



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
SAVANNAH DISTRICT  
100 WEST OGLETHORPE AVENUE  
SAVANNAH, GEORGIA 31401-3604

**April 10, 2024**

Regulatory Division  
SAS-2021-00956

**JOINT PUBLIC NOTICE**  
**Savannah District/State of Georgia**

The Savannah District has received a request to modify a Department of the Army Permit, pursuant to Section 404 of the Clean Water Act (33 U.S.C. § 1344), as follows:

Application Number: SAS-2021-00956

Applicant: Mr. Paul Rice  
Raydient, LLC  
1 Rayonier Way  
Wildlight, Florida 32097

Agent: Mr. Alton Brown, Jr.  
Resource and Land Consultants  
41 Park of Commerce Way, Suite 303  
Savannah, Georgia 31405

Location of Proposed Work: The project site is located east of Interstate 95 and adjacent to St. Marys Road within Camden County, Georgia (Latitude 30.7618, Longitude -81.6431).

Description of Work Subject to the Jurisdiction of the U.S. Army Corps of Engineers:

To impact 96.17 acres of wetland associated with the construction of a mixed-use development containing residential, recreational, commercial/retail and industrial facilities. The proposed project generally includes construction of primary and secondary roads for site access, single family residential lots, multifamily facilities, recreational facilities, industrial buildings, commercial/retail facilities, parking, and stormwater management facilities. North of St Marys Road, the project includes the development of commercial/retail product and parking, industrial product and parking, single family residential product, multifamily product, primary and secondary access roads and stormwater management facilities. South of St. Marys Road, the project includes development of commercial/retail product and parking, single family residential product, multi-family residential product, a golf course for recreational facilities, primary and secondary access roads and stormwater management facilities. Lastly, the project includes development of a commercial parcel southwest of GA Highway 40.

Impacts associated with each product type include the following:

**Table 1. Wetland Impact Summary**

<b>Product Type</b>	<b>Wetland Impact Acreage</b>
Commercial	2.17
Golf	16.39
Industrial	22.77
Multi-Family	1.42
Single-Family	53.42
<b>Total</b>	<b>96.17</b>

## **BACKGROUND**

This Joint Public Notice announces a request for authorizations from both the Corps and the State of Georgia. The applicant's proposed work may also require local governmental approval.

## **STATE OF GEORGIA**

Water Quality Certification: The Georgia Department of Natural Resources, Environmental Protection Division will review the proposed project for water quality certification, in accordance with the provisions of Section 401 of the Clean Water Act. Prior to issuance of a Department of the Army permit for a project location in, on, or adjacent to the waters of the State of Georgia, review for Water Quality Certification is required. A reasonable period of time, which shall not exceed one year, is established under the Clean Water Act for the State to act on a request for Water Quality Certification, after which, issuance of such a Department of the Army permit may proceed. The applicant did not request a pre-certification meeting with Georgia EPD prior to submitting their application for a permit under Section 404 of the Clean Water Act. The applicant must still request a meeting with EPD at least 30 days prior to any request they make for 401 Water Quality Certification.

State-owned Property and Resources: The applicant may also require assent from the State of Georgia, which may be in the form of a license, easement, lease, permit or other appropriate instrument.

Georgia Coastal Management Program: Prior to the Savannah District Corps of Engineers making a final permit decision on this application, the project must be certified by the Georgia Department of Natural Resources, Coastal Resources Division, to be consistent with applicable provisions of the State of Georgia Coastal Management Program (15 CFR 930). Anyone wishing to comment on Coastal Management Program certification of this project should submit comments in writing within 30 days of the date

of this notice to the Federal Consistency Coordinator, Coastal Management Program, Coastal Resources Division, Georgia Department of Natural Resources, One Conservation Way, Brunswick, Georgia 31523-8600 (Telephone 912-264-7218).

## **U.S. ARMY CORPS OF ENGINEERS**

The Savannah District must consider the purpose and the impacts of the applicant's proposed work, prior to a decision on issuance of a Department of the Army permit.

Cultural Resources: Review of the latest published version of the National Register of Historic Places and the Georgia Natural, Archeological and Historic Resources GIS database, indicates that no registered properties or properties listed as eligible for inclusion are located on the project site. Presently unknown archaeological, scientific, prehistorical or historical data may be located at the site and could be affected by the proposed work.

Endangered Species: A preliminary review the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service's Protected Resource Divisions (NMFSPRD)'s list of Endangered and Threatened Species (IPaC) indicates the following listed species may occur in the project area: Tricolored Bat (*Perimyotis subflavus*); West Indian Manatee (*Trichechus manatus*); Eastern black rail (*Laterallus jamaicensis*); Wood Stork (*Mycteria americana*); Eastern indigo snake (*Drymarchon corais couperi*); gopher tortoise (*Gopherus polyphemus*); Green Sea Turtle (*Chelonia mydas*); Hawksbill Sea Turtle (*Eretmochelys imbricata*); Kemp's Ridley Sea Turtle (*Lepidochelys kempi*); Leatherback Sea Turtle (*Dermochelys coriacea*); Loggerhead Sea Turtle (*Caretta caretta*) and the Monarch butterfly (*Danaus plexippus*).

Pursuant to Section 7(c) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 et seq.), we request information from the U.S. Department of the Interior, Fish and Wildlife Service, the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service; or, any other interested party, on whether any species listed or proposed for listing may be present in the area. In addition, we are requesting information from the USFWS whether the project is within 2,500 feet of an active wood stork nesting colony.

Public Interest Review: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion

and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and in general, the needs and welfare of the people.

Consideration of Public Comments: The Corps is soliciting comments from the public; federal, state, and local agencies and officials; Native American Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Application of Section 404(b)(1) Guidelines: The proposed activity involves the discharge of dredged or fill material into the waters of the United States. The Savannah District's evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under the authority of Section 404(b) of the Clean Water Act.

Public Hearing: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application for a Department of the Army permit. Requests for public hearings shall state, with particularity, the reasons for requesting a public hearing. The decision whether to hold a public hearing is at the discretion of the District Engineer, or his designated appointee, based on the need for additional substantial information necessary in evaluating the proposed project.

Comment Period: Anyone wishing to comment on this application for a Department of the Army permit should submit comments by email to [sarah.e.wise@usace.army.mil](mailto:sarah.e.wise@usace.army.mil). Alternatively, you may submit comments in writing to the Commander, U.S. Army Corps of Engineers, Savannah District, Attention: Sarah Wise, 100 West Oglethorpe Avenue, Savannah, Georgia 31401, no later than 30 days from the date of this notice. Please refer to the applicant's name and the application number in your comments.

If you have any further questions concerning this matter, please contact Sarah Wise, Lead Biologist, Coastal Branch at 912-652-5550.

Enclosures:

1. Figure 1 – Vicinity Map
2. Plan and Profile Drawings

## 1.0 INTRODUCTION:

Raydient, LLC is proposing a mixed-use development containing residential, recreational, commercial/retail and industrial facilities. The project area totals 1,784.83 acres located east of Interstate 95 and adjacent to St. Marys Road within Camden County, Georgia (30.761809°, -81.643111°).

## 2.0 BACKGROUND:

Raydient masterplans, develops, builds, markets and sells “places and properties” ranging from multi-use communities and industrial parks to rural homesteads and recreational lands. Like the proposed project, Raydient’s master planning and community-building business includes residential and mixed-use developments such as Wildlight, Port Gamble and Heartwood and industrial developments such as Belfast Commerce Park.

**Wildlight, Florida:** Wildlight is a 2,900-acre mixed use master-planned community in northeast Florida, situated in Nassau County. The Wildlight project aimed to create a sustainable and vibrant community, incorporating residential, commercial, and recreational spaces. The development prioritizes walkability, green spaces, and a sense of community. It is designed to be an interconnected environment with amenities that cater to residents’ needs. Wildlight, it’s part of the broader trend of master-planned communities seeking to offer a well-rounded and sustainable lifestyle for residents.

**Heartwood, Georgia:** Heartwood is a mixed-use development located in Bryan County, Georgia. This development is located east of Interstate 95 and is serving the community growth needs of the Richmond Hill, south Bryan County and the greater Savannah region. Like Wildlight, this project aimed to create a sustainable and vibrant community, incorporating residential, commercial, educational and recreational spaces.

**Port Gamble, Washington:** Raydient has been involved in efforts to manage and develop land sustainably, and their work in places like Port Gamble often involves a combination of residential, commercial, and recreational planning while respecting the historical significance of the area. Port Gamble is a historic town in Washington State. Port Gamble was originally a company town built in the 1850s by the Puget Mill Company. Port Gamble encompasses 318-acres total, including a 120-acre developed townsite and 1.4 miles of waterfront on the scenic shores of Hood Canal just outside of Seattle.

**Belfast Commerce Park Belfast Commerce Park, Georgia:** This industrial park is rail-served and consists of approximately 1,040 acres of land in Bryan County, Georgia. The property is a fully-entitled, shovel ready location which has been approved for up to 10.5 million square feet of industrial use including: manufacturing, assembly, warehousing, distribution, and intermodal port or logistics center. The park offers excellent transportation options with easy access to Interstate 95, Interstate 16, US Highway 17, and direct rail service to the Port of Savannah, the nation’s fourth largest container port and the second largest on the East Coast.

The project area is seen as the front door to the City of St Marys and in 2020 the City identified the site in their long-term strategic plan to be annexed and developed to support the growing needs of the community. Recognizing the Raydient’s development experience and in response to continued growth within coastal Georgia, Camden County and St. Marys, the City of St Marys approached Raydient to discuss master planning and developing the project area. Since 2021, the applicant and the St Marys have been working to develop the strategic plan to master develop the site.

### 3.0 PROJECT PURPOSE & NEED:

The basic project's purpose is to construct a mixed-use master planned development within the subject site. The overall project purpose is to construct a mixed-use development which contains residential, recreational, commercial and industrial facilities to service both the current and future residential, commercial and industrial growth needs of St. Marys.

### 4.0 EXISTING SITE CONDITIONS:

The project site totals 1,784.83 acres and consists of habitat typical for managed timberland within Coastal Georgia and Camden County. The topography ranges from elevation 18 feet within the upland areas to elevation 3 feet within the tidal marsh areas. Approximately 35% of the tract consists jurisdictional wetlands and is consistent with large tract within the Coastal Plain of Georgia which typically contain 30% or greater wetland area. As verified by the USACE, the 1,784.83-project area contains 1,165.55 acres of upland, 715.45 acres of jurisdictional freshwater wetland and 137.10 acres of jurisdictional tidal marsh. Habitats within the site consist of pine plantation and hardwood slope wetland.

- Managed Pine Plantation: The property contains intensively managed pine plantation consisting of both upland and wetland. The project area on the south side of St. Marys Road was clearcut and replanted in 2007-2016 and the project area on the north side of St. Marys Road was clearcut and replanted 2013-2014. Species composition is dictated by topography, soils and hydrology (i.e. upland pine plantation and wetland pine plantation). A general summary of species composition is as follows:
  - Upland Pine Plantation: The overstory is dominated by loblolly pine (*Pinus taeda*). The understory within the upland areas are dominated by Wax Myrtle (*Myrica cerifera*), Beauty-berry (*Callicarpa americana*), Sweetgum, Live Oak (*Quercus virginiana*), Fetterbush (*Lyonia lucida*), Water Oak (*Quercus nigra*), Muscadine (*Vitis rotundifolia*), Blackberry (*Rubus* spp.), Bracken Fern (*Pteridium aquilinum*), and Cinnamon Fern (*Osmunda cinnamomea*).
  - Wetland Pine Plantation: The overstory is dominated by loblolly pine (*Pinus taeda*). The understory within the wetland consists of Wax Myrtle, Water Oak, Red Maple (*Acer rubrum*), Bald Cypress (*Taxodium distichum*), Swamp Tupelo, Virginia Chain Fern (*Woodwardia virginica*), Nettle Chain Fern (*Woodwardia areolata*), Sweet Bay (*Magnolia virginiana*) and Sphagnum moss (*Sphagnum* spp.).
- Hardwood Slope Wetlands: This habitat consists of Bald Cypress, Swamp Tupelo (*Nyssa biflora*), Water Oak, Willow Oak (*Quercus Phellos*), Sweet Bay (*Magnolia virginiana*), Red Maple, Wax Myrtle, Virginia Chain Fern, Soft Rush (*Juncus effusus*), Nettle Chain Fern, and Sphagnum moss. The wetland areas have been timbered in the past but currently contain an overstory estimated to be greater than 30 years.
- Tidal Marsh: This habitat is dominated by smooth cordgrass (*Spartina alterniflora*) and Black needlerush (*Juncus roemerianus*) with Silverling (*Baccharis halimifolia*) along the marsh/upland edge.

### 5.0 PROPOSED PROJECT & DEVELOPMENT PLAN:

The proposed project generally includes construction of primary and secondary roads for site access, single family residential lots, multifamily facilities, recreational facilities, industrial buildings, commercial/retail facilities, parking, and stormwater management facilities. North of St Marys Road, the project includes the development of commercial/retail product and parking, industrial product and parking, single family residential product, multifamily product, primary and secondary access roads and stormwater management facilities. South of St.

Marys Road, the project includes development of commercial/retail product and parking, single family residential product, multi-family residential product, a golf course for recreational facilities, primary and secondary access roads and stormwater management facilities. Lastly, the project includes development of a commercial parcel southwest of GA Highway 40. Permit drawings depicting the proposed project are provided in Appendix C.

Impacts associated with each product type include the following:

**Table 1. Wetland Impact Summary**

Product Type	Wetland Impact Acreage
Commercial	2.17
Golf	16.39
Industrial	22.77
Multi-Family	1.42
Single-Family	53.42
<b>Total</b>	<b>96.17</b>

The site plan was designed to accommodate each of the proposed product types and in consideration of wetlands, existing road crossings, DOT/County mandated curb cuts for site access, conflict avoidance for product type (residential should be buffered from industrial). Due to the size of the facilities, the location and the layout of these facilities were restricted to areas within the property where larger development pods could be created. The applicant chose areas which maximize the use of upland and minimize impacts to wetlands to the greatest extent practicable. As depicted in the attached permit drawings, this proposed site plan requires 96.17 acres of wetland impact while avoiding 523.11 acres (85%) of wetland within the property.

#### **6.0 ALTERNATIVES ANALYSIS:**

As part of the overall project, a thorough alternatives analysis was completed. A review of the 404(b)(1) guideline indicates that "(a) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." The guidelines define practicable alternatives as "(q) The term *practicable* means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes."

The guidelines outline further consideration of practicable alternatives: "(1) For the purpose of this requirement, practicable alternatives include, but are not limited to: (i) Activities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters; (ii) Discharges of dredged or fill material at other locations in waters of the United States or ocean waters; (2) An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded, or managed to fulfill the basic purpose of the proposed activity may be considered."

Considering the guidelines above, the applicant evaluated a No Action Alternative, three alternative sites including the applicant's preferred site, and three on-site alternatives including the applicant's preferred on-site configuration. The permit drawings depicting the proposed site plan are provided in Appendix C. Mapping information for off-site alternatives is provided in Appendix D and on-site alternatives are provided in Appendix E.

The following “Practicability/Reasonability Screening Selection Criteria” were applied to each alternative to confirm whether the particular alternative and/or on-site configuration was practicable.

**6.1 Practicability/Reasonability Screening Selection Criteria:** The following provides a summary of each key criterion.

- Capable of being done considering cost: Site development costs must be reasonable considering scope, scale, and type of project, total costs, funding source, etc.
- Capable of being done considering logistics: Specific logistics requirements were associated with geographic location, size, entitlements, utilities, proximate infrastructure, etc.
  - Geographic Location: The proposed project has been initiated to support the current and future growth needs of St. Marys. The geographic review area for this project was limited to properties within the city limits of St. Marys or those tracts which could be annexed into the city limits of St. Marys.
  - Size: The proposed development including all product types, access, parking and stormwater management facilities totals approximately 1,026.93 acres. Thus, the minimum acreage suitable to support the project was established at 1,010 acres. The project area totals 1,784.83 acres within includes upland, wetland and marsh. Considering tracts of similar size, the maximum tract acreage was established at 1,800 acres.
  - Utilities: With any development project, utility service or access to utility services (water, sewer, electrical, gas, phone, cable, etc.) is required. For this reason, location of existing utilities and cost associated with servicing the project site if those utilities were not already available was a consideration in the site screening criteria. For this project the alternative sites must be located within an area that contains existing utilities or within a reasonable distance of 1 mile from existing utilities that could be extended to service the project.
- Property can be reasonably obtained: The project site must be available or could be acquired specifically for development.
- Property can be reasonably expanded: The project site must be able to reasonably accommodate future expansion. Because this project has been master planned for buildout, future expansion is not required and was not a consideration.
- Property can be reasonably managed: The project site cannot contain restrictions precluding operation or management of the site for the intended use and must be currently zoned or could be rezoned for the intended use.
- Property can meet the basic project purpose: The project site must meet the basic project purpose.
- Property can meet the overall project purpose: The project site must meet the overall project purpose.

The following provides a summary of the alternative analysis and a description of each alternative evaluated as part of this permit application package.

**6.2 No Action Alternative:** A “no action” alternative must be considered, and complete avoidance of wetlands was the first alternative considered for this project. Due to the location of wetlands and proposed land use, complete avoidance of wetland impacts is not feasible. Simply accessing the property with roads and utilities requires impacts to jurisdictional wetlands. Additionally, the presence of wetlands is not unique to the project site. Available NWI, other mapping data and aquatic resource determinations historically completed by the USACE confirm that wetlands typically comprise 30% or more of large tracts within coastal Georgia. When considering the geographic location (coastal Georgia region) and size of the project area, impacts to these resources would be required regardless of site location. Because the “no-action” alternative and complete avoidance of impacts would prohibit construction a development of similar size on any comparable tract and would not satisfy overall project purpose to service both the current and future residential, recreational,

commercial and industrial growth needs of St. Marys, the No Action Alternative does not meet the project purpose was determined to be unreasonable and not practicable.

**6.3 Off-Site Alternatives:** As noted above, the project site is proposed to satisfy the market demands within St. Marys. The off-site alternatives analysis was completed using geothinq (a GIS software program for engineers and planning professionals) and by applying the screening criteria described above. The following provides a summary of steps associated with the site selection and determination of practicable alternatives:

**Step 1.** Considering the geographic location and minimum tract size, the first step included a query of all parcels between 1,030 acres and 1800 acres within the city limits of St. Marys. While this query identified 32 tracts within Camden County, no parcels of suitable size, other than the applicant’s preferred alternative, were identified within or adjacent to the city limits or St. Marys.

**Step 2.** Because a single parcel of suitable size was not afforded within the review area, the analysis was modified to include larger undeveloped parcels that could be assembled to create a development area suitable to support the proposed project. Based on this review, two areas within St. Marys were located. While it is unknown if all the parcels could be assembled, this analysis was completed to confirm that the proposed project was the least damaging practicable alternative when considering the overall project purpose and undeveloped lands within the geographic review area.

**Table 2: Summary of Practicable Alternatives:**

Practicability/ Reasonability Screening Selection Criteria	Applicants Preferred Alternative	Off-Site Alternative Single Parcel Within St. Marys City Limits 1,030-1800 Ac.	Off-Site Alternatives Assemblage of Multiple Parcels	On-Site Alt 1	On-Site Alt 2	No Action
Capable of being done considering cost	Yes	No	Unknown	Yes	Yes	Yes
Capable of being done considering logistics	Yes	No	No	Yes	Yes	No
Property can be reasonably obtained	Yes	No	Unknown	Yes	Yes	Yes
Property can be reasonably expanded	Not Applicable	No	Not Applicable	Yes	Yes	No
Property can be reasonably managed	Yes	No	Yes	Yes	Yes	Yes
Meets basic project purpose	Yes	No	Yes	Yes	Yes	No
Meets overall project purpose	Yes	No	Yes	Yes	Yes	No
<b>Practicable (Y or N)</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>

**6.3.1 Applicants Preferred Site:** The applicant’s preferred alternative totals 1,784.83 acres located north and south of St Marys Road approximately 0.25 mile from Interstate 95. The property has been managed for pine timber production and consists of pine timber stands of varying age classes. Contiguous hardwood wetland areas extend throughout the property and tidal marsh is located on the southern portion of the tract. Based

on review of the NWI, the tract contains 535.79 acres of wetland. The majority of the property is located outside of the 100 year flood zone and the flood zone is limited to tidal wetlands areas and Millers Branch on the eastern portion of the tract. Review of aerial photographs, U.S. Geological Survey topographic maps, National Wetlands Inventory maps, the Natural Resource Conservation Service Soil Survey and the U.S. Fish and Wildlife Service's Information, Planning, and Conservation System (IPaC) suggests that the upland and freshwater wetland areas do not contain any threatened or endangered species or habitat required to support any listed species. Review of Georgia's Natural Archaeological and Historic Resources GIS (GNAHRGIS) indicates the property does not contain any cultural or archaeological sites. Based on current site conditions, past and current land uses, and known occurrences within the general vicinity, the project site will not impact cultural or archaeological resources.

- This alternative is capable of being done considering total cost, funding source, etc.
- This alternative is capable of being done considering logistics for the following reasons:
  - This alternative is located within the geographic review area for the project.
  - This alternative meets the minimum tract size requirement for construction of the proposed facility.
  - Utility services (water, sewer, electrical, gas, phone, cable, etc.) suitable to support the proposed project are currently provided to the site. The site is currently accessed from St. Marys Road.
- This alternative can be reasonably obtained as it is owned by the applicant. The property is not currently zoned for the intended use however, the property can be rezoned for the proposed use.
- This alternative can accommodate the size requirements of the current and future needs of the project.
- This alternative can be reasonably managed and does not contain restrictions precluding operation or management of the site for the intended use.
- This alternative meets the basic project purpose.
- This alternative meets the overall project purpose.

In summary, the preferred site meets all the site screening criteria and is, therefore, a practicable alternative.

**6.3.2 Off-Site Alternative 1:** This alternative requires assembling 32 individual undeveloped parcels to create a project area of 1,156.32 acres located adjacent to and east and west of St. Marys Road and north of GA Highway 40. These tracts have been managed for timber production and based on aerial imagery much of the project area was clearcut in 2019. Since that time, it appears that the properties have been allowed to naturally regenerate in a mixture of pine and hardwood species. Based on review of the NWI, the Alternative 1 project area contains 435.73 acres of wetland. The property is located outside of the 100-year flood zone a. Review of aerial photographs, U.S. Geological Survey topographic maps, National Wetlands Inventory maps, the Natural Resource Conservation Service Soil Survey and the U.S. Fish and Wildlife Service's Information, Planning, and Conservation System (IPaC) suggests that the upland and freshwater wetland areas do not contain any threatened or endangered species or habitat required to support any listed species. Review of Georgia's Natural Archaeological and Historic Resources GIS (GNAHRGIS) indicates the property does not contain any cultural or archaeological sites. Based on current site conditions, past and current land uses, and known occurrences within the general vicinity, the project site will not impact cultural or archaeological resources.

- While this alternative requires assembling and purchasing 32 parcels, for the purposes of this alternatives analysis it is assumed that this alternative can be capable of being done considering total cost, funding source, etc.
- This alternative is capable of being done considering logistics for the following reasons:
  - This alternative is located within the geographic review area for the project.
  - This alternative meets the minimum tract size requirement for construction of the proposed facility.
  - Utility services (water, sewer, electrical, gas, phone, cable, etc.) suitable to support the proposed project are currently provided to the site. The site is currently accessed from St. Marys Road.
- While this alternative requires assembling and purchasing 32 parcels, for the purposes of this alternatives analysis it is assumed that this alternative can be reasonably obtained. The property is not currently zoned for the intended use however it is assumed that the property can be rezoned for the proposed use.
- This alternative can accommodate the size requirements of the current and future needs of the project.
- This alternative can be reasonably managed and does not contain restrictions precluding operation or management of the site for the intended use.
- This alternative meets the basic project purpose.
- This alternative meets the overall project purpose.

In summary, it is assumed that Off-Site Alternative 1 meets all site screening criteria and is therefore a practicable alternative.

