Smith, Katie M

From: Mark Saunders <msaunders@thompsonengineering.com>

Sent: Wednesday, September 1, 2021 11:55 AM

To: CESAM-RD@sam.usace.army.mil
Cc: Mobile Coastal Mail; Keith Howell

Subject: SAM-2021=00762-ES - Steiner Bayou La Batre Boat Slip

Attachments: Steiner SAM-2021-00762-ES-20210831.pdf

Please find completed, signed permit application along with Alternative Analysis attached.

MKS

Mark Saunders, PE

Senior Engineer
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An Employee-Owned Company

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JOINT APPLICATION AND NOTIFICATION U. S. DEPARTMENT OF ARMY, CORPS OF ENGINEERS ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

THIS FORM IS TO BE USED FOR PROPOSED ACTIVITIES IN WATERS OF THE UNITED STATES WITHIN THE POLITICAL BOUNDARIES OF THE STATE OF ALABAMA.

PLEASE TYPE OR PRINT IN INK

1. DATE: August / 31 / 2021 year	Application Number: SAM-2021-00762-ES (Agency Use Only)
2. APPLICANT INFORMATION: Name: Company: Steiner Construction Comnapy Mailing Address: Bayou La Batre, AL 36509 Telephone Number and Email (during business hours): A/C (251) Email: steiner@steinermarine.com	3. PROJECT LOCATION: Street Address: 9175 Little River Rd. City/Community: Bayou La Batre County: Mobile Name of Waterway: Bayou La Batre Latitude: 30.4026N Longitude: 88.2578W (Provide Lat/Long in decimal degrees, if available) Section 26 Township 7S Range 3W County Parcel Identification Number (PID): 44 07 26 3 003 007 (PID is typically located on property tax receipt)
4. DESIGNATION OF AGENT, STATEMENT OF AUTHORIZATION: N/A (check here if applicant is not designating an agent) I hereby designate and authorize Thompson Engineering, Inc. (Print Name of Designated Agent) to act on my behalf in the processing of this permit application and to furnish, upon request, supplemental information in support of the application. Signature of Applicant	AGENT INFORMATION: Name:
5. PROJECT DESCRIPTION: In addition to required attachm description of the project. Include <u>all</u> aspects of the project, describ of any structures such as piers, wharfs, bulkheads, pipelines, boathor the dimensions (in feet/square feet) and volume (in cubic yards) method(s) of construction and how the site would be accessed (i.e. b Applicant proposes to excavate a new boat slip 56' wide x 20th Boat slip will be dredged from existing grade of +7' to elevation material. Dredged material will be dewatered at the dredge site Additionally, a portion of an existing slip 80' widex 120 feet lo of +7' using approximatey 3,500 yards of material. Some of the depending on suitability as fill. A section of bulkhead approximate upstream and downstream of the slip entrance.	oing completely and in detail. Provide the dimensions (in feet) uses, boat ramps, groins, jetties, and appurtenances, as well as of any dredging, excavation, or fill activities. Indicate the by barge or land). Attach additional sheets if necessary. O feet long on property owned by Applicant. on -15', generating approximately 9,500cy of dredge ite and trucked dry to an on-site storage area and will be filled from elevation -10 to existing grade his material may consist of the excavated material

6.	DREDGING: For projects with dredging, show le existing and proposed depths. N/A □ (check here			ed dredge area(s) or	attached plans.	Include	
	a. New Work ✓ Maintenance Work □	e ii diedging is ii	ot proposed)				
	b. Volume (cubic yards) of material to be removed	d:9	,500 cy				
	c. Type of material (sand, muck, hard bottom, etc.d. Surface area (square feet) impacted:	.):	Sand/Silt				
	d. Surface area (square feet) impacted:	11,600 st		Macha	nical		
	e. Method of dredging or excavation (hydraulic put). f. Nature of area to be dredged (check all that app	ump, mechanical,	etc.):	Mecha		in). Evicting	
	upland on shipyard to be dredged for new		wettand 🗖	waterbottom L	Julei 🗖 (explai	III). <u>LXISIIII</u>	
-	DISCHARGE OF DREDGED OR FILL MATE	DIAI · For proj	ects with dischar	re of dradged or fill	motorial show 1	ocations and	
٠.	dimensions of all disposal or fill areas on attached						
	a. Volume (cubic yards) of fill: 3,	500	(FF <i>)</i>	
	b. Type of fill (sand, clay, rip-rap, etc.):	Sand/Silt					
	c. Surface area (square feet) impacted:	9,000 Si		<u>_</u>		_	
	d. Source of fill material (check all that apply): C Other □ (explain):	ommercially obta	nined	ged material B	orrowed on-site	☑	
	e. How will discharge material be contained? Spe	ecify containment	and/or erosion co	ontrol measures (i.e.	Best Manageme	ent Practices):	
	Dredged material will be placed within eart	herned berms.	Suitable materi	al used for backfill	of existing slip	-	
	f. Nature of disposal/fill area(s) (check all that ap	piy.) ∪piand 🔟	wetland L	waterbottom \square	Otner 🗀 (expla	ıın):	
8.	ADDITIONAL INFORMATION: Provide infor	mation below rel	ating to the propo	sed activity.			
	a. Are oyster reefs located within or near the projection						
	b. Will this project result in the siting, construction	n_and/or operation	on of an energy-re	elated facility? Yes	П № И		
	c. Is the project area greater than 5 acres in size?			racea racinty. 105	_ 1.0 _		
	d. Is any portion of the activity for which authoriz			es 🗆 No 🗹 If	yes, explain:		
			34 4 - 1 - 1		-		
	e. If project is for maintenance work of existing st	nth and year activ	vity took place:	l authorization for t	he existing work	Provide	
	permit number, dates, or other form of authoriz				ne existing work	. 110vide	
9	PURPOSE AND NEED: Describe the nurpose ar	nd need of the pro	viect Describe ar	ny public benefit if:	annlicable Desc	ribe the	
•	9. PURPOSE AND NEED : Describe the purpose and need of the project. Describe any public benefit, if applicable. Describe the relationship between the project and any secondary or future development the project is designed to support:						
	The new slip is being constructed in order to increase capacity to meet current orders and to accommodate a new						
	Travelift boat hoist that requires new, improve						
	Intended use: Public □ Private □ Commerci	ial 🗹 Other 🗅	l (explain):				
10	PROJECT SCHEDULE:	D 1	1 1 .	6/00/0000			
	Proposed start date: 1/1/2022			6/30/2022			
11	. ADJACENT PROPERTY OWNER NAMES A						
	adjoining property owners, lessees, etc. whose prothe plan view drawings. Attach additional sheets		project. Also, id	lentity the location of	of each owner's p	property on	
	Owner's Name: See Attached	as needed.	Owner's Name				
	Mailing Address:		Mailing Address	:			
12	. OTHER AUTHORIZATIONS OR CERTIFIC	SATIONS: List :	all authorizations	or certifications req	uested received	and/or	
	juired from other federal, state, or local agencies for						
	ated to this application. Note: The signature in Sec						
fro	m the following agencies. If permits are not requir	ed, place "N/A"	in space for Type	$of\ Approval.$	-	-	
	Name of Federal, State, or Local Agency	Type of	<u>Identification</u>	Date of	Date of	Date of	
110	S. Army Corps of Engineers	Approval Applied	<u>No.</u>	<u>Application</u>	<u>Approval</u>	<u>Denial</u>	
		Applied					
	abama Dept. of Environmental Management (ADEM) abama Dept. of Conservation and Natural Resources,	Applied					
	te Lands Division (ADCNR-SLD)	Applied					
Ala	abama State Docks	Applied					
Cit	v/Countv/Other:	N/A					

13. ATTACHMENTS: In addition to the completed application form, the following attachments are REQUIRED:

Vicinity Map: Show the location of the proposed site in relation to major highways, landmarks, and nearby streets.

