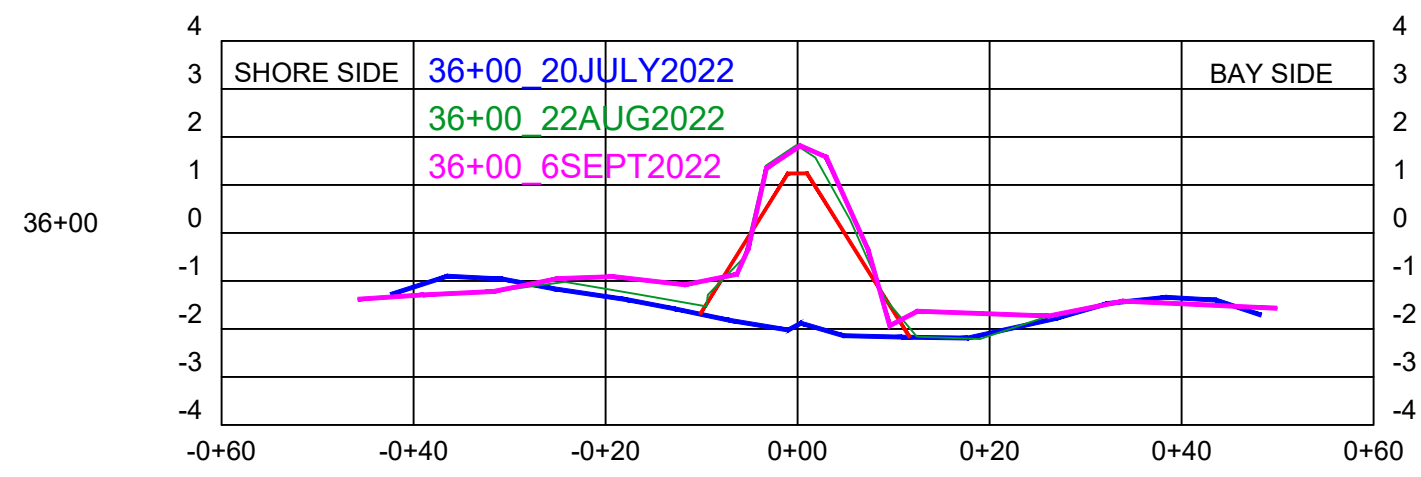
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REVISION DESCRIPTION: --		

DRAWN BY: CDW	APPROVED BY: BSG
DATE: 09/07/2022	JOB NO: 2022.1076
DRAWING NAME: APOLLO_SCHICKE_POINT_BREAKWATER_EXTENSION_SURVEY_22AUG6SEPT2022	
PROJECTION: TEXAS STATE PLANE SOUTH CENTRAL GEO. DATUM: NAD83 (2011) VERT. DATUM: NAVD88 GRID UNITS: US SURVEY FEET	
SHEET NO: 4	OF 9

TOPOGRAPHIC SURVEY

APOLLO ENVIRONMENTAL STRATEGIES, INC.
 FINAL INTERIM SCHICKE POINT BREAKWATER EXTENSION
 AN EXHIBIT OF A
 TOPOGRAPHIC SURVEY
 LOCATED IN
 PALACIOS, TEXAS

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NOTES:
 1. TOPOGRAPHIC DATA WAS RECORDED BY T. BAKER SMITH ON 22 AUGUST AND 6 SEPTEMBER, 2022. TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
 2. HORIZONTAL DATUM: NAD83 (2011), TEXAS SOUTH CENTRAL ZONE. ALL DISTANCES ARE U.S. SURVEY FEET (GRID).
 3. VERTICAL: NAVD88 (GEOID 18)

