



23 April 2024

Georgia Department of Natural Resources
Coastal Resource Division
Attn: Deb Barreiro
deb.barreiro@dnr.ga.gov

**RE: Response to Comments
Wilmington River Yacht Docking Facility
Chatham County, Georgia**

RLC#: 22-293

Dear Ms. Barreiro:

In a letter dated 9 June 2023, the Georgia Department of Natural Resources Coastal Resource Division (CRD) requested additional information required for continued processing of the Wilmington River Yacht Docking Facility Application. Since that time, the applicant has gathered the requested information and retained the services of Ball Maritime Group to assist with the project. The following provides a response to each comment in the order outlined in the CRD letter.

Comment 1. *An application fee of \$500.00;*
Response 1. See attached.

Comment 2. *Detailed calculations of existing impacts to coastal marshlands based on a current, verified, CMPA Jurisdiction Line (total impacts in square feet / acre);*
Response 2. As depicted on the attached revised permit drawings, the proposed structure within or over coastal marshlands totals 10,584 sf (0.24 acre). The existing structures include:

Table 1: Existing Structures within CMPA Jurisdiction

Existing Structures within CMPA Jurisdiction	Area (sf)	Area (ac)
Concrete Pierhead (including existing 2,086 sf building)	7,482	0.17
Timber Pier	2,868	0.07
Timber Pier Extension	234	0.01
Total	10,584	0.24

Comment 3. *Detailed calculations for proposed impacts to coastal marshlands based on a current, verified, CMPA Jurisdiction Line (total impacts in square feet / acre);*
Response 3. As depicted on the attached revised permit drawings, the proposed structure within or over coastal marshlands totals 20,580.5 sf (0.47 acre). The proposed structures include:

Table 2: Proposed Structures within CMPA Jurisdiction

Proposed Structures within CMPA Jurisdiction	Area (sf)	Area (ac)
Concrete Warf (including reassembled 2086 sf building)	7390	0.17
Concrete Floating Dock	6310	0.14
Concrete Landing Float	320	0.01
ADA Gangway	400	0.01
Courtesy Float	225	0.01
Gangway	194	0.004
Mooring Dolphin	7.5	0.0002
Rip-Rap	5632	0.13
Total	20,478.5	0.47

Comment 4. *Distance of in-water structure to western property line;*

Response 4. The distance of in-water structure to western property line is 45' and the distance of in-water structure to eastern property line is 45'. See attached revised permit drawings.

Comment 5. *Justification for non-water dependent structures seaward of the CMPA jurisdiction line. This includes the 40ft x 200ft (8,000sq.ft) pile supported concrete platform with 85 concrete piles;*

Response 5. The entire project is water dependent because every structure is required to support the proposed use and service the facility. Specific to the concrete wharf, the platform is vitally important for cargo handling to and from the vessels. This platform closes the gap between upland and the vessel to allow safe and practical loading and unloading of cargo. The concrete wharf will be used to position a small mobile dock crane as close to the vessel as possible to load and unload, machinery, provisions, life rafts, tenders, etc. The Blue Moon current has four tenders. The tenders include:

- 1972 Riva Super Aquarama Special (wooden boat) 29' weighing approximately 7000 lbs.
- 2018 Garwood Streamliner (wooden boat) 28' weighing approximately 5500 lbs.
- 2019 Chris Craft Catalina 27' weighing approximately 7000 lbs.
- 2004 RIB 16' weighing approximately 2000 lbs.

The wharf will also facilitate the use of pump out trucks and shore side service vehicles used for cleaning, general maintenance, etc.

It should be noted that since receipt of the comment letter and in October 2023, a portion of this the concrete platform collapsed on itself due to the effects of king tides. As part of the proposed project, all debris associated with the collapsed structure will be removed and transported off-site to a landfill.

Comment 6. *Certification by a registered engineer stating that the existing 40ft. x 200ft. (8,000sq.ft) pile supported concrete platform with 85 concrete piles are considered to be structurally sound and capable of functioning for their intended purpose. (see serviceability definition defined in Rule 391-2-3-.03 (2) (v)) Please provide a stamped, signed, and dated plans for existing site conditions;*

Response 6. As noted above, this structure will be removed and replaced.

Comment 7. *Dimensions of the existing shed on the concrete platform over tidal waterbottoms;*

Response 7. As depicted on the attached revised exhibits, the building is approximately 2,086 square feet.

Comment 8. *An elevation plan showing proposed shed on in-water structure;*

Response 8. See attached revised permit drawings which contain an elevation plan showing the proposed building on the concrete wharf.

Comment 9. *Justification for the replacement of the metal shed and the intended use of the structure;*

Response 9. The existing building will not be replaced. As documented in the project description provided in the original application, the existing building located on the concrete platform will be temporarily removed during structural improvements to the platform. Upon completion of the platform rehabilitation, the building will be returned to its current location. Although the existing structure is not officially landmarked, it is certainly considered a local landmark and represents the importance of the maritime industry along the Wilmington River. The existing building dates to 1926. The owner's goal to retain, repair and reconstruct the metal shed is an effort to support Thunderbolt's unique cultural and historical assets, as well as to continue the legacy of this site's maritime use. Due to the property configuration and topographic relief, less than 0.28 acre of the upland area is usable. This area will contain employee parking, equipment parking, access for service vehicles and the marina restrooms and laundry area. Following completion of the project, the building will be used for storage of equipment and materials. Because

the building is located on top of the concrete platform, the building will not result in any additional impacts to coastal marshlands.

Comment 10. *Over-dock storage systems, such as davits, must be indicated on the plans. Provide plans illustrating proposed davits, dimensions and illustration that shows vessels will not be stored over state owned waterbottoms;*

Response 10. The proposed project does not have over-dock storage systems. Everything will be managed using a mobile crane.

Comment 11. *Details and location for each utility currently servicing the in-water facility;*

Response 11. There is no utilities currently servicing the facility. Any utility such as water, electricity, etc. that previously serviced the facility has been turned off.

Comment 12. *A marina must have an approved disposal system for disposal of wastewater generated by boats and upland facilities at the marina. Please include revised plan.*

Response 12. Pump out via tanker truck will be used for larger vessels such as the Blue Moon and a mobile pump cart will be used for smaller transient vessels. The marina service building depicted on the attached exhibits will provide bathroom and laundry services. These facilities will be tied into the Town of Thunderbolt water and sewer system.

Comment 13. *Statement that the facility will / will not function as a live-aboard facility;*

Response 13. The facility will not function as a live-aboard facility.

Comment 14. *Please identify any utilities that will be servicing the structure in CMPA jurisdiction;*

Response 14. Water and electrical will service the structures in CMPA jurisdiction. Although the final routing has not been determined, these utilities will be installed under the pier, under the gangways and in the floating docks. Utility pedestals on the floating docks are depicted on the revised drawings.

Comment 15. *The Rules of the Department of Natural Resources 391-2-3-.03(6)(c) states: "A needs assessment must be submitted to justify the size of the proposed marina..." Please provide;*

Response 15. The proposed project consists of rehabilitation of an existing commercial facility and following completion, the rehabilitated facility will provide essentially the same docking space historically provided. The existing facility contains approximately 575 linear feet of mooring space and the proposed rehablilitated facility contains 490.9 linear feet of mooring space. As documented in the project description, the Blue Moon is a 198' mega yacht that resides in Savannah. For over 10 years, the Blue Moon has not been able to find a suitable permanent dock facility and has been required to dock at a variety of temporary locations. Motor yacht docking currently available within the Savannah area is limited to two shipyards and two public docks on the Savannah River. Because the shipyards' primary purpose is maintenance and repair, those facilities, with the constant noise and activities associated with maintenance business operation, are not well suited for docking of super yachts. The public docks on the Savannah River (Westin & Hyatt) are accessible by the public and large numbers of tourists visiting Savannah. As a result, these public docks do not provide the level of privacy and security required for mega yachts, owners and crews. For this reason, the applicant has evaluated options to satisfy long term docking options for the Blue Moon and determined that modification of the existing dock in Thunderbolt will meet the needs of the Blue Moon as well as provide and short-term docking alternatives for transient yachts.

Recent data documents a dramatic increase in mega yacht sales nationally and a substantial increase in yacht visits to the Savannah area. As documented in the tables below, the cumulative number of superyachts has increased 550% from 2,000-3,000 in 1990 to an anticipated 13,000-14,000 by 2025 (an increase of 11,000 vessels). Within the Savannah area, yacht visits increased 1433% from 3 in 2017 to 46 in 2021. Lastly the meter days in the Savannah area increased 653% from 1,092 in four years.

Table 3: Population

Superyacht Potential	
Year	Cumulative Superyachts Delievered
1990	2000 to 3000
1995	3000 to 4000
2000	4000 to 5000
2005	6000 to 7000
2010	8000 to 9000
2015	8000 to 9000
2020	10000 to 11000
2025	13000 to 14000
2030	14000 to 15000
2035	17000 to 18000

Table 4: Visits to Savannah Area

Yacht Visits to Savannah Area	
Year	Number of Visits
2017	3
2018	15
2019	28
2020	42
2021	46

Table 5: Meter Days in Savannah Area

Superyacht Meter Days In Savannah Area	
Year	Meter Days
2018	1,092
2019	2,567
2020	7,463
2021	8,232

The proposed facility totals 490.9 linear feet of docking space. The Blue Moon alone requires a minimum of 240 linear feet of mooring space or approximately 50% of total linear footage. This leaves enough space for one additional mega yacht or possibly two smaller transient yachts. Based on the data above, the proposed facility will satisfy an extremely small portion of the overall need within the Savannah area.

Comment 16. *Please confirm that fueling is not proposed in association with the project. If fueling is proposed, please include information necessary to evaluate this amenity including updated project drawings;*

Response 16. As stated on Page 2 of the project description “No fueling systems will be installed”. The site previously contained a 10,000 gallon underground fuel tank which has been removed from the site.

Comment 17. *Impacts from existing bank stabilization or proposed maintenance of existing bank stabilization (total impacts in square feet / acre);*

Response 17. The entire waterfront has some form of concrete rip-rap or debris that has been installed over the years for bank stabilization. The proposed project will reinforce the current stabilized bank by removing existing unsuitable debris as needed and replacing rip-rap, by installing additional rip-rap on top of the existing rip-rap and

by installing a steel sheetpile bulkhead. A total of 5,632 square feet (925 cubic yards) and 310 linear feet of bank will be maintained by installing steel sheet pile bulkhead and rip-rap. The permit drawings have been revised to depict the location of rip-rap and details of the proposed bulkhead.

Comment 18. A description and site plan that depicts the upland component and the 50ft. marshlands buffer of the project; as well as all activities that will occur within the 50ft. CMPA marshlands buffer;

Response 18. The project area totals approximately 1.57 acres and contains 0.79 acre of coastal marshlands and 0.78 acre of upland. The coastal marshlands area contains approximately 0.55 acre of openwater/vegetated marsh and 0.24 acre of structure (pier, pierhead, etc.). Almost the entire upland is located within the 50 foot CMPA marshlands buffer. Approximately 0.33 acre currently consists of impervious surface (exposed concrete pavement, gravel pavement and ice house foundation) and 0.45 acre consists of pervious surface (grassed area and shoulder slope from river drive). Due to the property configuration and topographic relief (elevation transition from River Drive to the developed area), less than 0.28 acre of the upland area is usable. A summary of existing site conditions is provided in the table below.

Table 6: Existing Site Conditions

Existing Site Conditions	Area (ac)	Area (sf)
Total Project Area	68,519	1.57
Existing Conditions of Coastal Marshlands	Area (ac)	Area (sf)
Marsh/Open Water	23,958	0.55
Concrete Pierhead (including existing 2086 sf building)	7,482	0.17
Timber Pier	2,868	0.07
Timber Pier Extension	234	0.01
Sub Total	34,542	0.79
Existing Condition of Upland	Area (ac)	Area (sf)
Concrete, Pavement, Gravel Pavement, Ice House Foundation, etc.	14,375	0.33
Grass (including slope from road)	19,602	0.45
Sub Total	33,977	0.78

The proposed activities that will occur within upland and within the 50' buffer adjacent to the facility include installation of the concrete apron, removal and replacement of concrete/gravel pavement, installation of concrete sidewalk and construction of the marina services building.

Table 7: Upland Activities

Proposed Activities Within Upland/Upland Component	Area (sf)	Area (ac)
Installation of Concrete Apron	102	0.00
Installation of Concrete Pavement	9600	0.22
Installation of Concrete Sidewalk	235	0.01
Construction of Marina Services Building	459	0.01
Total	10396	0.24

Due to the site size and access constraints, the project will require a similar amount of impervious surface. The total area of existing impervious surface within upland is 21%. Following completion of the project the impervious area will total 15%. The project will focus more on structural BMPs because of the limited land available for treating runoff for water quality. The infrastructure proposed for the upland component will include these BMPs as part of the permitting effort through the City of Thunderbolt for Land Disturbance. Based on the current site plan the overall impervious surface will be reduced.

Table 8. Surface Area

	Impervious Surface (ac)	Pervious Surface (ac)
Existing	0.33	0.45
Proposed	0.24	0.54
Net Change	-0.09	0.09

Table 9: Impervious Coverage

	Impervious Surface (ac)	Total Upland (ac)	% Impervious
Existing	0.33	1.57	21
Proposed	0.24	1.57	15
Net Change	-0.09	N/A	6

Comment 19. *Plans for construction of a storm bollard in the upland;*

Response 19. Four storm bollards are proposed in upland. The revised permit drawings depict the location and specifications.

Comment 20. *Construction plans for upland interface with in-water structure;*

Response 20. The attached permit drawings depict the proposed plans for the interface with in-water structure.

Comment 21. *A current zoning letter from the appropriate department stating that the proposed project does not violate any zoning laws accompanied with plans signed by department representative;*

Response 21. See attached.

Comment 22. *The Rules of the Department of Natural Resources 391-2-3-.03(6)(a)13 states: "The marina should provide onshore restrooms, shower and laundry facilities in the upland component of the project. The applicant/permittee must take specific measures (such as, but not limited to, signs or dock regulations) to encourage boaters to use the washrooms, laundromat and restrooms onshore, if any." Will the marina be providing any of the above amenities to the respective captains and crews of the yachts / vessels that will be using the proposed marina;*

Response 22. The facility will not provide any amenities to the respective captains and crews of the yachts / vessels that will be using the proposed marina. A smaller vessel will have access to the marina service building depicted on the attached exhibits will provide. The upland bathroom and laundry facility will be tied into the Town of Thunderbolt water and sewer system.

Comment 23. The Rules of the Department of Natural Resources 391-2-3-.03(6)(a)14 states: "A marina must have an approved disposal system for disposal of wastewater generated by boats and upland facilities at the marina." Please address this rule in the description and drawings for the proposed marina;

Response 23. As addressed above, pump out via tanker truck will be used for larger vessels such as the Blue Moon and a mobile pump cart will be used for smaller transient vessels. The marina service building depicted on the attached exhibits will provide bathroom and laundry services and will be tied into the Town of Thunderbolt water and sewer system.

Comment 24. *A copy of the PCN or USACE Permit (or application if not yet issued);*

Response 24. A copy of the USACE permit application was in the original submittal to CRD.

Comment 26. *How will the US Army Corps of Engineers be permitting the project? Please provide the Project number and Project Manager contact info; a copy of 401 Water Quality Certification if required.*

Response 26. The project will be processed by the USACE as a Standard Permit or Letter of Permission. The project number is SAS-1997-03450 and the project manager is Shannon Martig. 401 Certification is not required.

We appreciate your assistance with this project. For your review and use, we have attached the following:

- A check made payable to the GADNR for \$500 for the Permit Processing Fee
- Habitat Exhibit
- Revised Permit Drawings
- Zoning Letter from the City of Thunderbolt

If you should have any questions or require additional information, please contact us at 912-443-5896.






Sincerely,

A handwritten signature in blue ink, appearing to read 'Alton Brown, Jr.', with a stylized flourish extending to the right.

Alton Brown, Jr.
Principal
Resource & Land Consultants

Ms. Shannon Martig - USACE
Mr. Emile Bootsma – Blue Moon Marinas, LLC.
Mr. Jim Myrick – Myrick Marine
Mr. Jason Ball – Ball Maritime Group



 Project Area: ~1.57 Acres
 DNR Line
 Coastal Marshlands: ~0.79 Acre
Upland: ~0.78 Acre
 Impervious Area: ~0.33 Acre
 Pervious Area: ~0.45 Acre

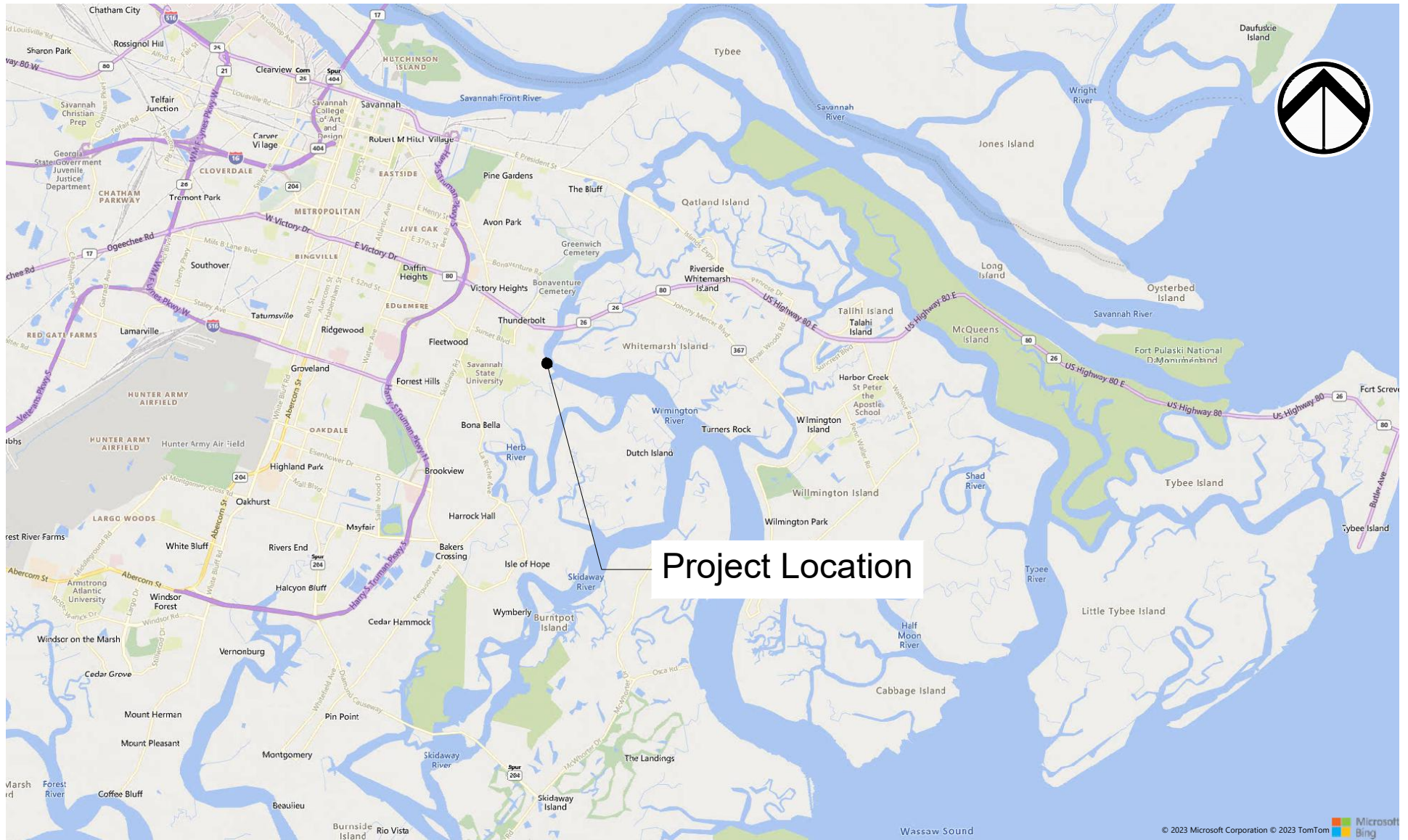
0 50 100 200 Feet

RLC Project No.:	22-293
Figure No.:	1
Prepared By:	MW
Sketch Date:	4/12/2024
Map Scale :	1 inch = 100 feet

**Wilmington River Yacht
 Docking Facility**
 Chatham County, Georgia

Existing Habitat Exhibit
 Prepared For: Blue Moon Marinas, LLC


**RESOURCE+LAND
 CONSULTANTS**
41 Park of Commerce Way, Ste. 101
 Savannah, Georgia 31406
 912.443.8396 www.rlc.com



VICINITY MAP

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: **BLUE MOON MARINA, LLC**

Date: **03/22/24**

County: **CHATHAM**

JOB#: **23-1020**

SCALE: **1" = 2 Miles** SCALE: **1"=2 MILES**

DATUM: **NAVD88**

SHEET: **1 of 12**



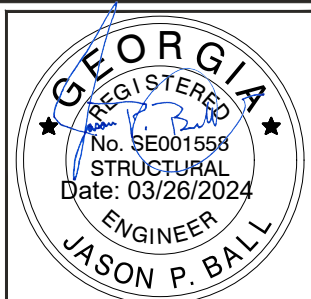
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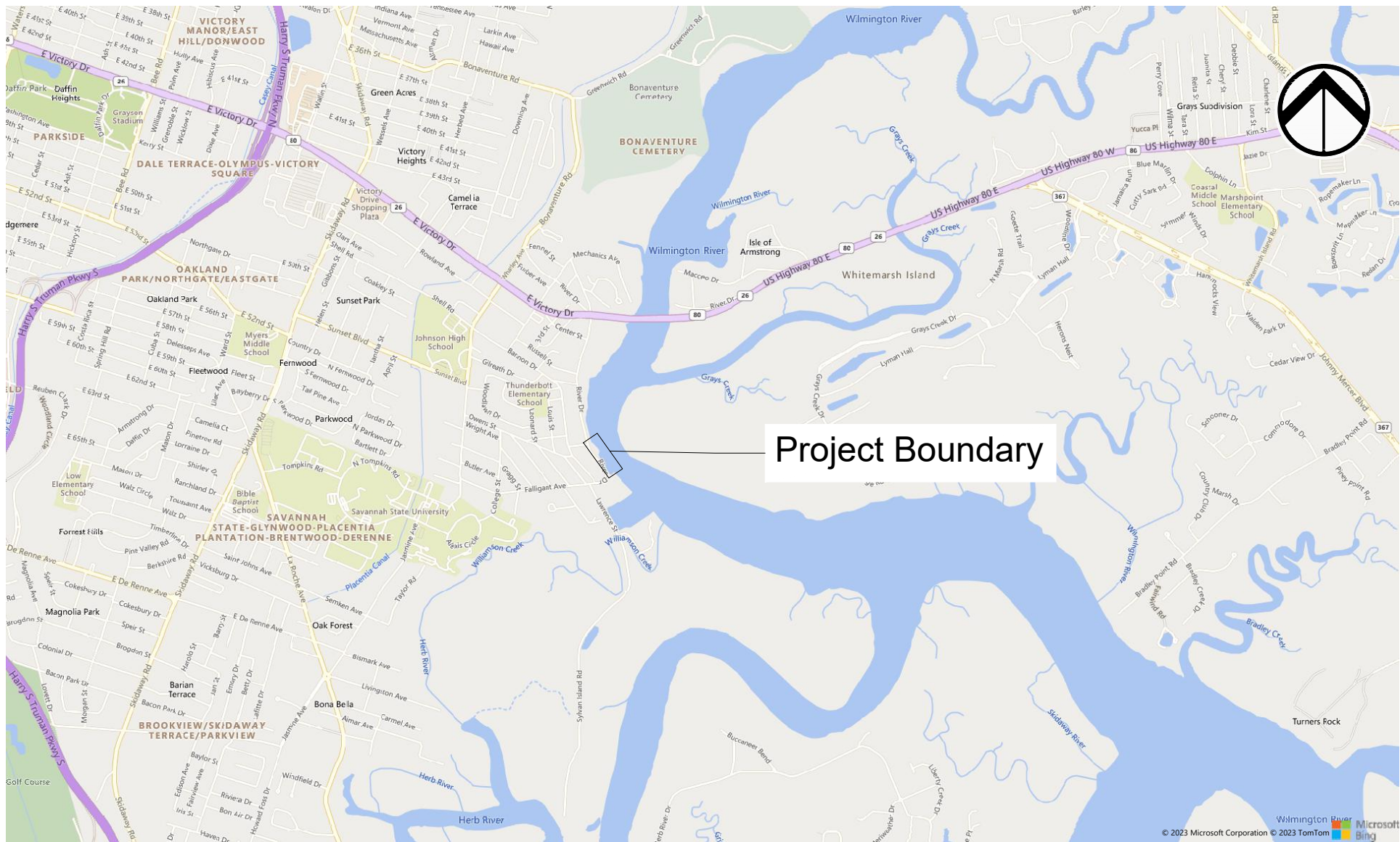
1. SOURCE OF MAPS - MICROSOFT BING
2. PROJECT LOCATION
LAT: N32°01'38.47"
LON: W81°02'59.79"



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LOCATION MAP

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

Date: 03/22/24

County: CHATHAM

JOB#: 23-1020

SCALE: 1" = 1/2 Mile **SCALE:** 1"=1/2 MILE

DATUM: NAVD88

SHEET: 2 of 12



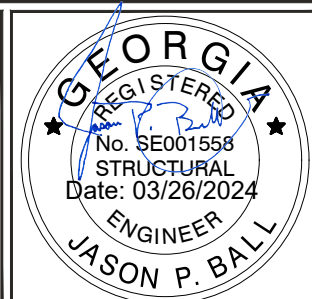
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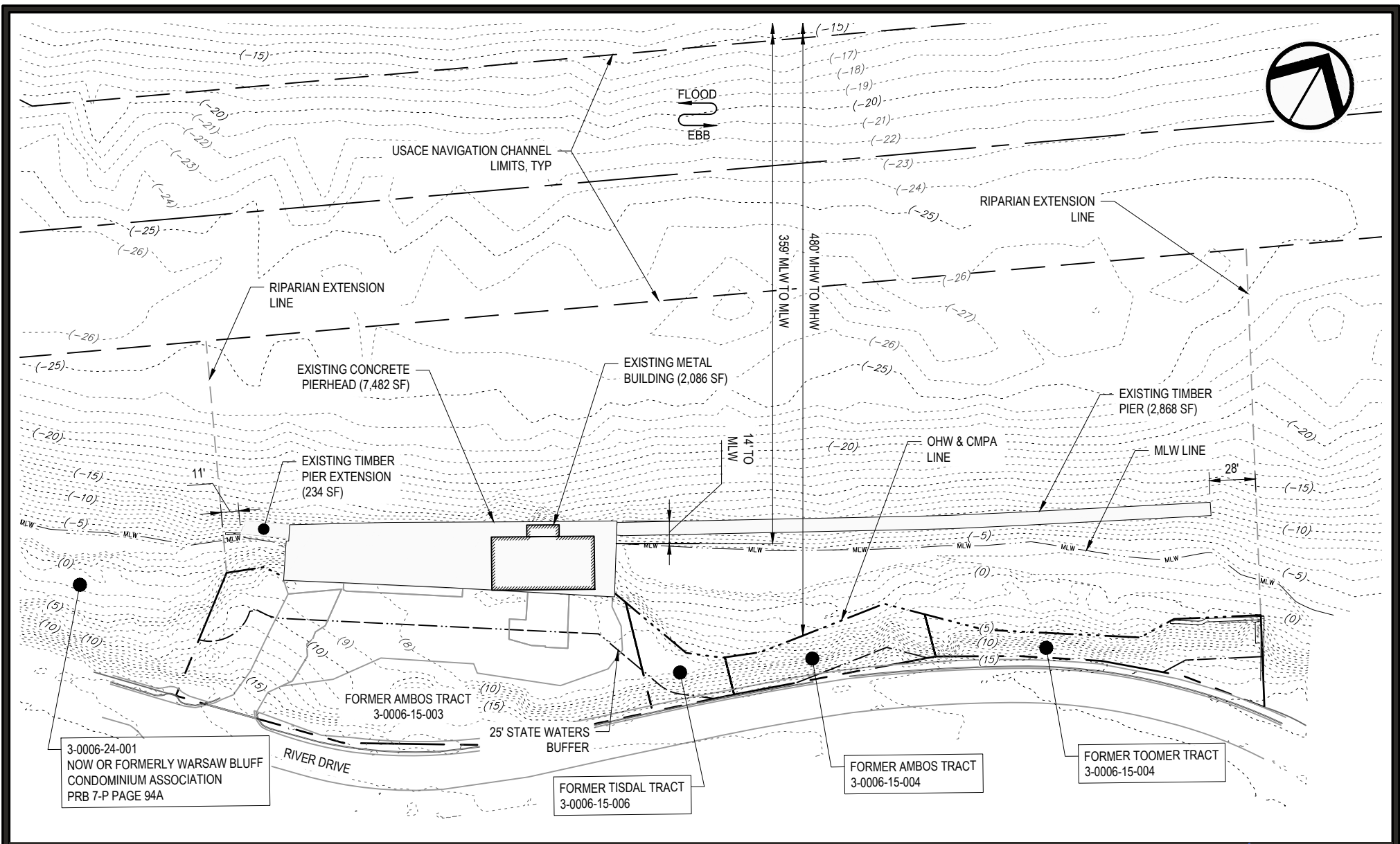
1. SOURCE OF MAPS - MICROSOFT BING
2. PROJECT LOCATION
LAT: N32°01'38.47"
LON: W81°02'59.79"



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EXISTING CONDITIONS & DEMOLITION

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

Date: 03/22/24

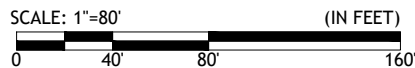
County: CHATHAM

JOB#: 23-1020

SCALE: 1" = 80'

DATUM: NAVD88

SHEET: 3 of 12



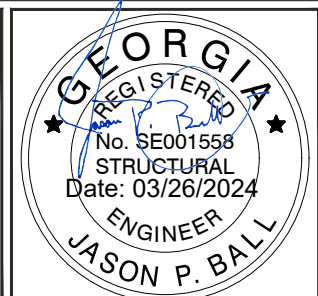
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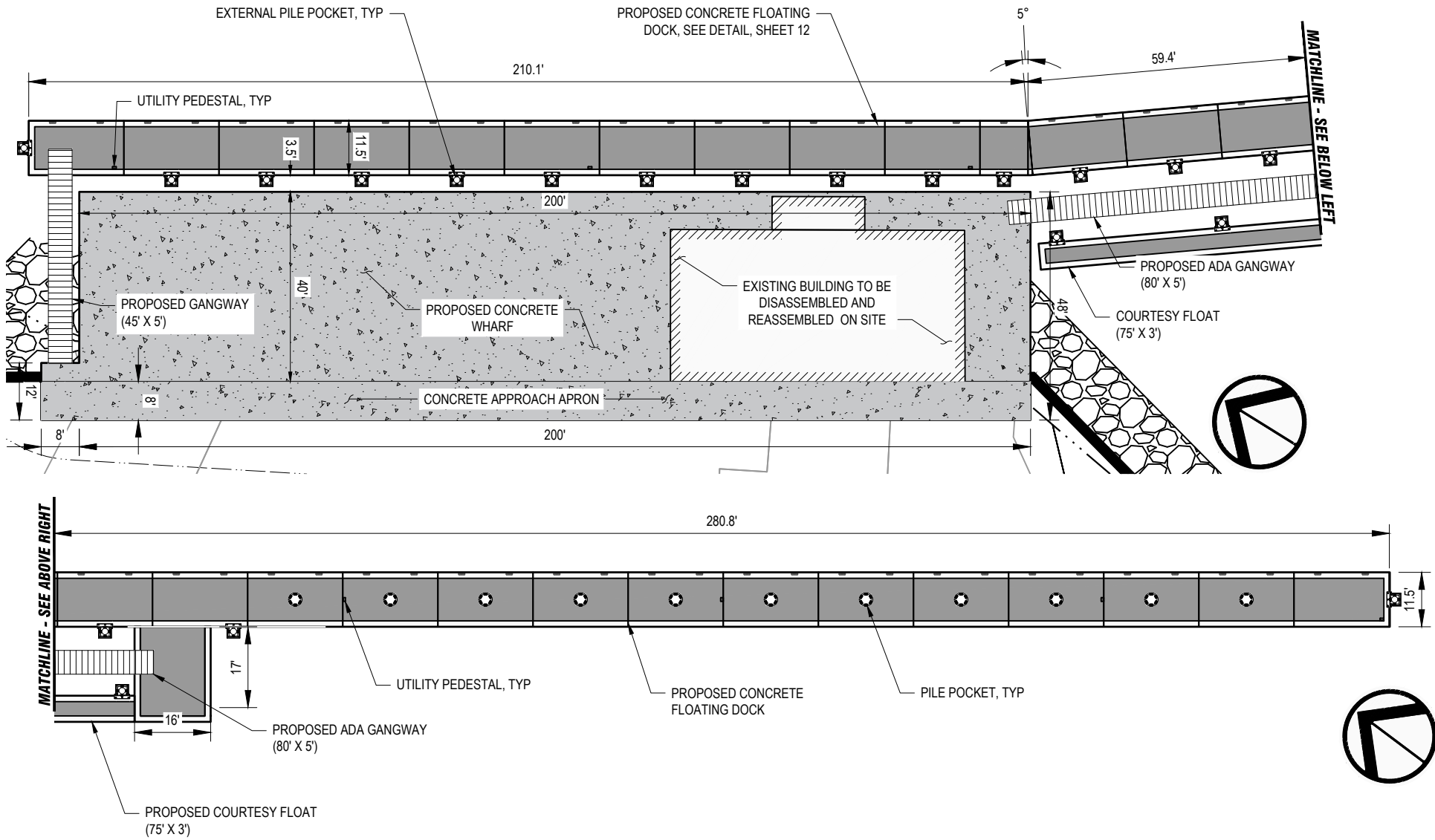
- EXISTING LAYOUT BASED ON SURVEY PROVIDED BY GLISSON LAND SURVEYING COMPLETED ON 09/07/21.
- ORIGINAL WORK PERFORMED UNDER LOA FROM GA DNR DATED 06/15/20.
- AREA OF STRUCTURES PRESENTED IS INSIDE CMPA JURISDICTIONAL AREA.



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LAYOUT PLAN

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

Date: 03/22/24

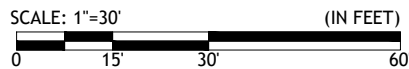
County: CHATHAM

JOB#: 23-1020

SCALE: 1" = 30'

DATUM: NAVD88

SHEET: 5 of 12

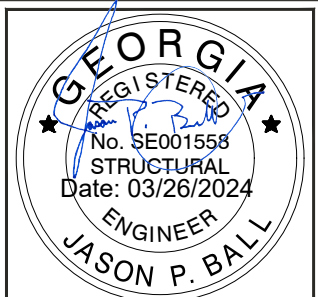


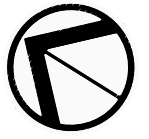
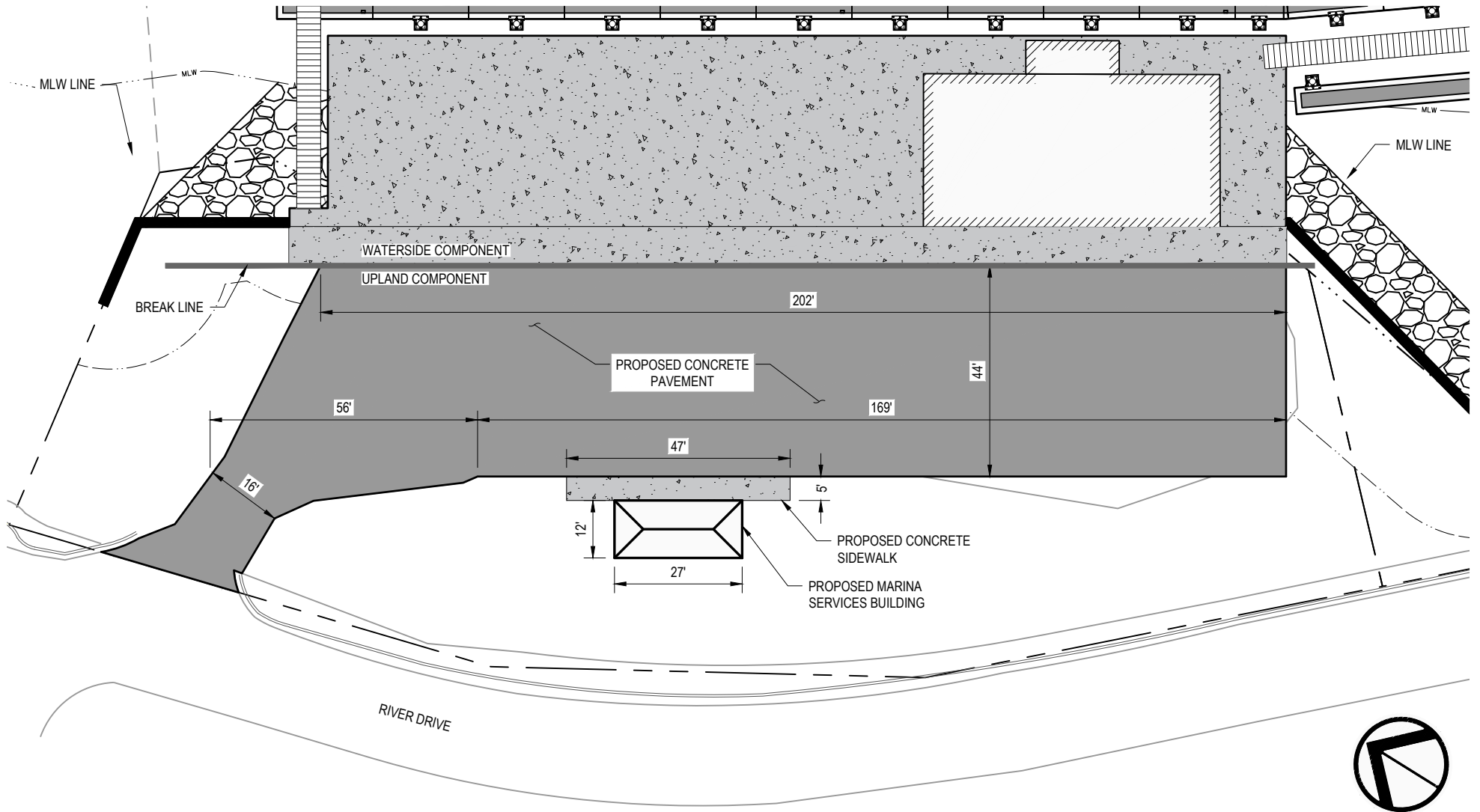
GENERAL NOTES:



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UPLAND COMPONENT

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

Date: 03/22/24

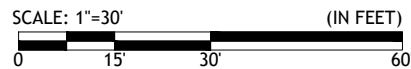
County: CHATHAM

JOB#: 23-1020

SCALE: 1" = 30'

DATUM: NAVD88

SHEET: 6 of 12



GENERAL NOTES:

1. CONFIGURATION OF UPLAND COMPONENT SUBJECT TO CHANGE PENDING LAND DISTURBANCE PERMITTING.

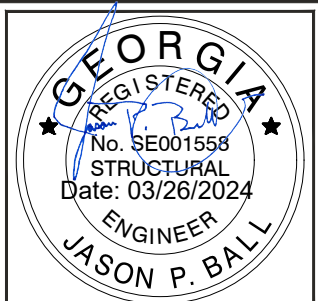


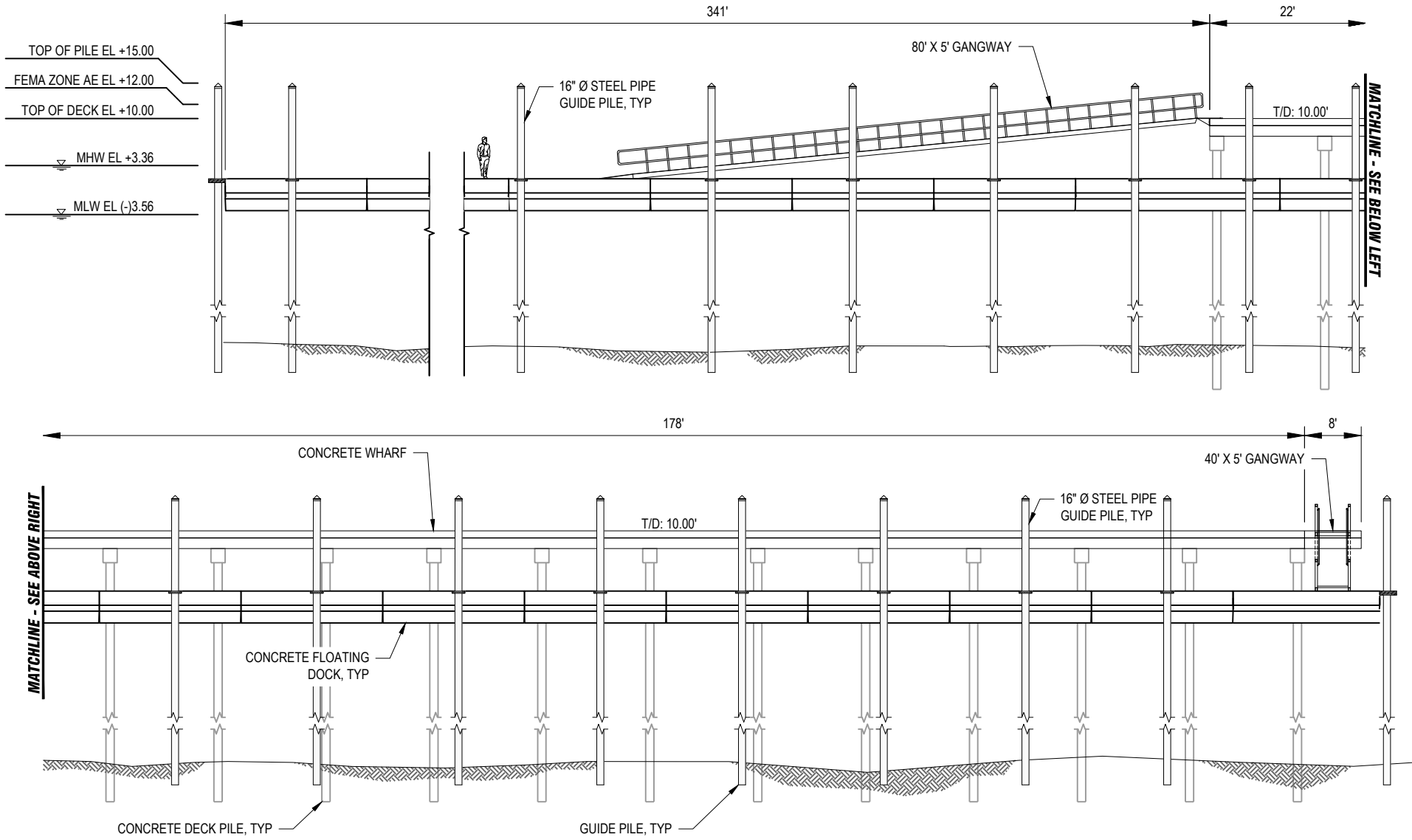
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ELEVATION

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

Date: 03/22/24

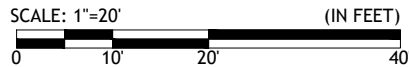
County: CHATHAM

JOB#: 23-1020

SCALE: 1" = 20'

DATUM: NAVD88

SHEET: 7 of 12

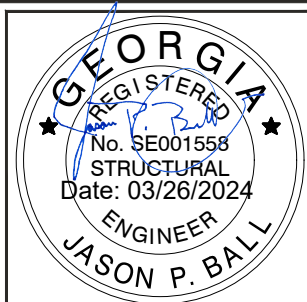


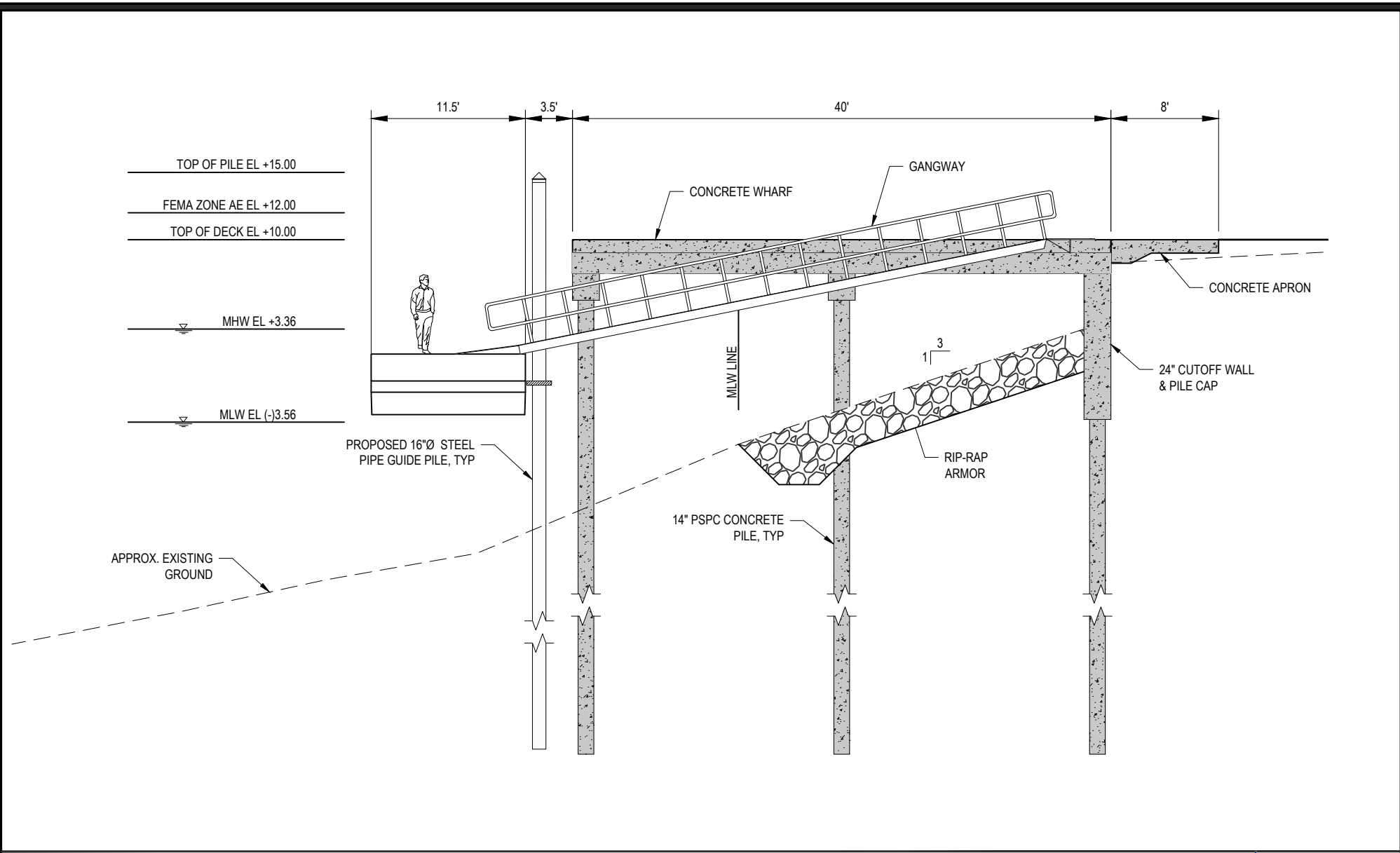
GENERAL NOTES:



