FRIPP ISLAND PUBLIC SERVICE DISTRICT

Tuesday, March 14, 2023
Fripp Island Fire Station
and
Electronic Meeting Via Zoom
9:30 a.m.

Zoom Info:
Join from PC, Mac, Linux, iOS or Android:
https://us02web.zoom.us/j/86565978745
Or iPhone one-tap (US Toll): +19292056099,,86565978745#
+13017158592,,86565978745#
Or Telephone:
Dial: +1 301 715 8592 (US Toll) or +1 312 626 6799 (US Toll)
Meeting ID: 865 6597 8745

AGENDA

1. Call to Order
   - Confirmation of the presence of a quorum
   - Confirmation of public meeting notice, as required by the SC Code of Laws *30-4-80(A)*.

2. Pledge of Allegiance

3. Approval of February Commission Meeting Minutes

4. Reports
   - Manager's Report for February 2023
     - *December 31, 2022 Unaudited Financial Statements*
   - Fire Department Report for February 2023
   - Report on POA Shoreline Committee Activities

5. Old Business
   - Blue Heron Lake Sewer Force Main

6. New Business
   - FIPOA Bridge Abutment Protection Options
   - Blue Heron Lake Spillway
   - Lowcountry Engineering Consultants General Services Contract
   - AMI Metering Information

7. Questions and Comments from Visitors
   - FIPOA Representative

8. Executive Session
   - Legal and Contractual Matters Related to Funding Options for Capital Planning
   - Personnel Matters

9. Upon returning to public session, the Commission may take such action(s) as it deems appropriate on the items discussed in executive session.

10. Adjourn

FRIPP ISLAND PUBLIC SERVICE DISTRICT

Minutes: Commission Meeting on March 14, 2023

Present: Edward D. Wetzel, Rick E. Keup, Mike Murphy, Michael J. Wilt, John F. King, Dennis Perrone

Absent:

Staff: Angie Hughes, District Manager; Joshua Horton, Fire Chief; Yvonne Fireall, Office Manager

Guests: John Derrick, John Scapparan, Gary Nizzi, Jeanne Sergeant, Dennis Kautz, Jonathan McCarter (POA), Fran Way (ATM)

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1. Chairman Wetzel called the meeting to order at 9:30 a.m., confirmed the presence of a quorum and confirmed that all requirements of the SC Code of Laws, Section 30-4-80, pertaining to the notice of meetings of public bodies, have been met for this meeting.

2. Chairman Wetzel led the Commission in the Pledge of Allegiance.

3. The Commission approved the minutes for the February regular Commission Meeting, upon a motion by Mr. Wilt (Vote: unanimous).

4. Reports
   a) The Commission reviewed the Manager's Report for February 2023 and the December 31, 2022 unaudited financial statements. *(Att A)*
   b) The Commission reviewed the Fire Department Report for February 2023. *(Att B)*
   c) The Commission received a report on POA Shoreline Committee activities from Commissioner King.

5. Old Business
   a) The Commission discussed the Blue Heron Lake Sewer Force Main.

6. New Business
   a) The Commission entertained a presentation by Fran Way of ATM and agreed that Concept 1 from the December 16, 2022 ATM technical memo to the FIPOA provides the best protection for the Fripp Inlet bridge structure and abutment against future storm events and the PSD will plan, fund, and execute the project, upon a motion by Mr. King (Vote: 5:1). *(Att C)*
   b) The Commission reviewed and discussed the requirements of SCDHEC-OCRM regarding necessary repairs to the Blue Heron Lake Spillway. *(Att D)*
   c) The Commission discussed and approved a contract for general engineering consulting services with Lowcountry Engineering Consultants LLC, upon a motion by Mr. Wilt (Vote: unanimous). *(Att E)*
   d) The Commission discussed automated metering infrastructure and its benefits. *(Att F)*

7. The Commission entertained questions and comments from visitors.

8. The Commission entered executive session to discuss legal and contractual matters related to funding options for capital planning and personnel matters at 10:56 a.m., upon a motion by Mr. Keup (Vote: unanimous). The Commission resumed open session at 11:29 a.m., upon a motion by Mr. King (Vote: unanimous).

9. There being no further business, the meeting adjourned at 11:30 a.m., upon a motion by Mr. Keup (Vote: unanimous).

Edward D. Wetzel
Chairman

Angel L. Hughes
Secretary

Att A

FRIPP ISLAND PUBLIC SERVICE DISTRICT
MANAGER'S REPORT FOR FEBRUARY 2023

I. Tap-Ins

	FY 2023		FY 2022		FY 2021	
Category	Feb	YTD	Feb	YTD	Feb	YTD
Water customers	3	25	1	22	-	5
Sewer customers						
a. Gravity	3	20	1	14	-	3
b. Vacuum	-	5	-	7	-	2

Total vacuum sewer customers: 592 of 726

II. Routine Operations

1. Butcher's Island and Hunting Island Booster Pumps Average Daily Run Time for February

	2023	Diff	2022	Diff	2021	Diff	2020
Butcher's Isl Pumps Hrs/Day	0.0	(0.1)	0.1	0.1	0.0	0.0	0.0
Hunting Isl Pumps Hrs/Day	0.0	(0.2)	0.2	0.2	0.0	0.0	0.0
Total Hrs/Day	0.0	(0.3)	0.3	0.3	0.0	0.0	0.0

2. Fripp Island Master Metered Water Use for February, Average Gallons per Day

	2023	% Change	2022	% Change	2021	% Change	2020
BJW&SA	321,536	4.3	308,281	9.1	282,571	(15.3)	333,464
Harbor Island	54,714	28.3	42,644	17.1	36,411	(10.2)	40,532
Hunt Island	6,057	1.4	5,972	(32.7)	8,875	(36.5)	13,971
Fripp Island	253,679	7.1	236,875	2.9	230,143	(19.4)	285,429
Accountability,%	97.8	N/A	92.6	N/A	97.5	N/A	101.9
Rainfall, Inches	2.6		1.2		6.1		4.5

3. Fripp Island Water Consumption – Recorded vs. Billed (in 1,000 gals.)

	Annual Total	Qtr 4 2022	Qtr 3 2022	Qtr 2 2022	Qtr 1 2022
Fripp Master Meter	166,039	34,233	56,707	48,428	26,671
Billed Water	152,135	32,145	52,740	44,995	22,255
Total Unbilled Water	13,905	2,088	3,967	3,433	4,416
Unbilled Water Percent	8%	6%	7%	7%	17%
Flushing/Unbilled Accts	2,219	170	239	560	1,250
Unaccounted for Water	11,686	1,919	3,728	2,873	3,166
Unaccounted for Percent	7%	6%	7%	6%	12%

4. The water tank levels and water line pressures were normal for February.

5. Wastewater Treatment Plant Flow for February, Gallons per Day

	2023	% Change	2022	% Change	2021	% Change	2020
Average Daily Flow	125,706	(9.3)	138,607	(14.5)	162,194	6.5	152,331
Weekly Max Flow	132,000	(10.2)	147,000	(20.1)	184,000	15.0	160,000
Peak Daily Flow	192,080	0.9	190,443	(20.3)	238,817	20.4	198,333

Peak daily flow of 192,080 occurred on Mon., 2/13/23, without rain. For Feb. 2022, peak daily occurred on Sun., 2/20/22, without rain. For Feb. 2021, peak daily flow occurred on Sun., 2/14/21, with 1.4" of rain. For Feb. 2020, peak daily flow occurred on Sat., 2/1/20, without rain.

6. The water system and wastewater treatment plant samples were satisfactory for February.

III. Emergencies, Special Field Work and Activities

1. Water System
   a) Beaufort County was downgraded to "Normal" drought status on February 7th.
   b) Field operators performed miscellaneous water system maintenance consisting of meter installations and replacements and repairing leaking water lines and services.
   c) SC Water Utilities valved off its bypass and will relocate it behind BJW&SA's meter to ensure that all water is billed through BJW&SA.

2. Wastewater System
   a) Field operators performed miscellaneous sewer system maintenance consisting of minor sewer line repairs and grinder station troubleshooting.
   b) CCTV of CJFV sewer lines to be done in March.

3. Administrative & Personnel Activities
   a) Transition to the cloud-based financial software is ongoing as time permits.
   b) The search for a fourth field operator is ongoing.
   c) The field operations supervisor has announced his intention to retire in July 2024 and an advertisement for this position has been posted. Interviews to begin in March.
   d) Interviews are in progress for a full-time clerical position and the position will be filled by April.
   e) We're still waiting on responses from BJW&SA and SC Water Utility regarding potential agreements for assistance in case of an emergency staff shortage and contract operations and from SC Water Utilities regarding a new agreement for wholesale water service.
   f) The RFP for financial audit services was issued February 21st, with a deadline of March 21st. Review to be completed within 30 days of submittal and prospective provider identified. Recommendation to be offered by management at the April Commission meeting.

4. Fripp Inlet Bridge
   a) Still waiting for news regarding a grant award from SCIIP.
   b) JMT is recommending a reduction in the bridge load limit during the construction but states that it isn't necessary immediately if the project will be done within the next year.

5. Seaglass Development – Nothing new.

6. Fripp Inlet Revetment (Porpoise Dr.) –
   a) Still waiting on Roger Wilson Construction Company to start work approved in September.
   b) The annual revetment survey will be done following the addition of more armor stone.

7. EPA Lead & Copper Rule Revision – Development of lead service line inventory is ongoing. Deadline for this phase of the revised lead and copper rule is October 16, 2024.

8. GIS Mapping – The GIS mapping of the water and sewer system was delayed and will begin mid-March.

FRIPP ISLAND PUBLIC SERVICE DISTRICT
July 1, 2022 through December 31, 2022
Statement of Revenues & Expenses
Water & Wastewater Operations

	Actual	Budget	Variance Favorable (Unfavorable)	Variance Comments
Operating revenues				
Water operations	576,561	544,935	31,626	Water use, new taps
Water Tank Leases	212,388	175,520	36,868	$16k fr prior yr, $14k-bridge
Wastewater operations	432,366	392,370	39,996	Sewer use (timing), taps, effl disp
Total operating revenues	1,221,315	1,112,825	108,490	
Cost of sales	(288,012)	(279,870)	(8,142)	
Gross profit from operations	933,303	832,955	100,348	
Operating expenses				
General & administrative	358,813	421,430	62,617	Salaries, engineering/consulting
Water system expenses	40,317	47,045	6,728	
Wastewater expenses	160,124	202,940	42,816	Sludge disp/wwtp, force mains
Total operating expenses	559,254	671,415	112,161	
Earnings (loss) from operations	374,049	161,540	212,509	
Nonoperating income (expenses)				
Interest earned	41,022	28,555	12,467	Investmt in higher yield CDs
Taxes & assessments collected	523,295	525,390	(2,095)	VS assmt late pymts
Capital & Unrealized Inv Gain (Loss)	(117,760)	-	(117,760)	unrealized investment losses
Interfund Transfers (Out)	-	-	-	
Bond interest & expenses	(67,531)	(68,740)	1,209	Trustee fee not billed yet
Net nonoperating income (expenses)	379,026	485,205	(106,179)	
Earnings (loss) before depreciation	753,075	646,745	106,330	
Depreciation/Loss on disposal	302,987	306,400	3,413	
Net earnings (loss)	450,088	340,345	109,743	
Cash available on July 1, 2022			7,024,006	
Earnings (loss) before depreciation & debt amortization			753,075	
Changes in assets & liabilities				
(Increase) decrease in accounts receivable			76,620	
(Increase) decrease in inventory			(6,901)	
(Increase) decrease in prepaid expenses			30,122	
(Decrease) increase in accounts payable & transfers			(42,205)	
(Decrease) increase unrealized gains			-	
Net cash provided (used)			57,635	
Cash flow from capital & financing activities				
Asset additions/deletions & construction in progress			(211,957)	
Principal payments on bonds & deferred debt			(580,777)	GO bonds (WWTP & WL) & Rev bond (VS)
Bond proceeds & contributed capital			-	
Net cash provided (used)			(792,734)	
Cash available on December 31, 2022			7,041,982	

Available cash includes following balance sheet accounts:	Beginning	Ending	Change Pos. (Neg.)
Cash (gross revenue, petty cash & contingency fund)	3,155,257	3,009,905	(145,353)
Due from Beaufort County Treasurer (Vac sewer assessments)	381,365	257,214	(124,151)
Investments & restricted cash (Sewer const fund, DS, invest.)	3,487,384	3,774,863	287,478
Total	7,024,006	7,041,981	17,975

FRIPP ISLAND PUBLIC SERVICE DISTRICT
July 1, 2022 through December 31, 2022
Statement of Revenues & Expenses
Fire Department & Erosion Operations

	Fire Department Fund			Erosion & Bridge Operations Fund		
	Actual	Budget	Variance Favorable (Unfavorable)	Actual	Budget	Variance Favorable (Unfavorable)
Revenues						
Taxes & penalties	412,443	308,780	103,663	139,584	108,150	31,434
Assessments, donations & FIPOA	6,000	1,500	4,500	-	-	-
Utility attachment fees	-	-	-	-	-	-
*Interest, cap gain (loss) & miscellaneous	792	-	792	(4,074)	1,650	(5,724)
Total Revenues	419,235	310,280	108,955	135,510	109,800	25,710
Expenditures						
Employee expenses	256,511	281,665	25,154	-	-	-
General & Administrative	27,365	43,925	16,560	7,443	5,510	(1,933)
Operations	9,296	17,175	7,879	338	7,000	6,662
Total Operating Expenses	293,172	342,765	49,593	7,781	12,510	4,729
Bond Interest & expenses	-					-
Capital outlay	-	5,850	5,850	-	-	-
Total Expenditures	293,172	348,615	55,443	7,781	12,510	4,729
Revenues over (under) expenditures	126,063	(38,335)	164,398	127,729	97,290	30,439
Cash available July 1, 2022	495,672	453,980	41,692	753,011	759,150	(6,139)
Revenues over (under) expenditures	126,063	(38,335)	164,398	127,729	97,290	30,439
Increase (decrease) payables & transfers	(6,360)	-	(6,360)	(15,618)	(22,630)	7,012
Cash available December 31, 2022	615,375	415,645	199,730	865,122	833,810	31,312

CAPITAL PROJECT ACTIVITIES SUMMARY

	Bridge	Revetment	Totals
Cash available July 1, 2022	263,980	92,497	356,477
Revenues (bank interest/FEMA funds)	-	-	-
Less admin exp (bank chgs)	-	-	-
Less operations fund reimbursements	-	-	-
Less bond-related expenses (P&I, misc)	-	-	-
Less capital outlay	-	-	-
Cash available December 31, 2022	263,980	92,497	356,477

FRIPP ISLAND PUBLIC SERVICE DISTRICT
July 1, 2022 through December 31, 2022
Statement of Revenues & Expenses
Debt Service Fund

	Actual	Budget	Variance Favorable (Unfavorable)	Comments
Revenues				
Tax levies-wwtp, waterline, bridge, revetment	512,868	396,960	115,908	collections timing
Service assessments	-	-	-	
Interest, penalties & misc	1,395	-	1,395	pen & interest
Total Revenues	514,263	396,960	117,303	
Expenditures				
Interfund Transfers (wwtp & wtrline GO bond P&I)	305,197	305,220	23	
Governmental bonds (revtmt & bridge P&I)	46,121	46,130	9	
Bond payment fees	-	-	-	
Total Expenditures	351,318	351,350	32	
Revenues over (under) expenditures	162,945	45,610	117,335	
Cash available July 1, 2022	403,482	367,430	36,052	pen, int & higher mill value
Revenues over (under) expenditures	162,945	45,610	117,335	
Increase (decrease) payables & transfers	-	-	-	
Cash available December 31, 2022	566,427	413,040	153,387	pen, int & higher mill value

For 1st quarter budget, assume zero tax revenue. Actual taxes collected during 1st quarter are delinquent taxes for prior fiscal year. Budget assumes 50% collection in 2nd quarter & 50% collection in 3rd quarter.

Expenditures include interfund transfers of quarterly SRF (wwtp & wl) & biannual BB&T (revetment & bridge) debt payments.