**6.3.3 Off-Site Alternative 2:** This alternative included assembling 34 individual undeveloped parcels to create a project area of 1,202.90 acres located adjacent to and east and west of Colerain Road and north of Kings Bay Road. These tracts have been managed for timber production and based on aerial imagery much of this project area is being harvested in 2023. Areas where timber has been harvested in the past have been allowed to naturally regenerate in a mixture of pine and hardwood species. Based on review of the NWI, the tract contains 579.28 acres of wetland. The property is located outside of the 100-year flood zone a. Review of aerial photographs, U.S. Geological Survey topographic maps, National Wetlands Inventory maps, the Natural Resource Conservation Service Soil Survey and the U.S. Fish and Wildlife Service's Information, Planning, and Conservation System (IPaC) suggests that the upland and freshwater wetland areas do not contain any threatened or endangered species or habitat required to support any listed species. Review of Georgia's Natural Archaeological and Historic Resources GIS (GNAHRGIS) indicates the property does not contain any cultural or archaeological sites. Based on current site conditions, past and current land uses, and known occurrences within the general vicinity, the project site will not impact cultural or archaeological resources.

- While this alternative requires assembling and purchasing 34 parcels, for the purposes of this alternatives analysis it is assumed that this alternative can be capable of being done considering total cost, funding source, etc.
- This alternative is capable of being done considering logistics for the following reasons:
  - This alternative is located within the geographic review area for the project.
  - This alternative meets the minimum tract size requirement for construction of the proposed facility.
  - Utility services (water, sewer, electrical, gas, phone, cable, etc.) suitable to support the proposed project are currently provided to the site. The site is currently accessed from St. Marys Road.

- While this alternative requires assembling and purchasing 34 parcels, for the purposes of this alternatives analysis it is assumed that this alternative can be reasonably obtained. The property is not currently zoned for the intended use however it is assumed that the property can be rezoned for the proposed use.
- This alternative can accommodate the size requirements of the current and future needs of the project.
- This alternative can be reasonably managed and does not contain restrictions precluding operation or management of the site for the intended use.
- This alternative meets the basic project purpose.
- This alternative meets the overall project purpose.

In summary, it is assumed that Off-Site Alternative 2 meets all site screening criteria and is therefore a practicable alternative.

**6.4 Review of Practicable Alternatives:** Following a determination of practicable alternatives using the “Practicability/Reasonability Screening Selection Criteria”, the applicant completed an analysis of practicable alternatives to identify the least environmentally damaging practicable alternative pursuant to 40 CFR 230.7(b)(1). The purpose of the below analysis is to ensure that “no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem”. The applicant evaluated potential environmental impacts that would result from construction of the proposed facility. This evaluation was completed by considering environmental factors which could impact development of the site. The environmental factors included:

- Stream Impacts (quantitative). The estimated linear footage of potential stream impact was evaluated for each practicable alternative.
- Stream Impacts (qualitative). The functional value of potential stream impact areas was evaluated for each practicable alternative. A low, moderate, or high value was assigned using the Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0).
- Wetland Impacts (quantitative). The estimated acreage of potential wetland impact was evaluated for each practicable alternative.
- Wetland Function (qualitative). The functional value of potential wetland impact areas was evaluated for each practicable alternative. Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0).
- Impacts to Other Waters (quantitative). The acreage of open water impact for each site was considered during review of each practicable alternative.
- Other Waters Functions (qualitative). The functional value of any open water impact area was evaluated for each practicable alternative. A low, moderate, or high value was assigned based on habitat type and condition. Examples of high value would be lakes, impoundments, and/or features occurring naturally. Examples of low value would be man-made features which have not naturalized and provide little to no biological support (i.e. borrow pit).
- Federally Listed Threatened or Endangered Species. A preliminary assessment of each practicable alternative was conducted to determine the potential occurrence of animal and plants species (or their preferred habitats) currently listed as threatened or endangered by state and federal regulations [Federal Endangered Species Act of 1973 (16 USC 1531-1543)]. The USFWS IPaC database at <http://ecos.fws.gov/ipac/> database was reviewed to determine plant and animal species as endangered or threatened for each alternative.
- Cultural Resources. A preliminary assessment of cultural resources was conducted for each site by reviewing available Georgia's Natural, Archaeological and Historic Resources GIS (GNAHRGIS)

database. Potential impacts to sites listed or eligible for listing on the National Register of Historic Places was noted for each alternative.

- Flood Plain Impacts. Flood plain impacts were evaluated for each practicable alternative as flood plain mitigation is often required by the local municipality (every cubic yard of fill within the 100-year flood plain requires a cy of flood plain creation within the site).

Considering the assessment criteria above, the applicant evaluated three alternatives including the applicant's preferred alternative. The following provides a summary of each practicable alternative and associated environmental impacts.

#### 6.4.1 Proposed Action/Preferred Alternative:

- Stream Impacts (quantitative). Not applicable. No streams are identified within the property on the NWI or USGS topographic survey.
- Stream Impacts (qualitative). Not applicable.
- Wetland Impacts (quantitative). Review of the NWI indicates 119.8 of acres wetland would be impacted by the proposed project. Based on the delineated wetland boundary, 96.17 acres of jurisdictional wetland will be impacted by the project.
- Wetland Function (qualitative). An evaluation of each wetland and each specific impact was completed using the SOP. Based on this assessment and by assessing the four functions (water storage, biogeochemical cycling, wetland community characteristic, and faunal habitat), the qualitative functional capacity score for all wetlands was determined to be moderate.
- Impacts to Other Waters (quantitative). Based on the NWI, "other waters" would not be impacted by the proposed site plan.
- Other Waters Functions (qualitative). Not applicable.
- Federally Listed Threatened or Endangered Species. Based on review of the U.S. Fish and Wildlife Information for Planning and Consultation (IPaC), no impacts to federally listed species are known to occur within this site.
- Cultural Resources. Review of GNAHRGIS indicates that the property does not contain any cultural or archaeological sites.
- Floodplain Impacts. Based on review of available FEMA maps, floodplain would be impacted by the proposed project.

#### 6.4.2 Off-Site Alternative 1:

- Stream Impacts (quantitative). Not applicable. No streams are identified within the property on the NWI or USGS topographic survey.
- Stream Impacts (qualitative). Not applicable.
- Wetland Impacts (quantitative). Based on the NWI, 381.42 acres wetland would be impacted by the proposed project.
- Wetland Function (qualitative). An evaluation of each wetland and each specific impact was completed using the SOP. Based on this assessment and by assessing the four functions (water storage, biogeochemical cycling, wetland community characteristic, and faunal habitat), the qualitative functional capacity score for all wetlands was determined to be moderate.
- Impacts to Other Waters (quantitative). No other waters are identified on the NWI nor the U.S. Geological Topographic Survey within the project area.
- Other Waters Functions (qualitative). Not applicable.
- Federally Listed Threatened or Endangered Species. Based on review of the U.S. Fish and Wildlife Information for Planning and Consultation (IPaC), no impacts to federally listed species are known to occur within this site.

- Cultural Resources. Review of GNAHRGIS indicates that the property does not contain any cultural or archaeological sites.
- Floodplain Impacts. Based on review of available FEMA maps, floodplain would not be impacted by the proposed project.

#### 6.4.3 Off-Site Alternative 2:

- Stream Impacts (quantitative). No streams would be impacted that are identified within the property on the NWI or USGS topographic survey.
- Stream Impacts (qualitative). Not applicable.
- Wetland Impacts (quantitative). Based on the NWI, 496.03 acres wetland would be impacted by the proposed project.
- Wetland Function (qualitative). An evaluation of each wetland and each specific impact was completed using the Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Non-Riverine Wetland Qualitative Stream Assessment Worksheet. Based on this assessment and by assessing the four functions (water storage, biogeochemical cycling, wetland community characteristic, and faunal habitat), the qualitative functional capacity score for all wetlands was determined to be moderate.
- Impacts to Other Waters (quantitative). Based on the NWI, no other waters would be impacted.
- Other Waters Functions (qualitative). Not Applicable
- Federally Listed Threatened or Endangered Species. Based on review of the U.S. Fish and Wildlife Information for Planning and Consultation (IPaC), no impacts to federally listed species are known to occur within this site.
- Cultural Resources. Review of GNAHRGIS indicates that the property does not contain any cultural or archaeological sites.
- Floodplain Impacts. Based on review of available FEMA maps, floodplain would not be impacted by the proposed project.

#### 6.4.4 On-Site Configuration 1:

- Stream Impacts (quantitative). Not applicable. No streams are identified within the property on the NWI or USGS topographic survey.
- Stream Impacts (qualitative). Not applicable.
- Wetland Impacts (quantitative). Review of the NWI indicates 125.51 of acres wetland would be impacted by the proposed project. Based on the delineated wetland boundary, 107.44 acres of jurisdictional wetland will be impacted by the project.
- Wetland Function (qualitative). An evaluation of each wetland and each specific impact was completed using the SOP. Based on this assessment and by assessing the four functions (water storage, biogeochemical cycling, wetland community characteristic, and faunal habitat), the qualitative functional capacity score for all wetlands was determined to be moderate.
- Impacts to Other Waters (quantitative). Based on the NWI, "other waters" would not be impacted by the proposed site plan.
- Other Waters Functions (qualitative). Not applicable.
- Federally Listed Threatened or Endangered Species. Based on review of the U.S. Fish and Wildlife Information for Planning and Consultation (IPaC), no impacts to federally listed species are known to occur within this site.
- Cultural Resources. Review of GNAHRGIS indicates that the property does not contain any cultural or archaeological sites.
- Floodplain Impacts. Based on review of available FEMA maps, floodplain would be impacted by the

proposed project.

#### 6.4.5 On-Site Configuration 2:

- Stream Impacts (quantitative). Not applicable. No streams are identified within the property on the NWI or USGS topographic survey.
- Stream Impacts (qualitative). Not applicable.
- Wetland Impacts (quantitative). Review of the NWI indicates 128.78 of acres wetland would be impacted by the proposed project. Based on the delineated wetland boundary, 112.02 acres of jurisdictional wetland will be impacted by the project.
- Wetland Function (qualitative). An evaluation of each wetland and each specific impact was completed using the SOP. Based on this assessment and by assessing the four functions (water storage, biogeochemical cycling, wetland community characteristic, and faunal habitat), the qualitative functional capacity score for all wetlands was determined to be moderate.
- Impacts to Other Waters (quantitative). Based on the NWI, “other waters” would not be impacted by the proposed site plan.
- Other Waters Functions (qualitative). Not applicable.
- Federally Listed Threatened or Endangered Species. Based on review of the U.S. Fish and Wildlife Information for Planning and Consultation (IPaC), no impacts to federally listed species are known to occur within this site.
- Cultural Resources. Review of GNAHRGIS indicates that the property does not contain any cultural or archaeological sites.
- Floodplain Impacts. Based on review of available FEMA maps, floodplain would be impacted by the proposed project.

**6.4.5 Summary of Practicable Alternatives Analysis:** When comparing the practicable alternatives, the Applicant’s Preferred Alternative requires less jurisdictional wetland impact than either of the two off-site alternatives. In addition, the applicant evaluated opportunities to minimize jurisdictional wetland impacts across the site by considering three on-site development alternatives. Each alternative was further refined to reduce impacts where feasible. Avoidance and minimization measures included utilizing existing road crossings where feasible, proposing road crossings at the shortest length feasible, designing the road crossings to minimize right of way width, combining utility and road right of ways to reduce overall impacts, avoidance of bulk fill of large contiguous wetlands, complete avoidance of tidal marsh impacts, etc. When considering the size and scale of the project, avoidance and minimization measures and proposed impacts compared to both off-site and on-site alternatives, the Applicant’s Preferred Alternative represents the least environmentally damaging. Table 3 provides a summary of the practicable alternatives and the values for each factor.

**Table 3. Summary of Least Environmentally Damaging Practicable Alternative Assessment**

Environmental Factors	Preferred Alternative & Configuration	Off-Site Alternative 1	Off-Site Alternative 2	On-Site Alternative 1	On-Site Alternative 2
Stream Impacts USGS (Linear Feet) NWI/Delineation	None	None	None	None	None
Functional Value of Impacted Stream	N/A	N/A	N/A	N/A	N/A
Wetland Impacts (Acres) NWI/Delineation	119.8/96.17	381.42/N/A	496.03/N/A	125.51/107.44	128.78/112.02
Functional Value of Impacted Wetland	Moderate	Moderate	Moderate	Moderate	Moderate
Impacts to Other Waters (Acres) NWI/USGS	None	None	None	None	None
Functional Value of Impacted Other Waters	N/A	N/A	N/A	N/A	N/A
Federal Endangered Species Impact	Not Likely	Not Likely	Not Likely	Not Likely	Not Likely
Cultural Resources Impact	Not Likely	Not Likely	Not Likely	Not Likely	Not Likely
Floodplain Impact (Acres)	Yes	Yes	Yes	Yes	Yes
<b>LEDPA</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

In summary, the applicant and design team considered a variety of alternatives which would avoid and minimize impacts to wetlands to the greatest extent practicable while satisfying the overall project purpose. Through a comprehensive analysis of both off-site alternatives and on-site configurations, the applicant has been able to reduce the overall environmental impacts and demonstrate that the proposed site and design is the least environmentally damaging practicable alternative.

#### 7.0 THREATENED AND ENDANGERED SPECIES:

RLC completed a threatened and endangered species assessment within the project site. Prior to conducting the field survey, RLC reviewed available state and federal records to determine if any listed species were known to occur within and/or in the general vicinity of the project area. Available resources such as aerial photographs, U.S. Geological Survey topographic maps, National Wetlands Inventory maps, and the Natural Resource Conservation Service Soil Survey were examined to complete a preliminary determination of existing habitats prior to the field visit. A review of the U.S. Fish and Wildlife Service’s Information, Planning, and Conservation System was also conducted to identify species that are known to occur within the County (Table 3.). Following review of available information, RLC conducted a pedestrian survey of the project site to determine the available habitats on site and the potential occurrence for listed species. Pedestrian surveys were conducted during numerous site visits in 2021, 2022 and 2023.

U.S. Fish and Wildlife Service’s Information, Planning, and Conservation System indicates the following species have the potential to occur within the project site.

- Eastern Black Rail (*Laterallus jamaicensis ssp. Jamaicen*)
- Whooping Crane (*Grus americana*)
- Wood Stork (*Mycteria americana*)

- Eastern Indigo Snake (*Drymarchon corais couperi*)
- 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*):
- Monarch Butterfly (*Danaus plexippus*)

The following text briefly discusses each listed species and potential for the species to reside within the subject site.

**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 project site does not contain freshwater marshes and the proposed site development plan avoids impacts to tidal marshes. For this reason, the project is not likely to adversely affect the eastern black rail.

**Whooping Crane (*Grus americana*):** The whooping crane occurs only in North America and is North America's tallest bird, with males approaching 1.5 m (5 ft) when standing erect. The whooping crane adult plumage is snowy white except for black primaries, black or grayish alula, sparse black bristly feathers on the carmine crown and malar region, and a dark gray-black wedge-shaped patch on the nape. Whooping cranes currently exist in the wild at 3 locations and in captivity at 12 sites. The July 2010 total wild population was estimated at 383. There is only one self-sustaining wild population. The Fish and Wildlife Service consider this species to be an experimental population and non-essential.

Based on the status of this species and because the project site is not one of three locations where the Whooping crane is known to occur, the proposed project is not likely to adversely affect this species.

**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.

Although the project site contains freshwater wetland systems which could provide limited wood stork feeding habitat, neither the wood stork nor critical nesting/roosting habitat was observed. Therefore, the project may affect but is not likely to adversely affect this species.

**Eastern Indigo Snake (*Drymarchon corais couperi*):** The Eastern indigo snake is a large nonpoisonous, stout bodied snake averaging six to seven feet in length. Its federal status is listed as threatened and its state status is listed as threatened. 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.

The project site contains Mandarin soils which are identified as moderate gopher tortoise habitat. RLC completed a thorough pedestrian survey of the project site and at no time during the survey were any gopher tortoise burrows or individual gopher tortoises observed. Additional review of GNAHRGIS documents that no occurrences of this species have been recorded on site. Thus, the project will not adversely affect 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. The loggerhead is completely adapted to life in the ocean and depends on land only for reproduction. Only the female returns to the beach. When female turtles reach maturity (15-30 years), they leave the water and dig a nest in the sand on the beach, deposit the eggs, cover the nest, then return to the water. In each nesting season, a female may lay up to six clutches, each containing 100-150 small, white, leathery eggs. Nests are subject to predation by raccoons and feral hogs, poaching and habitat destruction.

The endangered leatherback turtle is the largest and most active of the sea turtles. They travel thousands of miles, dive thousands of feet deep, and venture into much colder water than any other sea turtle. Up to eight feet in length, these huge turtles have a rubbery dark shell marked by seven narrow ridges that extend the length of the back. Leatherbacks feed on jellyfish and soft-bodied animals. Ingestion of plastic bags and egg collecting are reasons for mortality and population declines.

The green turtle nest in the Caribbean but 500 to 2000 nests are recorded in Florida each year. Green turtles are considered infrequent nesters in Georgia. Green turtles have been hunted for centuries for their meat and hunting and egg gathering have reduced their number greatly. Green turtles are the only sea turtles that eat plants. They graze on the vast beds of sea grasses found throughout the tropics. Some populations travel over a thousand miles over open ocean to nest on islands in the mid-Atlantic.

The endangered hawksbill, a relatively small turtle, has been hunted to the brink of extinction for its shell. Hawksbill turtles do not nest in Georgia and are rarely found in Georgia coastal waters. Hawksbills feed on sponges and other invertebrates and tend to nest on small, isolated beaches.

The endangered Kemp's ridley feeds in the coastal waters of Georgia on blue crabs and other crabs and shrimp. All Kemp's ridleys nest on a single stretch of beach on the Gulf coast of Mexico.

Marine habitat required to support this species is not present within the project, impacts to marine habitat or adjacent marshes are not associated with the project and for this reason, the proposed project will have no effect on sea turtles.

**Monarch Butterfly (*Danaus plexippus*):** Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily *Asclepias* spp.), and larvae emerge after two to five days. Larvae develop through five larval instars (intervals between molts) over a period of 9 to 18 days, feeding on milkweed and sequestering toxic chemicals (cardenolides) as a defense against predators. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration, and live for an extended period of time.

The project site does not contain critical habitat required to support this candidate species and the project is not likely to adversely affect the conservation efforts associated with the monarch butterfly.

**Table 4. Protected Species**

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
Eastern Black Rail ( <i>Laterallus jamaicensis</i> ssp. <i>Jamaicensis</i> )	Threatened	No	Eastern Black Rail	salt and freshwater marshes	No	No	NLAA	No Effect
Whooping Crane ( <i>Grus americana</i> )	Experimental Population, Non-Essential	No	N/A	currently exist in the wild at 3 locations and in captivity at 12 sites	No	No	No Effect	No Effect
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	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	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	No Effect
Monarch Butterfly ( <i>Danaus plexippus</i> )	Candidate	No	N/A	temperate climates, such as eastern and western North America with access to milkweed during breeding season	No	No	No Effect	No Effect

Due to the location of the project site and commercial and residential development that exist within the project area, no listed species or habitat required to support a listed species was observed within the project site. Based on observations during the site visit, existing habitats documented within the site, absence of listed species and geographic location of the project, no adverse impacts to protected species will occur in association with the proposed project.

**8.0 CULTURAL RESOURCES:**

Between July 5 and November 21, 2022, Brockington and Associates, Inc. (Brockington) conducted an intensive Phase I cultural resources survey of the permit area. As documented in the report, “No cultural resources will be negatively impacted by the proposed development, and no further management is necessary”. A complete copy of the report is provided in Appendix H.

**9.0 STORMWATER MANAGEMENT:**

A preliminary stormwater management plan has been designed by ETM (consulting engineer), and although this plan has not yet been finalized, the preliminary plan includes construction of stormwater ponds designed to accommodate the stormwater volume associated with development of the site. The final plan will meet all stormwater management requirements of the local authorities.

**10.0 COMPENSATORY MITIGATION:**

The proposed project requires 96.17 acres of wetland impact. As documented in the attached mitigation credit calculations, the project will require 72.13 2018 credits/577.04 legacy wetland mitigation credits to off-set aquatic resource impacts. As compensatory mitigation, the applicant is proposing to purchase available mitigation credits from approved mitigation banks that service the St. Marys Watershed (HUC 03070204). If mitigation bank credits are not available, the applicant will purchase credits from the approved in-lieu fee program.

Due to the size of the overall project, credits will be purchased in association with discrete phases of development. The attached permit drawings color code the phases for the project and the following table provides a summary of phase impacts and mitigation requirements.

**Table 5. Mitigation Credit Requirement**

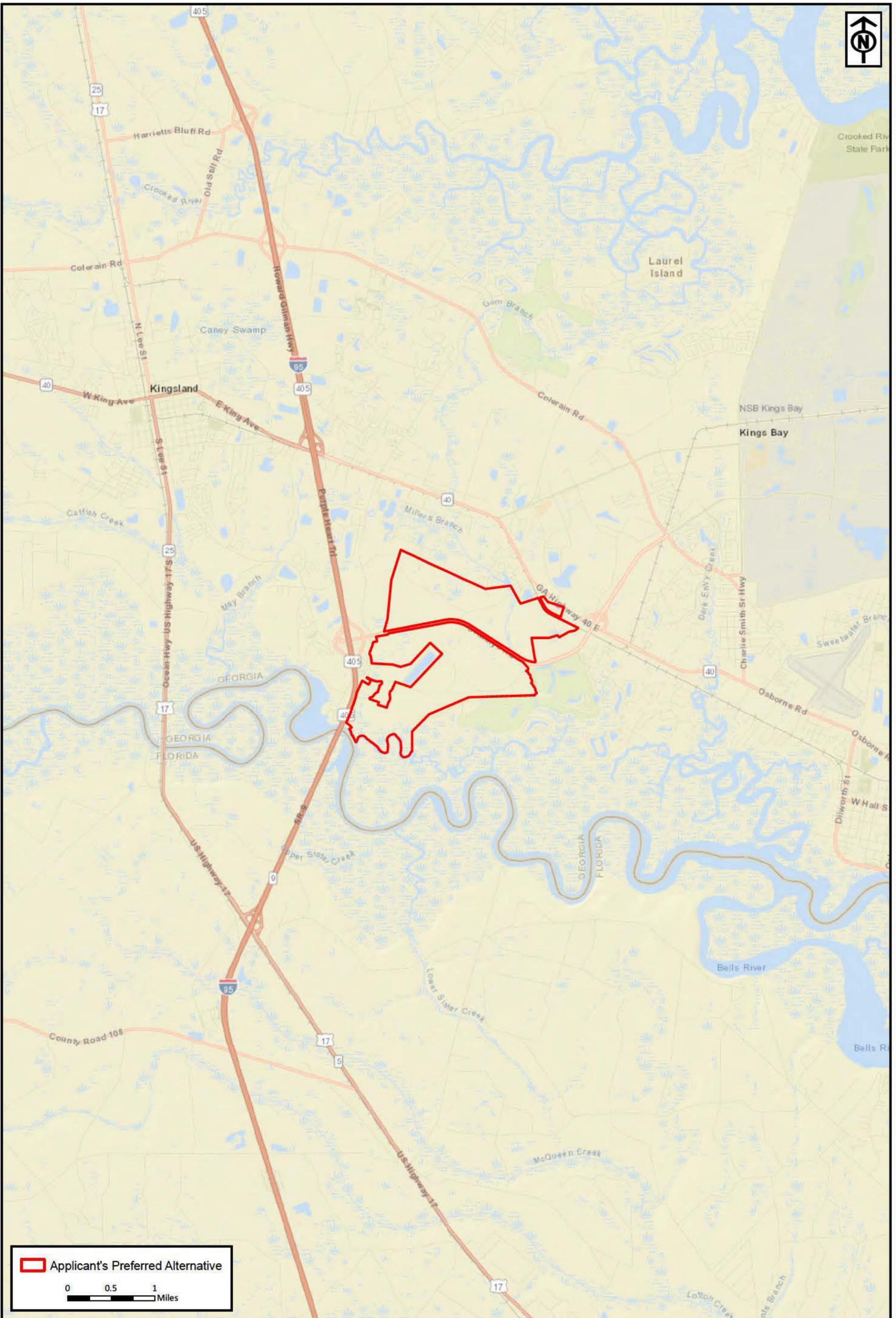
Type	Impact Acreage	2018 Credits	Legacy Credits
Slope Wetlands	81.07	60.8	486.4
Depressional/Flat Wetlands	15.1	11.33	90.64
Total	96.17	72.13	577.04

**Table 6. Mitigation Phases**

Phase	Impact Acreage	2018 Credit Requirement	Legacy Credit Requirement
Commerce Park Wetland Impacts A1	5.5	4.13	33
Commerce Park Wetland Impacts A2	9.09	6.82	54.54
Commerce Park Wetland Impacts A3	6.09	4.57	36.54
Commerce Park Wetland Impacts A4	2.09	1.57	12.54
Phase B1 Wetland Impacts	2.09	1.57	12.54
Phase B2 Wetland Impacts	10.49	7.87	62.94
Phase B2 (Off-Site) Wetland Impacts	5.77	4.33	34.64
Phase C1 Wetland Impacts	1.12	0.84	6.72
Phase C2 Wetland Impacts	0.24	0.18	1.44
Commercial Wetland Impacts 1	0.63	0.47	3.78
Commercial Wetland Impacts 2	0.91	0.68	5.46
Commercial Wetland Impacts 3	21.41	16.06	128.46
Phase D1 Wetland Impacts	2.45	1.84	14.7
Phase D2 Wetland Impacts	6.59	4.94	39.54
Phase D3 Wetland Impacts	11.09	8.32	66.54
Phase D4 Wetland Impacts	5.06	3.80	30.36
Phase D5 Wetland Impacts	4.66	3.50	27.96
Phase D6 Wetland Impacts	0.89	0.67	5.34
<b>Total</b>	<b>96.17</b>	<b>72.13</b>	<b>577.04</b>

**11.0 CONCLUSION:**

Raydient, LLC is proposing a mixed-use development east of Interstate 95 and north and south of St. Marys Road within St. Marys, Camden County. The proposed site plan requires 96.17 acres of wetland impact during construction of residential, commercial and industrial development. As compensatory mitigation, the applicant is proposing to purchase 72.13 2018 credits/577.04 legacy wetland mitigation credits from an approved mitigation bank and/or the in-lieu fee program. As documented throughout this permit application package, the applicant has avoided and minimized impacts to aquatic resources to the greatest extent practicable. The project will be constructed with the minimum slope/grading requirements dictated by the product type and elevations. The applicant will implement BMP's during the construction phase of the project. These measures will comply with the "FIELD MANUAL FOR EROSION & SEDIMENT CONTROL IN GEORGIA, Vegetative & Structural BMPs for Land-Disturbing Activities".