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SECTION A

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

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SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

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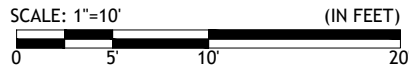
County: CHATHAM

JOB#: 23-1020

SCALE: 1" = 10'

DATUM: NAVD88

SHEET: 8 of 12

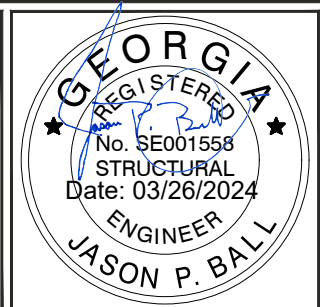


GENERAL NOTES:



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TOP OF BUILDING EL +21.00

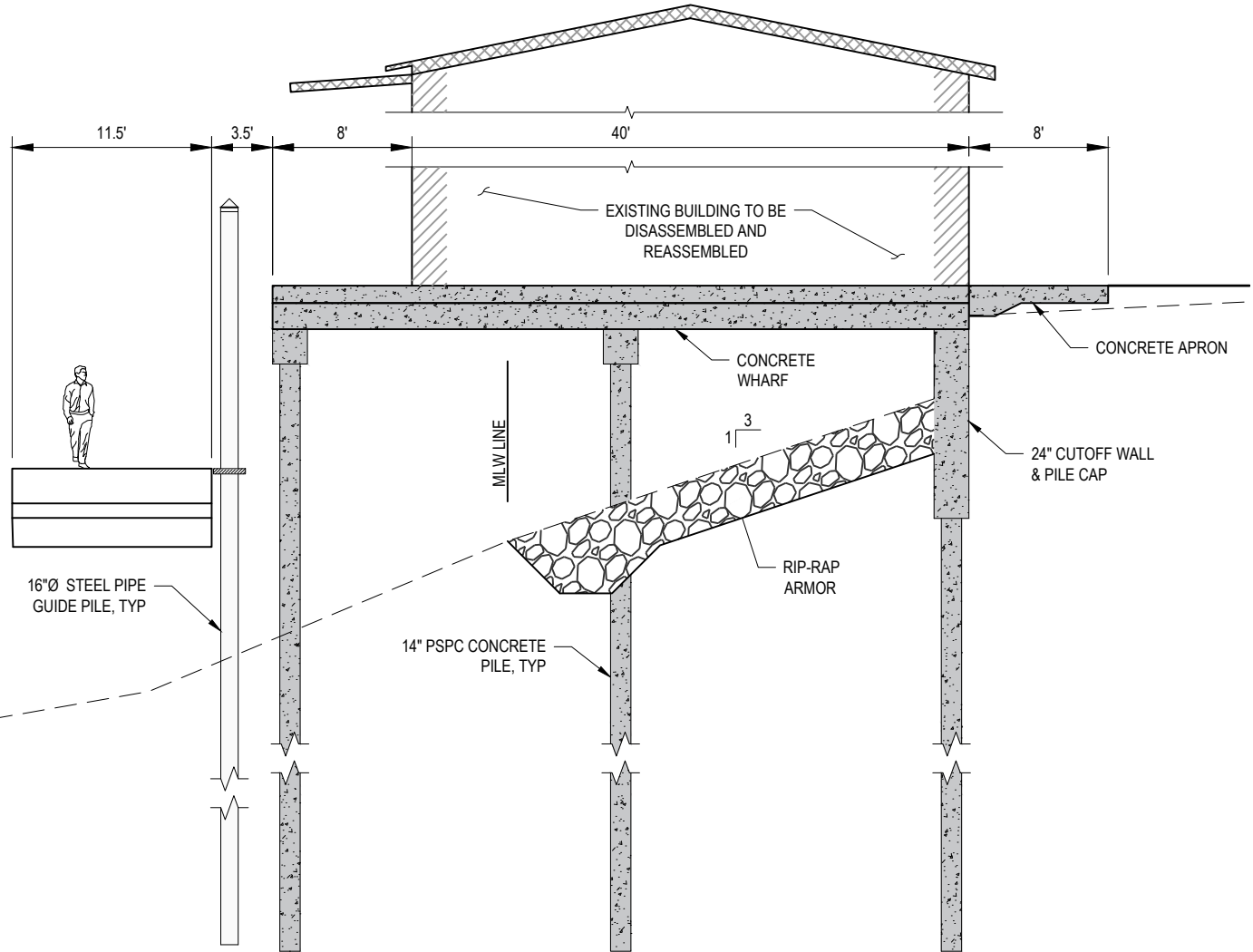
TOP OF PILE EL +15.00

FEMA ZONE AE EL +12.00

TOP OF DECK EL +10.00

MHW EL +3.36

MLW EL (-)3.56



SECTION B

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

Date: 03/22/24

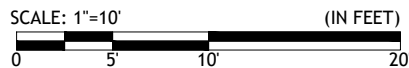
County: CHATHAM

JOB#: 23-1020

SCALE: 1" = 10'

DATUM: NAVD88

SHEET: 9 of 12

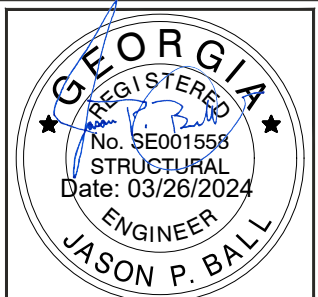


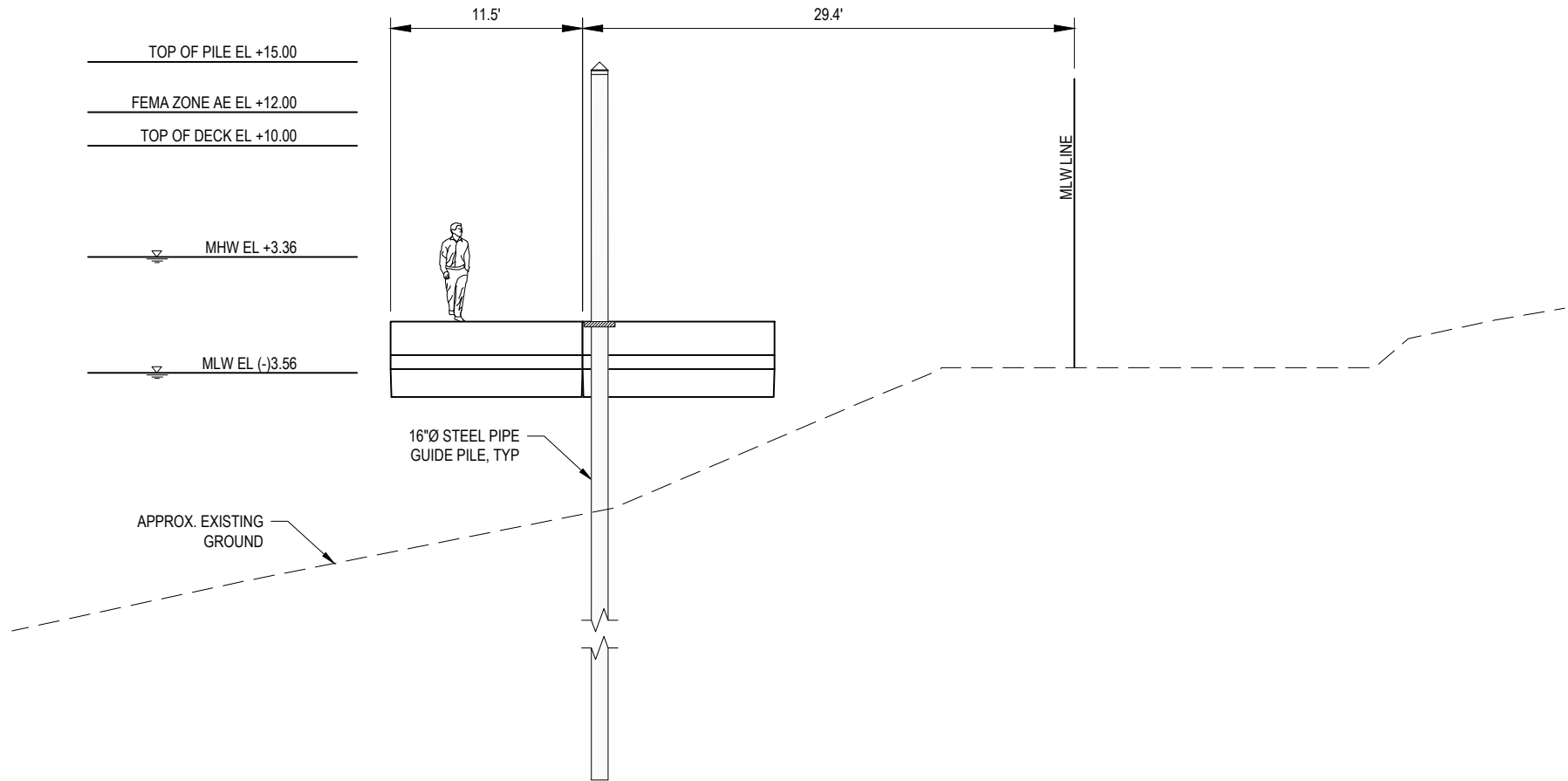
GENERAL NOTES:



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SECTION C

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

Date: 03/22/24

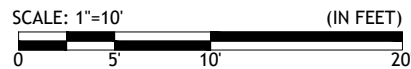
County: CHATHAM

JOB#: 23-1020

SCALE: 1" = 10'

DATUM: NAVD88

SHEET: 10 of 12

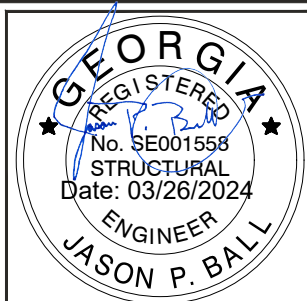


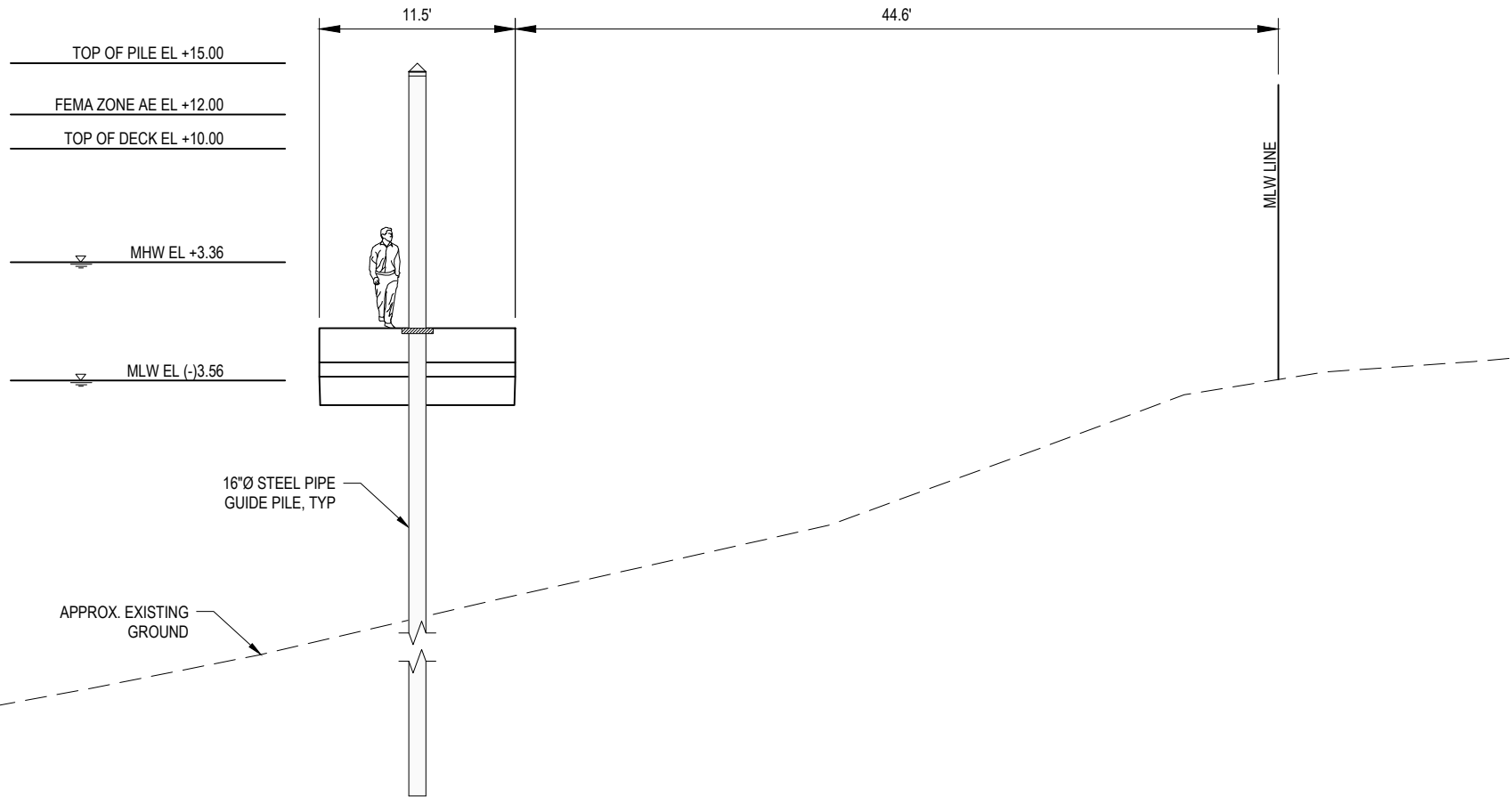
GENERAL NOTES:



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SECTION D

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

Date: 03/22/24

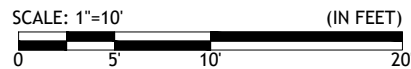
County: CHATHAM

JOB#: 23-1020

SCALE: 1" = 10'

DATUM: NAVD88

SHEET: 11 of 12

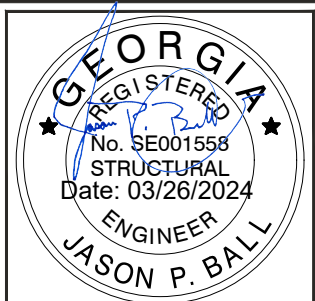


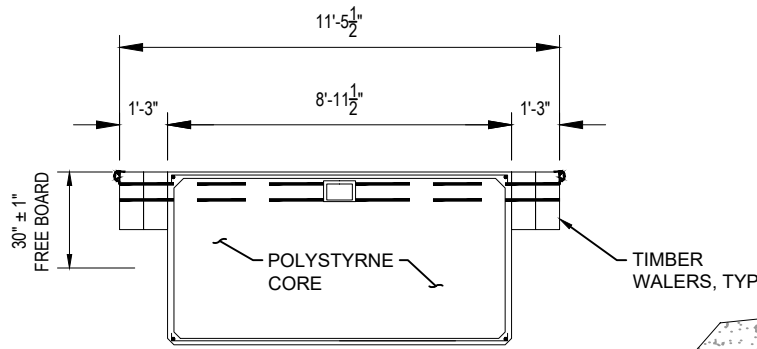
GENERAL NOTES:



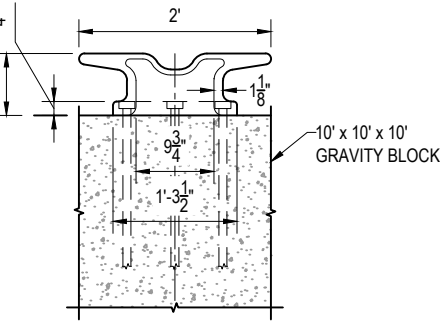
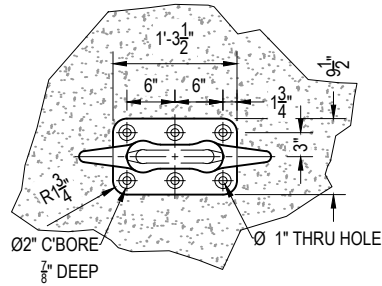
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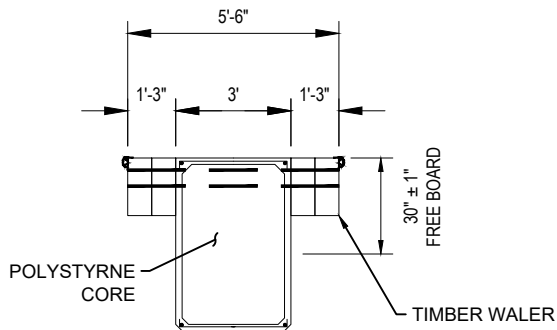




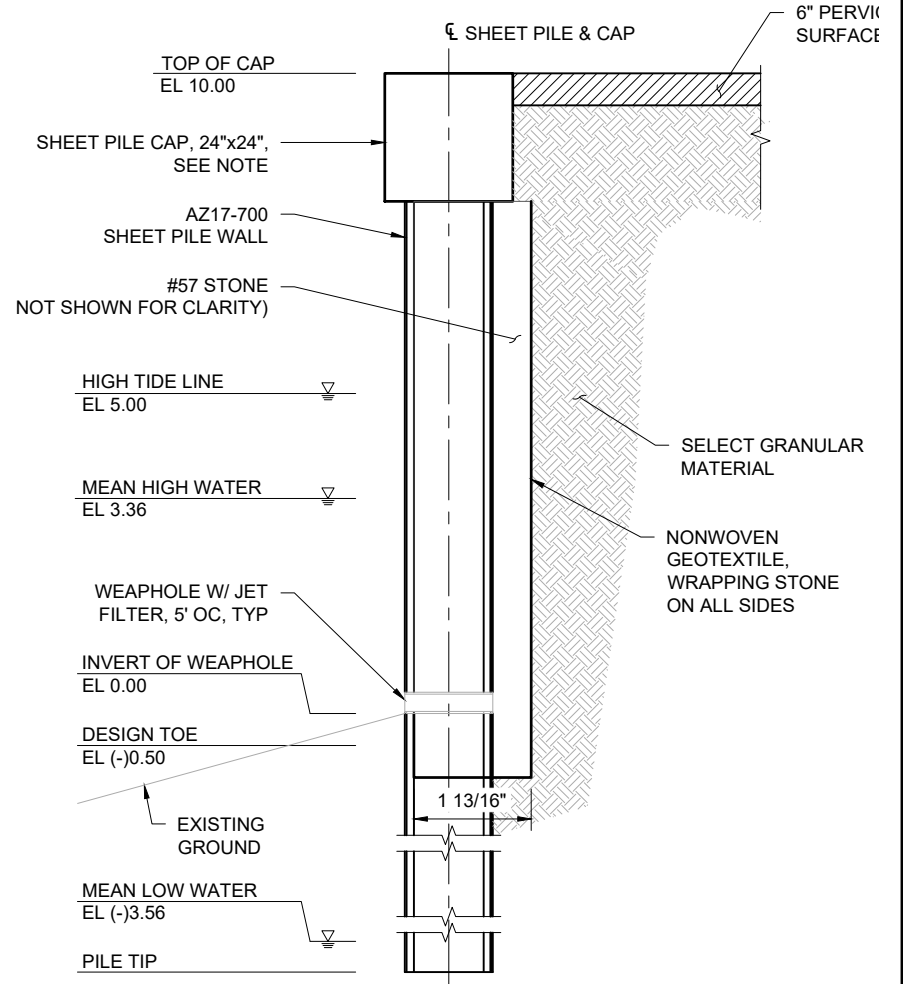
**TYPICAL SECTION
CONCRETE FLOAT DOCK**
SCALE: N.T.S.



**BOLLARD AND 10'x10'x10'
GRAVITY BLOCK DETAIL**
SCALE: N.T.S.



**COURTESY CONCRETE
FLOAT DOCK**
SCALE: N.T.S.



**SHEET PILE WALL
SECTIONS E-E AND F-F**
SCALE: N.T.S.

TYPICAL SECTIONS & DETAILS

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

Date: 03/22/24

County: CHATHAM

JOB#: 23-1020

SCALE: N.T.S

DATUM: NAVD88

SHEET: 12 of 12

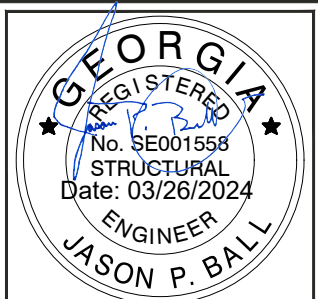
GENERAL NOTES:

- EXISTING LAYOUT BASED ON SURVEY PROVIDED BY GLISSON LAND SURVEYING COMPLETED ON 09/07/21.
- ORIGINAL WORK PERFORMED UNDER LOA FROM GA DNR DATED 06/15/20.
- AREA OF STRUCTURES PRESENTED IS INSIDE CMPA JURISDICTIONAL AREA.



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DANA WILLIAMS
MAYOR

ROBERT L. MILIE
TOWN ADMINISTRATOR

MATTHEW D. WALKER
CLERK/ZONING ADMINISTRATOR

CHARLES W. BARROW
TOWN ATTORNEY



COUNCIL MEMBERS

DAVID P. CRENSHAW
EDWARD M. DROHAN, III
LAWRENCE WARD
BROOKS BARBAREE
JAMES LAVIN
BETHANY SKIPPER-GREER

April 12, 2024

Mr. Alton Brown, Jr.
Resource & Land Consultants
41 Park of Commerce Way, Suite 101
Savannah, GA 31405

Sent email: abrown@rlandc.com

RE: Blue Moon Marina

Dear Mr. Brown,

The referenced property is located within the R-D-D, (River Drive District) of the Town of Thunderbolt, which allows marinas and yacht clubs.

Sincerely,

Matthew D. Walker
Town Clerk/Zoning Administrator
Town of Thunderbolt
912-629-4655 – office
912-547-5259 – cell
mwalker@thunderboltga.org



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GENERAL NOTES:

1. SOURCE OF MAPS - MICROSOFT BING
2. PROJECT LOCATION
 LAT: 32°01'35.47"
 LONG: 81°02'59.79"

VICINITY MAP

PROPOSED ACTIVITY: PIER & DOCK UPGRADES
 Applicant: BLUE MOON MARINA, LLC
 Date: 03/22/24
 County: CHATHAM
 JOB#: 23-1020
 SCALE: 1" = 2 Miles
 DATUM: NAVD83
 SHEET: 1 of 12

BLUE MOON MARINA
 SAVANNAH RIVER, GEORGIA

SCALE: 1" = 2 MILES
 0 1 2 MILES 4 MILES

Zoning
Mark O'Neil



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GENERAL NOTES:

1. SOURCE OF MAPS - MICROSOFT BING
2. PROJECT LOCATION
 LAT: 32°07'38.47"
 LON: 80°42'58.78"

LOCATION MAP

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

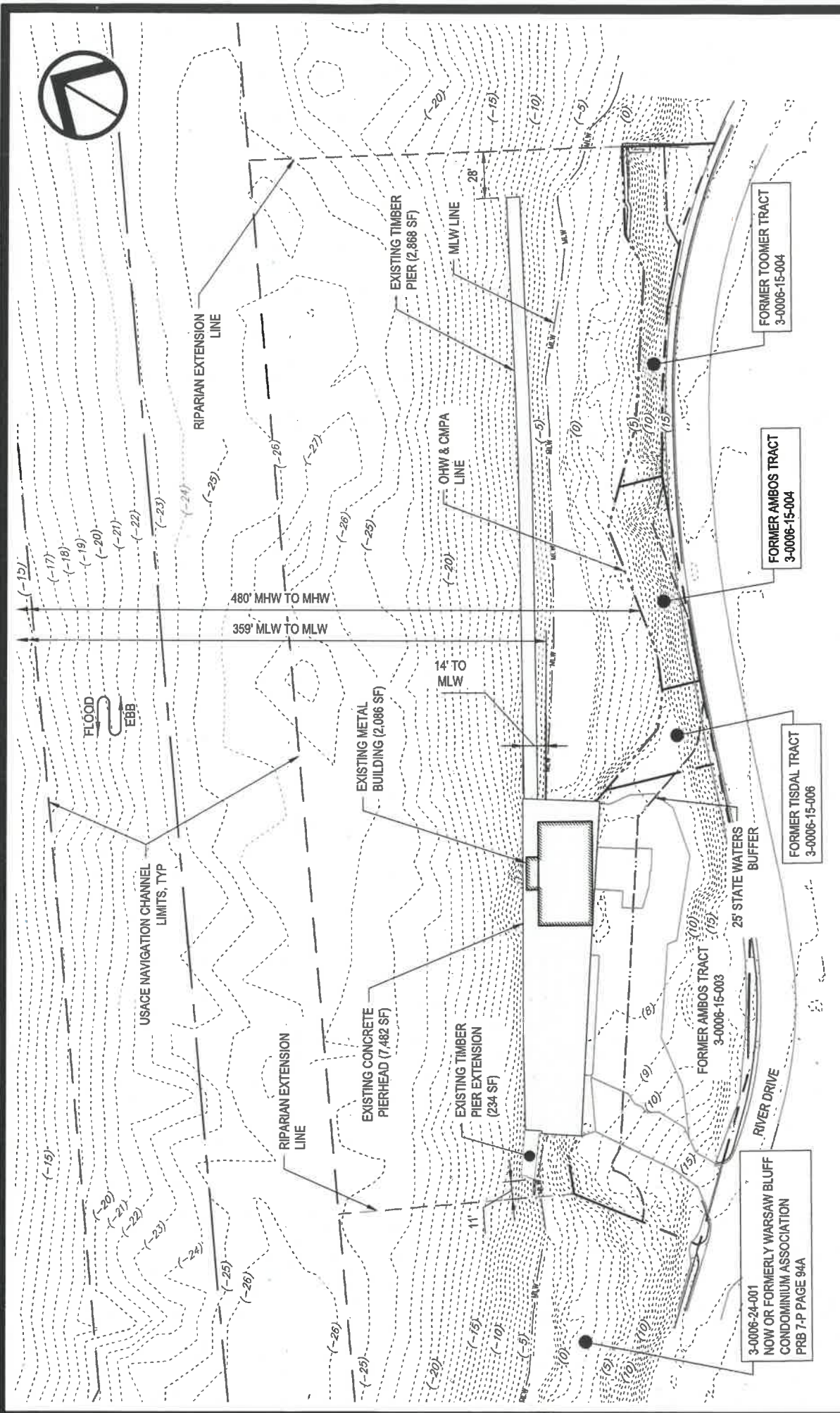
BLUE MOON MARINA
 SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC
 Date: 03/22/24
 County: CHATHAM
 JOB#: 23-1020
 SCALE: 1" = 1/2 Mile
 DATUM: NAVD83
 SHEET: 2 of 12

SCALE: 1" = 1/2 MILE

0 1/4 1/2 1 MILE

Zoning - MDW



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- GENERAL NOTES:**
- EXISTING LAYOUT BASED ON SURVEY PROVIDED BY GLISSON LAND SURVEYING COMPLETED ON 09/07/21.
 - ORIGINAL WORK PERFORMED UNDER LOA FROM GA DRR DATED 06/16/20.
 - AREA OF STRUCTURES PRESENTED IS INSIDE CMPA JURISDICTIONAL AREA.

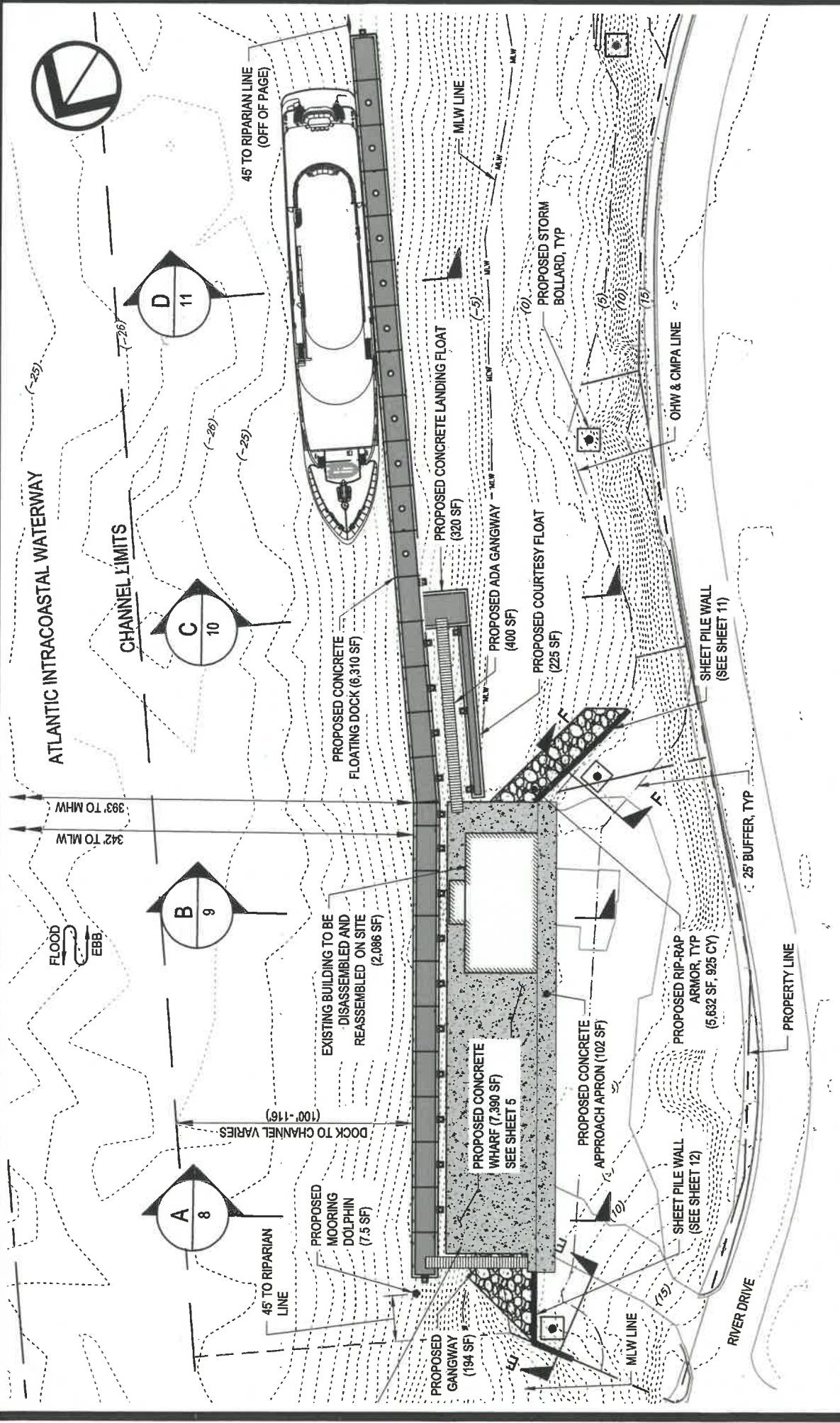
EXISTING CONDITIONS & DEMOLITION

PROPOSED ACTIVITY: PIER & DOCK UPGRADES
BLUE MOON MARINA
 SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC
 Date: 03/22/24
 County: CHATHAM
 Job #: 23-1020
 Scale: 1" = 80'
 Datum: NAVD83
 Sheet: 3 of 12

SCALE: 1"=80' (IN FEET)
 0 40' 80' 160'

Zoning MDW



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- GENERAL NOTES:**
1. SEE SHEET 5 FOR LAYOUT PLAN.
 2. SEE SHEET 7 FOR ELEVATION.
 3. SEE SHEET 12 FOR STORM BOLLARD DETAIL.
 4. AREA OF STRUCTURES PRESENTED IS INSIDE CMPA JURISDICTIONAL AREA.

PROPOSED IMPROVEMENTS

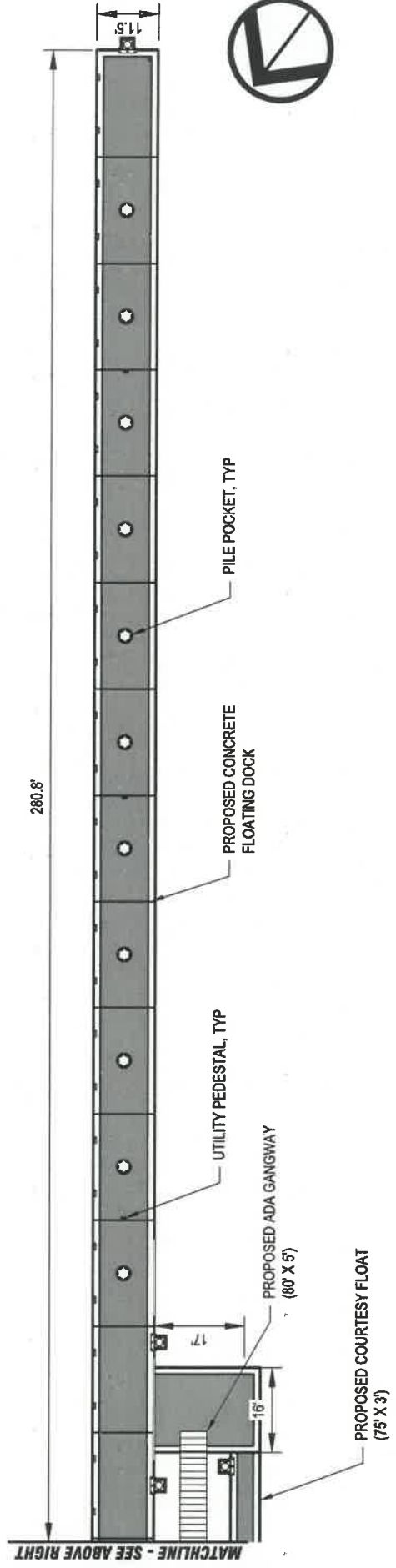
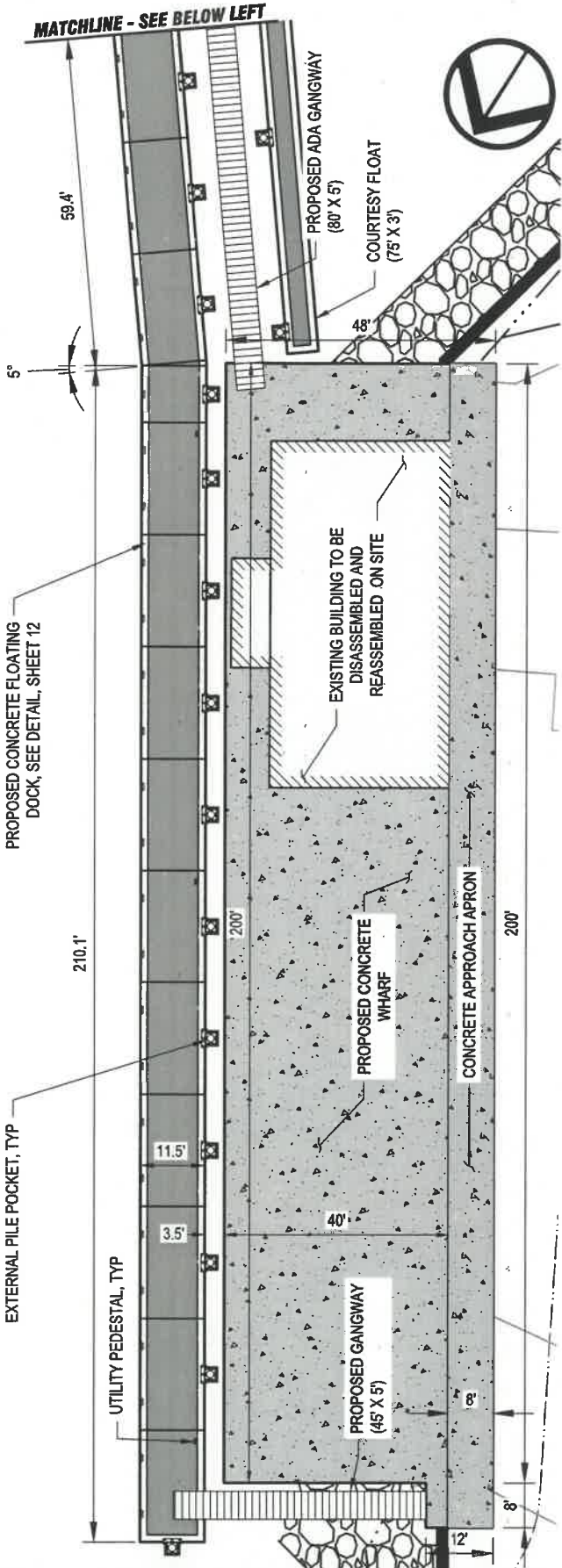
BLUE MOON MARINA
 SAVANNAH RIVER, GEORGIA

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

Applicant: BLUE MOON MARINA, LLC
 Date: 03/22/24
 County: CHATHAM
 JOB#: 23-1020
 SCALE: 1" = 60'
 DATUM: NAVD88
 SHEET: 4 of 12

SCALE: 1" = 60'
 0 30' 60' 120'
 (IN FEET)

Zoning MDW



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GENERAL NOTES:

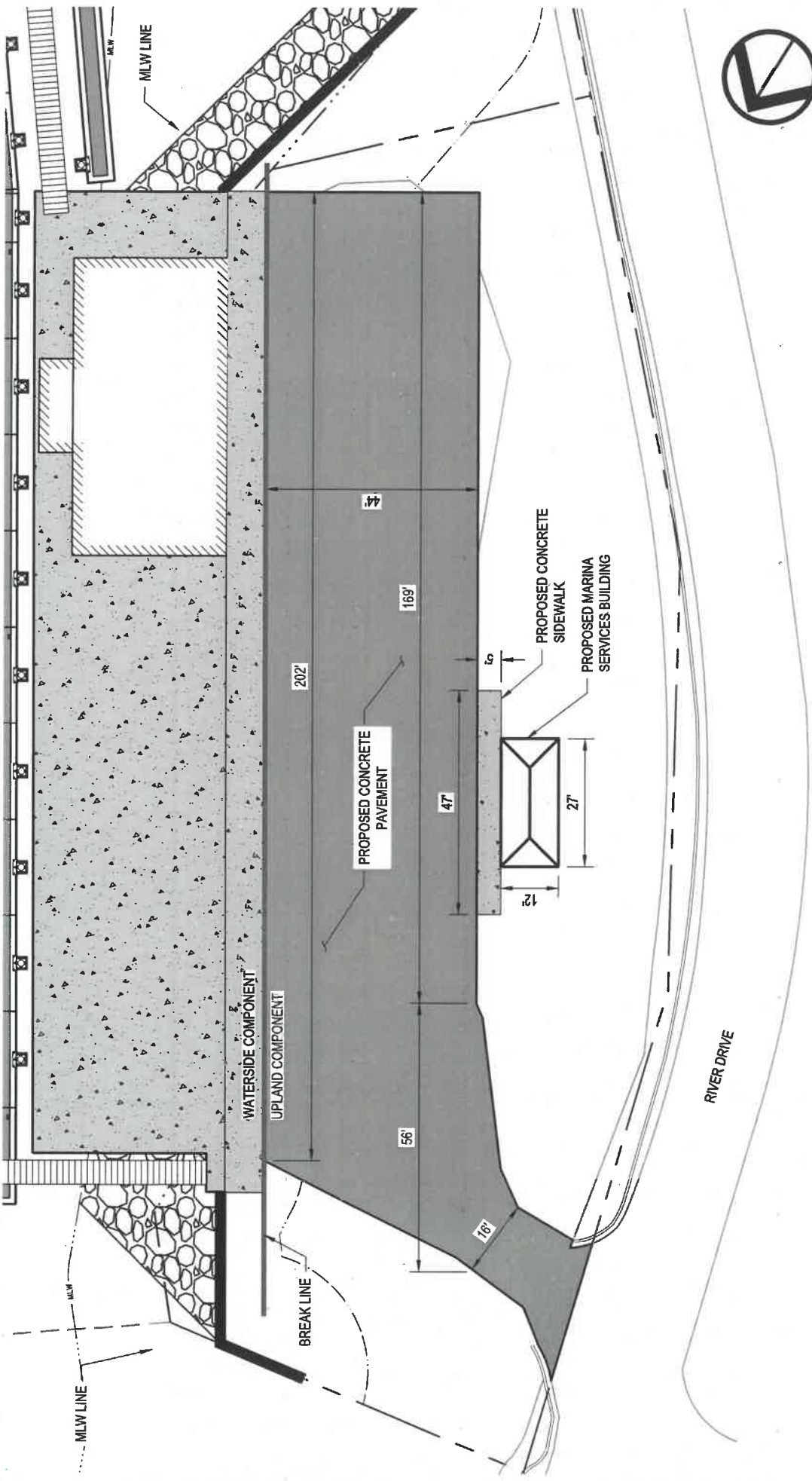
LAYOUT PLAN

PROPOSED ACTIVITY: PIER & DOCK UPGRADES
 Applicant: BLUE MOON MARINA, LLC
 Date: 03/22/24
 County: CHATHAM
 JOB#: 23-1020
 SCALE: 1" = 30'
 DATUM: NAVD83
 SHEET: 5 of 12

BLUE MOON MARINA
 SAVANNAH RIVER, GEORGIA

SCALE: 1"=30'
 (IN FEET)
 0 15' 30' 60'

Zoning mdu



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GENERAL NOTES:

1. CONFIGURATION OF UPLAND COMPONENT SUBJECT TO CHANGE PENDING LAND DISTURBANCE PERMITTING.

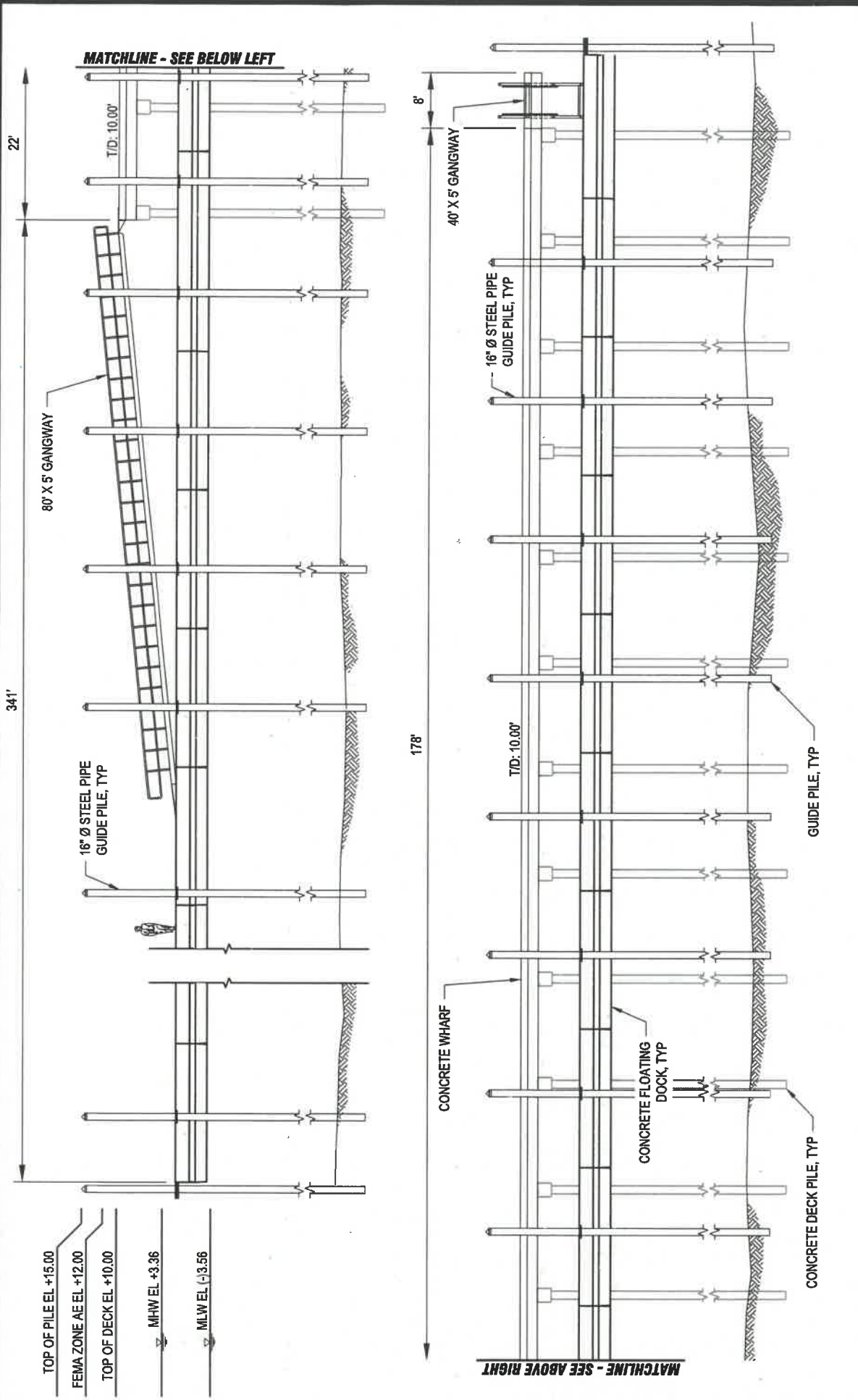
UPLAND COMPONENT

PROPOSED ACTIVITY: PIER & DOCK UPGRADES
BLUE MOON MARINA
 SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC
Date: 03/22/24
County: CHATHAM
JOB#: 23-1020
SCALE: 1" = 30'
DATUM: NAVD88
SHEET: 6 of 12

SCALE: 1" = 30'
 0 15' 30' 60'
 (IN FEET)

Zoning MDU



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GENERAL NOTES:

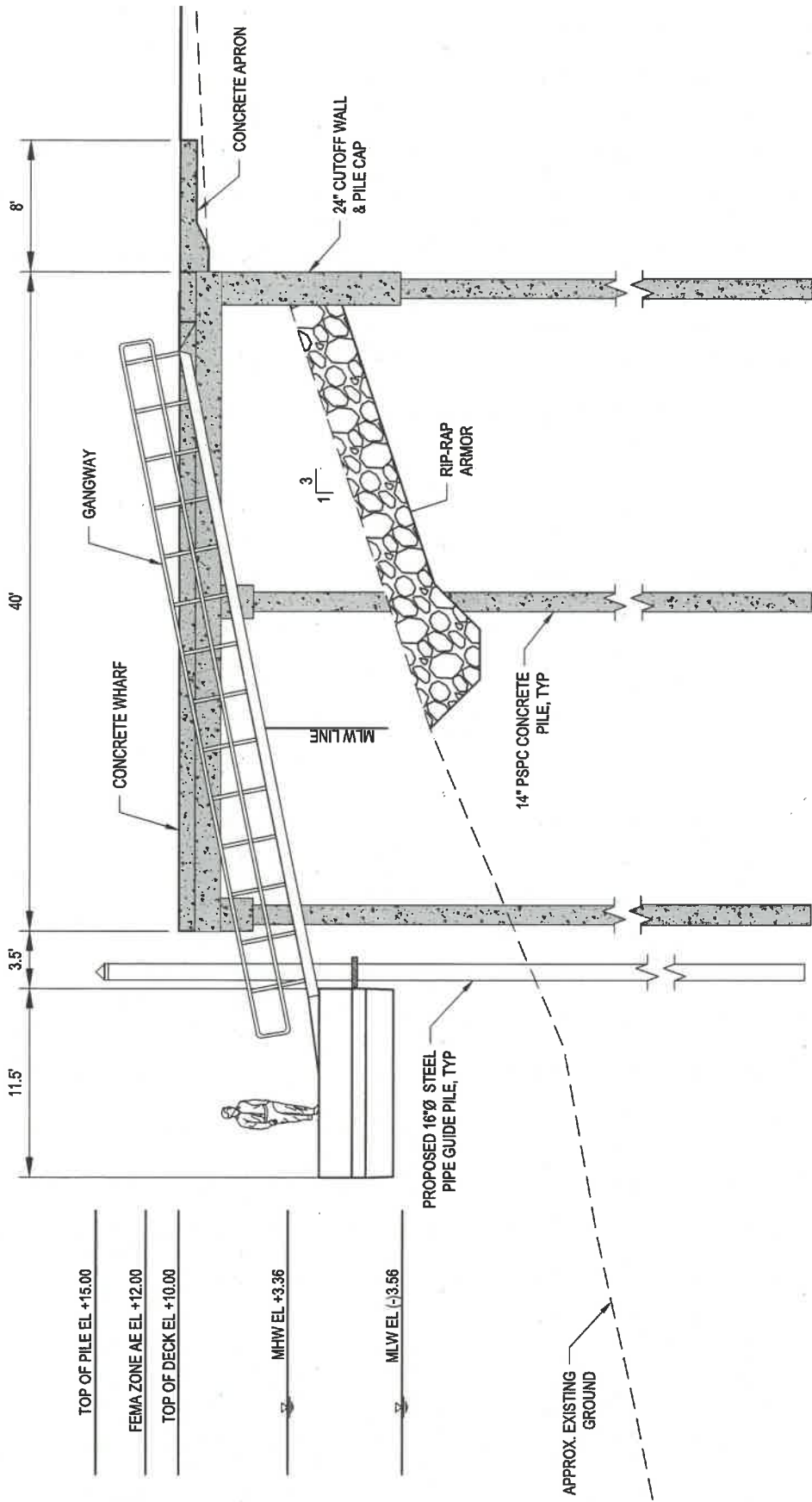
ELEVATION

PROPOSED ACTIVITY: PIER & DOCK UPGRADES
 BLUE MOON MARINA
 SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC
 Date: 03/22/24
 County: CHATHAM
 JOB#: 23-1020
 SCALE: 1" = 20'
 DATUM: NAVD83
 SHEET: 7 of 12

SCALE: 1"=20'
 0 10' 20' 40'
 (IN FEET)

Zoning ANDW



TOP OF PILE EL. +15.00
FEMA ZONE AE EL. +12.00
TOP OF DECK EL. +10.00
MHW EL. +3.36
MLW EL. -3.56

PROPOSED 16" Ø STEEL
PIPE GUIDE PILE, TYP

APPROX. EXISTING
GROUND



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Zoning MDW

GENERAL NOTES:

SECTION A

PROPOSED ACTIVITY: PIER & DOCK UPGRADES
BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC
Date: 03/22/24
County: CHATHAM
JOB #: 23-1020
SCALE: 1" = 10'
DATUM: NAVD83
SHEET: 8 of 12



TOP OF BUILDING EL +XXX

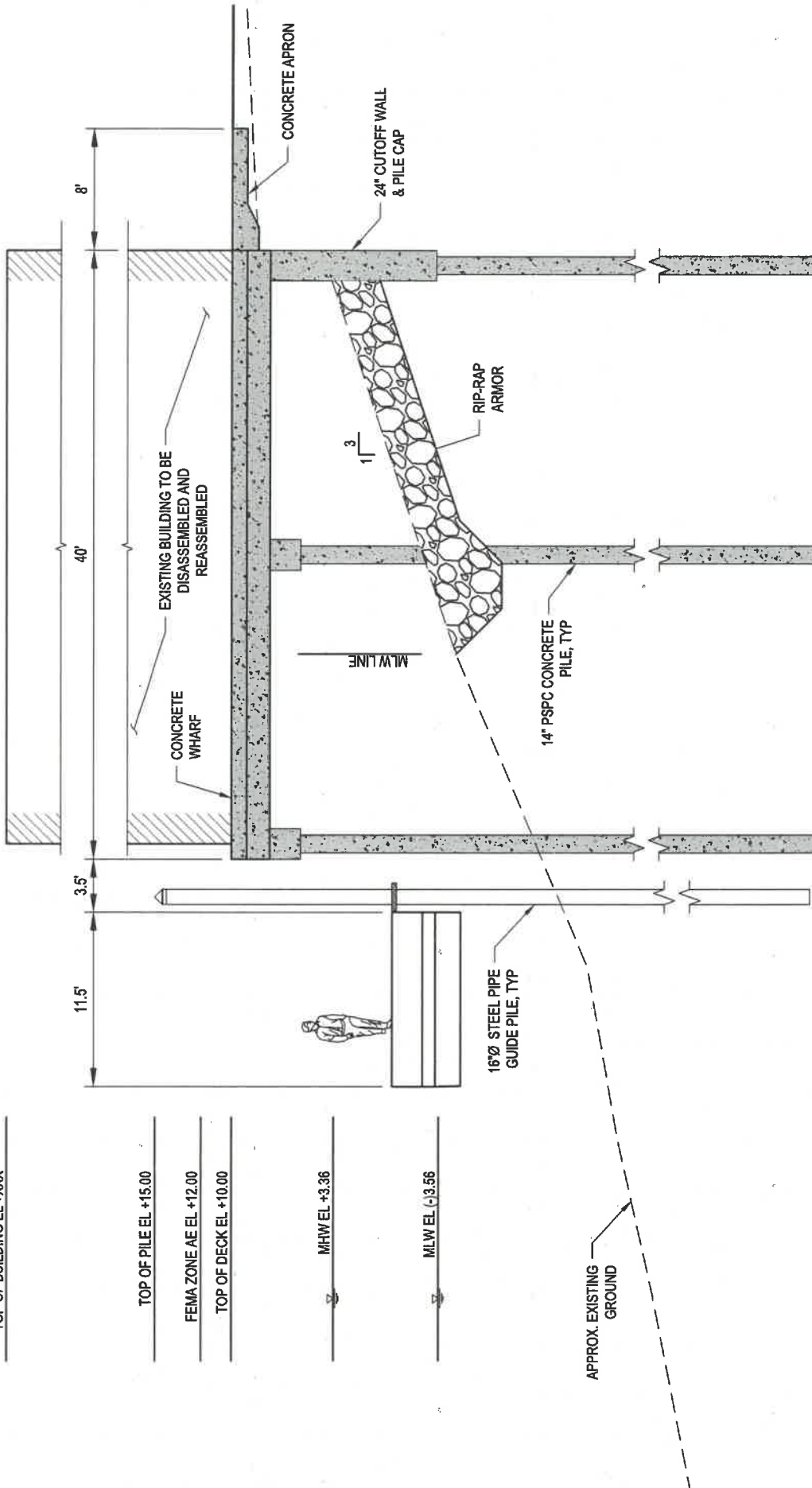
TOP OF PILE EL +15.00

FEMA ZONE AE EL +12.00

TOP OF DECK EL +10.00

MHW EL +3.36

MLW EL -13.56



APPROX. EXISTING GROUND



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GENERAL NOTES:

SECTION B

PROPOSED ACTIVITY: PIER & DOCK UPGRADES

BLUE MOON MARINA
 SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC

Date: 03/22/24

County: CHATHAM

JOB#: 23-1020

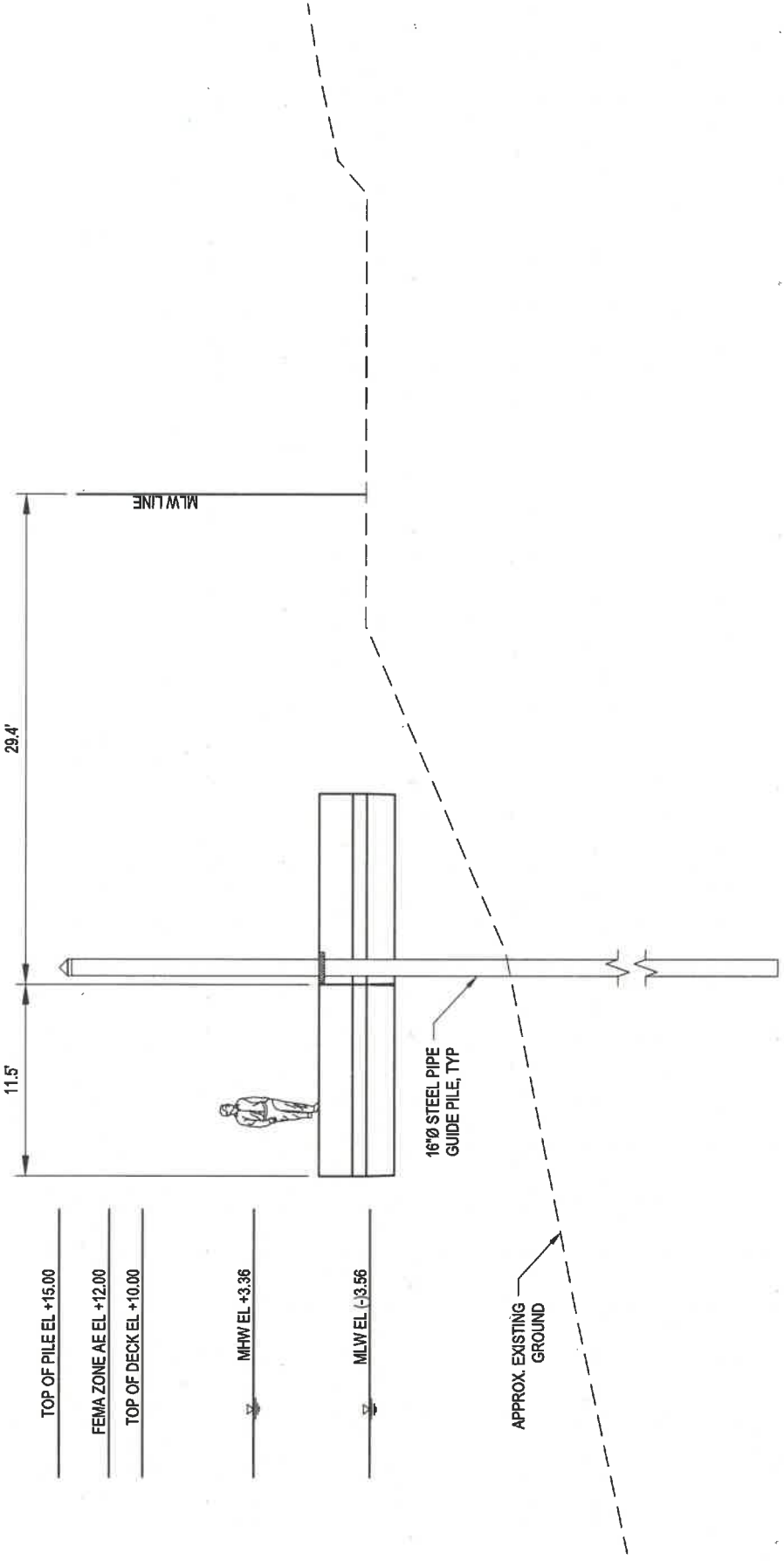
SCALE: 1" = 10'

DATUM: NAVD83

SHEET: 9 of 12



Zoning MNU



- TOP OF PILE EL +15.00
- FEMA ZONE AE EL +12.00
- TOP OF DECK EL +10.00
- MHW EL +3.36
- MLW EL -3.56

16" Ø STEEL PIPE
GUIDE PILE, TYP

APPROX. EXISTING
GROUND



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GENERAL NOTES:

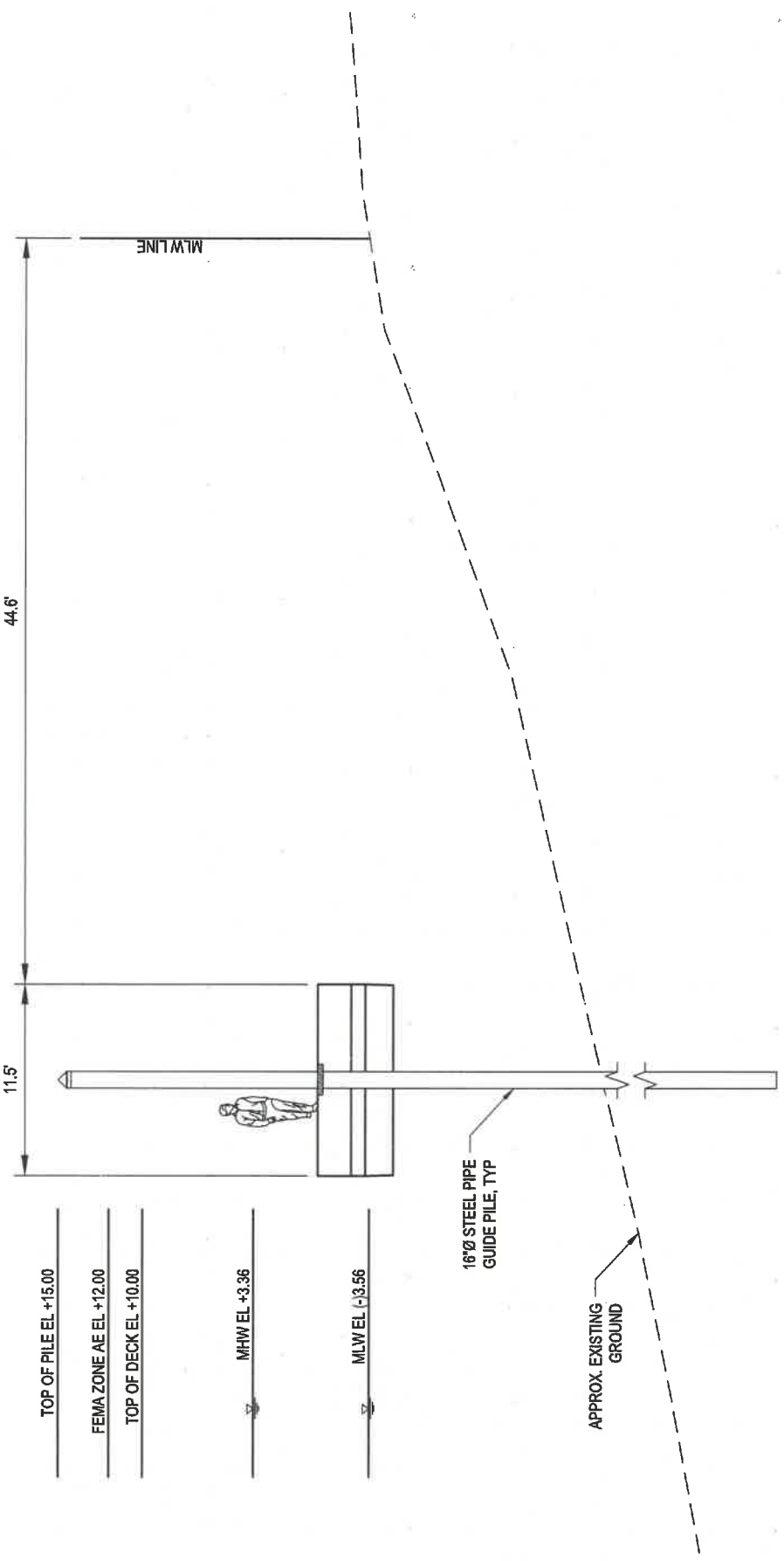
SECTION C

PROPOSED ACTIVITY: PIER & DOCK UPGRADES
 BLUE MOON MARINA
 SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC
 Date: 03/22/24
 County: CHATHAM
 JOB#: 23-1020
 SCALE: 1" = 10'
 DATUM: NAVD83
 SHEET: 10 of 12



Zoning MIDW



- TOP OF PILE EL +15.00
- FEMA ZONE AE EL +12.00
- TOP OF DECK EL +10.00
- MHW EL +3.36
- MLW EL -3.56

16"Ø STEEL PIPE
GUIDE PILE, TYP

APPROX. EXISTING
GROUND



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GENERAL NOTES:

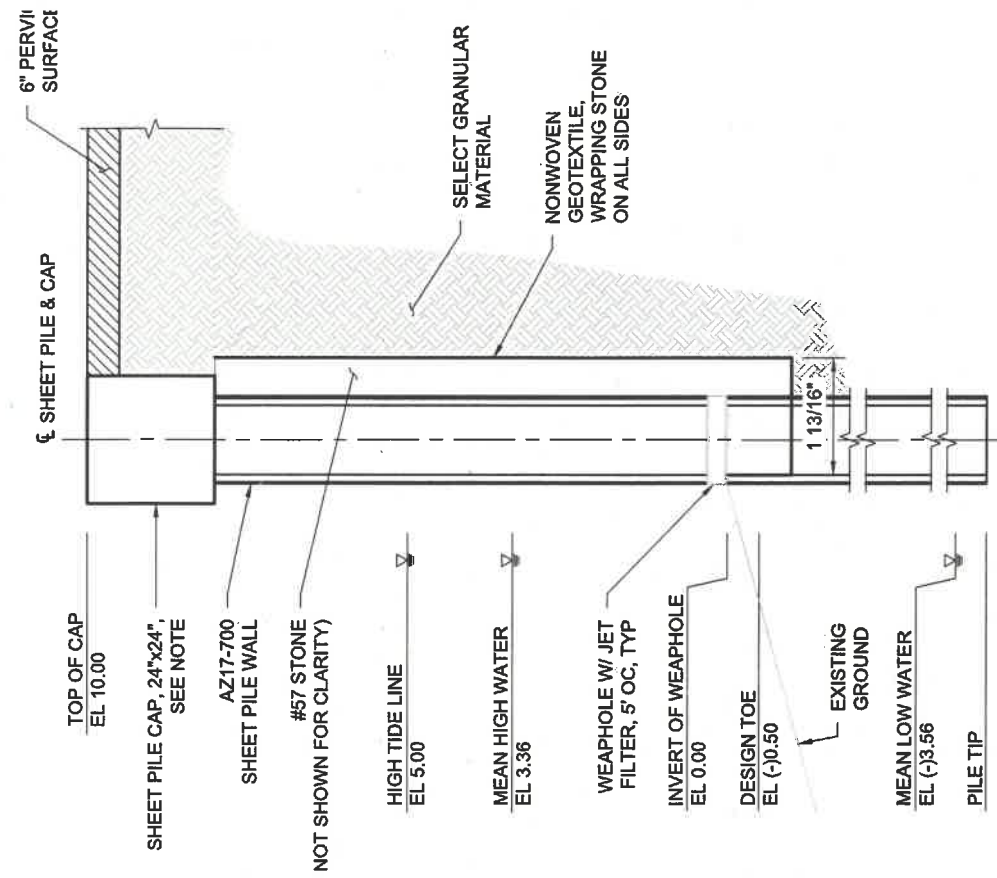
SECTION D

PROPOSED ACTIVITY: PIER & DOCK UPGRADES
BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA

Applicant: BLUE MOON MARINA, LLC
Date: 03/22/24
County: CHATHAM
JOB#: 23-1020
SCALE: 1" = 10'
DATUM: NAVD83
SHEET: 11 of 12



Zoning MDA



**SHEET PILE WALL
SECTIONS E-E AND F-F**

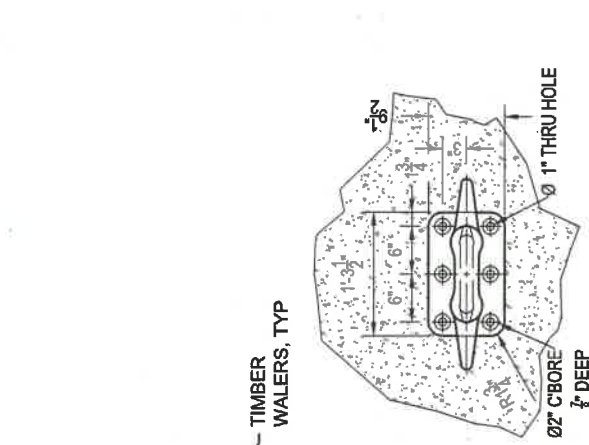
SCALE: N.T.S.



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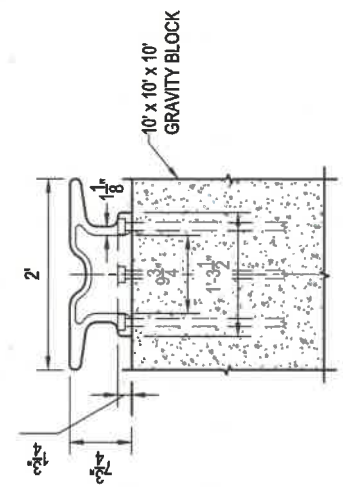
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Zoning MAU



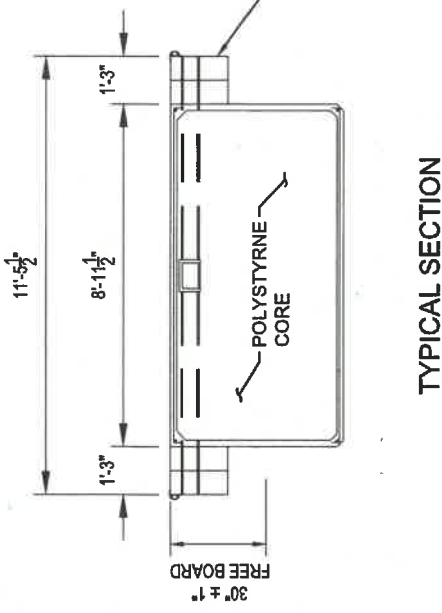
**TYPICAL SECTION
CONCRETE FLOAT DOCK**

SCALE: N.T.S.



**BOLLARD AND 10x10x10
GRAVITY BLOCK DETAIL**

SCALE: N.T.S.



**COURTESY CONCRETE
FLOAT DOCK**

SCALE: N.T.S.

TYPICAL SECTIONS & DETAILS

PROPOSED ACTIVITY:	PIER & DOCK UPGRADES
Applicant:	BLUE MOON MARINA, LLC
Date:	03/22/24
County:	CHATHAM
JOB#:	23-1020
SCALE:	N.T.S.
DATUM:	NAV888
SHEET:	12 of 12

- GENERAL NOTES:**
- EXISTING LAYOUT BASED ON SURVEY PROVIDED BY GLISSON LAND SURVEYING COMPLETED ON 09/07/21.
 - ORIGINAL WORK PERFORMED UNDER LOA FROM GA DNR DATED 06/16/20.
 - AREA OF STRUCTURES PRESENTED IS INSIDE CNPA JURISDICTIONAL AREA.

BLUE MOON MARINA
SAVANNAH RIVER, GEORGIA



3 February 2023

US Army Corps of Engineers
Savannah District / Regulatory Division
Attention: CESAS-RD (William M. Rutlin, Coastal Branch Chief)
100 West Oglethorpe Avenue
Savannah, Georgia 31401-3640

Georgia Department of Natural Resources
Coastal Resources Division
Attn: Mr. Josh Noble
One Conservation Way
Brunswick, Georgia 31520-8687

**RE: Joint Permit Authorization Request
Wilmington River Yacht Docking Facility
Chatham County, Georgia**

RLC#: 22-293

Dear Mr. Rutlin & Mr. Noble:

Resource & Land Consultants, on behalf of Blue Moon Marinas, LLC is submitting the attached Joint Application Package requesting permit authorization for activities associated with modification of an existing commercial dock facility. The project area is located at 3110 River Drive in Thunderbolt, Chatham County, Georgia (32.027101°, -81.049600°). For your review and use, the attached information includes the following:

- Project Description
- Permit Application Forms
- Figures/Site Maps
- Permit Drawings
- Hazardous Site Index
- Property Ownership Documentation
- Adjacent Landowner Information
- Threatened & Endangered Species Documentation & IPaC Database & Edges Information
- Zoning Concurrence Request Letter
- USACE & GADNR-CRD JD Request

We greatly appreciate your assistance with this project. If you have any questions or require additional information, please do not hesitate to contact us at (912) 443-5896.

Sincerely,

A handwritten signature in blue ink, appearing to read "Alton Brown, Jr.", is positioned above the typed name.

Alton Brown, Jr.
Principal
Resource & Land Consultants

Enclosures

cc: Mr. Emile Bootsma – Blue Moon Marinas, LLC.
Mr. Jim Myrick – Myrick Marine
Mr. Charlie George

February 2023

Wilmington River Yacht Docking Facility

Prepared For:

Blue Moon Marinas, LLC



RESOURCE+LAND
CONSULTANTS

Resource + Land Consultants
41 Park of Commerce Way, Suite 101
Savannah, Georgia 31405
912.443.5896 | rlandc.com

Wilmington River Yacht Docking Facility Chatham County, Georgia

GADNR/USACE Permit Application
February 2023

Applicant: Blue Moon Marinas, LLC

RESOURCE+LAND
CONSULTANTS



Table of Contents

1.0 Introduction & Background 1

2.0 Project Purpose 1

3.0 Proposed Project 1

 3.1 Marshlands Component 2

 3.2 Upland Component 2

 3.3 Stormwater Management 2

 3.4 GADNR-EPD 401 Water Quality Certification 2

4.0 Alternative Analysis 2

5.0 Essential Fish Habitat 2

6.0 Threatened & Endangered Species 2

7.0 Commercial Bait Shrimp, Oyster and Crabbing Areas 5

8.0 Impaired Waters 5

9.0 Supplemental Information 6

APPENDIX:

- A: Application Forms
- B: Figures/Site Maps
- C: Permit Drawings
- D: Hazardous Site Index
- E: Property Ownership Documentation
- F: Adjacent Landowner Information
- G: Threatened & Endangered Species Documentation & IPaC Database & Edges Information
- H: Zoning Letter
- I: GADNR-CRD Marshline Verification Request

1.0 INTRODUCTION & BACKGROUND:

Blue Moon Marinas, LLC is applying for a Section 10 Permit and Coastal Marshlands Permit to facilitate modification of an existing commercial docking facility. The project area is located at 3110 River Drive in Thunderbolt, Chatham County, Georgia (32.027101°, -81.049600°).

The Blue Moon is a 198' mega yacht that resides in Savannah. For over 10 years, the Blue Moon has not been able to find a suitable permanent dock facility and has been required to dock at a variety of temporary locations. Motor yacht docking currently available within the Savannah area is limited to two shipyards and two public docks on the Savannah River. Because the shipyards' primary purpose is maintenance and repair, those facilities, with the constant noise and activities associated with maintenance business operation, are not well suited for docking of super yachts. The public docks on the Savannah River (Westin & Hyatt) are accessible by the public and large numbers of tourists visiting Savannah. As a result, these public docks do not provide the level of privacy and security required for mega yachts, owners and crews. For this reason, the applicant has evaluated options to satisfy long term docking options for the Blue Moon and determined that modification of the existing dock in Thunderbolt will meet the needs of the Blue Moon as well as provide and short-term docking alternatives for transient yachts.

2.0 PROJECT PURPOSE:

The purpose of the project is to modify the existing commercial docking facility to provide a safe, clean, and secure marina for docking of the Blue Moon and transient private yachts visiting the Savannah area.

3.0 PROPOSED PROJECT:

The proposed project will generally include modification of the existing commercial dock facility to support the Blue Moon and other similar yachts. The overall goal of the project is to maintain the visual appearance of the existing facility while accommodating the needs for motor yachts rather than commercial fishing/shrimping boats. Specifically, the project includes the following:

- Removal of the existing 8 ft x 550 ft (4,400 sf) timber fixed pier and installation of a new 12 ft wide x 550 ft (6,600 sf) concrete floating dock system with 32 concrete piles.
- Replacement of the 40 ft x 200 ft (8,000 sf) pile supported concrete platform with 85 concrete piles. A 5ft x 8 ft (40 sf) concrete platform extension will be added to the platform. From the platform a 4ft x 30 ft (120 sf) gangway will be installed to access the float to the north and a 5 ft x 40 ft (200 sf) ADA accessible gangway will be installed to access the float to the south.
- The existing building located on the concrete platform will be temporarily removed during structural improvements to the platform. Upon completion of the platform rehabilitation, the building will be returned to its current location. Although the existing structure is not officially landmarked, it is certainly considered a local landmark and represents the importance of the maritime industry along the Wilmington River. The existing building dates to 1926. The owner's goal to retain, repair and reconstruct the metal shed is an effort to support Thunderbolt's unique cultural and historical assets, as well as to continue the legacy of this site's maritime use.
- Landward of coastal marshlands jurisdiction, the existing icehouse will demolished, the existing fuel tanks will be removed and all trash and debris associated with the past commercial operation will be removed. Following this general site cleanup, the upland area will be used for parking and access to the dock.

The new docking facility will be comprised of a concrete floating dock system with concrete piles, and water/electrical service for the berthing of the specified vessels. The new concrete pile supported platform will contain small boat davits for the launching and retrieval/storage of small accessory vessels of the yacht.

The new floating docks will be positioned approximately 50 ft riverward of the MLW line with the outboard edge of the new docks approximately 350 ft to the opposite MLW line on the Wilmington River. The outer face of the new

dock will be oriented to align with the existing outer edge of the floating dock system on the downstream end of the property currently operated by Thunderbolt Marine, Inc. The alignment shown is based on the existing water depths to accommodate the vessel draft and have the vessel outside of the approximate Intracoastal Channel Waterway western line at its location along the Wilmington River. The river is approximately 400' wide at mean low water at this location.

The project will not involve dredging, excavation, or filling of submerged lands or wetlands. No fueling systems will be installed.

3.1 Marshlands Component:

The marshlands component of the project is defined as the part of the project in an estuarine area or any structure on or over an estuarine area, including but not limited to marinas, community docks, bridges, piers and bulkheads requiring a permit under the Coastal Marshlands Protection Act. The marshlands component of the project is the portion of the facility located over and within coastal marshlands. These features include the floating dock and platform rehabilitation described above. Additionally, the project will include general cleanup of the site such as removal of abandoned piles and general trash/debris that has been discarded in the marsh (metal, tires, etc.). These activities will not include operation of equipment in the marsh. Rather, these general debris and pile removal activities will be accomplished with manual labor or from a barge.

3.2 Upland Component:

The upland component of the project is defined as all those service areas, amenities and recreational areas located inland of the Coastal Marshlands Protection Act jurisdiction line, that serve or augment the functioning of the marshlands component of the project such as but not limited to dry stack boat storage, dock master shop, fuel storage and delivery facilities to serve the marshlands component of the project. The upland area within the project totals 0.7884 acre and the upland component for the project consists of existing upland between River Drive and consists of existing structures and debris (to be demolished and removed) and a paved area to remain in its current condition. The demolition activities and removal of debris will be conducted in compliance with applicable erosion and sediment control responsibilities.

3.3 Stormwater Management:

The proposed project does not include upland site development activities and development of a stormwater management plan is not required. The project will implement standard BMP's during the construction phase for sedimentation and erosion control purposes and to protect adjacent tidal waters and marsh.

3.4 GADNR-EPD 401 Water Quality Certification (WQC): The proposed project does not include any activities during construction or facilities post construction (i.e. fueling) that require a WQC.

4.0 ALTERNATIVES ANALYSIS AND MINIMIZATION:

The proposed project includes modification of an existing commercial dock facility. Avoidance and minimization measures were implemented during the design of the project to limit the size of the facility and encroachment of the facility into the Wilmington River.

5.0 ESSENTIAL FISH HABITAT:

The proposed project includes modification of an existing commercial dock facility within tidal waters. While the project area contains essential fish habitat, due to the scope and minimal impacts associated with the maintenance activities, the project will not adversely affect essential fish habitat.

6.0 THREATENED AND ENDANGERED SPECIES:

Coordination with US Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) was

Wilmington River Yacht Docking Facility
Chatham County, Georgia

conducted to assess potential impacts to federally protected species on the project site. The results of this consultation are attached to this document. In addition to the database query, a pedestrian survey was conducted on-site, and no federally listed species were observed. The following provides a brief description of each species listed as threatened or endangered.

West Indian Manatee (*Trichechus manatus*)

The West Indian manatee is a large aquatic mammal whose habitat consists of warm coastal and spring fed waters. It is listed as endangered under both its state and federal status. They are large, gray aquatic mammals with bodies that taper to a flat, paddle-shaped tail. They have two forelimbs, called flippers, with three to four nails on each flipper. Their head and face are wrinkled with whiskers on the snout. During winter months these mammals are primarily confined to the coastal waters of the southern half of Florida and the spring fed rivers of Florida and Georgia. During the summer months as the water temperature rises, the manatees' range expands as far north as Virginia and it is during these months that the "manatees" may occasionally utilize the estuaries of coastal Georgia. Critical habitat for this species has been identified as large portions of coastal Florida including the St. Mary's River.

While the project site contains habitat known to support the manatee, the proposed project will comply with the Savannah District Manatee Special Conditions; therefore, the proposed project may affect but is not likely to adversely affect this species.

Eastern Black Rail (*Laterallus jamaicensis ssp. Jamaicensis*)

The Eastern black rail is a small bird living in salt and freshwater marshes in portions of the United States, Central America, and South America. Males and females are similar in size and adults are generally pale to blackish-gray, with a small blackish bill and bright red eyes. Eastern black rail habitat can be tidally or non-tidally influenced, and range in salinity from salt to brackish to fresh. Tidal height and volume vary greatly between the Atlantic and Gulf coasts and therefore contribute to differences in salt marsh cover plants in the bird's habitat. Diet includes Insects, snails, seeds, etc. Loss of habitat is the main threat to this species however where habitat is projected numbers are likely stable.

The area consists of an existing commercial dock facility on the Wilmington River. Habitat required to support this species is not present within the project area and the project will have no effect on the black rail.

Piping Plover (*Charadrius melodus*)

The piping plover is a small sand-colored, sparrow-sized shorebird that nests and feeds along coastal sand and gravel beaches in North America. It is listed as threatened for both its federal and state status. The adult has yellow-orange legs, a black band across the forehead from eye to eye, and a black ring around the neck. The piping plover forages and nests on sandy beaches on the Atlantic Coast from South Carolina to the north shore of the Gulf of St. Lawrence, on sandy shores of the Great Lakes, and on alkaline wetlands and prairie river sandbars of the Northern Great Plains. Sparse clumps of grass or herbaceous vegetation are important habitat components. They feed on invertebrates found in the sand including insects, crustaceans, and mollusks.

The project area does not contain sandy beach habitat. Due to the lack of suitable habitat, the project will have no effect on this species.

Red Knot (*Caldiris canutus rufa*)

The red knot is a state and federally listed threatened species. This bird is a medium-sized shorebird about 23-25 cm (9-10 in) long and weighing about 135 g. In breeding, plumage it is easily distinguished from all other sandpipers seen in the state with a brick red to reddish-orange head, neck, breast, and abdomen and medium gray back with some reddish color mixed in. The black bill is straight with a relatively stout base that tapers to a relative fine tip. Legs are usually dark gray to black, but can be greenish in color in some adults in nonbreeding plumage as well as in some juvenile birds. Wings are medium to dark gray on top with some white at the base of the primary and secondary feathers that forms a thin white stripe from the shoulder to the tip. The undersides of the wings are light to medium gray with darker gray tips. The reddish-orange color on the head, neck, and upper breast is replaced by gray on adults in

Wilmington River Yacht Docking Facility
Chatham County, Georgia

nonbreeding plumage. The reddish-orange of the lower breast and abdomen is replaced by white with dark gray barring on the flanks. A thin white stripe can be seen above the eye of adults. This stripe is broader and more defined in juvenile birds. Feathers on the backs of juveniles have a scaly pattern due to black and white edges that contrast with the gray feathers.

In the Western Hemisphere, the red knot breeds in the mid to high arctic tundra of Alaska, Canada, and Greenland. Most breeding habitats are near coastal areas, often on islands. Nest sites are generally on dry, sunny, and slightly elevated areas of tundra, frequently on open gravel ridges or slopes. During migration this species switches to coastal beaches usually at or near the mouth of bays, estuaries, or tidal inlets. Staging sites are associated with high wave-energy coastal areas. Wintering sites are generally intertidal habitats such as beaches with significant wave action or currents. Knots can be found on any Georgia barrier beach, but Little Tybee, Wassaw, St. Catherine's, Blackbeard, Sapelo, Little St. Simons, and Cumberland Islands, as well as St. Catherine's Island Bar are the locations most often used in the winter and spring, while Wolf Island, Little Egg Island Bar, and Little St. Simons Island at the mouth of the Altamaha River support the only known late summer and fall staging site on the east coast of the U.S.

The area consists of an existing commercial dock facility on the Wilmington River. Habitat required to support this species is not present within the project area and the project will have no effect on the red knot.

Wood Stork (*Mycteria americana*)

The wood stork was listed endangered by the USFWS on 28 February 1984 (Federal Register 49 (4):7332-7335). It is listed as endangered under both its state and federal status. Wood storks use freshwater and estuarine wetlands as feeding, nesting, and roosting sites, and annual population fluctuations are closely related to the year-to-year differences in the quality and quantity of suitable habitat. The overall decline in wood stork numbers is attributed to the loss or degradation of essential wetland habitat primarily in southern Florida. The adult is a large bird 33-45 inches tall and 58-71 inches in wingspan. Males typically weigh 5.5-7.3 lbs; females weigh 4.4-6.2 lbs. They appear all white on the ground, with blackish-gray legs and pink feet. In flight, the trailing edge of the wings is black. The head is dark brown with a bald, black face, and the thick down curved bill is dusky yellow. Juvenile birds are a duller version of the adult, generally browner on the neck, and with a paler bill. They nest colonially with up to twenty-five nests in one tree. Breeding once a year, a female lays 3-5 eggs in the typical clutch. The eggs are incubated 27-32 days by both sexes.

The area consists of an existing commercial dock facility on the Wilmington River. Habitat required to support this species is not present within the project area and the project will have no effect on the Wood Stork.

Eastern Indigo Snake (*Drymarchon corais couperi*)

The Eastern indigo snake is a large nonpoisonous, stout bodied snake averaging six to seven feet in length. The snake is smooth scaled and uniform glossy blue-black throughout its body except for some reddish orange or cream color suffusion on its throat, cheeks and chin. This coloration varies with some individuals having distinct coloration and others with no coloration. In the extreme southern reaches of its range (South Florida), the snake is less restricted and inhabits flatwoods, tropical hammocks, dry glades and moist bogs. In this region of its range, overwintering sites include tree stumps and other underground dens. In the northern portion of its range, including south Alabama, the indigo snake requires deep sand ridges and is often associated with the gopher tortoise. The indigo snake is dependent upon the deep burrows dug by the gopher tortoise and uses them as a refuge from the extreme hot and cold temperatures. This restricted habitat is even more isolated by the snakes' preference for the interspersed wet lowlands and cypress ponds.

Habitat required to support this species is not present within the project area and the proposed project will have no effect on the eastern indigo snake.

Green Sea Turtle (*Chelonia mydas*), Hawksbill Sea Turtle (*Eretmochelys imbricata*), Kemp's Ridley Sea Turtle (*Lepidochelys kempii*), Leatherback Sea Turtle (*Dermochelys coriacea*), Loggerhead Sea Turtle (*Caretta caretta*)

These large marine turtles inhabit the offshore waters of the Atlantic and Caribbean. During nesting periods which fall

Wilmington River Yacht Docking Facility
Chatham County, Georgia

within the summer months, these species leave the water to nest on sandy beaches and primary dunes of the Atlantic and Caribbean coasts. Turtle nests are not uncommon on the barrier islands of Georgia and have been located in the past.

The area consists of an existing commercial dock facility on the Wilmington River. Habitat required to support the sea turtle species is not present and the project will have no effect on any of the listed sea turtles.

Frosted Flatwoods Salamander (*Ambystoma cingulatum*)

The frosted flatwoods salamander is listed as threatened for both its federal and state status. The frosted flatwoods salamander is black to dark brown and typically patterned with light gray or white flecked lines, forming a frosted pattern on the back, sides, head, and tail. "Frosted" forms show a more random flecking pattern. The underside is dark gray or black with small, scattered white or light gray spots. The head is relatively small, and the tail is quite fat. Adults are typically 4.5-6 inches in total length. The broad-headed, bushy-gilled larva is very distinct with a prominent tan or beige stripe running the length of the otherwise chocolate-brown body. The larva also has a dark brown stripe through each eye, extending from the nostril to the gills.

This salamander is endemic to mesic flatwoods habitats within the vanishing longleaf pine-wiregrass community. Slash pine was incorrectly reported in early species accounts as a commonly associated tree species within its non-breeding habitat. Nearly all frosted flatwoods salamander sites currently dominated by slash pine have been converted from historic longleaf pine stands. Pine flatwoods are fire-dependent communities, requiring periodic burns to promote grasses and forbs, while limiting shrubs and hardwoods. Breeding sites are typically shallow, ephemeral cypress and/or swamp tupelo ponds or "domes," although flooded borrow pits, roadside ditches, and deep firebreaks are occasionally used. Breeding sites are also dependent on periodic dry season fires, which maintain an open canopy conducive to the luxuriant growth of emergent and submerged grasses, sedges, and forbs necessary for sheltering the aquatic larvae.

The area consists of an existing commercial dock facility on the Wilmington River. Habitat required to support this species is not present within the project area and the project will have no effect on flatwoods salamander.

Pondberry/Pond Spicebush (*Lindera melissifolia*)

Pondberry is state and federally listed as endangered. Shrub up to 6 feet (2 meters) tall, forming dense colonies of green or brown stems with yellowish bases. Leaves 2 - 6 inches (5 - 16 cm) long, drooping, deciduous, alternate, widest at or below the middle, with a rounded base and sharply pointed tip; both surfaces of the leaf with conspicuous netted veins and short, soft hairs; leaves smell spicy (like sassafras) when crushed. Male and female flowers on separate plants, appearing before leaves, borne in clusters of 2 - 6 flowers, each with 6 pale yellow, petal-like tepals. Fruit about ½ inch (1 - 1.2 cm) long, bright red, oval to round, on a stout stalk about ½ inch (0.9 - 1.2 cm) long with a blunt tip. The stalk persists through the winter following fruiting. Pondberry occur in shallow depression ponds within wetlands, along margins of cypress ponds, and in forested floodplain areas in the southeastern United States.

The area consists of an existing commercial dock facility on the Wilmington River. Habitat required to support this species is not present within the project area and the project will have no effect on Pondberry.

7.0 COMMERCIAL BAIT SHRIMP, OYSTER, AND CRABBING AREAS

The proposed project is not located in a designated bait shrimp zone according to Georgia Department of Natural Resources *Commercial and Recreational Bait Shrimp Zones, Coastal Georgia* map. The project area is not listed on the *Georgia Harvester Reported Crabbing Areas* list, and the project area is not located in designated commercial or recreational oyster harvest areas.

8.0 IMPAIRED WATERS

The subject waterway is not listed on the U.S. Environmental Protection Agency 303(d) list for impaired water bodies.

9.0 SUPPLEMENTAL INFORMATION

This additional information is provided for compliance with Coastal Marshlands Protection Act of 1970 information requirements:

OCGA 12-5-286. Permits to fill, drain, etc., marshlands.

(b) Each application for such permit shall be, properly executed, filed with the department on forms as prescribed by the department, and shall include:

- (1) ***The name and address of the applicant-***
See attached application form
- (2) ***A plan or drawing showing the applicant's proposal and the manner or method by which such proposal shall be accomplished. Such plan shall identify the coastal marshlands affected-*** Please refer to attached permit drawings.
- (3) ***A plat of the area in which the proposed work will take place-*** See attached.
- (4) ***A copy of the deed or other instrument under which the applicant claims title to the property or, if the applicant is not the owner, then a copy of the deed or other instrument under which the owner claims title together with written permission from the owner to carry out the project on his land. In lieu of a deed or other instrument referred to in this paragraph, the committee may accept some other reasonable evidence of ownership of the property in question or other lawful authority to make use of the property; The committee will not adjudicate title disputes concerning the property which is the subject of the application; provided, however, the committee may decline to process an application when submitted documents show conflicting deeds-*** See attached.
- (5) ***A list of all adjoining landowners together with such owners' addresses, provided that if the names or addresses of adjoining landowners cannot be determined, the applicant shall file in lieu thereof a sworn affidavit that a diligent search, including, without limitation, a search of the records for the county tax assessor's office, has been made but that the applicant was not able to ascertain the names or addresses, as the case may be, of adjoining landowners-*** See attached.
- (6) ***A letter from the local governing authority of the political subdivision in which the property is located, stating that the applicant's proposal is not in violation of any zoning law; A request has been submitted to the City of Thunderbolt and a copy of that request is included in this package. The response from Thunderbolt will be provided upon receipt.***
- (7) ***A non-refundable application fee to be set by the board in an amount necessary to defray the administrative cost of issuing such permit. Renewal fees shall be equal to application fees, which shall not exceed \$1,000.00 for any one proposal and shall be paid to the department.*** The application fee is attached.
- (8) ***A description from the applicant of alternative sites and why they are not feasible and a discussion of why the permit should be granted-*** Addressed above.
- (9) ***A statement from the applicant that he has made inquiry to the appropriate authorities that the proposed project is not over a landfill or hazardous waste site and that the site is otherwise suitable for the proposed project-*** A review of the Hazardous Site Index for Chatham County, Georgia indicates that the subject property does not contain hazardous

waste sites or landfills. A copy is attached.

(10) A copy of the water quality certification issued by the department if required for the proposed project- Not applicable.

(11) Certification by the applicant of adherence to soil and erosion control responsibilities if required for the proposed project- The project will conform to all building, land disturbing, and stormwater management requirements of the City of Thunderbolt.

(12) Such additional information as is required by the committee to properly evaluate the application- This application has been prepared with consideration for the interests of the general public of the State of Georgia as defined in OCGA 12-5-286(g):

OCGA 12-5-286. Permits to fill, drain, etc. marshlands.

(g) In passing upon the application for permit, the committee shall consider the public interest, which, for purposes of this part shall be deemed to be the following considerations:

(1) Whether or not unreasonably harmful obstruction to or alteration of the natural flow of navigational water within the affected area will arise as a result of the proposal- The proposed project will not alter natural flow of navigable waters or obstruct public navigation.