Available cash on July 1, 2023 needs to be sufficient to cover Sept. 1, 2023 revetment biannual debt payment of $7,780, Oct 1 & Dec 1, 2023 wwtp & wl quarterly debt payments totalling $305,220, and Oct. 1, 2023 bridge biannual debt payment of $36,550 (Grand Total - $349,550)

FRIPP ISLAND PUBLIC SERVICE DISTRICT
Combined Balance Sheet
All Fund Types and Account Groups
December 31, 2022

	Proprietary Fund Type	Governmental Fund Types				Totals
	Wtr & Sew Dept.	Erosion & Bridge	Fire Dept.	Debt Service	Capital Projects	December 2022
ASSETS						
Available Cash	3,009,905	21,204	33,065			3,064,174
Due from Beaufort County Treasurer	257,214	690,694	581,905	566,427		2,096,240
Accounts receivable water & sewer system	406,683					406,683
Accounts receivable-other	7,936		405			8,341
Lease receivable-current & noncurrent	975,286					975,286
Interfund receivable / transfer accounts						-
Inventory	36,292					36,292
Prepaid expenses	11,301					11,301
Restricted cash, debt service funds & investments	3,774,863	153,224			356,477	4,284,563
Fixed assets (net of accumulated depreciation)	12,840,355					12,840,355
Unamortized debt acquisition costs	-					-
Deferred Outflows-Pension & OPEB	160,275					160,275
Amount provided for retirement of long term debt	-					-
Total Assets	21,480,110	865,122	615,375	566,427	356,477	23,883,510
LIABILITIES						
Vouchers & accounts payable	63,194	-	14,527			77,722
Accrued employee expenses	16,072					16,072
Payable from restricted assets (accrued bond int.)	34,835					34,835
Deferred revenue & receivable clearing accounts	6,113					6,113
General obligation & revenue bonds payable	5,932,605					5,932,605
Pension & OPEB liability & deferred inflows	1,213,279					1,213,279
Lease deferred inflows	974,662					974,662
Interfund payable / transfer accounts	6,317	(150)	(5,713)			454
Total liabilities	8,247,076	(150)	8,814	-	-	8,255,741
FUND EQUITY						
Beginning Fund Balance/Net Position	12,782,945	737,543	480,497	403,482	356,477	14,760,944
Fund Balance/Net Position YTD increase (decrease)	450,087	127,729	126,063	162,945	-	866,825
Total fund equity	13,233,032	865,272	606,561	566,427	356,477	15,627,769
Total liabilities & fund equity	21,480,109	865,122	615,375	566,427	356,477	23,883,509

Att B

Fripp Island Fire Department
Monthly Report Summary
February 2023

Response Activities:

Total emergency responses for February 17

	Feb 2023	Feb 2022	YTD CY23	YTD CY22
• Structure Fires	00	00	00	00
• Vehicle Fire	00	00	00	00
• Medical Emergencies	13	11	16	18
• Brush Fires	00	00	00	00
• Misc. Fire	01	02	02	02
• Service Calls	02	02	02	02
• Mutual Aid	01	00	02	00
• Auto Accident	00	00	00	00
• Water Emergencies	00	00	00	00
	17	15	22	22

Average emergency response time:

4 minutes 14 seconds.

Roster:

Total personnel active for February, 20

Activities of Note:

- Nothing of significance to report.

ATM C

MEMORANDUM

ATM
A Geosyntec Company

941 Houston Northcutt Blvd, Suite 201
Mount Pleasant, SC 29464
843.414.1040

To: Tony O'Rourke

From: Fran Way, PE

CC: Marc Gold, PE

Date: December 16, 2022

Re: Fripp Island Bridge Abutment Protection – Concept Development Summary - Updated

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This technical memorandum summarizes the results of the preliminary analysis and conceptual design development conducted by Applied Technology and Management (ATM) for protection of the bridge abutment connecting to Fripp Island in Beaufort County, SC. ATM's analysis in support of the concept development included site reconnaissance and an overview assessment of pertinent coastal conditions affecting the site as well as a review of relevant reports, recent and historic aerial imagery, and shoreline information.

The goal of this analysis was to develop recommended concept alternative drawings and budgetary cost estimates for each bridge abutment protection alternative.

Project Site Environment and Background

The project site is located along the northern estuarine shoreline of Fripp Island along Fripp Inlet where the Tarpon Blvd bridge from Hunting Island abuts Fripp Island. A location map is provided on Figure 1. The shoreline surrounding the existing abutment has eroded in recent years and the existing protection has begun deteriorating under increased ocean-wave exposure. The existing protection consists of a rock revetment with stones approximately 1 ft diameter in size, which are undersized for this type of coastal environment.

The recommended conceptual protection projects provided herein were developed to account for the site's coastal exposure and erosive shoreline and to minimize future maintenance.

Site topography was obtained from 2020 NOAA LiDAR data and bathymetric data was obtained from a 2022 hydrographic survey by GEL Engineering, LLC in support of the annual bridge inspection. Annual channel profiles (provided in the Draft 2022 Fripp Inlet Bridge Inspection & Hydrographic Survey Report, prepared by JMT for the Fripp Island Public Service District [PSD]), were also reviewed to assess channel movement over time. Other documents reviewed include the 2017 Geotechnical Data Report by JMT and the 2021 Fripp Inlet Shoreline Erosion Study by McSweeney.

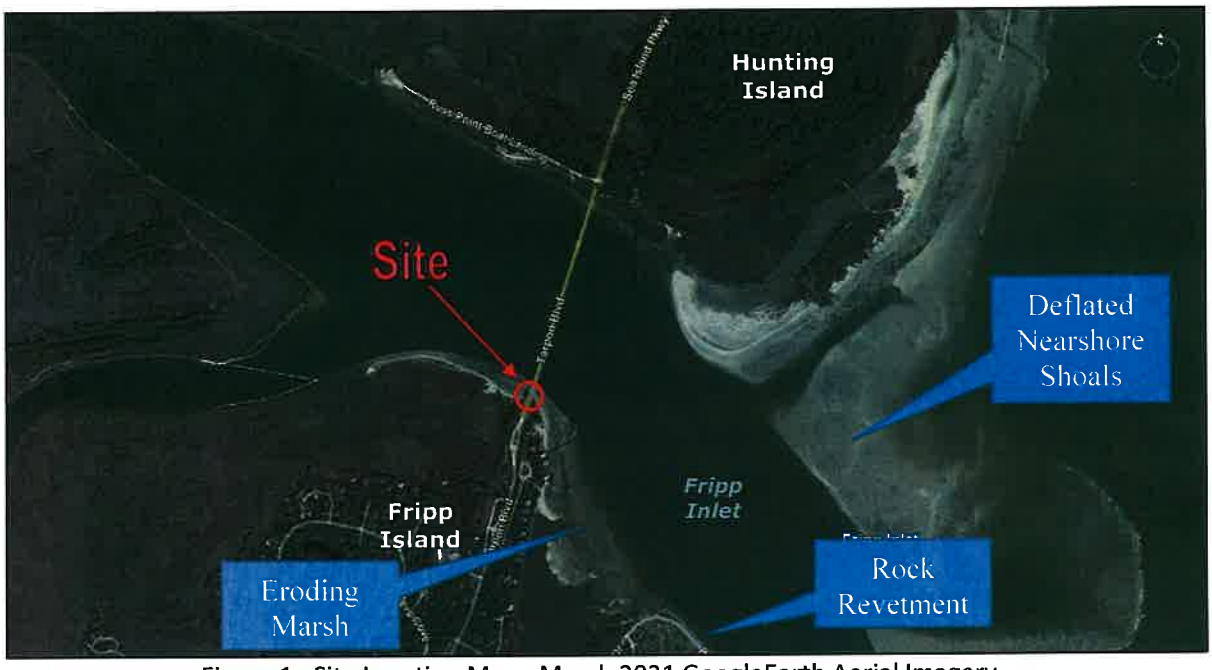


Figure 1. Site Location Map. March 2021 GoogleEarth Aerial Imagery.

Unless otherwise noted, all elevations shown and/or discussed in this document are in feet, referenced to Mean Low Water (MLW). The 2020 LiDAR data is sufficient for conceptual project development, however, a detailed ground survey of existing conditions will be needed for detailed design, permitting, and construction. Site topographic and bathymetric data contours are shown on Figure 2 and the concept drawings that follow.

Existing ground elevations at the site and along the existing rock revetment and bridge abutment typically range from +4 ft to +16 ft MLW (based on 2020 LiDAR data). The mean tide range at the site is approximately 6.7 ft based on the nearest NOAA published tidal datums (Fripps Inlet, SC Station 8668498).

Figure 2 on the next page presents an overview of the coastal dynamics around the site shoreline. Erosional forces are due to tidal currents, offshore ocean waves traveling through the inlet, and local wind generated waves. Currents in the channel under the bridge are primarily driven by the tidal flow into and out of the inlet.

While the channel annual profiles from the bridge surveys show some erosion in the deeper water over time, in reviewing the complete hydrographic survey it does not appear that the channel thalweg is migrating towards the Fripp Island shoreline or that scour holes associated with bridge maintenance may be significantly increasing. Figure 3 shows the scour hole feature which is not related to the overall channel thalweg migrating towards the Fripp Island shoreline.

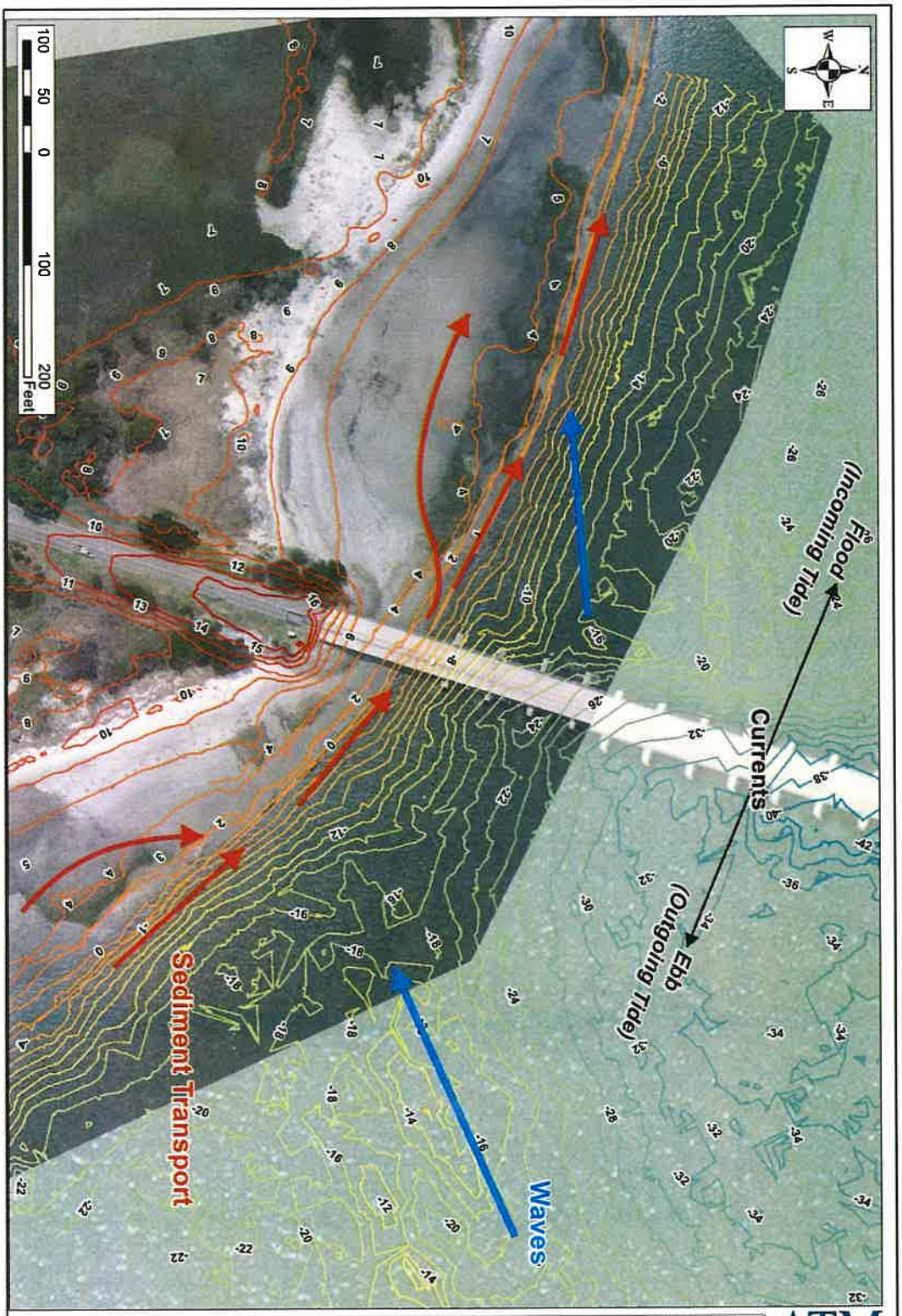


Figure 2. Coastal dynamics driving sediment transport along shoreline in bridge abutment vicinity. Note waves are primary driver along subject shoreline. 2020 LiDAR topographic contours and GEL Feb 2022 bathymetric contours shown in feet referenced to MLW overlaid on June 30, 2022 drone aerial imagery.

ATM
A Geosyntec Company

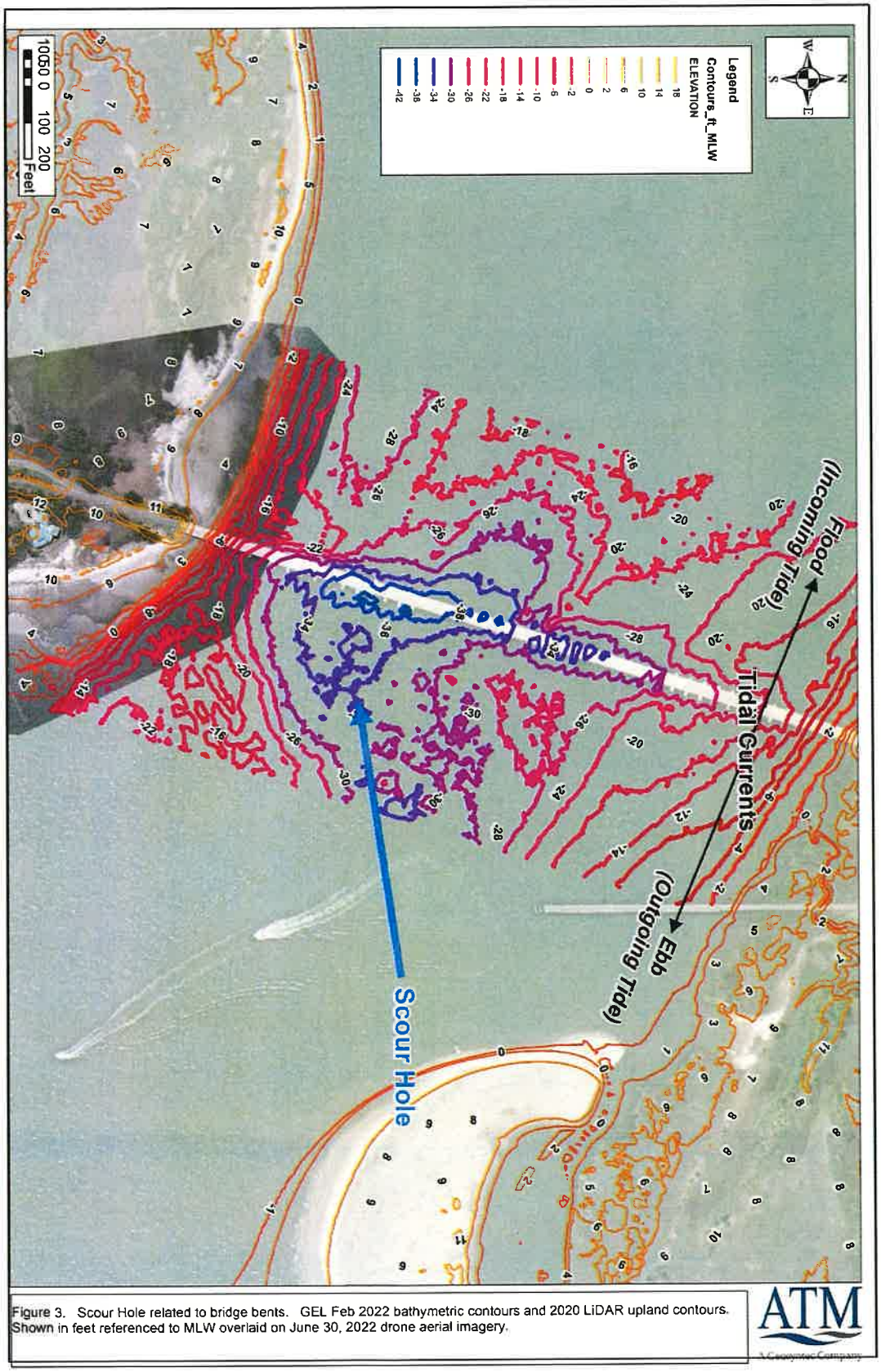


Figure 3. Scour Hole related to bridge bents. GEL Feb 2022 bathymetric contours and 2020 LiDAR upland contours. Shown in feet referenced to MLW overlaid on June 30, 2022 drone aerial imagery.