 Applicant's Preferred Alternative

0 0.5 1 Miles

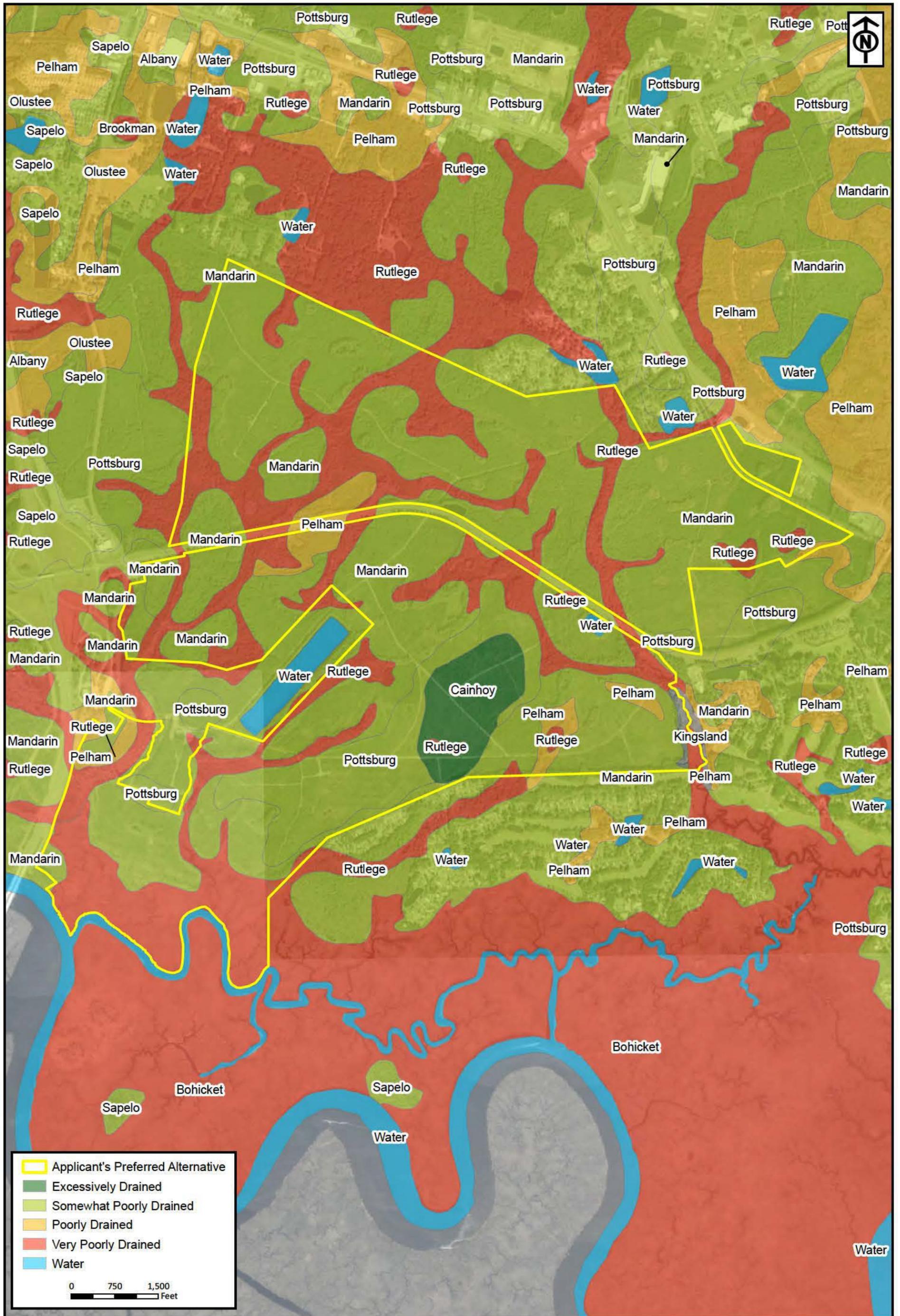
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Figure No.:	1
Prepared By:	MW
Sketch Date:	11/15/2023
Map Scale:	1 inch = 1 miles

**St. Marys Road  
Mixed Use Development**  
Camden County, Georgia

**Applicant's Preferred Alternative  
Project Location**  
Prepared For: Raydient, LLC

 **RESOURCE+LAND  
CONSULTANTS**  
41 Park of Commerce Way, Ste 101  
Savannah, GA 31405  
tel 912.443.5896 fax 912.443.5898





Applicant's Preferred Alternative  
 Excessively Drained  
 Somewhat Poorly Drained  
 Poorly Drained  
 Very Poorly Drained  
 Water

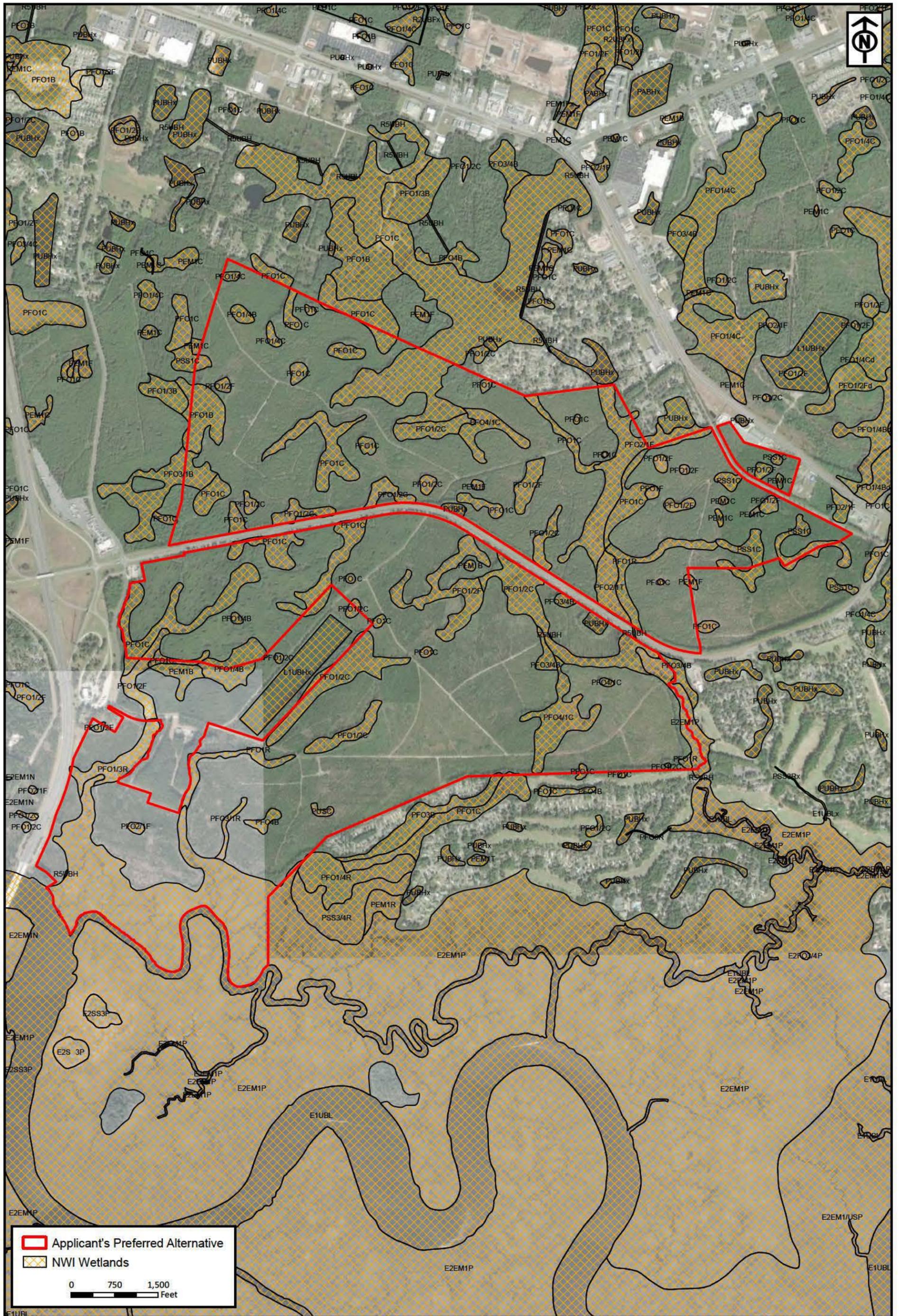
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 Feet

RLC Project No.:	21-168.2
Figure No.:	3
Prepared By:	MW
Sketch Date:	11/15/2023
Map Scale:	1 inch = 1,500 feet

**St. Marys Road  
Mixed Use Development**  
 Camden County, Georgia

**Applicant's Preferred Alternative  
NRCS Soil Survey**  
 Prepared For: Raydient, LLC

**RESOURCE+LAND  
CONSULTANTS**  
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Savannah, GA 31405  
tel 912.443.5896 fax 912.443.5898



RLC Project No.: 21-168.2  
 Figure No.: 4  
 Prepared By: MW  
 Sketch Date: 11/15/2023  
 Map Scale: 1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Applicant's Preferred Alternative  
 National Wetlands Inventory**  
 Prepared For: Raydient, LLC

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 Applicant's Preferred Alternative

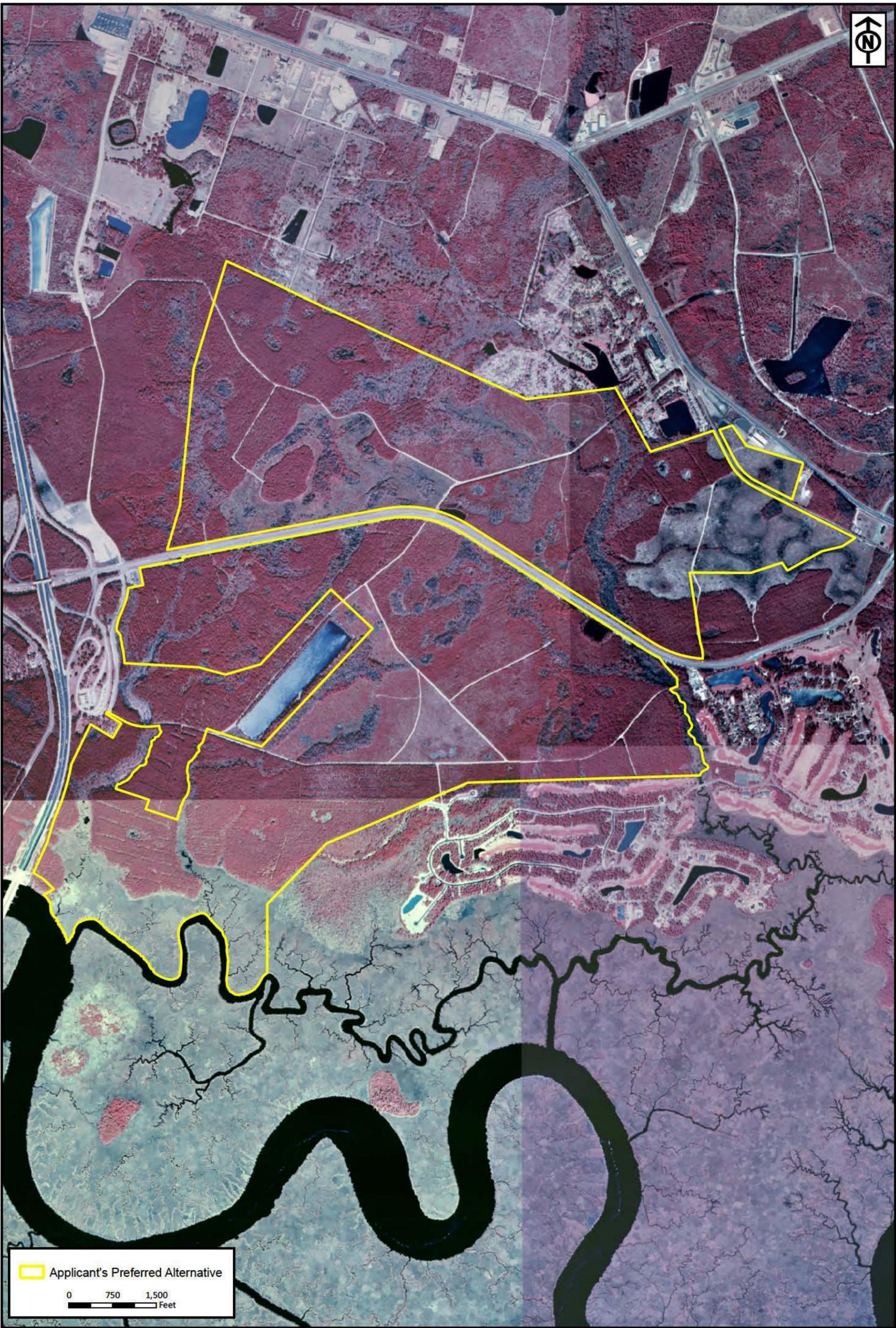
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RLC Project No.: 21-168.2  
 Figure No.: 5  
 Prepared By: MW  
 Sketch Date: 11/15/2023  
 Map Scale: 1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Applicant's Preferred Alternative  
 Ortho Aerial**  
 Prepared For: Raydient, LLC

**RESOURCE+LAND  
 CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898



 Applicant's Preferred Alternative

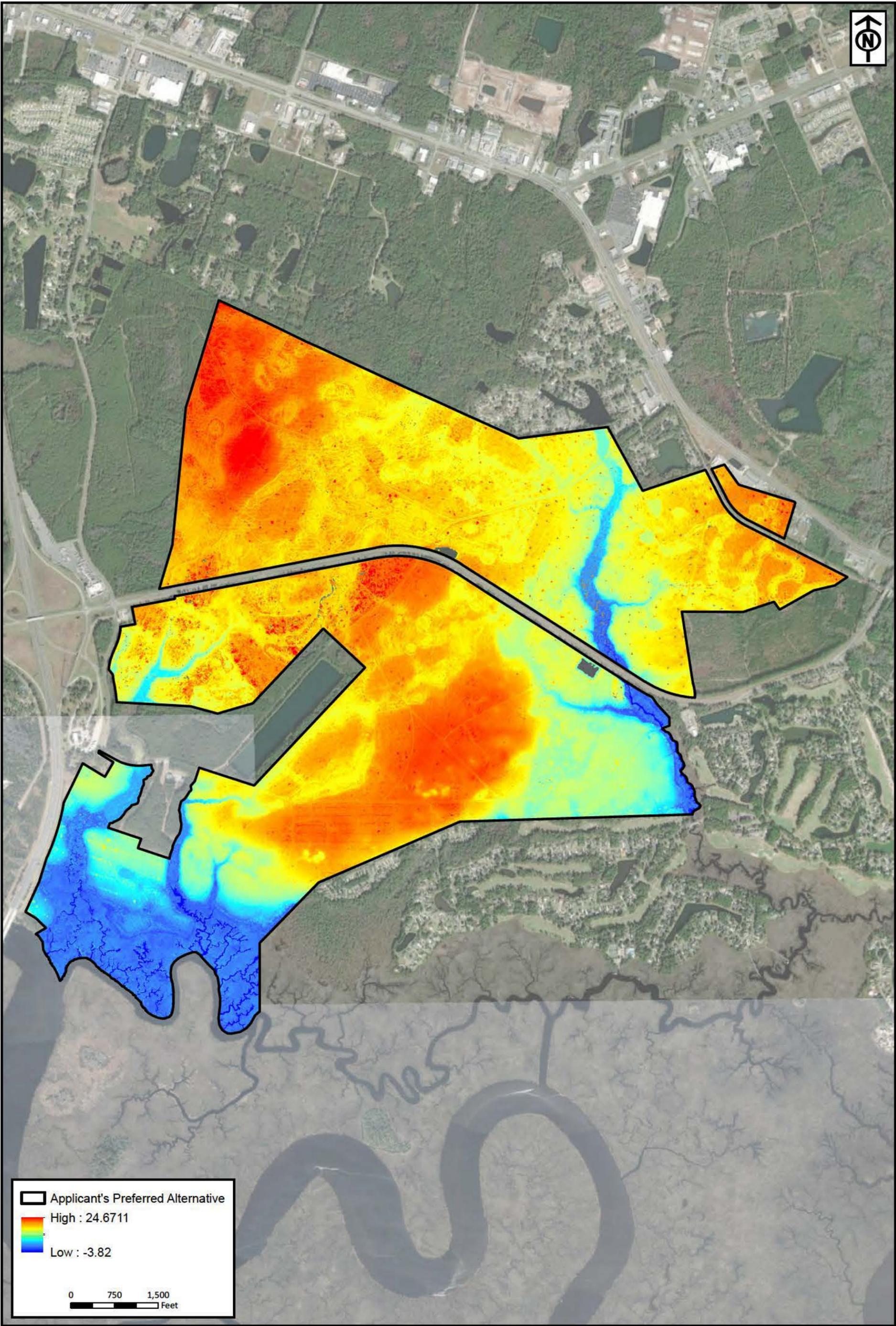
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RLC Project No.: 21-168.2  
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 Prepared By: MW  
 Sketch Date: 11/15/2023  
 Map Scale: 1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Applicant's Preferred Alternative  
 1999 Color-infrared Imagery**  
 Prepared For: Raydient, LLC

**RESOURCE+LAND  
 CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898



Applicant's Preferred Alternative  
 High : 24.6711  
  
 Low : -3.82

0      750      1,500  
 Feet

RLC Project No.:	21-168.2
Figure No.:	7
Prepared By:	MW
Sketch Date:	11/15/2023
Map Scale:	1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Applicant's Preferred Alternative  
 NOAA Topographic Lidar**  
 Prepared For: Raydient, LLC

RLC

**RESOURCE+LAND  
 CONSULTANTS**  
41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898



Applicant's Preferred Alternative: ~1784.84 Acres  
 USFWS NWI: ~535.79 Acres  
 NWI Impact: ~119.8 Acres

0      750      1,500      3,000  
 Feet

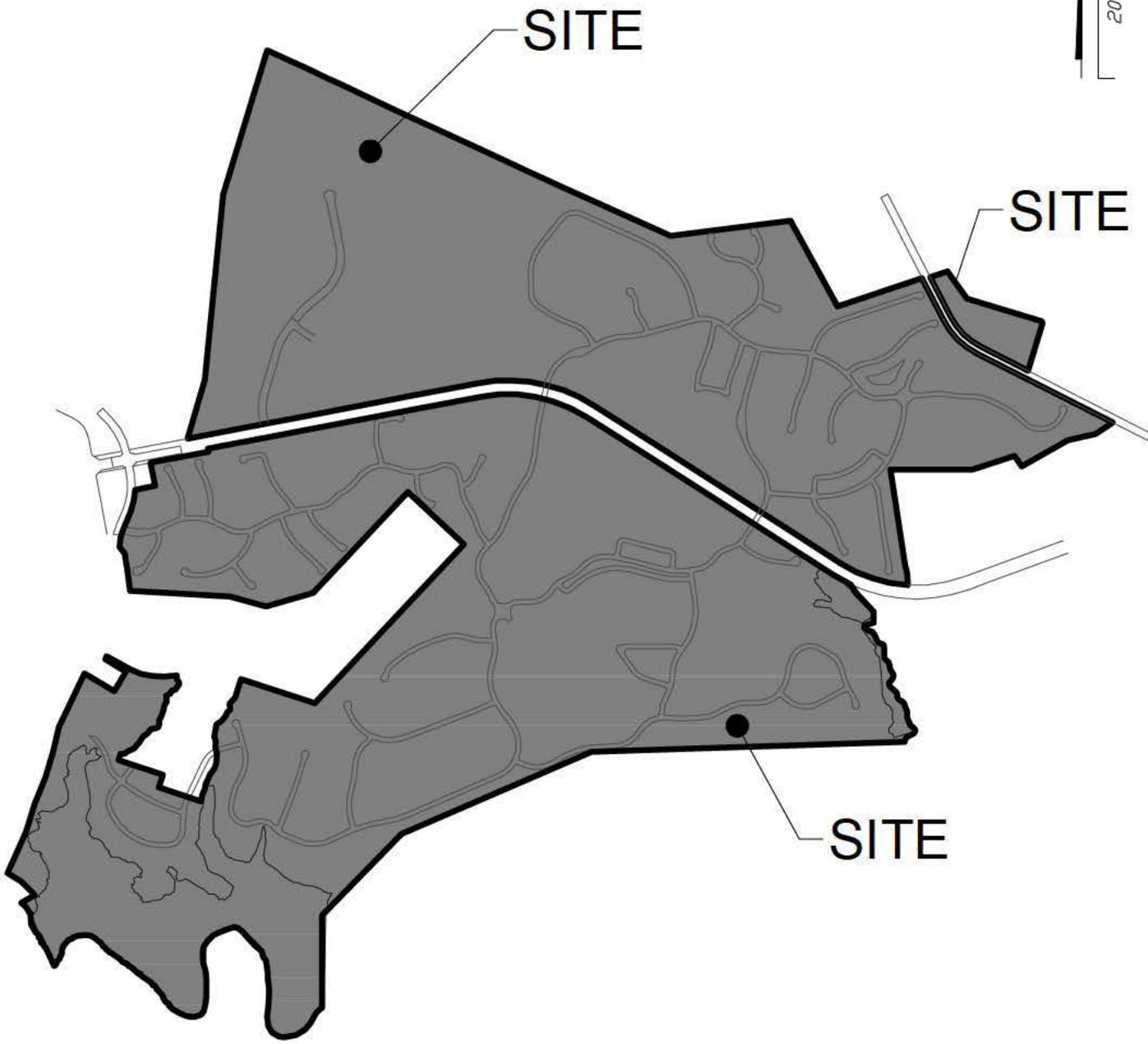
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Figure No.:	8
Prepared By:	MW
Sketch Date:	11/16/2023
Graphic Scale:	1 inch = 1,469 feet

**St. Marys Road  
Mixed Use Development**  
 Camden County, Georgia

**Applicant's Preferred Alternative  
USFWS NWI Impact**  
 Prepared For: Raydient, LLC

RLC

**RESOURCE+LAND  
CONSULTANTS**  
41 Park of Commerce Way, Ste 101  
Savannah, GA 31405  
tel 912.443.5896 fax 912.443.5898



VISION - EXPERIENCE - RESULTS  
 ENGLAND - THIMS & MILLER, INC.