Drawings: Provide plan view and cross-section or elevation view drawings of the project site. Drawings **must**:

- 1. Show fully-dimensioned and accurate representations of the existing and proposed structures and activities.
- 2. For projects located in or adjacent to waterways, clearly indicate the location of the Mean High Water and Mean Low Water lines (in tidally influenced areas) or the Ordinary High Water mark (in non-tidal creeks, rivers, etc.) along the shoreline or bank.
- 3. For projects located in or adjacent to waterways, include the width of the waterbody at the site location.

All attachments must be of reproducible quality. For hard copy applications, attachments must be on 8 ½ inch x 11 inch paper.

14. SIGNATURE OF APPLICANT OR AGENT (REQUIRED): Application is hereby made for authorization to conduct the activities described herein. I agree to provide any additional information/data that may be necessary to provide reasonable assurance or evidence to show that the proposed project will comply with the applicable state water quality standards or other environmental protection standards both during construction and after the project is completed. For projects within the coastal area of Mobile and Baldwin Counties, I certify that the proposed project for which authorization is sought complies with the approved Alabama Coastal Area Management Program and will be conducted in a manner consistent with the program. I agree to provide entry to the project site for inspectors from the environmental protection agencies for the purpose of making preliminary analyses of the site and monitoring permitted works. I certify that I am familiar with and responsible for the information contained in this application, and that to the best of my knowledge and belief such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities or I am acting as the duly authorized agent of the applicant.



18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willingly falsifies, conceals, or covers up by any trick, scheme or device a material fact or make any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

15. APPLICATION SUBMISSION INFORMATION: Contact the U.S. Army Corps of Engineers prior to submitting the application if you have any questions or to request acceptable alternate content/format. **For electronic submittals (preferred method)**, **please use the email addresses listed below**. An instruction package, example SPCC plans, and other information are available upon request. NOTE: Fees may be required in conjunction with ADEM certification. ADEM will contact the applicant with fee requirements. Fees may also be required by the ADCNR-SLD for dredging activities and projects impacting State-Owned Submerged Lands. ADCNR-SLD will contact the applicant with fee requirements.

Submit the completed and signed application (with original or digital signature) and attachments to the appropriate U.S. Army Corps of Engineers office below:

For activities in the following counties in Alabama: Baldwin, Butler, Choctaw, Clarke, Coffee, Conecuh, Covington, Crenshaw, Dale, Escambia, Geneva, Henry, Houston, Marengo, Mobile, Monroe, Washington, and Wilcox	For activities in all other counties in Alabama: (Portions of northern Alabama counties may be within the U.S. Army Corps of Engineers Nashville District area of responsibility. Please contact the Nashville District Regulatory Division at (615) 369-7500 for more information)			
U.S. Army Corps of Engineers, Mobile District Attention: CESAM-RD-A Post Office Box 2288 Mobile, Alabama 36628-001 Phone: (251) 690-2658 Web: www.sam.usace.army.mil	U.S. Army Corps of Engineers, Mobile District Attention: Regulatory Division, North Branch 218 Summit Parkway, Suite 222 Homewood, Alabama 35209 Phone: (205) 290-9096 Web: www.sam.usace.army.mil			
Email: CESAM-RD@sam.usace.army.mil	Email: RD-N2@usace.army.mil			

Additionally, submit a signed paper or electronic **copy** of the application package to the appropriate state agencies below:

For activities in the follow Baldwin, Mobile,		For activities statewide in Alabama: (For northern counties, contact the Nashville District as noted above)				
Coastal Section-Mobile Branch Field Operations Division, ADEM 3664 Dauphin Street, Suite B Mobile, AL 36608 Phone: (251) 304-1176 Fax: (251) 304-1189 Web: www.adem.state.al.us	ADCNR, State Lands Division Coastal Section 3115 Five Rivers Boulevard Spanish Fort, AL 36527 Phone: (251) 621-1216 Fax: (251) 621-1331 Web: www.outdooralabama.com	Field Operations Division, ADEM Post Office Box 301463 Montgomery, AL 36110-2059 Phone: (334) 394-4311 Fax: (334) 394-4326 Web: www.adem.state.al.us	Alabama State Port Authority Attn: Harbormaster P.O. Box 1588 Mobile, AL 36633 Phone: (251) 441-7074 Fax: (251) 441-7390 Web: www.asdd.com			
Email: coastal@adem.alabama.gov		Email: fieldmail@adem.alabama.gov	Email: harbormaster@asdd.com			

Adjacent Property Owners – Steiner Shipyard New Slip SAM-2021-00762-ES

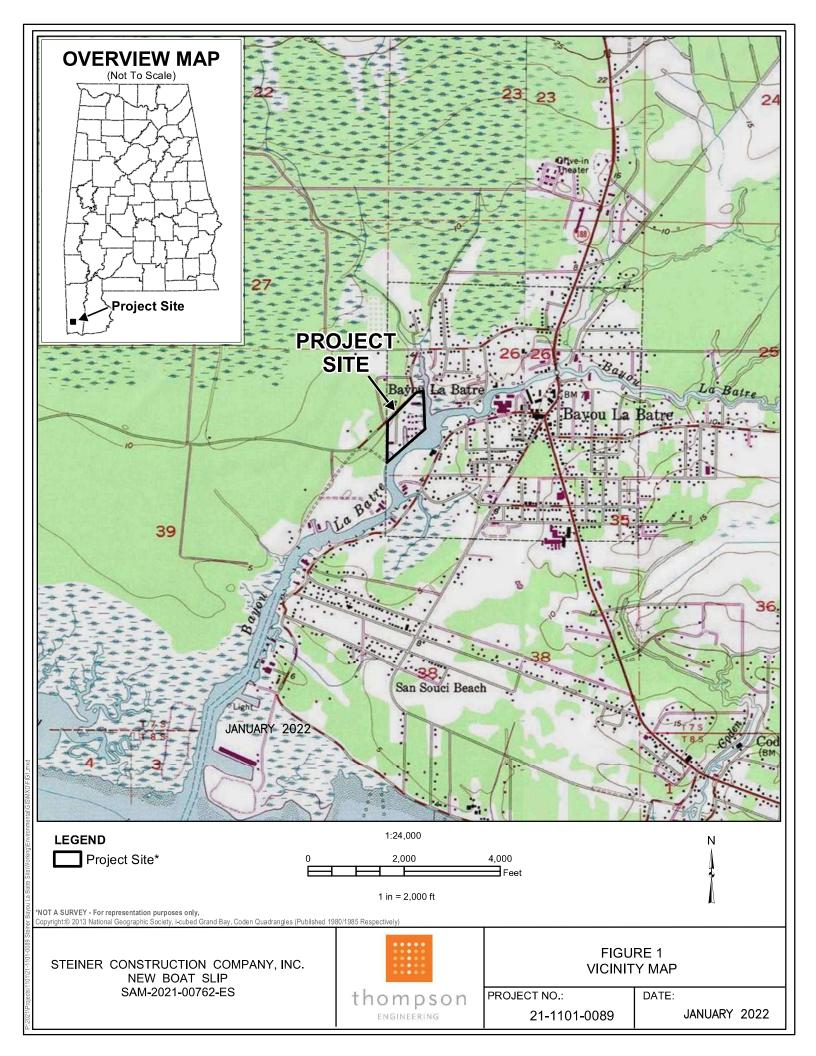
Lam Ung 9210 Little River Rd. Bayou La Batre, AL 36509