(2) Whether or not unreasonably harmful or increased erosion shoaling of channels, or stagnant areas of water will be created- The proposed project will not increase erosion, shoaling of channels, or create stagnant areas of water.

(3) Whether or not the granting of a permit and the completion of the applicant's proposal will unreasonably interfere with the conservation of fish, shrimp, oysters, crabs, clams, or other marine life, or wildlife, or other resources, including but not limited to water and oxygen supply- The proposed project will not interfere with the conservation of fish, shrimp, oysters, crabs, clams, or other marine life, wildlife, or other resources, nor affect water and oxygen supply.



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APPENDIX A: Permit Application Forms

INSTRUCTIONS FOR COMPLETING A GEORGIA COASTAL MARSHLANDS PROTECTION PERMIT APPLICATION

Applicants proposing to impact areas below the ordinary high water mark need to complete these application forms. Each and every blank must be filled in completely. For questions that are not applicable to your project, write N/A in the blank. Only those applicants proposing to impact areas below the ordinary high water mark in Effingham, Long, Wayne, Brantley, Chatham, Glynn, Camden, McIntosh, Bryan, Liberty, or Charlton Counties need to complete the Revocable License request. This form requests permission to use publicly owned submerged lands. The Army Corps of Engineers can help you determine if you will need a water quality certification for your project. Contact the Ecological Services Section of the Coastal Resources Division, Georgia Department of Natural Resources at (912) 264-7218 for assistance with state requirements.

➤ Forms:

- Joint Application for an ACOE Permit and GA CMPA Permit
- Revocable License Request
- Coastal Marina, Community or Commercial Dock Checklist
- Request for JD line (UGA has requested verification of the marshline)

➤ Project Summary:

- Narrative with project details and dimensions, construction method(s), materials, and access points/locations. Narrative should identify all areas that are planned to be used in connection with the project.
- Distance of the project into the waterway from MLW.
- Distance of the project from the navigable channel.
- Depths of the waterway at MLW.
- Total width of the waterway from MLW to MLW.
- Distance to the next structure to either side of the proposed project.

➤ Project Drawings:

 X Plan or drawing showing the applicant's proposal and the manner or method by which such proposal shall be accomplished. Such plan shall identify all coastal marshlands, as verified by CRD staff, within the extended property lines of the project area.

*All drawings should be:

- a. Submitted on a registered survey (signed, stamped and dated) or on the recorded plat of the property.
- b. Submitted on 8 1/2 " by 11" paper or 11" by 17" (if needed to see details clearly), leave a 1" margin on the long side of each page for binding purposes.
- c. Drawn to scale. Include a bar scale or other graphic scale and a North arrow.



➤ Site Plans:

 X Vicinity map that shows the location of the project, latitude and longitude, name of waterway, distance to nearest town or interstate highway and a North arrow.

Marshland Component of Project

 X DNR Marsh Jurisdiction Line (this line must be surveyed in by a registered surveyor), high and low waterlines and the method used to establish the waterlines. DNR staff must verify the Marsh Jurisdiction Line within the project area. Marsh jurisdiction line is validated for one year.

 X Existing features such as structures, boardwalks, etc. within jurisdiction.

 X Proposed features such as structures, boardwalks, etc. within jurisdiction.

 X Dimensions of the proposed structure/project that is the marshland component of the project. Marshland component is defined as the part of the project in an estuarine area or any structure on or over an estuarine area. The dimensions must consist of the distance the project will extend into the waterway, distance from the navigable channel, and the total width and depths of the waterway from MLW to MLW. Label existing structures in the navigable waters near the proposed activity.

 X Total square footage of proposed project footprint within jurisdiction and total square footage over vegetated marshlands.

 X Section/Elevation view showing a cross-section view of the project using the same water elevations as the Site Plan.

 X Depth of water at the water-ward face of the proposed project, the dimensions and names of structures supported on floats or piles, the distance between pilings, the number of pilings, and types of materials used.

- * Include additional CONSTRUCTION DRAWINGS as needed to clearly show the proposed project and how the project will be completed. For SHORELINE ENGINEERING ACTIVITIES (bulkheads, revetments, etc.) show typical construction methods with respect to mean, sea level for tiebacks, footings/foundations, type of material, slope of face, etc. For Boardwalks (walkways, decks, etc.) and BRIDGES show typical arrangement of posts/beams/decking, height above the marsh vegetation, and height above any waters at both MLW and MHW.

Upland Component of the Project

- X Delineation of the upland component of the project- Upland component is defined as, all those service areas, amenities, and recreational areas located inland of the CMPA jurisdiction line that serve or augment the functioning of the marshlands component of the project. Include any facilities adjacent to or in proximity to the marshlands component of the project that will serve exclusively or primarily the users of the marshlands component of the project.
- X Existing features such as structures, roadways, parking areas, dry-stack storage, fueling facilities, etc.
- N/A Proposed features such as structures, roadways, parking areas, dry-stack storage, fueling facilities, etc.

Marshlands Buffers for Upland Component

- N/A Delineation of 50-foot marshlands buffer applicable to the upland component of the project as measured horizontally inland from the coastal marshlands-upland interface (verified JD line).
- X Documentation of existing condition of delineated buffer.
- N/A Description of buffer design, installation, and maintenance plans. Applicant should refer to the current edition of the Georgia Stormwater Management Manual for technical specifications and standards specific to buffers.
- X Description and identification on site plan of any temporary structures proposed within the delineated buffer that are necessary for the construction of the marshlands component of the project.
- X Description and identification on site plan of any permanent structures proposed within the delineated buffer that are necessary for the function of the marshlands component of the project.
- X Description and identification on site plan of any permanent structures proposed within the delineated buffer that are required to provide permanent access to the marshlands component of the project.
- N/A Description and identification on site plan of any vegetated plantings or grading of vegetation within the delineated buffer. Applicant is referred to the Georgia Stormwater Management Manual and the “Riparian Buffers in Your Backyard”. Note: Planting and grading within the buffer must be designed and installed to enhance stormwater treatment.
- X Description and identification on site plan of pedestrian access for passive recreation to be located within the delineated buffer.

X Description including dimensions and identification on the site plan of any existing impervious surfaces or structures pre-existing within the delineated buffer.

Stormwater Management Plan of the Upland Component

N/A Description of Stormwater Plan for upland component of the project. Note: No discharge of untreated stormwater is allowed from developed or disturbed areas, whether surface or piped, to coastal marshlands from the upland component of the project, unless waiver is granted by Committee

N/A If waiver is being requested, detailed description of the site or project characteristics that prohibit treatment, why there is no practicable alternative, and documentation demonstrating how the stormwater runoff will have minimal adverse impact.

Impervious Surface Calculations of the Upland Component

N/A Description and delineation of the pervious surfaces and impervious surfaces proposed for the upland component of the project. Note: Pervious surfaces shall be used to the maximum extent practicable, and total impervious area shall be minimized with the goal of achieving no more than 15% effective impervious cover where practicable taking in account existing structures that are part of the project and that available land area that is part of the upland component of the project.

N/A Detailed documentation of the calculation of Effective Impervious Cover rate.

➤ **Deed or other legal instrument:**

X A copy of the deed, or other legal conveyance, putting title to or an interest in the real property, into the name of the applicant, together with any plat(s) referenced in the deed or conveyance that show the boundaries of the real property conveyed.

N/A Any later deed or conveyance whereby any full or partial interest, such as, an inter-spousal transfer, trust agreement, lease agreement, partnership, corporation, limited liability company or executor or decedent's estate took an ownership interest in the real property.

N/A If the applicant is not the owner of the property, then provide a copy of the owner's deed or other legal conveyance AND the written permission from the owner to carry out the project on his/her land. The owner must acknowledge that it is aware of the application and that it is familiar with the applications plans for the property and that the owner gives permission to the applicant to carry out the project on his/her land as outlined in the application.

N/A Specific plat(s) referenced in the vesting deed showing the upland boundary of the project area in relation to the natural resource coastal marshlands and tidal waterbottoms.

N/A Identification of any marshlands within project area designated as Natural Heritage Preserve.

N/A If the property was subdivided after the applicant acquired the property, then the new subdivision plat, in addition to the plat referenced in the vesting deed.

N/A Corporate owners must submit their Articles of Organization or other legal documentation to show signatory's capacity to bind the corporation to the permit and/or waterbottoms lease.

N/A Homeowners Association By-laws and Restrictive Covenants pertaining to the project area (upland and marsh component).

N/A Conservation Easements or other easements pertaining to the project area (upland and marsh component).

N/A Deed restrictions if applicable.

➤ Adjoining Land Owners:

X List of all adjoining landowners together with such owners' addresses.

N/A If the names or addresses of adjoining land owners cannot be determined, a sworn affidavit that a diligent search, including a search of the records of the county tax assessor's office, has been made but that the applicant was not able to ascertain the names or addresses of adjoining landowners.

➤ Zoning Letter & Signed Drawings from Local Gov:

X Letter from the local zoning authority stating that this proposal is in compliance with any zoning laws. This letter must be specific to the project and cannot be conditional in any way.

X Copy of the most current version of plans, signed and dated by the local zoning authority. If the project is redesigned, the zoning authority must sign the latest plans to ensure there is no confusion about which "version" of the project is approved.

➤ Non-refundable Application Fee:

X Check or money order made payable to the GEORGIA DEPARTMENT OF NATURAL RESOURCES is required. Include the amount listed below for the type of project you are proposing. Renewal fees will be equal to application fees. This list does not include all possible projects and should be used only as a guide.

\$100 Routine: Simple modification, research, simple pier, bridge (no fill), deck, etc.

\$250 Moderate: Community dock, boat ramp, bridge (minor fill), culverts/gates, pier, etc.

\$500 Complex: Marina, marina modification, roadway, mosquito ditching, dredging, wastewater treatment, commercial dock, etc.

➤ **Alternative Analysis:**

Brief description of alternative sites the applicant considered and why they are not feasible. Include a discussion of why the permit should be granted. Describe water dependent nature of project.

➤ **Landfill or Hazardous Waste Statement:**

Statement from the applicant that he has made inquiry to the appropriate authorities that the proposed project is not over landfill or hazardous waste site and that the site is otherwise suitable for the proposed project. Contact your local government engineer to find out if your site is over a hazardous waste site or landfill. If your county engineer is unable to answer your question, contact the State Hazardous Sites Response Program at (888) 373-5947, or check the Internet at: www.dnr.state.ga.us/dnr/environ then select Georgia Environment followed by Hazardous Sites. Provide a statement that you have inquired about location of your site with respect to hazardous waste or landfills.

➤ **Water Quality Certification:**

Copy of the water quality certification issued by EPD, if required for the proposed project. The USCAE determines whether a proposed project requires water quality certification under their 401 regulations.

(Note: If required, certification MUST be issued prior to CMPC consideration of the project.)

➤ **Erosion and Sedimentation Statement:**

Statement certifying that the project will be conducted in compliance with applicable erosion and sediment control responsibilities. Please refer to the section above regarding marshland buffers, stormwater management, and impervious surface calculations.

➤ **Public Interest Statement:**

X Documentation how the project is not contrary to the public interest, specific to the following public interest considerations:

- a. Whether or not unreasonably harmful obstruction to or alteration of the natural flow of navigational water within the affected area will arise as a result of the proposal.
- b. Whether or not unreasonably harmful or increased erosion, shoaling of channels, or stagnant areas of water will be created.
- c. Whether or not the granting of a permit and the completion of the applicant's proposal will unreasonably interfere with the conservation of fish, shrimp, oysters, crabs, clams, or other marine life, wildlife, or other resources, including but not limited to water and oxygen supply.

WHERE TO MAIL COMPLETED APPLICATION PACKAGES

An application package cannot be considered until all of the items listed above are submitted. After the Department has reviewed your application materials, additional information may be required for the Coastal Marshlands Protection Committee to fully evaluate your permit request. Additionally, the 30-day public notice cannot be published until the application package is substantially complete.

Please submit ONE (1) original copy to the GA DNR-CRD, Habitat Management Program, ONE (1) original copy to US Army Corp of Engineers, Savannah District and one original copy to GA DNR-EPD, Water Protection Branch (three copies total). See addresses below.

Karl H. Burgess Habitat Management Program Manager Coastal Resources Division Georgia Department of Natural Resources One Conservation Way, Suite 300 Brunswick, GA 31520	Telephone: (912) 264-7218 Fax: (912) 262-3143
Carol Bernstein Section Chief US Army Corps of Engineers Savannah District, Regulatory Branch P.O. Box 889 Savannah, GA 31402-0889	Telephone: (800) 448-2402 Fax: (912) 652-5995
Keith Parsons Water Quality Certification EPD Water Protection Branch Georgia Department of Natural Resources 4220 International Parkway, Suite 101 Atlanta, GA 30354	Telephone: (404) 675-1631 Fax: (404) 675-6245

Coastal Marina, Community or Commercial Dock Checklist

(fill in the blanks as indicated or answer yes or no)

LOCATION:

County Chatham Landmarks existing commercial facility
Municipality Thunderbolt Waterway Wilmington River

FACILITY:

Facility Type Private Public Commercial Other
Dock Space Leased Sold Rented Other

Size of Upland Area (sq. ft.) _____ Size of Submerged Area (sq. ft.) _____

WATERWAY INFORMATION:

open water river creek basin

Tidal Range (ft MLW) +/-8 feet Water Depth (ft. MLW) +/- 0-19 feet

Channel Width (ft. MLW) +/-400 feet Depth of Dredging (ft. MLW) N/A

Distance facility will extend into the waterway beyond MLW +/- 8 feet

EXISTING OR PLANNED SERVICES IN JURISDICTION:

<input type="checkbox"/> boat ramp	<input type="checkbox"/> hoist	<input type="checkbox"/> mobile lift	<input type="checkbox"/> vessel TV hookup
<input type="checkbox"/> railway	<input type="checkbox"/> fuel	<input type="checkbox"/> propeller repair	<input type="checkbox"/> electrical repair
<input type="checkbox"/> pump-out vessels	<input type="checkbox"/> hull repair	<input type="checkbox"/> engine repair	<input checked="" type="checkbox"/> vessel electric hookup
<input type="checkbox"/> boat building	<input type="checkbox"/> ship's store	<input type="checkbox"/> dockmaster's office	<input type="checkbox"/> fire protection
<input type="checkbox"/> restrooms	<input type="checkbox"/> showers	<input type="checkbox"/> restaurant	<input type="checkbox"/> laundromat
<input type="checkbox"/> hotel	<input type="checkbox"/> # of vehicle parking spaces		<input type="checkbox"/> # of trailer parking spaces

DREDGING/FILLING/ShORELINE STABILIZATION:

No Will dredging be required for the access channel?
No Will dredging be required for boat basin?
No Is filling proposed in tidal wetlands?
No Is filling proposed in open water?
No Will dredge disposal sites be required?
No Have future dredge disposal sites been identified?
N/A Have future dredge spoil sites been set aside with deeds or easements?
No Is shoreline stabilization proposed? If so, what type? _____
Yes Is the project in or near a US Army Corps of Engineers maintained channel or basin with an authorization depth of 12 feet or greater? (if so, contact the Corps of Engineers)

HABITAT/WILDLIFE/CULTURAL RESOURCES: (contact GADNR Wildlife Resources Division, US Fish & Wildlife Service, GADNR Coastal Resources Division- Marine Fisheries, National Marine Fisheries Service OR GADNR Historic Resources)

- No Is this site located near a wildlife refuge, wilderness area, special management area, or other area specifically located for the protection of fish and wildlife?
If yes, what is the distance? _____
- Yes *Is this habitat identified as “essential fish habitat”?
- Yes Are rare, threatened, endangered or otherwise designated unique or outstanding aquatic or terrestrial species or their habitats known to be present at or near the project site?
- No Do oyster or clam beds occur in or near the project site or access channels?
If yes, what is the distance? _____ If yes, what is the acreage? _____
- No *Is project site near active crabbing areas?
- No *Is the project site in designated bait zones?
- Yes Is the project site in or near an area of historic, archeological, or scenic value?
If yes, explain The project area contains an existing structure greater than 50 years old and is located in within the historic Thunderbolt Community.

* GA DNR Coastal Resources Division’s Marine Fisheries staff can direct the applicant to appropriate source materials.

JOINT APPLICATION
 FOR
 A DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS PERMIT,
 STATE OF GEORGIA MARSHLAND PROTECTION PERMIT,
 REVOCABLE LICENSE AGREEMENT
 AND REQUEST FOR
 WATER QUALITY CERTIFICATION
 AS APPLICABLE

INSTRUCTIONS FOR SUBMITTING APPLICATION:

Every Applicant is Responsible to Complete The Permit Application and Submit as Follows: One copy each of application, location map, drawings, copy of deed and any other supporting information to addresses 1, 2, and 3 below. If water quality certification is required, send only application, location map and drawing to address No. 4.

1. For Department of the Army Permit, mail to: Commander, U.S. Army Engineer District, Savannah ATTN: CESAS-OP-F, P.O. Box 889, Savannah, Georgia 31402-0889. Phone (912)652-5347 and/or toll free, Nationwide 1-800-448-2402.

2. For State Permit - State of Georgia (six coastal counties only) mail to: Habitat Management Program, Coastal Resources Division, Georgia Department of Natural Resources, 1 Conservation Way, Brunswick, Georgia 31523. Phone (912) 264-7218.

3. For Revocable License - State of Georgia (six coastal counties plus Effingham, Long, Wayne, Brantley and Charlton counties only) - Request must have State of Georgia's assent or a waiver authorizing the use of State owned lands. All applications for dock permits in the coastal counties, or for docks located in tidally influenced waters in the counties listed above need to be submitted to Real Estate Unit. In addition to instructions above, you must send two signed form letters regarding revocable license agreement to: Ecological Services Coastal Resources Division, Georgia Department of Natural Resources, 1 Conservation Way, Brunswick, Georgia 31523. Phone (912) 264-7218.

4. For Water Quality Certification State of Georgia, mail to: Water Protection Branch, Environmental Protection Division, Georgia Department of Natural Resources, 4220 International Parkway, Suite 101, Atlanta, Georgia 30354 (404) 675-1631.

The application must be signed by the person authorized to undertake the proposed activity. The applicant must be the owner of the property or be the lessee or have the authority to perform the activity requested. Evidence of the above may be furnished by copy of the deed or other instrument as may be appropriate. The application may be signed by a duly authorized agent if accompanied by a statement from the applicant designating the agent. See item 6, page 2.

1. Application No. _____

2. Date

3. For Official Use Only _____

4. Name and address of applicant.

Blue Moon Marinas, LLC
 Attn: Mr. Emile Bootsma
 2705 River Drive
 Thunderbolt, Georgia 31404

5. Location where the proposed activity exists or will occur.

Lat. 32.027101° Long. -81.049600°

<u>Chatham</u>		<u>Thunderbolt</u>
County	Military District	In City or Town
Near City or Town	Subdivision	Lot No.
Lot Size	Approximate Elevation of Lot	Georgia
State		
<u>Wilmington River</u>		
Name of Waterway	Name of Nearest Creek, River, Sound, Bay or Hammock	

Note: Items 14 and 15 are to be completed if you want to bulkhead, dredge or fill.
14. Description of operation: (If feasible, this information should be shown on the drawing).

- A. Purpose of excavation or fill modification of commercial dock facility
1. Access channel : length_____ depth_____ width_____
2. Boat basin : length_____ depth_____ width_____
3. Fill area : length_____ depth_____ width_____
4. Other: length_____ depth_____ width_____
- B. 1.If bulkhead, give dimensions See attached description
- 2.Type of bulkhead construction (material) See attached description
- Backfill required: Yes _____ No X Cubic yards _____
- Where obtained _____
- C. Excavated material :
- 1.Cubic yards N/A
- 2.Type of material _____

15.Type of construction equipment to be used Mechanized marine construction equipment

- A. Does the area to be excavated include any wetland? Yes _____ No X
- B. Does the disposal area contain any wetland? Yes _____ No X Project does not include construction of dredge disposal site.
- C. Location of disposal area N/A
- D. Maintenance dredging, estimated amounts, frequency, and disposal sites to be utilized: N/A
- E. Will dredged material be entrapped or encased? N/A
- F. Will wetlands be crossed in transporting equipment to project site? N/A
- G. Present rate of shoreline erosion (if known) N/A

16. WATER QUALITY CERTIFICATION: In some cases, Federal law requires that a Water Quality Certification from the State of Georgia be obtained prior to issuance of a Federal license or permit. Applicability of this requirement to any specific project is determined by the permitting Federal agency. The information requested below is generally sufficient for the Georgia Environmental Protection Division to issue such a certification if required. Any item which is not applicable to a specific project should be so marked. Additional information will be requested if needed.

- A. Please submit the following:
1. A plan showing the location and size of any facility, existing or proposed, for handling any sanitary or industrial waste waters generally on your property.
2. A plan of the existing or proposed project and your adjacent property for which permits are being requested.
3. A plan showing the location of all points where petro-chemical products (gasoline, oils, cleaners) used and stored. Any above-ground storage areas must be diked, and there should be no storm drain catch basins within the diked areas. All valving arrangements on any petro-chemical transfer lines should be shown.
4. A contingency plan delineating action to be taken by you in the event of spillage of petro-chemical products or other materials from your operation.
5. Plan and profile drawings showing limits of areas to be dredged, areas to be used for placement of spoil, locations of any dikes to be constructed showing locations of any weir(s), and typical cross sections of the dikes.

B. Please provide the following statements:

1. A statement that all activities will be performed in a manner to minimize turbidity in the stream.
2. A statement that there will be no oils or other pollutants released from the proposed activities which will reach the stream.
3. A statement that all work performed during construction will be done in a manner to prevent interference with any legitimate water uses.

17. Application is hereby made for a permit or permits to authorize the activities described herein, Water Quality Certification from the Georgia Environmental Protection Division is also requested if needed. I certify that I am familiar with 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.



Signature of Applicant/Date

18. U.S.C. Section 1001 provides that: Whoever, in any matter within the jurisdiction of any department or agency of the United States, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations, or makes or uses false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined no more than \$10,000 or imprisoned not more than 5 years or both.

PRIVACY ACT NOTICE

The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act and Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972. These laws require permits authorizing structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Information provided will be used in evaluating the application for a permit. Information in the application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary, however, the data requested are necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

SUPPORTING REMARKS:

See Attached.

STATE OF GEORGIA

REQUEST FOR A REVOCABLE LICENSE FOR THE USE OF TIDAL WATERBOTTOMS

APPLICANT NAME(S): Blue Moon Marinas, LLC

MAILING ADDRESS: 2705 River Drive Thunderbolt GA 31404
(Street) (City) (State) (Zip)

PROJECT ADDRESS/LOCATION: 3110 River Road Thunderbolt GA 31404

COUNTY: Chatham WATERWAY: Wilmington River

LOT, BLOCK & SUBDIVISION NAME FROM DEED: _____

Georgia Department of Natural Resources
Coastal Resources Division
One Conservation Way
Brunswick, Georgia 31520-8687

I am requesting that I be granted a revocable license from the State of Georgia to encroach on the beds of tidewaters, which are state owned property. Attached hereto and made a part of this request is a copy of the plans and description of the project that will be the subject of such a license. I certify that all information submitted is true and correct to the best of my knowledge and understand that willful misrepresentation or falsification is punishable by law.

I understand that if permission from the State is granted, it will be a revocable license and will not constitute a license coupled with an interest. I acknowledge that this revocable license does not resolve any actual or potential disputes regarding the ownership of, or rights in, or over the property upon which the subject project is proposed, and shall not be construed as recognizing or denying any such rights or interests. I acknowledge that such a license would relate only to the property interests of the State and would not obviate the necessity of obtaining any other State license, permit, or authorization required by State law. I recognize that I waive my right of expectation of privacy and I do not have the permission of the State of Georgia to proceed with such project until the Commissioner of DNR or his/her designee has executed a revocable license in accordance with this request.

Sincerely,

By: 
Signature of Applicant

Date: 02/02/2021

Title, if applicable

By: _____
Signature of Applicant

Date: _____

Title, if applicable

Attachments

FEDERAL CONSISTENCY CERTIFICATION STATEMENT

Printed Name of Applicant(s): Blue Moon Marinas, LLC Attn:Emile Bootsma

Applicant Email: emile@my-blumoon.com Phone: _____

Agent Name (if applicable): Resource & Land Consultants Attn: Alton Brown Phone: 912.443.5896

To Whom It May Concern:

This is to certify that I have made application to the U.S. Army Corps of Engineers (USACE) for authorization to impact Waters of the United States and that such proposed work is, to the best of my knowledge, consistent with Georgia's Coastal Management Program.

I understand I must provide this Consistency Certification Statement, along with a copy of my permit application submitted to USACE, to the Georgia Department of Natural Resources Coastal Resources Division (CRD) before they can begin evaluating my proposed project for consistency with Georgia's enforceable policies. I understand additional information may be required to facilitate review.

Once any required authorizations or permits from CRD have been issued, and CRD has concurred with my findings by signing this Consistency Certification Statement, CRD must submit it to USACE in order for them to issue any required federal permits or authorizations, or to validate any provisional authorizations they have already issued. A USACE provisional authorization or permit will not be valid until they receive this Certification Statement signed by CRD.

Attached is a copy of my application to USACE (required)

Signature of Applicant:  Date: 02/02/2023

FOR AGENCY INTERNAL USE ONLY:	Date Received (Commencement Date): _____
USACE Authorization/Permit Number (assigned by USACE): _____	
USACE Authorization Type (select one): <input type="checkbox"/> Individual Permit <input type="checkbox"/> General Permit # ___ <input type="checkbox"/> NWP # ___	
USACE Project Manager: _____	
CRD Authorization/Permit Number (assigned by CRD): _____	
CRD Project Manager: _____	

CRD HAS REVIEWED AND CONCURS WITH THIS CONSISTENCY CERTIFICATION STATEMENT TO THE EXTENT THE USACE AUTHORIZED PROJECT DESCRIPTION IS CONSISTENT WITH THE AUTHORIZED PROJECT DESCRIPTION FOR ANY CRD PERMIT ISSUED FOR THIS PROJECT

CRD Signature: _____ Date: _____

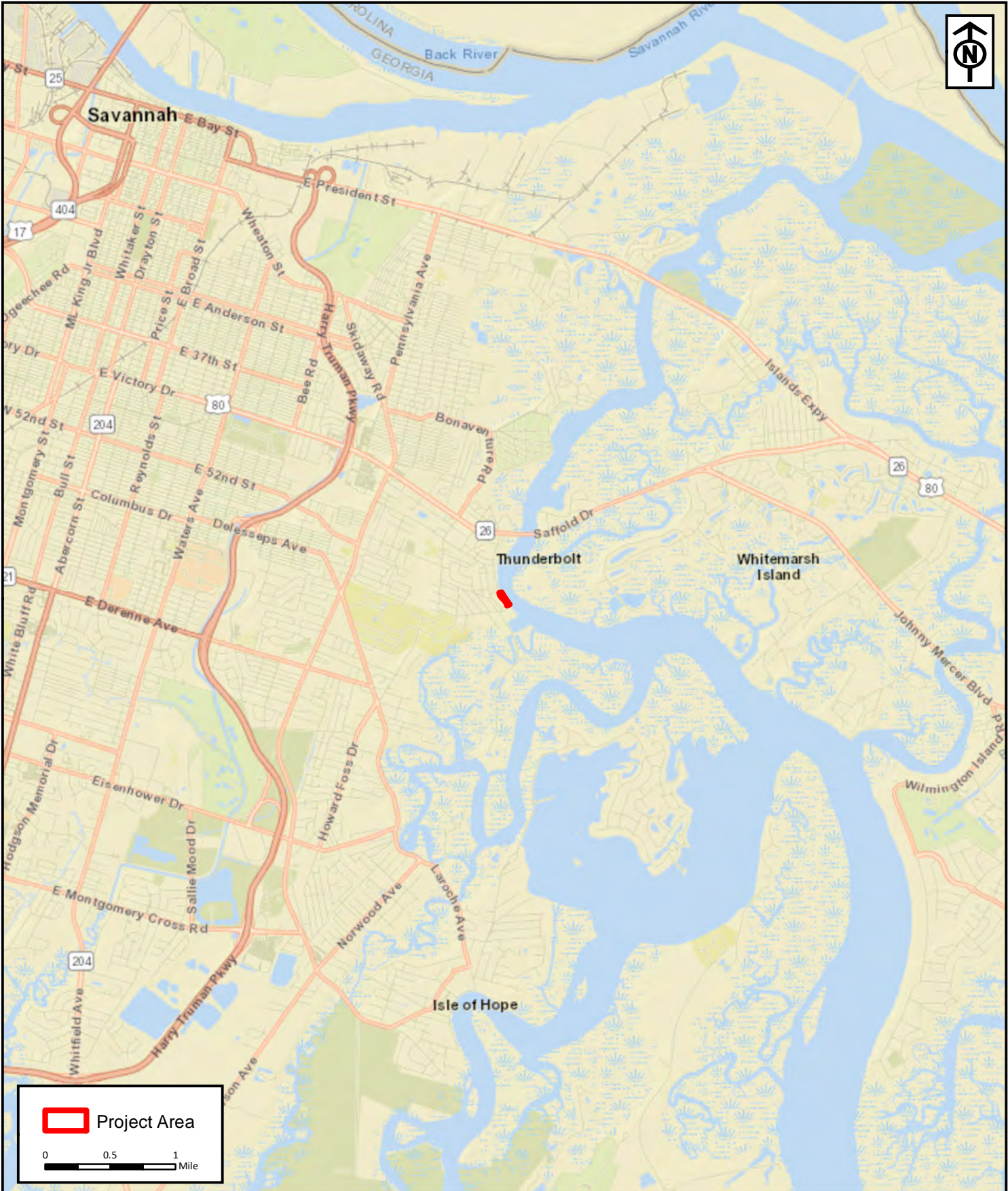
Printed Name: _____ Title: _____

For questions regarding consistency with the Georgia Coastal Management Program, please contact the Federal Consistency Coordinator at (912) 264-7218 or visit www.CoastalGADNR.org.



RESOURCE+LAND
CONSULTANTS

APPENDIX B: Figures/Site Maps



 Project Area

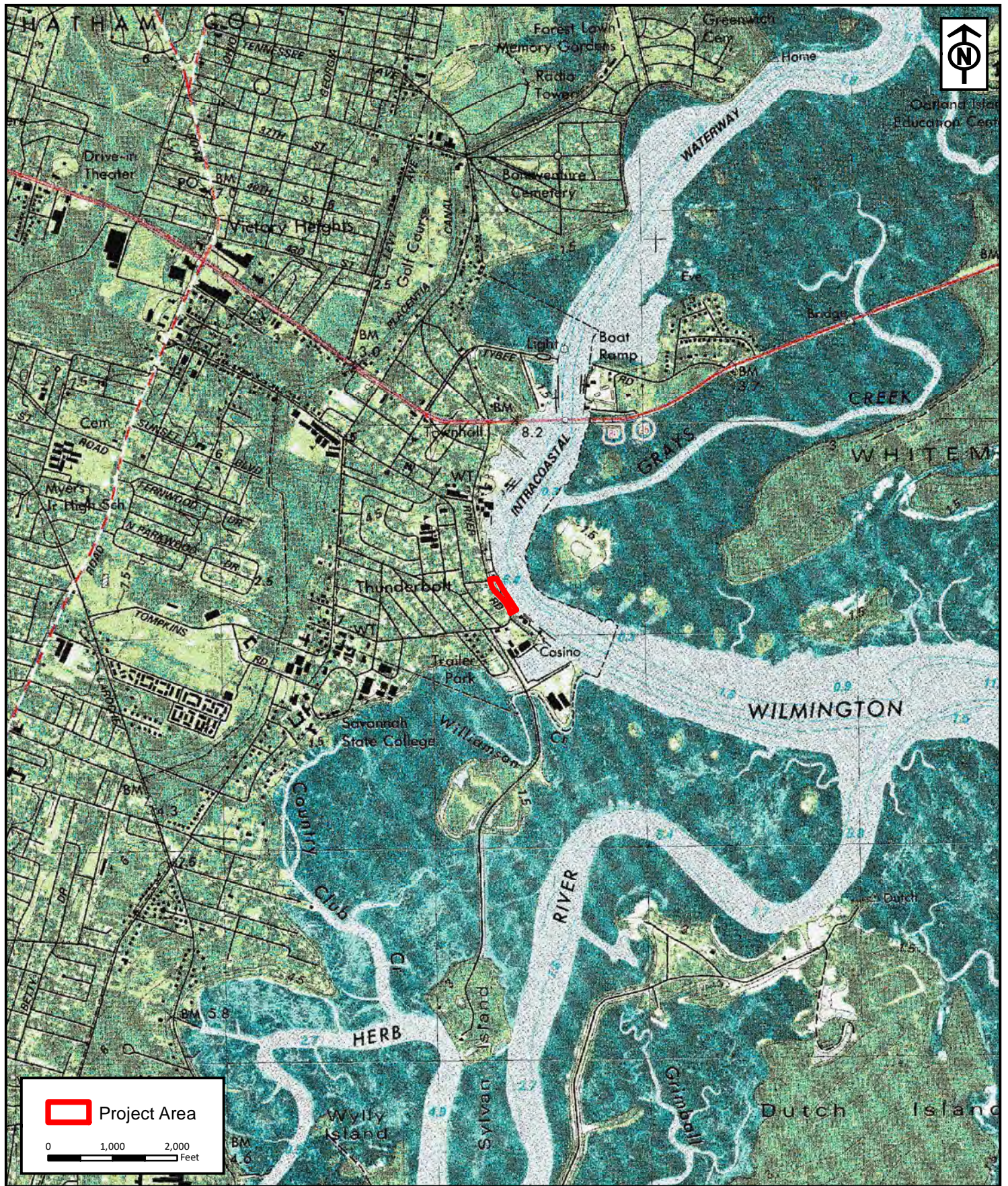
0 0.5 1 Mile

RLC Project No.:	22-293
Figure No.:	1
Prepared By:	RL
Sketch Date:	12/24/2022
Map Scale :	1 inch = 1 mile

Wilmington River Yacht Docking Facility
Chatham County, Georgia

Project Location
Prepared For: Blue Moon Marinas, LLC

RLC
RESOURCE+LAND CONSULTANTS
41 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.8396 www.rnlc.com



RLC Project No.:	22-293
Figure No.:	2
Prepared By:	RL
Sketch Date:	12/24/2022
Map Scale :	1 inch = 2,000 feet

Wilmington River Yacht Docking Facility
Chatham County, Georgia

USGS Topographical Survey
Prepared For: Blue Moon Marinas, LLC

RLC
RESOURCE+LAND
CONSULTANTS
41 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rlc.com



RLC Project No.:	22-293
Figure No.:	3
Prepared By:	RL
Sketch Date:	12/24/2022
Map Scale :	1 inch = 75 feet


Wilmington River Yacht Docking Facility
Chatham County, Georgia

NRCS Soil Survey
Prepared For: Blue Moon Marinas, LLC

RLC
RESOURCE+LAND CONSULTANTS
431 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rlc.com



E1UBL

 Project Area

0 37.5 75
Feet


RLC Project No.:	22-293
Figure No.:	4
Prepared By:	RL
Sketch Date:	12/24/2022
Map Scale :	1 inch = 75 feet

Wilmington River Yacht Docking Facility
Chatham County, Georgia

National Wetland Inventory
Prepared For: Blue Moon Marinas, LLC

RLC
RESOURCE+LAND CONSULTANTS
431 Park of Commerce Way, Ste. 101
Savannah, Georgia 31406
912.443.8396 www.rlc.com



 Project Area

0 37.5 75
Feet


RLC Project No.:	22-293
Figure No.:	5
Prepared By:	RL
Sketch Date:	12/24/2022
Map Scale :	1 inch = 75 feet

**Wilmington Island Yacht
Docking Facility**
Chatham County, Georgia

Ortho Imagery
Prepared For: Blue Moon Marinas, LLC

RLC
**RESOURCE+LAND
CONSULTANTS**
41 Park of Commerce Way, Ste. 101
Savannah, Georgia 31406
912.443.8396 www.rlc.com



 Project Area

0 37.5 75
Feet

RLC Project No.:	22-293
Figure No.:	6
Prepared By:	RL
Sketch Date:	12/24/2022
Map Scale :	1 inch = 75 feet

**Wilmington River Yacht
Docking Facility**
Chatham County, Georgia

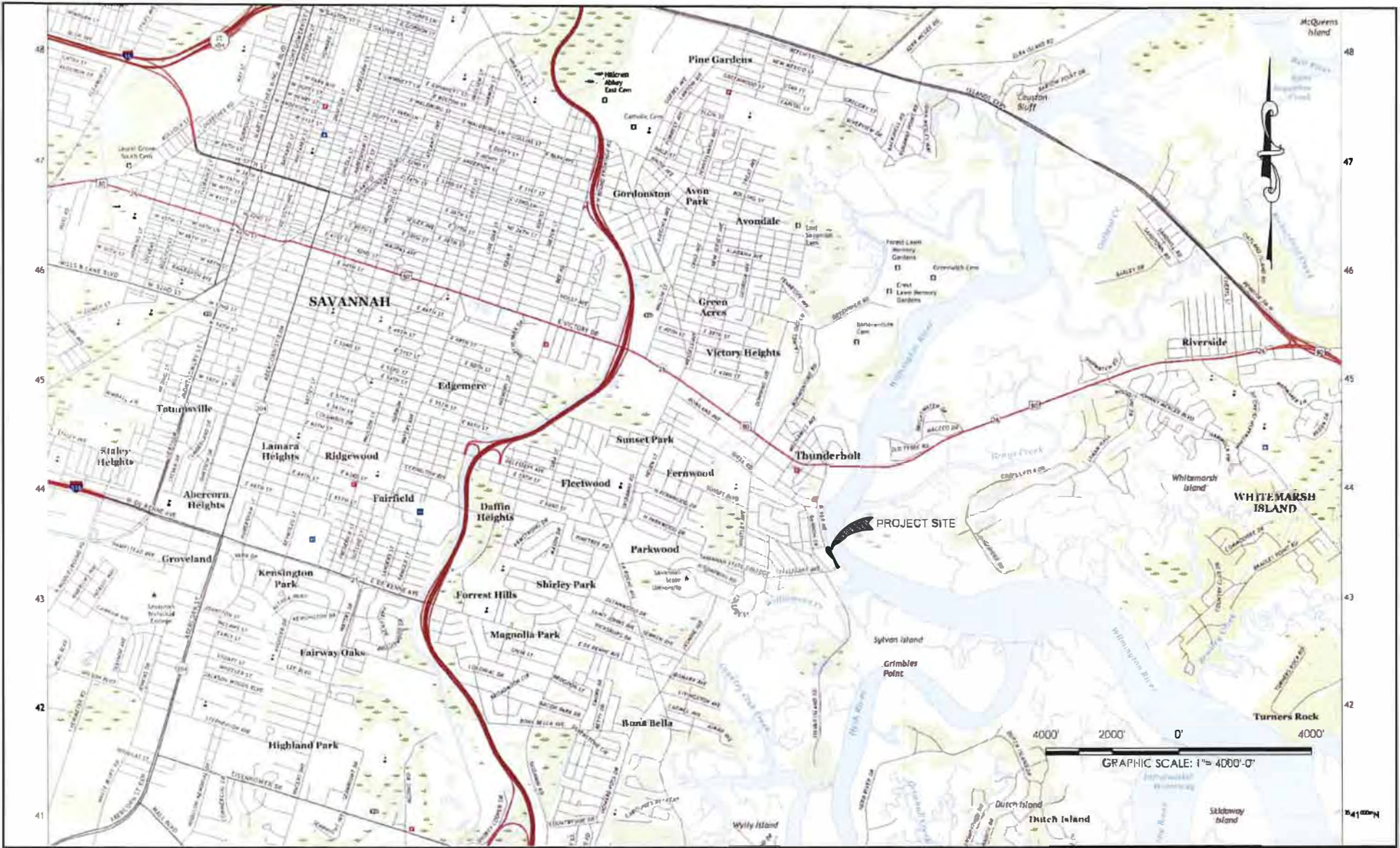
**1999 Color Infrared
Imagery**
Prepared For: Blue Moon Marinas, LLC

RLC
**RESOURCE+LAND
CONSULTANTS**
41 Park of Commerce Way, Ste. 101
Savannah, Georgia 31406
912.443.8996 www.rlc.com



RESOURCE+LAND
CONSULTANTS

APPENDIX C: Permit Drawings



WILMINGTON RIVER YACHT DOCKING FACILITY
VICINITY MAP
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON MARINAS, LLC

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: 1" = 4000'
 SHEET: 1 OF 12

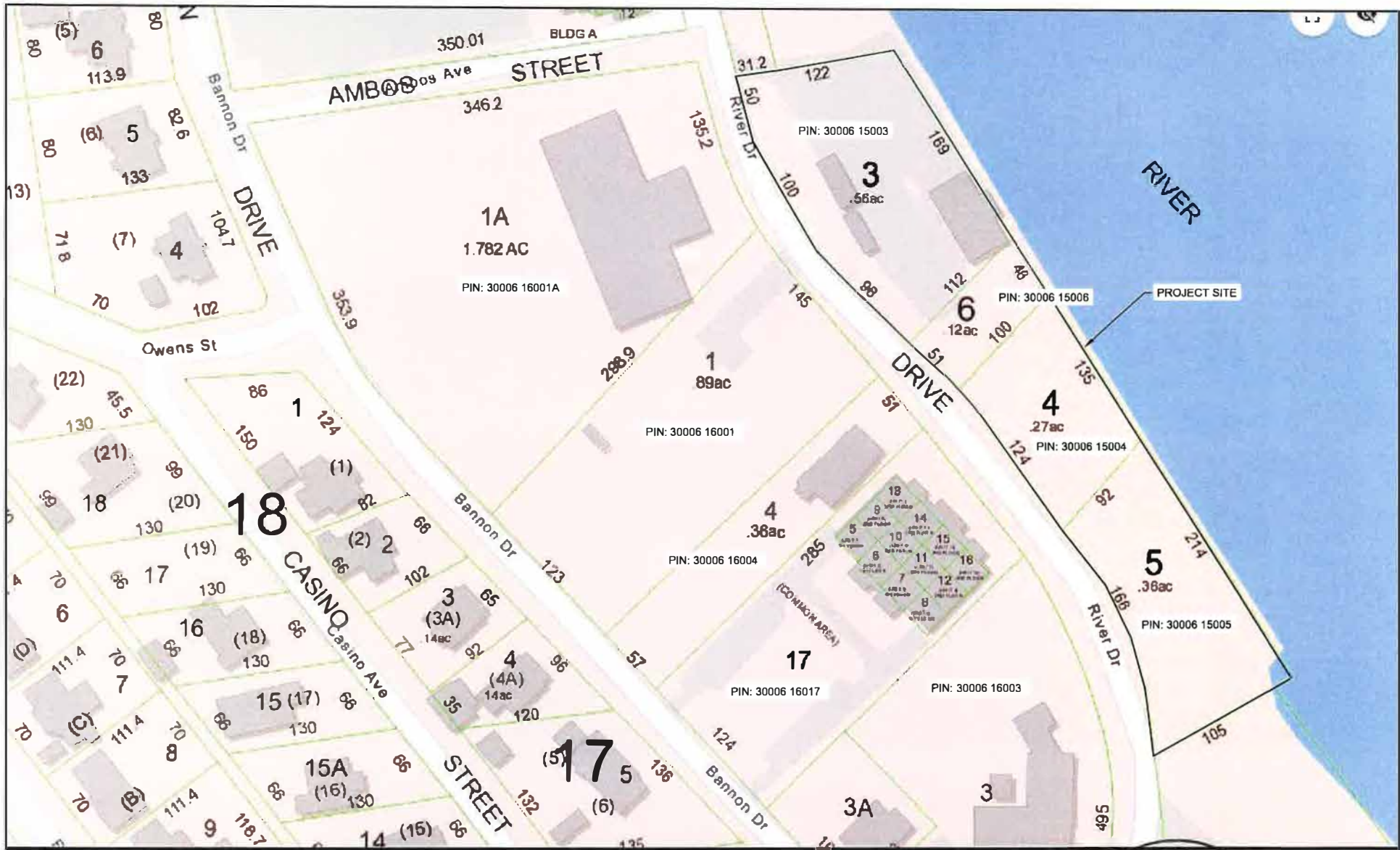




WILMINGTON RIVER YACHT DOCKING FACILITY
LOCATION MAP
TOWN OF THUNDERBOLT, CHATHAM CO., GA
PREPARED FOR:
BLUE MOON MARINAS, LLC

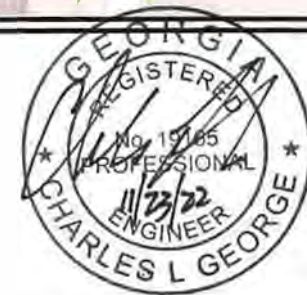
PREPARED BY:
CHARLES L GEORGE, P.E.
SCALE: 1" = 200'
SHEET: 2 OF 12

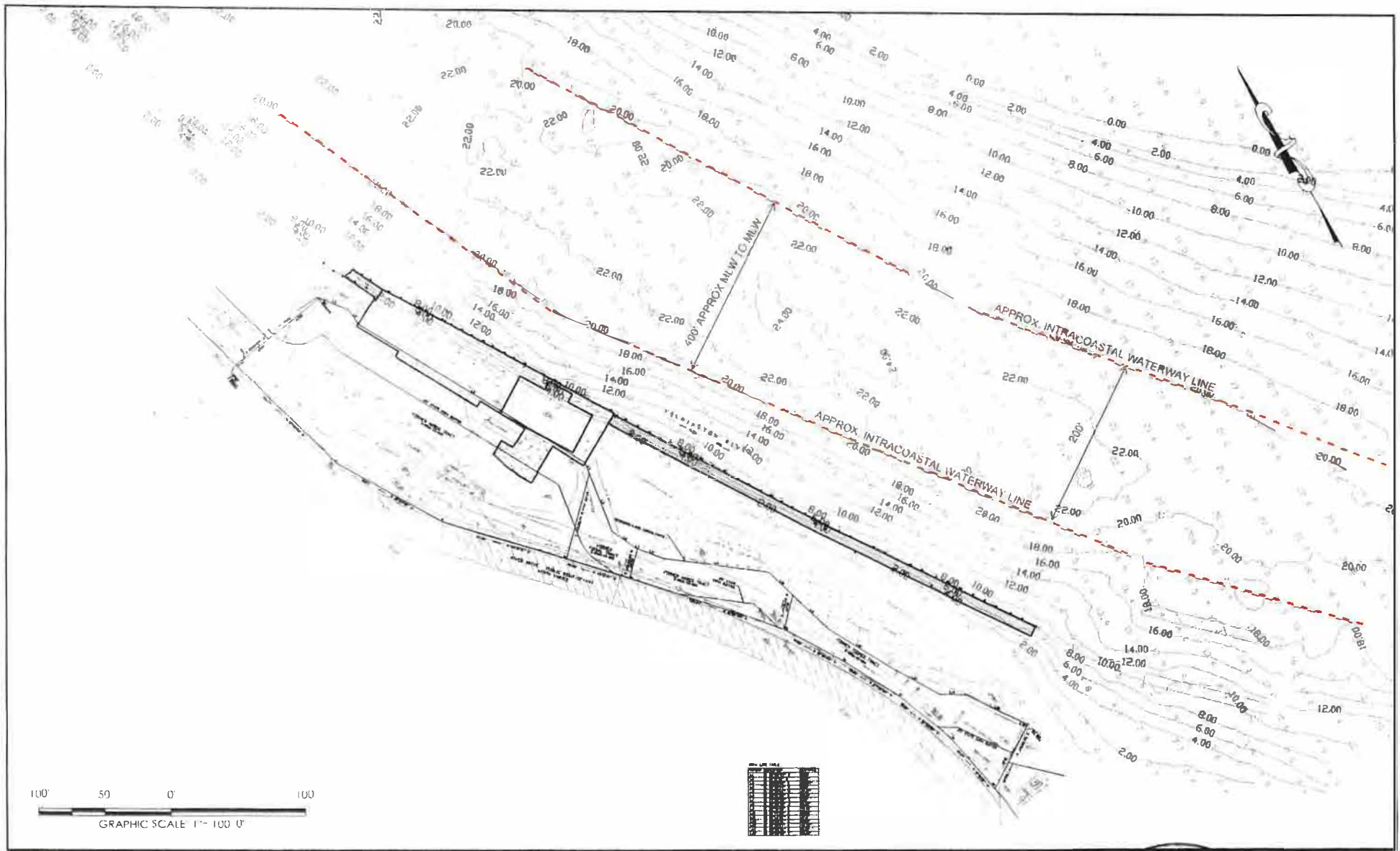




WILMINGTON RIVER YACHT DOCKING FACILITY
VICINITY MAP
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON MARINAS, LLC