14775 Old St. Augustine Road, Jacksonville, FL 32258  
 TEL: (904) 642-8990, FAX: (904) 646-9485  
 REG - 2584 LC - 0000316

## LOCATION MAP

### ST. MARYS WETLAND IMPACTS

ST. MARYS, GA

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 1

## SCENARIO 1 - LEGEND

	COMMERCE PARK WETLAND IMPACTS - PHASE A1	5.50 Ac±
	COMMERCE PARK WETLAND IMPACTS - PHASE A2	9.09 Ac±
	COMMERCE PARK WETLAND IMPACTS - PHASE A3	6.09 Ac±
	COMMERCE PARK WETLAND IMPACTS - PHASE A4	2.09 Ac±
	PHASE B1 WETLAND IMPACTS	2.09 Ac±
	PHASE B2 WETLAND IMPACTS	10.49 Ac±
	PHASE C1 WETLAND IMPACTS	5.77 Ac±
	PHASE C2 WETLAND IMPACTS	1.12 Ac±
	COMMERCIAL WETLAND IMPACTS - PHASE 1	0.24 Ac±
	COMMERCIAL WETLAND IMPACTS - PHASE 2	0.63 Ac±
	COMMERCIAL WETLAND IMPACTS - PHASE 3	0.91 Ac±
	PHASE D1 WETLAND IMPACTS	21.41 Ac±
	PHASE D2 WETLAND IMPACTS	2.45 Ac±
	PHASE D3 WETLAND IMPACTS	6.59 Ac±
	PHASE D4 WETLAND IMPACTS	11.09 Ac±
	PHASE D5 WETLAND IMPACTS	5.06 Ac±
	PHASE D6 WETLAND IMPACTS	4.66 Ac±
	PHASE 7 WETLAND IMPACTS	0.89 Ac±
TOTAL JURISDICTIONAL WETLAND IMPACTS		96.17 Ac±

	TOTAL PROJECT AREA	1,784.83 Ac±
	UPLAND AREA	1,165.55 Ac±
	JURISDICTIONAL WETLANDS TO REMAIN	619.28 Ac±
	TIDAL MARSH	137.10 Ac±

# ETM

VISION - EXPERIENCE - RESULTS  
ENGLAND - THIMS & MILLER, INC.

14775 Old St. Augustine Road, Jacksonville, FL 32258  
TEL: (904) 642-8990, FAX: (904) 646-9485  
REG - 2584 LC - 0000316

## LEGEND

### ST. MARYS WETLAND IMPACTS

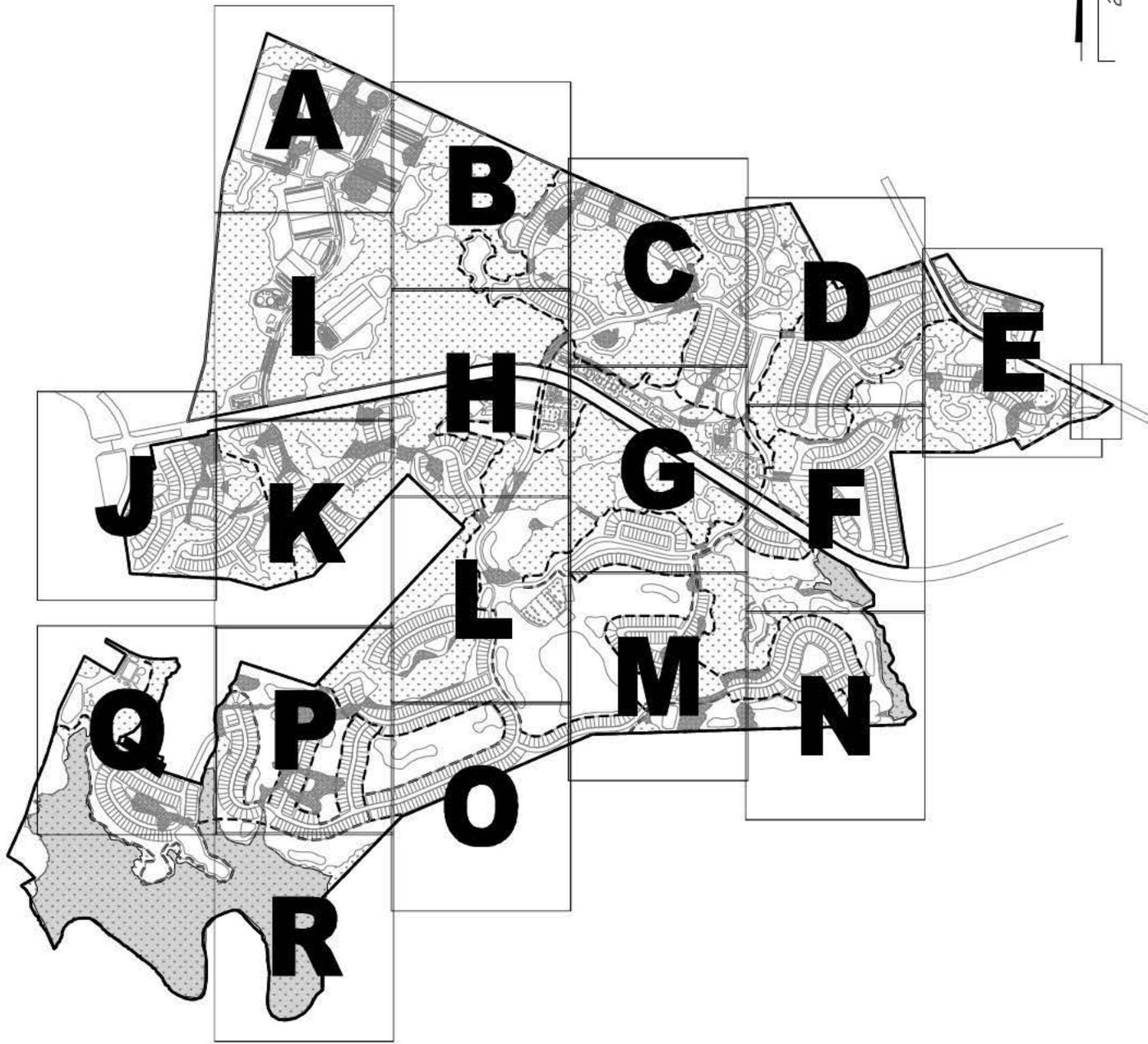
ST. MARYS, GA

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 2



2000'



VISION - EXPERIENCE - RESULTS  
ENGLAND - THIMS & MILLER, INC.

14775 Old St. Augustine Road, Jacksonville, FL 32258  
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REG - 2584 LC - 0000316

## SHEET INDEX

### ST. MARYS WETLAND IMPACTS

ST. MARYS, GA

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 3



WETLAND  
IMPACT A1-1  
4.92 Ac.±

WETLAND  
IMPACT A2-1  
9.09 Ac.±

WETLAND  
IMPACT A1-2  
0.58 Ac.±

WETLAND  
IMPACT A3-2  
4.77 Ac.±



VISION - EXPERIENCE - RESULTS  
ENGLAND - THIMS & MILLER, INC.

14775 Old St. Augustine Road, Jacksonville, FL 32258  
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REG - 2584 LC - 0000316

# WETLAND IMPACT PLAN

## ST. MARYS WETLAND IMPACTS

ST. MARYS, GA

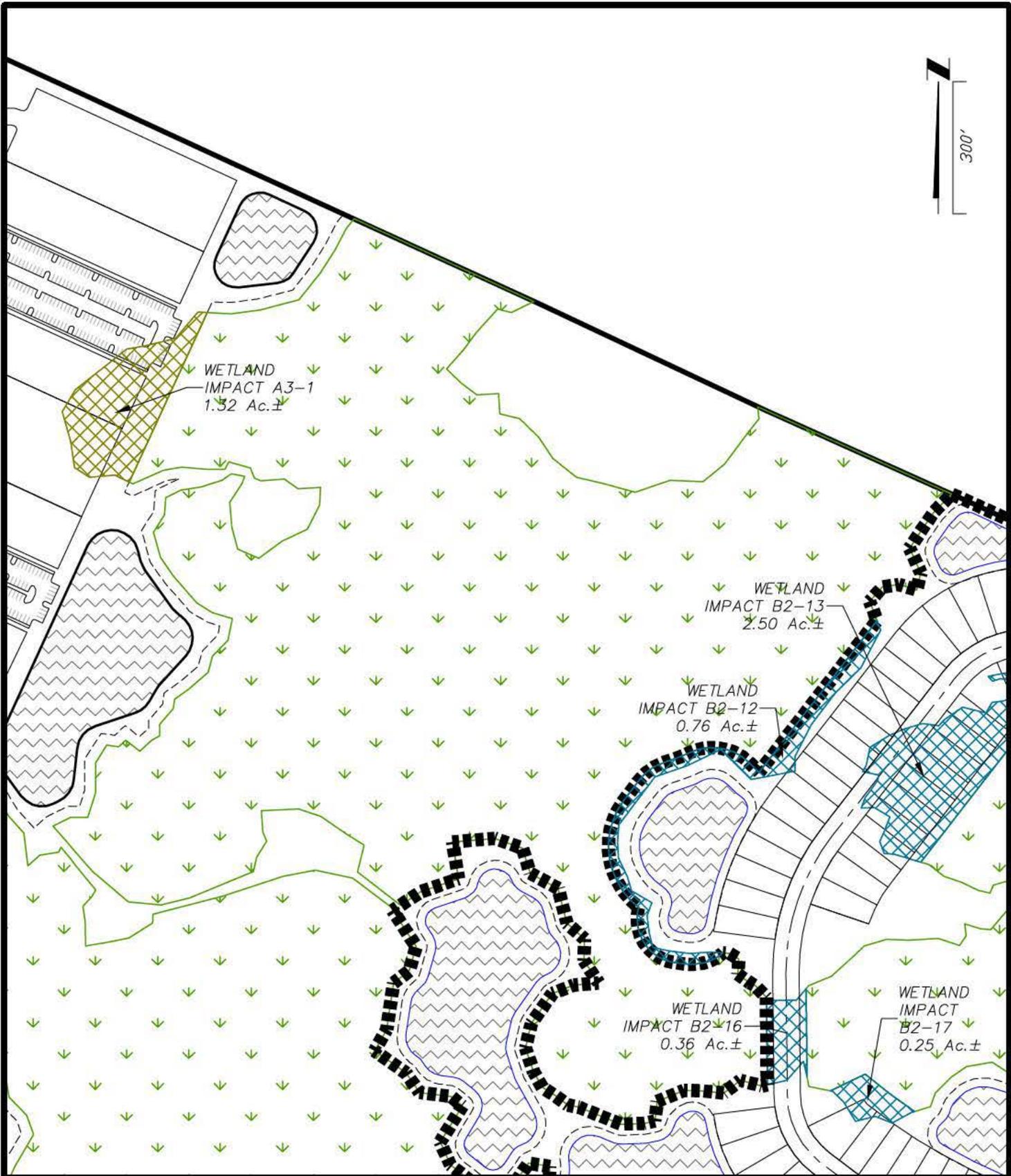
ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 3A

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**ETM**

VISION - EXPERIENCE - RESULTS  
ENGLAND - THIMS & MILLER, INC.

14775 Old St. Augustine Road, Jacksonville, FL 32258  
TEL: (904) 642-8990, FAX: (904) 646-9485  
REG - 2584 LC - 0000316

**WETLAND IMPACT PLAN**

**ST. MARYS WETLAND IMPACTS**

**ST. MARYS, GA**

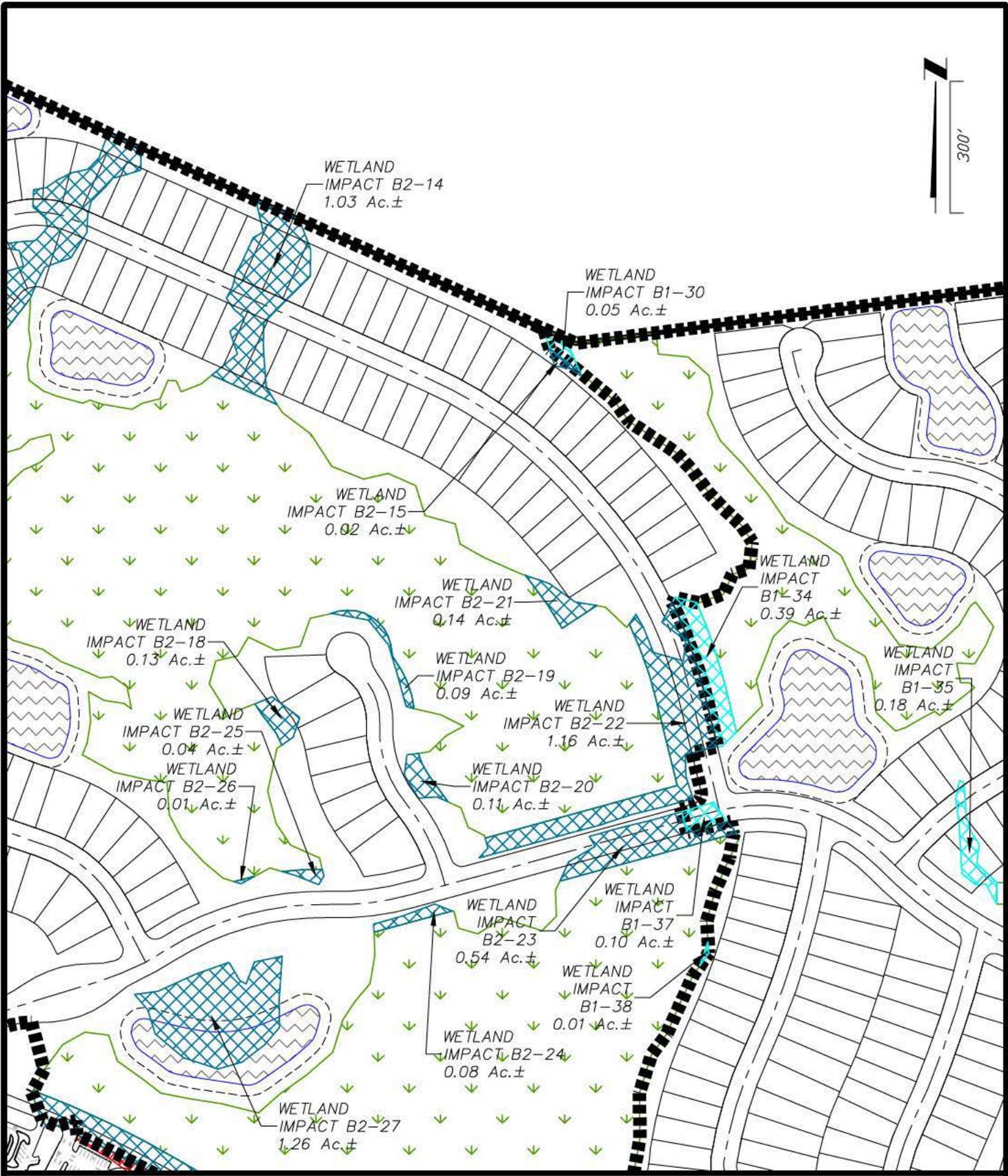
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DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

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VISION - EXPERIENCE - RESULTS  
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 REG - 2584 LC - 0000316

## WETLAND IMPACT PLAN

### ST. MARYS WETLAND IMPACTS

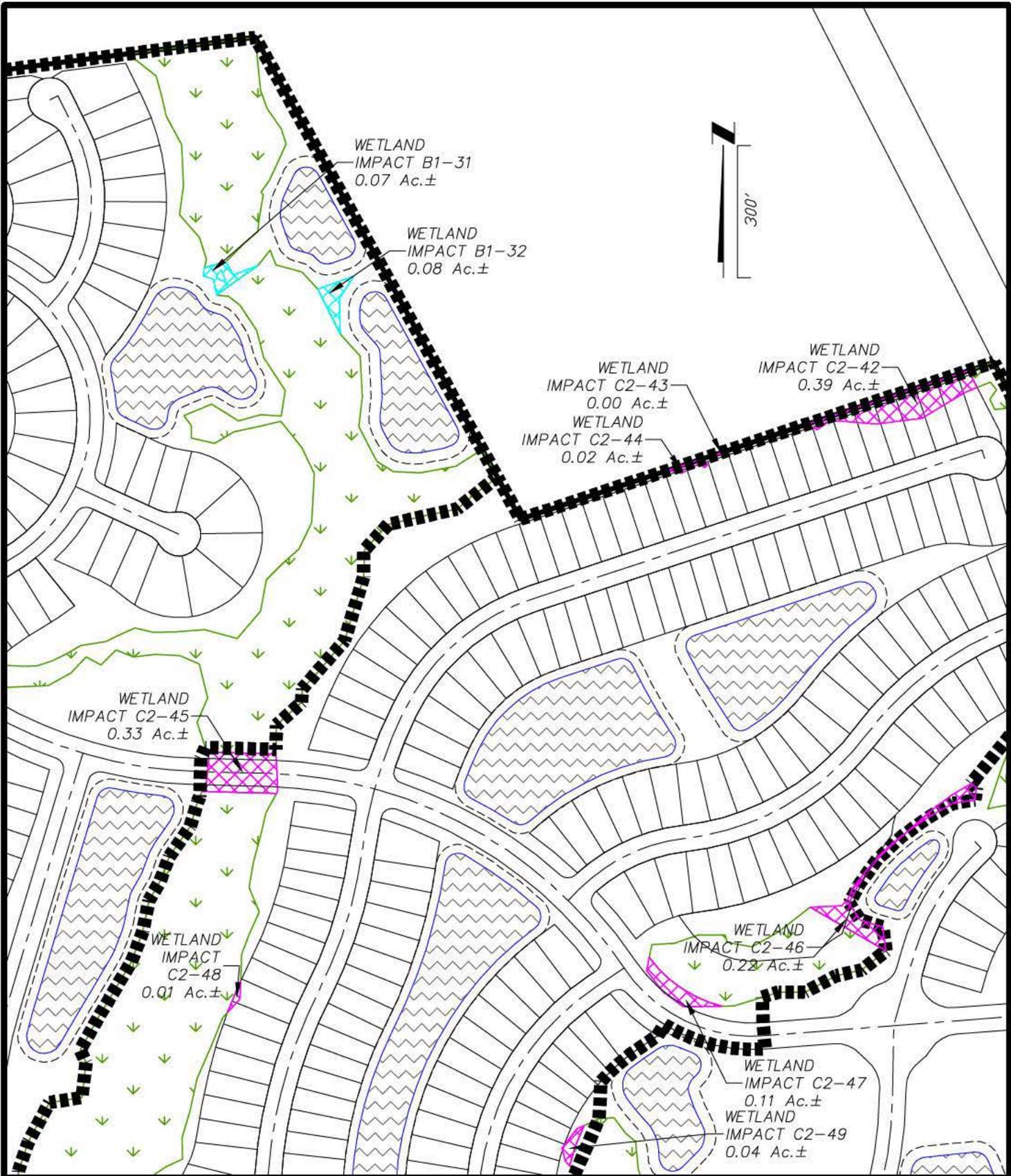
ST. MARYS, GA

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 3C



VISION - EXPERIENCE - RESULTS  
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REG - 2584 LC - 0000316

# WETLAND IMPACT PLAN

## ST. MARYS WETLAND IMPACTS

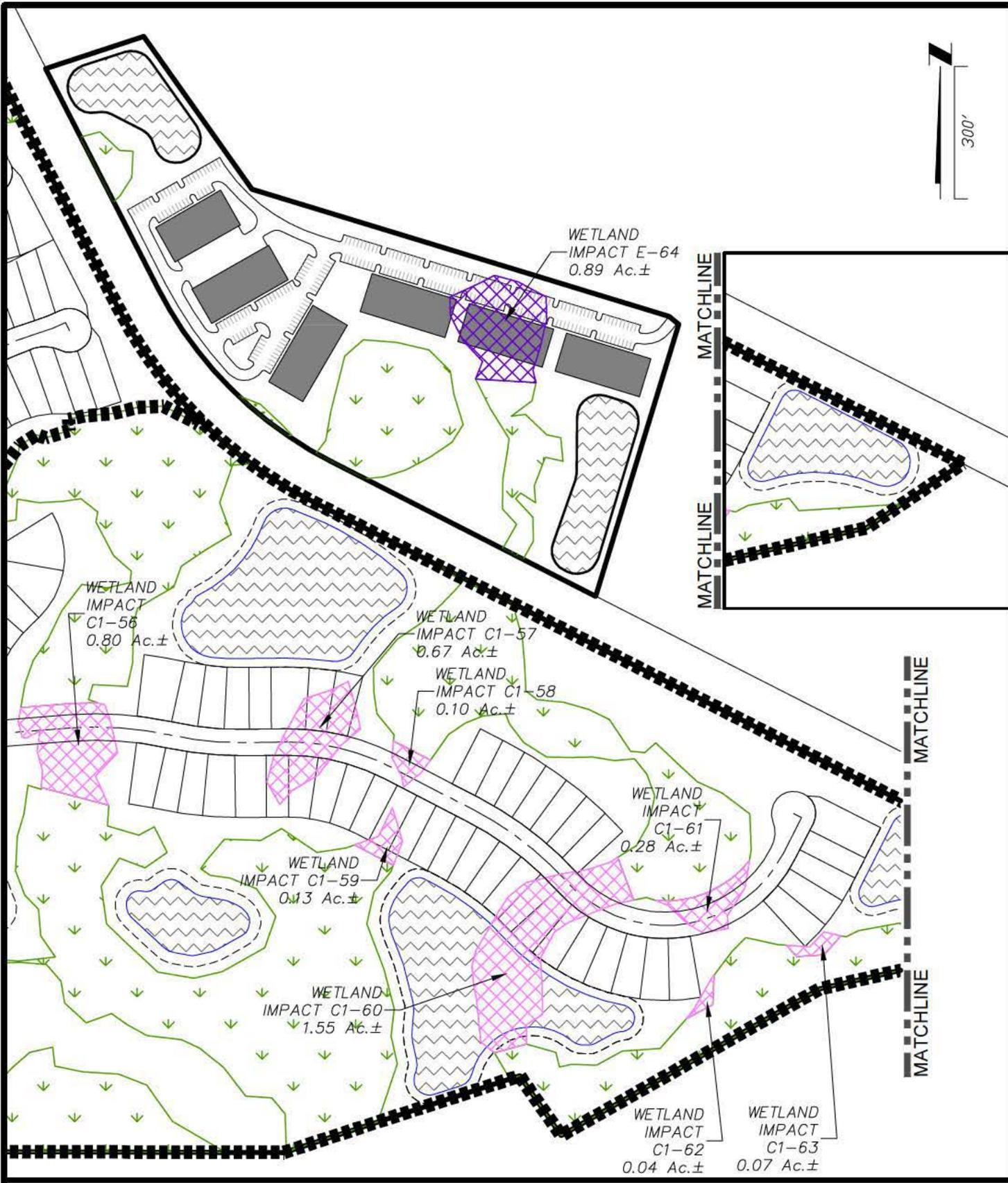
ST. MARYS, GA

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 3D



VISION - EXPERIENCE - RESULTS  
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REG - 2584 LC - 0000316

# WETLAND IMPACT PLAN

## ST. MARYS WETLAND IMPACTS

ST. MARYS, GA

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 3E





**ETM**

VISION - EXPERIENCE - RESULTS  
ENGLAND - THIMS & MILLER, INC.