"E OY"
 N: 13,424,489.8'
 E: 2,817,141.7'
 ELEV: 1.9' NAVD88

T. BAKER SMITH

A CENTURY OF SOLUTIONS

3854 FM 1069

Aransas Pass, TX 78336

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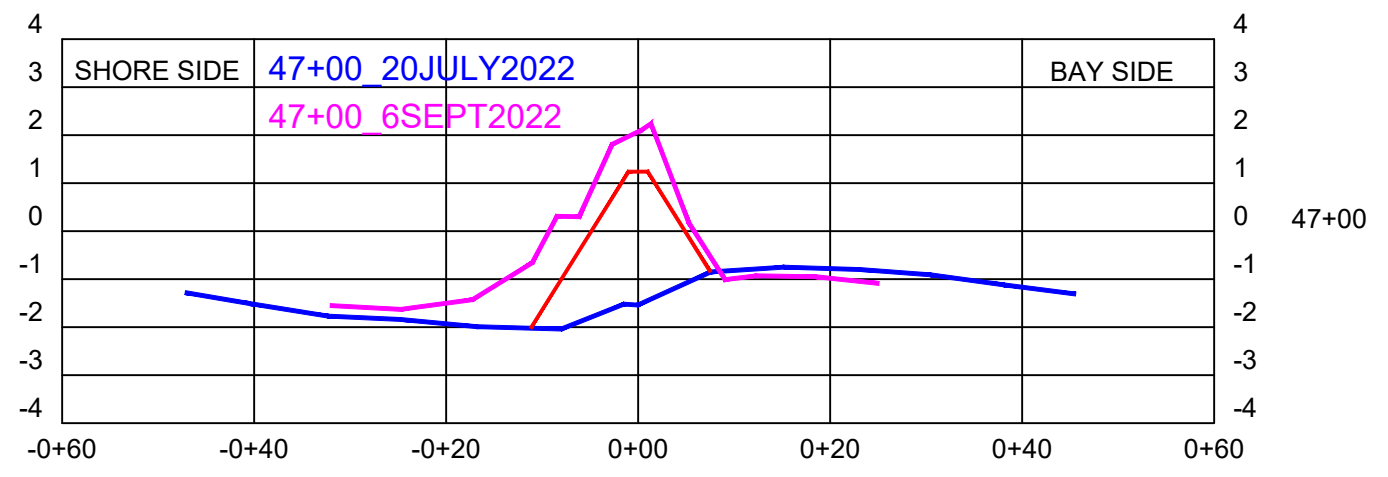
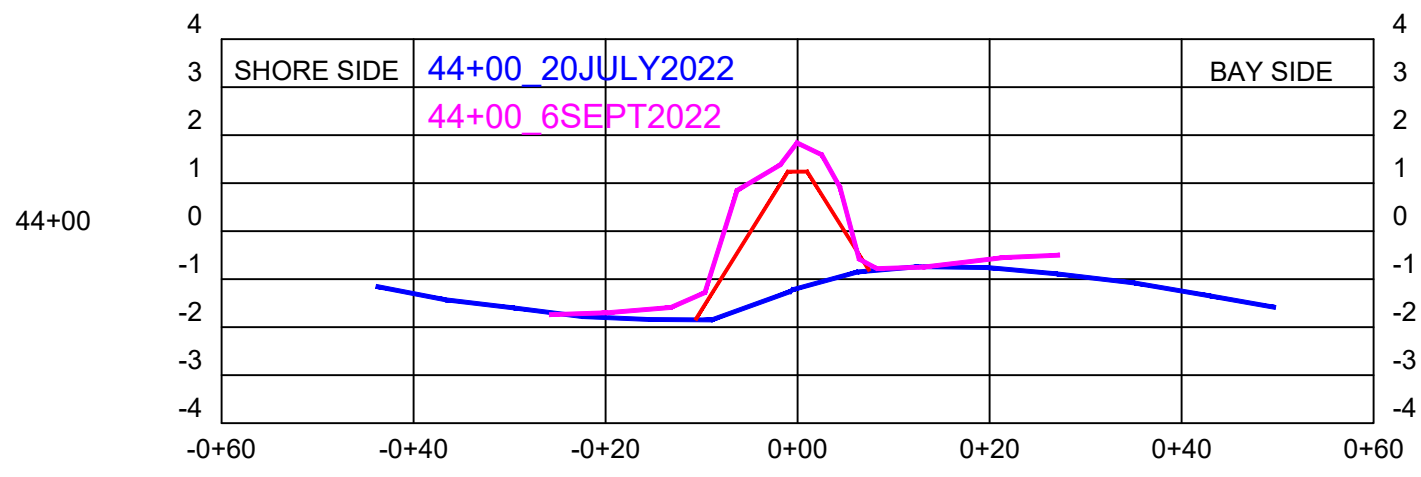
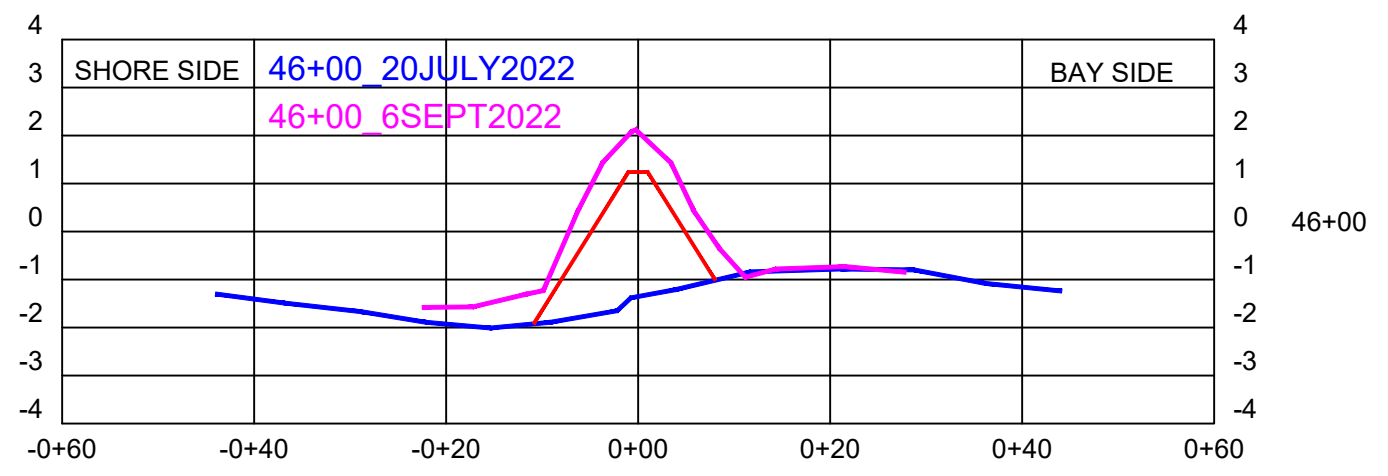
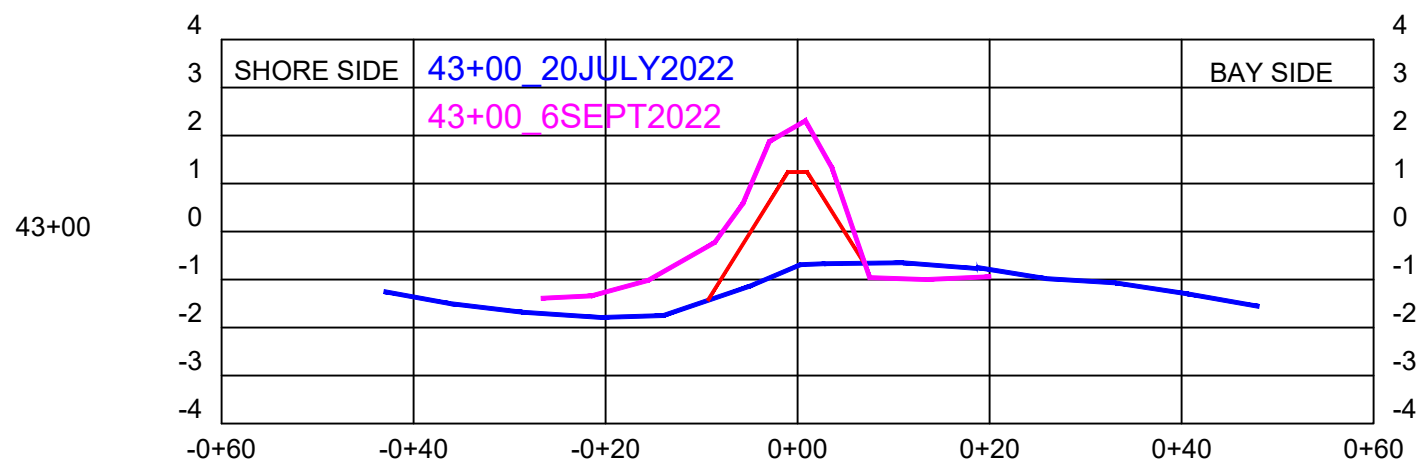
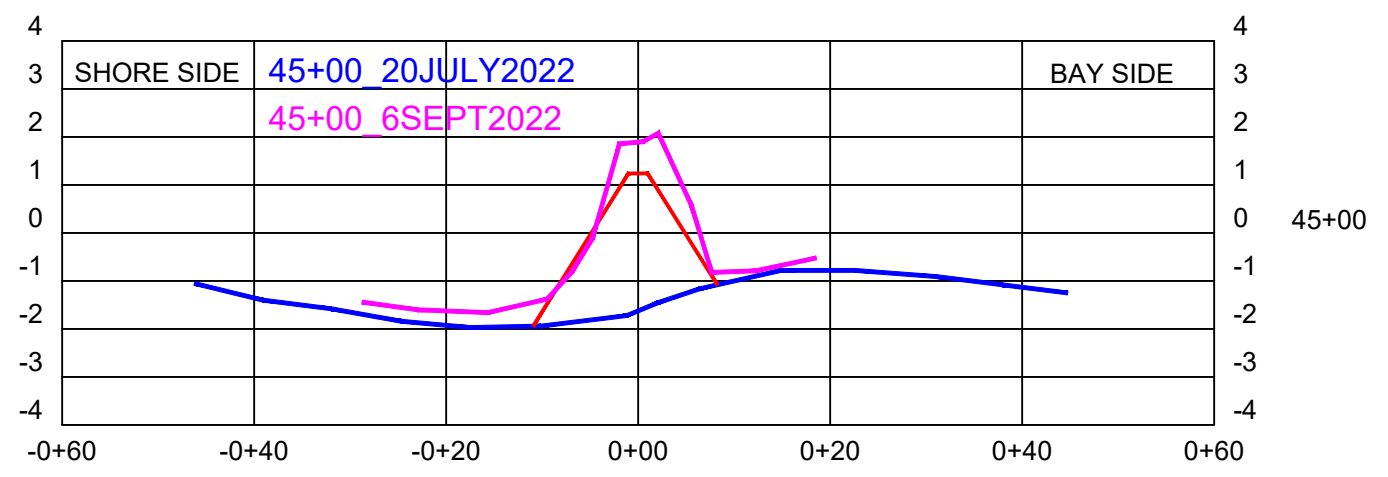
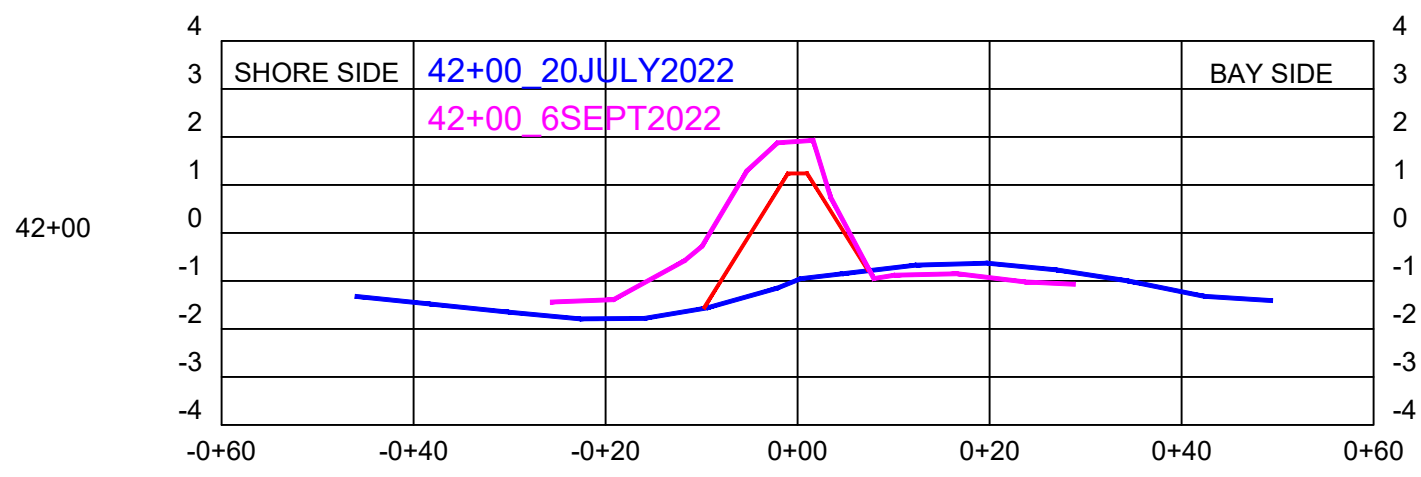
SCALE: 1" = 20'