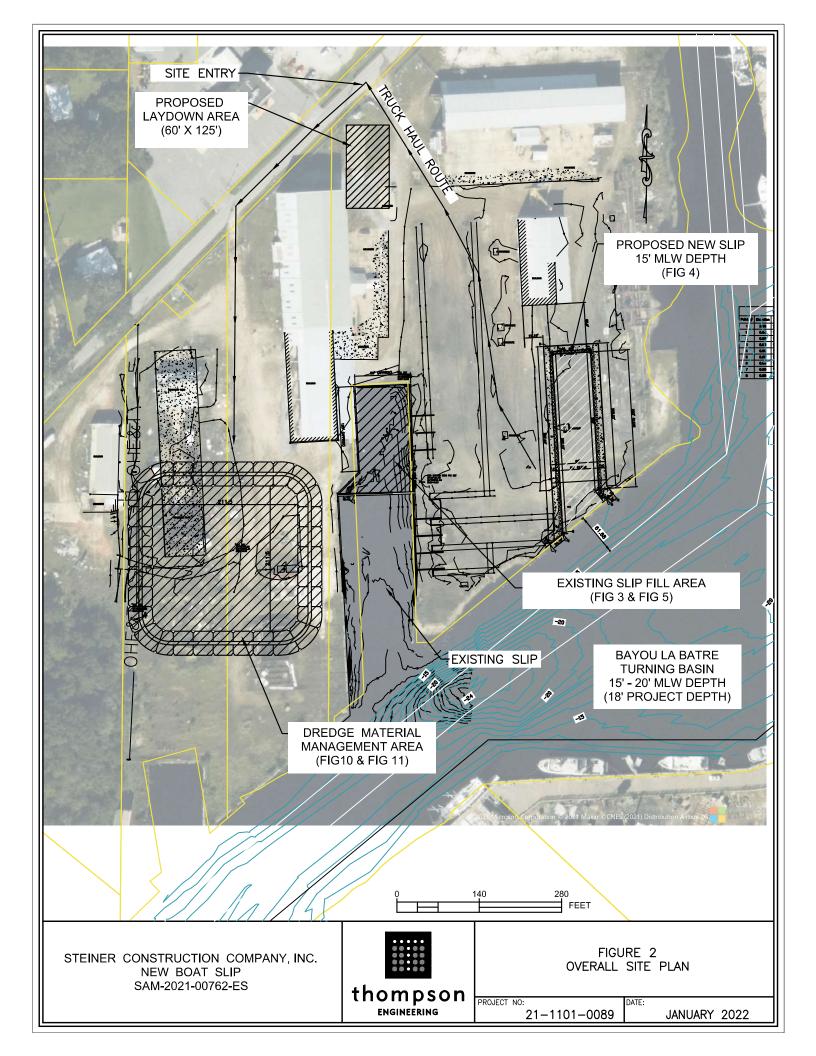
City of Bayou La Batre 13785 S Wintzell Ave. Bayou La Batre, AL 36509

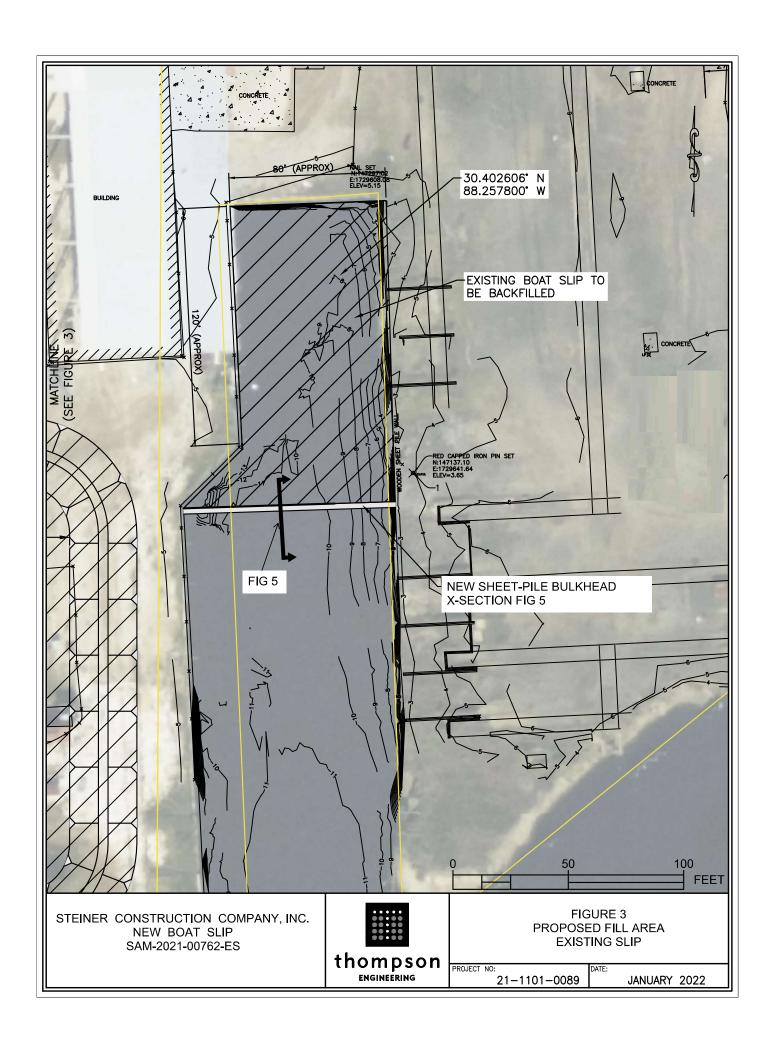
Force Eleven LLC 8440 4th St. St. Petersburg, FL 33702