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REG - 2584 LC - 0000316

**WETLAND IMPACT PLAN**

**ST. MARYS WETLAND IMPACTS**

**ST. MARYS, GA**

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 3G

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DATE: NOVEMBER, 2023  
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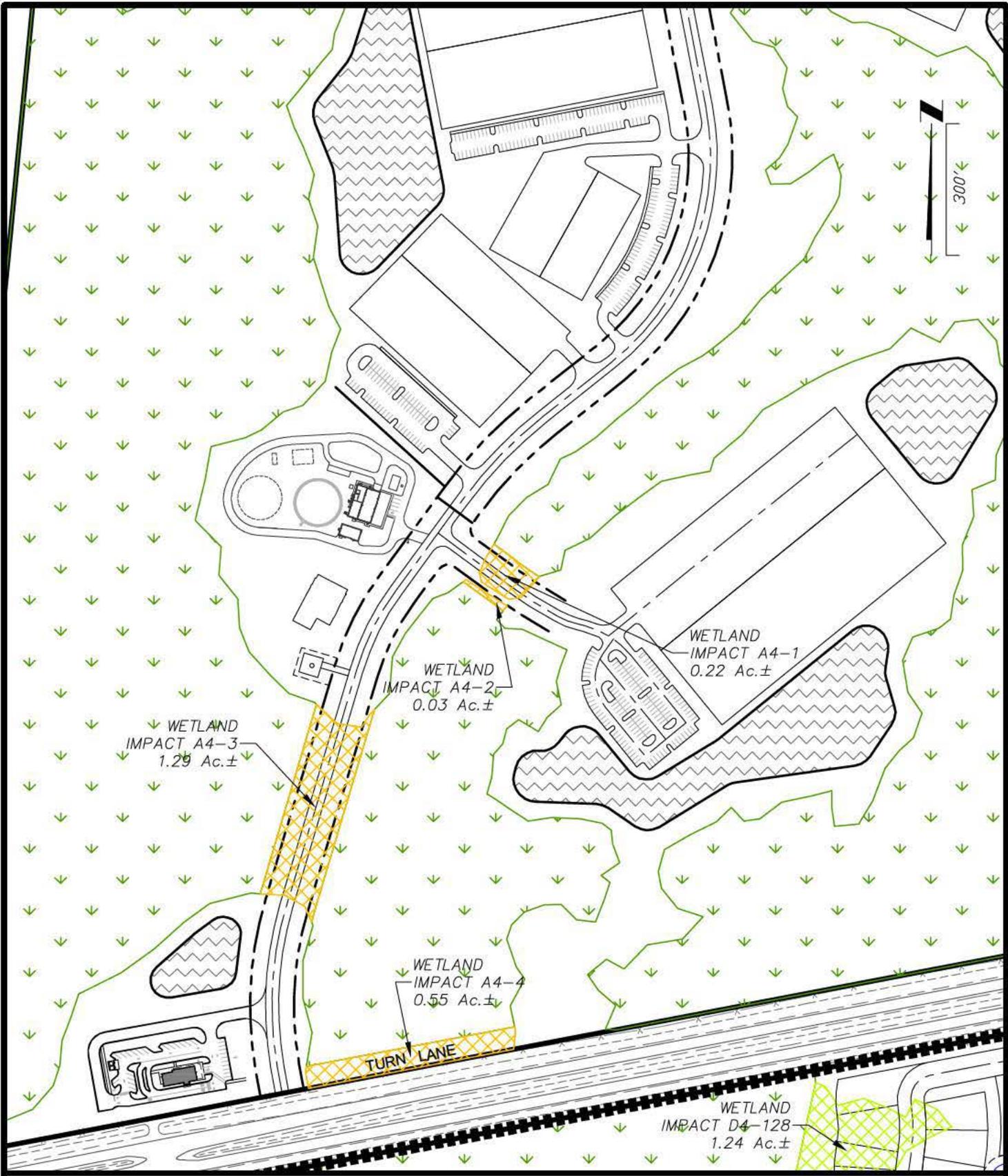
# WETLAND IMPACT PLAN

## ST. MARYS WETLAND IMPACTS

ST. MARYS, GA



**VISION - EXPERIENCE - RESULTS**  
**ENGLAND - THIMS & MILLER, INC.**  
 14775 Old St. Augustine Road, Jacksonville, FL 32258  
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# WETLAND IMPACT PLAN

## ST. MARYS WETLAND IMPACTS

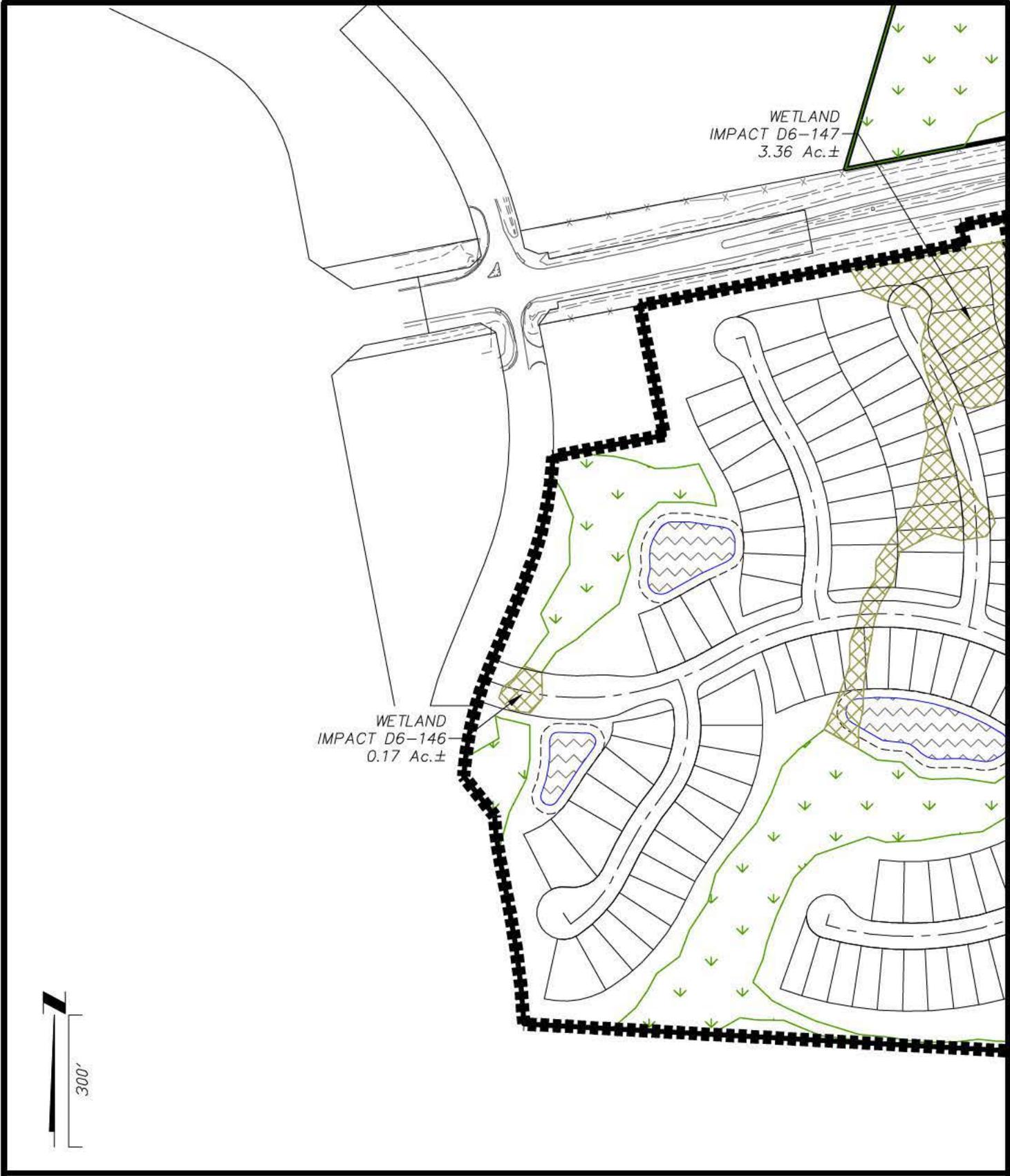
ST. MARYS, GA

ETM NO. 19-239-01-029

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DATE: NOVEMBER, 2023

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REG - 2584 LC - 0000316

# WETLAND IMPACT PLAN

## ST. MARYS WETLAND IMPACTS

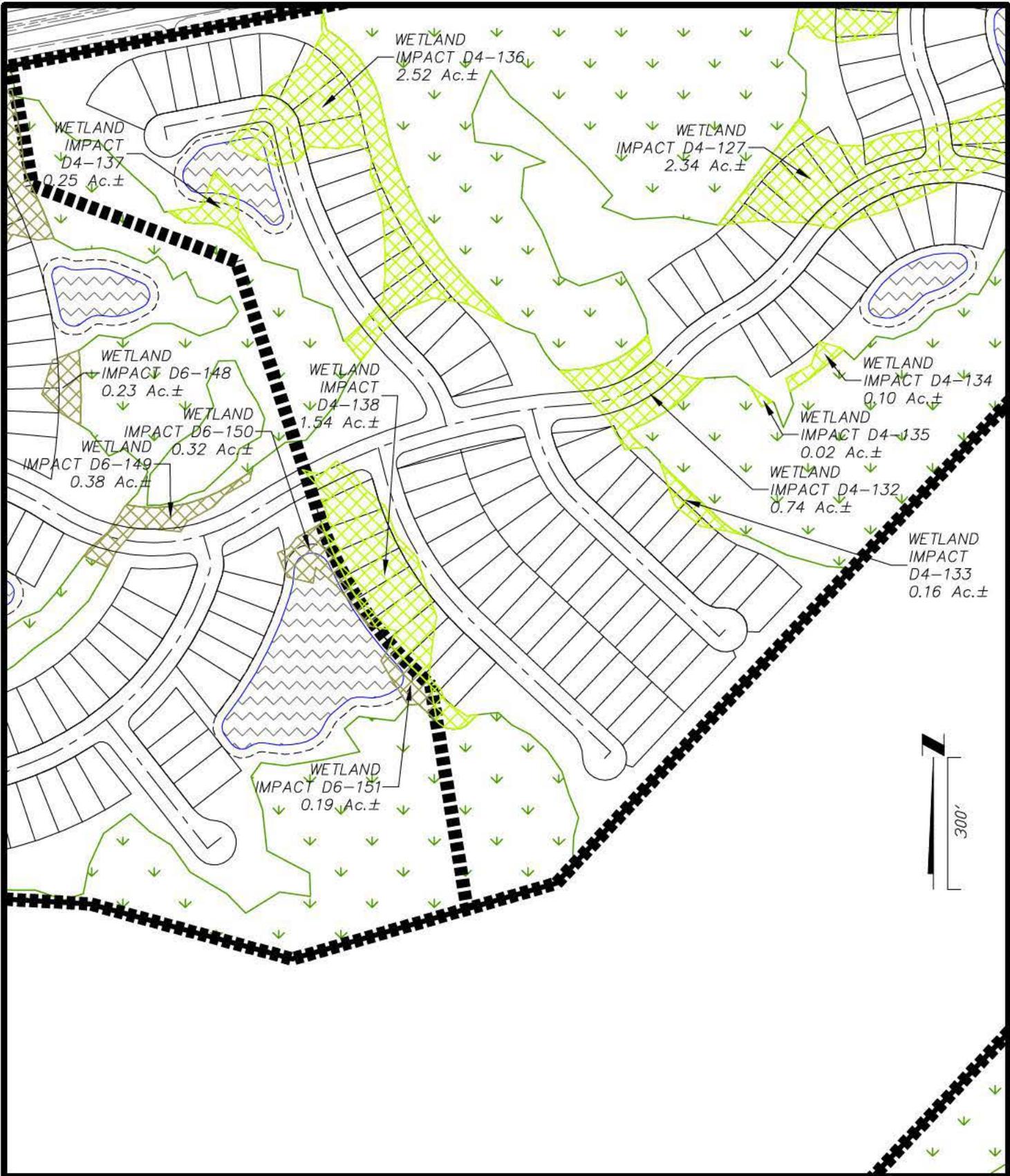
ST. MARYS, GA

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DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

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REG - 2584 LC - 0000316

## WETLAND IMPACT PLAN

### ST. MARYS WETLAND IMPACTS

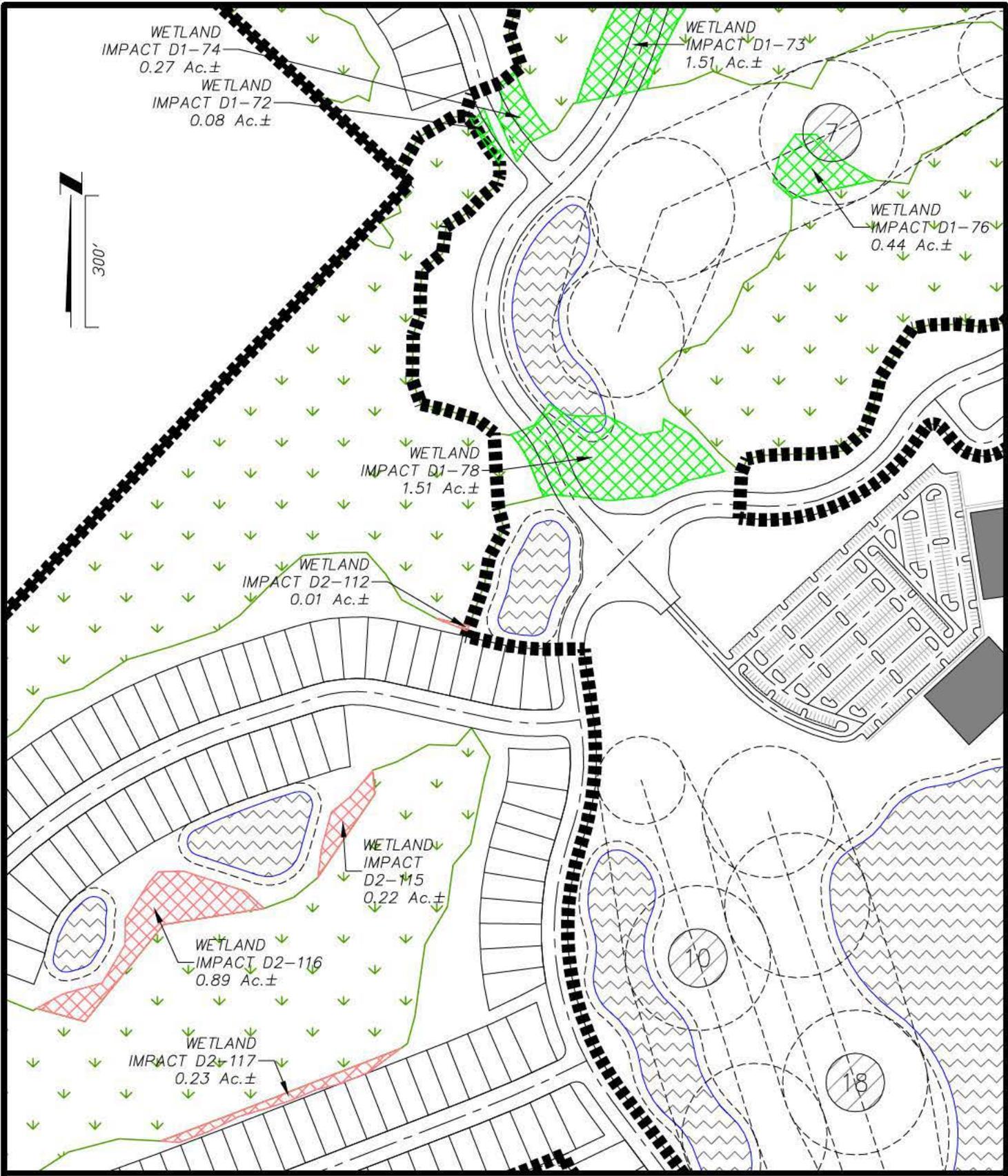
ST. MARYS, GA

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 3K



VISION - EXPERIENCE - RESULTS  
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REG - 2584 LC - 0000316

# WETLAND IMPACT PLAN

## ST. MARYS WETLAND IMPACTS

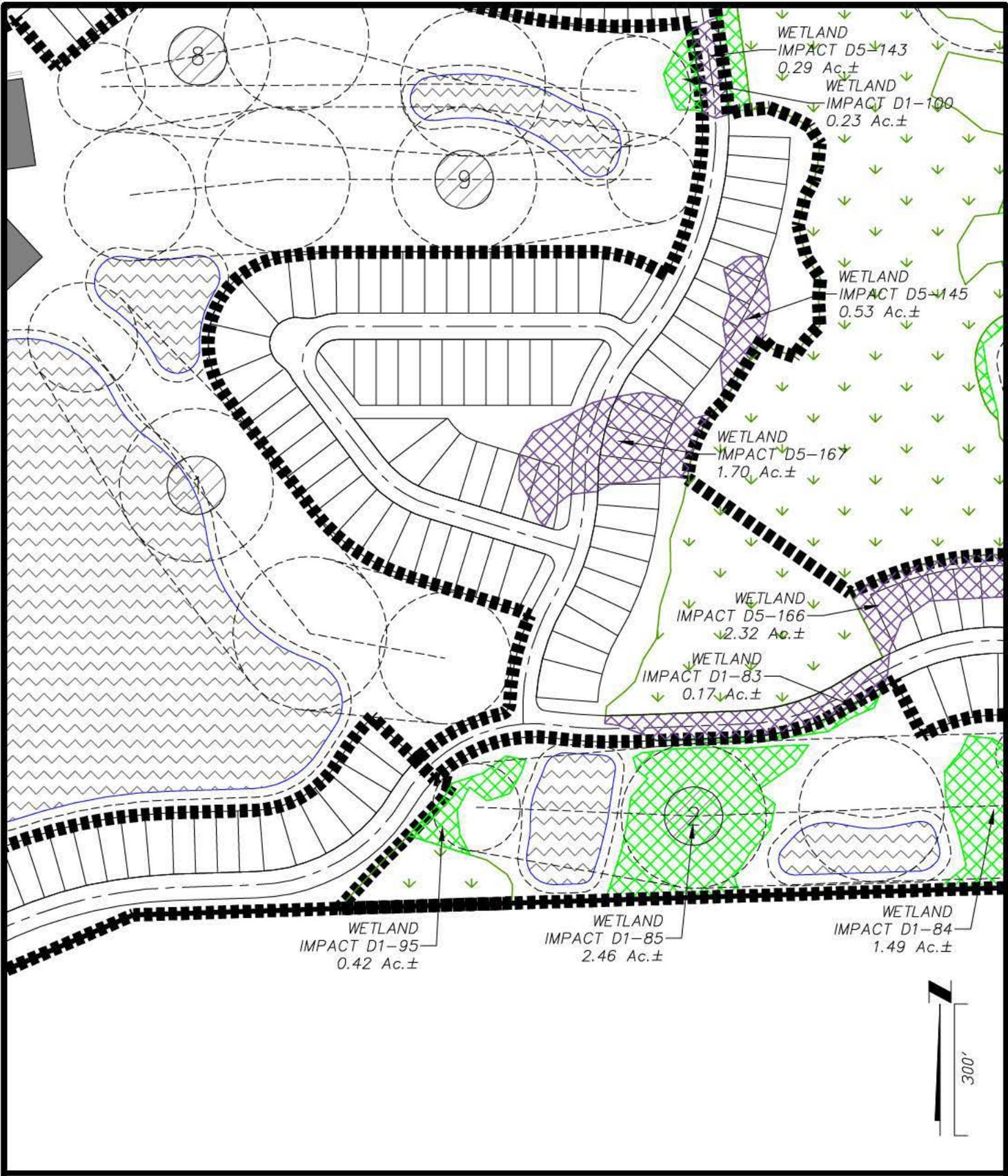
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DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 3L



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ENGLAND - THIMS & MILLER, INC.

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TEL: (904) 642-8990, FAX: (904) 646-9485  
REG - 2584 LC - 0000316

## WETLAND IMPACT PLAN

### ST. MARYS WETLAND IMPACTS

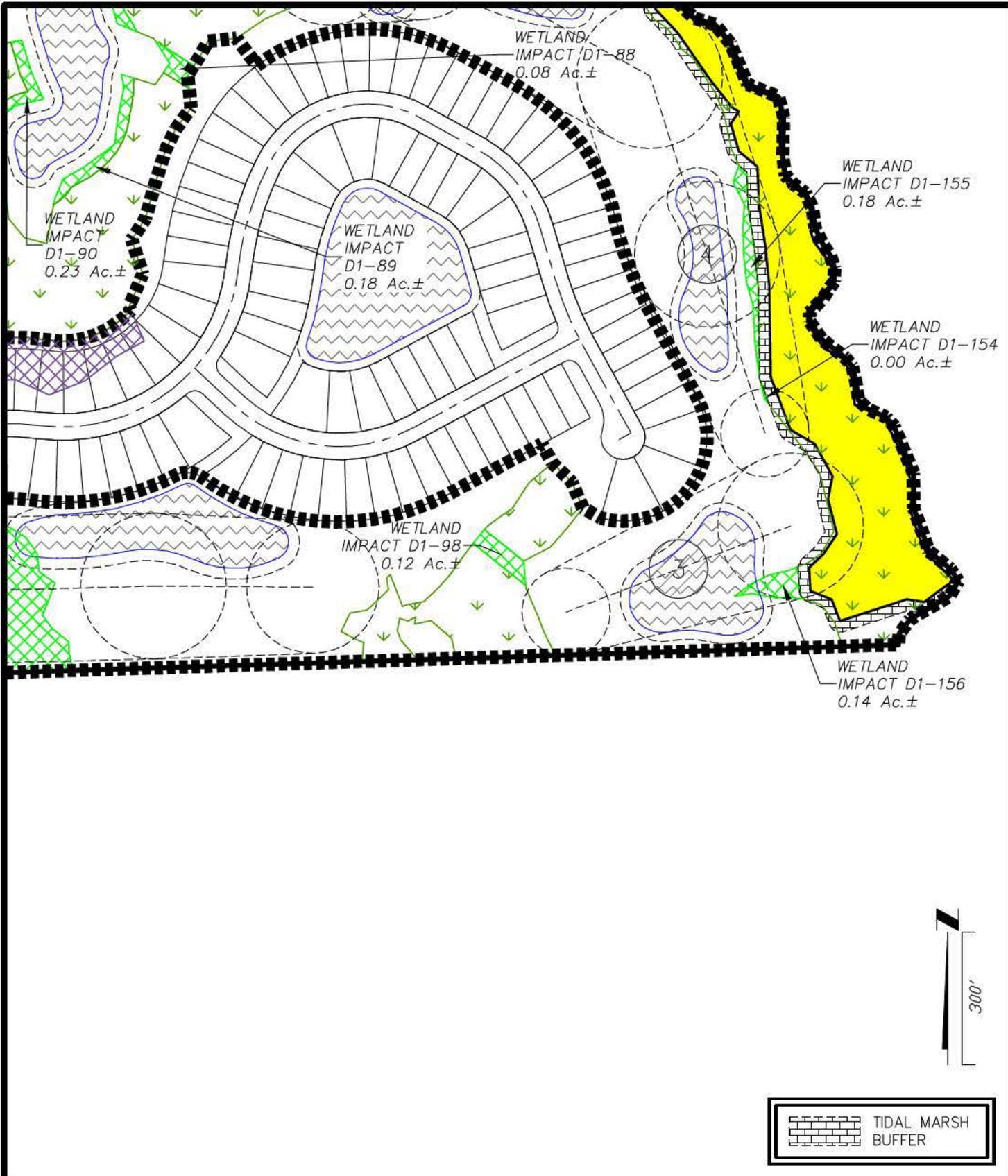
ST. MARYS, GA

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 3M



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14775 Old St. Augustine Road, Jacksonville, FL 32258  
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REG - 2584 LC - 0000316

## WETLAND IMPACT PLAN

### ST. MARYS WETLAND IMPACTS

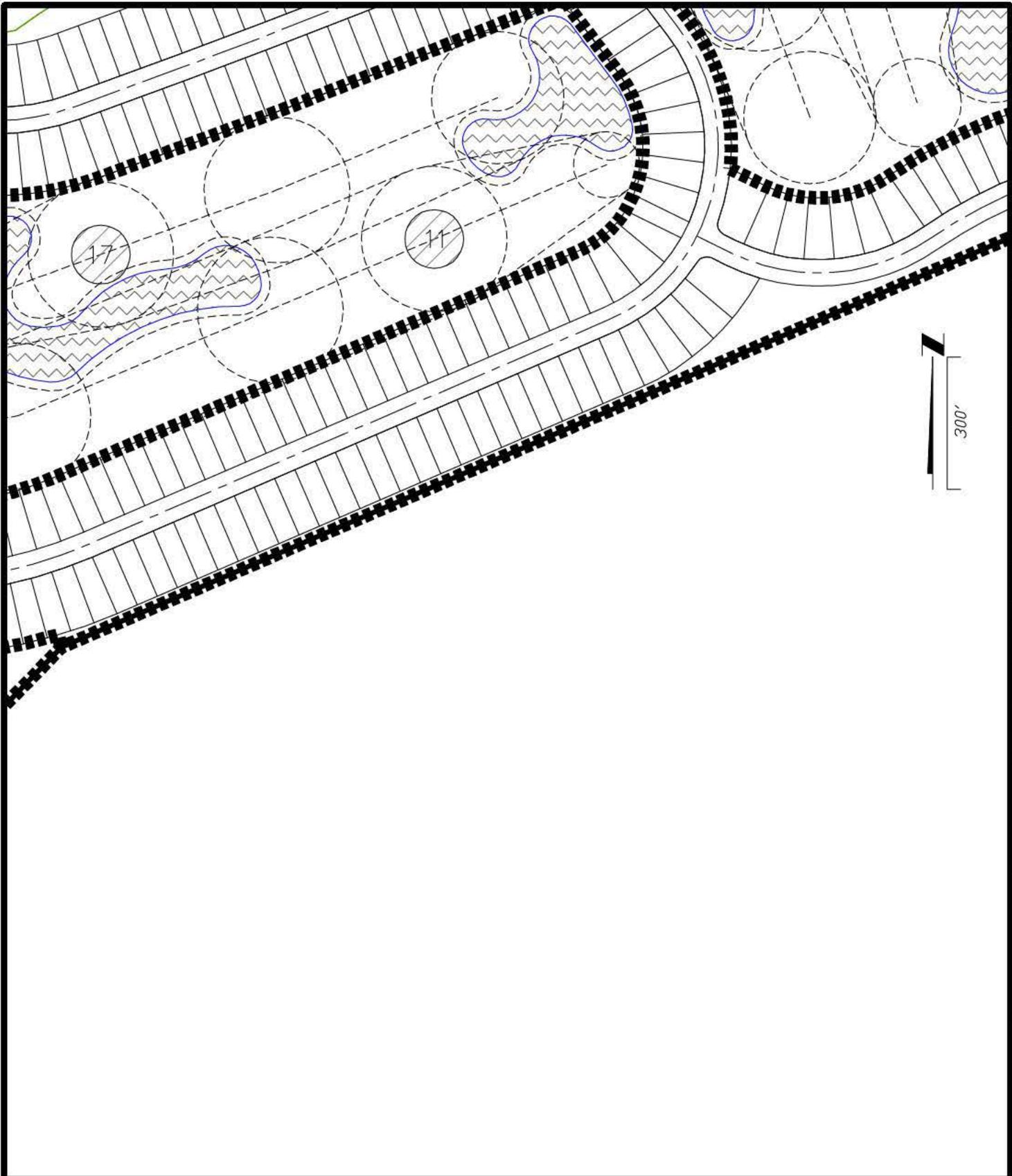
ST. MARYS, GA

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 3N



VISION - EXPERIENCE - RESULTS  
 ENGLAND - THIMS & MILLER, INC.