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: N.T.S.
 SHEET: 3 OF 12

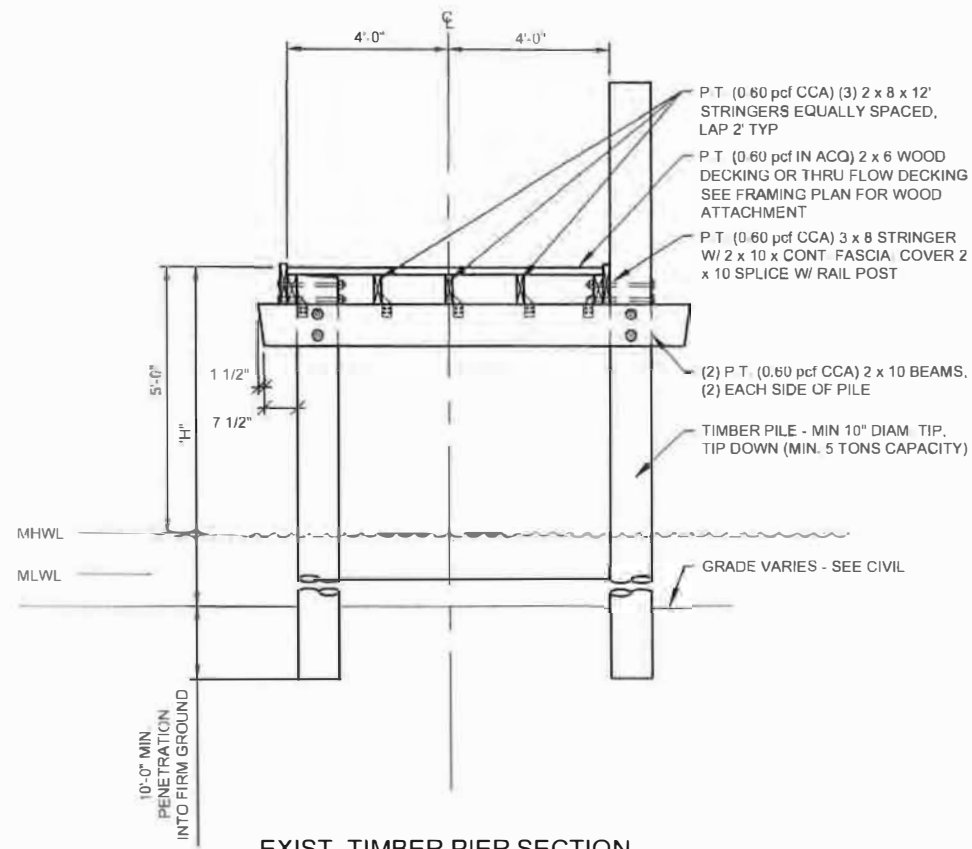




WILMINGTON RIVER YACHT DOCKING FACILITY
 EXISTING CONDITIONS PLAN
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON MARINAS, LLC

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: 1" = 100'
 SHEET: 4 OF 12



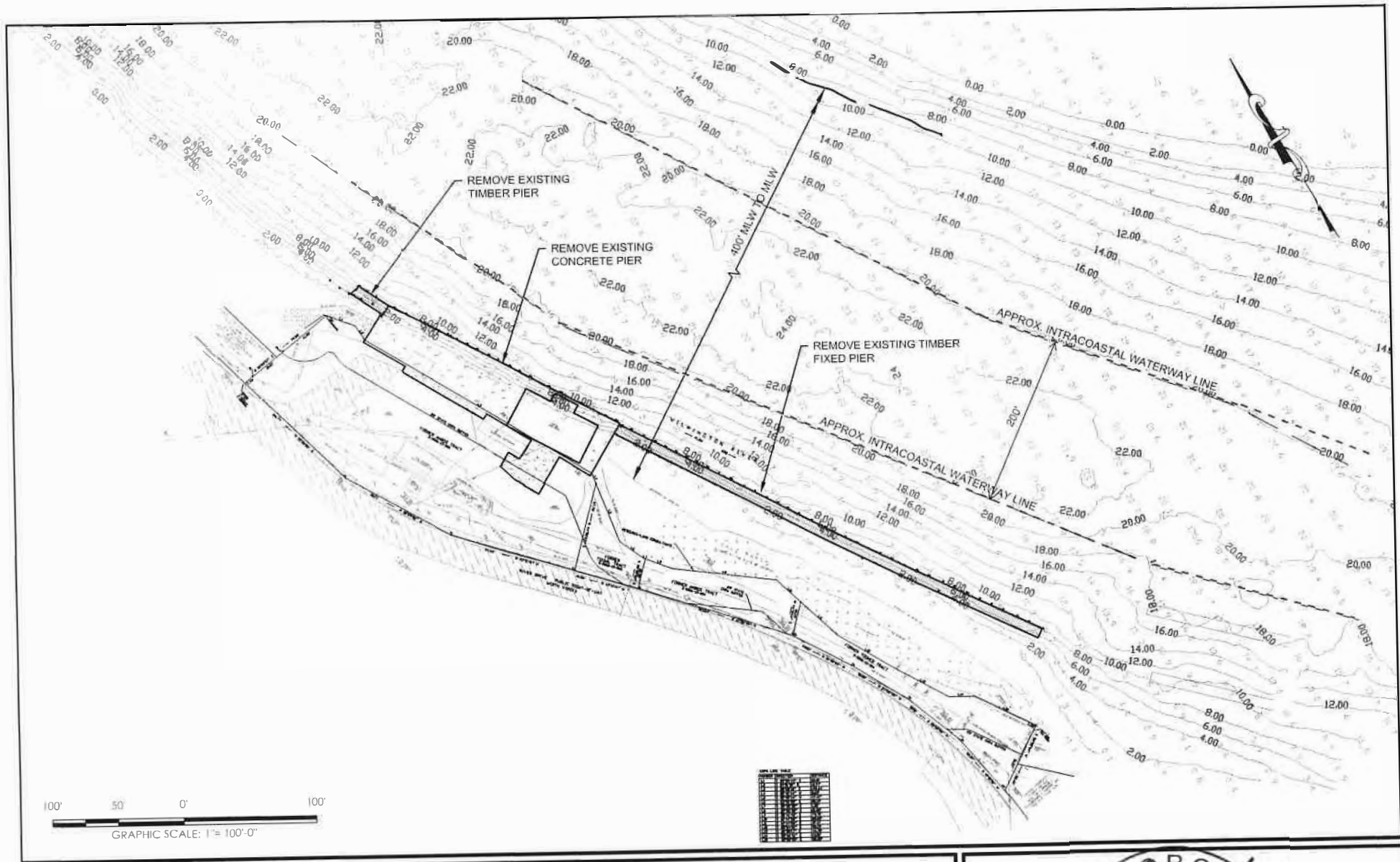


EXIST. TIMBER PIER SECTION
SCALE: N.T.S.

WILMINGTON RIVER YACHT DOCKING FACILITY
 EXISTING TIMBER PIER SECTION
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON MARINAS,LLC

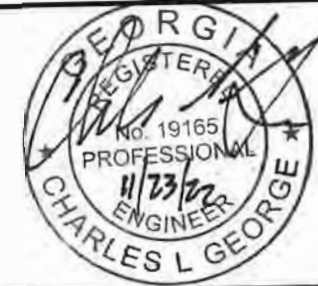
PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: N.T.S.
 SHEET: 5 OF 12

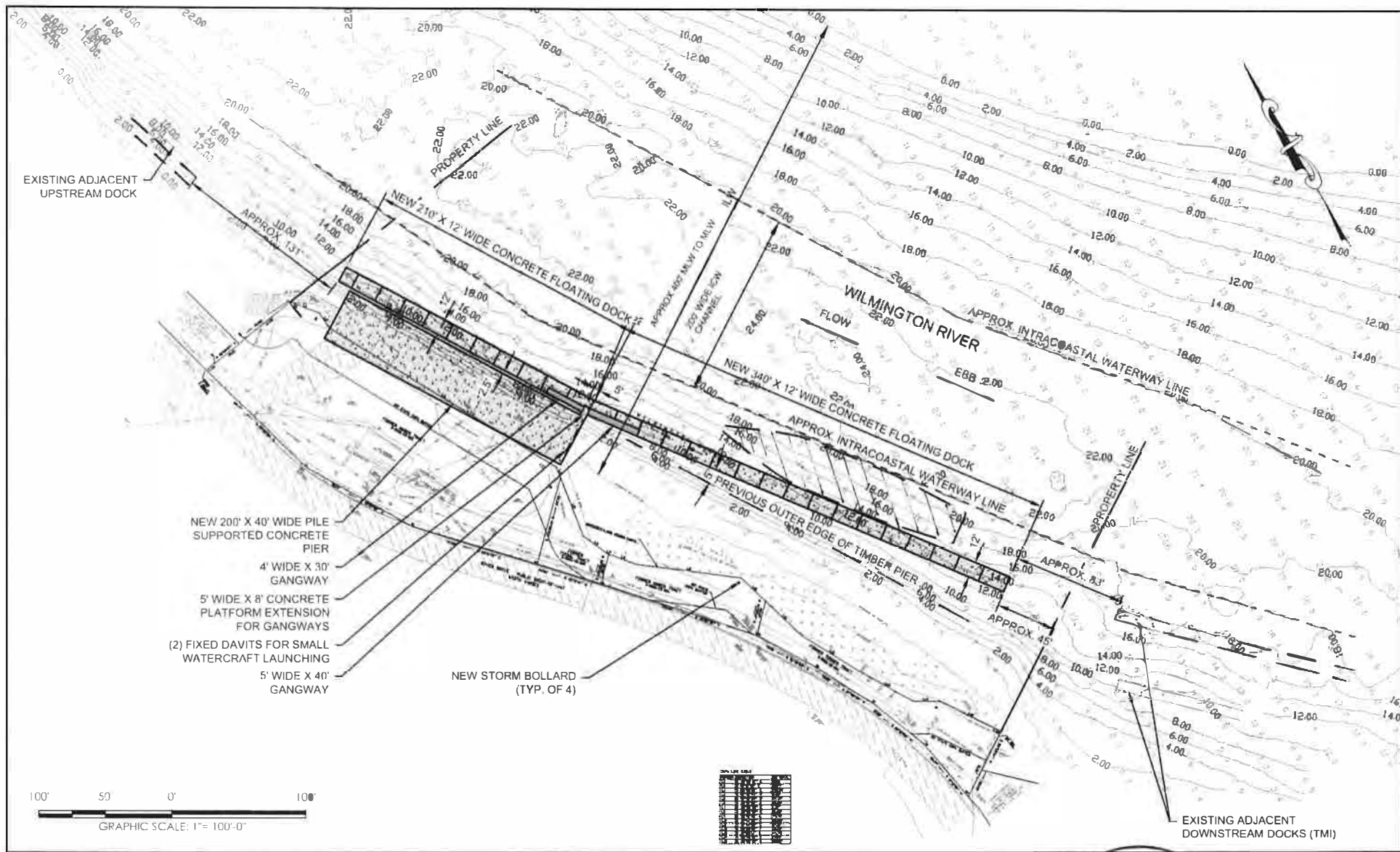




WILMINGTON RIVER YACHT DOCKING FACILITY
 DEMOLITION PLAN
 TOWN OF THUNDERBOLT, CHATHAM CO., GA

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: 1" = 100'
 SHEET: 6 OF 12

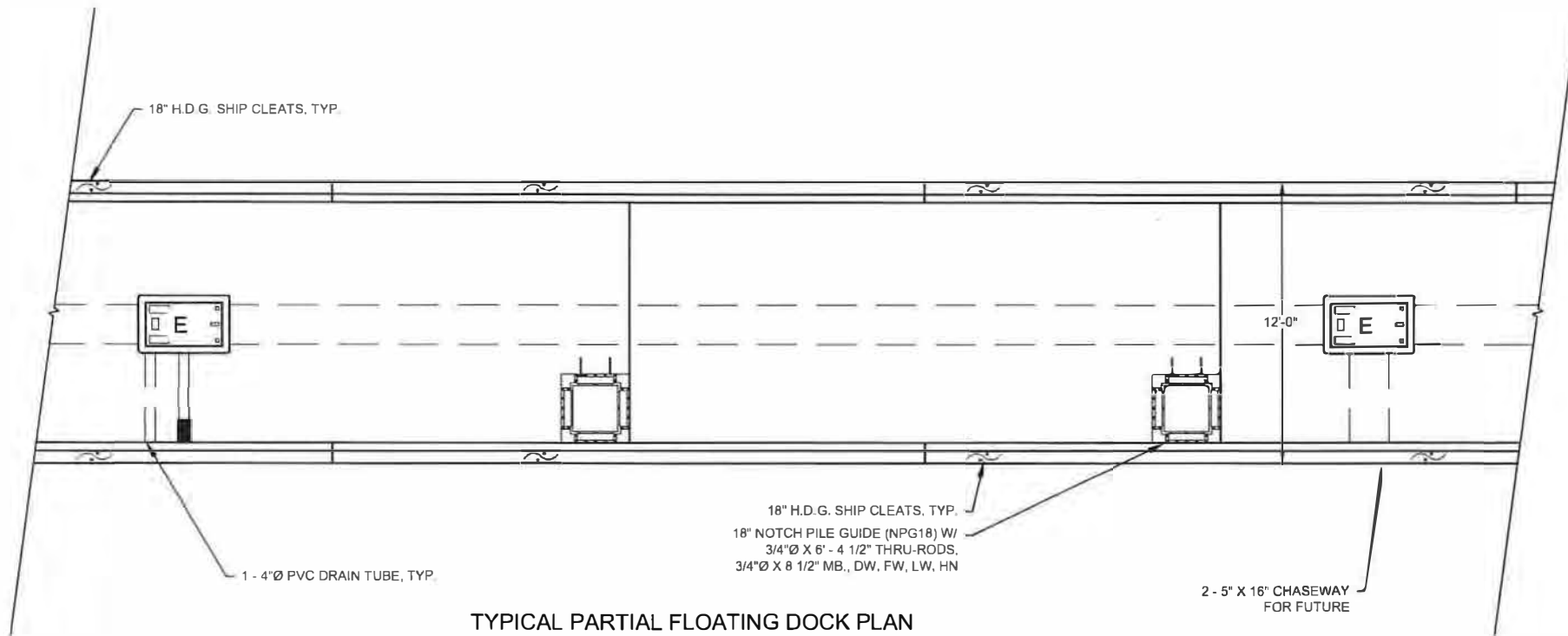




WILMINGTON RIVER YACHT DOCKING FACILITY
NEW DOCK LAYOUT PLAN
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON MARINAS, LLC

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: 1" = 100'
 SHEET: 7 OF 12



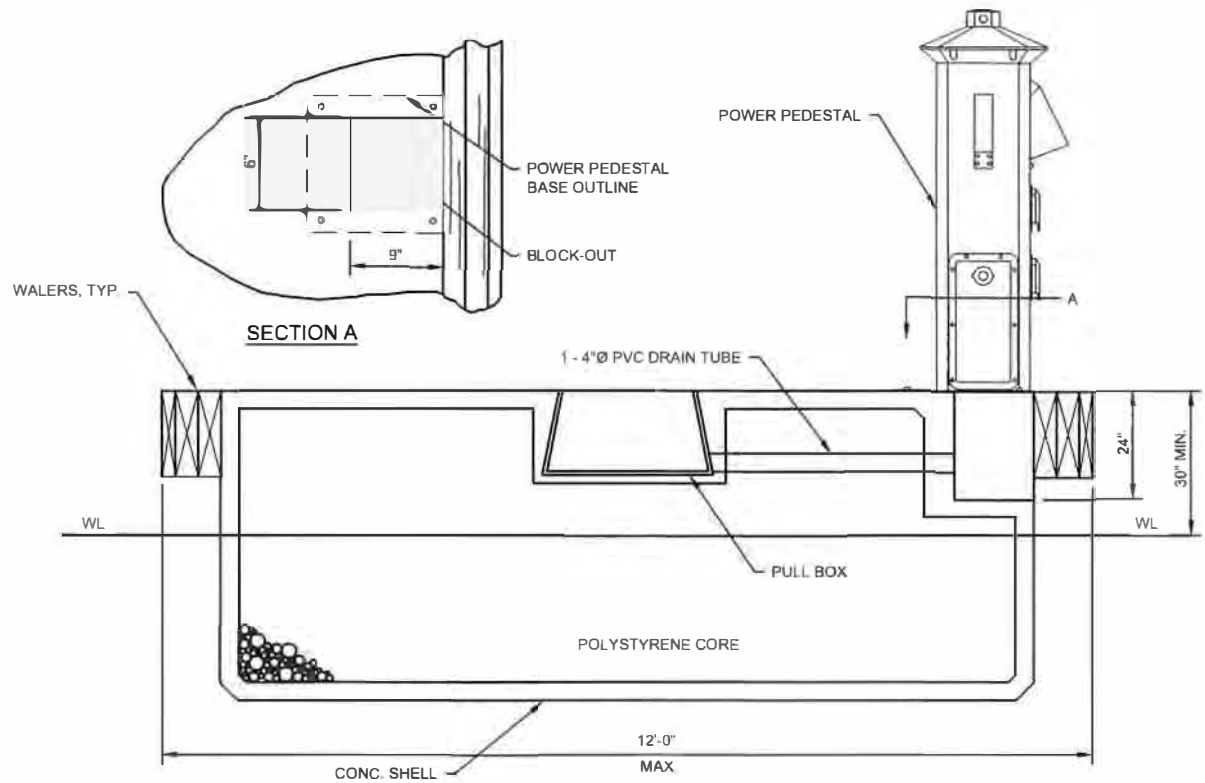


**TYPICAL PARTIAL FLOATING DOCK PLAN
W/ PILES AND POWER BOX INSTALLATION**
SCALE: N.T.S.

WILMINGTON RIVER YACHT DOCKING FACILITY
 NEW PARTIAL FLOATING DOCK PLAN DETAIL
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON MARINAS, LLC

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: N.T.S.
 SHEET: 8 OF 12





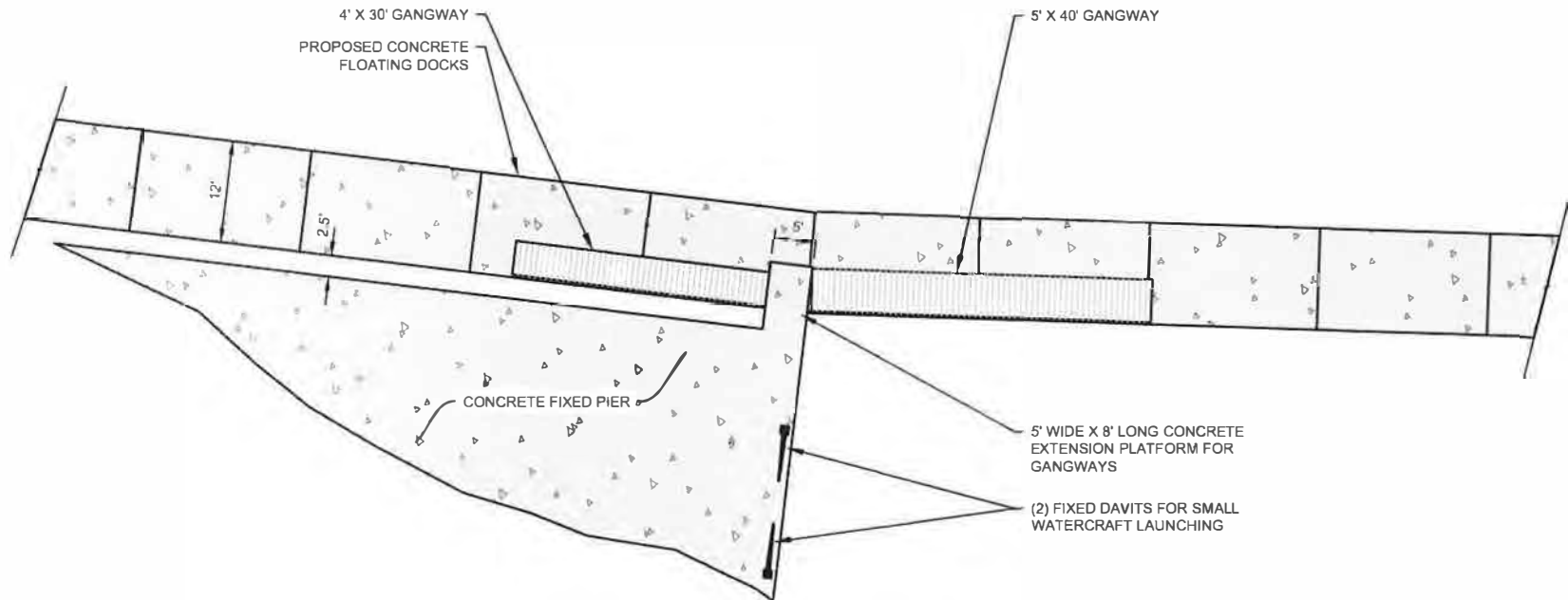
TYPICAL POWER PEDESTAL INSTALLATION
SCALE: N.T.S.

- NOTES:
1. MOUNT PEDESTAL BASE USING STUDS EPOXIED INTO THICKENED DECK.
 2. PEDESTAL AND MOUNTING STUDS BY OTHERS.
 3. PVC SLEEVES ARE NOT ELECT CONDUIT.

WILMINGTON RIVER YACHT DOCKING FACILITY
 NEW DOCK SECTION DETAIL
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON MARINAS, LLC

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: N.T.S.
 SHEET: 9 OF 12



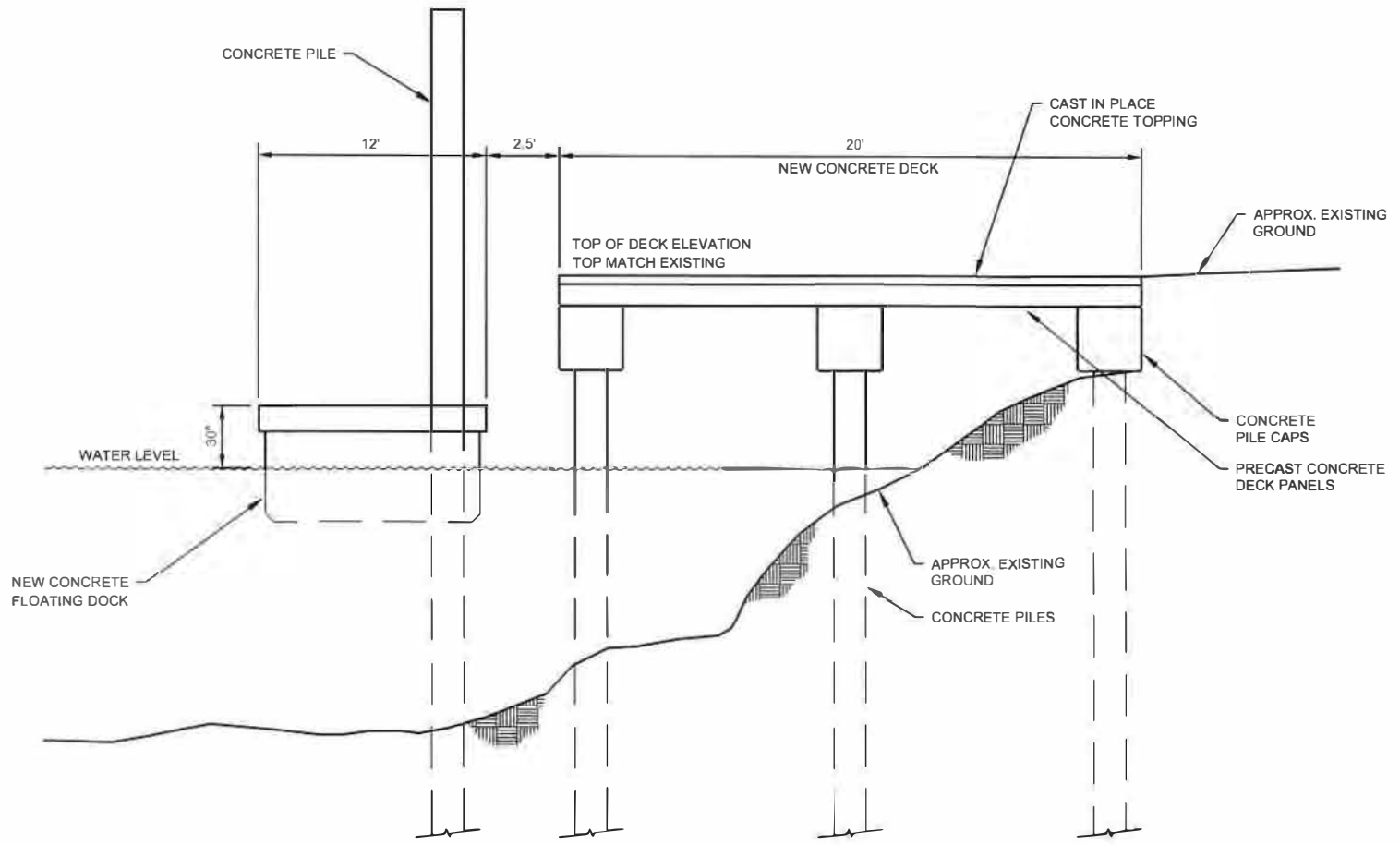


ENLARGED PLAN OF GANGWAY CONNECTION

WILMINGTON RIVER YACHT DOCKING FACILITY
 NEW DOCK PLAN DETAIL
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON MARINAS, LLC

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: N.T.S.
 SHEET: 10 OF 12





SECTION THRU PROPOSED CONCRETE PIER
 SCALE: N.T.S.

WILMINGTON RIVER YACHT DOCKING FACILITY
 SECTION THRU PROPOSED CONCRETE PIER
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON MARINAS, LLC

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: N.T.S.
 SHEET: 11 OF 12



BLUE MOON

OWNER:	BLUE MOON III LTD. P.O. BOX 309 GT, UGLAND HOUSE SOUTH CHURCH STREET. GEORGE TOWN GRAND CAYMAN, CAYMAN ISLANDS, BWI	MAIN ENGINE:	2X CAT 351 6B DI-TA 1492 KW - @ 1600 RPM
BUILDER:	ROYAL VAN LENT SHIPYARD B.V. (FEADSHIP) JULIANALAAN 3, KAAG, 2159 LA THE NETHERLANDS	GENERATOR SETS:	2X CAT C-9 DI-TA 250 KW 1X CAT C-9 DI-TA 175 KW
DATE OF DELIVERY:	3 JUNE 2005	SHORE POWER:	2X 125 kVA (ATLAS SHORPOWER)
FLAG:	CAYMAN ISLANDS	MAXIMUM SPEED:	16.5 KNOTS
PORT OF REGISTRY:	GEORGE TOWN	CRUISING SPEED:	15 KNOTS
OFFICIAL NUMBER:	738152	FUEL CAPACITY:	141.700 LITERS/37,433 GAL. (US)
IMO NUMBER:	1008360	OVERFLOW TANK:	5 240 LITERS/1,384 GAL. (US)
MMSI NUMBER:	319984000	FUEL TANK EMERGENCY GEN.:	
CALL SIGN:	ZCOG 4	FRESH WATER CAPACITY:	30 600 LITERS/8,084 GAL. (US)
ACCOUNTING AUTHORITY:	NSSL (GB11)	LUBE OIL TANK:	2 550 LITERS/ 674 GAL. (US)
SATCOM F77:	+870 764 357 560 - VOICE +870 764 357 573 - FAX	DIRTY LUBE OIL TANK:	2 350 LITERS/621 GAL. (US)
SATCOM F33:	+870 764 357 564 - VOICE	GREY WATER TANK1:	2 660 LITERS/703 GAL. (US)
EMAIL:	EMILY@MY-BLUEMOON.COM	GREY WATER TANK2:	2 890 LITERS/763 GAL. (US)
GROSS TONNAGE:	1102	GREY WATER TANK 3:	2 200 LITERS/581 GAL. (US)
NET TONNAGE:	330	GREY WATER TANK 4:	2 800 LITERS/740 GAL. (US)
MAX DISPLACEMENT:	± 1064 TON (FULLY LOADED)	GREY WATER TANK 5:	
MAXIMUM CREW CAPACITY:	18	HOLDING TANK:	
MAXIMUM GUEST CAPACITY:	12	BLACK WATER TANK:	2 140 LITERS/565 GAL. (US)
LENGTH OVERALL:	60.35 METER/198 FT.		
LENGTH WATERLINE:	53.35 METER/175 FT.		
BEAM MOULDED:	11.10 METER/36 1/2 FT.		
BEAM EXTREME:	11.29 METER/ 37 FT.		
DEPTH MOULDED:	5.75 METER/19 FT.		
MAX DRAFT APPROX.:	3.35 METER/11 FT.		
HEIGHT ABOVE WATER LINE:	16.00 METER/52 1/2 FT.		

WILMINGTON RIVER YACHT DOCKING FACILITY
BLUE MOON OFFICIAL DATA
TOWN OF THUNDERBOLT, CHATHAM CO., GA
PREPARED FOR:
BLUE MOON MARINAS, LLC

PREPARED BY:
CHARLES L GEORGE, P.E.
SCALE: N.T.S.
SHEET: 12 OF 12





RESOURCE+LAND
CONSULTANTS

APPENDIX D: Hazardous Site Index

List of Sites on HSI by County

HSI ID	Site Name	Site County
10060	Southwire - Copper Division	Carroll
10061	Southwire - Wire & Cable Division	Carroll
10360	Douglas & Lomason Company	Carroll
10413	Muse Scrap Metals	Carroll
10604	Trent Tube Division	Carroll
10648	Carroll County / Carrollton SR 166 LF	Carroll
10780	Dixie/Candlewick Hurst Yarn Mill (Former)	Catoosa
10218	Union Camp Corp - DBA Thomas Treating	Charlton
10003	CSX Transportation - Savannah (Tremont Road)	Chatham
10018	Atlantic Wood Industries	Chatham
10045	Colonial Terminals, Plant #1	Chatham
10091	Travis Field/Savannah International Airport	Chatham
10095	Central of GA RR/Bernuth-Lembcke Site	Chatham
10098	Colonial Terminals, Plant #2	Chatham
10114	Union Camp Corp - Former Amoco Property	Chatham
10128	Atlanta Gas Light Company - Savannah MGP Site	Chatham
10162	Ashland Chemical Company	Chatham
10179	Deptford Tract Landfill	Chatham
10208	139 Brampton Road	Chatham
10241	Union Camp Corp - Allen Blvd Landfill	Chatham
10351	ARAMARK Uniform Services	Chatham
10371	Southern States Phosphate & Fertilizer Co.	Chatham
10372	Truman Parkway, Phase II	Chatham
10395	Hunter Army Airfield, Fire Training Area	Chatham
10406	McKenzie Tank Lines, Inc.	Chatham
10415	Savannah Electric - Plant Kraft	Chatham
10440	Blue Ribbon Dry Cleaners	Chatham
10464	Vopak Terminal Savannah	Chatham
10497	Savannah Dry Cleaners	Chatham
10521	Hunter Army Airfield - MCA Barracks	Chatham
10553	Georgia Air National Guard/Savannah/Site 8	Chatham
10579	Abercorn & Largo Development	Chatham
10590	Central of Georgia Railroad Company - Battlefield Park	Chatham
10591	Southern Motors of Savannah, Inc.	Chatham
10611	CSXT Depriest Signal Shop	Chatham
10641	Tronox (fka Kerr McGee Pigments, Inc.)	Chatham
10649	Chatham County Landfill	Chatham
10696	Hercules, Inc.	Chatham
10698	Norfolk Southern - Natrochem, Inc., Site	Chatham
10788	Southside Cleaners	Chatham
10789	Dry Clean, USA	Chatham
10849	Toto Distribution (Former)	Chatham
10867	Coastal Concrete, Inc.	Chatham
10903	Hunter Army Airfield/TCE Plume	Chatham
10905	CSXT Property on Feeley Avenue	Chatham
10919	2217 West Bay Street	Chatham
10454	Chattooga County - Penn Bridge Rd Ph 1 (SL)	Chattooga
10650	Cherokee County - Blalock Road Landfill	Cherokee
10014	Westinghouse Electric Corp	Clarke
10052	Georgia Power - Athens Foundry Street Property	Clarke



RESOURCE+LAND
CONSULTANTS

APPENDIX E:
Property Ownership Documentation

Type: WD
Kind: WARRANTY DEED
Recorded: 10/26/2022 2:33:00 PM
Fee Amt: \$1,375.00 Page 1 of 4
Transfer Tax: \$1,350.00
Chatham, Ga. Clerk Superior Court
Tammie Mosley Clerk Superior Court

Participant ID(s): 8863185331,
0466245412

BK 2948 PG 288 - 291

22-00919-07

Blue moonmannas

[SPACE ABOVE THIS LINE FOR RECORDING DATA]

Return Recorded Document to:

WEINER, SHEAROUSE, WEITZ, GREENBERG &
SHAWE, LLP

Attn: Mark T Shawe
14 East State Street
Savannah, GA 31401



LIMITED WARRANTY DEED

STATE OF GEORGIA

COUNTY OF CHATHAM

THIS INDENTURE, made this 25th day of October, 2022, between James F. Dubberly, of the County of Chatham, State of Georgia, as party or parties of the first part, hereinafter called Grantor, and Blue Moon Marinas LLC, a Georgia Limited Liability Company, as party or parties of the second part, hereinafter called Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations, and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

WITNESSETH that: Grantor, for and in consideration of the sum of Ten And No/100 Dollars (\$10.00) and other good and valuable considerations in hand paid at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto the said Grantee,

3110 River Drive (+ 3 adjoining parcels), Thunderbolt, Chatham County, Georgia
having the Property Tax Identification Numbers: 3-0006-15-003; 3-0006-15-004;
3-0006-15-005; and 3-0006-15-006. See attached Exhibit "A" for a more particular description
of the property herein conveyed.

SUBJECT to all zoning ordinances, easements, and restrictions of record insofar as the same may lawfully affect the above-described property.

TO HAVE AND TO HOLD the said tract or parcel of land, with all and singular the rights, members and appurtenances thereof, to the same being, belonging, or in anywise appertaining, to the only proper use, benefit and behoof of the said Grantee forever in Fee Simple.

AND THE SAID Grantor will warrant and forever defend the right and title to the above described property unto the said Grantee against the claims of all persons owning, holding or claiming by, through or under the said Grantor.

IN WITNESS WHEREOF, the Grantor has signed and sealed this deed, this 25th day of October, 2022.

Signed, sealed and delivered in the presence of:

[Signature]
Witness
[Signature]
Notary Public
My Commission Expires: 8/8/2024

[Signature] (Seal)
James F. Dubberly

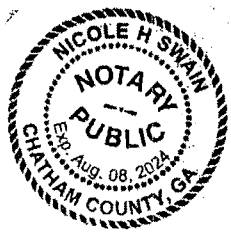


EXHIBIT A

PARCEL ONE (Tax Parcel 3-0006-15-003)

All that certain lot, tract or parcel of land situate, lying and being in the Town of Thunderbolt, Chatham County, Georgia, being the eastern portion of the Threadcraft Lot. The eastern portion of said Lot being shown on a plat prepared for Louis G. Ambos, dated August 13, 1948 by H. M. Gormandy, being recorded in Plat Record Book D, Page 29, in the Office of the Clerk of the Superior Court of Chatham County, Georgia. The eastern portion of said Lot hereby described being bounded on the east by the Wilmington River; on the south by property formally of the George Ambos homeplace; on the west by River Drive and the former right-of-way of Savannah Electric & Power Company railway.

And Also,

All that certain lot, tract or parcel of land situate, lying and being in the Town of Thunderbolt, Chatham County, Georgia being the water frontage of the George H Ambos homeplace. Said frontage being 225 feet, more or less, and being bounded as follows: on the north by the Threadcraft Lot, on the east by the Wilmington River; on the south by the water frontage conveyed to Emma Tisdell by deed recorded in Deed Record Book 48 – A, Page 310; and on the west by River Drive. Said property being the same property conveyed to Louis G. Ambos by deed from Emma Tisdell and Marie Ambos Taylor, dated December 1, 1960, recorded in Deed Record Book 76 –R, page 433, in the Office of the Clerk of the Superior Court of Chatham County Georgia. Said tracts lying contiguous and shown on a plat prepared by Exley Surveyors, Inc. for Henry F. Ambrose, Jr. and Louis G. Ambos, II dated March 21, 1988, recorded in Plat Record Book 11 – P, Page 91, aforesaid records. Said parcel designated on said plat as "Ambos" being the northern parcel so designated, said tracts having a combined frontage on the eastern boundary of River Drive of 292.71 feet. Reference is hereby made to the aforesaid recorded plat for a more particular description of the property herein described.

PARCEL TWO (Tax Parcel 3-0006-15-004)

All those certain lots, tracts or parcels of land situate, lying and being in the Town of Thunderbolt, Chatham County, Georgia, known as the eastern portion of the Henken Lot and the eastern portion of the Deverges Lot. The Henken Lot being conveyed to Louis G. Ambos by Marie Ambos Taylor, by deed dated November 27, 1948, recorded in Deed Record Book 48 – O, Page 214, in the Office of the Clerk of the Superior Court of Chatham County Georgia. Said lots contiguous and being bounded as follows: on the north by a 51 foot, more or less, frontage Lot conveyed to Emma Ambos Tisdell by Deed of Assent dated November 9, 1948 recorded in Deed Record Book 48 – A, page 310; on the east by the Wilmington River; on the south by property formally of Earl J. Toorner; and on the west by River Drive, said combined lots being shown on a plat prepared by Exley Surveyors Inc. for Henry F. Ambos, Jr. and Louis G. Ambos, II dated March 21, 1988, recorded in Plat Record Book 11 – P, Page 21, aforesaid records. Said tract designated as "Ambos" and being the southernmost tract designated as "Ambos" on said plat. Said tracts having a combined frontage of 123.25 feet on the eastern boundary of River Drive. Reference is hereby made to the aforesaid recorded plat for a more particular description of the property herein described.

PARCEL THREE (Tax Parcel 3-0006-15-005)

All those certain lots, tracts or parcels of land situate, lying and being in the Town of Thunderbolt, Chatham County, Georgia, known and designated as the eastern or Northern portions of the Hill or Jail Lot, Purse Lot and Nunn Lot, fronting on the Wilmington or Thunderbolt River having a frontage respectively on said river of 75 feet, 33.25 feet and 75 feet for a combined frontage thereon of 183.25 feet and extends westerly and southwesterly to the eastern and southeastern boundary of River Drive and as a whole being bounded on the Northeast by Wilmington or Thunderbolt River; on the Southeast by the former Casino Tract; on the southwest and west by River Drive; and on the northwest by property now or formerly of Louis Ambos, said property being the same property conveyed to Henry Ambos, Jr. and Louis G. Ambos by deed dated April 30, 1987, Recorded in Deed Record Book 134 – G, Page 164, in the Office of the Clerk of the Superior Court of Chatham County Georgia. Said

Continued

property being designated as the "Toomer" tract on a plat prepared by Exley Surveyors, Inc. for Henry F Ambos Jr. And Louis G Ambos, II dated March 21, 1988, recorded in Plat Record Book 11 – P, Page 21, aforesaid records. Reference is hereby made to the aforesaid recorded plat for more particular description of the property herein described.

The aforementioned Parcels One, Two and Three being all that same property as was conveyed to James F. Dubberly by Quit Claim Deed recorded in Deed Book 370 – Q, Page 190, Chatham County Georgia records.

PARCEL FOUR (Tax Parcel 3-0006-15-006)

All that certain lot, tract or parcel of land situate, lying and being a portion of the George H. Ambos Home Place, Thunderbolt, Chatham County, Georgia, having a frontage on the Wilmington River of Fifty-One (51) feet, more or less, and a depth along its northern boundary of approximately One Hundred (100) feet, a depth along its southern boundary of approximately One Hundred (100) feet and a width along its western boundary on River Drive of approximately Fifty-One (51) feet, and being bounded on the North by lands now or formerly of Ambos, on the East by the Wilmington River, on the South by lands now or formerly of Ambos and on the West by River Drive.

This being the same property conveyed to James F. Dubberly by Warranty Deed recorded in Deed Book 384 – K, page 44, Chatham County Georgia records.

Type: QCD
Kind: QUIT CLAIM DEED
Recorded: 10/26/2022 2:33:00 PM
Fee Amt: \$25.00 Page 1 of 2
Chatham, Ga. Clerk Superior Court
Tammie Mosley Clerk Superior Court

Participant ID(s): 8863185331,
0466245412

BK 2948 PG 292 - 293

[SPACE ABOVE THIS LINE FOR RECORDING DATA]

Return Recorded Document to:
WEINER, SHEAROUSE, WEITZ,
GREENBERG & SHAW, LLP
Attn: Mark T. Shawe
14 E. State Street
Savannah, GA 31401

STATE OF GEORGIA

COUNTY OF CHATHAM

QUIT CLAIM DEED

THIS INDENTURE, made this 25th day of October, 2022, between JAMES F. DUBBERLY, party or parties of the first part, hereinafter called Grantor, and BLUE MOON MARINAS LLC, a Georgia Limited Liability Company, as party or parties of the second part, hereinafter called Grantee (the words "Grantor" and "Grantee" to include their respective heirs, successors and assigns where the context requires or permits).

WITNESSETH:

WHEREAS that first party, for and in consideration of the sum of One and No/100's (\$1.00) and other valuable considerations, receipt whereof is hereby acknowledged, does hereby grant, bargain, convey, release and forever quit claim unto second party, its heirs, successors and assigns, the following described property, to-wit;

3110 River Drive (+ 3 contiguous parcels), Thunderbolt, Chatham County, GA having the Property Tax ID Numbers: 3-0006-15-003; 3-0006-15-004; 3-0006-15-005; and 3-0006-15-006. See attached Exhibit "A" for a more particular description of the property herein conveyed.

TO HAVE AND TO HOLD the said property, together with all and singular the rights, members, hereditaments, improvements, easements and appurtenances thereunto belonging or in anywise appertaining unto second party, its heirs, successors and assigns, so that either first party nor any person or persons claiming under them shall have, claim or demand any right to the above described property, or its appurtenances.

IN WITNESS WHEREOF, Grantor has hereunto set Grantor's hand and seal this day and year first above written.

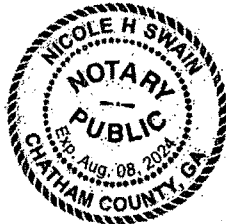
Signed, sealed and delivered
in the presence of:

Witness

Notary Public

My commission expires: 8/8/2024


JAMES F. DUBBERLY



File No: 22-00919-07

Bluemoonmarinas

EXHIBIT "A"
Legal Description

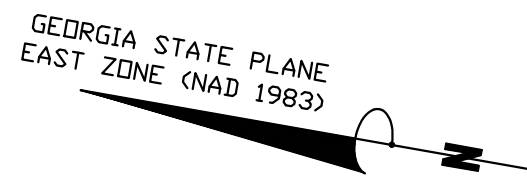
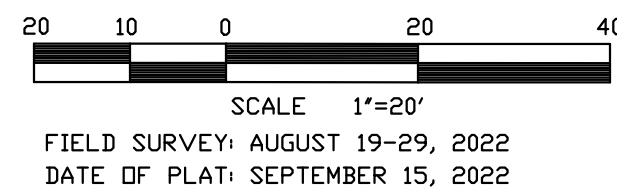
ALL THAT certain lot, tract, or parcel of land situate, lying and being four parcels of land located in the 5th G.M. District, Town of Thunderbolt, Chatham County, Georgia, and being more particularly described as follows:

Commencing and beginning at a point located on the Eastern boundary line of the public right-of-way of River Drive marked by a scribed "X" set (N 739132.03 E1002230.63) and proceeding thence N 81°09'57" E a distance of 7.79 feet to a point marked by a found iron rod; proceeding thence N 81°09'57" E a distance of 30.21 feet to a point marked by a set iron rod; proceeding thence N 81°09'57" E a distance of 41.98 feet to a point not monumented; proceeding thence S 39°58'49" E a distance of 23.01 feet to a point; proceeding thence S 04°01'18" E a distance of 12.97 feet to a point; proceeding thence S 28°28'12" E a distance of 199.34 feet to a point; proceeding thence S 08°40'44" W a distance of 8.65 feet to a point; proceeding thence S 08°40'44" W a distance of 47.47 feet to a point; proceeding thence S 23°51'55" E a distance of 22.19 feet to a point; proceeding thence S 39°35'38" E a distance of 1.32 feet to a point; proceeding thence S 39°35'38" E a distance of 21.82 feet to a point; proceeding thence S 52°41'45" E a distance of 79.70 feet to a point; proceeding thence S 16°44'36" E a distance of 25.26 feet to a point; proceeding thence S 16°44'56" E a distance of 37.11 feet to a point; proceeding thence S 28°24'21" E a distance of 52.15 feet to a point; proceeding thence S 30°55'17" E a distance of 44.78 feet to a point; proceeding thence S 59°46'41" E a distance of 19.50 feet to a point; proceeding thence S 33°52'30" E a distance of 52.25 feet to a point; proceeding thence S 56°28'04" W a distance of 4.32 feet to a point marked by three-quarter inch iron pipe found; proceeding thence S 56°28'04" W a distance of 51.21 feet to a point marked by a found concrete monument; proceeding thence N 10°10'52" W a distance of 52.27 feet to a point marked by a found iron rod; proceeding thence N 20°52'28" W a distance of 50 feet to a point marked by a found iron rod; proceeding thence N 27°52'35" W a distance of 50.08 feet to a point marked by a found iron rod; proceeding thence N 31°32'23" W a distance of 49.81 feet to a point marked by a found iron rod; proceeding thence N 41°56'46" W a distance of 123.54 feet to a point; proceeding thence N 43°11'41" W a distance of 49.96 feet to a point; proceeding thence N 43°11'41" W a distance of 97.33 feet to a point; proceeding thence N 30°29'02" W a distance of 90.71 feet to a point; proceeding thence N 15°30'30" W a distance of 104.77 feet to the point marked by a scribed "X" set (N 739132.03 E1002230.63) which is the point of commencement and beginning of the property herein described.