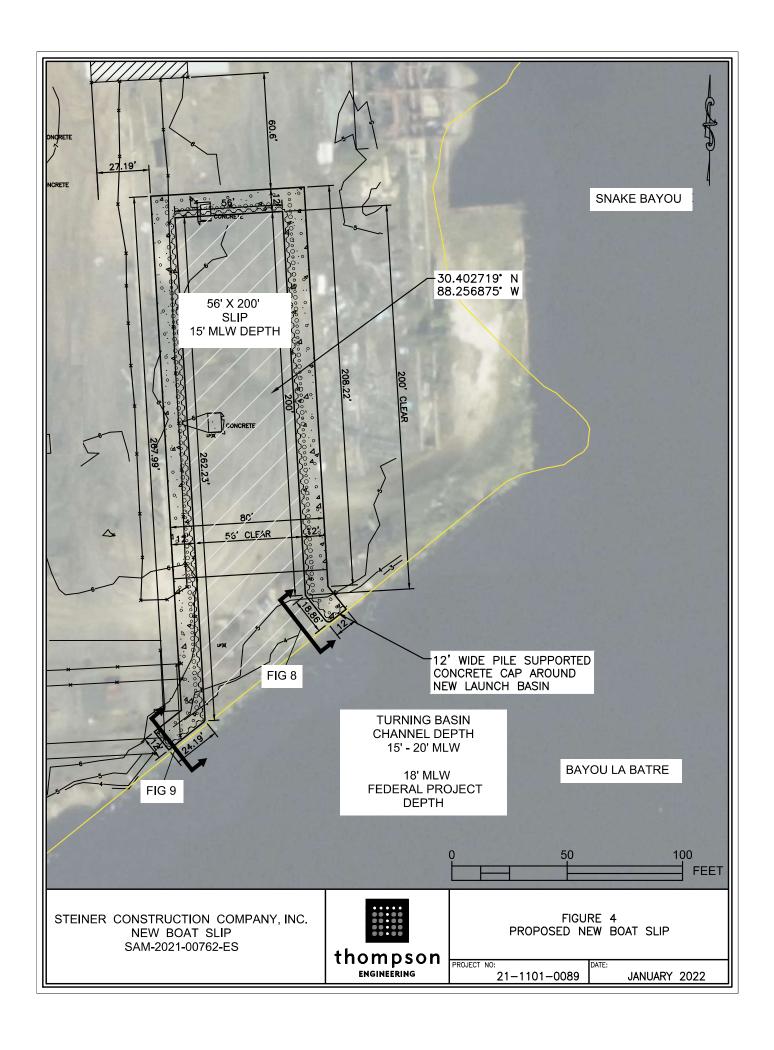
James Jerome Jackson 8115 McKee Rd. Irvington, AL 36544

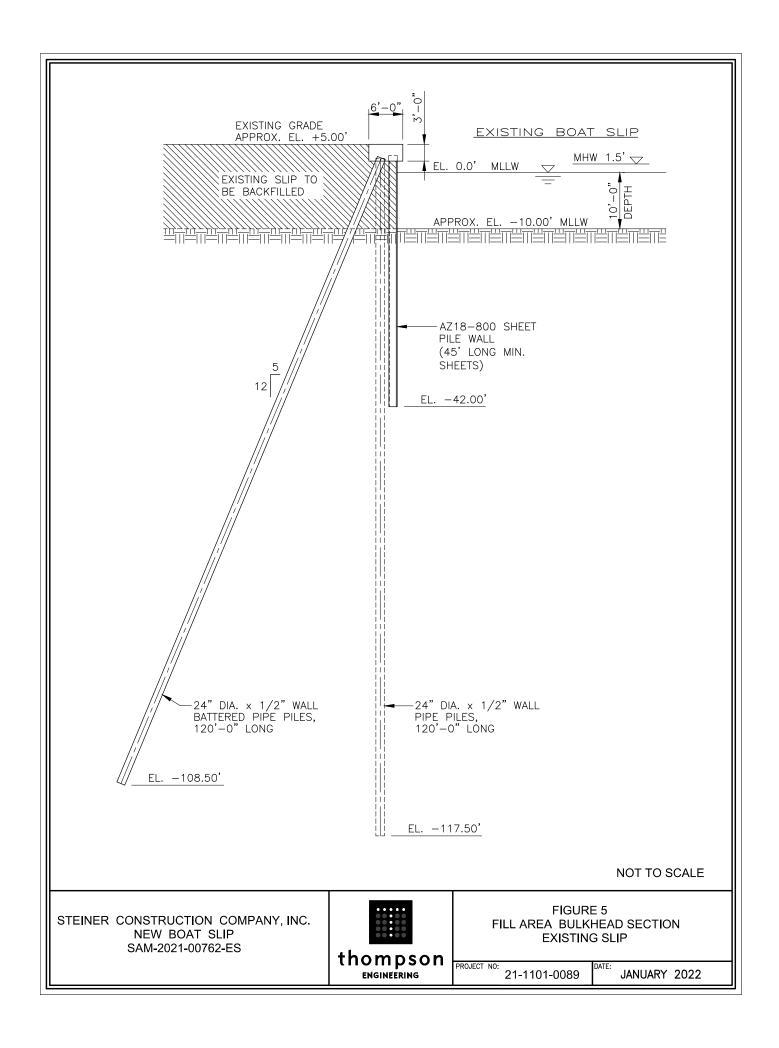
Shark Tech Inc. 160 Boro Ln. Franklin, LA 70538