14775 Old St. Augustine Road, Jacksonville, FL 32258  
 TEL: (904) 642-8990, FAX: (904) 646-9485  
 REG - 2584 LC - 0000316

## WETLAND IMPACT PLAN

### ST. MARYS WETLAND IMPACTS

ST. MARYS, GA

ETM NO. 19-239-01-029

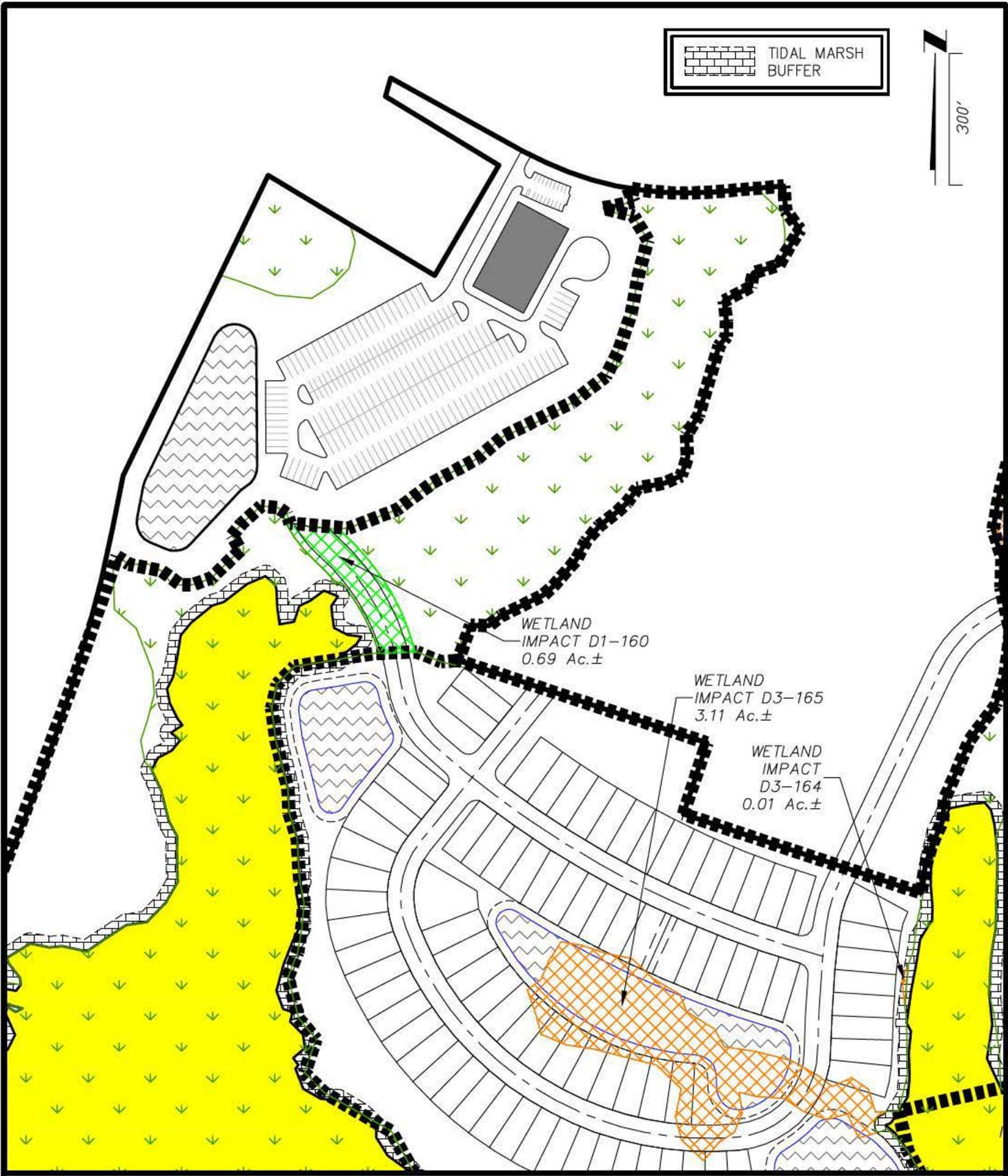
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DATE: NOVEMBER, 2023

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VISION - EXPERIENCE - RESULTS  
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TEL: (904) 642-8990, FAX: (904) 646-9485  
REG - 2584 LC - 0000316

## WETLAND IMPACT PLAN

### ST. MARYS WETLAND IMPACTS

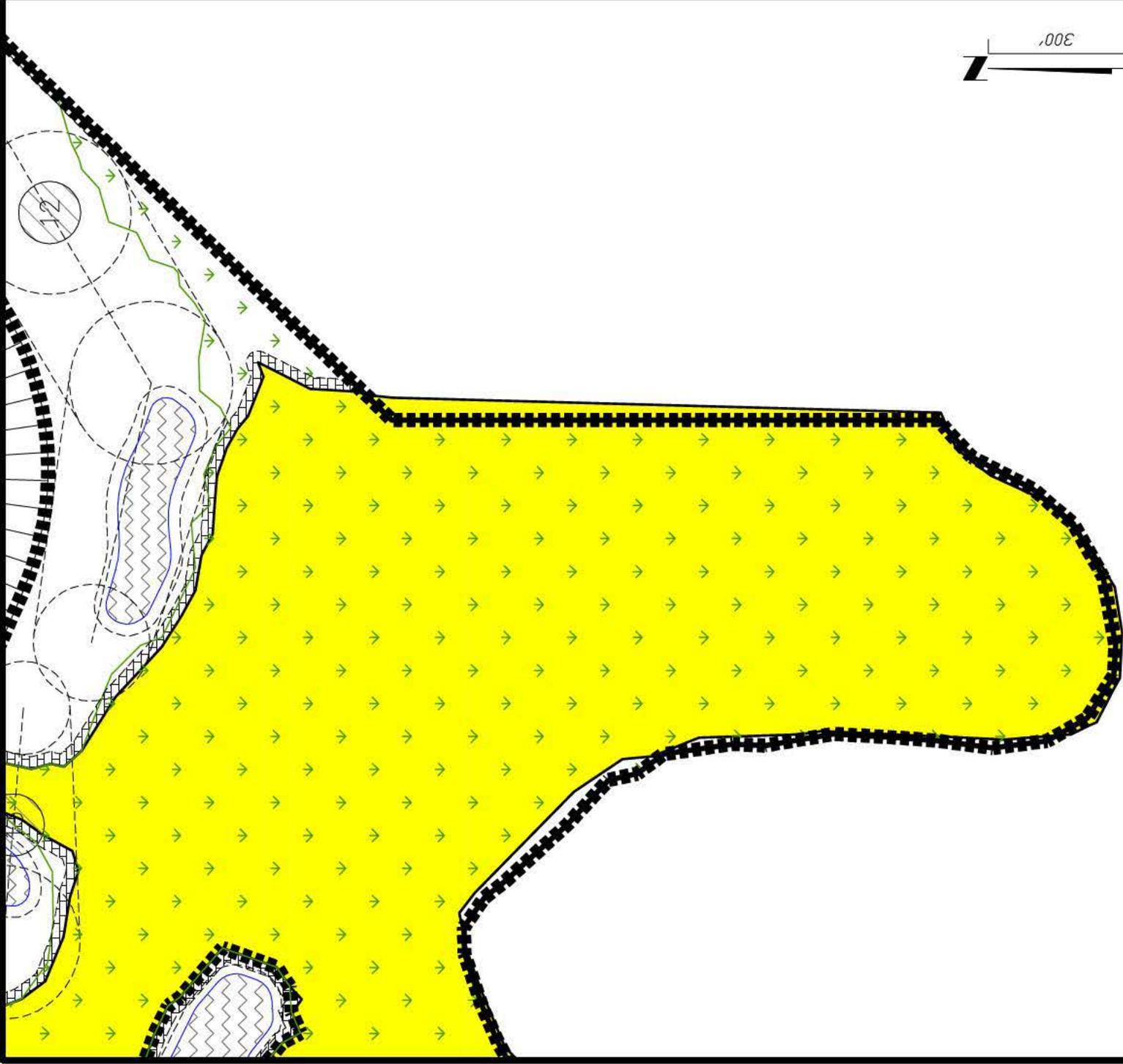
ST. MARYS, GA

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

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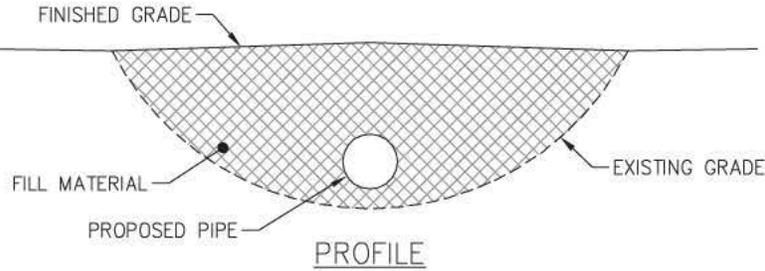
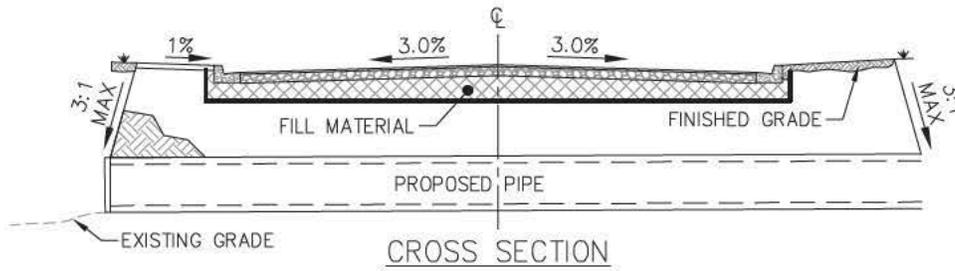


TIDAL MARSH  
BUFFER

**ETM**  
 VISION EXPERIENCE - RESULTS  
 ENGLAND - THIMS & MILLER, INC.  
 14775 Old St. Augustine Road, Jacksonville, FL 32258  
 TEL: (904) 642-8990, FAX: (904) 646-8485  
 REG - 2584 LC - 0000316

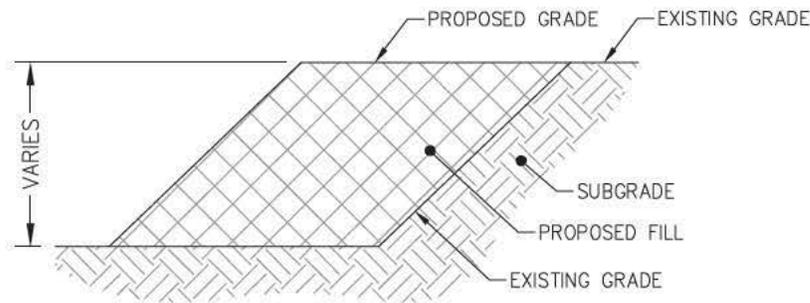
**WETLAND IMPACT PLAN**  
**ST. MARYS WETLAND IMPACTS**  
**ST. MARYS, GA**

ETM NO. 19-239-01-029  
 DRAWN BY: L.O.L.  
 DATE: NOVEMBER, 2023  
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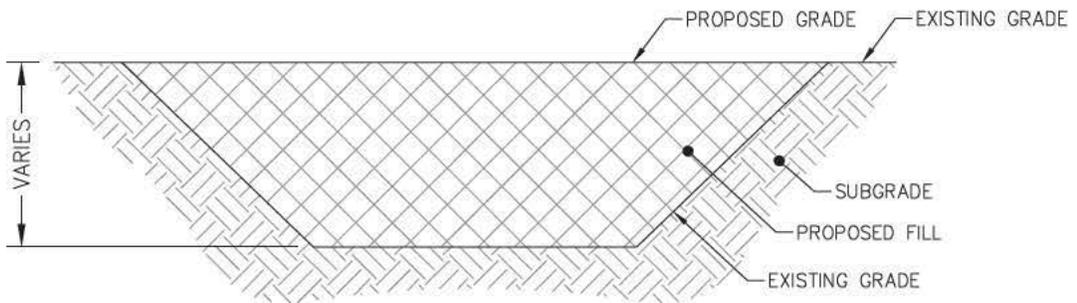
**TYPICAL WETLAND IMPACT SECTION  
(ROAD CROSSING)**

N.T.S.



**TYPICAL WETLAND IMPACT SECTION  
(WETLAND FILL)**

N.T.S.



**TYPICAL WETLAND IMPACT SECTION  
(DITCH FILL)**

N.T.S.

**ETM**

VISION - EXPERIENCE - RESULTS  
ENGLAND - THIMS & MILLER, INC.

14775 Old St. Augustine Road, Jacksonville, FL 32258  
TEL: (904) 642-8990, FAX: (904) 646-9485  
REG - 2584 LC - 0000316

**DETAILS**

**ST. MARYS WETLAND IMPACTS**

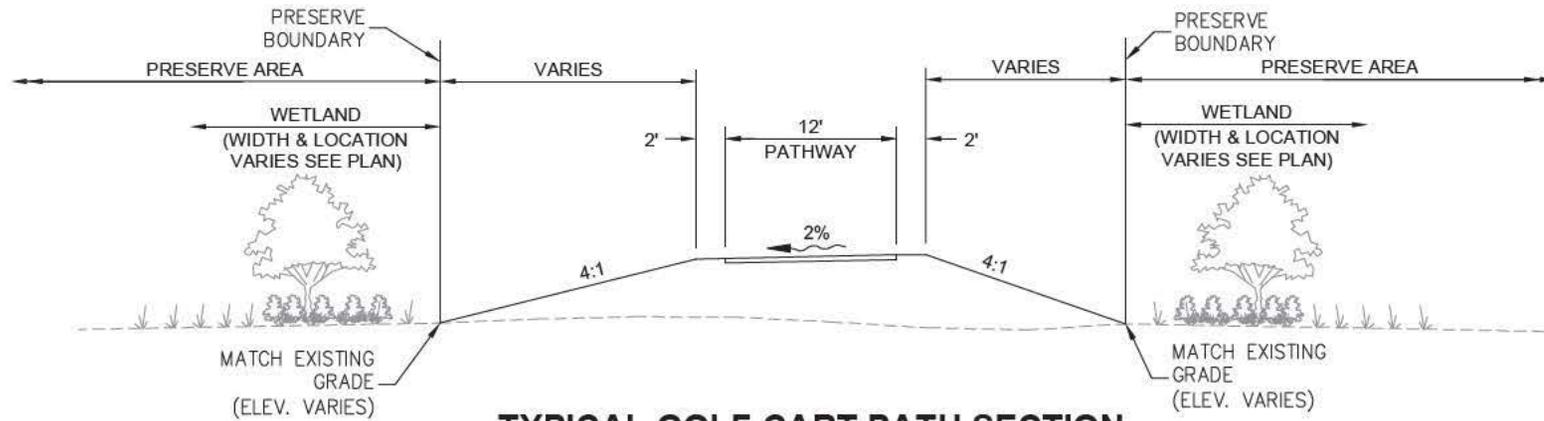
**ST. MARYS, GA**

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

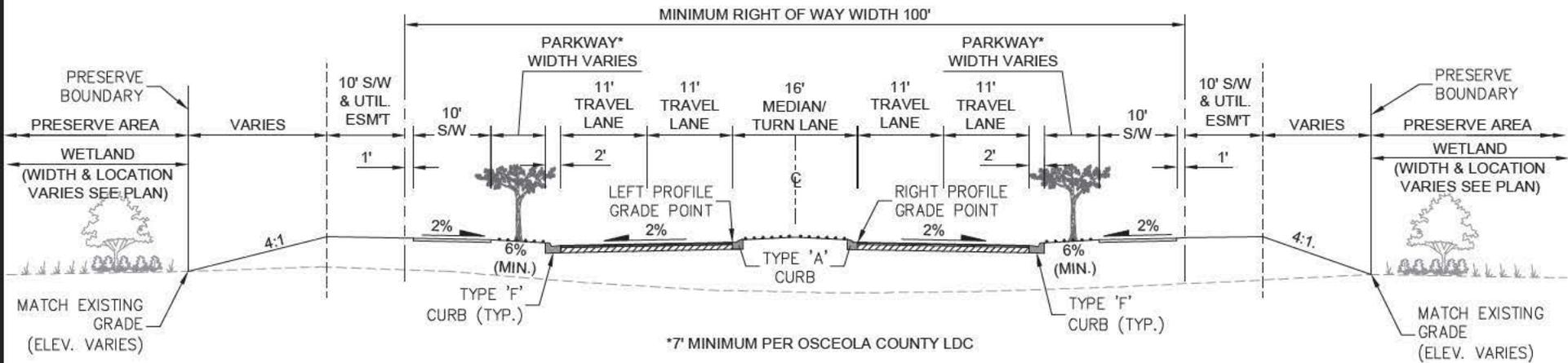
DATE: NOVEMBER, 2023

DRAWING NO. 4A



**TYPICAL GOLF CART PATH SECTION**

N.T.S.



**TYPICAL 4-LANE AVENUE/BOULEVARD SECTION**

N.T.S.

\*NOTE: SECTIONS OF THE PROJECT MAY DEVIATE FROM THE TYPICAL ROW SECTION AT THE DEVELOPER'S DISCRETION, IF SUCH DEVIATION IS APPROVED BY THE PUBLIC WORKS DEPARTMENT.

**ETM**

VISION - EXPERIENCE - RESULTS  
ENGLAND - THIMS & MILLER, INC.

14775 Old St. Augustine Road, Jacksonville, FL 32258  
TEL: (904) 642-8990, FAX: (904) 646-9485  
REG - 2584 LC - 0000316

**DETAILS**

**ST. MARYS, GA**

ETM NO. 19-239-01-029

DRAWN BY: L.O.L.

DATE: NOVEMBER, 2023

DRAWING NO. 4B

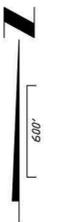
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**SCENARIO 1 - LEGEND**

	COMMERCE PARK WETLAND IMPACTS - PHASE A1	5.50 Ac±
	COMMERCE PARK WETLAND IMPACTS - PHASE A2	9.09 Ac±
	COMMERCE PARK WETLAND IMPACTS - PHASE A3	6.09 Ac±
	COMMERCE PARK WETLAND IMPACTS - PHASE A4	2.09 Ac±
	PHASE B1 WETLAND IMPACTS	2.09 Ac±
	PHASE B2 WETLAND IMPACTS	10.49 Ac±
	PHASE C1 WETLAND IMPACTS	5.77 Ac±
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	COMMERCIAL WETLAND IMPACTS - PHASE 1	0.24 Ac±
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	PHASE D4 WETLAND IMPACTS	11.09 Ac±
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	PHASE D6 WETLAND IMPACTS	4.66 Ac±
	PHASE 7 WETLAND IMPACTS	0.89 Ac±
	TOTAL JURISDICTIONAL WETLAND IMPACTS	96.17 Ac±

	TOTAL PROJECT AREA	1,784.83 Ac±
	UPLAND AREA	1,165.55 Ac±
	JURISDICTIONAL WETLANDS TO REMAIN	619.28 Ac±
	TIDAL MARSH	137.10 Ac±

TIDAL MARSH BUFFER



**OVERALL WETLAND IMPACT PLAN**

**ST. MARYS, GA**

**ETM** England-Thim & Miller, Inc.  
 1411 Edgewater Drive, Suite 200  
 Orlando, FL 32804  
 TEL: (407) 536-5379  
 CA - 00002584 LC - 0000316

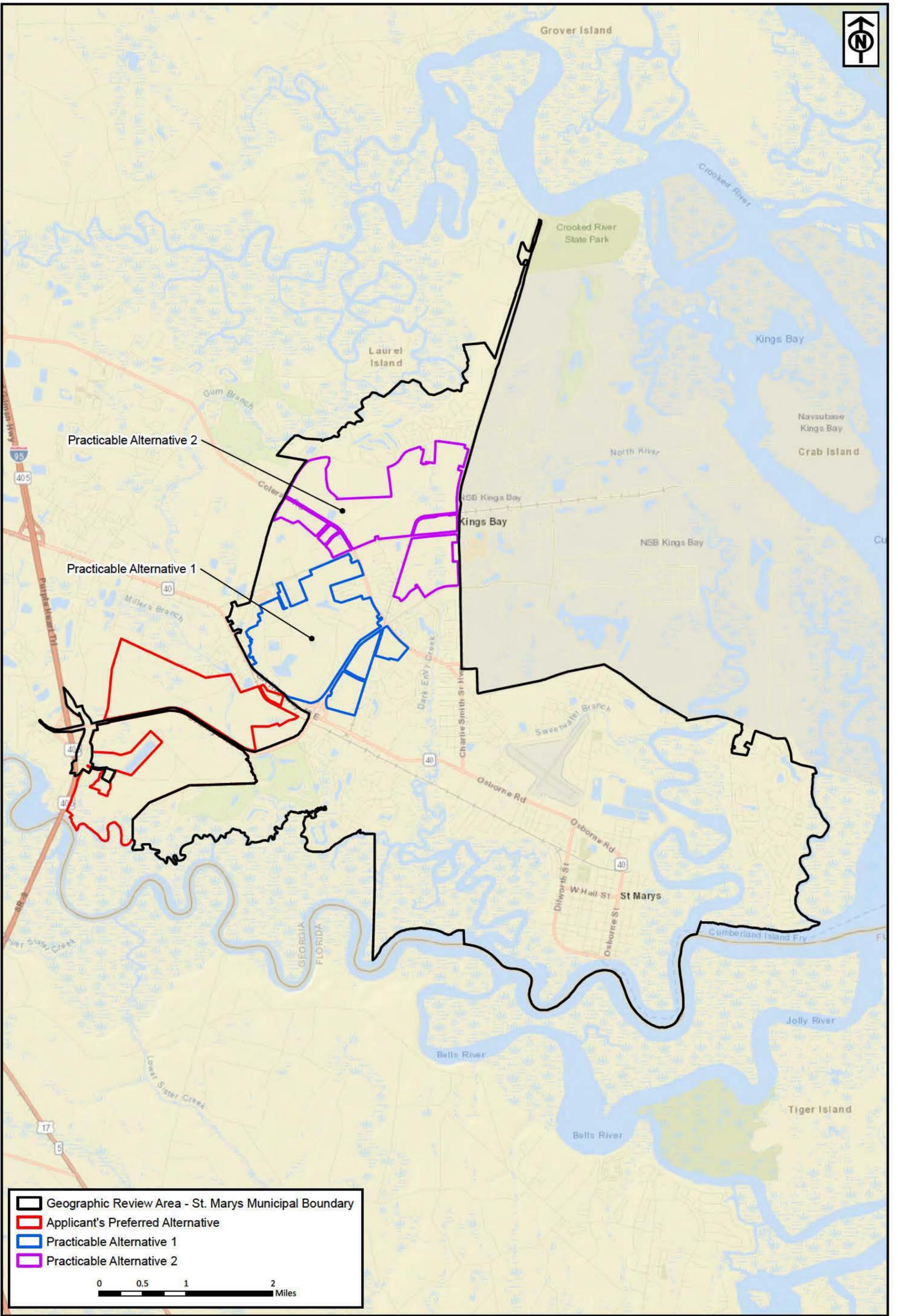
VISION • EXPERIENCE • RESULTS

F:\2019\19-239\19-239-01 - Royshier, Mark\19-239-01-029 St. Marys\LandUse\Design\Plots\Exhibits\Scenario Impacts\Wetland Impacts\_Scenario 1-Overall Exhibit.dwg  
 PLOTTED: December 24, 2023 - 8:25 PM, BY: L. Loren