REV. NO: 00	REV. DATE: --/--	REV. BY: ---
REVISION DESCRIPTION:		
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DRAWN BY: CDW	APPROVED BY: BSG
DATE: 09/07/2022	JOB NO: 2022.1076
DRAWING NAME:	
APOLLO_SCHICKE_POINT_BREAKWATER_EXTENSION_SURVEY_22AUG6SEPT2022	
PROJECTION: TEXAS STATE PLANE SOUTH CENTRAL	
GEO. DATUM: NAD83 (2011) VERT. DATUM: NAVD88	
GRID UNITS: US SURVEY FEET	
SHEET NO: 5	OF 9

TOPOGRAPHIC SURVEY
APOLLO ENVIRONMENTAL STRATEGIES, INC.
 FINAL INTERIM SCHICKE POINT BREAKWATER EXTENSION
 AN EXHIBIT OF A
 TOPOGRAPHIC SURVEY
 LOCATED IN
 PALACIOS, TEXAS

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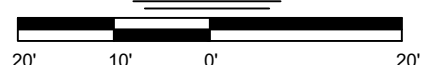
NOTES:
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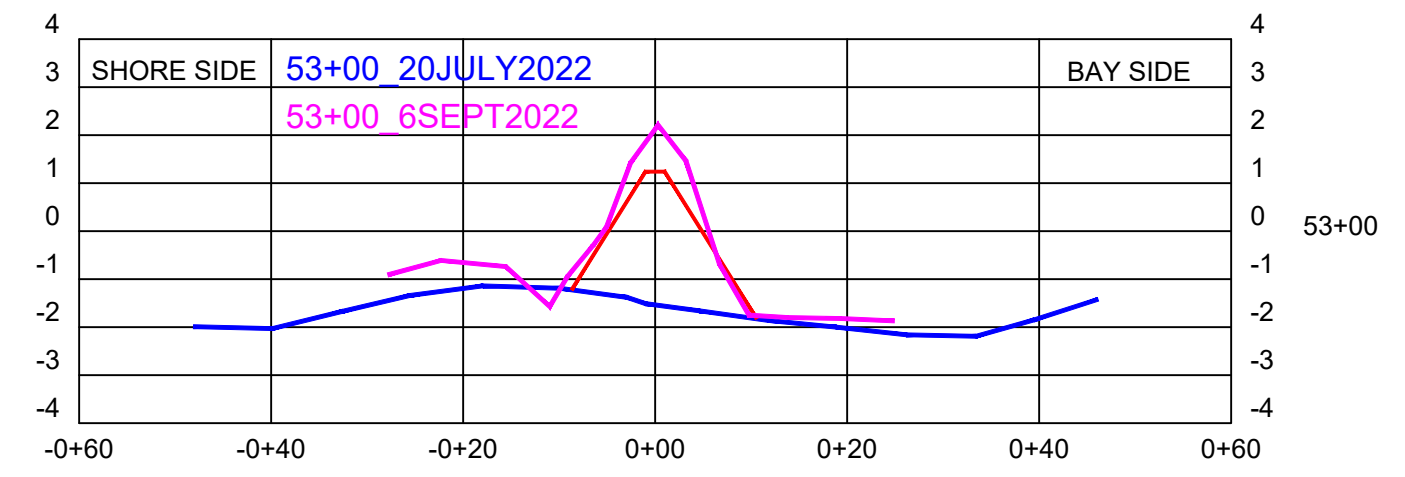
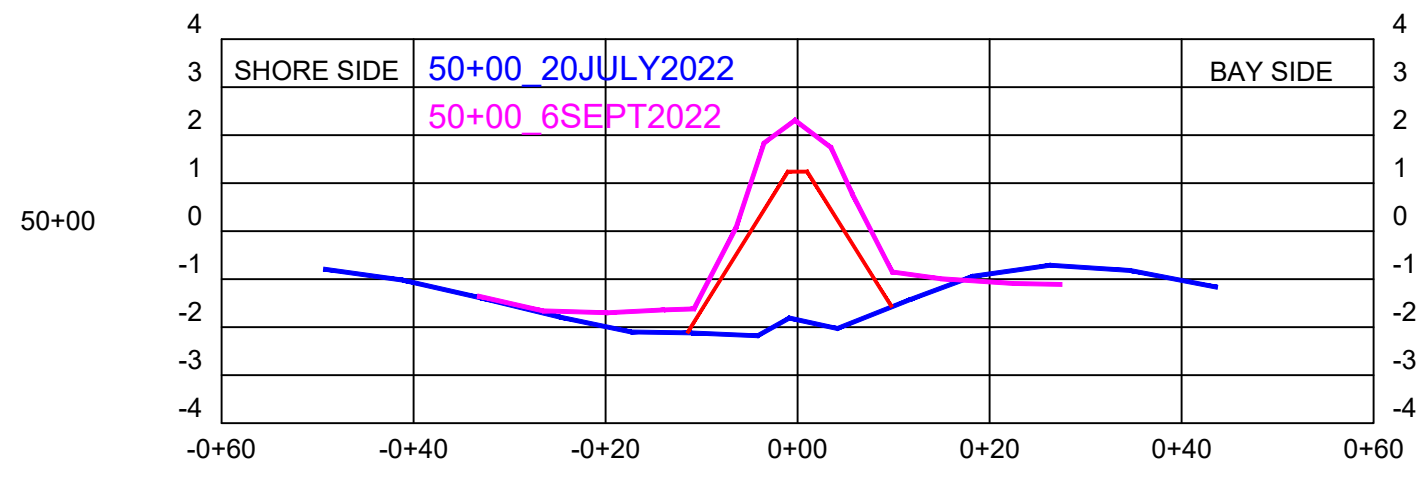
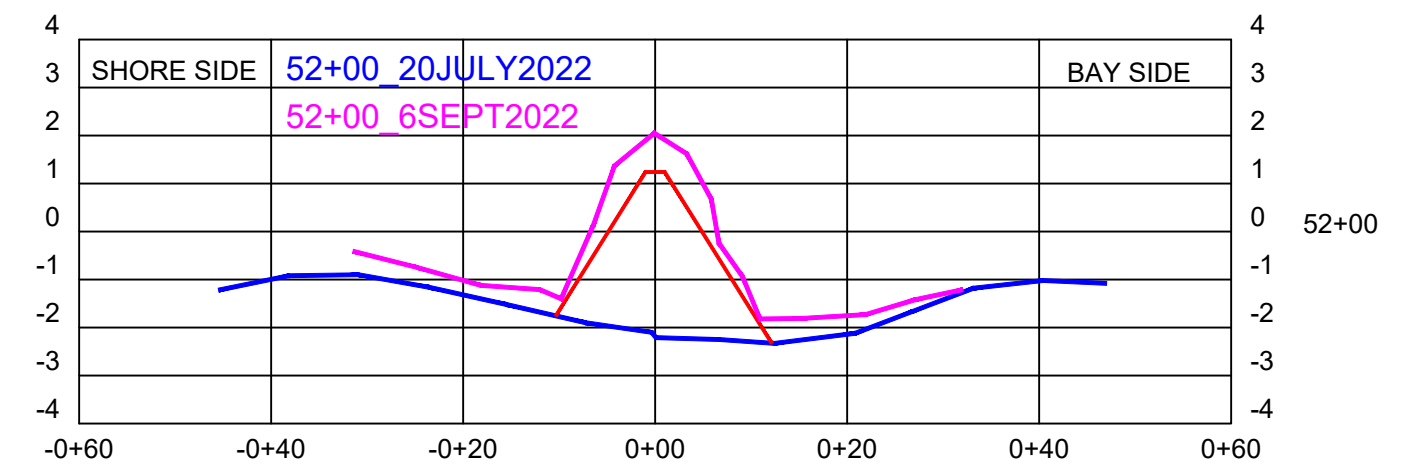
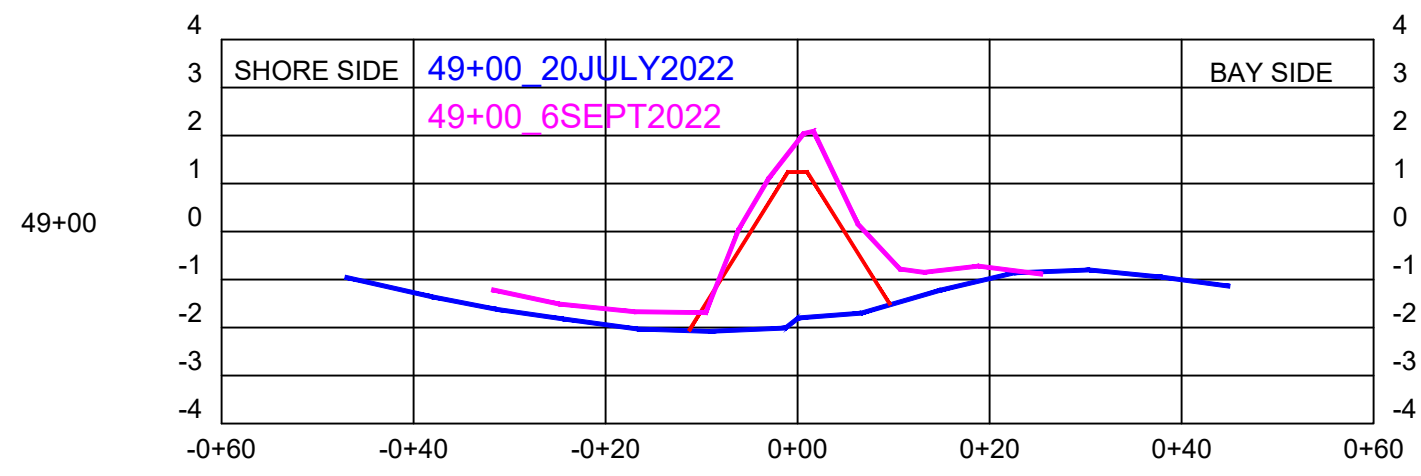
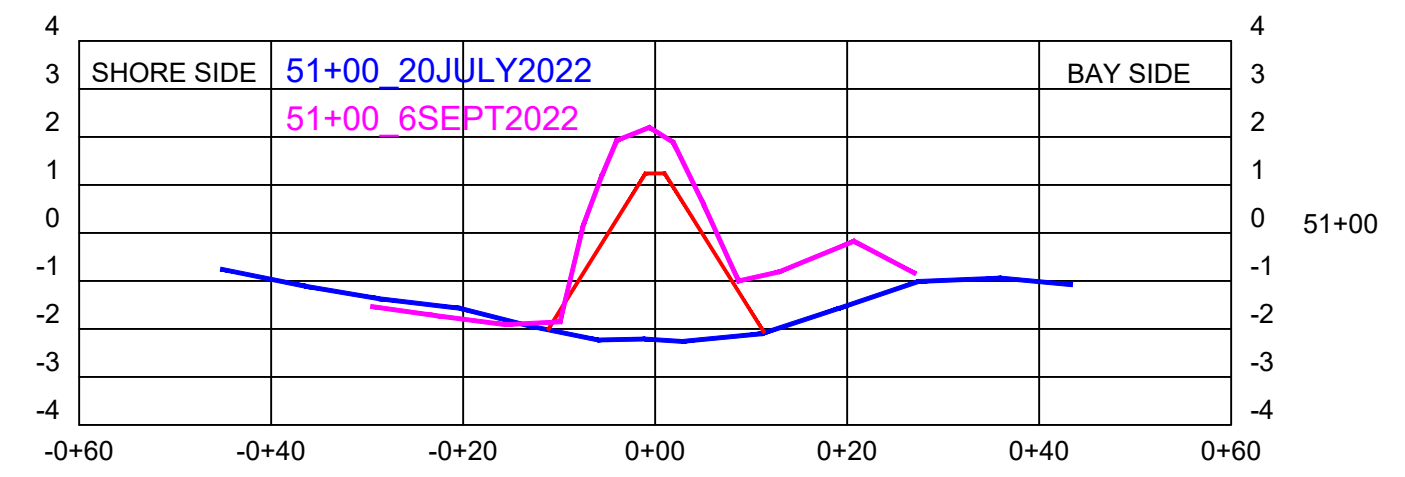
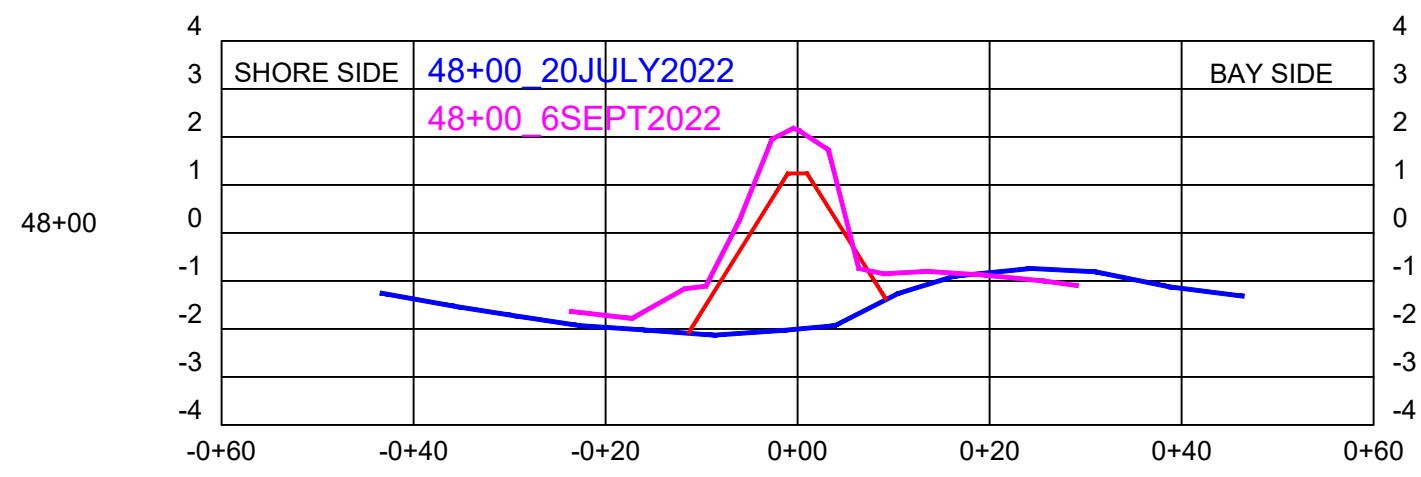