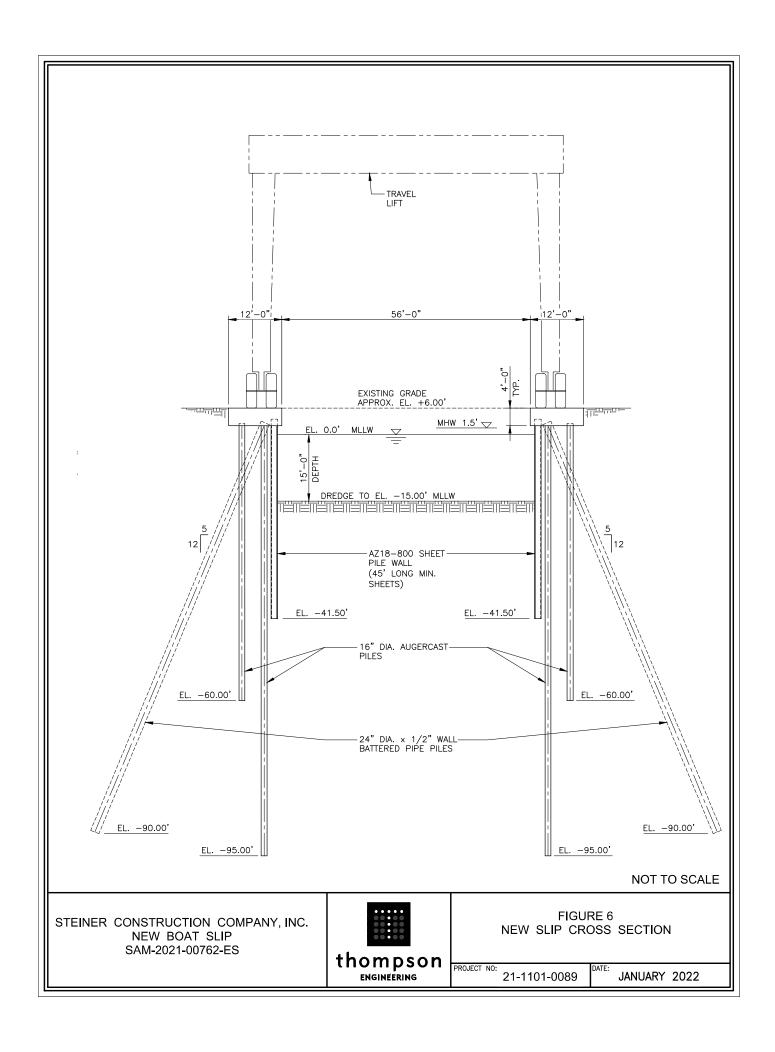


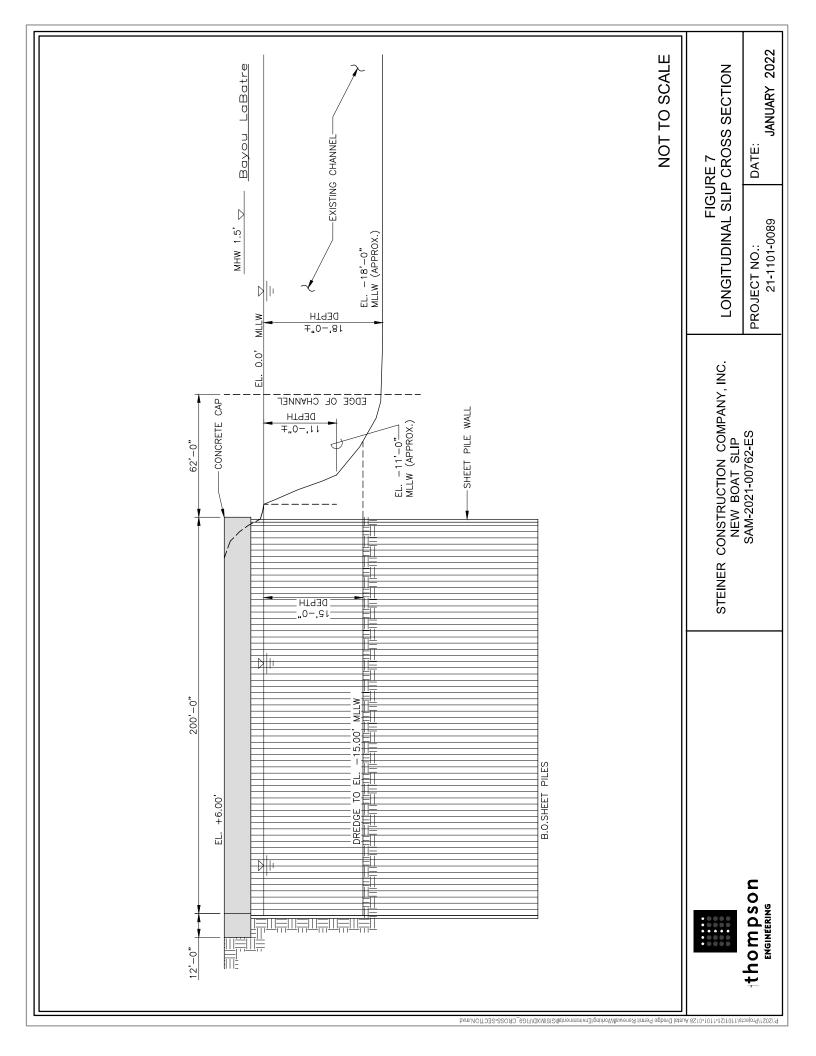


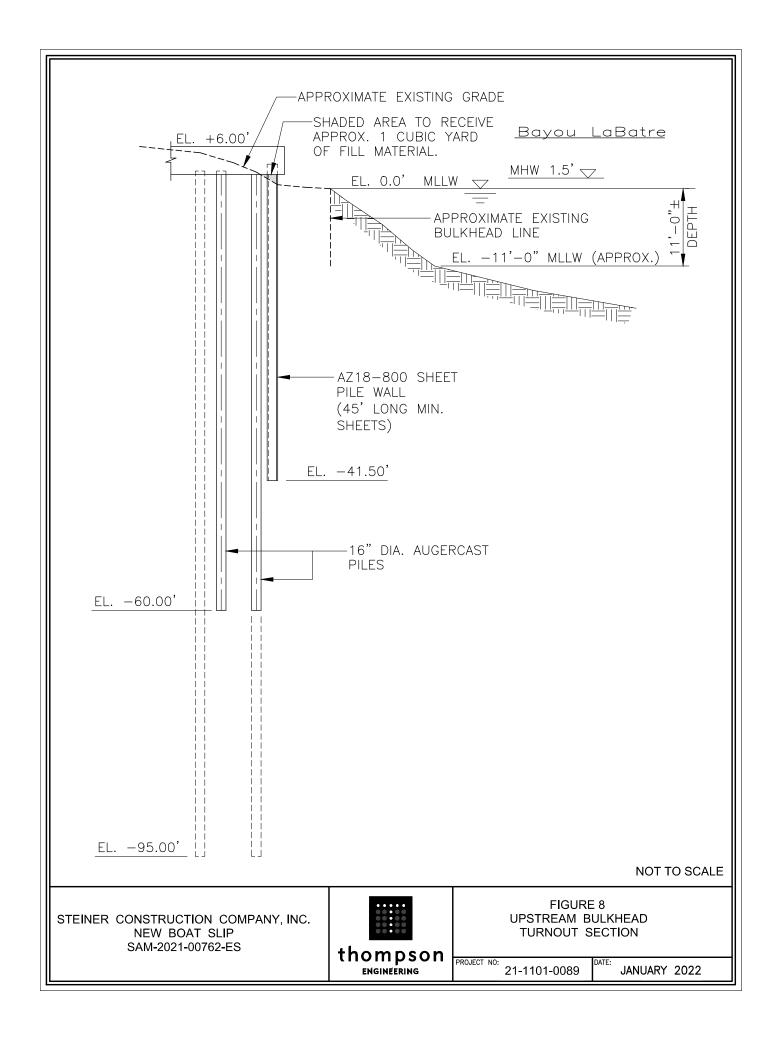


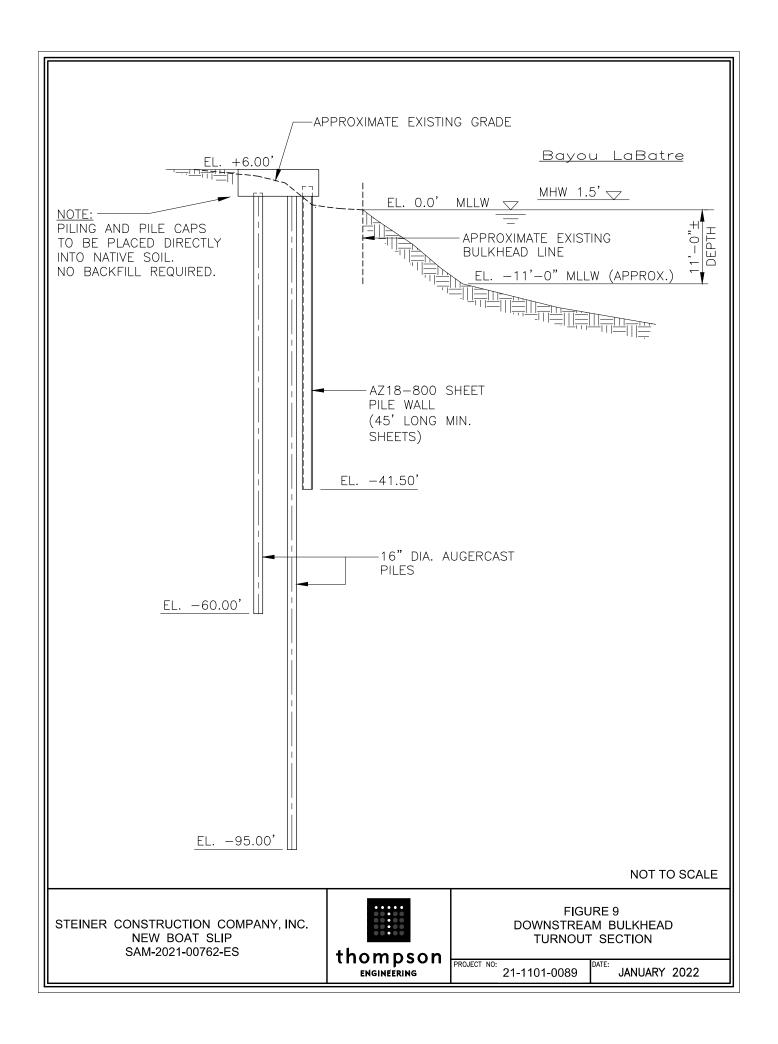


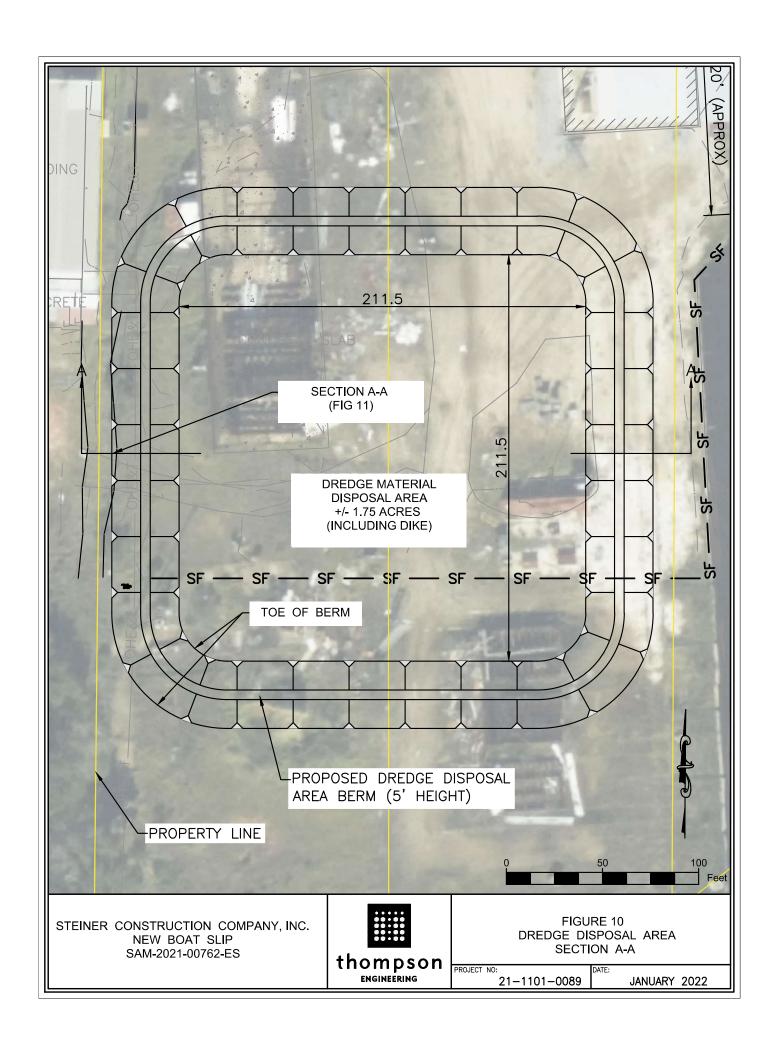


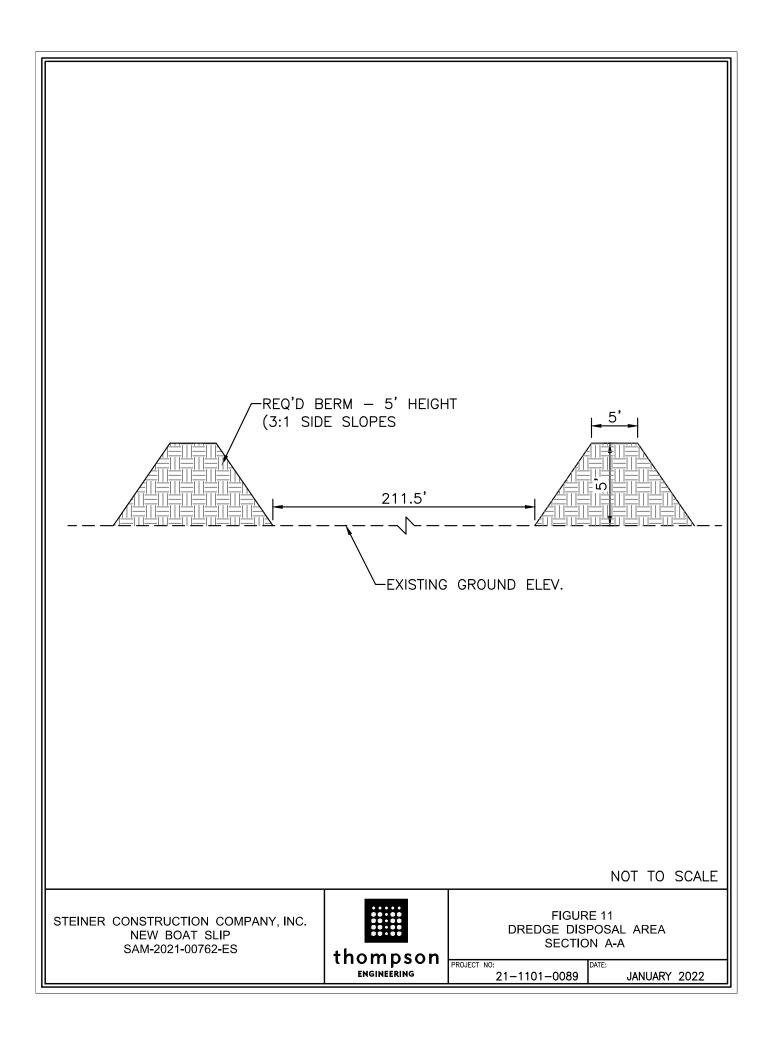












Alternatives Analysis – Steiner Shipyard New Slip SAM-2021-00762-ES

Background

Steiner Construction Company, Inc., founded in 2005 by Russell T. (Bubba) Steiner, is a boat builder specializing in push boats, both with azimuth thrusters and conventional shaft & propeller. Within the past 3 years, Steiner has delivered 12 azimuth thruster vessels, ranging from 70' to 79' and 2-88' conventional push boats. Steiner offers repair services for vessels, currently having a 400 MT travel-lift for haul-outs.

In May of 2021, Steiner Construction Company, Inc. acquired a 15-acre piece of property on Bayou La Batre at 9175 Little River Road from Sharktech LLC (Metal Shark). The site was previously occupied by Horizon Shipbuilding and currently, Steiner is in the process of updating and renovating the property to suit their specific boat-building needs. As part of the update, Steiner has acquired a new, 720 MT travellift for haul-out and launching of larger vessels at their new yard location and need a properly sized and engineered vessel slip to accommodate the travel-lift.

Project Purpose and Need

The project purpose is to construct a boat slip, on Bayou La Batre, approximately 56' in width, and a minimum of 200' in length with approximately 15' draft, able to accommodate a 720-ton rolling crane.

The new boat slip is needed to increase the capacity for Steiner Construction Company, Inc. to meet current and future orders for new vessels and to provide greater repair capability, having a slip that can also be used for haul-out (using the travel-lift crane); a capability which they do not currently have at this site.

The selected site must have the available space for the slip and the rolling crane and adequate channel width outside the slip. The selected site must also provide the necessary ease of logistics and transport between the slip and other parts of the yard and must have adequate soil conditions to accommodate the weight of the loaded crane.