Offshore and locally generated wind-waves from the easterly and northeasterly directions are the primary driver of nearshore currents and sand movement along the site shoreline. As a result, sediment transport is predominantly from southeast to northwest which is causing relatively more erosion to take place on the eastern side of the bridge abutment compared to the west, which is slightly more protected from large easterly ocean-waves. Additionally, there is a sand deficit along this reach of shoreline, meaning there is not enough sand in the system to continuously replenish the beach and nearshore around the abutment, as the Fripp Island shoreline updrift (southeast towards the ocean) of the site is primarily eroded marsh and almost a mile of rock revetted shoreline.

The inlet shoals in the nearshore located off Fripp Island and Hunting Island, east of the site shoreline, previously provided more substantial protection to the site from larger offshore waves entering the inlet. However, due to inlet dynamics these shoals have migrated and diminished/deflated in recent years resulting in increased exposure to damaging ocean waves and erosional conditions at the site.

Under storm conditions, the project shoreline is subject to high winds, elevated water levels, and large waves associated with both northeaster and tropical storms. The larger and more extreme storms are generally of tropical nature. The effective FEMA Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) for Beaufort County (FEMA, 2021) indicates that the elevation of the 100-year Stillwater Elevation (or SWEL, which can informally be thought of as storm surge) for the study area is approximately 12.5 ft MLW. The SWEL includes astronomical tide and storm surge. This value does not account for any anticipated future rise in mean sea level as FEMA's flood mapping studies are based on existing conditions.

The FEMA 100-year Base Flood Elevation (BFE), which includes wave effects atop the SWEL/surge, is 16.5 ft MLW for the project area. This 16.5 ft MLW flood elevation would inundate most of Fripp Island. The site is also located in a FEMA VE zone (also referred to as a Coastal High Hazard Area), which means coastal hazards such as erosion and damage due to large wave heights, wave runup, overtopping and splashing can be anticipated during a 100-year coastal storm surge event. The 100-year SWEL and BFE are highlighted on the concept drawing profiles for reference.

The project alternative concept drawings and estimated quantities are attached and are described below. Cost estimates are provided for the alternatives following the concept descriptions. SJ Hamill provided the budgetary cost estimates and have good familiarity with the site as SJ Hamill performed Fripp revetment repairs for the PSD a few years ago. Bridge loads can be a substantial factor in project costs, if a barge will be needed to haul rocks and equipment.

Concept 1

Concept 1 consists of placing large armor stone (d50 ranging from 2.5 to 3 ft assumed for conceptual design, to be refined following detailed design analysis) and marine mattresses to protect the bridge abutment. This design makes use of the existing smaller rock as bedding/core stone. The design is asymmetrical in that more armor stone (a double layer) would be placed on the eastern, more exposed side compared to the western side which is more protected and less erosive and therefore less armoring is needed. The larger rock will serve to provide protection from waves in the lee of the structure to the east and west therefore promote beach and dune growth and added protection to the upland areas around the abutment and road.

The crest elevation is set above the 100-year SWEL to protect the bridge abutment from severe damage during extreme events, however, it is located below the BFE so runup, overtopping ,and road flooding is possible under a 100-year storm event.

Concept 1-A

This alternative assumes construction of a steel sheetpile bulkhead around the bridge abutment, approximately in the area of the existing rock revetment. The vinyl/timber sheetpile structures currently installed along the nearby marsh shorelines are not adequate for the abutment area. Aluminum or fiber-reinforced polymer (FRP) materials could also be used for this application instead of steel. Concrete lag wall section(s) between H-piles will be required anywhere as needed to avoid penetrating utility lines. A search for buried utility lines would be required prior to design. Additionally, there is no adequate clearance for installing sheetpile under the bridge. A lag wall section may be used under the bridge and we are coordinating with contractors on constructability logistics for under the bridge.

This alternative does not address any long-term preservation of the shoreline around the abutment and will allow future shoreline erosion/recession directly up to the bulkhead.

Generally, sheetpile is typically only used for bridge abutment protection when there is limited space which would make a sloped rock revetment unfeasible, which is not the case here. In ATM's opinion, the sheetpile alternative represents a "last resort" protection approach, and a bulkhead carries the downside of not being a flexible solution, meaning it cannot be easily altered to adjust for future conditions. Rock revetments, breakwaters, and groins can be more readily moved and re-shaped to account for changing conditions and shorelines to best protect the future longevity of the bridge abutment and surrounding shoreline and upland areas.

It is noted that long-term maintenance of bulkheads can be less than other solutions however adequately sized rock structures can have very long lifespans (e.g., Fripp Island rock revetment, Charleston Harbor jetties, etc.).

Concept 2

Concept 2 includes two T-head groins constructed at the shoreline directly around the abutment. The low crested T-head breakwaters/groins will serve to protect the bridge abutment and preserve the shoreline in the immediate vicinity of the abutment. Approximately 2,000 cubic yards (cy) of beach compatible sand is also recommended for this alternative and shown in the attached drawing. Note that 2,000 cubic yards of sand represents approximately 130 dump truck trips (assuming 15 cy truck capacity).

Additionally, these structures will act as a living shoreline promoting beach, oyster, and vegetation growth in the lee of them which will offer further long-term protection to the upland and bridge abutment. And living shoreline grant funding can be sought for this alternative. Similar to Concept 1, this alternative would place large armor stone and marine mattresses at the bridge abutment, though with less armor stone and a smaller footprint, as the T-heads will provide protection from erosional conditions on the eastern and western flanks of the abutment. The added beach compatible sand will also enhance existing beach/shoreline habitat. There are several similar sites/locations along inlets where similar approaches

have been successful. See Figures 4 and 5 for nearby examples along Port Royal Sound and St. Mary's River.

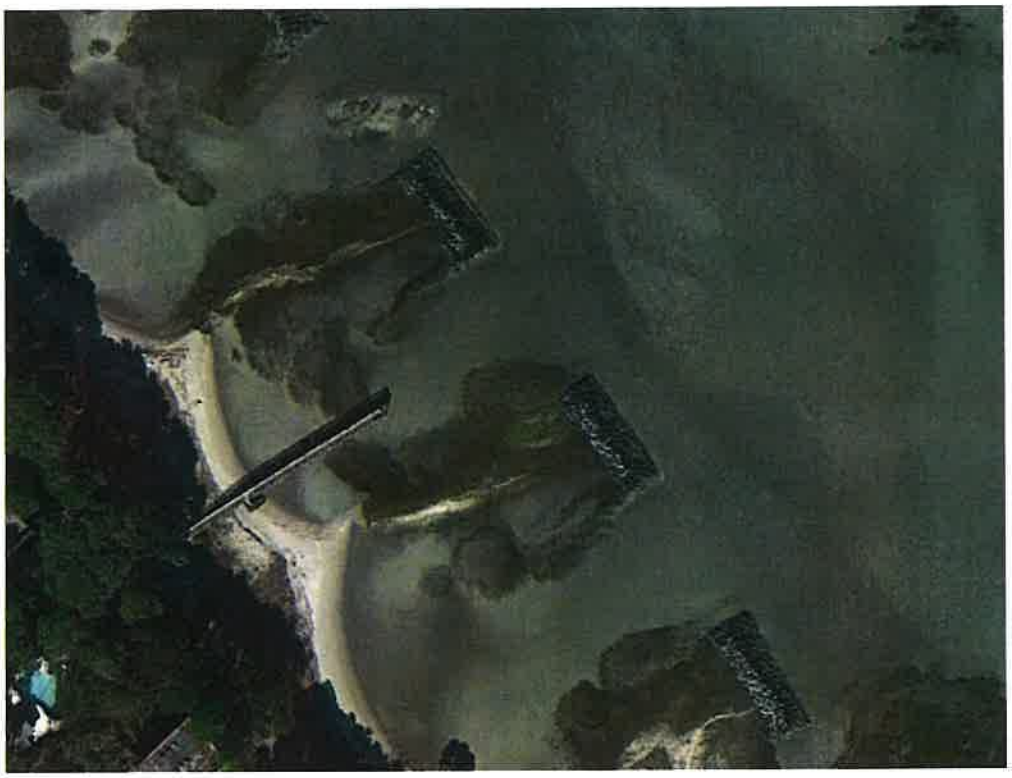


Figure 4: Port Royal Sound shoreline T-head groin structures.

Figure 5: St Mary's River T-head groin structures at Fort Clinch.

Costs

Table 1 presents budgetary pricing cost estimates as provided by SJ Hamill for the concept alternatives.

Table 1: Budgetary pricing for the concept alternatives.

Concept	Description	Budget Price
1	Abutment Rock Rip Rap	$ 824,560
1-A	Abutment Sheetpiling	$ 1,115,000
2	Abutment Rip-Rap and T-Groins	$ 1,025,000

Concept 1 is the most cost effective. The sheetpile alternative does not include any lagging wall sections and should be considered a base cost for Concept 1-A. The Concept 2 estimate is relatively competitive with Concept 1 and the t-head groins can help protect and enhance adjacent beach/marsh shorelines. Sand costs are also included for Concept 2. Note that the budgetary costs presented herein are believed to be accurate however these are estimates only. A competitive bidding process for the preferred alternative is recommended.

Recommended Path Forward

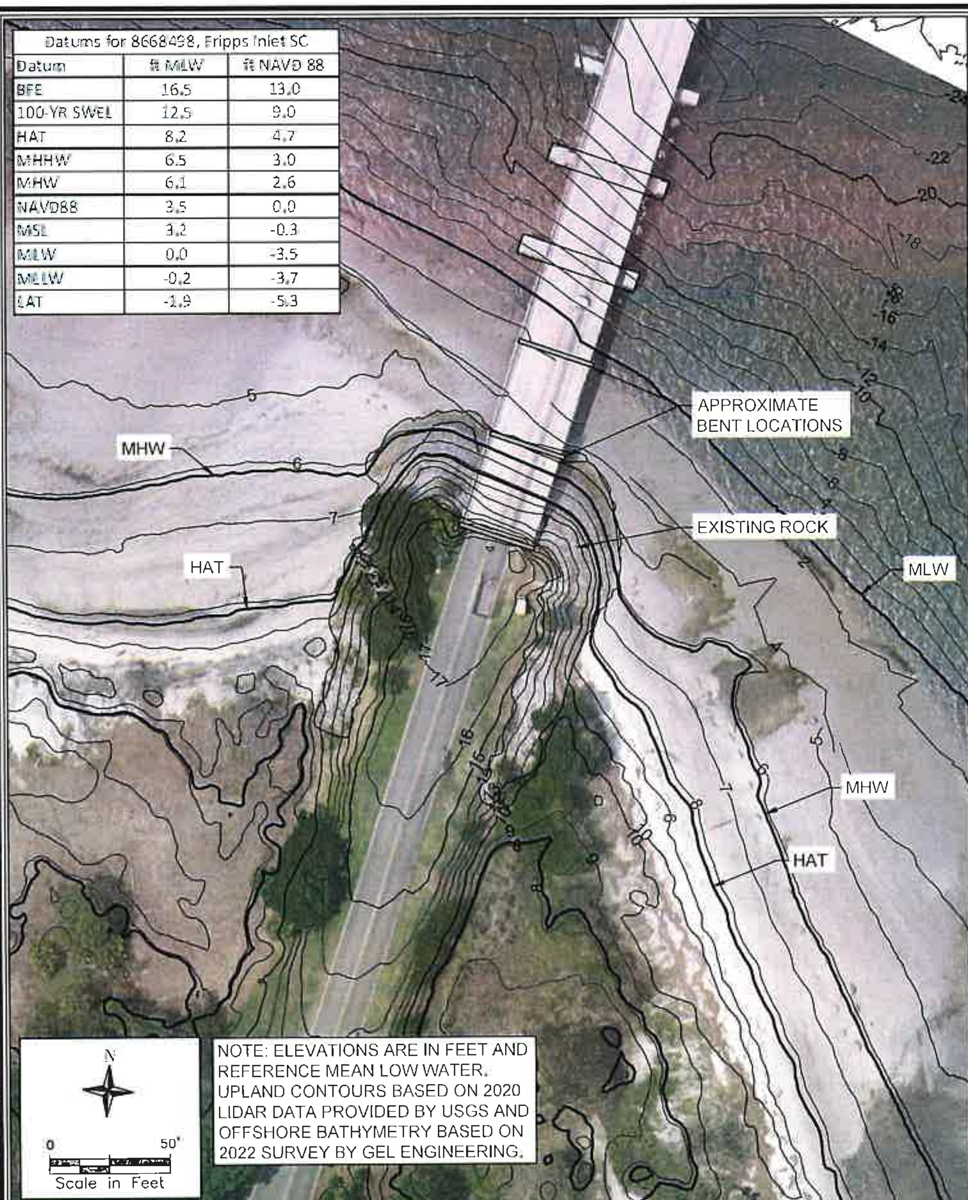
Concept 2 is recommended as the preferred alternative however all presented options have their merits.

Concept 1 essentially builds upon the existing protection approach, enhancing the revetment to adequately protect the abutment in this increasingly ocean-exposed coastal environment. A topographic survey of the project area (above the mean low water line) is required for permitting and final design. The existing GEL survey would be used for the hydrographic portion of the design/permitting.

Concept 1-A consists of the sheetpile solution. Sheetpile cannot be driven under the bridge and the entire project area has been identified as having possible underground utilities. An in-depth subsurface geotechnical investigation would be needed for this option in order to locate all utility lines. This would likely include using a magnetometer, scuba divers, and exploratory excavations. It is believed that existing geotechnical borings are adequate for sheetpile design and embedment depth analysis. A topographic survey is also required.

Concept 2 consists of rock armoring, t-head groins and 2,000 cubic yards of beach compatible sand. The t-head groins are a living shoreline solution and grants can be sought to offset costs. There are many examples of the t-head groin solution successfully working along inlet shorelines on the east coast. Similar to Concept 1, a topographic survey of the project area above MLW is required for design/permitting.

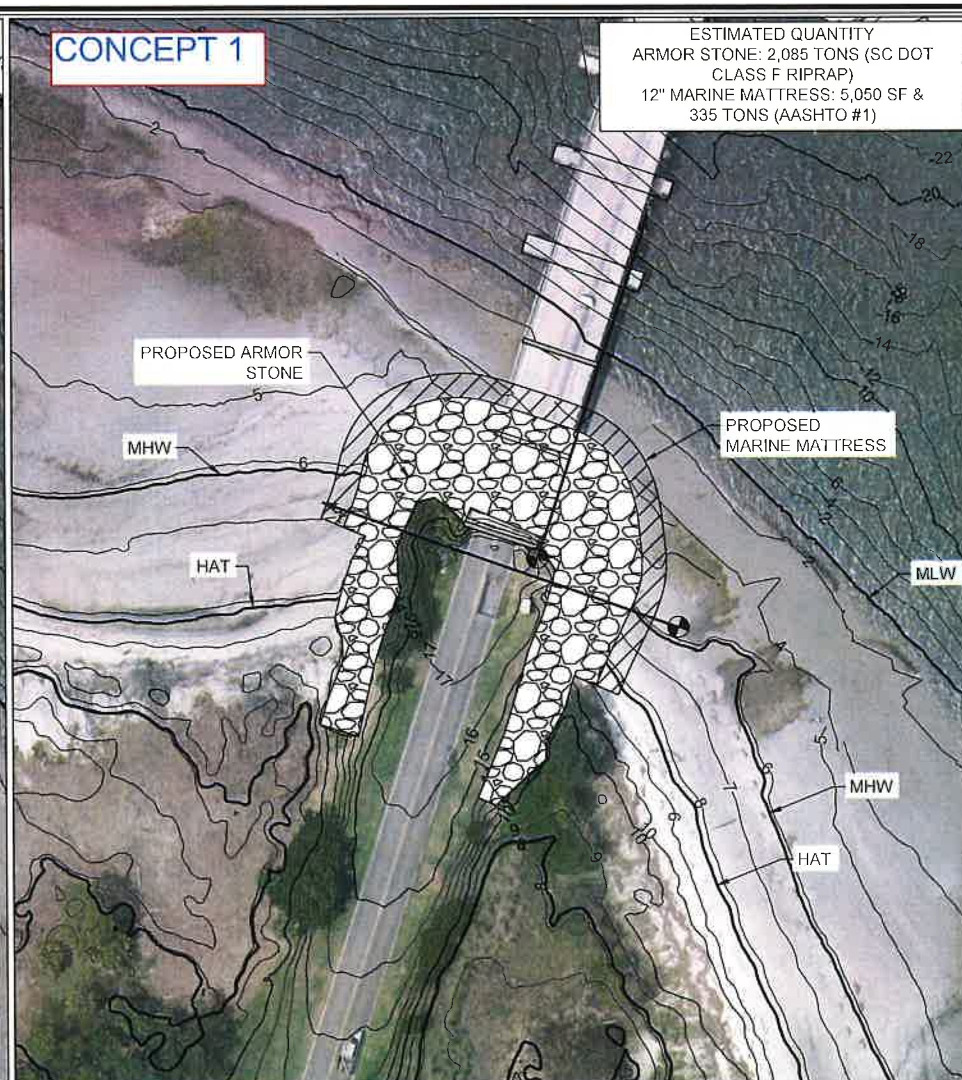
Datums for 8668498, Fripps Inlet SC		
Datum	ft MLW	ft NAVD 88
BFE	16.5	13.0
100-YR SWEL	12.5	9.0
HAT	8.2	4.7
MHHW	6.5	3.0
MHW	6.1	2.6
NAVD88	3.5	0.0
MSL	3.2	-0.3
MLW	0.0	-3.5
MLLW	-0.2	-3.7
LAT	-1.9	-5.3



NOTE: ELEVATIONS ARE IN FEET AND REFERENCE MEAN LOW WATER. UPLAND CONTOURS BASED ON 2020 LIDAR DATA PROVIDED BY USGS AND OFFSHORE BATHYMETRY BASED ON 2022 SURVEY BY GEL ENGINEERING.