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 REVISION DESCRIPTION:
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DRAWN BY: CDW	APPROVED BY: BSG
DATE: 09/07/2022	JOB NO: 2022.1076
DRAWING NAME: APOLLO_SCHICKE_POINT_BREAKWATER_EXTENSION_SURVEY_22AUG6SEPT2022	
PROJECTION: TEXAS STATE PLANE SOUTH CENTRAL GEO. DATUM: NAD83 (2011) VERT. DATUM: NAVD88 GRID UNITS: US SURVEY FEET	
SHEET NO: 6	OF 9

TOPOGRAPHIC SURVEY
APOLLO ENVIRONMENTAL STRATEGIES, INC.
 FINAL INTERIM SCHICKE POINT BREAKWATER EXTENSION
 AN EXHIBIT OF A
 TOPOGRAPHIC SURVEY
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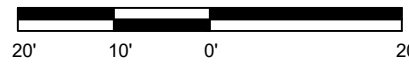
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 TBPLS #10194575

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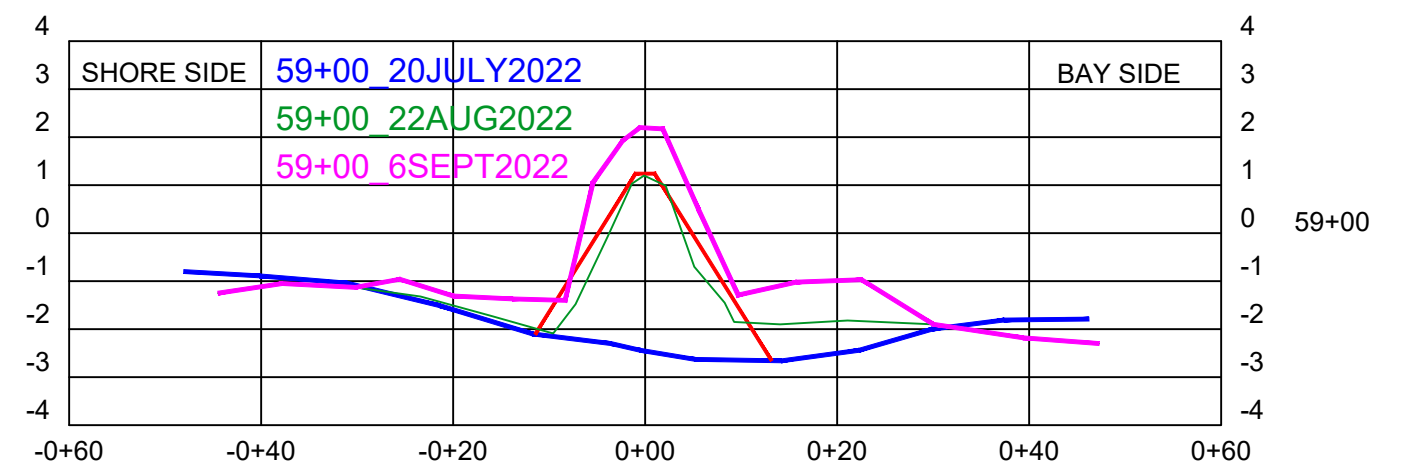
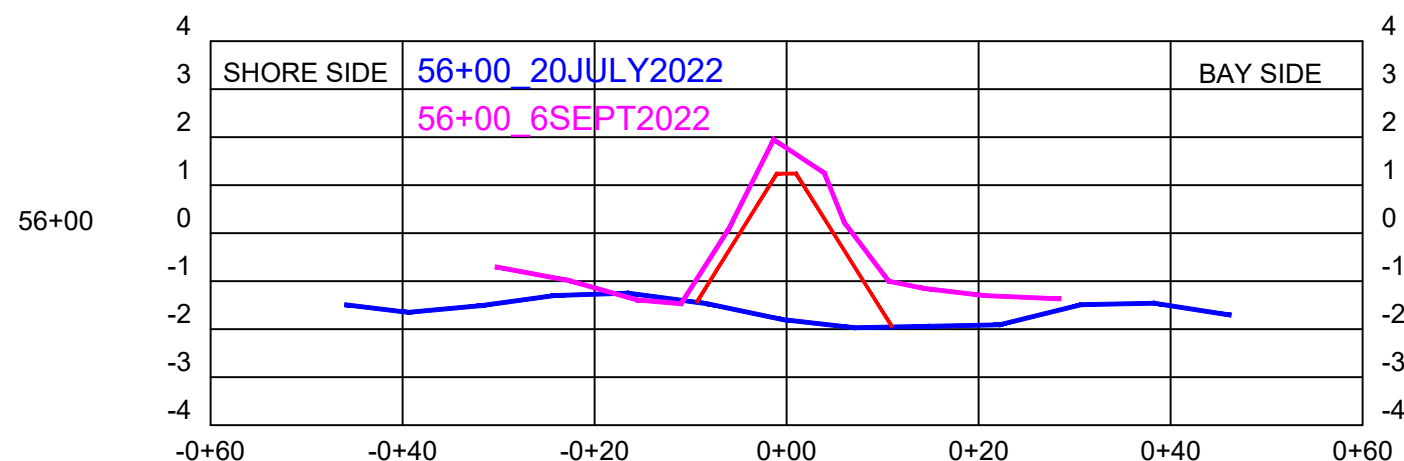
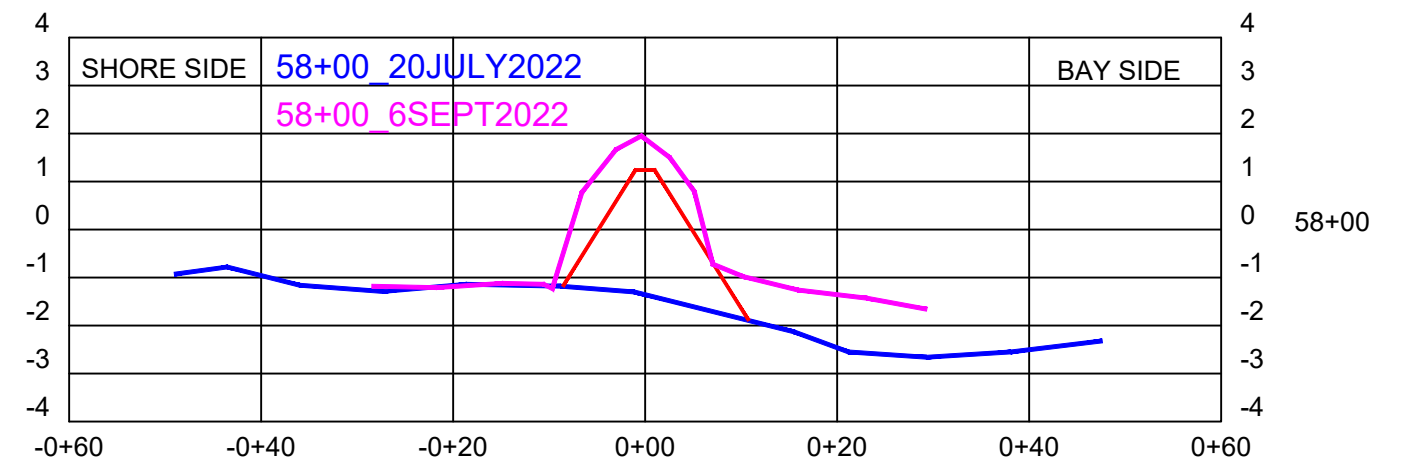
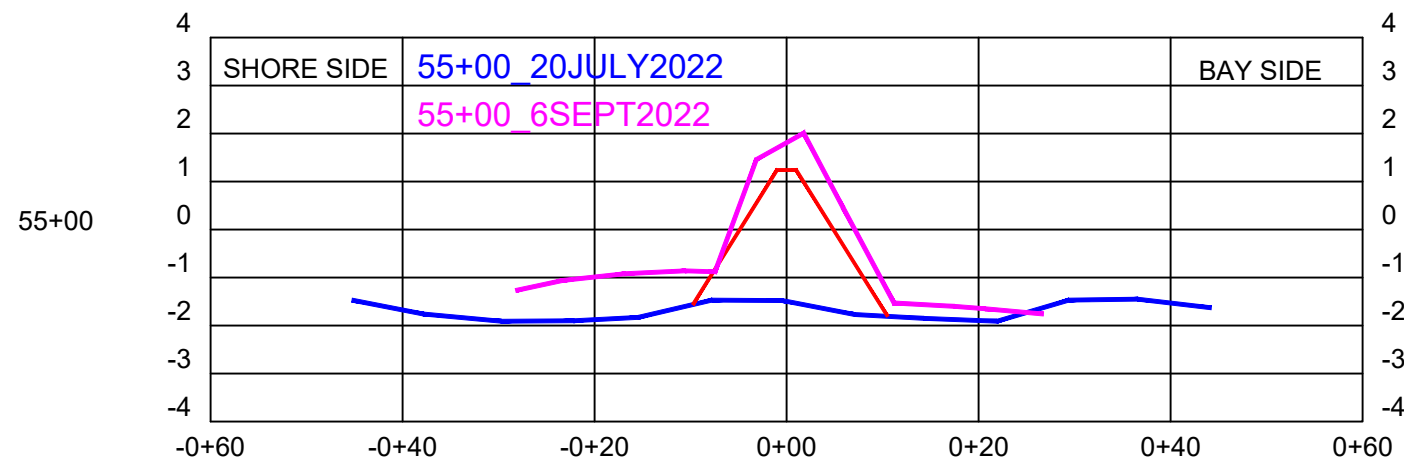
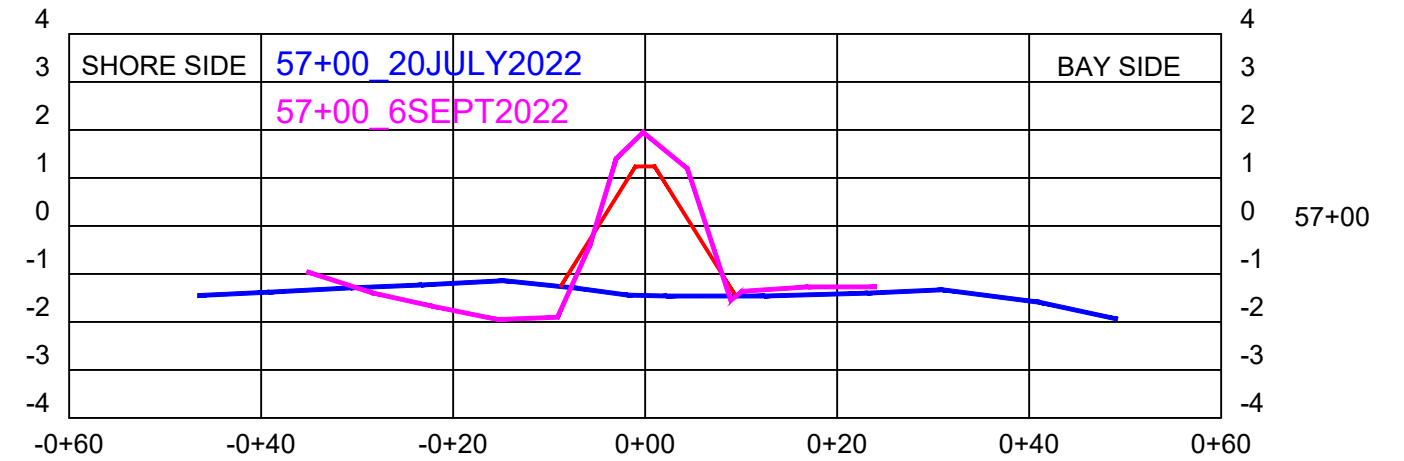
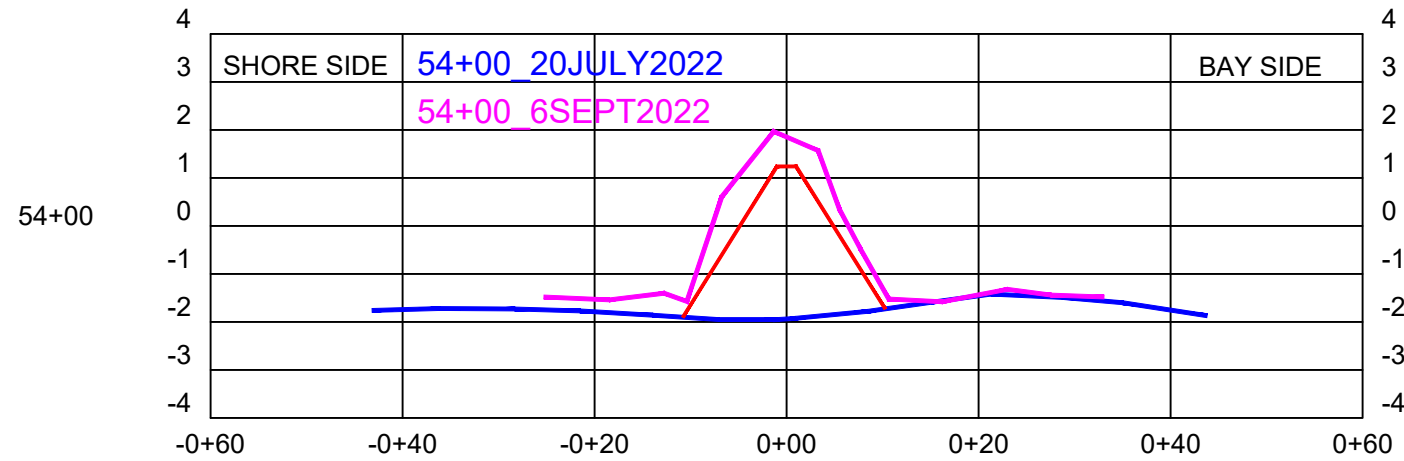


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 REVISION DESCRIPTION:
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DRAWN BY:	CDW	APPROVED BY:	BSG
DATE:	09/07/2022	JOB NO:	2022.1076
DRAWING NAME:			
APOLLO_SCHICKE_POINT_BREAKWATER_EXTENSION_SURVEY_22AUG_6SEPT2022			
PROJECTION: TEXAS STATE PLANE SOUTH CENTRAL			
GEO. DATUM: NAD83 (2011) VERT. DATUM: NAVD88			
GRID UNITS: US SURVEY FEET			
SHEET NO:	7	OF	9