On-site Alternatives Evaluated

<u>Alternative A – Expansion of Small Slip to the Southwest</u>

Existing property has a small indented slip 95' long and 78' wide at a skewed angle to the channel line of approximately 45°. The channel width at this location is approximately 222' but with boats parked at the yard on the other side of the bayou it can be as little as 197'.

This option was not chosen for a variety of reasons. The first is that the existing slip is not the right size to suit the purpose of the project and would require considerable demolition of existing bulkheads and filling of part of the basin in addition to the excavation/dredging and new-bulkhead construction required for expansion.

Soil borings showed poor soil conditions in this area for support of the heavy-lift rolling crane (Travellift) and area simply did not lend itself to the logistical operations plan envisioned by Steiner in fitting out their new yard. Additionally this slip sits in one of the narrowest sections of Bayou La Batre, making it more difficult to launch and haul-out some of the larger vessels envisioned for the new yard.



Alternative B – Utilize/Modify Existing Middle Slip

Alternative B involved modifications to the larger, main slip near the center of the property. This is the primary slip for the shipyard where vessels are launched and where work is performed on vessels while in the water, keeping them out of the Bayou and safe from traffic on this outside bend in the channel.

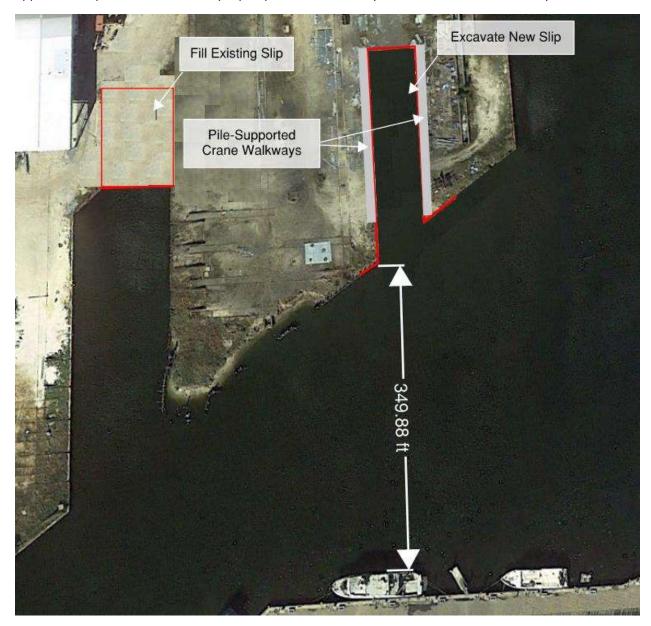
The concept considered for modifying this slip was to construct a free-standing concrete walkway within the basin at the proper distance from the existing east bulkhead for the rolling crane to move out over the slip for a distance of 200'. Additionally a similar walkway would be constructed on the east side; but would also need to be pile-supported and require an upgrade of the sheet-pile wall.