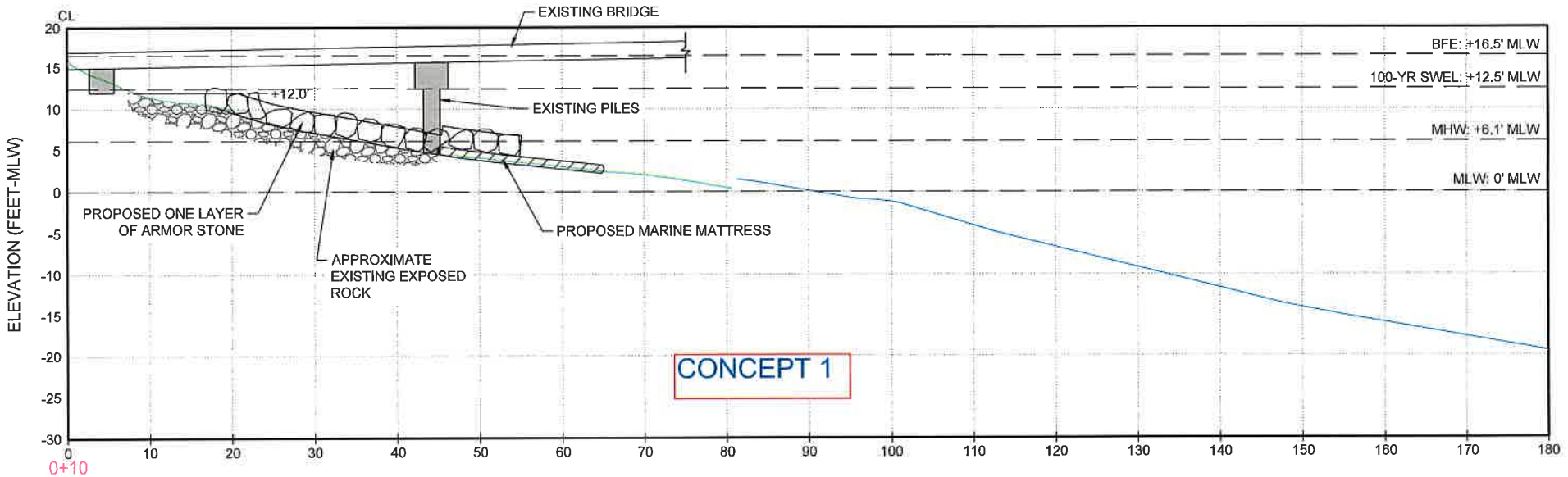
CONCEPT 1

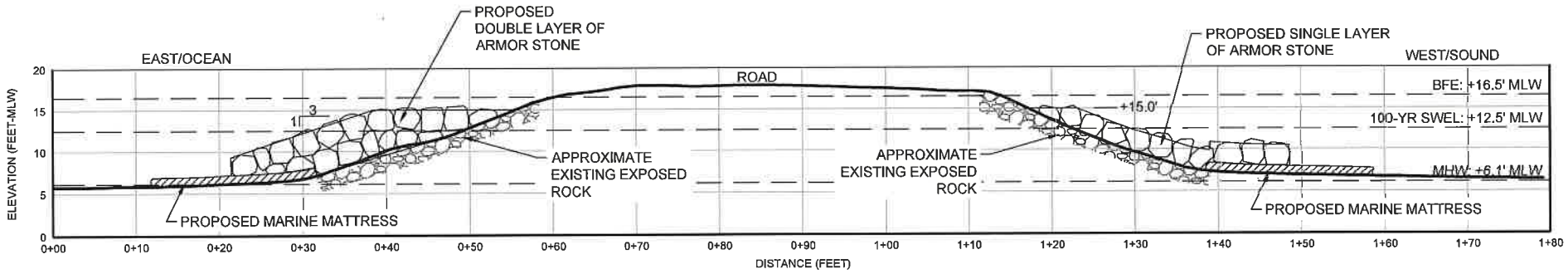
ESTIMATED QUANTITY
ARMOR STONE: 2,085 TONS (SC DOT CLASS F RIPRAP)
12" MARINE MATTRESS: 5,050 SF & 335 TONS (AASHTO #1)



BRIDGE ABUTMENT CONCEPT DETAILS -SITE PLAN
FRIPP ISLAND
SOUTH CAROLINA
11-AUGUST-2022

ATM
A Geosyntec Company

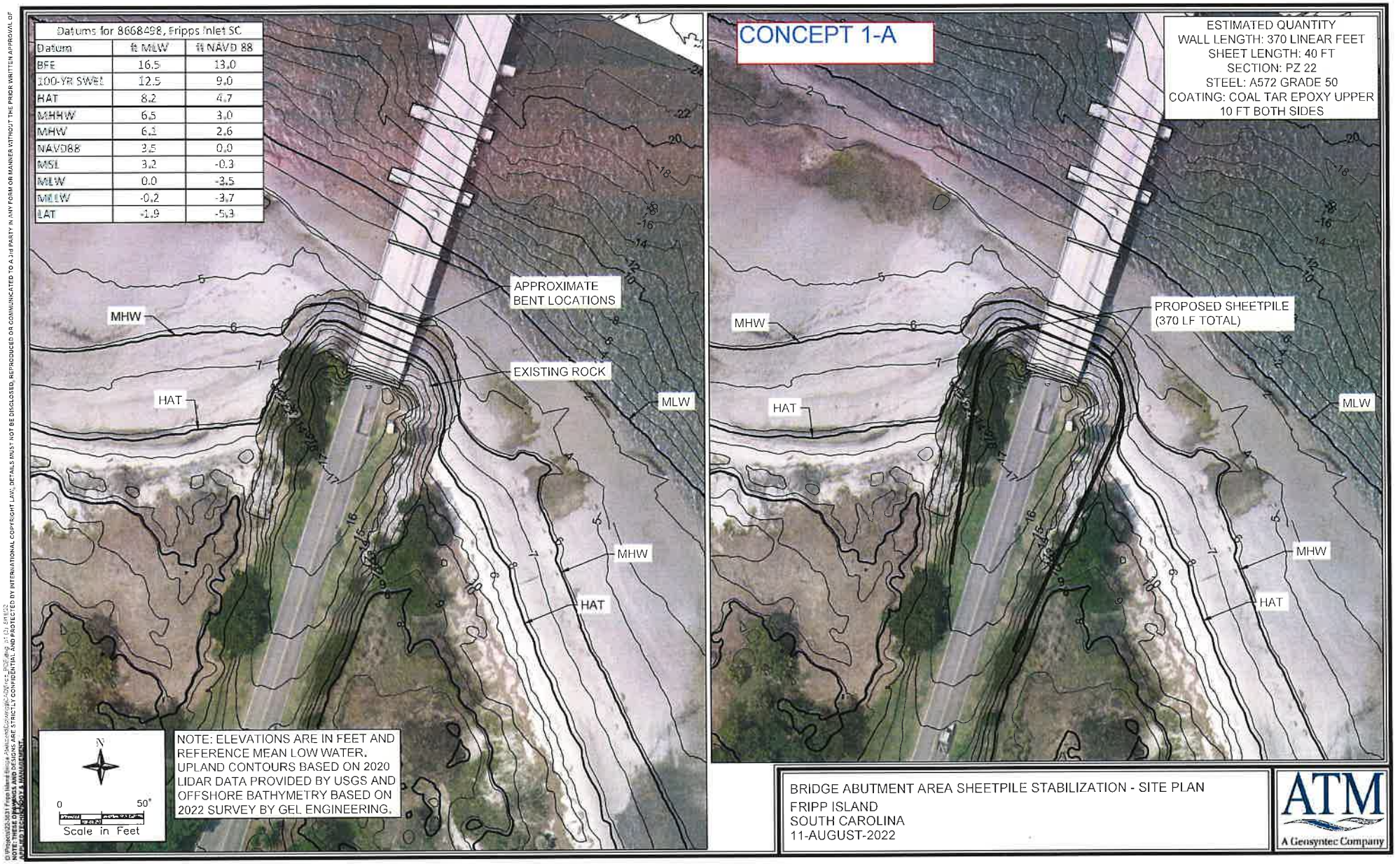




BRIDGE ABUTMENT CONCEPT DETAILS
FRIPP ISLAND
SOUTH CAROLINA
11-AUGUST-2022

ATM
A Geosyntec Company

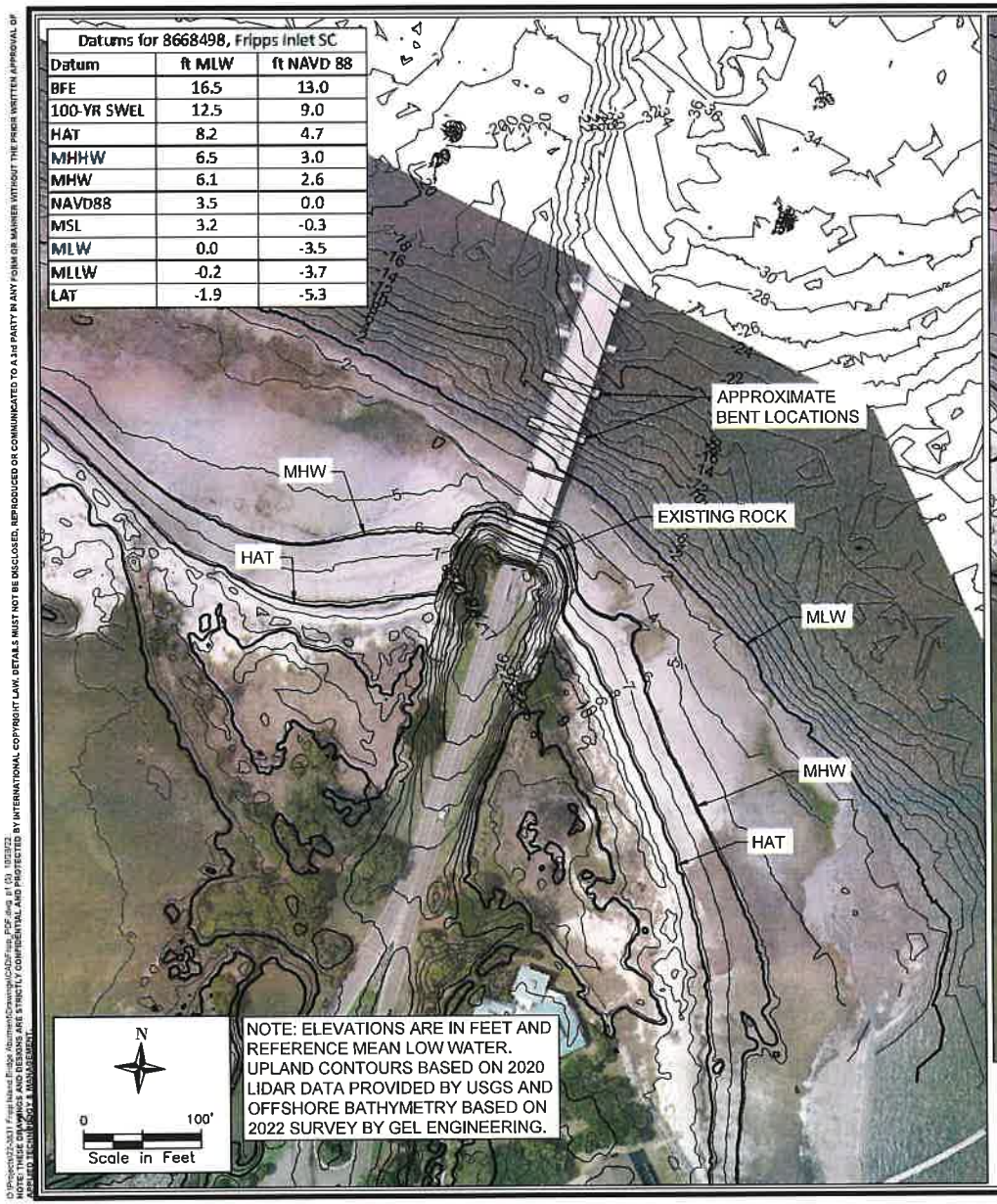
Datums for 8668498, Fripps Inlet SC		
Datum	ft MLW	ft NAVD 88
BFE	16.5	13.0
100-YR SWEL	12.5	9.0
HAT	8.2	4.7
MHHW	6.5	3.0
MHW	6.1	2.6
NAVD88	3.5	0.0
MSL	3.2	-0.3
MLW	0.0	-3.5
MLLW	-0.2	-3.7
LAT	-1.9	-5.3



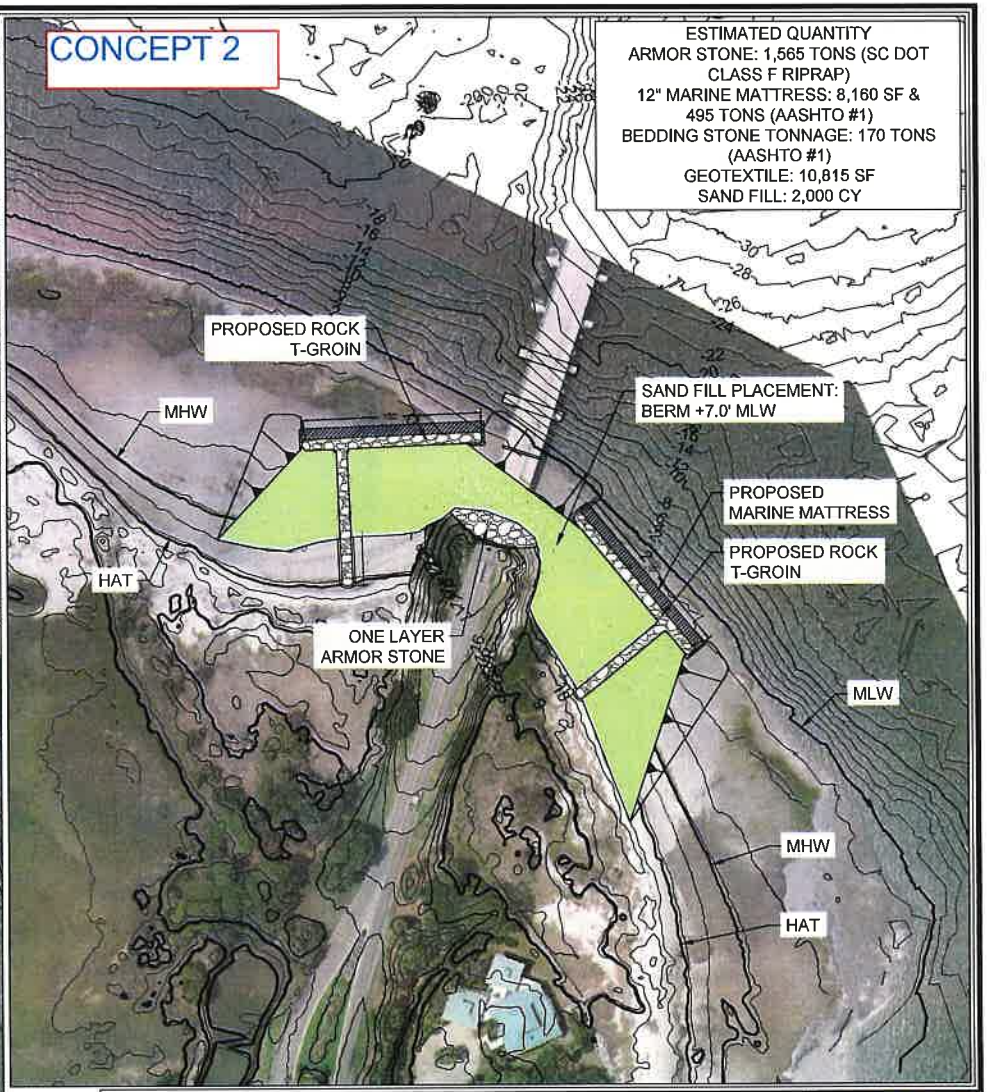
BRIDGE ABUTMENT AREA SHEETPILE STABILIZATION - SITE PLAN
FRIPP ISLAND
SOUTH CAROLINA
11-AUGUST-2022