TOPOGRAPHIC SURVEY
APOLLO ENVIRONMENTAL STRATEGIES, INC.
 FINAL INTERIM SCHICKE POINT BREAKWATER EXTENSION
 AN EXHIBIT OF A
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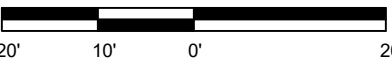
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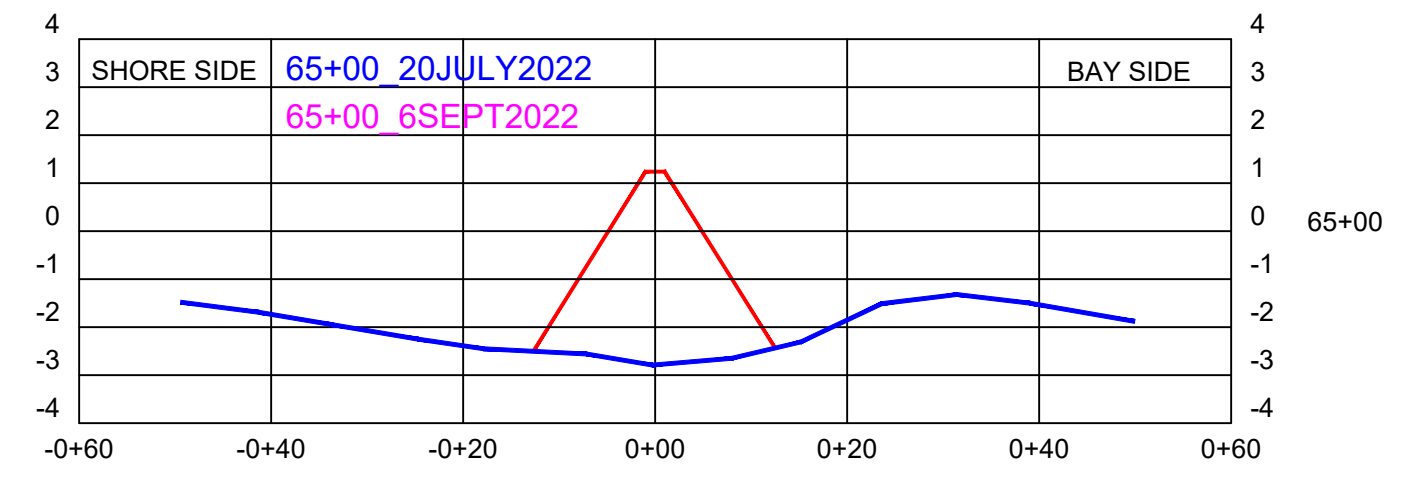
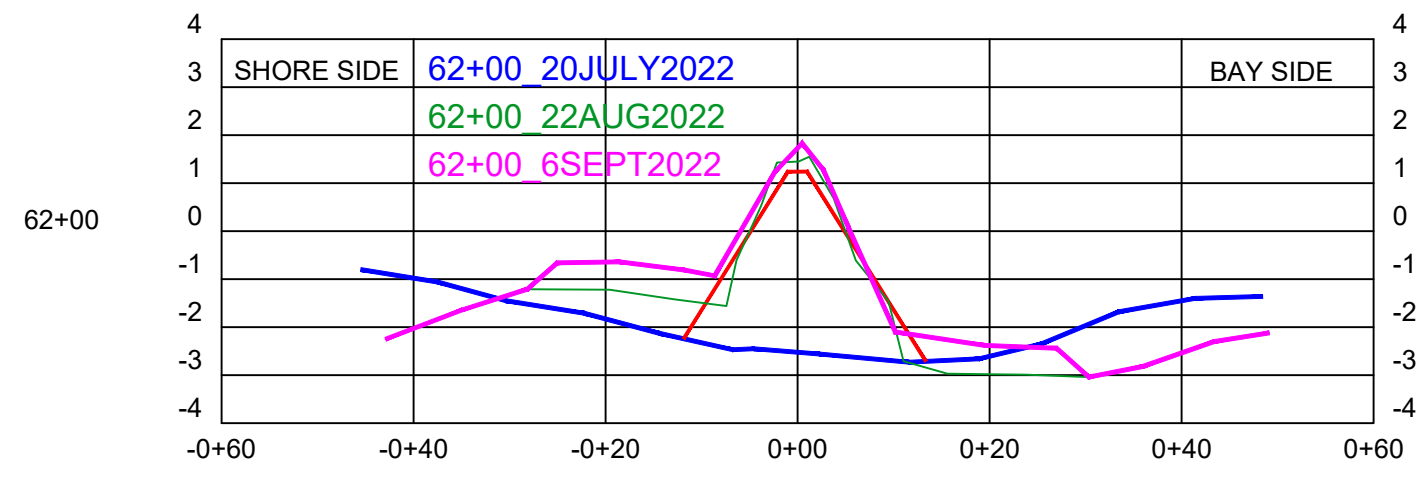
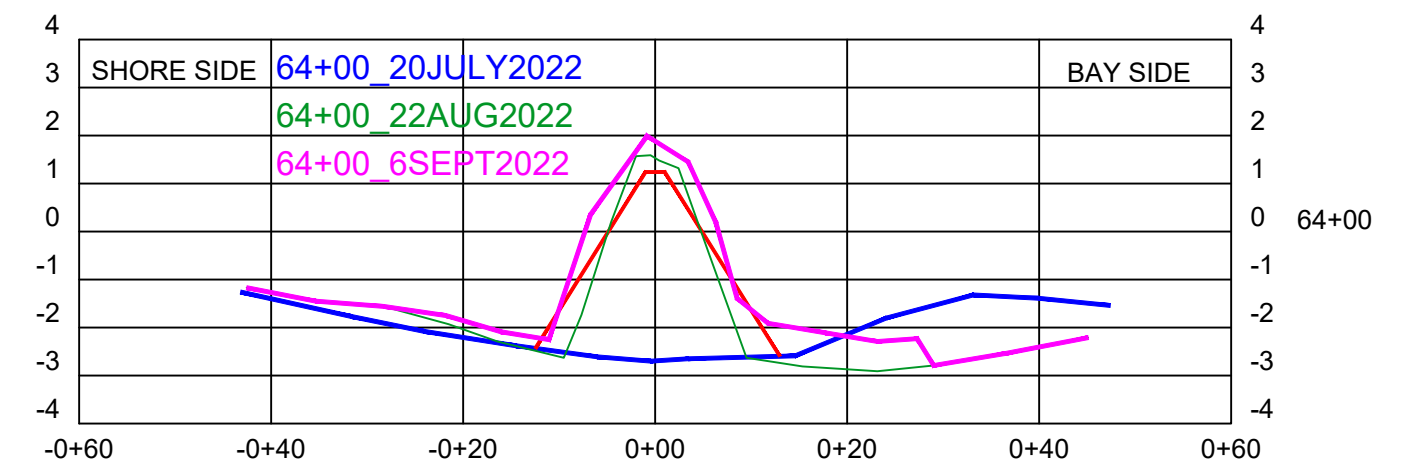
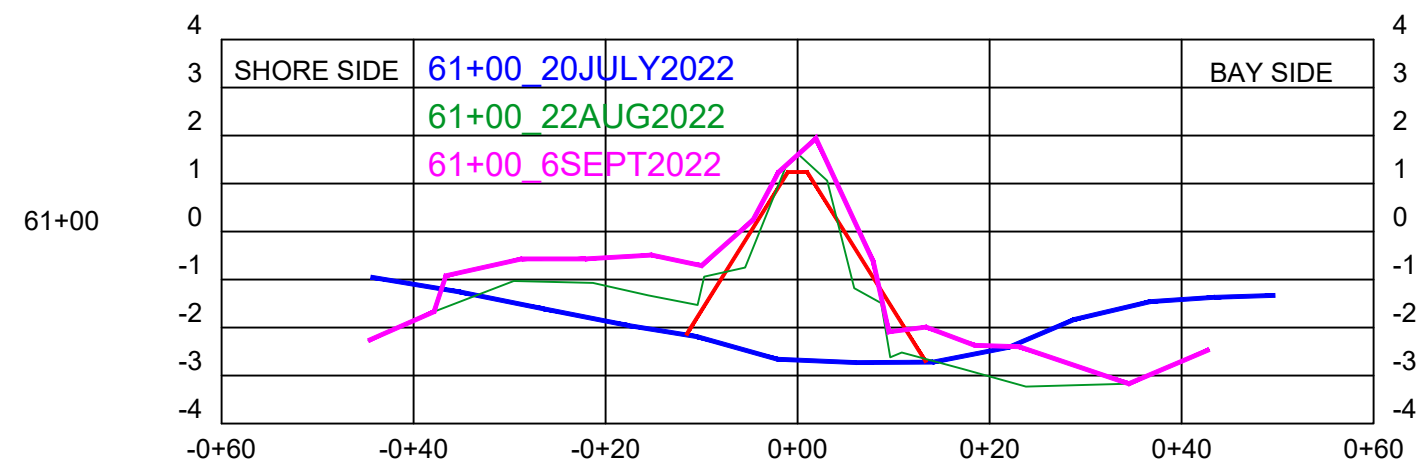
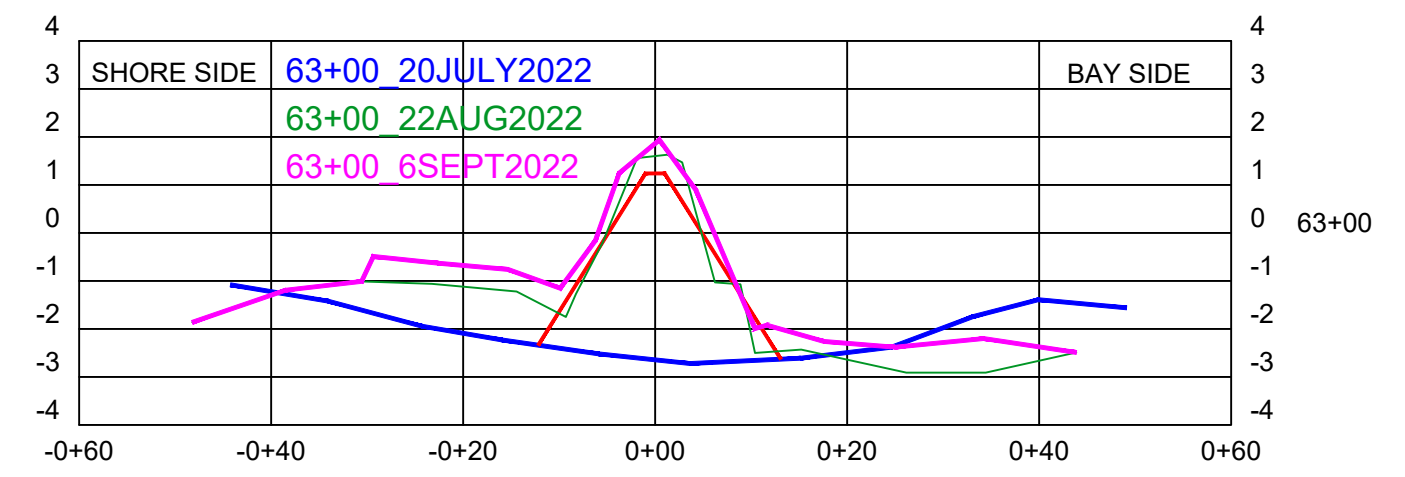
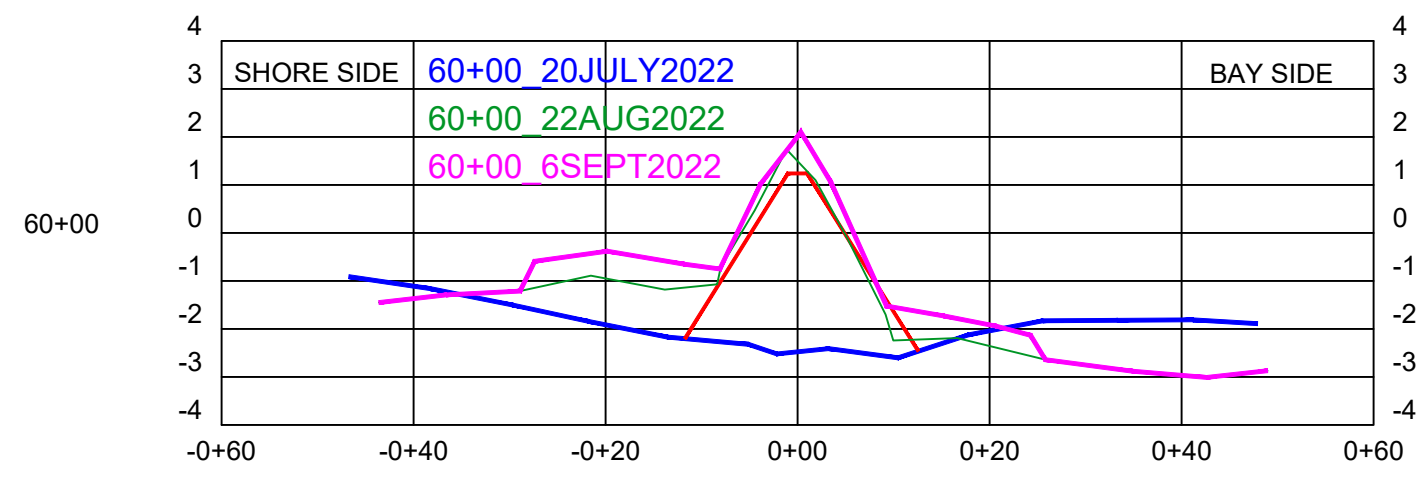