**RESOURCE+LAND**  
CONSULTANTS

## **APPENDIX D:** Off-Site Alternatives Information



	Geographic Review Area - St. Marys Municipal Boundary
	Applicant's Preferred Alternative
	Practicable Alternative 1
	Practicable Alternative 2

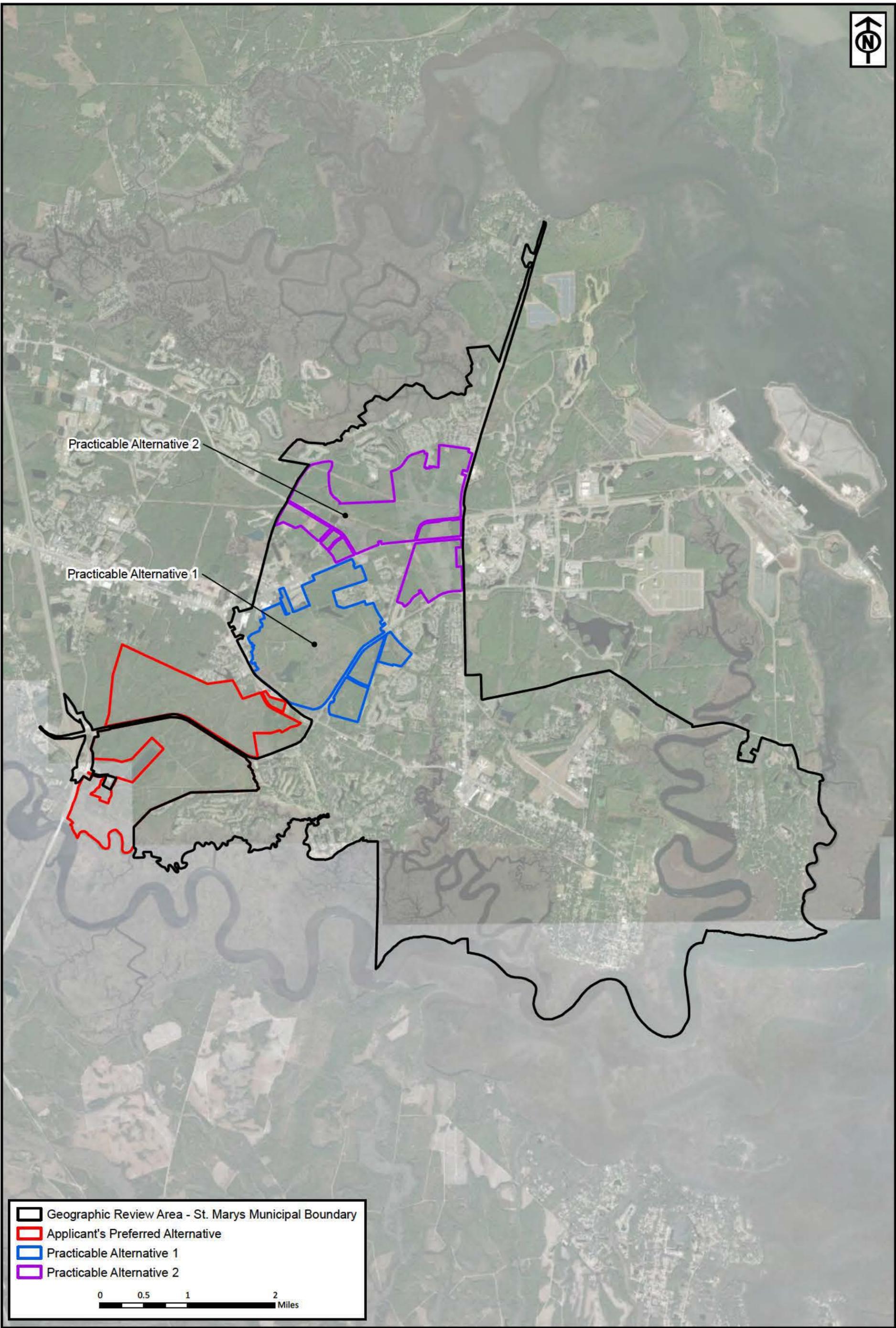
0 0.5 1 2 Miles

RLC Project No.: 21-168.2  
 Figure No.: 1  
 Prepared By: MW  
 Sketch Date: 11/16/2023  
 Map Scale: 1 inch = 1 miles

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Alternative Sites**  
 Prepared For: Raydient, LLC

	<b>RESOURCE+LAND CONSULTANTS</b>
	41 Park of Commerce Way, Ste 101 Savannah, GA 31405 tel 912.443.5896 fax 912.443.5898



-  Geographic Review Area - St. Marys Municipal Boundary
-  Applicant's Preferred Alternative
-  Practicable Alternative 1
-  Practicable Alternative 2



RLC Project No.: 21-168.2  
Figure No.: 2  
Prepared By: MW  
Sketch Date: 11/16/2023  
Map Scale: 1 inch = 1 miles

**St. Marys Road  
Mixed Use Development**  
Camden County, Georgia

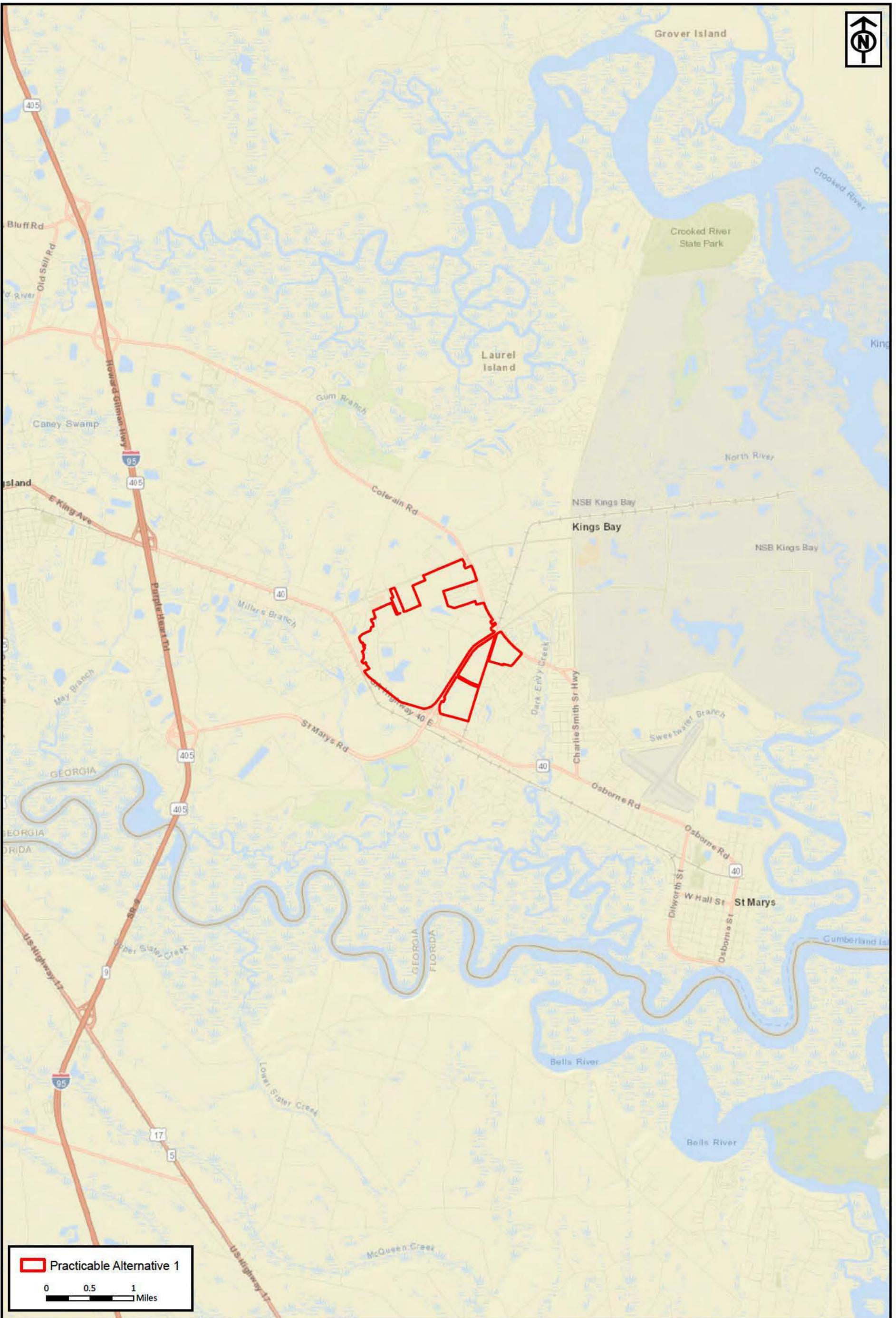
**Alternative Sites**  
Prepared For: Raydient, LLC

**RESOURCE+LAND  
CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
Savannah, GA 31405  
tel 912.443.5896 fax 912.443.5898



**RESOURCE+LAND**  
CONSULTANTS

## Off-Site Alternative 1

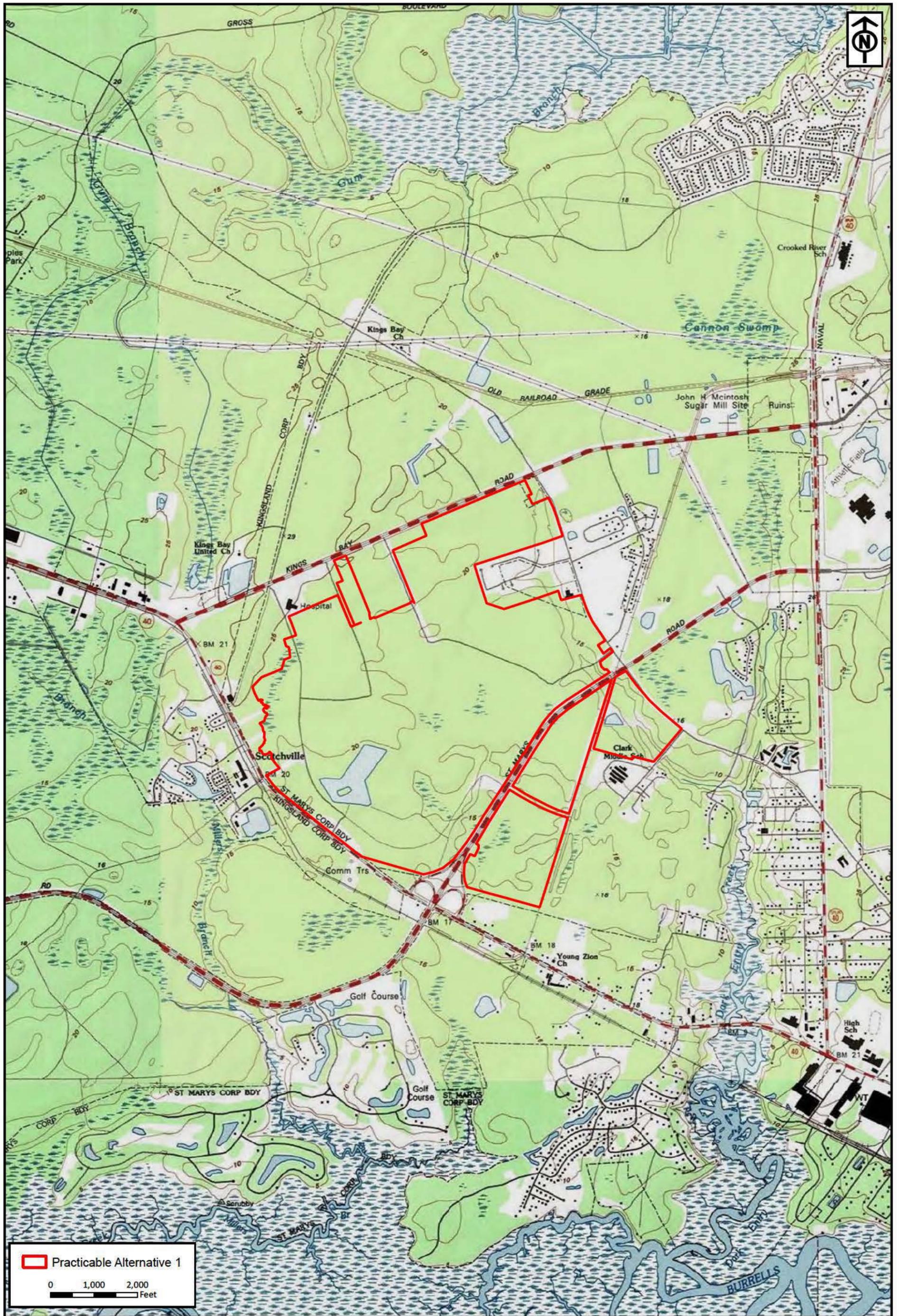


RLC Project No.:	21-168.2
Figure No.:	1
Prepared By:	MW
Sketch Date:	11/16/2023
Map Scale:	1 inch = 1 miles

**St. Marys Road  
Mixed Use Development**  
Camden County, Georgia

**Practicable Alternative 1  
Project Location**  
Prepared For: Raydient, LLC

<b>RLC</b>	<b>RESOURCE+LAND CONSULTANTS</b>
	41 Park of Commerce Way, Ste 101 Savannah, GA 31405 tel 912.443.5896 fax 912.443.5898

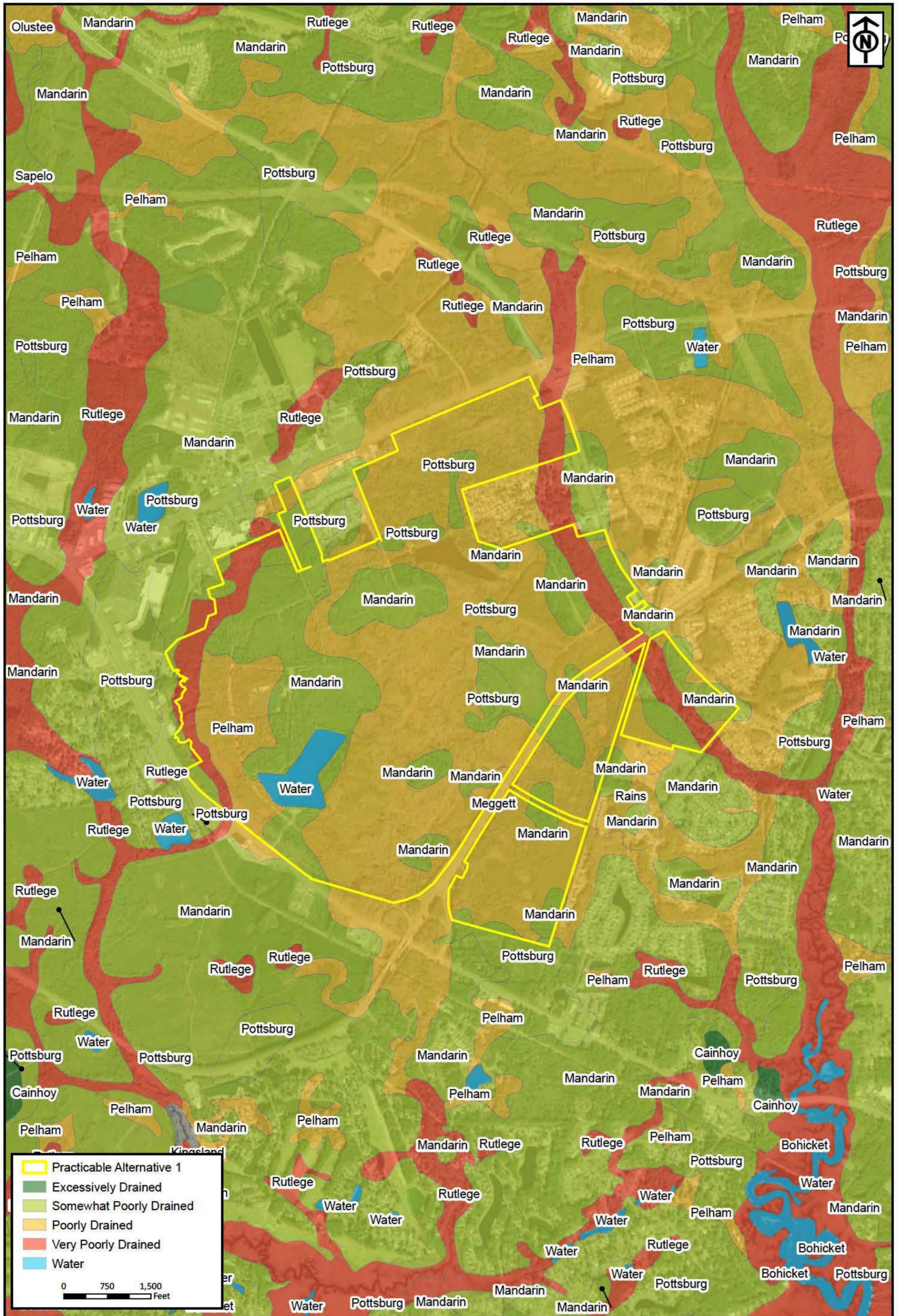


RLC Project No.: 21-168.2  
 Figure No.: 2  
 Prepared By: MW  
 Sketch Date: 11/16/2023  
 Map Scale: 1 inch = 2,000 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Practicable Alternative 1  
 USGS Topographic Survey**  
 Prepared For: Raydient, LLC

**RESOURCE+LAND  
 CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898

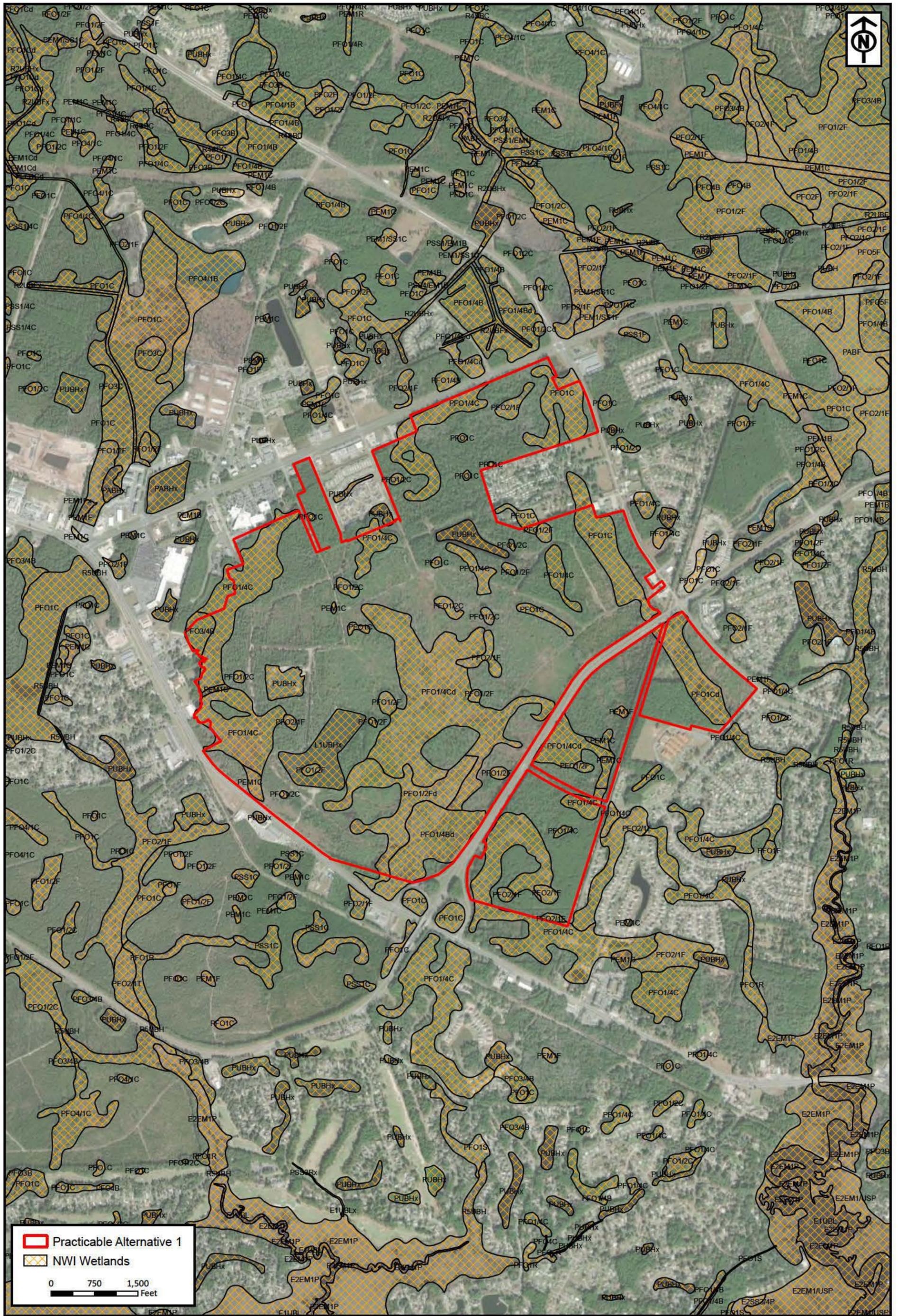


RLC Project No.: 21-168.2  
 Figure No.: 3  
 Prepared By: MW  
 Sketch Date: 11/16/2023  
 Map Scale: 1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Practicable Alternative 1  
 NRCS Soil Survey**  
 Prepared For: Raydient, LLC

**RESOURCE+LAND  
 CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898



▭ Practicable Alternative 1  
 NWI Wetlands

0      750      1,500  
 Feet

RLC Project No.:	21-168.2
Figure No.:	4
Prepared By:	MW
Sketch Date:	11/16/2023
Map Scale:	1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Practicable Alternative 1  
 National Wetlands Inventory**  
 Prepared For: Raydient, LLC

**RESOURCE+LAND  
 CONSULTANTS**  
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 Savannah, GA 31405  
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 Practicable Alternative 1