ATM
A Geosyntec Company

Datums for 8668498, Fripps Inlet SC		
Datum	ft MLW	ft NAVD 88
BFE	16.5	13.0
100-YR SWEL	12.5	9.0
HAT	8.2	4.7
MHHW	6.5	3.0
MHW	6.1	2.6
NAVD88	3.5	0.0
MSL	3.2	-0.3
MLW	0.0	-3.5
MLLW	-0.2	-3.7
LAT	-1.9	-5.3

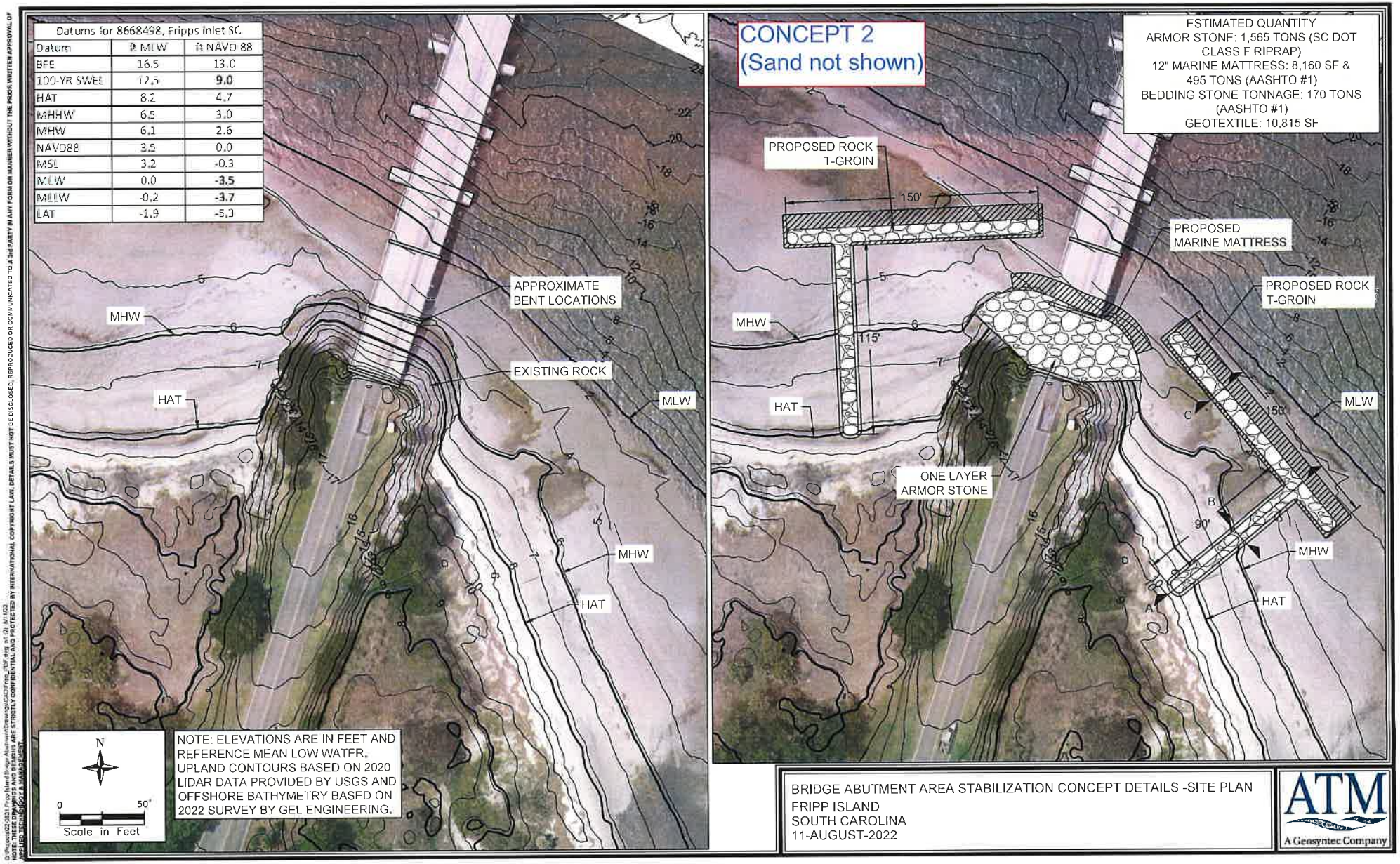


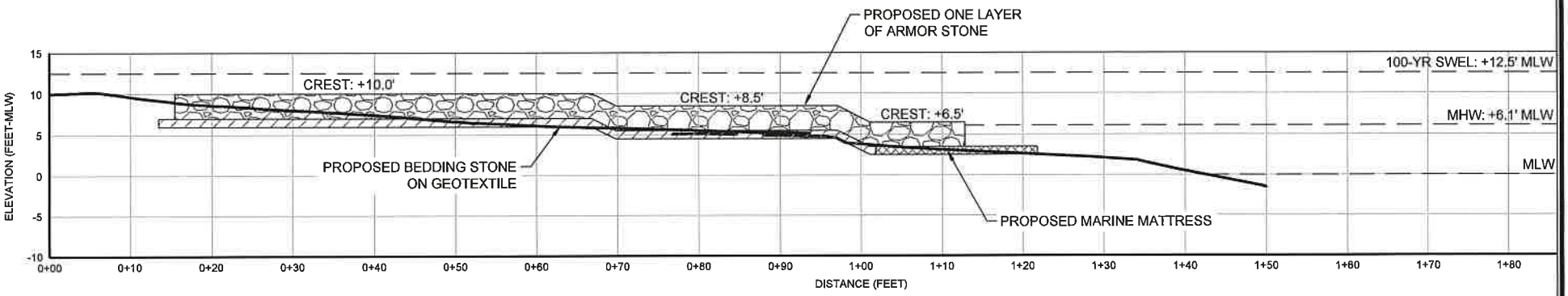
NOTE: ELEVATIONS ARE IN FEET AND REFERENCE MEAN LOW WATER. UPLAND CONTOURS BASED ON 2020 LIDAR DATA PROVIDED BY USGS AND OFFSHORE BATHYMETRY BASED ON 2022 SURVEY BY GEL ENGINEERING.



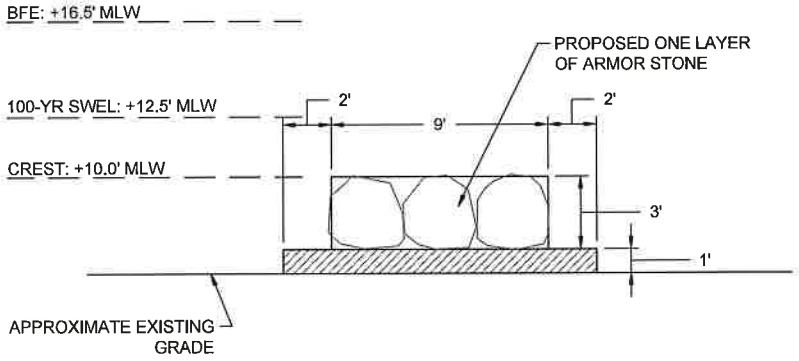
BRIDGE ABUTMENT AREA STABILIZATION CONCEPT DETAILS -SITE PLAN
FRIPP ISLAND
SOUTH CAROLINA
28-October-2022

ATM
A Gensyntec Company

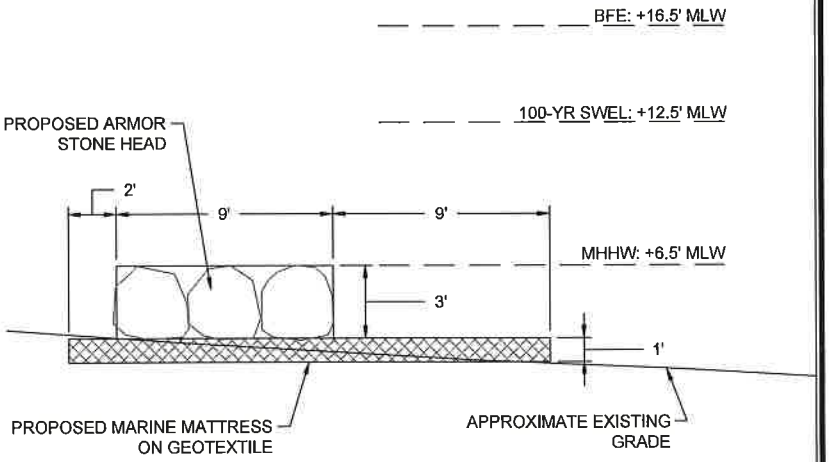




CONCEPT 2



SECTION B - TYPICAL GROIN SECTION



SECTION C - TYPICAL BREAKWATER SECTION

BRIDGE ABUTMENT AREA STABILIZATION CONCEPT DETAILS
FRIPP ISLAND
SOUTH CAROLINA
11-AUGUST-2022

ATM
A Geosyntec Company

ATM
A Geosyntec Company

941 Houston Northcutt Blvd, Suite 201
Mount Pleasant, SC 29464
843.414.1040

MEMORANDUM

To: Jim O'Connor, P.E. and Thai Trinh, P.E.

From: Fran Way, P.E.

CC: Tony O'Rourke

Date: February 9, 2023

Re: T-head groin concept questions

Jim and Thai,

It was good talking with you a few weeks ago and discussing the conceptual improvements to address the erosion along the Fripp Island shoreline in the area of the Fripp Island Bridge Abutment. For the t-head groin concept (see Figure 1), you mentioned a concern that the t-head groins have the potential to affect bridge scour along the bridge bents. As we discussed, ATM believes there will be negligible/immeasurable effects to bridge scour from the t-head project.

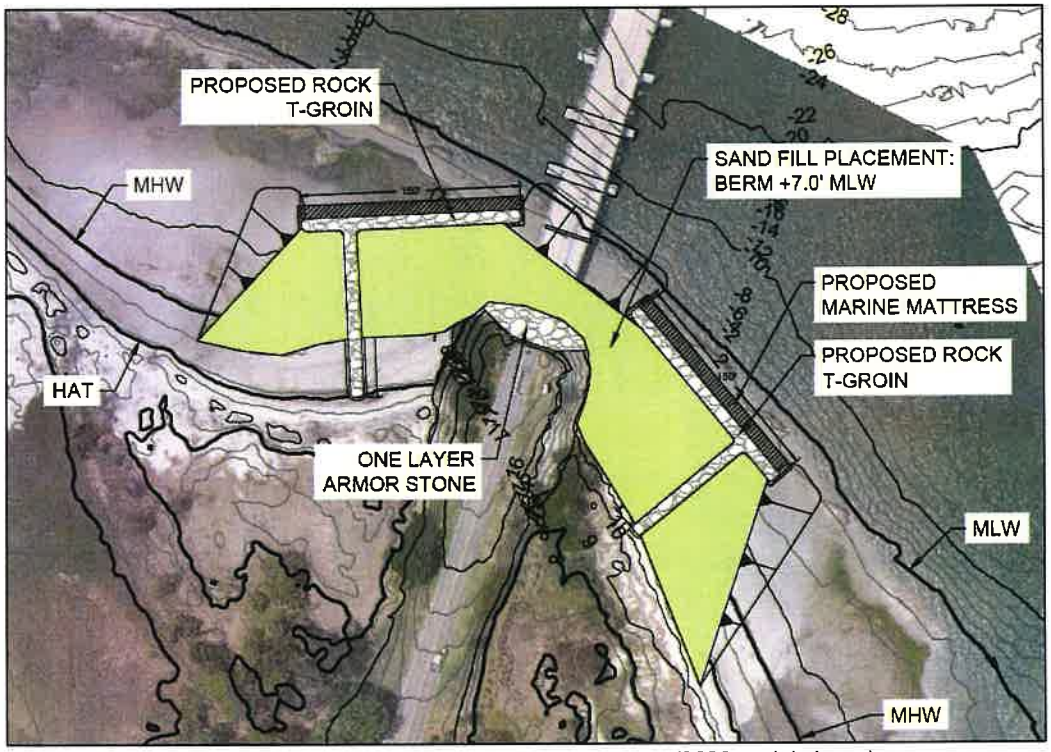


Figure 1: T-head groin and nourishment concept (2022 aerial shown).

The project area shoreline has been eroding for at least the last two decades and the recent McSweeney report (Fripp Inlet Shoreline Erosion Study, November 2021) estimates long-term erosion at the site to be ~-2.6 ft/yr. Aerial imagery also shows this as well. The McSweeney report also presents volumetric erosion along this shoreline using recent LiDAR data where deflation of the Fripp shoreline platform is evident (Figure 2).

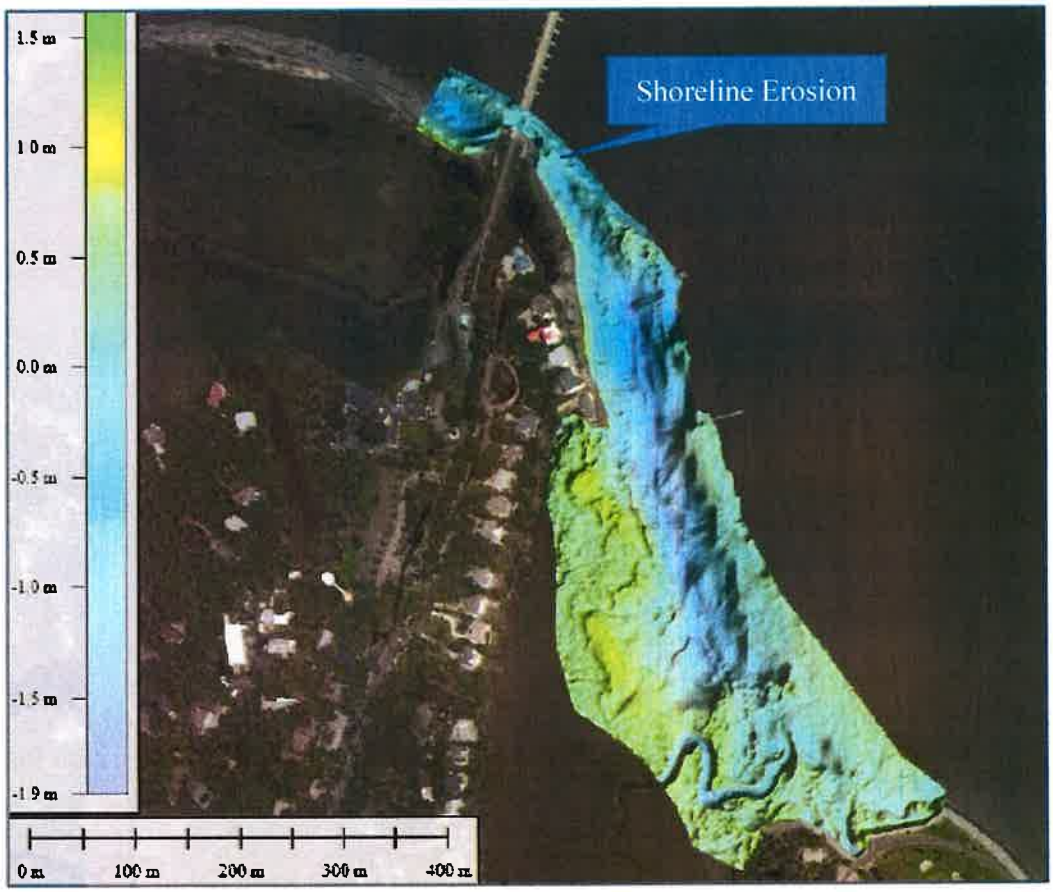


Figure 2: Volumetric change (by McSweeney) depicts erosion along the Fripp Shoreline between 2010 and 2018. Losses in elevation between 1 and 1.5 meters (~3 to 5 feet) were also calculated.