Including, but not limited to Grantor's right, title and interest in and to the marshlands, pilings, docks, walkways, equipment, apparatus, and roadways adjacent to, appurtenant to, a part of, or associated with said property.

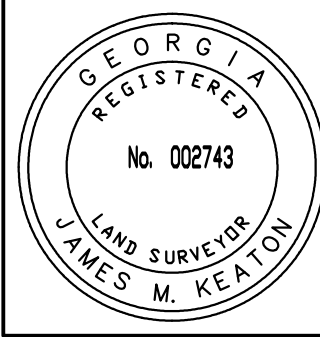
Said property consists of four parcels of land known as the former Ambos Tract (North), the former Tisdal Tract, the former Ambos Tract (South), and the former Toomer Tract as described in Deed Book 370-Q, Page 190 and Deed Book 384-K, Page 44, Chatham County, GA records, and are more particularly described on that certain Boundary and As-Built Survey of Four Separate Parcels located in Town of Thunderbolt, as Shown on a Plat by Exley Surveyors, Inc., designated as "Ambos", "Tisdal", "Ambos", and "Toomer", Said Parcels Being Known as 3110 River Drive and Un-Numbered Addresses on River Drive, 5th G.M. District, Town of Thunderbolt, Chatham County, Georgia on a survey prepared for Emile Bootsma, field survey dated August 19-29th, 2022, plat dated September 15, 2022 by James M. Keaton for Mark Keaton d/b/a Chatham Surveying Services, to which survey reference is hereby made for a more particular description of the property herein described.

BOUNDARY AND AS-BUILT SURVEY OF FOUR SEPARATE PARCELS
 LOCATED IN THE TOWN OF THUNDERBOLT
 AS SHOWN ON A PLAT BY EXELY SURVEYORS, INC.,
 DESIGNATED AS "AMBOS", "TISDAL", "AMBOS", AND "TODMER"
 SIAD PARCELS BEING KNOWN AS 3110 RIVER DRIVE AND
 UN-NUMBERED ADDRESSES ON RIVER DRIVE
 FIFTH G.M.D., TOWN OF THUNDERBOLT, CHATHAM COUNTY, GEORGIA
 SURVEYED FOR
 EMILE BOOTSMA



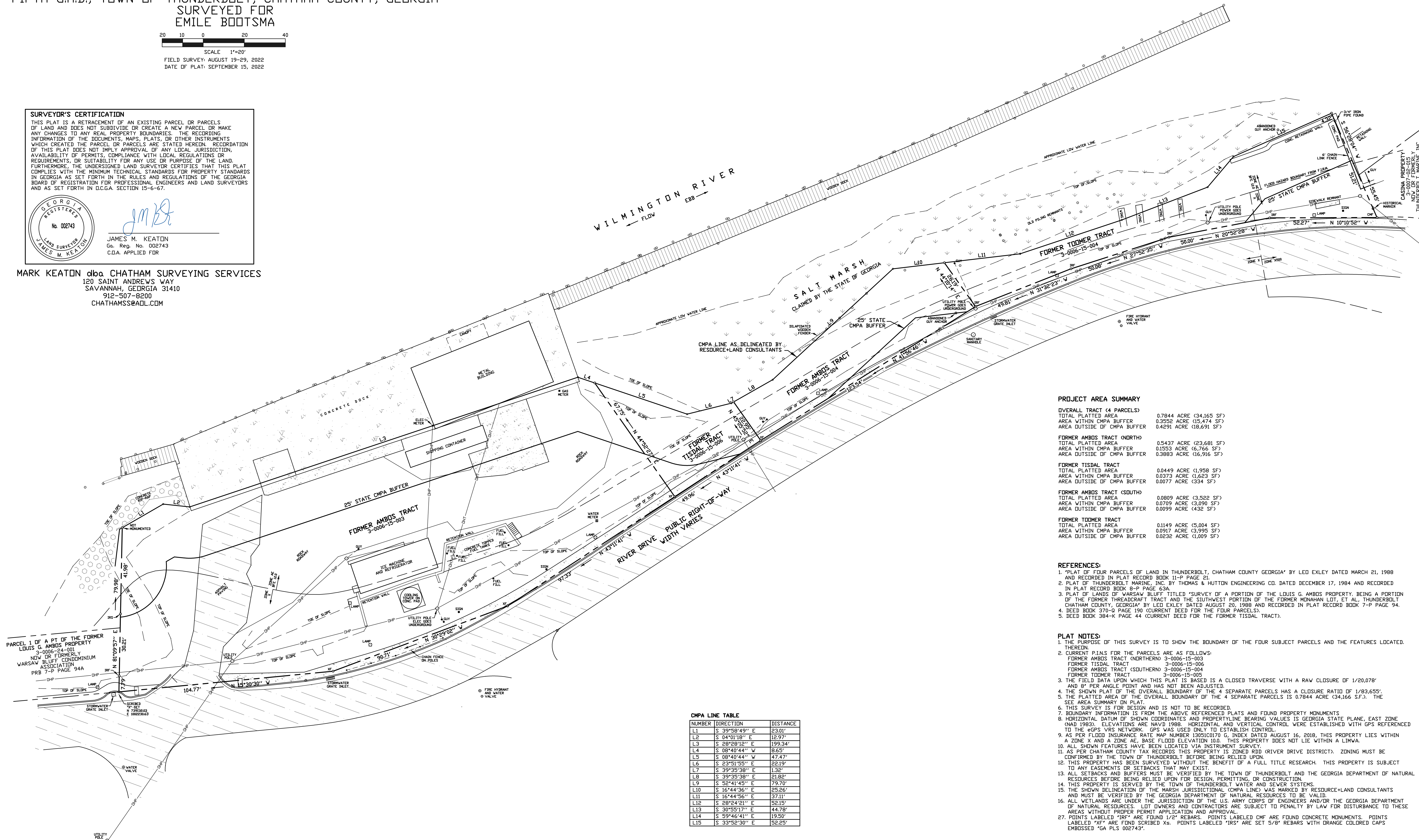
SURVEYOR'S CERTIFICATION

THIS PLAT IS A RETRACEMENT OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT SUBDIVIDE OR CREATE A NEW PARCEL OR MAKE ANY CHANGES TO ANY REAL PROPERTY BOUNDARIES. THE RECORDING INFORMATION OF THE DOCUMENTS, MAPS, PLATS, OR OTHER INSTRUMENTS WHICH CREATED THE PARCEL OR PARCELS ARE STATED HEREIN. RECORDATION OF THIS PLAT DOES NOT IMPLY APPROVAL OF ANY LOCAL JURISDICTION, AVAILABILITY OF PERMITS, COMPLIANCE WITH LOCAL REGULATIONS OR REQUIREMENTS, OR SUITABILITY FOR ANY USE OR PURPOSE OF THE LAND. FURTHERMORE, THE UNDERSIGNED LAND SURVEYOR CERTIFIES THAT THIS PLAT COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR PROPERTY STANDARDS IN GEORGIA AS SET FORTH IN THE RULES AND REGULATIONS OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN O.C.G.A. SECTION 15-6-57.



JAMES M. KEATON
 Ga. Reg. No. 002743
 C.O.A. APPLIED FOR

MARK KEATON dba CHATHAM SURVEYING SERVICES
 120 SAINT ANDREWS WAY
 SAVANNAH, GEORGIA 31410
 912-507-8200
 CHATHAMSS@AOL.COM



PROJECT AREA SUMMARY

OVERALL TRACT (4 PARCELS)	
TOTAL PLATTED AREA	0.7844 ACRE (34,165 SF)
AREA WITHIN CMPA BUFFER	0.3552 ACRE (15,474 SF)
AREA OUTSIDE OF CMPA BUFFER	0.4291 ACRE (18,691 SF)
FORMER AMBOS TRACT (NDRTH)	
TOTAL PLATTED AREA	0.5437 ACRE (23,681 SF)
AREA WITHIN CMPA BUFFER	0.1553 ACRE (6,766 SF)
AREA OUTSIDE OF CMPA BUFFER	0.3883 ACRE (16,916 SF)
FORMER TISDAL TRACT	
TOTAL PLATTED AREA	0.0449 ACRE (1,958 SF)
AREA WITHIN CMPA BUFFER	0.0373 ACRE (1,623 SF)
AREA OUTSIDE OF CMPA BUFFER	0.0077 ACRE (334 SF)
FORMER AMBOS TRACT (SDUTH)	
TOTAL PLATTED AREA	0.0809 ACRE (3,522 SF)
AREA WITHIN CMPA BUFFER	0.0709 ACRE (3,090 SF)
AREA OUTSIDE OF CMPA BUFFER	0.0099 ACRE (432 SF)
FORMER TODMER TRACT	
TOTAL PLATTED AREA	0.1149 ACRE (5,004 SF)
AREA WITHIN CMPA BUFFER	0.0917 ACRE (3,995 SF)
AREA OUTSIDE OF CMPA BUFFER	0.0232 ACRE (1,009 SF)

- REFERENCES:**
- PLAT OF FOUR PARCELS OF LAND IN THUNDERBOLT, CHATHAM COUNTY GEORGIA BY LEO EXLEY DATED MARCH 21, 1988 AND RECORDED IN PLAT RECORD BOOK 11-P PAGE 21.
 - PLAT OF THUNDERBOLT MARINE, INC. BY THOMAS & HUTTON ENGINEERING CO. DATED DECEMBER 17, 1984 AND RECORDED IN PLAT RECORD BOOK 8-P PAGE 63A.
 - PLAT OF LANDS OF WARSAW BLUFF TITLED "SURVEY OF A PORTION OF THE LOUIS G. AMBOS PROPERTY, BEING A PORTION OF THE FORMER THREDCRAFT TRACT AND THE SOUTHWEST PORTION OF THE FORMER MONAHAN LOT, ET AL, THUNDERBOLT CHATHAM COUNTY, GEORGIA" BY LEO EXLEY DATED AUGUST 20, 1988 AND RECORDED IN PLAT RECORD BOOK 7-P PAGE 94.
 - DEED BOOK 370-0 PAGE 190 (CURRENT DEED FOR THE FOUR PARCELS).
 - DEED BOOK 384-K PAGE 44 (CURRENT DEED FOR THE FORMER TISDAL TRACT).

- PLAT NOTES:**
- THE PURPOSE OF THIS SURVEY IS TO SHOW THE BOUNDARY OF THE FOUR SUBJECT PARCELS AND THE FEATURES LOCATED THEREIN.
 - CURRENT PLATS FOR THE PARCELS ARE AS FOLLOWS:
 FORMER AMBOS TRACT (NORTHERN) 3-0006-15-003
 FORMER TISDAL TRACT 3-0006-15-006
 FORMER AMBOS TRACT (SOUTHERN) 3-0006-15-004
 FORMER TODMER TRACT 3-0006-15-005
 - THE FIELD DATA UPON WHICH THIS PLAT IS BASED IS A CLOSED TRAVERSE WITH A RAW CLOSURE OF 1/20,078' AND 8" PER ANGLE POINT AND HAS NOT BEEN ADJUSTED.
 - THE SHOWN PLAT OF THE OVERALL BOUNDARY OF THE 4 SEPARATE PARCELS HAS A CLOSURE RATIO OF 1/93,655'.
 - THE PLATTED AREA OF THE OVERALL BOUNDARY OF THE 4 SEPARATE PARCELS IS 0.7844 ACRE (34,166 SF.). THE SEE AREA SUMMARY ON PLAT.
 - THIS SURVEY IS FOR DESIGN AND IS NOT TO BE RECORDED.
 - BOUNDARY INFORMATION IS FROM THE ABOVE REFERENCED PLATS AND FOUND PROPERTY MONUMENTS.
 - HORIZONTAL DATUM OF SHOWN COORDINATES AND PROPERTY LINE BEARING VALUES IS GEORGIA STATE PLANE, EAST ZONE (NAD 1983). ELEVATIONS ARE NAVD 1988. HORIZONTAL AND VERTICAL CONTROL WERE ESTABLISHED WITH GPS REFERENCED TO THE GPS VRS NETWORK. GPS WAS USED ONLY TO ESTABLISH CONTROL.
 - AS PER FLOOD INSURANCE RATE MAP NUMBER 130501070 G, INDEX DATED AUGUST 16, 2018, THIS PROPERTY LIES WITHIN A ZONE X AND A ZONE AE, BASE FLOOD ELEVATION 100. THIS PROPERTY DOES NOT LIE WITHIN A LIWMA.
 - ALL SHOWN FEATURES HAVE BEEN LOCATED VIA INSTRUMENT SURVEY.
 - AS PER CHATHAM COUNTY TAX RECORDS THIS PROPERTY IS ZONED R100 (RIVER DRIVE DISTRICT). ZONING MUST BE CONFIRMED BY THE TOWN OF THUNDERBOLT BEFORE BEING RELIED UPON.
 - THIS PROPERTY HAS BEEN SURVEYED WITHOUT THE BENEFIT OF A FULL TITLE RESEARCH. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS OR SETBACKS THAT MAY EXIST.
 - ALL SETBACKS AND BUFFERS MUST BE VERIFIED BY THE TOWN OF THUNDERBOLT AND THE GEORGIA DEPARTMENT OF NATURAL RESOURCES BEFORE BEING RELIED UPON FOR DESIGN, PERMITTING, OR CONSTRUCTION.
 - THIS PROPERTY IS SERVED BY THE TOWN OF THUNDERBOLT WATER AND SEWER SYSTEMS.
 - THE SHOWN DELINEATION OF THE MARSH JURISDICTIONAL (CMPA LINE) WAS MARKED BY RESOURCE-LAND CONSULTANTS AND MUST BE VERIFIED BY THE GEORGIA DEPARTMENT OF NATURAL RESOURCES TO BE VALID.
 - ALL WETLANDS ARE UNDER THE JURISDICTION OF THE U.S. ARMY CORPS OF ENGINEERS AND/OR THE GEORGIA DEPARTMENT OF NATURAL RESOURCES. LOT OWNERS AND CONTRACTORS ARE SUBJECT TO PENALTY BY LAW FOR DISTURBANCE TO THESE AREAS WITHOUT PROPER PERMIT APPLICATION AND APPROVAL.
 - POINTS LABELED "IRF" ARE FOUND 1/2" REBARS. POINTS LABELED "CMF" ARE FOUND CONCRETE MONUMENTS. POINTS LABELED "XF" ARE FOUND SCRIBED Xs. POINTS LABELED "IRS" ARE SET 5/8" REBARS WITH ORANGE COLORED CAPS EMBOSSED "GA PLS 002743".

CMPA LINE TABLE

NUMBER	DIRECTION	DISTANCE
L1	S 39°58'49" E	23.01'
L2	S 04°01'13" E	18.37'
L3	S 28°28'12" E	199.34'
L4	S 08°40'44" W	8.65'
L5	S 08°40'44" W	47.47'
L6	S 23°51'55" E	22.19'
L7	S 39°35'38" E	1.32'
L8	S 39°35'38" E	21.82'
L9	S 24°41'43" E	79.70'
L10	S 16°44'36" E	25.26'
L11	S 16°44'56" E	37.11'
L12	S 28°24'21" E	52.15'
L13	S 30°55'17" E	44.78'
L14	S 59°46'41" E	19.50'
L15	S 33°52'30" E	52.25'



RESOURCE+LAND
CONSULTANTS

APPENDIX F: Adjacent Landowner Information

Adjacent Property Owners

THUNDERBOLT MARINE INC
3124 RIVER DR, SAVANNAH, GA 31404
PO BOX 5628, SAVANNAH, GA 31414-5628

WARSAW BLUFF CONDOMINIUM ASSOCIATION INC
3005 RIVER DR Unit 210
THUNDERBOLT, GA 31404-5076



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APPENDIX G:
Threatened & Endangered Species Documentation,
IPaC Database & Edges Information



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Georgia Ecological Services Field Office
355 East Hancock Avenue
Room 320
Athens, GA 30601-2523
Phone: (706) 613-9493 Fax: (706) 613-6059

In Reply Refer To:
Project Code: 2023-0026361
Project Name: Thunderbolt Coop

December 19, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Thank you for your request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design if you determine those species or designated critical habitat may be affected by your proposed project.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency, project proponent, or their designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally listed threatened or endangered fish or wildlife species without the appropriate permit. If you need additional information to assist in your effect determination, please contact the Service.

If you determine that your proposed action may affect federally listed species, please consult with the Service. Through the consultation process, we will analyze information contained in a biological assessment or equivalent document that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a Habitat Conservation Plan) may be necessary to exempt harm or harass federally listed threatened or endangered fish or wildlife species. For more information regarding formal consultation and HCPs, please see the Service's [Section 7 Consultation Library](#) and [Habitat Conservation Plans Library](#) Collections.

Action Area. The scope of federally listed species compliance not only includes direct effects, but also any indirect effects of project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations). The action area is the spatial extent of an action's direct and indirect modifications or impacts to the land, water, or air (50 CFR 402.02). Large projects may have effects to land, water, or air outside the immediate footprint of the project, and these areas should be included as part of the action area. Effects to land, water, or air outside of a project footprint could include things like lighting, dust, smoke, and noise. To obtain a complete list of species, the action area should be uploaded or drawn in IPaC rather than just the project footprint.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. An updated list may be requested through IPaC.

If you determine that your action may affect any federally listed species and would like technical assistance from our office, please send us a complete project review package (refer to Georgia Ecological Services' [Project Planning and Review](#) page for more details), including the following information (reference to these items can be found in 50 CFR§402.13 and 402.14):

1. A description of the proposed action, including any measures intended to avoid, minimize, or offset effects of the action. Consistent with the nature and scope of the proposed action, the description shall provide sufficient detail to assess the effects of the action on listed species and critical habitat, including:
 - The purpose of the action;
 - The duration and timing of the action;
 - The location of the action;
 - The specific components of the action and how they will be carried out;
 - Description of areas to be affected directly or indirectly by the action;
 - Maps, drawings, blueprints, or similar schematics of the action
 2. An updated Official Species List
-

3. Biological Assessments (may include habitat assessments and information on the presence of listed species in the action area);
4. Description of effects of the action on species in the action area and, if relevant, effect determinations for species and critical habitat;
5. Conservation measures and any other available information related to the nature and scope of the proposed action relevant to its effects on listed species or designated critical habitat (examples include: stormwater plans, management plans, erosion and sediment plans). Please see our [Georgia Planning and Consultation Tools](#) page for recommendations.

Please submit all consultation documents via email to gaes_assistance@fws.gov or by using IPaC, uploaded documents, and sharing the project with a specific Georgia Ecological Services staff member. If the project is on-going, documents can also be sent to the Georgia Ecological Services staff member currently working with you on your project. For Georgia Department of Transportation related projects, please work with the Office of Environmental Services ecologist to determine the appropriate USFWS transportation liaison.

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value. We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's [NWI program website](#) (<https://www.fws.gov/program/national-wetlands-inventory>) integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's [Migratory Birds Program](#) (<https://fws.gov/program/migratory-birds>). To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction. It can be found at the Service's [Migratory Birds Conservation Library Collection](#) (<https://fws.gov/library/collections/migratory-bird-conservation-documents>).

Information related to best practices and migratory birds can be found at the Service's [Avoiding and Minimizing Incidental Take of Migratory Birds Library Collection](#) (<https://fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>).

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to “disturb” eagles. Under the BGEPA, the Service may issue limited permits to incidentally “take” eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at the Service's [Bald and Golden Eagle Management Library Collection](https://fws.gov/library/collections/bald-and-golden-eagle-management) (https://fws.gov/library/collections/bald-and-golden-eagle-management).

NATIVE BATS

If your species list includes Indiana bat (*Myotis sodalis*) or northern long-eared bat (*M. septentrionalis*) and the project is expected to impact forested habitat that is appropriate for maternity colonies of these species, forest clearing should occur outside of the period when bats may be present. Federally listed bats could be actively present in forested landscapes from April 1 to October 15 of any year and have non-volant pups from May 15 to July 31 in any year. Non-volant pups are incapable of flight and are vulnerable to disturbance during that time.

Indiana, northern long-eared, and gray (*M. grisescens*) bats are all known to utilize bridges and culverts in Georgia. If your project includes maintenance, construction, or any other modification or demolition to transportation structures, a qualified individual should complete a survey of these structures for bats and submit your findings via the Georgia Bats in Bridges cell phone application, free on Apple and Android devices. Please include these findings in any biological assessment(s) or other documentation that is submitted to our office for technical assistance or consultation.

Additional information on bat avoidance and minimization can be found at Georgia Ecological Services' [Planning and Consultations Tools](#) and [Bat Conservation in Georgia](#) pages.

MONARCH BUTTERFLY

On December 20, 2020, the Service determined that listing the Monarch butterfly (*Danaus plexippus*) under the Endangered Species Act is warranted but precluded at this time by higher priority listing actions. With this finding, the monarch butterfly becomes a candidate for listing. The Service will review its status each year until we are able to begin developing a proposal to list the monarch.

As it is a candidate for listing, the Service welcomes conservation measures for this species. Recommended, and voluntary, conservation measures for projects in Georgia can be found at our [Monarch Conservation in Georgia](#) page.

STATE AGENCY COORDINATION

Additional information that addresses at-risk or high priority natural resources can be found in the State Wildlife Action Plan (https://georgiawildlife.com/WildlifeActionPlan), at Georgia Department of Natural Resources, Wildlife Resources Division Biodiversity Portal (https://

georgiawildlife.com/conservation/species-of-concern), Georgia's Natural, Archaeological, and Historic Resources GIS portal (<https://www.gnahrgis.org/gnahrgis/index.do>), and the [Georgia Ecological Services HUC10 Watershed Guidance](#) page.

Thank you for your concern for endangered and threatened species. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further consultation on your proposed activity, please email gaes_assistance@fws.gov and reference the project county and your Service Project Tracking Number.

This letter constitutes Georgia Ecological Services' general comments under the authority of the Endangered Species Act.

Attachment(s):

- Official Species List
 - Migratory Birds
 - Marine Mammals
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Georgia Ecological Services Field Office

355 East Hancock Avenue

Room 320

Athens, GA 30601-2523

(706) 613-9493

Project Summary

Project Code: 2023-0026361

Project Name: Thunderbolt Coop

Project Type: Boatlift/Boathouse/Dock/Pier/Piles - Maintenance/Modification

Project Description: Dock Rehabilitation

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.026772199999996,-81.04925965517063,14z>



Counties: Chatham County, Georgia

Endangered Species Act Species

There is a total of 15 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
West Indian Manatee <i>Trichechus manatus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. <i>This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.</i> Species profile: https://ecos.fws.gov/ecp/species/4469	Threatened

Birds

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Wood Stork <i>Mycteria americana</i> Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8477	Threatened

Reptiles

NAME	STATUS
Eastern Indigo Snake <i>Drymarchon couperi</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/646	Threatened
Green Sea Turtle <i>Chelonia mydas</i> Population: North Atlantic DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Hawksbill Sea Turtle <i>Eretmochelys imbricata</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3656	Endangered
Kemp's Ridley Sea Turtle <i>Lepidochelys kempii</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/5523	Endangered
Leatherback Sea Turtle <i>Dermochelys coriacea</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle <i>Caretta caretta</i> Population: Northwest Atlantic Ocean DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened

Amphibians

NAME	STATUS
Frosted Flatwoods Salamander <i>Ambystoma cingulatum</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4981	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Pondberry <i>Lindera melissifolia</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1279	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel <i>Falco sparverius paulus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31

NAME	BREEDING SEASON
Black Skimmer <i>Rynchops niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Brown-headed Nuthatch <i>Sitta pusilla</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Gull-billed Tern <i>Gelochelidon nilotica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
King Rail <i>Rallus elegans</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Painted Bunting <i>Passerina ciris</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31

NAME	BREEDING SEASON
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone <i>Arenaria interpres morinella</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Swallow-tailed Kite <i>Elanoides forficatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938	Breeds Mar 10 to Jun 30
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

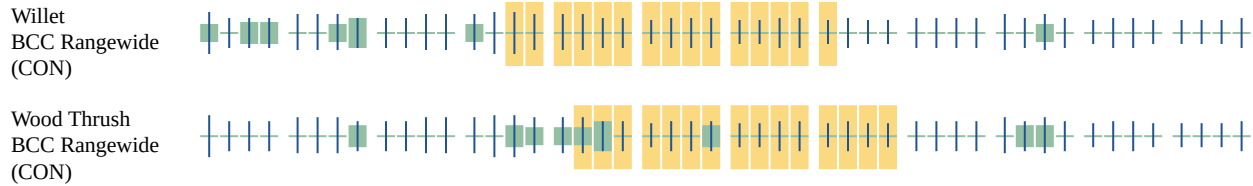
The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Marine Mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act¹ and the Convention on International Trade in Endangered Species of Wild Fauna and Flora².

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries³ [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

-
1. The [Endangered Species Act](#) (ESA) of 1973.
 2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
 3. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

NAME

West Indian Manatee *Trichechus manatus*

Species profile: <https://ecos.fws.gov/ecp/species/4469>

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

ESTUARINE AND MARINE DEEPWATER

- [E1UBL](#)
-

IPaC User Contact Information

Agency: RLC
Name: alton brown
Address: 41 park of commerce way, suite 303
Address Line 2: suite 101
City: Savannah
State: GA
Zip: 31405
Email: abrown@rlandc.com
Phone: 9124435896

West Indian Manatee
Effects Determination Guidance for Endangered & Threatened Species (EDGES)

Bryan, Camden, Chatham, Glynn, Liberty, and McIntosh Counties

Species Covered by This EDGES: West Indian manatee (*Trichechus manatus*)

West Indian manatees are found in tropical and subtropical coastal and river waters along the southeast U.S. coast, the Caribbean coast of Central and South America, and locally throughout the West Indies. The Florida manatee subspecies is a year-round resident in Florida. During the warm months, an unknown portion of the Florida manatee population migrates northward into Georgia and the Carolinas, and westward along the Gulf coast into Alabama, Mississippi, and Louisiana -- manatees are most frequently sighted in Georgia waters from April through October in tidal waters of Camden, Glynn and McIntosh counties.



Habitats in Georgia include nearshore ocean waters, tidal creeks, estuaries, and the lower reaches of the St. Mary's, Satilla, Altamaha, Ogeechee, and Savannah

Rivers. As illustrated in the above image, manatees are difficult to spot in Coastal Georgia's dark turbid waters. Manatees have been sighted as far north as Massachusetts. During winter, manatees are attracted to warm water refuges in Florida. Natural refuges include warm springs in the central part of the state and subtropical waters in south Florida. Manatees are also attracted to warm water discharges at industrial sites, such as power generating plants and factories. Manatees have been documented at multiple industrial warm water sites north of Florida, including in Georgia. Note: there is no 'Critical Habitat' designated in Georgia for manatees.



This EDGES covers all activities proposed in Georgia tidal waters that are accessible to manatees.

Endangered Species Act Consultation Checklist:

Applicant:

1. IPAC indicates manatees may occur in the project area.
 - a. No.....No effect. Provide IPaC information to the Savannah District with application/PCN.
 - b. Yes.....Go to #2.

2. The project will occur in tidal waters that are accessible to manatees (see map on the following page). Lakes and other water bodies upstream of structures such as dams, weirs, grated culverts, and fish ladders are normally not considered accessible to manatees.
 - a. No.....No effect. Provide this information to the Savannah District with application/PCN
 - b. Yes.....Go to #3.

3. The Fish and Wildlife Service’s Georgia Field Office (FWS-GA) provided documentation evaluating habitat, potential presence of species, and/or potential project impacts (FWS-GA signed letter or sticker, T&E survey where FWS-GA provided concurrence with negative findings, or similar documentation).
 - a. No.....Provide completed EDGES Applicant Coordination Slip and supporting documentation to the Savannah District with 404 application/PCN.
 - b. Yes.....Provide FWS-GA project review documentation and/or survey data to the Savannah District with application/PCN.

Savannah District:

1. The project is in tidal waters accessible to manatees (see #2).
 - a. No..... No effect – ESA section 7 consultation complete.
 - b. Yes..... Go to #5.

2. The project will require any of the following activities:
 - o blasting or other detonation activity (e.g., for channel deepening and/or widening, geotechnical surveys or exploration, bridge and structure removals, movies, military shows, or special events, etc.)
 - o modification or construction of warm or fresh water discharges from industrial sites, power plants, water treatment facilities, etc., or natural springs or artesian wells.
 - a. No.....Go to #6.
 - b. Yes.....May affect. Consult with FWS-GA regarding project.

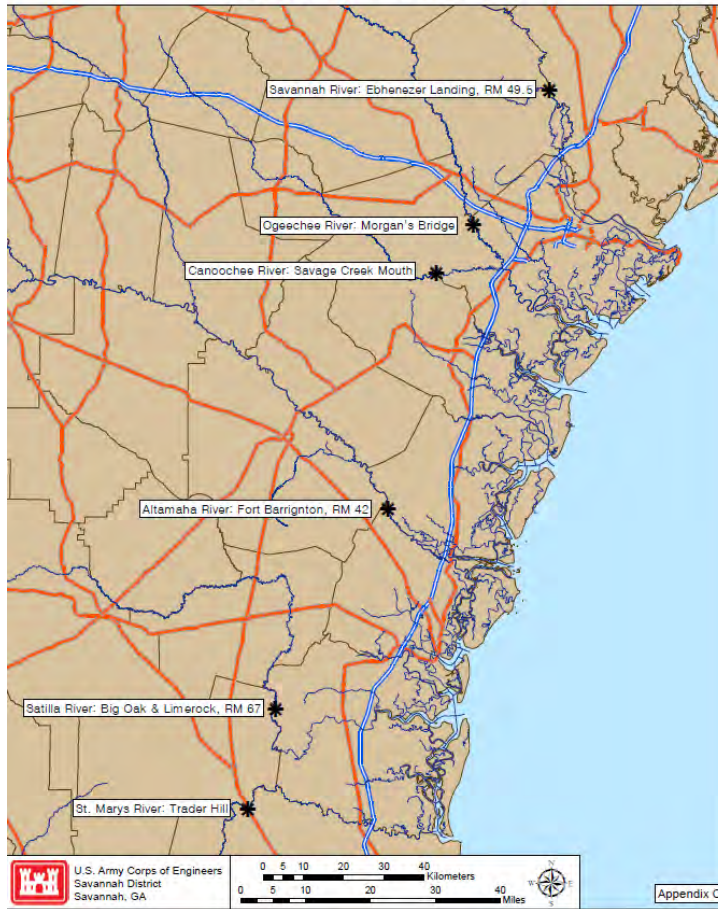
3. Project work involves dock or marina facilities and will follow conditions in the Savannah District/FWS-GA programmatic manatee agreement (page 3).
 - a. No.....Go to #4.
 - b. Yes.....MA NLAA - ‘May affect, not likely to adversely affect’ is appropriate and no further consultation with the FWS-GA for the manatee is necessary.

4. The project involves a public water access facility other than a dock or marina facility (e.g. public boat ramp, fishing pier, etc.) and project will be conditioned with Manatee Special Permit Conditions a through m from the PA.
 - a. No Go to #5
 - b. Yes MA NLAA - ‘May affect, not likely to adversely affect’ is appropriate and no further consultation with the FWS-GA for the manatee is necessary.

5. Project involves in-water construction other than as described above (e.g. bulkhead construction or repair, rip-rap, bridge, dredging, mooring buoys, etc.) and project will be conditioned with Manatee Special Permit Conditions a through k from the PA.
 - a. No Go to #6
 - b. Yes MA NLAA - ‘May affect, not likely to adversely affect’ is appropriate and no further consultation with the FWS-GA for the manatee is necessary.

6. If the Corps or applicant does not elect to incorporate manatee protection guidelines according to the guidance of this key or the project directly or indirectly affects manatees and is not covered by this key then the appropriate determination is May Affect and consultation with the FWS-GA is required.

LIMITS OF TIDAL WATERS IN GEORGIA



**Programmatic Agreement
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
Section 7 of the Endangered Species Act
Manatee Consultation Procedures
Dock and Marina Facilities in Coastal Georgia Waters**

The U.S. Army Corps of Engineers, Savannah District, and the U.S. Fish and Wildlife Service, Georgia Ecological Services (FWS) agree to the consultation procedures outlined in this Programmatic Agreement (PA), pursuant to Section 7 of the Endangered Species Act, concerning effects on the West Indian Manatee (*Trichechus manatus*) (manatee), from construction, modification, maintenance and use of dock and marina facilities, in Brantley, Bryan, Camden, Charlton, Chatham, Effingham, Glynn, Liberty, Long, McIntosh and Wayne Counties, Georgia.

CONSULTATION PROCEDURES:

1. The Corps will coordinate permit actions with FWS, as follows:

a. Individual Permits (IP): The Corps will include the following statement in joint public notices advertising Department of the Army IP applications for proposed dock and marina facilities, "Any permit that may be issued by the Corps for the proposed project will include the applicable manatee special permit conditions: (1) for single and multi-family private recreational docks, special conditions a thru j; or (2) for private community docks and commercial marinas, special conditions a thru p. The facility types will follow the definitions the Georgia Department of Natural Resources (Georgia DNR) uses in their facility permitting. With inclusion of the applicable special conditions in the permit, and with the requirement for the permittee to implement and adhere to these conditions, the Corps has determined that the project may affect, but is not likely to adversely affect the manatee."

b. Letters of Permission (LOP): The Corps will include the following statement in the agency coordination email for all LOP for proposed dock and marina facilities, "Any permit that may be issued by the Corps for the proposed project will include the applicable manatee special permit conditions: (1) for single and multi-family private recreational docks, special conditions a thru j; or (2) for private community docks and commercial marinas, special conditions a thru p. With inclusion of the applicable special conditions the permit, and with the requirement for the permittee to implement and adhere to these conditions, the Corps has determined that the project may affect, but is not likely to adversely affect the manatee."

c. Nationwide Permit 3(a) (NWP 3(a)): The Corps will include the following statement in agency coordination email for all Pre-Construction Notifications proposing use of NWP 3(a) to repair, rehabilitate or replace a previously authorized, currently serviceable dock or marina facility, "Any verification for use of NWP 3(a) that may be

issued by the Corps for the proposed project will include the applicable manatee special permit conditions: (1) for single and multi-family private recreational docks, special conditions a thru j; or (2) for private community docks and commercial marinas, special conditions a thru p. With inclusion of the applicable special conditions in the NWP 3(a) verification letter, and with the requirement for the permittee to implement and adhere to these conditions, the Corps has determined that the project may affect, but is not likely to adversely affect the manatee.”

d. Programmatic General Permit 83 (PGP 83): PGP 83 authorizes the construction, maintenance and modification of certain private recreational dock facilities in the tidal waters of Georgia. The Corps has delegated authority to the Georgia Department of Natural Resources, Coastal Resources Division (Georgia CRD) to review PGP 83 applications, and verify whether proposed dock facilities comply with the terms and conditions for authorization under the PGP. All dock facilities authorized by PGP 83 must comply with manatee special permit conditions a thru j. With inclusion of these special conditions in PGP 83 verifications issued by Georgia CRD, and with the requirement for the permittee to implement and adhere to these conditions, the Corps has determined that private single family docks authorized by PGP 83 may affect, but are not likely to adversely affect the manatee.

2. FWS: For IP, LOP and NWP 3.a, the FWS will respond in writing (letter or email) to the Corps’ public notice or email notification during the specified comment period when there is a project specific issue that would preclude FWS’ concurrence with the Corps’ may affect but not likely adversely affect determination for the project. The Corps will initiate Section 7 consultation with the FWS for such a project. However, if FWS does not disagree in writing with the Corps’ determination within the specified comment period; the FWS is thereby concurring with the Corps’ determination for the project. For private recreational dock facilities authorized by PGP 83, the FWS concurs with the Corps’ may affect but not likely adversely affect determination.

MANATEE SPECIAL PERMIT CONDITIONS:

1. Single and multi-family private recreational docks, conditions a thru j.
2. Private community docks and commercial marinas, conditions a thru p.
3. Special Permit Conditions:

a. The permittee shall ensure that all personnel associated with construction of the authorized dock facility are informed of the civil and criminal penalties for harming, harassing or killing manatees, which are protected under the Endangered Species Act of 1973 (ESA) and the Marine Mammal Protection Act of 1972. The permittee and the permittee’s contractor(s) (contractor) will be held responsible for any manatee harmed, harassed or killed as a result of construction activities.

b. The use of siltation barriers in waters of the United States, below the high tide line, is not allowed in association with the construction of the authorized dock facility.

c. All vessels associated with project construction shall operate at "no wake/idle" speeds at all times while in the project area. All vessels will follow routes of deep water when entering or exiting the project area, and while operating in the project area, whenever possible. For the purposes of compliance with manatee conditions, the project area is defined as all areas of shoreline, marsh and open waters within 100 feet of the outermost perimeter of the authorized dock facility.

d. All contractors and other on-site personnel are responsible for observing for the presence of manatees in or near the project area. All in-water construction activities shall cease upon sighting of a manatee within 50 feet of any ongoing work in the marsh or open waters. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.

e. Extreme care shall be taken when lowering equipment and materials below the water surface and/or to the water bottom. Equipment and materials include, but are not limited to: piles; sheet piles; casings for drilled shaft construction; spuds; pile templates; and anchors. All such equipment/material shall be lowered as slow as possible, to avoid injury to any manatee that may have entered the project area undetected.

f. In the event of injury to or mortality of a manatee in the project area, the permittee or contractor shall immediately notify the Georgia Department of Natural Resources (Georgia DNR) at 912-264-7218 or 1-800-272-8363 on weekdays between 8:00 a.m. to 4:30 p.m., or 1-800-241-4113 on nights and weekends. Within one hour of a manatee injury or mortality the permittee or contractor shall notify the Corps at 1-800-448-2402 and the US Fish and Wildlife Service, Georgia Ecological Services Field Office at 912-832-8739. Any dead manatee found in the project area shall be secured to a stable object to prevent the carcass from moving with the current. In the event of a manatee injury or mortality, all open water construction activity shall cease pending completion of consultation between the Corps and the FWS, pursuant to Section 7 of the ESA.

g. The permittee shall ensure that the contractor keeps a log of sightings, collisions or injury to manatees that occur during construction of the dock facility.

h. Within 30 days of project completion, the permittee shall submit a report summarizing manatee sightings or incidents that occurred during project construction, to the FWS, Ecological Services Field Office, Coastal Georgia Sub-Office, 4980 Wildlife Drive NE, Townsend, Georgia 31331. Submission of a negative report is not required.

i. All temporary or unused construction materials shall be removed from the project area upon completion of the work, and any impacted area of salt marsh shall be restored. No construction debris or trash is to be discarded in project area.

j. The permittee shall regularly inspect and maintain all hoses, faucets, and other potential sources of freshwater, to ensure that any freshwater leak is stopped and immediately repaired. Manatees are attracted to freshwater leaking from dock facilities, where boats are concentrated and there is an increased risk for manatee collisions.

k. Prior to initiating authorized construction activities, the permittee shall contact Georgia DNR at 912-264-7218 for assistance with development of temporary manatee awareness sign plan for the project area. The plan will include the types and number of signs; and locations where signs will be installed to be prominently visible to contractors entering the project area from uplands and from the water. The permittee shall install temporary manatee awareness signs in accordance with the Georgia DNR approved plan. See attached Appendix A for information about the size and appearance of temporary manatee awareness signs. Within 30 days of project completion, the permittee shall remove all temporary manatee signs.

l. Once construction activities are completed, and prior to use of the facility, the permittee shall contact Georgia DNR at 912-264-7218 for assistance with development of permanent manatee awareness sign plan. The plan will include the types and number of signs; and locations where signs will be installed to be prominently visible to all facility users entering the project area from uplands and from the water. The permittee shall install permanent manatee awareness signs in accordance with the Georgia DNR approved plan. See attached Appendix A for information about the size and appearance of permanent manatee awareness signs.

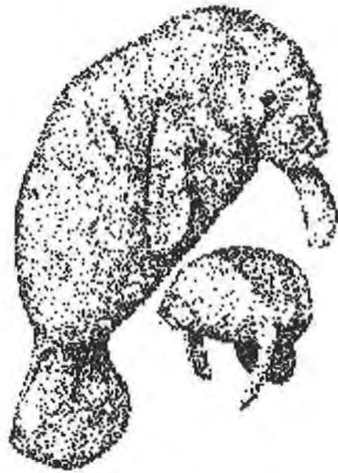
m. Within 30 days of installation, the permittee shall submit a notarized letter to the Corps confirming that required permanent manatee signs have been installed in compliance with the Georgia DNR approved plan. The permittee shall maintain all permanent manatee signs in a clearly visible condition for the life of the facility.

n. The permittee shall utilize the Georgia DNR video, "Georgia Wildlife - Sharing the Coast – Manatee" as a manatee education awareness program; available at www.youtube.com/watch?v=whD8KX4PBNA. This video program focuses on educating boaters on manatee biology, how watercraft can adversely affect the manatee, and detail actions that boaters can take to avoid impacts to the manatee. The permittee shall insure that all boat operators view this video before using the permitted facility. The permittee shall continue a manatee education awareness program for the life of the facility. The permittee may develop and use a comparable manatee education awareness program upon approval by the Corps, FWS, and Georgia DNR.

o. After project completion, the permittee shall identify the individual, facility operator or homeowner's association representative to be responsible for reporting manatee sightings, boat strikes or other manatee concerns to the FWS and Georgia DNR.

p. For facilities with oil/gas pumps and/or sewage pump-out equipment, the permittee shall develop and maintain spill contingency plans in accordance with the requirements of the Georgia DNR, Coastal Resources Division.

PRIVATE COMMUNITY DOCK AND COMMERCIAL MARINAS MANATEE SIGNS PLACEMENT PROCEDURES



The West Indian manatee (*Trichechus manatus*) is an endangered species protected at the Federal level by the Endangered Species Act of 1973, as amended and the Marine Mammal Protection Act of 1972, as amended. In Georgia they inhabit coastal estuaries and rivers primarily from March through November. Increasing coastal development and associated watercraft facilities are expected to increase boat traffic and the probability of collisions between manatees and watercraft. Raising boater awareness of this threat and educating the public about manatees in general are important components of manatee conservation within Georgia waters. Signage has and will continue to play a key role in informing the boating community and general public about the species and how best to protect it from adverse impacts .

Use

Manatee signage may be temporary or permanent. Temporary signs are most often associated with the construction phase of in-water structures and facilities. They are intended to remind those involved with the construction of the potential presence of manatees within the project area. Although the project permit usually mandates their use, they are informative and non-regulatory in nature. Two examples of such signage are included in this Appendix under the "Temporary Construction Sign" section. Permanent signs are intended to provide long-term boater awareness and public education about manatees in Georgia waters. Examples of permanent signage include, "Manatee Basics for Boaters" and waterway display sign, "Protect Georgia's Manatees", and are included in this Appendix under the "Permanent Signs" section. Both "Manatee Basics for Boaters" and "Protect Georgia's Manatees" permanent signs are required for all private community docks and commercial marinas. Private single or dual family docks are not required to have manatee signs.

Procedure for Approval of Sign Installation:

1. The applicant should forward a project site plan, including the proposed location for the permanent signs to: Manatee Sign Approval, Nongame Conservation Section, Department of Natural Resources, One Conservation Way, Brunswick, GA 31520. The applicant should also include a chart indicating the location of the facility in relation to waterways, location within a given county (specify county name), Contact person with phone number, and the Permit and/or Lease number associated with the project
2. The Nongame Conservation Section of the Georgia Department of Natural Resources (GDNR) will review the proposed sign placement site plan and will respond to the applicant within 30 days. If the proposed location is unacceptable, guidance on an alternate site will be provided. The contact person should notify the Nongame Conservation Section when sign placement has been completed (912-264-7218). A photograph(s) of the posted manatee signage at your facility must be submitted with the required permit compliance form to the Marsh and Shore Regulatory Program of the Coastal Resources Division/GA Department of Natural Resources.
3. If during a site visit, approved signs and their locations are found not to be in compliance with the instructions given in this document, relocation or addition of signs will be required. Annual site visits will be conducted to document sign placement and condition. All signs locations will be recorded in the GDNR manatee database.

Approved Suppliers of Manatee Signs: Signs are available through the companies listed below and may also be available from other local suppliers throughout the state. Permit/lease holders, marinas, and boat docking/launching facilities should contact sign companies directly to obtain pricing information and arrange for shipping and billing.

Grafix, Inc.
455 Montgomery Street
Savannah, GA 31402
912-691-1117

Fendig Signs
411 Arnold Rd
St. Simons Island, GA 31522
912-638-3668

Image Sign Company
785 King George Blvd., Bldg. 3
Savannah, GA 31419
912-961-1444

Good & Associates
344 Major Wright Road
St. Simons Island, GA
912-638-7664

Doug Bean Signs, Inc.
160 Dean Forest Rd
Savannah, GA 31408
912-964-1900

Temporary Construction Signs



Permanent Signs



“Protect Georgia’s Manatees” sign – At least one sign will be required to face the waterway for each facility. This is dependent upon the size of the facility and the number of docks/piers present. The number and placement of signs will be determined on a site-by-site basis by GDNR biologists. Each approach to the marina from the waterway to the facility will need a visible sign. This sign is intended to alert any passing boater that may or may not be associated with the facility that manatees may be present and again raise awareness of this endangered species.

Manatee Basics for Boaters

“Manatee Basics for Boater” sign – One sign is required for each entry point to any dock /pier space. It should be placed where anyone boarding or launching a boat will easily see the sign. This sign is intended to provide detailed information about manatees, how to avoid negative impacts to manatees, and to raise awareness of their presence in Georgia to any person using the facility. Sign placement approval by the Nongame Conservation Section is required.