REV. NO: 00 REV. DATE: --/--/-- REV. BY: ---
 REVISION DESCRIPTION:
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DRAWN BY:	CDW	APPROVED BY:	BSG
DATE:	09/07/2022	JOB NO:	2022.1076
DRAWING NAME:			
APOLLO_SCHICKE_POINT_BREAKWATER_EXTENSION_SURVEY_22AUG6SEPT2022			
PROJECTION: TEXAS STATE PLANE SOUTH CENTRAL			
GEO. DATUM: NAD83 (2011) VERT. DATUM: NAVD88			
GRID UNITS: US SURVEY FEET			
SHEET NO:	8	OF	9

TOPOGRAPHIC SURVEY
APOLLO ENVIRONMENTAL STRATEGIES, INC.
 FINAL INTERIM SCHICKE POINT BREAKWATER EXTENSION
 AN EXHIBIT OF A
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Aransas Pass, TX 78336

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TBPLS #10194575

SCALE: 1" = 20'

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REVISION DESCRIPTION:		
-		

DRAWN BY: CDW	APPROVED BY: BSG
DATE: 09/07/2022	JOB NO: 2022.1076
DRAWING NAME:	
APOLLO_SCHICKE_POINT_BREAKWATER_EXTENSION_SURVEY_22AUG_6SEPT2022	
PROJECTION: TEXAS STATE PLANE SOUTH CENTRAL	
GEO. DATUM: NAD83 (2011) VERT. DATUM: NAVD88	
GRID UNITS: US SURVEY FEET	
SHEET NO: 9	OF 9

TOPOGRAPHIC SURVEY
APOLLO ENVIRONMENTAL STRATEGIES, INC.
 FINAL INTERIM SCHICKE POINT BREAKWATER EXTENSION
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