The t-head groins were designed to slow/mitigate long-term erosion due to wave-related erosion under high water conditions. The t-head groins were *not* designed to address current related erosion. The t-head groins as proposed are above mean sea level (MSL) and the majority of each structure will be above MHW (see Figure 4). Therefore, the t-head structures will be dry/exposed for about half the tidal cycle.

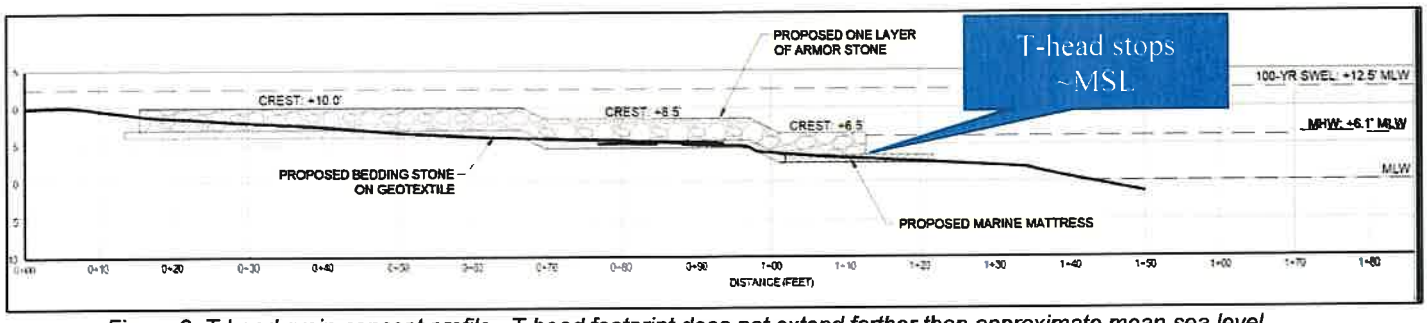


Figure 3: T-head groin concept profile. T-head footprint does not extend farther than approximate mean sea level (MSL).

Additionally, Fripp Inlet is about 2,000 feet wide near the bridge and the cross-sectional area of the entire river is significant (see Figure 4). The representative cross-sectional total inlet area (below MHW) is 53,911 square feet. With the t-head groins, the river cross-sectional area (below MHW) is 53,813 feet or about 99.8% of the existing condition cross sectional area.

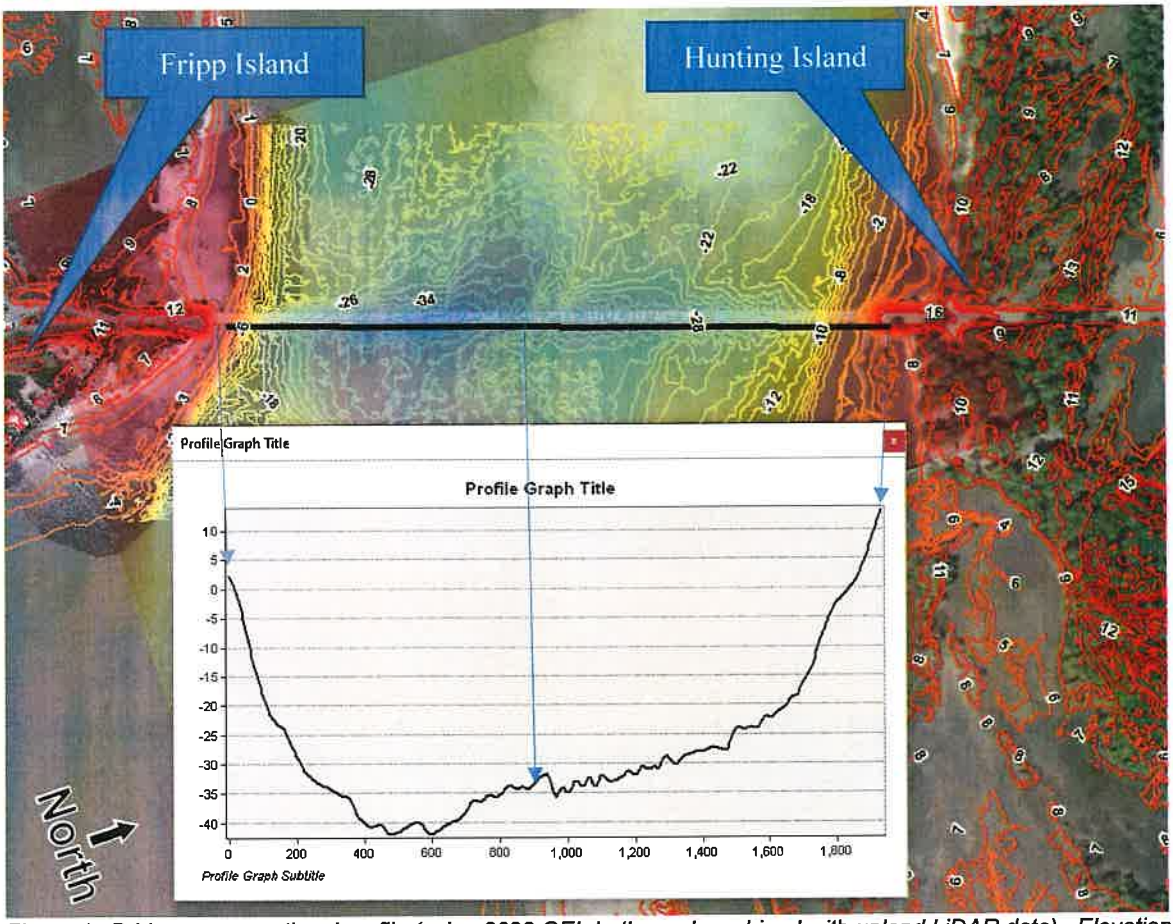


Figure 4: Bridge cross-sectional profile (using 2022 GEL bathy and combined with upland LiDAR data). Elevations referenced to mean low water (MLW).

In terms of redirecting flows, the t-head groins will only affect shoreline currents in the immediate vicinity of the structures and only the near-surface currents.
Wave tank studies and numerical models have shown these effects. For example, Gravens and Wang (2007) did numerous wave tank case runs with t-groins and found downdrift affects at the seaward end of the t-heads to be minimal (See Figure 5).

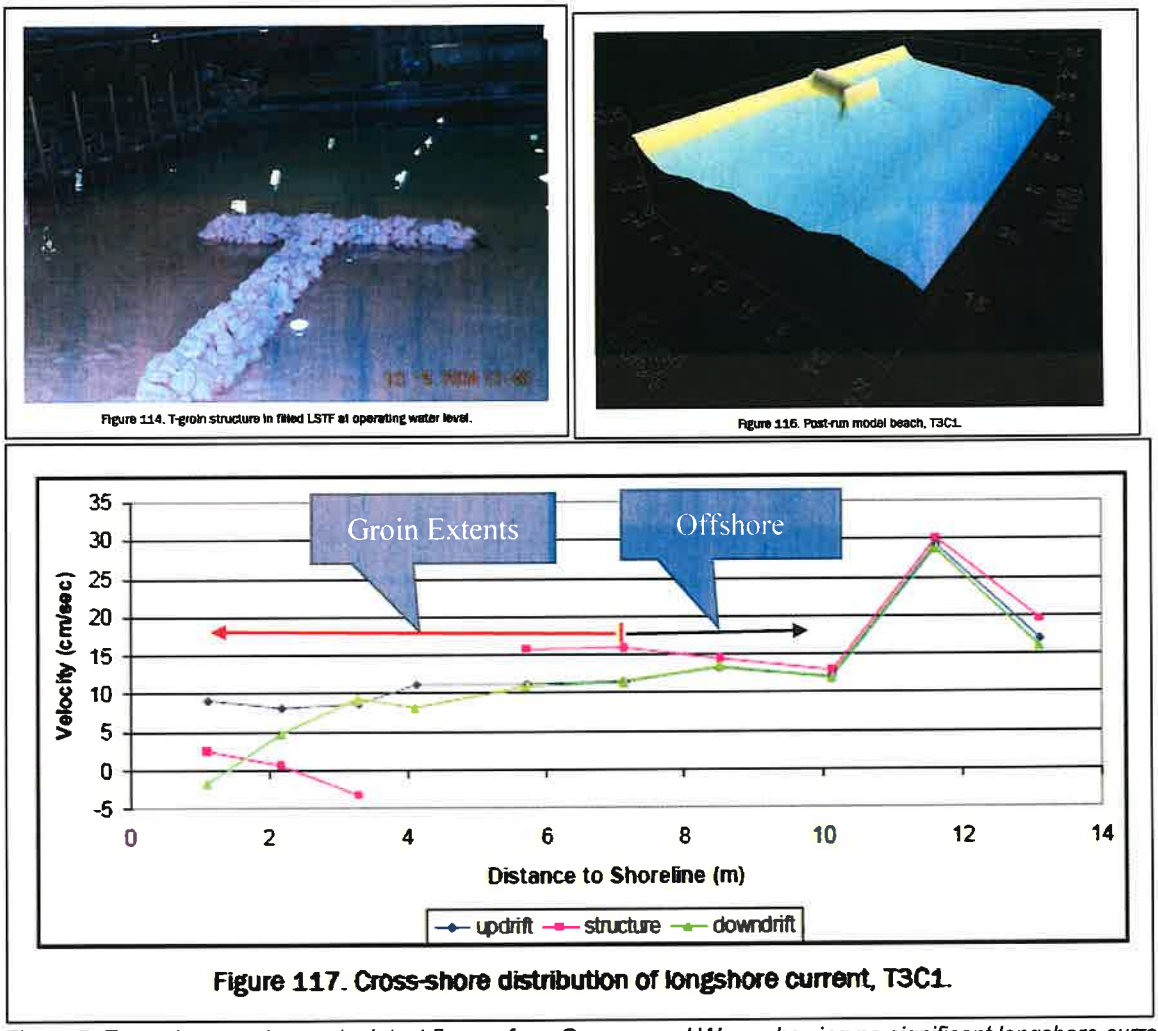


Figure 5: Example current wave tank test figures from Gravens and Wang showing no significant longshore current effects to the seaward end of the t-head groins (shore-parallel head section of the t-head groin at X=7 m).

ATM has also done numerous current and flow studies using a boat-mounted Acoustic Doppler Current Profiler (ADCP) to document tidal currents/flows and effects near marinas, bulkheads, and other estuarine/inlet structures. Changes in flow near these structures is typically focused only near the structure. Additionally, currents and flows are much greater in the deeper water areas rather than along the shallow shoreline.

Figures 6 and 7 below are from recent current studies. Figure 6 shows 2-D depth averaged current in the Beaufort River.

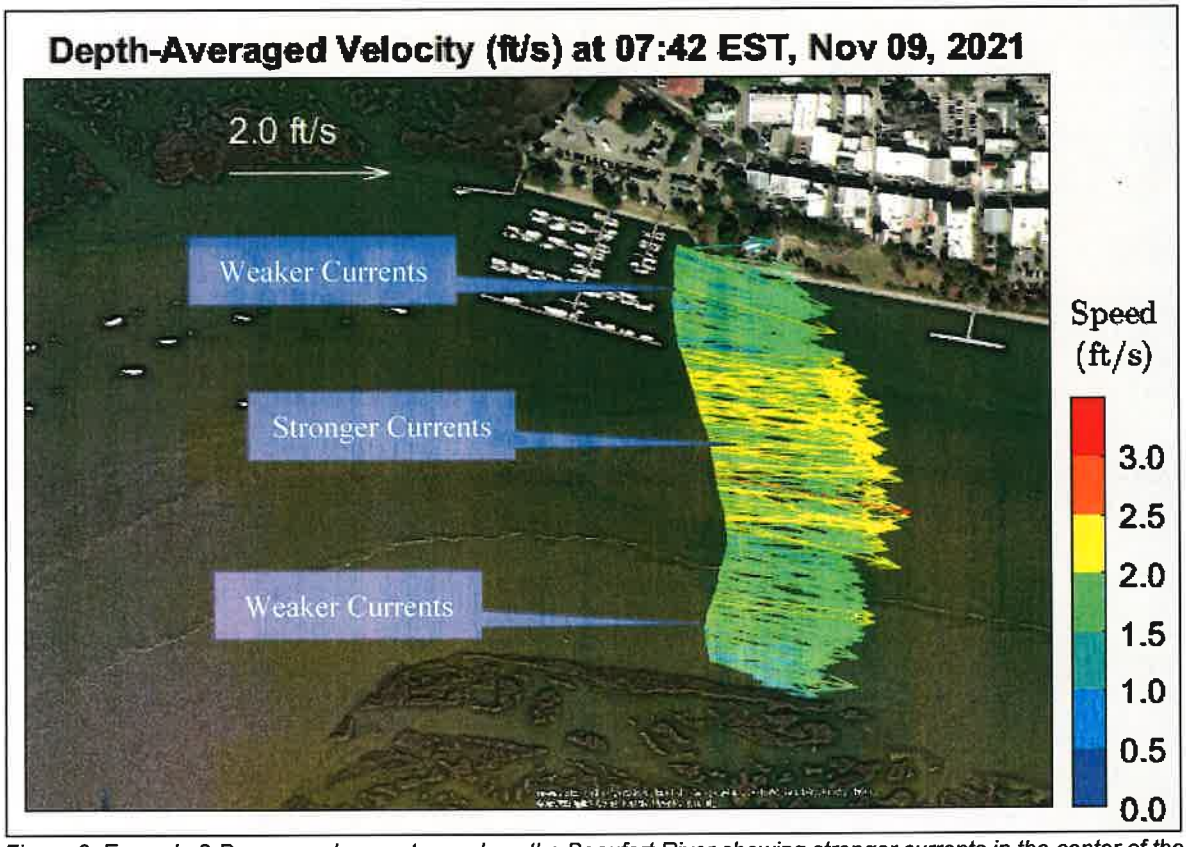


Figure 6: Example 2-D averaged currents on along the Beaufort River showing stronger currents in the center of the river.

Figure 7 presents a similar ADCP transect from the Charleston Harbor showing a typical current distribution along a tidally influenced river.