-- Flatwoods Salamanders --
Effects Determination Guidance for Endangered & Threatened Species (EDGES)

Baker, Bryan, Charlton, Chatham, Decatur, Dougherty, Early, Evans, Lanier, Lee, Liberty, Long, McIntosh, Miller, Screven, and Seminole Counties

Species Covered by This EDGES: Frosted flatwoods salamander (*Ambystoma cingulatum*, threatened) and Reticulated flatwoods salamander (*Ambystoma bishopi*, Endangered)

These flatwoods salamanders are found only in the Georgia and South Carolina coastal plain and the Florida panhandle. They occur in isolated populations scattered across the historical range in remnants of their suitable habitat.

Flatwoods salamanders are pond-breeding amphibians that have aquatic larval stages and terrestrial juvenile and adult stages. Adult flatwoods salamanders migrate in the fall to seasonally-flooded depressional wetlands, where they breed in small, isolated ephemeral ponds. Eggs hatch into larvae in the winter and metamorphose between March and May. Juveniles disperse from ponds to terrestrial habitat after metamorphosing. The terrestrial adults and juveniles spend much of their time below ground in crayfish burrows or root channels until it is time to return to their natal pond to breed. Breeding wetlands are located in the same mesic longleaf pine-wire grass dominated flatwoods, where adults and juveniles reside outside of the breeding season.



Frosted (above) and reticulated flatwoods salamanders



Habitat loss is the primary cause of the rapid decline of these species throughout their ranges. Agriculture and silviculture have altered much of Georgia’s longleaf pine-flatwoods ecosystem and eliminated adult habitat and their breeding wetlands. Fire suppression in the Coastal Plain has reduced suitable habitat by allowing midstories and closed canopies to develop which shade and suppress herbaceous groundcover.

This EDGES covers (1) existing structure maintenance and (2) new development, including subdivisions, commercial development, roads, pipelines and powerlines, stream and wetland



restoration/ stabilization, and similar projects. It does not cover new drinking water reservoirs, airports, or similar large-impact projects.

Endangered Species Act Consultation Checklist:

Applicant:

1. IPAC indicates one of these flatwoods salamanders may occur in the project area (see range map on Page 2).
 - a. No.....No effect. Provide IPaC information to the Savannah District with application/PCN.
 - b. Yes.....Go to #2.

2. The Fish and Wildlife Service-Georgia Field Offices (FWS-GA) provided documentation evaluating habitat, potential presence of species, suitable survey methodology and/or potential project impacts (FWS-GA signed letter or sticker, T&E survey where FWS-GA provided concurrence with negative findings, or similar documentation).

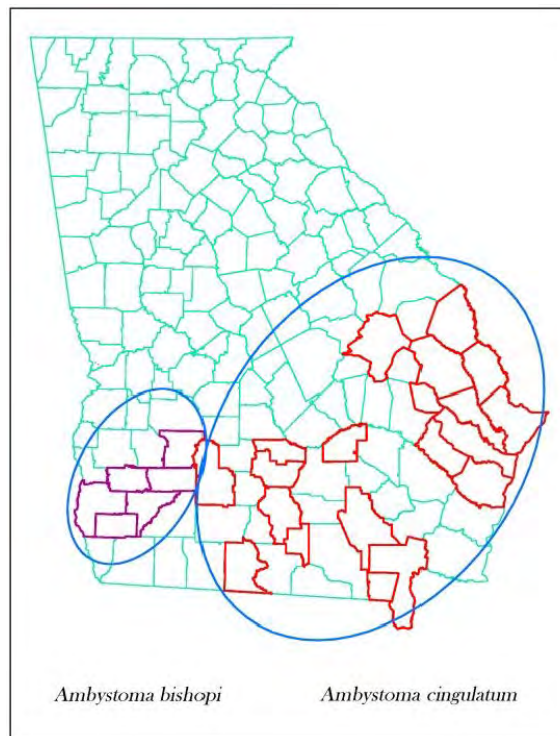
- a. No.....Provide completed EDGES Applicant Coordination Slip and supporting documentation to the Savannah District with 404 application/PCN.
- b. Yes.....Provide FWS-GA project review documentation and/or survey data to the Savannah District with application/PCN.

Savannah District:

- 3. The project occurs in Baker or Miller Counties, where Critical Habitat for the reticulated flatwoods salamander has been designated (Critical Habitat for the frosted flatwoods salamander has not been identified in Georgia).
 - a. No.....Savannah District has determined “No adverse modification to Critical Habitat.”
Go to #4.
 - b. Yes.....Contact FWS-GA to determine if consultation is needed.
- 4. The project will impact longleaf pine–wiregrass flatwoods or slash pine flatwoods (not managed pine plantations).
 - a. No.....No effect. FWS-GA concurrence is not needed.
 - b. Yes.....Go to #5.
- 5. Project information listed below is provided to assist the Savannah District and FWS-GA evaluate T&E impacts:
 - a. No.....Request the information and, once received, continue with 6b.
 - b. Yes.....Share data with FWS-GA and continue consultation. If Consultation results in a Corps’ determination of:
 - i) NLAA, and FWS-GA concurs, consultation complete.
 - ii) LAA, and FWS-GA concurs, initiate formal consultation.

Information to be Provided the Savannah District for Endangered Species Act Review

- A map detailing the size and location of pine flatwoods and isolated depressional wetlands on the site.
- A description of each wetland and flatwoods habitat that will be impacted by the project, keyed to the map.
- An evaluation of the effects of the project on fire frequency on the site.



DRAFT – Eastern Indigo Snake -- DRAFT

Effects Determination Guidance for Endangered & Threatened Species (EDGES)

South Georgia Coastal Plain Counties

Species Covered by This EDGES: Eastern indigo snake (*Drymarchon couperi*) - Threatened

The Eastern indigo snake (EIS) in Georgia is closely associated with the gopher tortoise (*Gopherus polyphemus*), a reptile that excavates extensive underground burrows that provide the snake shelter from winter cold and summer desiccation. Gopher tortoises are a characteristic species of the longleaf pine and wiregrass community, which includes sandhills, dry flatwoods, and turkey oak scrub. Historically, this community was found in open-canopied forest that allowed abundant sunlight penetration and conditions favorable for a rich growth of herbaceous vegetation. Little of this habitat still exists; many tortoises have been forced into artificial habitats, such as roadsides and old fields that retain the three key habitat



requirements: sandy soil for burrowing, sunlight, and abundant herbaceous vegetation.



During the warmer months, EIS during the day forage on the edge of wetlands where frogs and other snakes typically are abundant. In Georgia, adult EIS may range 1-4 mi from the overwintering sandhill, although they typically return to the same sandhills in winter. Breeding occurs November - April, and females often place eggs in the moist sand of tortoise burrows. Threats to EIS include loss and fragmentation of sandhill habitats that support tortoises, removal of prescribed fire, which maintains suitable understory habitat, and declining gopher tortoise populations.

This EDGES covers maintenance of existing structures and new development, including subdivisions, commercial development, roads, water supply infrastructure, and sewer mains, pipe and powerlines, stream restoration and stabilization (including mitigation banks) and similar projects. It does not cover new drinking water reservoirs, airports, or similar large-impact projects.

Endangered Species Act Consultation Checklist:

Applicant:

1. IPAC indicates EIS may occur in the project area.
 - a. No.....No effect. Provide IPaC information to the Savannah District with application/PCN.
 - b. Yes.....Go to #2.
2. The Fish and Wildlife Service’s Georgia Field Office (FWS-GA) provided documentation stating project impacts to EIS were likely to be minimal (FWS-GA signed letter or sticker, T&E survey where FWS-GA provided concurrence with negative findings, or similar documentation).
 - a. No.....Provide completed EDGES Applicant Coordination Slip, with supporting documentation, and a soil map with the project site clearly marked, to the Savannah District with 404 application/PCN.
 - b. Yes.....Provide FWS-GA project review documentation and/or survey data to the Savannah District with application/PCN.

Savannah District:

3. A soil map, with the site clearly marked (provided by applicant), shows suitable soils for gopher tortoise burrows on site (see list of suitable soils list below).
 - a. No.....NLAA. Consultation complete. FWS-GA concurrence not needed.
 - b. Yes.....Go to #4.

4. There are gopher tortoise burrows on site.
 - a. No.....NLAA. Consultation complete. Further review from FWS-GA not needed.
 - b. Yes or Don't Know.....Go to #5.

5. The area has an open tree canopy AND abundant forb groundcover (see photos below) OR is on a right-of-way, fence row, orchard edge, golf course, old field, or pastureland.
 - a. NoNLAA. Consultation complete. FWS concurrence is needed, in writing, for JPNs, but is assumed for other Savannah District actions if FWS-GA does not respond.
 - b. Yes.....May affect. Consult with FWS-GA



Best Gopher Tortoise Soils	Moderate Gopher Tortoise Soils	Marginal Gopher Tortoise Soils
Bonifay	Bonneau	Ailey
Centenary	Fuquay	Albany
Foxworth	Hurricane	Cowarts
Lakeland	Luch	Norfolk
Lucknow	Mandarin	Orangeburg
Troup	Meldrim	Tifton
Valdosta	Ridgewood	Vaucluse
	Stilson	
	Uchee	

DRAFT – Sea Turtles -- DRAFT

Effects Determination Guidance for Endangered & Threatened Species (EDGES)

Bryan, Camden, Chatham, Glynn, Liberty, and McIntosh Counties

Species Covered by This EDGES: Loggerhead sea turtle (*Caretta caretta*), green sea turtle (*Chelonia mydas*), leatherback sea turtle (*Dermochelys coriacea*), and Kemp’s ridley sea turtle (*Lepidochelys kempii*).

Sea turtles may be found in the marine and estuarine waters of Georgia. Nesting season in the state is May 1- August 31, and hatching extends to October 31. Nesting habitat includes both sandy beach and any sandy areas that wrap around the north and south ends of islands. Loggerheads are Georgia's primary nesting sea turtle, laying 99.6% of the nests found on the State’s beaches. Green, leatherback, and Kemp’s ridley sea turtles occasionally nest in Georgia. Sea turtles have site fidelity to their nesting beaches. A primary threat to these species is loss or degradation of nesting habitat. Most of GA’s beaches (map page 2) are designated Critical Habitat.



This EDGES covers projects on Georgia’s coast that permanently or temporarily alter sea turtle nesting habitat. The Fish and Wildlife Service and the National Marine Fisheries Service share Federal jurisdiction for sea turtles. FWS has responsibility for sea turtles on the nesting beach and NMFS in the marine environment. This EDGES, therefore, only addresses activities, that may impact nesting sea turtles, their nests, eggs, or hatchlings, as they emerge from the nest and crawl to the sea. Separate consultation with NMFS, may be required for potential impacts to sea turtles in ocean waters.



Endangered Species Act Consultation Checklist:

Applicant:

1. IPAC indicates sea turtles may nest in the project area (see range map on Page 2).
 - a. No.....No effect. Provide IPaC information to the Savannah District with application/PCN.
 - b. Yes.....Go to #2.
2. The proposed project will impact or alter any of Georgia’s coastal beaches, sandy north/south island ends, or associated dune habitat.
 - a. No.....Provide this information to the Savannah District with application/PCN
 - b. Yes.....Go to #3.
3. The Fish and Wildlife Service’s Georgia Field Office (FWS-GA) provided documentation stating project impacts to sea turtles were likely to be minimal.
 - a. No.....Provide completed EDGES Applicant Coordination Slip and supporting documentation to the Savannah District with 404 application/PCN.
 - b. Yes.....Provide FWS-GA project review documentation and/or survey data to the Savannah District with application/PCN.

Savannah District:

4. IPAC indicates the project is within designated Critical Habitat for one or more of the listed sea turtles.
 - a. No.....Go to #5.
 - b. Yes.....Contact FWS-GA to determine if consultation is needed.

5. The project would result in impacts <6 months to sea turtle nesting habitat (e.g., construction of groins, sea walls, jetties, ocean piers, placement of fill, etc.).
 - a. No.....Go to #6.
 - b. Yes.....May affect. Consultation required.

6. Projects that cause temporary impacts to sea turtle nesting habitat (e.g., beach renourishment, beach restoration, or inlet sand transfer) will be constructed only from September through April, when sea turtles are not nesting.
 - a. No.....May affect. Consultation required.
 - b. Yes.....Go to #7.

7. The sea turtle conditions below will be implemented throughout project preparation and construction.
 - a. No.....MALAA. Consultation with FWS-GA required.
 - b. Yes.....NLAA. Consultation complete. FWS-GA concurrence is needed, in writing, for JPNs, but is assumed for other Savannah District actions if FWS does not respond.

Sea Turtles Conditions

1. Permittee will not work between May 1 and August 31 in order to avoid impacts to sea turtle nests.
2. Permittee will have a designated qualified biological monitor, acceptable to FWS-GA and the Savannah District, present each day to monitor construction activity and the presence of sea turtles. Permittee will provide the name of the monitor and their qualifications prior to commencing work.
3. For work between September 1 and October 31, the permittee or their contractor shall coordinate with GADNR WRD non-game, sea turtle specialist (currently Mark Dodd - phone number 912-280-6892) before work commences concerning protection of sea turtle nests that may be present in the project area. Permittee or contractor will be expected to avoid impacts to sea turtle nests and hatchlings through protective measures such as hay bales or similar materials, through the end of nesting season on October 31.
4. Permittee will measure sand compaction in the work area immediately after project completion and consult with FWS-GA' Coastal Georgia ES Office to determine if the sand needs to be tilled to improve sea turtle nesting habitat. Sand compaction monitoring and tilling protocols are posted on pages 2-3 of the following document: <https://www.fws.gov/panamacity/resources/PostConstructionRequirementsChecklist.pdf>.
5. Visual surveys for escarpments along beach renourishment projects must be made immediately after completion and in late March-early April for three years post-construction. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet must be leveled and the beach profile reconfigured to minimize scarp formation before May 1 annually.
6. FWS-GA and GADNR will be notified if a sea turtle adult, hatchling, or egg is harmed or destroyed as a direct or indirect result of the project.
7. All personnel associated with the project will be notified, in writing, that there are civil and criminal penalties for harming, harassing or killing sea turtles.
5. All vessels associated with the project will operate at "no wake/idle" speeds at all times while in the construction area. All vessels will follow routes of deep water whenever possible.
6. All temporary construction materials will be removed upon completion of the work. No construction debris or trash will be discarded in the water.



DRAFT – Wood Stork -- DRAFT

Effects Determination Guidance for Endangered & Threatened Species (EDGES)

South Georgia Coastal Plain Counties

Species Covered by this EDGES: Wood stork (*Mycteria americana*) – Threatened

The wood stork is a large, bald-headed wading bird that stands more than 3 feet tall, has a 5-foot wing spread, and weighs 4 to 6 pounds. It is the only stork that breeds in the United States. It eats primarily fish, foraging in a variety of open, shallow freshwater and estuarine wetlands. It favors areas with falling water levels (when fish and other prey are likely to be more concentrated in pools). Birds forage mainly by wading in shallow water with their bills partly open in the water, so they can quickly snap them shut when contact is made with prey.



The wood stork is a highly colonial species usually nesting in large rookeries and feeding in flocks. Colony size in Georgia has ranged from fewer than 12 to more than 500 nests. Nests may be located in



small trees (3-7' above ground) or large trees (60' or more above ground), but the trees must be in standing water or on islands surrounded by water to protect from predators. Nesting periods vary geographically. In north and central Florida, Georgia, and South Carolina, storks lay eggs March-late May, with fledging occurring July-August. Wood storks have also nested in man-made structures. Storks occasionally use the same rookeries for years, but most colonies are shorter lived. Loss of foraging and breeding wetland habitat is the primary cause for declines.

This EDGES covers any project that might affect freshwater or estuarine wetlands.

Endangered Species Act Consultation Checklist:

Applicant:

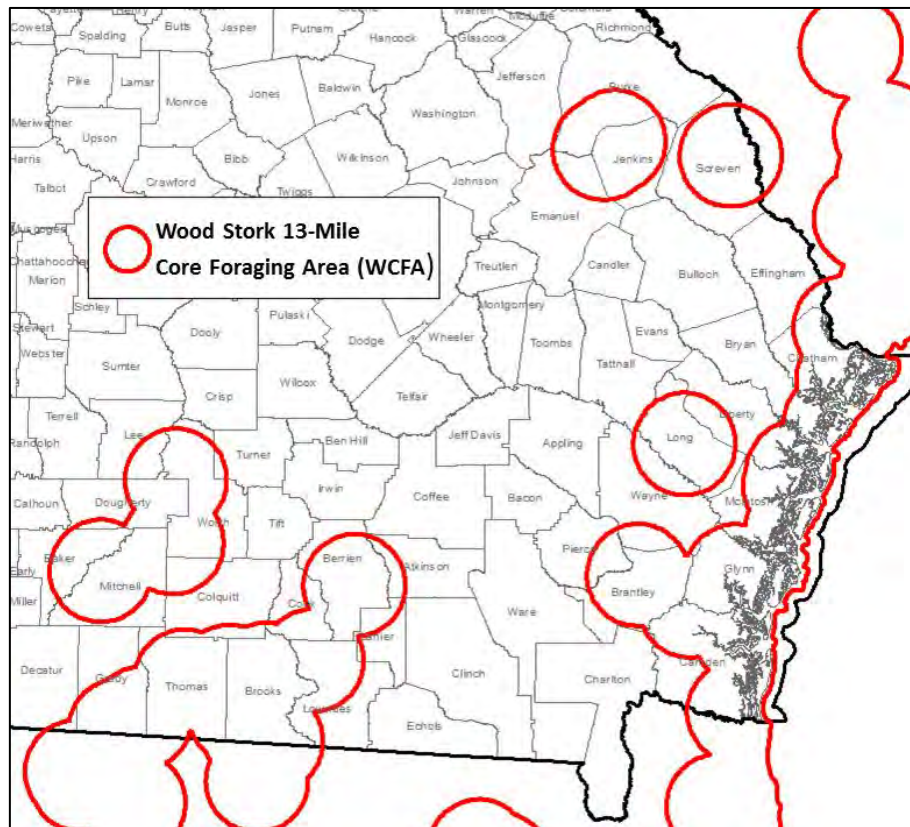
1. IPAC indicates wood storks may occur in the project area.
 - a. No.....No effect. Provide IPaC information to the Savannah District with application/PCN.
 - b. Yes.....Go to #2.

2. The Fish and Wildlife Service’s Georgia Field Office (FWS-GA) provided documentation stating project impacts to listed wood storks were likely to be minimal (FWS-GA signed letter or sticker, T&E survey where FWS-GA provided concurrence with negative findings, or similar documentation).
 - a. No.....Provide completed EDGES Applicant Coordination Slip, with supporting documentation, to the Savannah District with 404 application/PCN.
 - b. Yes.....Provide FWS-GA project review documentation and/or survey data to the Savannah District with application/PCN.

Savannah District

3. The project is within 2,500 feet of an active wood stork nesting colony (see GIS layer).
 - a. No.....Go to #4.

- b. Yes.....May affect. Consult with FWS-GA.
4. The project will affect suitable wood stork foraging habitat (SFH). SFH contains patches of relatively open (< 25%) aquatic vegetation, calm water, and a permanent or seasonal water depth between 2 and 15 inches. Examples of SFH include, but are not limited to, freshwater marshes, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs.
 - a. No.....NLAA. Consultation complete. FWS-GA concurrence not needed.
 - b. Yes.....Go to #5.
 5. Project impacts to SFH are greater than 0.5 acre.
 - a. No.....NLAA. Consultation complete. FWS-GA concurrence not needed.
 - b. Yes.....Go to #6.
 6. The project will impact SFH within a Wood Stork Core Foraging Area (WSCFA) for a known colony (see map below) OR wood storks have been documented foraging in the wetland. WCFAs in Georgia include SFH within a 13-mile radius of a colony.
 - a. No.....NLAA. Consultation complete. FWS concurrence is needed, in writing, for JPNs, but is assumed for other Savannah District actions if FWS-GA does not respond.
 - b. Yes.....May affect. Consult with FWS-GA



August 16, 2018

February 5, 2018

Shorebirds

Effects Determination Guidance for Endangered & Threatened Species (EDGES)

Bryan, Camden, Chatham, Glynn, Liberty, and McIntosh Counties

Species Covered by This EDGES: Red knot (*Calidris canutus*) and piping plover (*Charadrius melodus*) -Threatened.

Piping plovers breed in North America in three regions: the upper Atlantic Coast, the Northern Great Plains, and the Great Lakes. The bird is a winter migrant in Georgia, foraging on beaches on all the coastal barrier islands. Some wintering birds arrive in Georgia as early as late Jun-early July, but most arrive in October. In spring most have left for breeding areas by late April. Loss of wintering sites can reduce survival by increasing competition with other piping plovers and shorebird species. These birds are susceptible to disturbance by humans, pets, and vehicular traffic, which often cause repeated flushing, depleting vital fat reserves needed for successful migration. To protect these areas, Critical Habitat for piping plovers has been designated on most of Georgia’s beaches (see IPaC).



The red knot nests in the summer in the far north, mostly well above the Arctic Circle in Canada, Europe, and Russia. During other seasons, it is strictly coastal, migrating south after breeding to large sandy estuaries and beaches around the world referred to as ‘winter habitat’. In Georgia this includes Little Tybee, Wassaw, St. Catherines, Blackbeard, Sapelo, Little St. Simons, and Cumberland Islands, as well as St. Catherines Island Bar, Wolf Island, Little Egg Island Bar, and Little St. Simons Island at the mouth of the Altamaha River support the only known late summer and fall staging site for red knots on the east coast of the U.S., attracting as many as 12,000 birds at one time. Loss of food resources at these Georgia stopover sites is a primary threat to the species, as is habitat loss caused by beach armoring structures that alter and interfere with the natural dynamics of sand deposition. No critical habitat rules have been published for the red knot.



In Georgia, foraging habitat for both species of listed shorebirds is the moist or wet sand of inter-tidal beaches and tidal flats. Sheltering and roosting habitat is beaches and dunes above the annual high tide.

This EDGES covers projects on beaches and tidal flats.

Endangered Species Act Consultation Checklist:

Applicant:

1. IPAC indicates red knots or piping plovers may occur in the project area.
 - a. No.....No effect. Provide IPaC information to the Savannah District with application/PCN.
 - b. Yes.....Go to #2.

2. The proposed project will impact or alter any of Georgia’s coastal beaches, sandy north/south island ends, or associated dune habitat.
 - a. No.....No effect. Provide this information to the Savannah District with application/PCN
 - b. Yes.....Go to #3.

3. The Fish and Wildlife Service's Georgia Field Office (GAES) in Townsend provided documentation stating project impacts to piping plovers and red knots were likely to be minimal.
 - a. No.....Provide completed EDGES Applicant Coordination Slip and supporting documentation to the Savannah District with 404 application/PCN.
 - b. Yes.....Provide GAES project review documentation and/or survey data to the Savannah District with application/PCN.

Savannah District:

4. IPAC indicates the project is within designated Critical Habitat for piping plovers.
 - a. No.....Savannah District has determined no effect to piping plover critical habitat. Consultation complete for critical habitat. FWS-GA concurrence not needed. Go to #5 for potential effects to listed species.
 - b. Yes.....Contact GAES-Townsend to determine if consultation is needed.
5. The project will impact a coastal beach (see #2).
 - a. No..... No effect.
 - b. Yes..... Go to #6
6. The project is on Wolf Island, Little Egg Island Bar, or Little St. Simons Island (i.e. migration habitat for red knots).
 - a. No.....Go to #7.
 - b. Yes.....May affect. Consultation required.
7. The project would result in impacts >6 months to piping plover or red knot foraging habitat (e.g., construction of groins, sea walls, jetties, ocean piers, etc).
 - a. No.....Go to #8.
 - b. Yes.....May affect. Consultation required.
8. The project will cause temporary impacts to foraging habitat (e.g., beach renourishment, beach restoration, or inlet sand transfer) and will be constructed only from May through July, when the birds are not on winter habitat.
 - a. No.....Go to #9.
 - b. Yes..... NLAA. Consultation complete. FWS-GA concurrence not needed.
9. The conditions below will be implemented throughout project preparation and construction.
 - a. No.....MALAA. Consultation required.
 - b. Yes.....NLAA. Consultation complete. FWS-Townsend concurrence is needed, in writing, for JPNs, but is assumed for other Savannah District actions if FWS does not respond.

Avoidance and Minimization Measures for Red Knots and Piping Plovers For Shoreline Activities

- Do not disturb foraging or roosting red knot or piping plovers. The project area, including the operational site, access points, travel corridors, and staging areas, should be surveyed by a qualified biologist for the presence of these birds or for optimal habitat features (e.g., inlets, tidal flats, tidal pools, and wrack lines). Educate personnel on avoiding areas being utilized by the birds.
- Prohibit vehicle and foot traffic within 150 feet from red knot or piping plovers, or within 10 feet of optimal habitat features (even when birds are not present). Personnel and vehicles should follow existing established travel and access corridors and maintain slow speeds to avoid disturbing birds.
- Stay 500 feet or more away from roosting flocks of shorebirds, as red knots or piping plovers may occur in mixed flocks.
- Designate access points and travel corridors away from known foraging and roosting area and keep all personnel, vehicles, and equipment within those designated corridors.
- Avoid driving up and down the shoreline to minimize disturbance to birds and beach topographic alterations.
- Use low tire pressure (10 psi) or tracked vehicles (e.g., ATVs, dozers, etc.) to avoid and minimize beach topographic alterations.
- Locate staging and waste collection areas to avoid beaches, dunes, inlets, and ephemeral pools.
- Maintain a clean worksite and remove trash/work-related debris daily.
- Avoid disturbing the wrack line during project work or while traveling to and from the project site. If the wrack line must be crossed by equipment or vehicles, gently rake the wrack out of the way to establish a designated travel corridor. Restore the wrack to its original configuration once access is no longer needed.

- Avoid impacts to dune systems, both vegetated and non-vegetated, including trampling any dune vegetation. Use existing designated travel and access corridors at all times. If necessary, establish a buffer with flagging from the toe of the slope of the dune to a distance of 10 feet. Where vegetation extends off the dune onto the beach, the buffer should extend 10' from the vegetation.
- Do not fly aircraft or drones below 500' near bird concentration areas and avoid hovering or landing aircraft in these areas.
- Restore beach topography and the wrack line to their natural pre-project conditions to extent practicable.

-- Eastern Black Rail --

Effects Determination Guidance for Endangered & Threatened Species (EDGES)

Brantley, Bryan, Camden, Chatham, Glynn, Liberty, Greene, McIntosh, and Troup Counties

Species covered by this EDGES: Eastern black rail (*Laterallus jamaicensis ssp.*) (BLRA)



The eastern black rail (*Laterallus jamaicensis ssp.*) (BLRA) is Endangered Species Act (ESA) listed as 'Threatened'. Threats include habitat loss, sea level rise and tidal flooding from increasing storm intensity and frequency. There is an ESA 4(d) rule for the BLRA. Prohibited activities include incidental take that causes long-term or permanent damage, fragmentation, or conversion of BLRA habitat to other habitat types that do not support the bird.

Habitat - Black rail habitat is higher elevations in Estuarine and Palustrine persistent emergent wetlands and where these wetlands meet upland edges. The BLRA species habitat needs are; the higher elevations of salt, brackish, or freshwater marsh, dense herbaceous vegetative cover that allows movement underneath the canopy, plant structure is considered more important than plant species composition, elevated refugia to escape high water events, and moist to saturated substrates interspersed with or adjacent to very shallow water.

On the Georgia Coast, habitat is the higher elevations of Estuarine Persistent Emergent Wetlands dominated by saltmarsh cordgrass (*Spartina alterniflora*) and needlerush (*Juncus roemerianus*). Inland habitat in both non-tidal wetlands and low salinity tidal areas is Palustrine Persistent Emergent Wetlands contain a vast array of grasslike plants such as cattails (*Typha* spp.), bulrushes (*Scirpus* spp.), sedges (*Carex* spp.); and true grasses such as reed (*Phragmites australis*). Inland minimum habitat size, based on the breeding home range, is 3.2 acres (1.3 ha). Shrub-scrub and forested areas are not black rail habitat.

Should BLRA habitat be present, the USFWS recommends a presence/absence survey for the bird. Survey protocol recommended to be used in Georgia can generally be described as playback/listening of recorded bird calls during mating season, with three surveys conducted between April and July.

For more information on the eastern black rail, see the USFWS Species Status Assessment (SSA) at: <https://ecos.fws.gov/ServCat/DownloadFile/154242> .

Applicant:

1. IPaC indicates BLRA are potentially affected by activities in the project location.
 - a. No No effect. Provide IPaC information to the Savannah District with application/PCN.
 - b. Yes Go to #2.

2. The U.S. Fish and Wildlife Service’s Georgia Field Office (FWS-GA) provided documentation stating project impacts to BLRA were likely to be minimal (FWS-GA signed letter or sticker, T&E survey where FWS-GA provided concurrence with negative findings, or similar documentation).
 - a. No Provide completed EDGES Applicant Consultation Form, with supporting documentation to the Savannah District with 404 application/PCN. Supporting documentation should include a habitat description and results of BLRA presence/absence surveys if completed. Habitat descriptions should provide sufficient detail to determine whether BLRA habitat is present. Wetland dataforms may be used, for example, to document vegetation structure and composition
 - b. Yes Provide FWS-GA project review documentation and/or survey data to the Savannah District with application/PCN.

Savannah District:

3. Will BLRA habitat be affected by the project (habitat present within action area and activity will result in an effect to habitat)?
 - a. No No effect. No additional coordination with FWS-GA is necessary.
 - b. Yes Go to #4.

4. The USFWS recommends presence/absence surveys following the protocol described at the end of this EDGES. Were BLRA presence/absence surveys completed?
 - a. No Based on IPaC listing and presence of habitat, Savannah District assumes BLRA is present. The project May Affect the BLRA. Go to #6.
 - b. Yes Go to #5.

5. Did the surveys find presence of the BLRA?
 - a. No May affect, not likely to adversely affect (MA NLAA). Consultation complete. No additional coordination with FWS-GA is necessary. FWS-GA concurrence is assumed. The effects of the action on the BLRA are considered to be discountable or insignificant. Discountable effects are those extremely unlikely to

occur. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur.

b. Yes May affect. Go to #6.

6. Are the effects of the action on the BLRA considered to be discountable, insignificant, or wholly beneficial? Beneficial effects are contemporaneous positive effects without any adverse effects to the species. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur.

a. No May affect, likely to adversely affect. Please consult with FWS-GA.

b. Yes May affect, not likely to adversely affect (MA NLAA). Consultation complete. FWS-GA concurrence is needed, in writing, for JPNs. Requests for concurrence should include an explanation of why the project ESA determination is MA NLAA. FWS-GA concurrence is assumed for other actions (i.e. NWP and LOP) unless a response is provided.

Presence / absence survey protocol for the eastern black rail in Georgia.

Surveys for the eastern black rail in Georgia should be based on the survey protocols used for the 2017 – 2018 Georgia BLRA survey. The protocol is described in: Smith, F. M., B. D. Watts, B. J. Paxton and L. S. Duval. 2018. Assessment of Black Rail Status in Georgia, Breeding Season 2017 and 2018 Summaries. Center for Conservation Biology Technical Report Series: CCBTR-18-10. College of William and Mary/Virginia Commonwealth University, Williamsburg, VA. 48 pp..

Survey protocol recommended to be used in Georgia can generally be described as playback/listening of recorded bird calls during mating season, with three surveys conducted between April and July.

Survey Playback Sources:

Ki-ki-kerr: Sourced from Cornell Lab of Ornithology, Macaulay Library in 2007.

Churt: Sourced from Christy Hand, South Carolina DNR

Growl: Sourced from Cornell Lab of Ornithology, Macaulay Library in 2007.

Eek-eek call: Sourced from Cornell Lab of Ornithology, Macaulay Library, Florida call.

Survey Windows: All coastal surveys will take place between 18 April and 21 July, with survey window #1 between 18 April and 17 May, window #2 between 18 May and 17 June, and window #3 between 18 June and 21 July. All inland surveys will take place between 1 May and 15 July, with survey window #1 between 1 May and 31 May, survey window #2 between 31

May and 21 June, and survey window #3 between 22 June and 15 July. There should be a 10-day minimum between surveys of the same point.

All coastal surveys will take place at night, between a half hour after sunset and will conclude by a half hour prior to sunrise. All inland surveys will follow standard SCDNR and USFWS protocols and start a half hour before sunrise to 3.5 hours after sunrise or 3.5 hours before sunset to .5 hours after sunset.

Survey Points: The number of survey points should adequately cover the BLRA habitat on the project site, keeping in mind that the survey should cover the project's area of impact. Surveyor(s) will stand at pre-selected survey point coordinates. Survey points should be marked with pin flagging (and labeled with survey point ID with a permanent marker in a nook of the flagging) during scouting, if visited, or the first survey of the season for ease of location through the rest of the season. Surveys are 10 minutes long at each point. Each point should be surveyed at least 3 times (e.g. windows #1, #2, and #3), with a 10-day minimum between surveys of the same point. Avoid sampling the same point repeatedly at the same time of day.

Broadcast Equipment Placement: The game caller should be placed on the ground near the center of the point (on road based surveys) or the bow of the boat during playback surveys. Surveyor should stand 5m away from caller if possible to better hear responses. When surveyors are surrounded completely by marsh, orient the caller toward magnetic north. At survey points located on the edge of open water or upland habitat, orient the broadcast caller towards the center of appropriate marsh habitat. Do not rotate the speaker during the broadcast survey. Speakers should not face the surveyors. Both speakers of the broadcast callers should be operational in open marsh and only the forward speaker operational when the surveying from the edge of open water or upland habitat. Sound pressure should be 70-80 dB at 3 feet in front of the speaker. The appropriate volume level on the FoxPro NX3 or NX4, in combination with this project's audio file, is illustrated in the figure below. When viewed straight on, the centerline of the volume knob should align with the trailing edge of the last marked volume setting. Replace batteries in game caller with freshly charged batteries at least every other day of surveys and daily, if necessary.

NX4 or NX3 volume level during surveys.



Weather Restrictions: Surveys should only be conducted when wind speed is <20 kmph (moderate breeze; dust and loose paper raised; small branches begin to move), and not during periods of sustained rain or heavy fog. Even winds <20 kmph affect the detection probability of marsh birds, especially BLRA, and perhaps even suppresses their calling behavior. Surveyors should postpone surveys if they believe winds (or other ambient noise) are dramatically affecting the detection probability. If wind speed increases to >20 kmph, or sustained rains/fog begin during a morning or evening survey window, surveyors should cease surveys for that window and visit unsurvey sites at another time.

Recording Bird Detections: Record the point number and Lat / Lon. Use the 4-letter American Ornithological Union (AOU) code: BLRA to indicate an eastern black rail detected. Each individual is recorded on a separate line and record minute by minute data.

Distance and direction: Record an estimate of the exact distance and the general direction (N, NE, E, SE, S, SW, W, or NW, or to the degree marker on a compass) to the initial detection of each individual BLRA.

Time of detection: Detections of each individual BLRA should be recorded minute-by-minute during the 10-minute survey period. Surveyors should distinguish and indicate the call type(s) of all BLRA detections during a given survey minute; Ki-ki-kerr, Churt, Growl, and/or Eek-eek calls. Abbreviations may be used and multiple call types may be recorded in a given minute (e.g., a black rail *ki-ki-kerr* followed by a *growl* could be recorded K, GR).

Birds detected at a prior survey point: If a surveyor suspects that a BLRA bird detected during a survey is an individual detected at a previous survey point, the surveyor should proceed to record the requisite detection data and record “detected at a previous point” in the comments column. When in doubt, be conservative as to whether an individual bird detected at the current

point was the same individual recorded at a previous point (i.e., make a note in the comments column).

Birds detected outside the survey period (approaching or leaving): Record any BLRA detected outside of the survey period by recording the distance and direction of the detection, indication the call type(s) in the “outside survey period” column, and recording your coordinates at the time of detection in the notes column. For example, if a BLRA is detected while moving between survey points, record the detection data on the data sheet for the prior (or forthcoming) survey point as described, and record coordinates of the location where you detected the BLRA.

Federally Endangered and Threatened Plant Species Effects Determination Guidance for Endangered & Threatened Species (EDGES)

Various Counties throughout Georgia

Species Covered by This EDGES:

North Georgia, Blue Ridge

- Endangered: Rock Gnome Lichen (*Gymnoderma lineare*), Green Pitcherplant (*Saracenia oreophila*) and Persistent Trillium (*Trillium persistens*)
- Threatened: Swamp Pink (*Helonias bullata*), Small Whorled Pogonia (*Isotria medeoloides*), Monkeyface Orchid (*Platanthera integrilabia*)

South Georgia

- Endangered: Hairy Rattleweed (*Baptisia arachnifera*), Pondberry (*Lindera melissifolia*) and Canby's Dropwort (*Oxypolis canbyi*), Harperella (*Ptilimnium nodosum*), American Chaffseed (*Schwalbea americana*), Cooley's Meadowrue (*Thalictrum cooleyi*)

Northwest, Central, and Southwest Georgia

- Endangered: Alabama leather flower (*Clematis socialis*) and Whorled sunflower (*Helianthus verticillatus*)
- Threatened: Large-flowered skullcap (*Scutellaria montana*) and Ocmulgee skullcap (*Scutellaria ocmulgee*)

Floyd County

- Endangered: Alabama leather flower (*Clematis socialis*) and Whorled sunflower (*Helianthus verticillatus*)
 - Threatened: Mohr's Barbara's buttons (*Marshallia morhii*)
-

Endangered Species Act Consultation Checklist:

Applicant:

1. IPaC indicates Federally-listed plant species may occur in the project area.
 - a. No.....No effect. Provide IPaC information to the Savannah District with application/PCN.
 - b. Yes.....Go to #2.
2. The Fish and Wildlife Service's Georgia Ecological Services Field Office (GA ES) provided documentation that the project will not impact Federally-listed plants.
 - a. No.....Go to #3.
 - b. Yes.....Provide GA ES project review documentation to the Savannah District with application/PCN.
3. Determination key(s) were completed in IPaC and a consistency letter was auto-generated for the project.
 - a. No..... Provide completed EDGES Applicant Consultation Form and supporting documentation to the Savannah District with 404 application/PCN.
 - b. Yes.....Provide IPaC determination key and consistency letter to the Savannah District with application/PCN.

Savannah District:

4. IPAC indicates the project is within designated Critical Habitat for one or more of these plant species.
 - a. No.....Go to #5.
 - b. Yes.....Contact GA ES to determine if consultation is needed.
5. IPAC indicates federally listed plant species may occur in the project's potential area of effect.
 - a. No..... No effect.
 - b. Yes.....Go to #6.
6. GA ES has reviewed the project and provided information that Federally-listed plant species will not be impacted by the project or the Savannah district has determined that the project will have 'no effect' on listed plants.
 - a. No..... Go to #7.
 - b. Yes.....No effect.
7. The applicant has provided the Savannah district a consistency letter from IPaC indicating the project will have 'no effect' on federally listed plant species or is 'not likely to adversely affect' federally listed species.
 - a. No..... Go to #8.
 - b. Yes.....Verify that the applicant has completed the IPaC determination key properly. No concurrence from GA ES is required. Section 7 consultation complete.
8. The Savannah district completed the required determination key in IPaC and generated a concurrence letter.
 - a. No..... Go to #9.
 - b. Yes.....No concurrence from GA ES required. Section 7 consultation complete.
9. Suitable habitat for one or more federally listed plant species occurs within the project's action area. Please find suitable habitat guidance by species at: <https://georgiabiodiversity.org/portal/table/plants/>
 - a. No.....No effect.
 - b. Yes.....Go to #10.
10. Surveys were conducted when listed plants can be correctly identified. Survey guidance can be found for each species at: <https://georgiabiodiversity.org/portal/table/plants/>
 - a. No.....Contact GA ES to determine if consultation is needed.
 - b. Yes.....Go to #5.
11. Surveys documented presence of listed species.
 - a. No.....NLAA. Consultation complete. GA ES concurrence not needed.
 - b. Yes.....Go to #6.
12. Appropriate avoidance and minimization measures provided on the following page are included with the project and would result in avoidance of all impacts to listed plant species.
 - a. No.....May affect. Please provide relevant information on the following page and continue consultation with GA ES.
 - b. Yes.....NLAA. Consultation complete. GA ES concurrence not needed.

Information to be upload into IPaC or provided to Georgia Ecological Services for Endangered Species Act Review:

All (where applicable):

- Description of the proposed project activities, including any BMPs that will be utilized to avoid impacts to listed plant species.
- Project location overlain on a USGS topographic map and latitude/longitude coordinates (in decimal degrees) for center of project.
- Depiction of suitable habitat(s) aerial imagery of the area.
- Representative images of suitable habitat(s).
- Verification that the project will meet all requirements of the Georgia NPDES General Permits for sediment and erosion, construction stormwater management, and waste disposal.
- A post-construction stormwater management plan that meets at least the current Georgia Blue Book standards.
- A timeline documenting when project activities will be implemented.
- An estimate of total acreage that will be graded at any one time.
- Plans for re-vegetation and maintenance of disturbed habitats adjacent to forests. Plans should focus on use of native, non-invasive species that minimize seed dispersal and encroachment into forested habitats.

Avoidance and Minimization for Plant Species:

- Use orange barrier fence or other measure to protect suitable habitats during construction activities.
- Vegetation removal, mowing and management of plants using mechanical devices for locations within known populations of federally listed plants should be coordinated with Georgia Ecological Services and Georgia Department of Natural Resources. Each Environmentally Sensitive Area shall have a management plan for all activities within the designated area.
- Any restoration, seeding, or replanting within habitats identified will be coordinated with Georgia Ecological Services and Georgia Department of Natural Resources or be in accordance with an approved management plan for the area or species. These activities will use only native seed mixes or plantings that are compatible with the focal species or habitats within the project area.
- Ensure all materials used in project design or construction are free from invasive plants before placement on site.
- All vehicles, machinery, and equipment are clean and free from invasive species before use at a project site.
- All vehicles, machinery, and equipment should be clean and free from plant or animal materials before being transported to a new project site, unless this movement is related to moving fill or other materials to an appropriate offsite disposal location.

Savannah District EDGES Applicant Coordination Slip

Project: Wilmington River Yacht Docking Facility County: Chatham
 Applicant: Blue Moon Marinas, LLC Coordinates: 32.027101°, -81.049600°
 Consultant: Resource + Land Consultants Date of Consultants Assessment: 12/24/2022
 FWS-GA Review of Project or Survey Data (yes/no): no Date of FWS-GA Review: n/a
 Project Modifications After FWS-GA Review (including changes in timing): n/a

Species IPaC Indicated May Occur on Site	Ipac Status	Critical Habitat (yes / no)	Applicable EDGES	Species Habitat(s), as Described in the EDGES (e.g., wetland, stream, forested, flatwoods, sandhills)	Does this Habitat occur on Project Site (yes / no)	Will this Habitat be Altered by the Project (yes / no)	Determination	
							EDGES	RLC
West Indian Manatee (<i>Trichechus manatus</i>)	Threatened	No	West Indian Manatee	warm coastal and spring fed waters	Yes	No	NLAA	-
Eastern Black Rail (<i>Laterallus jamaicensis ssp. Jamaicensis</i>)	Threatened	No	Eastern Black Rail	salt and freshwater marshes	No	No	NLAA	-
Piping Plover (<i>Charadrius melodus</i>)	Threatened	No	Piping Plover	sandy beaches on the Atlantic Coast from South Carolina to the north shore of the	No	No	NLAA	-
Red Knot (<i>Caldiris canutus rufa</i>)	Threatened	No	Red Knot	coastal beaches usually at or near the mouth of bays, estuaries, or tidal inlets	No	No	NLAA	-
Wood Stork (<i>Mycteria americana</i>)	Threatened	No	Wood Stork	relatively open aquatic vegetation, calm water, permanent of seasonal water depths 2-15"	No	No	NLAA	-
Eastern Indigo Snake (<i>Drymarchon corais couperi</i>)	Threatened	No	Eastern Indigo Snake	longleaf pine and wiregrass community, Fuquay, Blanton, Centenary, Foxworth, Echaw, Meldim, Dothan, Ridgeland, Stilson, Chipley, and Albany soils.	No	No	NLAA	-
Gopher Tortoise (<i>Gopherus polyphemus</i>)	Candidate	No	N/A	longleaf pine and wiregrass community, Fuquay, Blanton, Centenary, Foxworth, Echaw, Meldim, Dothan, Ridgeland, Stilson, Chipley, and Albany soils.	No	No	N/A	No Effect
Green Sea Turtle (<i>Chelonia mydas</i>), Hawksbill Sea Turtle (<i>Eretmochelys imbricata</i>), Kemp's Ridley Sea Turtle (<i>Lepidochelys kempii</i>), Leatherback Sea Turtle (<i>Dermochelys coriacea</i>), Loggerhead Sea Turtle (<i>Caretta caretta</i>):	Threatened & Endangered	No	Sea Turtles	offshore waters of the Atlantic and Caribbean and beaches of the Atlantic and Caribbean.	No	No	NLAA	-
Frosted Flatwoods Salamander (<i>Ambystoma cingulatum</i>)	Threatened	No	Flatwoods Salamander	longleaf pine wiregrass flatwoods or slash pine flatwoods (not managed pine plantatins)	No	No	No Effect	-
Pondberry (<i>Lindera melissifolia</i>)	Endangered	No	n/a	pond margins and wet savannas	No	No	n/a	No Effect

Please provide this form, the IPaC map and printout of listed species/Critical Habitat that may occur on site, and any FWS-GA comments on the project to the Savannah District with your application/PCN.



RESOURCE+LAND
CONSULTANTS

APPENDIX H:
Zoning Concurrence Request Letter



24 December 2022

Town of Thunderbolt
ddenion@thunderboltga.org

**RE: GADNR CMPA Application
Wilmington River Yacht Docking Facility
Thunderbolt, Chatham County, Georgia**

RLC#: 22-293

To whom it may concern:

Blue Moon Marinas, LLC is applying for a permit, under the Coastal Marshlands Protection Act of 1970, O.C.G.A. §12-5-280, requesting authorization to modify an existing commercial dock facility to facilitate docking of private yachts. The project site is located 3110 River Drive within Thunderbolt, Chatham County, Georgia (32.027101°, -81.049600°). In accordance with O.C.G.A. § 12-5-286(6), the applicants must submit a letter from the local issuing authority in which the property is located stating that the proposed activity does not conflict with any zoning laws. In addition, it is the Georgia Department of Natural Resources, Coastal Resources Division policy to request that you initial and date the attached plans so that they can insure that the final permitted facility is consistent with your initial review. At your earliest convenience, please confirm that the applicant's proposal does not violate the municipal zoning laws associated with the project location. Please forward your letter, along with the initialed copies of the permit drawings, to our office or to us via email.