This option was briefly analyzed by the owner and his design engineers, but was abandoned because the length of the existing main slip extends so far into the yard that it inhibits efficient transport of materials, equipment, vessels and vessel parts from one end of the yard to another. Construction activities within this slip would severely limit the space available for in-water shipbuilding and repair. Additionally the channel width at this location is similar to that for Option A, limiting the ability for larger vessels to enter and leave the slip.



Alternative C (Preferred Alternative) – New Slip – 56'x200' at East Side of Yard

The third option investigated was to construct a new slip near the east end of the new yard, approximately 150' from the east property corner where Bayou La Batre meets Snake Bayou.



In addition to the new slip, the unused area of the existing main slip will be filled (partly with excavated material from the new slip) to provide additional yard space and better access connectivity between the crane slip and other parts of the yard.

Fill material will be supplied from Esfeller Construction's Padgett Switch Rd pit located at 8230 Padgett Switch Rd Irvington, AL. Any dredgeed material needing off-site disposal will be disposed at the same location. Fill material will be composed of clean sands with a maximum of 15% fines. Any excavated/dredged material that meets this specification will also be utilized in the old slip as backfill.

Geotechnical borings confirmed favorable subsurface conditions for supporting the rolling crane and the construction of a new slip in this currently underutilized portion of the yard. Compared to the retrofit of an existing slip, this new slip provides a better, more stable work area without disrupting operations at other portions of the yard.

The new slip is bordered by the Bayou La Batre turing basin, providing approximately 350' of clear channel area across to the other side, even with vessels moored on the opposite bulkhead. This makes for much safer launching and retrieving of vessels with less interference to navigation within Bayou La Batre.

Off-Site Alternatives



While the stated purpose of the project is to outfit a recently obtained property for specific ship-building operations, a number of alternative sites were investigated. The chosen alternative, in blue above is located at the shipyard property recently acquired from Metal Shark LLC.