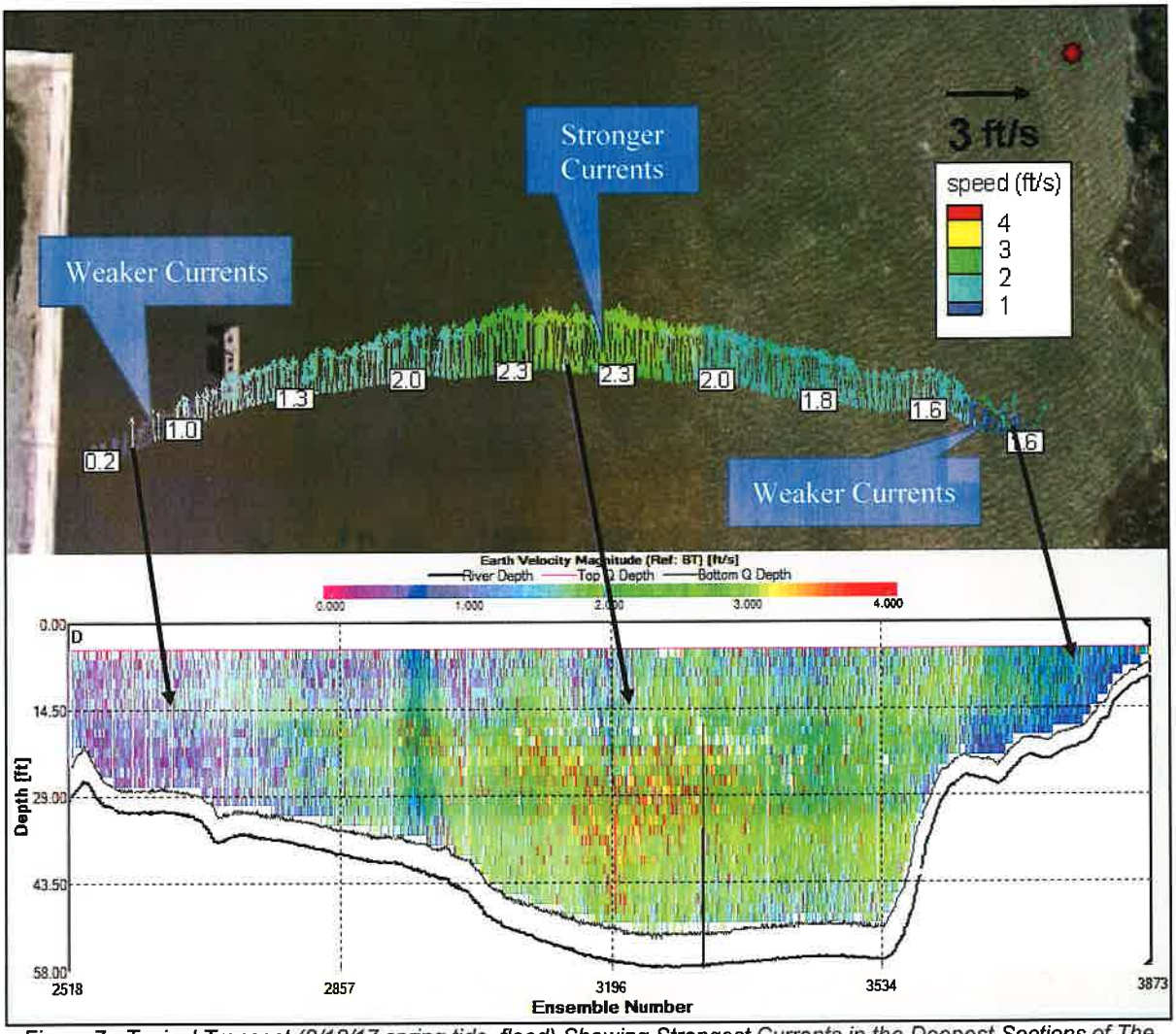


Figure 7: Typical Transect (8/18/17 spring tide, flood) Showing Strongest Currents in the Deepest Sections of The Channel and Weaker Currents Near the Terminal and East Bank in Plan-View and in Cross-Section View. Plan view currents are depth averaged.

Additionally, the scouring along the bottom of the bridge does appear to be in very deep water (30-40 feet) and the intertidal t-head groins will not have any re-directional impacts on those deeper tidal currents/flows. Figure 9 presents the bathymetry from the spring 2022 Fripp Island bridge inspection report. The bathymetry shows some complexities that cannot be identified with a 2-D cross-section.

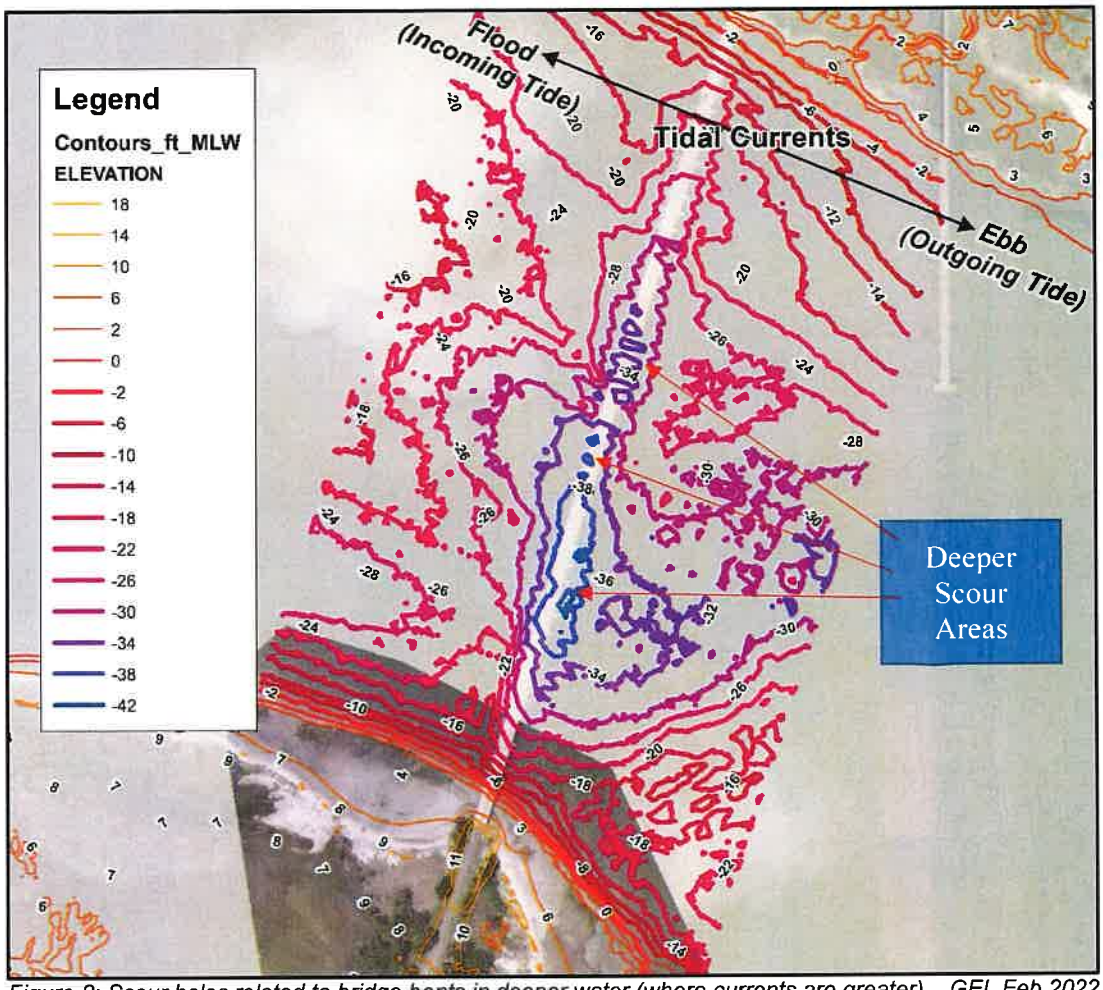


Figure 8: Scour holes related to bridge bents in deeper water (where currents are greater). GEL Feb 2022 bathymetric contours and 2020 LiDAR upland contours. Shown in feet referenced to MLW overlaid on June 30, 2022 drone aerial imagery.

In summary, the t-head groins are designed to protect the Fripp Island shoreline from wave-generated erosion and will have negligible/immeasurable effects on current flows. Some current re-direction will occur along the shoreline but effects will again be negligible/immeasurable in the deeper areas where scour is currently occurring. Additionally, the t-head groin concept is designed to slow/mitigate ongoing shoreline erosion and monitoring will occur to ensure no detrimental downdrift impacts occur.

Thanks,

Fran Way

Fran Way, P.E.

Angie Hughes

From: O'Connor, Jim <JOconnor@jmt.com>
Sent: Tuesday, February 14, 2023 2:30 PM
To: Angie Hughes; Trinh, Thai
Subject: RE: Memos

Apologies Angie. Thai's been buried under this weekend with a Design Build job that had to get in today so he must have missed the email on the 10th, as did I, and this morning.
I'm just coming up for air myself and checking email.
Sorry we missed the meeting but here are some comments.

- Our concern, and questions, were around whether the groin would "channelize, or redirect and concentrate, flow to the bridge bents by creating a restriction away from the shore.
- ATM states there will be negligible/immeasurable effects from the T-head groin on the existing piers.
- They refer to some modeling studies that were done in 2007 showing minimal effects from a similar groin construction in their tank model.
- They conclude with "Additionally, the t-head groin concept is designed to slow/mitigate ongoing shoreline erosion and monitoring will occur to ensure no detrimental downdrift impacts occur."
- Its clear the main function is shoreline protection.
- We just don't want "unintended consequences" to the bridge.
- If they stand behind it with science, modeling, and empirical data, I cant provide a sound argument to not do it.
- That's said, it should be approached with caution and monitoring is strongly encouraged

Take Care,
Jim

Johnson, Mirmiran & Thompson, Inc.
An Employee Owned Company

James K. O'Connor, P.E., CEng MIEI
Senior Vice President

235 Magrath Darby Boulevard, Suite 275
Mt. Pleasant, SC 29464
Direct. 843-779-3700
Mobile: 843-452-3266
Fax. 843-556-4329
joconnor@jmt.com


Please consider the environment before printing this e-mail

From: Angie Hughes <angiehughes@fipsd.org>
Sent: Tuesday, February 14, 2023 9:03 AM
To: Trinh, Thai <ttrinh@jmt.com>

Angie Hughes

From: Francis Way <FWay@appliedtm.com>
Sent: Wednesday, March 8, 2023 5:40 PM
To: Angie Hughes
Cc: Ed Wetzel ; Tony O'Rourke
Subject: RE: Fripp Island PSD Commission Meeting 3/14/23

Hi Angie,
Concept 1 and Concept 2 costs from the memo are provided below (Table 1) and note that the contractor SJ Hammill provided these estimates (and that SJ Hammill has done rock revetment work for the PSD at Fripp and are familiar with the area). So Concept 1 (abutment armoring only) and Concept 2 (reduced abutment armoring, t-head groins, and sand) were both considered for the preferred alternative. While the abutment armoring only (Concept 1) does beef up the existing rock armoring at the abutment, it does not address the underlying cause which is erosion. For Concept 2, the t-head groins and beach nourishment also afford protection to the abutment and they also address the ongoing erosion along a few hundred feet of shoreline updrift and downdrift of the abutment. The t-head groins and sand are essentially turning back the clock on the shoreline erosion around the abutment by 5-10 years and working to minimize future erosion of this area. Also note that both Concept 1 and Concept 2 abutment armoring alternatives include placement under the bridge which requires some additional effort regarding equipment and space restrictions (and slower production).

Table 1: Costs from the abutment memo.

Concept 1 - Proposed Abutment Rip Rap	$824,560	Notes: expanded armoring for the ocean-exposed side
Concept 2 - Proposed Abutment & T-Head Groins and Sand	$1,025,00	Notes: T-Head Groins allow for reduced abutment armoring and address shoreline erosion.

For costs, by combining the Concept 1 abutment armoring and the t-head groin concepts, approximately $25,000 in mobilization costs for equipment, man-power, materials (general economy-of-scale items) are estimated.
For Concept 2, assuming only the t-head groins and sand project components with no abutment armoring, the estimated cost is estimated at $465,000 (assuming an isolated project). While the reduced abutment armoring cost is estimated at $610,000 (assuming an isolated project, not inclusive of t-head groins and sand).
Thanks
Fran

From: Angie Hughes <angiehughes@fipsd.org>
Sent: Wednesday, March 1, 2023 10:37 AM
To: Francis Way <FWay@appliedtm.com>
Cc: Ed Wetzel <ewetz06@gmail.com>
Subject: Fripp Island PSD Commission Meeting 3/14/23

Good morning, Fran.

I'd like to extend an invitation for you to attend the next PSD Commission meeting to address questions from the Commissioners regarding the proposed bridge abutment protection options. The meeting is scheduled for March 14, 2023 at 9:30 a.m. and can be attended via Zoom. The Friday before the meeting, I'll send you a copy of the agenda with a link to the Zoom call.

Prior to the meeting, please provide information regarding estimated incremental costs for the protection options discussed during the meeting held on February 24th. Specifically, we'd like to see the estimated cost of armor stone protection around the bridge abutment, as depicted in Concept 1, if that work was done as part of the larger project identified as Concept 2. Please feel free to call me if you'd like to discuss this in more detail.

Thanks,
Angie

Angel L. Hughes, Manager

Fripp Island Public Service District
291 Tarpon Boulevard | Fripp Island, SC | 29920
Phone: (843) 838-2400 | Direct: (843) 541-0092 | Fax: (843) 838-4900

AttD

Angie Hughes

From: Angie Hughes
Sent: Tuesday, March 7, 2023 10:14 AM
To: Parry, Nathan S.
Cc: Valiulis, Sophia J.
Subject: RE: Erosion Control - Fripp Island
Attachments: Request to Have a Critical Line Established-2023-03-07.pdf

Good morning, Nathan.

Attached is the completed form to request a critical line verification. I've included the drawing from the survey that was completed for us by Gasque & Associates, but you'll also receive a copy directly from them.

Please let me know what our next step is. The water and treated wastewater lines are in imminent danger of being damaged by the settling of the concrete spillway in that location.

Thank you.

Angie

Angel L. Hughes, Manager

Fripp Island Public Service District
291 Tarpon Boulevard | Fripp Island, SC | 29920
Phone: (843) 838-2400 | Direct: (843) 541-0092 | Fax: (843) 838-4900

From: Valiulis, Sophia J. <ValiulSJ@dhec.sc.gov>
Sent: Thursday, March 2, 2023 2:17 PM
To: Angie Hughes <angiehughes@fipsd.org>
Cc: Parry, Nathan S. <ParryNS@dhec.sc.gov>
Subject: Re: Erosion Control - Fripp Island

Hi Angie,

Here I have attached the form for requesting a critical line to be verified. I have also added Nathan to this email, and you may send it over to him.

Let me know if you have any other questions at this time.

Best,

Sophia Valiulis

Critical Area Permitting Project Manager

Office of Ocean and Coastal Resource Management
S.C. Dept. of Health & Environmental Control

104 Parker Drive, Beaufort, SC 29906

Office Main: (843) 473-6007

From: Angie Hughes <angiehughes@fipsd.org>
Sent: Thursday, March 2, 2023 1:41 PM
To: Valiulis, Sophia J. <ValiulSJ@dhec.sc.gov>
Subject: RE: Erosion Control - Fripp Island

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Good afternoon.

I called and left you a voicemail. Please call back at your convenience.

Thanks,
Angie

Angel L. Hughes, Manager

Fripp Island Public Service District
291 Tarpon Boulevard | Fripp Island, SC | 29920
Phone: (843) 838-2400 | Direct: (843) 541-0092 | Fax: (843) 838-4900

From: Valiulis, Sophia J. <ValiulSJ@dhec.sc.gov>
Sent: Thursday, March 2, 2023 10:10 AM
To: Angie Hughes <angiehughes@fipsd.org>
Subject: Re: Erosion Control - Fripp Island

Angie,

At your convenience, please give me a call to talk more about this site. My number is 843-473-6007.

Thank you,

Sophia Valiulis

Critical Area Permitting Project Manager

Office of Ocean and Coastal Resource Management
S.C. Dept. of Health & Environmental Control

104 Parker Drive, Beaufort, SC 29906

Office Main: (843) 473-6007

From: Angie Hughes <angiehughes@fipsd.org>
Sent: Tuesday, February 21, 2023 1:32 PM
To: Williams, Blair <WILLIABN@dhec.sc.gov>
Cc: Valiulis, Sophia J. <ValiulSJ@dhec.sc.gov>
Subject: RE: Erosion Control - Fripp Island

*** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Blair,

I've attached an aerial view of the structure. It's an old pic from about a year ago, but it's the only aerial we have. The coordinates of the structure are 32°19'41.7"N 80°27'56.2"W.

Thanks,
Angie

Angel L. Hughes, Manager

Fripp Island Public Service District
291 Tarpon Boulevard | Fripp Island, SC | 29920
Phone: (843) 838-2400 | Direct: (843) 541-0092 | Fax: (843) 838-4900

From: Williams, Blair <WILLIABN@dhec.sc.gov>
Sent: Tuesday, February 21, 2023 1:17 PM
To: Angie Hughes <angiehughes@fipsd.org>
Cc: Valiulis, Sophia J. <ValiulSJ@dhec.sc.gov>
Subject: Re: Erosion Control - Fripp Island

Angie,

Dropping off Matt and adding Sophia. I could not open your file....I am unable to open the KMZ file. Aerial or photos in jpg. may be best.

Thanks,
Blair

Blair N. Williams
Manager, Critical Area Permitting Section
Ocean and Coastal Resource Management
SC Dept. of Health and Environmental Control
1362 McMillan Avenue, Suite 400

Charleston, SC 29405
(843) 592-0200 *cell*
williabn@dhec.sc.gov

From: Angie Hughes <angiehughes@fipsd.org>
Sent: Tuesday, February 21, 2023 12:05 PM
To: Williams, Blair <WILLIABN@dhec.sc.gov>; Slagel, Matt <slagelmj@dhec.sc.gov>
Subject: RE: Erosion Control - Fripp Island

Blair,

Thanks for your quick response.

I've attached a Google Earth pin of the location. We're consulting with an engineer because we're unsure what the best course of action is, so I'll provide more info as soon as we have a definitive plan.

Matt Slagel is the only individual copied on your email. Can you provide the contact information for Sophia Valiulis?