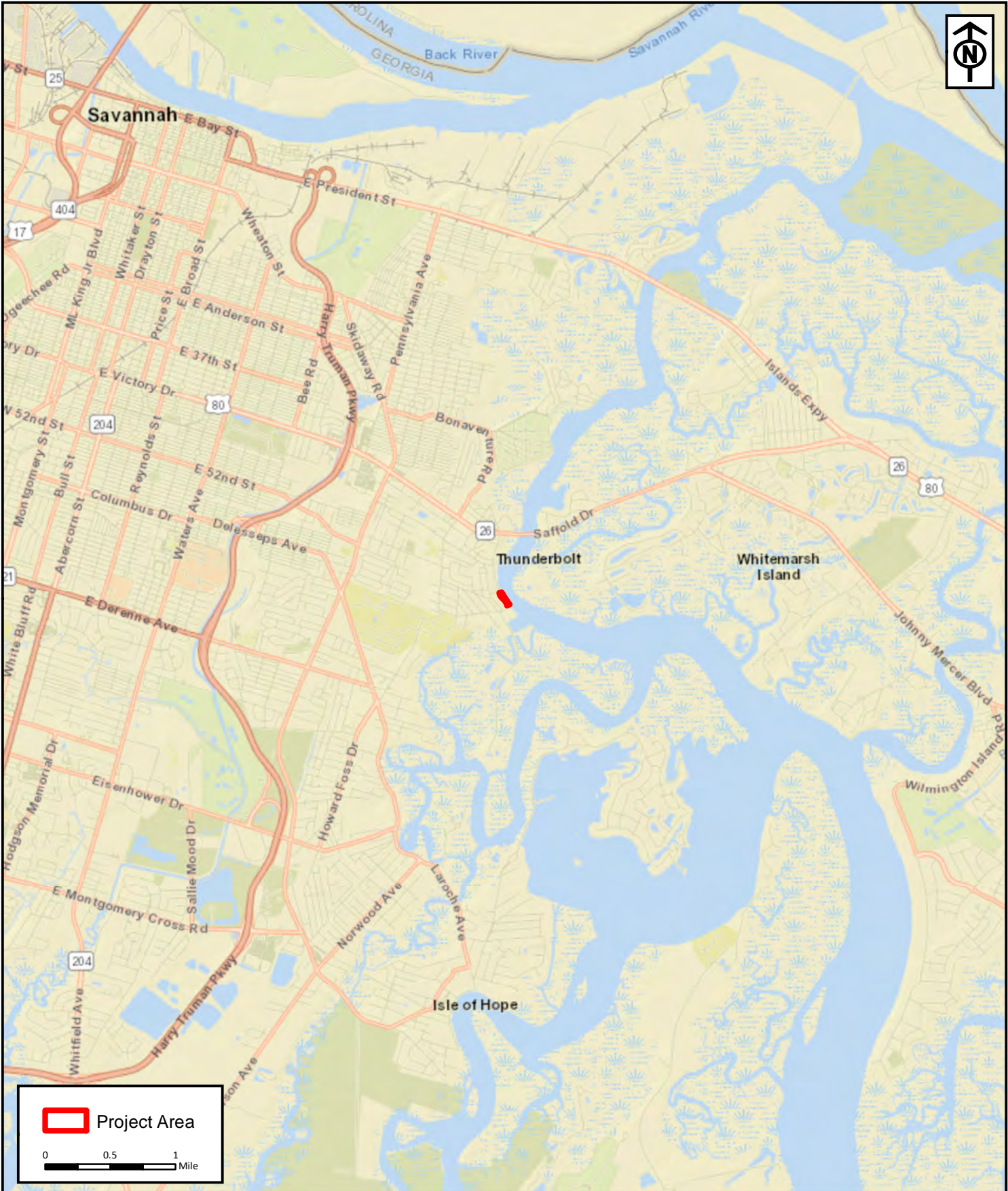
We appreciate your assistance with this project. If you should have any questions or require additional information, please contact us at 912-443-5896.


Sincerely,

A handwritten signature in blue ink, appearing to read "Alton Brown, Jr.", is positioned below the word "Sincerely,".

Alton Brown, Jr.
Principal
Resource & Land Consultants

Mr. Emile Bootsma – Blue Moon Marinas, LLC.
Mr. Jim Myrick – Myrick Marine
Mr. Charlie George



 Project Area

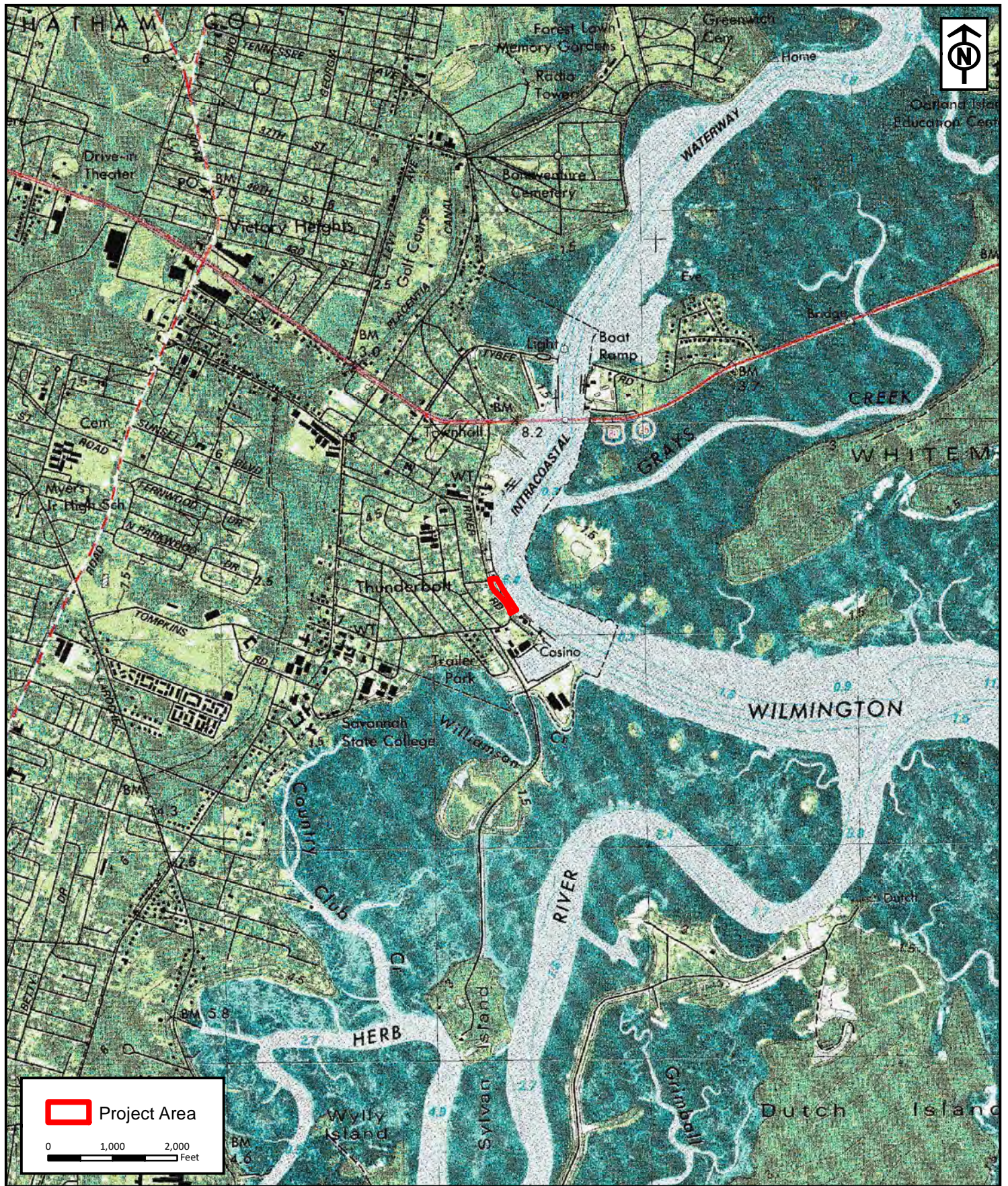
0 0.5 1 Mile


RLC Project No.:	22-293
Figure No.:	1
Prepared By:	RL
Sketch Date:	12/24/2022
Map Scale :	1 inch = 1 mile

Wilmington River Yacht Docking Facility
Chatham County, Georgia

Project Location
Prepared For: Blue Moon Marinas, LLC

RLC
RESOURCE+LAND CONSULTANTS
41 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.8396 www.rlc.com



 Project Area

0 1,000 2,000 Feet

RLC Project No.:	22-293
Figure No.:	2
Prepared By:	RL
Sketch Date:	12/24/2022
Map Scale :	1 inch = 2,000 feet

Wilmington River Yacht Docking Facility

Chatham County, Georgia

USGS Topographical Survey


Prepared For: Blue Moon Marinas, LLC

RLC

RESOURCE+LAND CONSULTANTS

41 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rlc.com



 Project Area

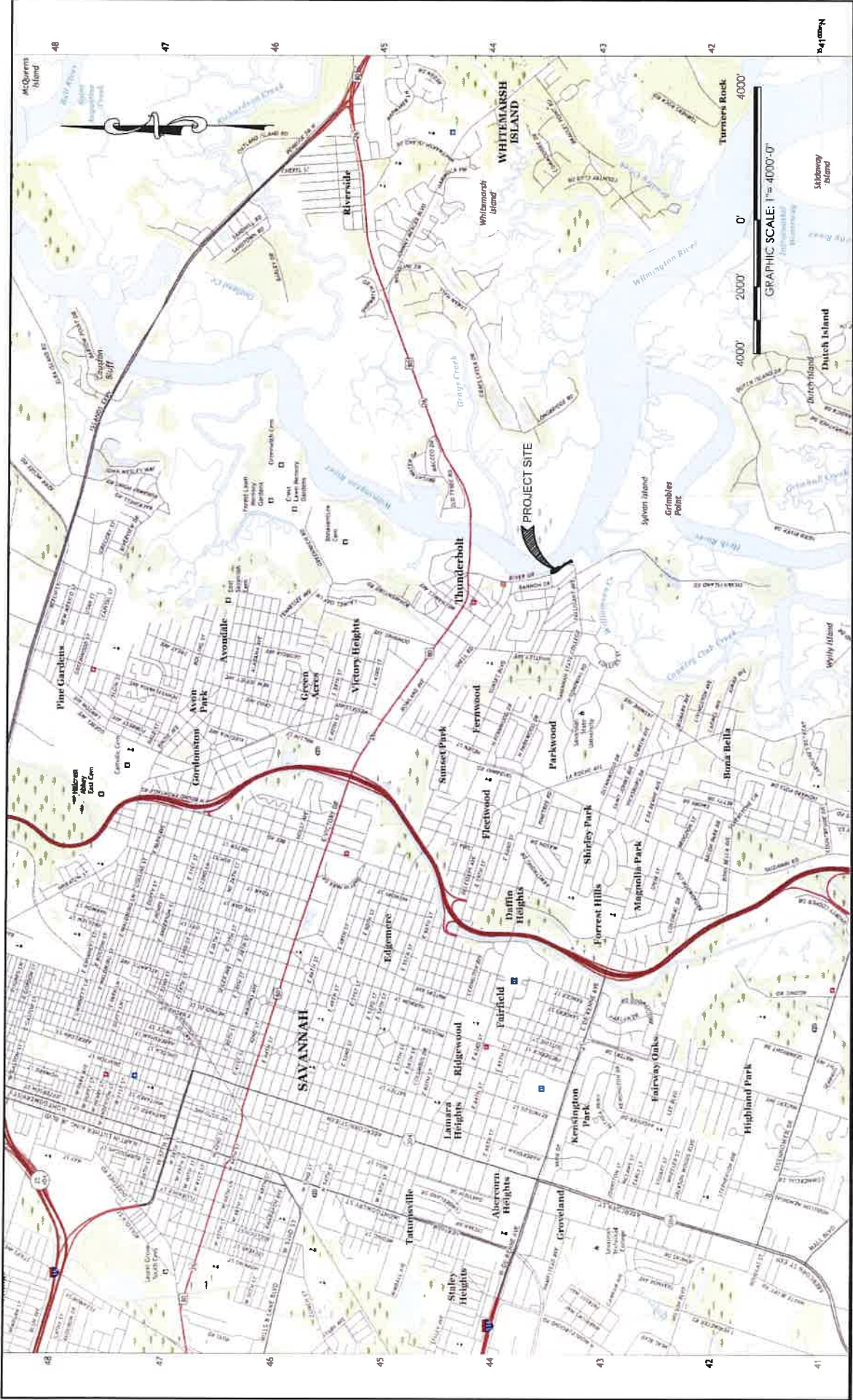
0 37.5 75
Feet

RLC Project No.:	22-293
Figure No.:	5
Prepared By:	RL
Sketch Date:	12/24/2022
Map Scale :	1 inch = 75 feet

**Wilmington River Yacht
Docking Facility**
Chatham County, Georgia

Ortho Imagery
Prepared For: Blue Moon Marinas, LLC

RLC
**RESOURCE+LAND
CONSULTANTS**
41 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.8396 www.rlc.com



WILMINGTON RIVER YACHT DOCKING FACILITY

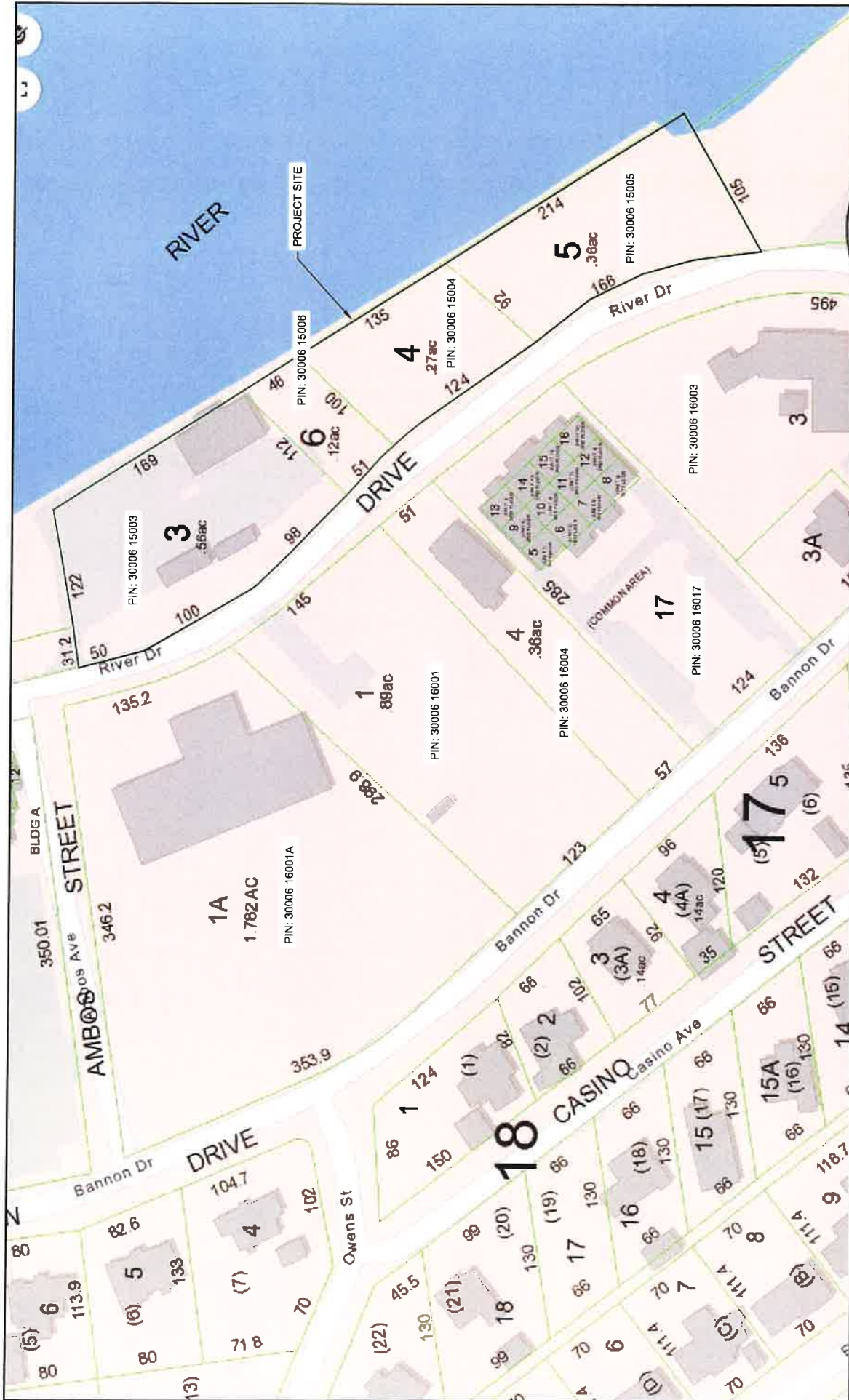
VICINITY MAP
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON III LTD.
 P.O. BOX 309 GT, UGLAND HOUSE
 SOUTH CHURCH STREET, GEORGE TOWN
 GRAND CAYMAN, CAYMAN ISLANDS, BWI

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: 1" = 4000'
 SHEET: 1 OF 12



WILMINGTON RIVER YACHT DOCKING FACILITY
 LOCATION MAP
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON III LTD.
 P.O. BOX 309 GT, UGLAND HOUSE
 SOUTH CHURCH STREET, GEORGE TOWN
 GRAND CAYMAN, CAYMAN ISLANDS, BWI

PREPARED BY:
 CHARLES L. GEORGE, P.E.
 SCALE: 1" = 200'
 SHEET: 2 OF 12



WILMINGTON RIVER YACHT DOCKING FACILITY

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: N.T.S.
 SHEET: 3 OF 12

VICINITY MAP
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON III LTD.
 P.O. BOX 309 GT, UGLAND HOUSE
 SOUTH CHURCH STREET, GEORGE TOWN
 GRAND CAYMAN, CAYMAN ISLANDS, BWI



WILMINGTON RIVER YACHT DOCKING FACILITY

EXISTING CONDITIONS PLAN

TOWN OF THUNDERBOLT, CHATHAM CO., GA

PREPARED FOR:

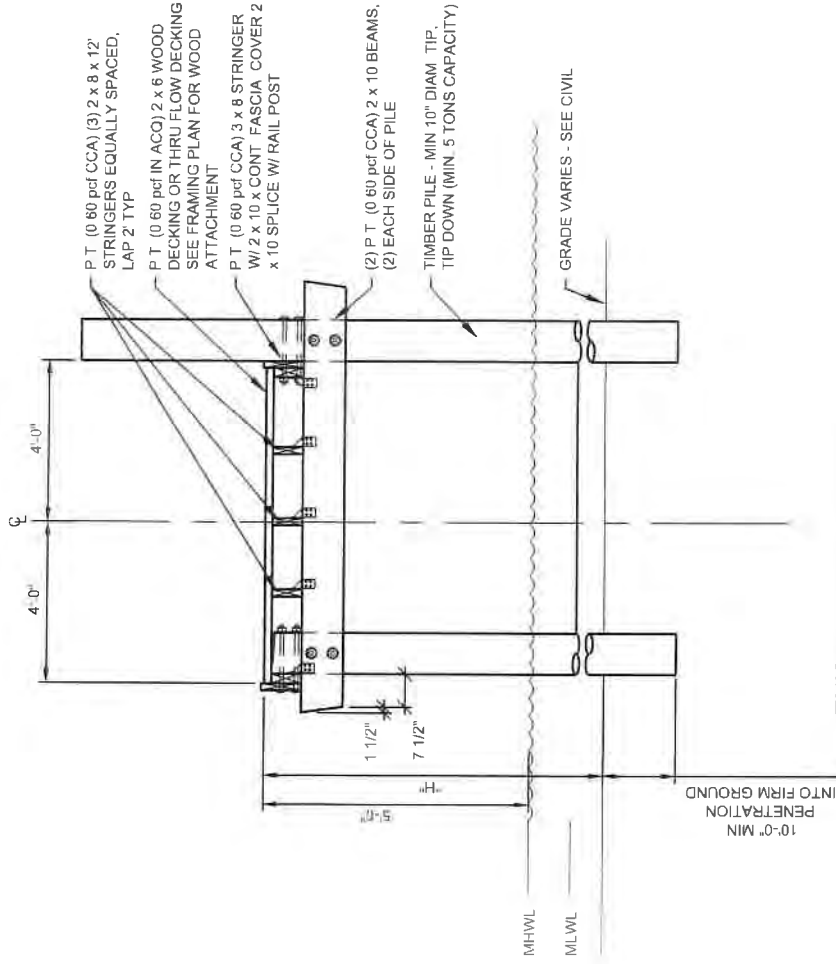
BLUE MOON III LTD.

P.O. BOX 309 GT, UGLAND HOUSE

SOUTH CHURCH STREET, GEORGE TOWN

GRAND CAYMAN, CAYMAN ISLANDS, BWI

PREPARED BY:
 CHARLES L. GEORGE, P.E.
 SCALE: 1" = 100'
 SHEET: 4 OF 12



EXIST. TIMBER PIER SECTION

SCALE: N.T.S.

WILMINGTON RIVER YACHT DOCKING FACILITY
EXISTING TIMBER PIER SECTION

TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON III LTD.
 P.O. BOX 309 GT, UGLAND HOUSE
 SOUTH CHURCH STREET, GEORGE TOWN
 GRAND CAYMAN, CAYMAN ISLANDS, BWI



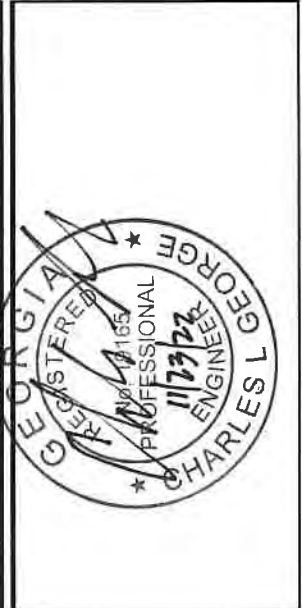
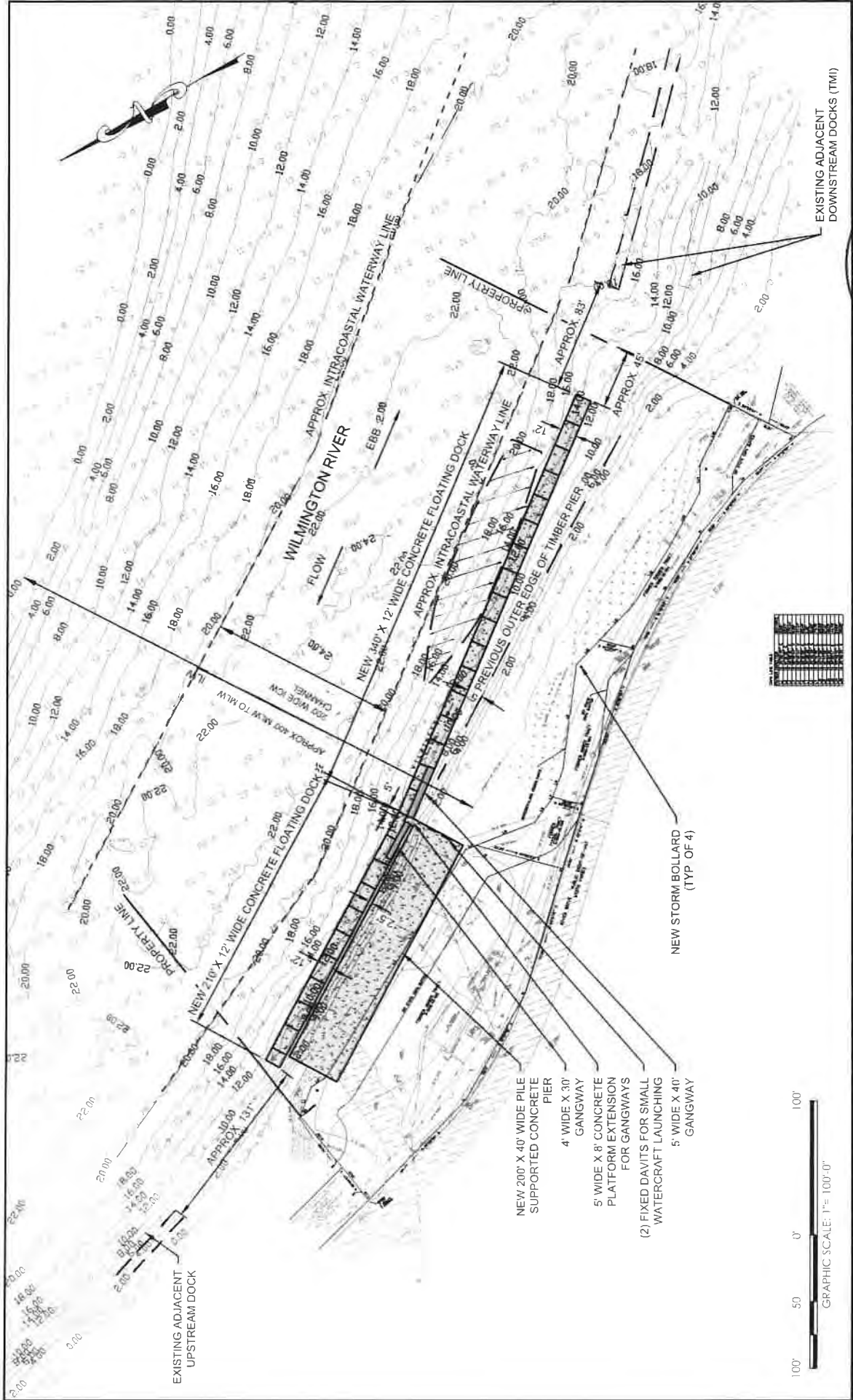
PREPARED BY:
 CHARLES L. GEORGE, P.E.
 SCALE: N.T.S.
 SHEET: 5 OF 12



**WILMINGTON RIVER YACHT DOCKING FACILITY
DEMOLITION PLAN**

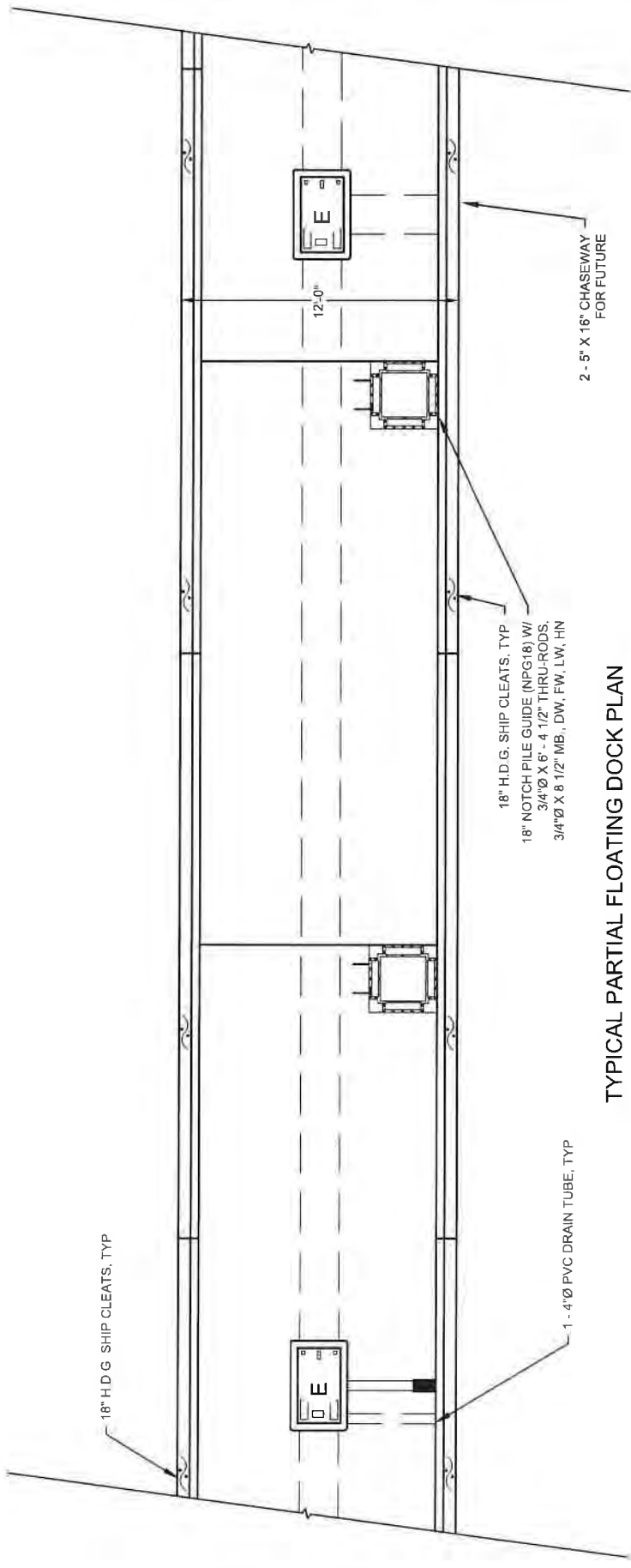
TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON III LTD.
 P.O. BOX 309 GT, UGLAND HOUSE
 SOUTH CHURCH STREET, GEORGE TOWN
 GRAND CAYMAN, CAYMAN ISLANDS, BWI

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: 1" = 100'
 SHEET: 6 OF 12



WILMINGTON RIVER YACHT DOCKING FACILITY
NEW DOCK LAYOUT PLAN
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON III LTD.
 P.O. BOX 309 GT, UGLAND HOUSE
 SOUTH CHURCH STREET, GEORGE TOWN
 GRAND CAYMAN, CAYMAN ISLANDS, BWI

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: 1" = 100'
 SHEET: 7 OF 12



**TYPICAL PARTIAL FLOATING DOCK PLAN
W/ PILES AND POWER BOX INSTALLATION**

SCALE: N.T.S.



**WILMINGTON RIVER YACHT DOCKING FACILITY
NEW PARTIAL FLOATING DOCK PLAN DETAIL**

TOWN OF THUNDERBOLT, CHATHAM CO., GA

PREPARED FOR:

BLUE MOON III LTD.

P.O. BOX 309 GT, UGLAND HOUSE

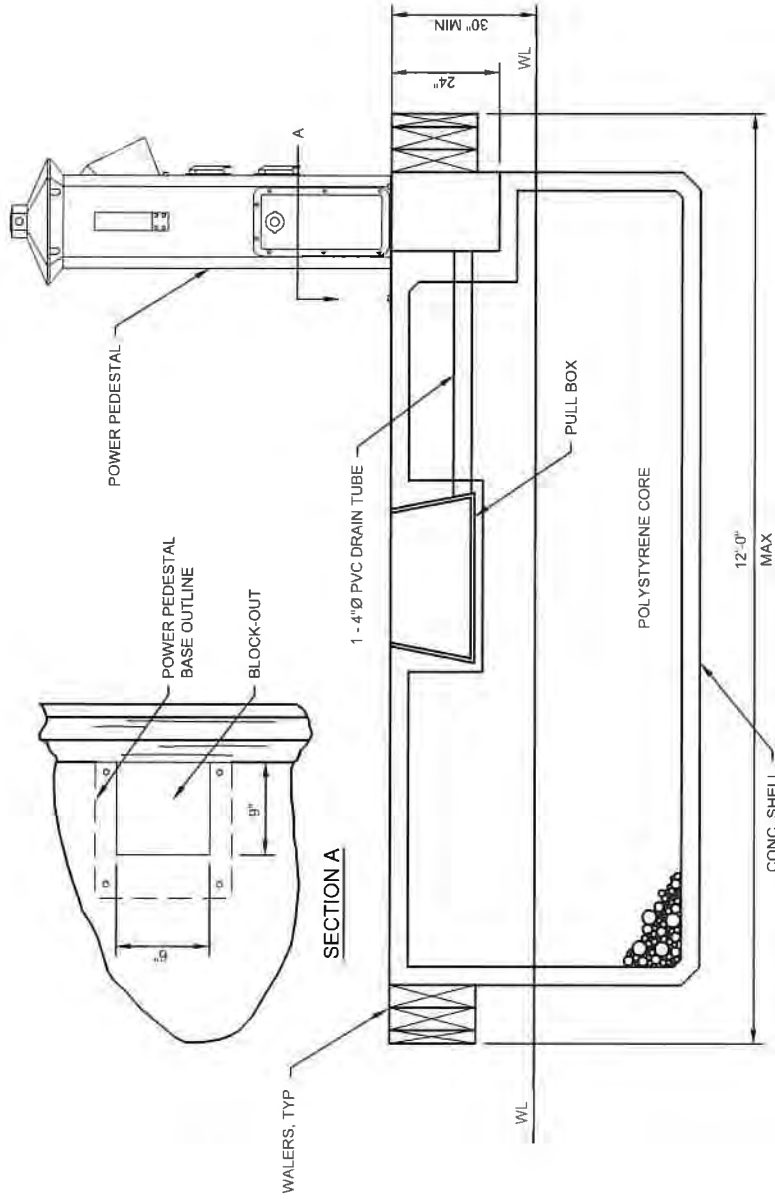
SOUTH CHURCH STREET, GEORGE TOWN

GRAND CAYMAN, CAYMAN ISLANDS, BWI

PREPARED BY:
CHARLES L GEORGE, P.E.

SCALE: N.T.S.

SHEET: 8 OF 12



TYPICAL POWER PEDESTAL INSTALLATION

SCALE: N T S

NOTES:

1. MOUNT PEDESTAL BASE USING STUDS EPOXIED INTO THICKENED DECK.
2. PEDESTAL AND MOUNTING STUDS BY OTHERS
3. PVC SLEEVES ARE NOT ELECT CONDUIT.

WILMINGTON RIVER YACHT DOCKING FACILITY

NEW DOCK SECTION DETAIL

TOWN OF THUNDERBOLT, CHATHAM CO., GA

PREPARED FOR:

BLUE MOON III LTD.

P.O. BOX 309 GT, UGLAND HOUSE

SOUTH CHURCH STREET, GEORGE TOWN

GRAND CAYMAN, CAYMAN ISLANDS, BWI

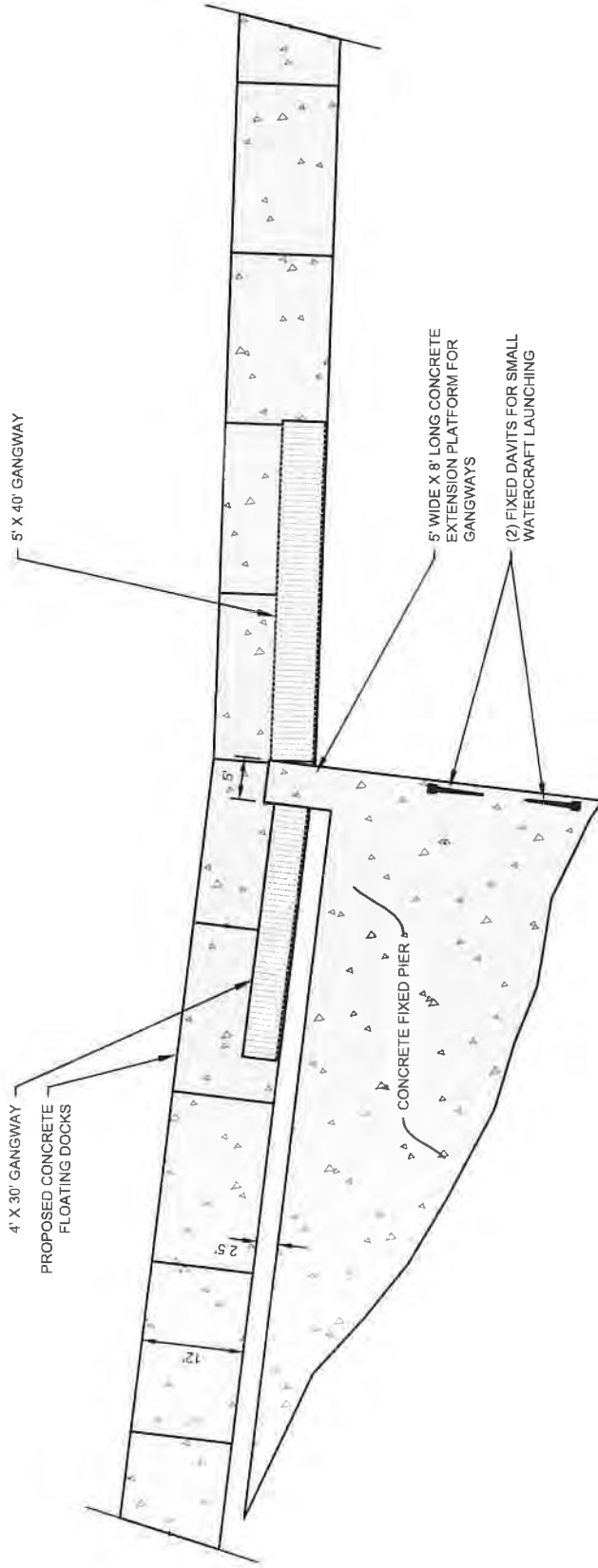
PREPARED BY:

CHARLES L GEORGE, P.E.

SCALE: N.T.S.

SHEET: 9 OF 12





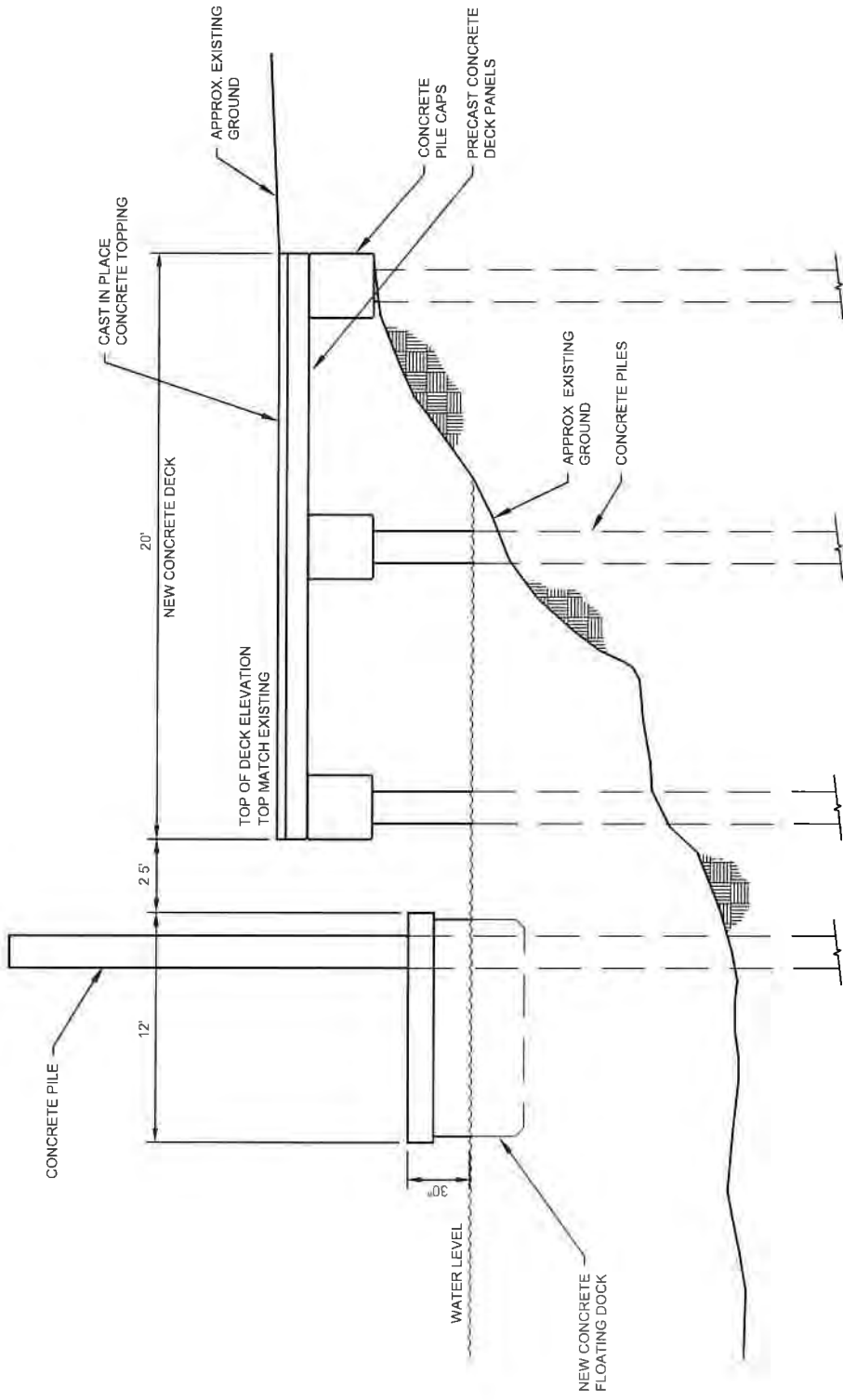
ENLARGED PLAN OF GANGWAY CONNECTION

WILMINGTON RIVER YACHT DOCKING FACILITY

NEW DOCK PLAN DETAIL
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON III LTD.
 P.O. BOX 309 GT, UGLAND HOUSE
 SOUTH CHURCH STREET, GEORGE TOWN
 GRAND CAYMAN, CAYMAN ISLANDS, BWI

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: N.T.S.
 SHEET: 10 OF 12





SECTION THRU PROPOSED CONCRETE PIER
SCALE: N.T.S

WILMINGTON RIVER YACHT DOCKING FACILITY
SECTION THRU PROPOSED CONCRETE PIER
 TOWN OF THUNDERBOLT, CHATHAM CO., GA
 PREPARED FOR:
 BLUE MOON III LTD.
 P.O. BOX 309 GT, UGLAND HOUSE
 SOUTH CHURCH STREET, GEORGE TOWN
 GRAND CAYMAN, CAYMAN ISLANDS, BWI

PREPARED BY:
 CHARLES L GEORGE, P.E.
 SCALE: N.T.S.
 SHEET: 11 OF 12



BLUE MOON

OWNER: BLUE MOON III LTD
P.O. BOX 309 GT, UGLAND HOUSE
SOUTH CHURCH STREET, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, BWI

BUILDER: ROYAL VAN LENT SHIPYARD B.V. (FEADSHIP)
JULIANALAN 3, KAAG, 2159 LA
THE NETHERLANDS

DATE OF DELIVERY: 3 JUNE 2005

FLAG: CAYMAN ISLANDS

PORT OF REGISTRY: GEORGE TOWN

OFFICIAL NUMBER: 738152

IMO NUMBER: 1008360

MMSI NUMBER: 319984000

CALL SIGN: ZCOG 4

ACCOUNTING AUTHORITY: NSSL (GB11)

SATCOM F77: +870 764 357 560 - VOICE
+870 764 357 573 - FAX

SATCOM F33: +870 764 357 564 - VOICE

EMAIL: EMILY@MY-BLUEMOON.COM

GROSS TONNAGE: 1102

NET TONNAGE: 330

MAX DISPLACEMENT: ± 1064 TON (FULLY LOADED)

MAXIMUM CREW CAPACITY: 18

MAXIMUM GUEST CAPACITY: 12

LENGTH OVERALL: 60.35 METER/198 FT.

LENGTH WATERLINE: 53.35 METER/175 FT.

BEAM MOULDED: 11.10 METER/36 1/2 FT.

BEAM EXTREME: 11.29 METER/37 FT.

DEPTH MOULDED: 5.75 METER/19 FT.

MAX DRAFT APPROX.: 3.35 METER/11 FT.

HEIGHT ABOVE WATER LINE: 16.00 METER/52 1/2 FT.

MAIN ENGINE: 2X CAT 351 8B DI-TA 1492 KW - @ 1600 RPM

GENERATOR SETS: 2X CAT C-9 DI-TA 250 KW
1X CAT C-9 DI-TA 175 KW

SHORE POWER: 2X 125 KVA (ATLAS SHORPOWER)

MAXIMUM SPEED: 16.5 KNOTS

CRUISING SPEED: 15 KNOTS

FUEL CAPACITY: 141,700 LITERS/37,433 GAL. (US)

OVERFLOW TANK: 5,240 LITERS/1,384 GAL. (US)

FUEL TANK EMERGENCY GEN: 30,800 LITERS/8,084 GAL. (US)

FRESH WATER CAPACITY: 2,550 LITERS/674 GAL. (US)

LUBE OIL TANK: 2,350 LITERS/621 GAL. (US)

DIRTY LUBE OIL TANK: 2,660 LITERS/703 GAL. (US)

GREY WATER TANK1: 2,890 LITERS/763 GAL. (US)

GREY WATER TANK2: 2,200 LITERS/581 GAL. (US)

GREY WATER TANK 3: 2,800 LITERS/740 GAL. (US)

GREY WATER TANK 4: 2,140 LITERS/565 GAL. (US)

GREY WATER TANK 5: 2,140 LITERS/565 GAL. (US)

HOLDING TANK: 2,140 LITERS/565 GAL. (US)

BLACK WATER TANK: 2,140 LITERS/565 GAL. (US)

WILMINGTON RIVER YACHT DOCKING FACILITY

BLUE MOON OFFICIAL DATA
TOWN OF THUNDERBOLT, CHATHAM CO., GA
PREPARED FOR:
BLUE MOON III LTD.
P.O. BOX 309 GT, UGLAND HOUSE
SOUTH CHURCH STREET, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, BWI

PREPARED BY:
CHARLES L GEORGE, P.E.
SCALE: N.T.S.
SHEET: 12 OF 12





RESOURCE+LAND
CONSULTANTS

APPENDIX I:
USACE & GADNR-CRD JD Request



COASTAL RESOURCES DIVISION
ONE CONSERVATION WAY • BRUNSWICK, GA 31520 • 912.264.7218
COASTALGADNR.ORG

MARK WILLIAMS
COMMISSIONER

DOUG HAYMANS
DIRECTOR

Marsh/Shore Jurisdiction Determination Request

Property Owner Name(s): Blue Moon Marinas, LLC

Mailing Address: 2705 River Drive Thunderbolt GA 31404

Telephone: 912.247.0199 (Street) (City) (State) (Zip)
Email: emile@my-blumoon.com

Fax: _____

Name of Agent/Surveyor (if desired): Resource & Land Consultants

Mailing Address: 41 Park of Commerce Way, Suite 101 Savannah GA 31405

Telephone: 912.443.5896 Email: abrown@rlandc.com

Fax: _____

Property Location: 3110 River Road Thunderbolt GA 31404

County: Chatham Waterway: Wilmington River Tax Parcel ID: 3000615003


Lot, Block & Subdivision Name from Deed: _____

Reason for Request of Marsh/Shore: Facility Modification

Georgia Department of Natural Resources-Coastal Resources Division
One Conservation Way
Brunswick, Georgia 31520-8687

I, EMILE BOOTSIMA, am requesting to have a jurisdictional determination for the marsh/shore area at my property. By this request, I am permitting Department Staff to access my property for such determination. I also understand that upon receipt of this request, additional information may be required before the Department delineates the marsh/shore jurisdictional area.

Sincerely,

By: 
(Applicant), title if applicable

By: _____
(Applicant), title if applicable