Offsite Alternative #1 is a site of adequate size to fit the proposed new slip but is not owned by Steiner, but by WMS LLC. Offsite Alternative #2 is an unused or underused portion of the Metal Shark boat works it has good clearance for boat launching and adequate space, but was not part of the land acquired by Steiner and is opposite the new Steiner ship-building yard. Offsite Alternative #3 is a piece of property owned by the Steiner family. It too has good water clearance for launching vessels but is small for the intended purpose and not contiguous to the property intended for the new shipyard. Alternative 4 is likewise a piece of Steiner-owned property. It too has adequate bayou width for launching larger vessels, but is currently in use for other purposes and not contiguous with the property being developed.

NO-ACTION Alternative

The no-action alternative would leave the newly acquired shipyard without a means to remove vessels from the water for repairs "in the dry." Launching of new vessels could be accomplished using ramps as was previously the case, but the new slip and Travel-lift will provide a much more efficient and safe means for launching large vessels of up to 150' in length. Without the new slip, the shipyard would be unable to fulfill its original purpose and need.

Analysis of Alternatives

Practicability

STEINER CONSTRUCTION INC. - NEW TRAVELIFT SLIP - PRACTICABILITY MATRIX

Practicability Category	Factor	No-Action Alternative	Offsite Alternatives	1	2	3	4	Alternative A	Alternative B	Alternative C
Project-Specific Goals	Adequate Space to Construct Slip	NO		YES	MARGINAL	MARGINAL	MARGINAL	YES	YES	YES
	Utilize Steiner Property	NO		NO	NO	YES-OFFISTE	YES-OFFISTE	YES	YES	YES
	Favorable Subsurface Soil Conditions	NO		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	NO	MARGINAL	YES
	Logistical Access to Remainder of Shipyard	NO		NO	NO	NO	NO	NO	YES	YES
	Minimal Shipyard Disruption	NO		YES	YES	YES	NO-OFFISTE	YES	NO	YES
	Adquate Channel Width	NO		MARGINAL	YES	YES	YES	MARGINAL	MARGINAL	YES
Environmental (NEPA) Impacts	Filled Water Bottoms - Natural	NO		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	MINIMAL	NO	MINIMAL
	Filled Water Bottoms - Man-Made	NO		NO	NO	NO	NO	YES	NO	YES
	Dredged Water Bottoms - Natural	NO		MINIMAL	MINIMAL	MINIMAL	MINIMAL	MINIMAL	MINIMAL	MINIMAL
	Dredged Water Bottoms - Man-Made	NO		YES	YES	YES	YES	YES	YES	YES
	Cultural Resources	NO		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	NO	NO	NO
	Endangered Species Impacts	NO		UNLIKELY	UNLIKELY	UNLIKELY	UNLIKELY	MINIMAL	MINIMAL	MINIMAL
	Wetland Impacts	NO		NO	NO	NO	NO	NO	NO	NO
	SAV Impacts	NO		NO	NO	NO	NO	NO	NO	NO

The table above lists all of the alternatives reviewed in the previous sections and "practicability" analysis compared against the Project Purpose as well as potential environmental impacts. None if the alternatives are deem impractical from an environmental standpoint since all are located within the highly industrialized area surrounding Bayou La Batre. None has a significant impact to the bayou or its navigation channel as the planned project is an incised channel/slip into its previously disturbed banks.

Offsite options were considered, but all are impracticable from a standpoint of the original project purpose which is to fit-out and repurpose a previously developed shippard site. Of the three on-site alternatives, only Alternative B and Alternative C were considered practicable as the subsurface soil conditions at the Alternative-A site are considered unsuitable for development.

Environmental Impacts

The remaining two alternatives were then compared with relation to environmental impacts. This is not a simple comparison for which a "least environmentally impactive" alternative can be determined quantitatively as the environmental impacts are negligible for both options. The quantitative-analysis matrix below shows very little difference between Alternative B and Alternative C in terms of dredge quantities. The fill which is anticipated as part of Alternative C is not seen in Alternative B. However this fill is within a man-made waterbody and as such should not be considered an "environmental impact."

Environmental Factor	Aternative A (Impracticable Due to Soil Conditions)	Aternative B	Aternative C
Natural Water Bottoms Filled (acres) 0.001		0.00	0.001
Man-Made Water Bottoms Filled (acres) 0.06		0.00	0.22
Dredged Water Bottoms - Natural (CY)	300	500	250
Dredged Water Bottoms - Man-Made (CY)	5,500	9,000	9,500
Cultural Resource Impacts	None	None	None
Endangered Species Impacts	None anticipated - industrial area	None anticipated - industrial area	None anticipated - industrial area
Wetland Impacts	None	None	None
SAV Impacts	None anticipated - industrial area	None anticipated - industrial area	None anticipated - industrial area

Alternative C is not only the preferred by the applicant for its practicality, location and ease of construction, but potentially the least environmentally impactive. The fact that it is a new construction without an existing bulkhead means that a new sheet-pile bulkhead can be installed at the entrance, with temporary sheets across the entrance. This will prevent excessive turbidity from escaping the slip area during excavation. As a new construction, most of the dredging can be accomplished from shore, minimizing disruptions to navigation and navigation safety concerns. The small amount of dredging necessary to connect the new-slip depths to the channel depth will be accomplished quickly and would be required for each alternative.

Alternative B would involve a similar amount of dredging to Alternative C because the entire basin would need to be dredged to the appropriate depth of -15' (approximately 6' below its current depth). Although turbidity could be controlled with silt curtains and other measures, there is still more of a potential for release of turbidity into Bayou La Batre than with Alternative C which can be excavated "in the dry" for the most part. For these reasons Alternative C was deemed the Least Environmentally Impactive.

Avoidance/Minimization of Impacts to Waters of the United States

The area of the old slip that will be filled in would not be considered Waters of the United States since it is a man-made waterbody. No filling of Waters of the United States were envisioned for the creation of the new slip because the new bulkheads along Bayou La Batre will be placed at least seven (7) feet inland of an existing, badly deteriorated wooden bulkhead. However, recent survey data has shown that erosion behind that bulkhead has lowered the existing elevation of the streambank inside the old bulkhead at the downstream end of the new slip. As a result, the proposed new turnout bulkhead along the Bayou will require approximately one (1) cubic yard of select structural backfill below OHW to match the existing elevation of the shipyard.

This fill will be well behind the existing bulkhead in an area that was previously uplands prior to erosion. And this small amount of fill will be compensated by the removal of the deteriorated wooden bulkhead and pilings, providing additional open water for navigation and other uses. Compensating mitigation for short-term impacts to Waters of the US during construction is not proposed.

The figure below illustrates the location of the slip and associated bulkheads in relation to the existing banks location. The red lines are the approximate locations of bulkheads while the yellow line represents the slip area which to be dredged to -15 MLW. Survey stakes are visible in the photo showing the alignment of the bulkheads.

The corner in the foreground formed by the intersecting red lines is the area that will require minor filling below (post-erosional) Ordinary High Water.