Thanks,
Angie

Angel L. Hughes, Manager

Fripp Island Public Service District
291 Tarpon Boulevard | Fripp Island, SC | 29920
Phone: (843) 838-2400 | Direct: (843) 541-0092 | Fax: (843) 838-4900

From: Williams, Blair <WILLIABN@dhec.sc.gov>
Sent: Tuesday, February 21, 2023 10:11 AM
To: Angie Hughes <angiehughes@fipsd.org>; Slagel, Matt <slagelmj@dhec.sc.gov>
Subject: Re: Erosion Control - Fripp Island

Angie,

If is is within the tideldands critical area (salt marsh) and not beachfront, you will coordinate with Sophia Valiulis, critical area pemritting project manager, for your area (cc'd here on this email).

Please send pictures of the area and a description of the work you are contemplating so we can put you on the right path as it relates to the type of authorization you will need.

Thanks,
Blair

Blair N. Williams
Manager, Critical Area Permitting Section
Ocean and Coastal Resource Management
SC Dept. of Health and Environmental Control
1362 McMillan Avenue, Suite 400
Charleston, SC 29405
(843) 592-0200 *cell*
williabn@dhec.sc.gov

From: Angie Hughes <angiehughes@fipsd.org>
Sent: Friday, February 17, 2023 3:51 PM
To: Williams, Blair <WILLIABN@dhec.sc.gov>; Slagel, Matt <slagelmj@dhec.sc.gov>
Subject: Erosion Control - Fripp Island

Good afternoon, Gentlemen.

We have a spillway that acts as an erosion control structure adjacent to a marshy area on Fripp Island that is experiencing some undermining and damage due to tidal influences. The spillway protects a water line and an effluent line carrying treated wastewater from Harbor Island to Fripp Island PSD's wastewater holding pond at our treatment facility. Currently, the water line has been undermined and is in danger of failure due to the ongoing erosion.

Because this is in a marshy area and not beachfront, I'm unsure which division of OCRM we need to coordinate with when we begin our repairs. Would one of you please provide that information? The situation is not an emergency, yet, however it is a very pressing issue. As the erosion continues, both the water line and the effluent line are in increasing danger of failure.

Thanks in advance for your assistance.

Angie

Angel L. Hughes, Manager

Fripp Island Public Service District
291 Tarpon Boulevard | Fripp Island, SC | 29920
Phone: (843) 838-2400 | Direct: (843) 541-0092 | Fax: (843) 838-4900

Request to Have a Critical Area Line Established

Property owners: Name: Fripp Island Public Service District

Address: 291 Tarpon Blvd., Fripp Island, SC 29920

Email: angiehughes@fipsd.org Phone number: 843-838-2400

Surveyor: Name: Gasque & Associates

Email: surveyor@islc.net Phone number: 843-522-1798

This is a request to:

- ☐ Set a new critical area line
- ☑ Certify a line set by OCRM
- ☐ Certify a line set by another party
- ☐ Resubmittal

Site address: Berm betw Sandpiper Run & Porpoise Dr Fripp Island County: Beaufort

Tax map number: N/A Acreage: Unknown

Adjacent waterbody/marshes of: Fripp Island, SC

Special instructions (examples–dog, locked gate, landmarks, marked property corners):

Access from Porpoise Drive between lots located at Sub 17 Blk E Lots 7 & 8, and Sub 12 Blk E Lot 16. Secondary access from the other end, between lots located at Sub 20 Blk A, Lots 45 & 46.

Please attach any previous plats or surveys and a site map. This form must be completed in full in order for OCRM to process the request. Any additional information that will assist staff fulfill this request may be included. Incomplete requests will be returned.

Please submit this request to:

DHEC OCRM
Attn:Critical Area Permitting Section
1362 McMillan Ave., Suite 400
Charleston, SC 29405

For official use only:

Tracking #: _____ Date received: _____

Date flagged: _____ Date certified: _____

ATT E

GENERAL SERVICES CONTRACT AGREEMENT

THIS AGREEMENT is made by and between

Lowcountry Engineering Consultants LLC

hereinafter called "**Consultant**" and

Fripp Island Public Service District

hereinafter called "**Owner**"

WHEREAS, **Owner** desires **Consultant** to perform general engineering support services; and

WHEREAS, **Owner** desires to enter into a general engineering services contract (the "**Agreement**") with **Lowcountry Engineering Consultants LLC** (the "**Consultant**); and

WHEREAS, **Consultant** has expressed a willingness to perform the services specified in the **Agreement,**

NOW, THEREFORE, the parties agree as follows:

Section 1. Scope of Work; Term. (a) General engineering support services, when authorized in writing by a notice to proceed (the "Notice to Proceed"), shall be performed by the Consultant in accordance with the Owner's requirements as Task Orders under the Agreement.

(b) Subject to Section 6 hereof, this agreement shall expire three years from the date hereof, which is subject to renewal for additional one-year terms if both parties agree in writing within sixty days prior to expiration of the then-current term.

Section 2. Payment. Owner shall pay Consultant for all services as described in approved Task Orders, authorized in writing, and properly performed by Consultant, subject to additions or deletions for changes or extras agreed upon in writing as provided herein. All invoices from Consultant shall contain the following:

a. Job designation; Consultant Job Name

Consultant Job No. xx-xxxx-xxx

b. Invoice number (using consecutive numbers):

Section 3. Performance by Consultant. Consultant shall perform services requested by the Owner pursuant to the reasonable standard of care applicable to the Consultant's profession under the circumstances presented. All services shall be completed on or before the time designated for each task in the project schedule. Consultant shall furnish and pay for all labor,

tools, materials, equipment, supplies, transportation, and management necessary to perform the Services set forth in Task Orders under this Agreement for Owner. Owner may at any time stop any services by the Consultant upon giving Consultant 7 days written notice.

Section 4. No Damage for Delays. In the event Consultant's performance of the Agreement is delayed or interfered with by acts of the Owner or others for whom the Owner is legally responsible, Consultant may request an extension of time for the performance of same as hereinafter provided. In this circumstance, Consultant is not entitled to any lost profit, extended overhead, demobilization or mobilization expenses, or any other financial compensation as a result of such delay.

Consultant waives any allowance of an extension of time, for any cause whatsoever, unless Consultant shall have made written request upon Owner detailing the basis for such extension within twenty (20) working days after the cause for such extension first arose, and unless Owner and Consultant have agreed in writing upon the allowance of additional time to be made.

Section 5. Ownership of Instruments of Service. All instruments of service (including in all or any part of any plans, specifications, drawings, reports, designs, computations, computer programs, estimates, surveys, other data or work items, etc.) prepared under this Agreement shall be submitted for approval of Owner. Such instruments of service, together with necessary supporting documents, shall be delivered to Owner, and there shall be no restriction or limitation on the Owner's use of those instruments of service for the intended project or in the future for any purpose. Consultant shall not be responsible and shall be held harmless for the use of such instruments of service on any other project, but only to the extent that such use is without the consent or authorization of the Consultant. All instruments of service shall be professionally sealed as may be required by law.

Section 6. Suspension and Termination of the Services. Owner may suspend or terminate this Agreement for the Owner's convenience at any time upon delivery of written notice of such suspension or termination. If such termination is for cause or related to any acts or omissions by Consultant, the Owner may withhold any compensation unpaid until the Owner determines any damages which may result from the Consultant's acts or omissions, and Owner is entitled to recover damages which reasonably resulted from those acts and omissions. To the extent the suspension or termination is for the Owner's convenience only without any acts or omissions of the Consultant, then the Consultant shall be entitled to compensation for services satisfactorily performed up to the date of suspension or termination but, in any event, Consultant shall have no right to loss of future profits or loss of future or extended overhead

relating to this suspension or termination. In the event of termination, Consultant remains obligated to deliver to the Owner all instruments of service relating to this project.

Section 7. Changes in the Services. Should Owner require a modification to this Agreement whether such modification be a change in scope of the Services, fee, time schedule, or otherwise, should Owner and Consultant fail to agree upon a modification to this Agreement, Owner shall have the option of terminating this Contract for the Owner's convenience as described above, and the Consultant's Services hereunder, at no additional cost other than the payment to the Consultant, in accordance with the terms of this Agreement, for the Services satisfactorily performed by the Consultant as of the date of such termination.

Consultant shall not be entitled to any compensation for any changes in or additions to the Services unless such changes or additions are authorized by Owner by written Change Order, executed prior to the Services being performed.

Section 8. Insurance. Consultant shall, at its sole cost and expense, shall procure and maintain at all times the following minimum policies of insurance:

(a) Worker's Compensation and Employers Liability as required by South Carolina law.

(b) Commercial General Liability written on an occurrence basis with limits of $500,000 per occurrence and a $1,000,000 aggregate including, but not limited to, coverage for bodily injury, personal injury, property damage, ongoing and completed operations, products and contractual liability.

(c) Automobile Liability in accordance with South Carolina law for bodily injury or property damage covering vehicles owned, non-owned, hired or otherwise used or furnished for the use of the Consultant, its associates, employees, representatives, volunteers or agents.

(d) Professional Liability/Errors and Omissions insurance written on an occurrence basis with limits of not less than $1,000,000 per occurrence, with legal expenses outside of the policy limits.

(e) Consultants' insurance policies shall name the Owner and each of its officers, agents, and employees as primary additional-named insureds and Consultant shall provide to the Owner the fully executed endorsement by all applicable insurance carriers establishing that additional insurance coverage.

A Certificate of Insurance satisfactory to Owner in compliance with the requirements of this section will be forwarded to Owner. Such Certificate of Insurance shall provide for ten (10) days written notice to Owner prior to the cancellation or modification of any insurance

referred to therein. All insurance coverage shall remain in effect for a period of (1) one year after the completion of Task Orders accomplished under this Agreement. Should the Consultant fail to provide said evidence to Owner, then, in addition to all other remedies, Owner may withhold payments to the Consultant until such evidence is provided.

Section 9. Indemnification. Consultant shall be responsible for all damage to persons or property caused by its acts or omissions or those of its subcontractors, agents, employees, or any other person or entity for whom it is legally responsible in connection with the Services performed under this Agreement. To the fullest extent permitted by law, Consultant shall indemnify and hold harmless Owner and each of its officers, agents and employees from and against all claims, suits, judgements, expenses, actions, damages, and costs of any kind or nature, arising out of or resulting from the negligent acts, errors and omissions of Consultant, its subcontractors, agents, employees, or any other person or entity for whom it is legally responsible.

Section 10. Independent Contractor. Consultant agrees that it is an independent contractor and not an agent of Owner and that Consultant is subject, as an employer, to all applicable Unemployment Compensation Statutes, so as to relieve Owner of any responsibility or liability from treating Consultant's employees as employees of Owner for the purpose of keeping records, making reports or payments of Unemployment Compensation taxes or contributions. Consultant further agrees to indemnify and hold Owner harmless and reimburse if, for any reason, an expense or liability is incurred under said statutes relating in any way to employees of Consultant.

Section 11. Assignment. Consultant shall not assign or sublet this Agreement or any part thereof without the prior written consent of Owner.

Section 12. Compliance with Applicable Law. Consultant shall comply with all Federal, State, County, Municipal Laws, ordinances, regulations, safety orders, resolutions and Construction Codes relating or applicable to the Services to be performed under this Agreement. Consultant shall also comply with all rules and regulations issued by the Owner in connection with Task Orders under this Agreement. The Consultant shall obtain at its own expense all licenses, permits, and other authorizations required from any governmental or other entity prior to the commencement and throughout the performance of Consultant's services performed pursuant to this Agreement.

Section 13. Effective Date of Agreement. This Agreement will be effective upon the execution of the contract by both Owner and Consultant.

Section 14. Entire Agreement. This Agreement contains the entire understanding of the

parties with respect to the subject matter hereof and there are no oral understandings, statements or stipulations bearing upon the meaning or effect of this Agreement which have not been incorporated herein. This Agreement may only be modified, amended, supplemented or waived by a written instrument executed by the parties, except as may be otherwise provided herein.

Section 15. Notices. All notices, demands and communications hereunder shall be in writing, and may be served or delivered personally upon the party for whom intended, or mailed to the party for whom intended at the address set forth here. Notice shall be deemed to have been given on the date on which such notice was deposited in the U.S. mail. The address of a party may be changed by notice given pursuant to this Section.

Fripp Island Public Service District

291 Tarpon Boulevard

Fripp Island, SC 29920

Section 16. Gender, Number and Headings. The use of any gender in this Agreement shall be applicable to all genders and the use of singular number shall include the plural and conversely. The headings used in this Agreement are for convenience only and shall not be used in the construction of the terms of this Agreement.

Section 17. Choice of Law. This Agreement and the rights and obligations of the parties hereunder shall in all respects be governed by, and construed in accordance with, the laws of the State of South Carolina, without regard to its conflicts of law principles.

Section. 18. Waiver of Jury Trial. To the fullest extent permitted by law, BOTH PARTIES WILLINGLY AND KNOWINGLY WAIVE THEIR RIGHT, IF ANY, TO A JURY TRIAL IN ANY MATTER ARISING OUT OF OR IN ANY WAY RELATING TO THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION, THE MAKING OF THIS AGREEMENT, and by doing so agree to submit any dispute to a non-jury trial in the Court of Common Pleas, Beaufort County, South Carolina, as set forth in Paragraph 21 below.

Section 19. Jurisdictional Venue. To the fullest extent permitted by law, the parties agree that the exclusive jurisdiction and venue of any matter arising out of or in any way relating to this Agreement shall be the Court of Common Pleas, Beaufort County, South Carolina, and both parties expressly consent to jurisdiction and venue in those courts.

Section 20. Alternative Dispute Resolution – Nonbinding Mediation. In the event that a material dispute arises between the parties concerning any aspect of this Agreement, and/or amendments thereto, that dispute will be resolved by the parties submitting the dispute to

mediation, by selecting a professional mediator taken from the list of approved mediators maintained by the South Carolina Bar Association. The costs and fees of such mediation shall be shared equally by all parties to that process. If the mediation is unsuccessful in resolving the dispute, the parties shall have the right to adjudicate the dispute in the Court of Common Pleas, Non-Jury, in Beaufort County, South Carolina.

Section 21. Attorneys' Fees. In the event of any dispute arising out of this Agreement, each party shall bear its own costs and fees.

Section 22. Non- Discrimination. Consultant will not discriminate against any employee because of race, religion, color, sex, national origin, age, disability or other legally protected characteristics. In addition, Consultant further certifies that it now complies and will continue to comply with all Federal, State and local laws and regulations pertaining to equal opportunity and equal employment practices.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement this _____ day of _____, 20____.

Lowcountry Engineering Consultants LLC

(Corporate Seal)

Witness: _____ By: _____

Title: _____

Fripp Island Public Service District

(Seal)

Witness: _____ By: _____

Title: _____

TODAY'S SOLUTION
BENEFITS OF AMI

- Data Resolution
  - Hourly Meter Readings
- Revenue Enhancement
  - Reduce Billing Adjustments, Theft Detection, Revenue Forecasting
  - Accurate Water Meters.
- Operating Cost Savings
  - Meter Reading Cost Savings, Customer Service Call Savings
- Improved Customer Service
  - Reactive to Proactive, Anticipate Notifications, More Detailed Information to Customer, Resolve Inquiries with First Call, Flexible Billing
- Operational Tools
  - Conservation, Right Sizing, Water Accountability
- Better Asset Management
  - Asset Accountability
- Responsible Resource Management
  - Reduce Non-Revenue Sources

ATT F

BENEFITS OF AMI
RELEASE WORKERS FROM THE METERING PROCESS

- No workforce required for readings and investigations
- No technical expertise required to handle new radios, readers, download tools and software to feed billing
- No more manual processes to handle data
- No more trips / reading routes (reduce labor, vehicle, miscellaneous costs)

BENEFITS OF AMI
SUPERIOR CUSTOMER SERVICE

ONLINE READING IMPROVES CUSTOMER SERVICE

- Anticipate notifications to avoid high bills due to internal leaks
- Ability to provide detailed information to customers (includes customer portal)
- Ability to resolve most customer inquiries with first call
- Flexible billing
- Quick resolution of In/Outs, Fewer Calls, Reduce Billing Costs
- Health and Safety Monitoring
    - "The city's water clerk noticed that a house occupied by an elderly lady was running 200 gallons of water an hour. The police were called when no one responded. She'd already been there for a couple of days, locked in after her husband had passed. Had we not spotted the excessive water use, she probably would have died. Our AMI system thus became a lifesaver, not just an advanced operational tool," Mayor Phelps said.