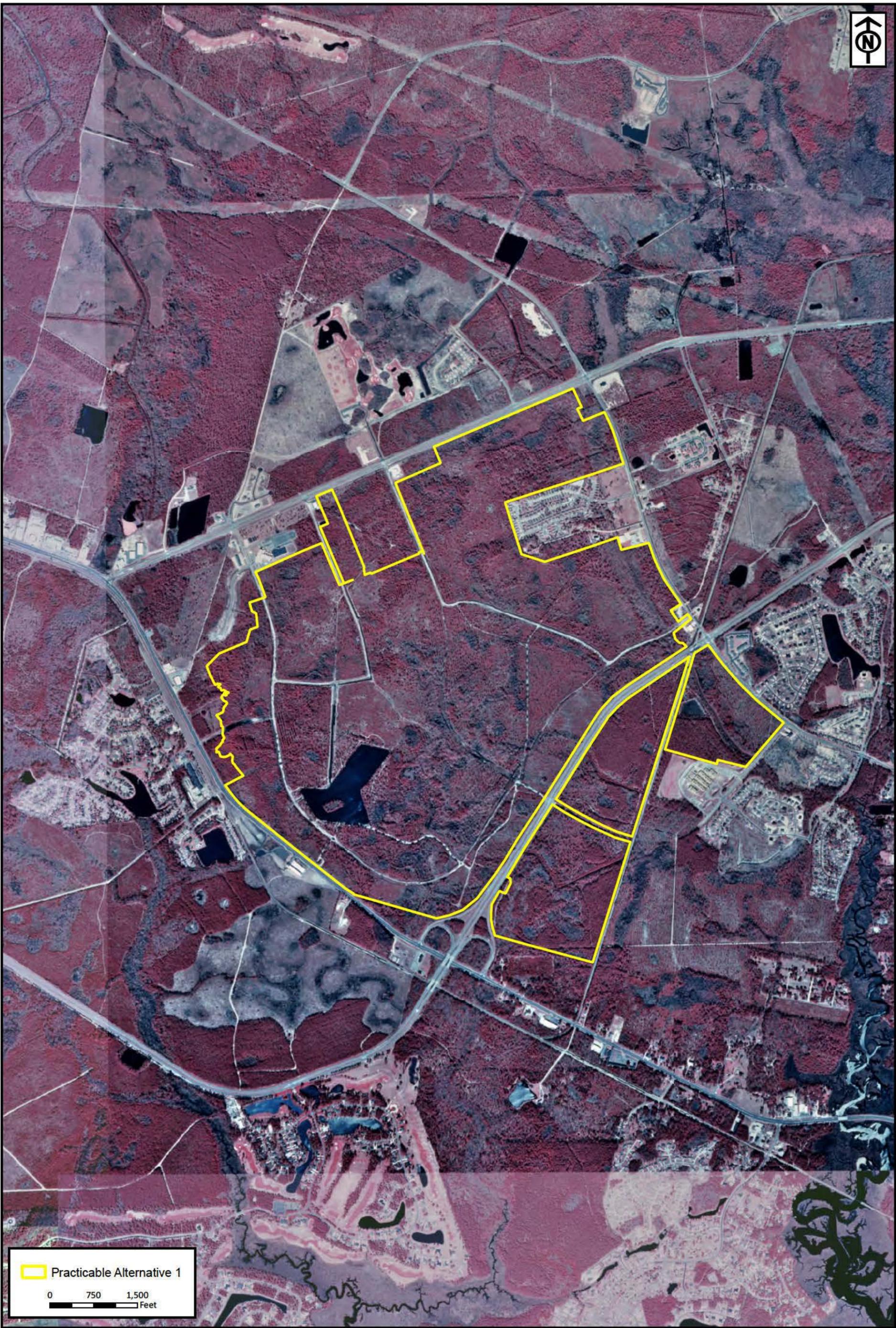
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Feet

RLC Project No.:	21-168.2
Figure No.:	5
Prepared By:	MW
Sketch Date:	11/16/2023
Map Scale:	1 inch = 1,500 feet

**St. Marys Road  
Mixed Use Development**  
Camden County, Georgia

**Practicable Alternative 1  
Ortho Aerial**  
Prepared For: Raydient, LLC

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CONSULTANTS**  
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Savannah, GA 31405  
tel 912.443.5896 fax 912.443.5898



 Practicable Alternative 1

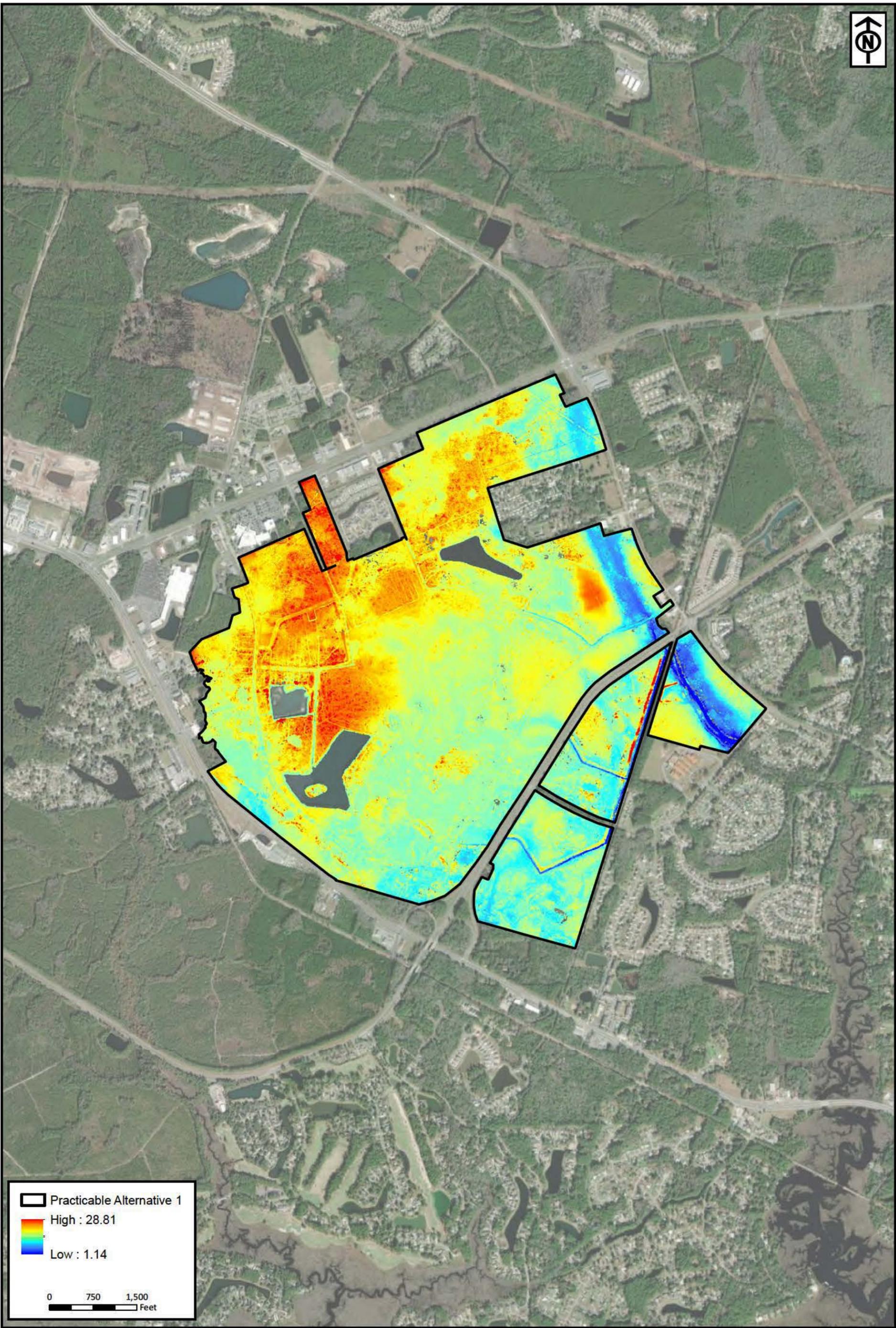
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Feet

RLC Project No.:	21-168.2
Figure No.:	6
Prepared By:	MW
Sketch Date:	11/16/2023
Map Scale:	1 inch = 1,500 feet

**St. Marys Road  
Mixed Use Development**  
Camden County, Georgia

**Practicable Alternative 1  
1999 Color-infrared Imagery**  
Prepared For: Raydient, LLC

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Savannah, GA 31405  
tel 912.443.5896 fax 912.443.5898



 Practicable Alternative 1  
 High : 28.81  
 Low : 1.14

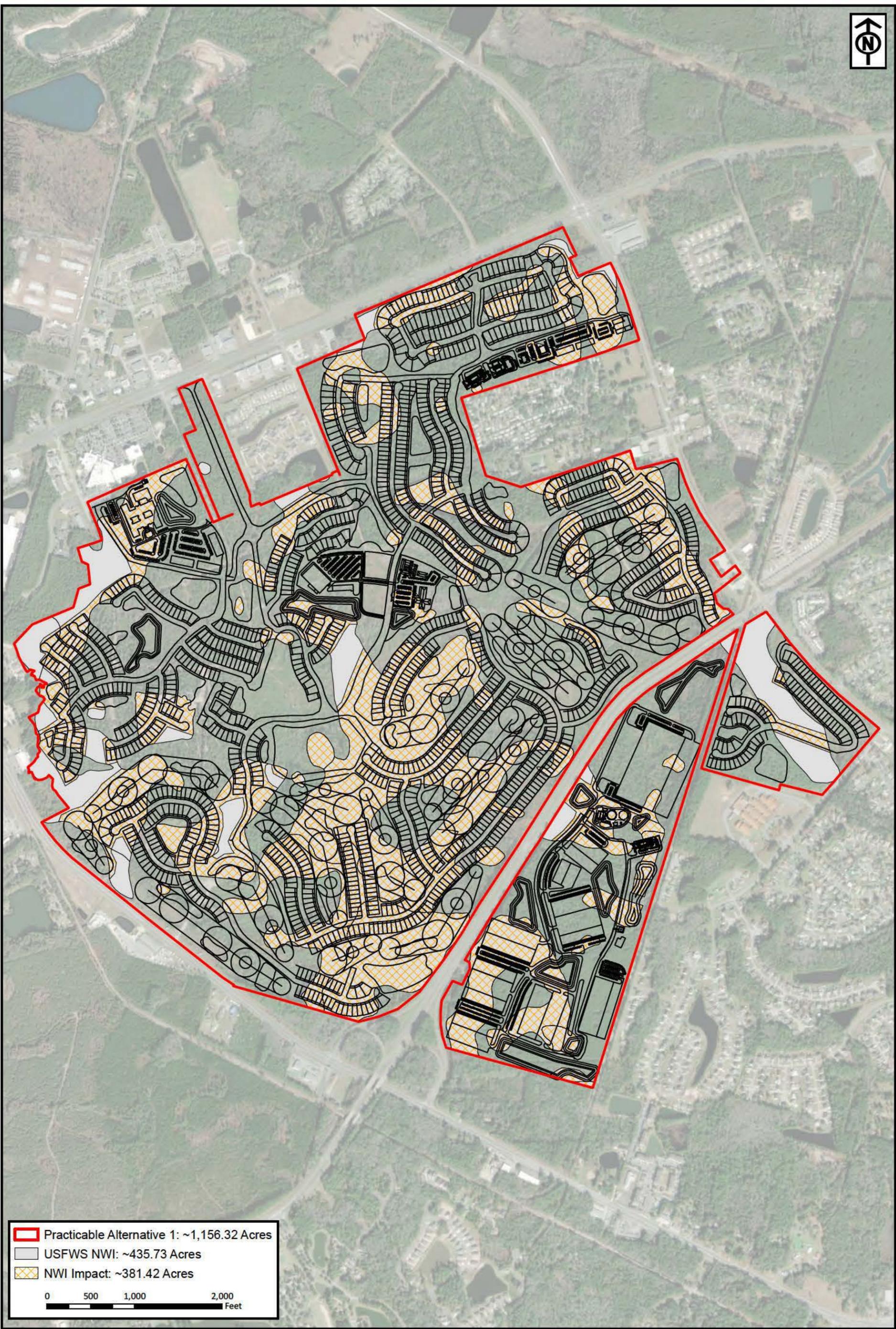
0      750      1,500  
 Feet

RLC Project No.:	21-168.2
Figure No.:	7
Prepared By:	MW
Sketch Date:	11/16/2023
Map Scale:	1 inch = 1,500 feet

**St. Marys Road  
Mixed Use Development**  
 Camden County, Georgia

**Practicable Alternative 1  
NOAA Topographic Lidar**  
 Prepared For: Raydient, LLC


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 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898



 Practicable Alternative 1: ~1,156.32 Acres  
 USFWS NWI: ~435.73 Acres  
 NWI Impact: ~381.42 Acres

0      500      1,000      2,000  
 Feet

RLC Project No.: 21-168.2  
 Figure No.: 8  
 Prepared By: MW  
 Sketch Date: 11/16/2023  
 Map Scale: 1 inch = 1,000 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

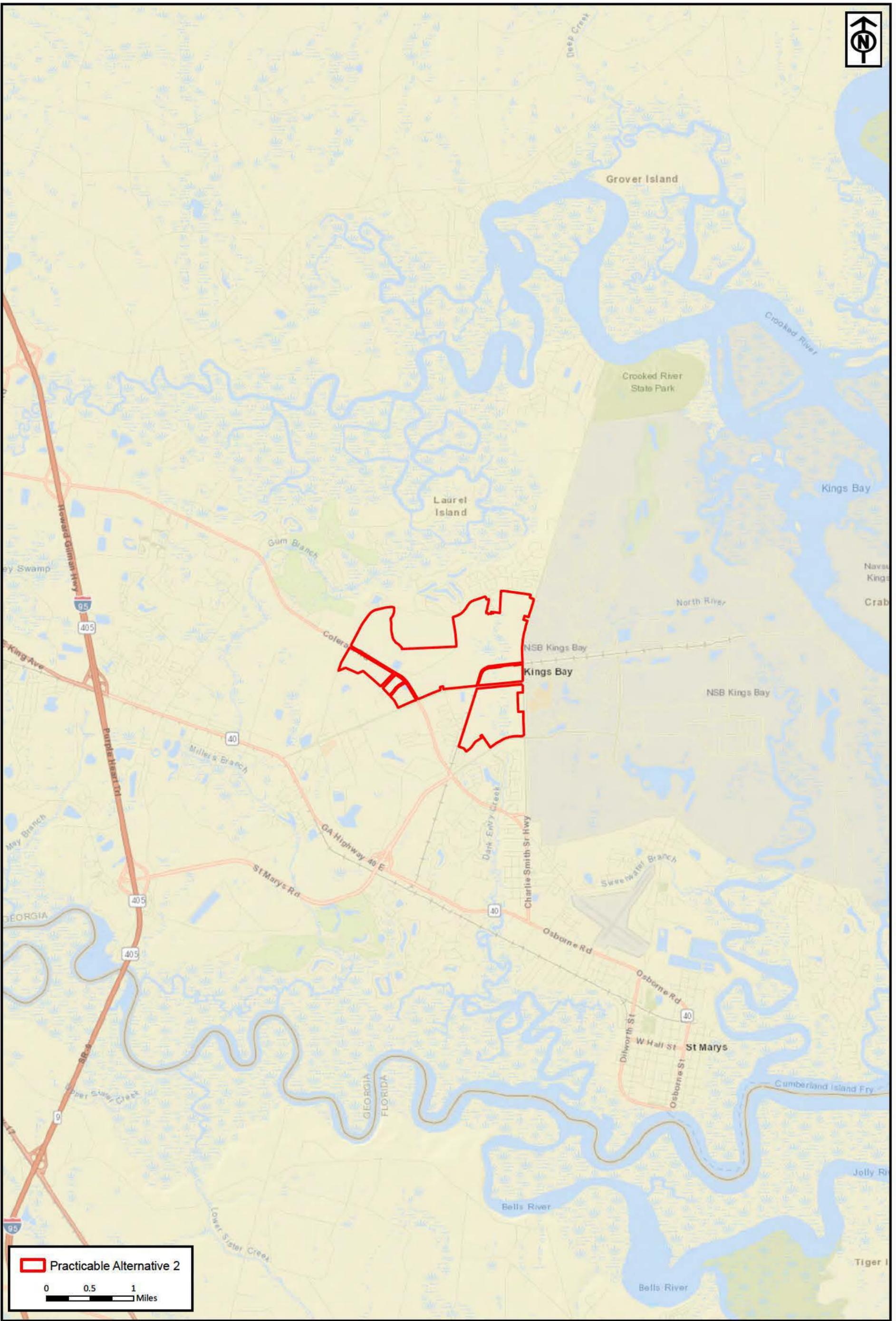
**Practicable Alternative 1  
 USFWS NWI Impact**  
 Prepared For: Raydient, LLC


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 CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898



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## Off-Site Alternative 2



 Practicable Alternative 2

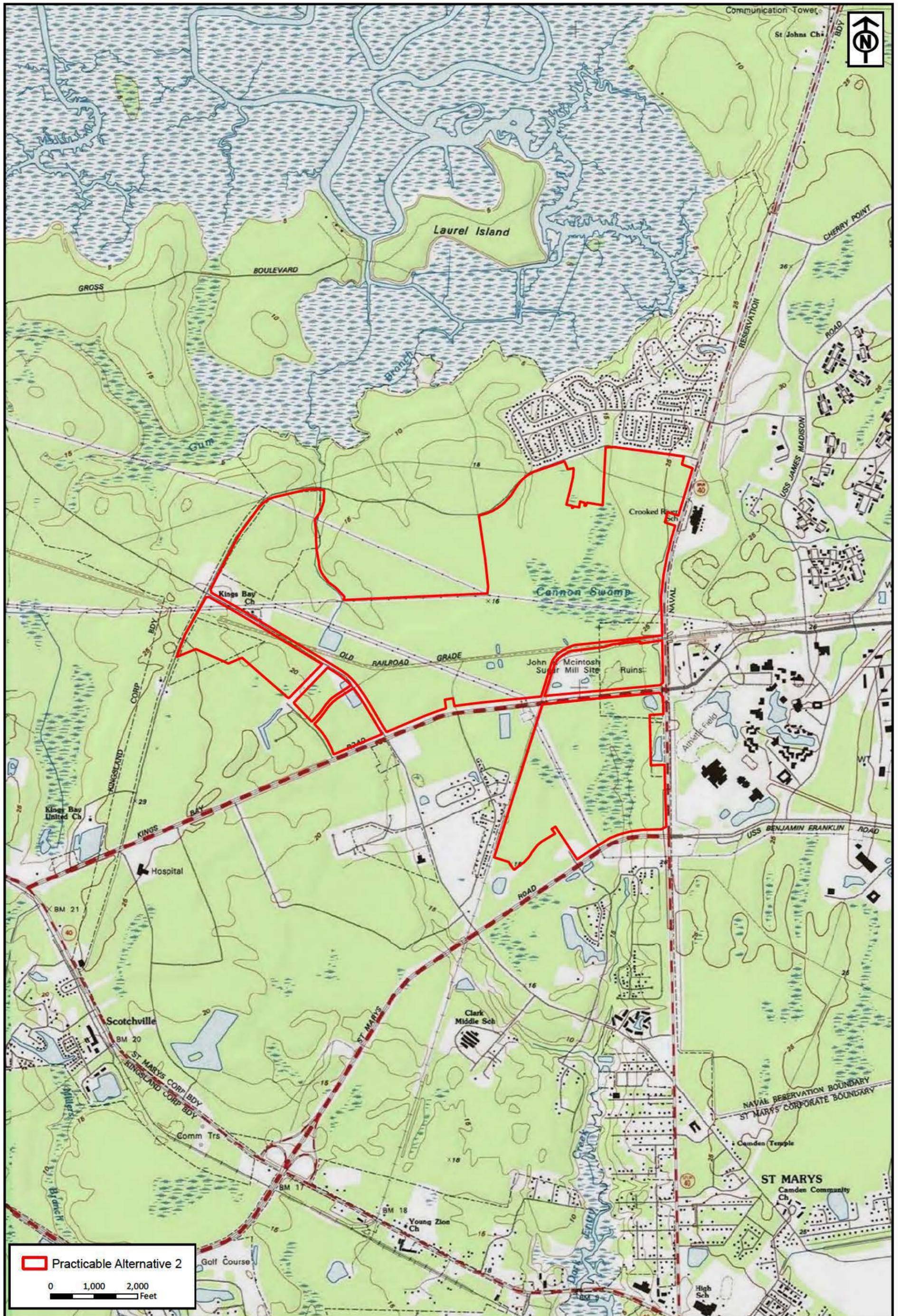
0 0.5 1 Miles

RLC Project No.:	21-168.2
Figure No.:	1
Prepared By:	MW
Sketch Date:	11/16/2023
Map Scale:	1 inch = 1 miles

**St. Marys Road  
Mixed Use Development**  
Camden County, Georgia

**Practicable Alternative 2  
Project Location**  
Prepared For: Raydient, LLC

 **RESOURCE+LAND  
CONSULTANTS**  
41 Park of Commerce Way, Ste 101  
Savannah, GA 31405  
tel 912.443.5896 fax 912.443.5898

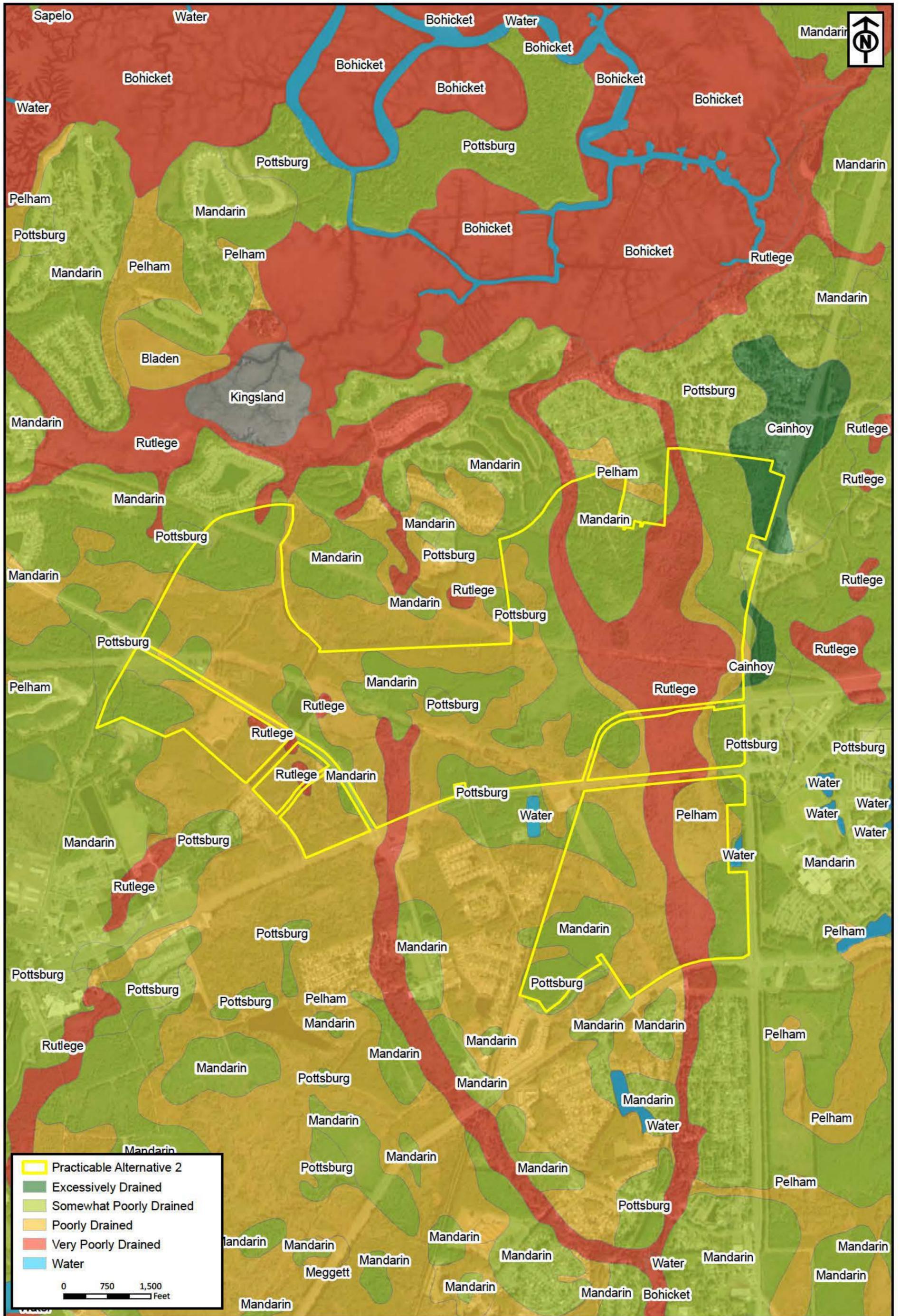


RLC Project No.: 21-168.2  
 Figure No.: 2  
 Prepared By: MW  
 Sketch Date: 11/16/2023  
 Map Scale: 1 inch = 2,000 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Practicable Alternative 2  
 USGS Topographic Survey**  
 Prepared For: Raydient, LLC

**RESOURCE+LAND  
 CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898

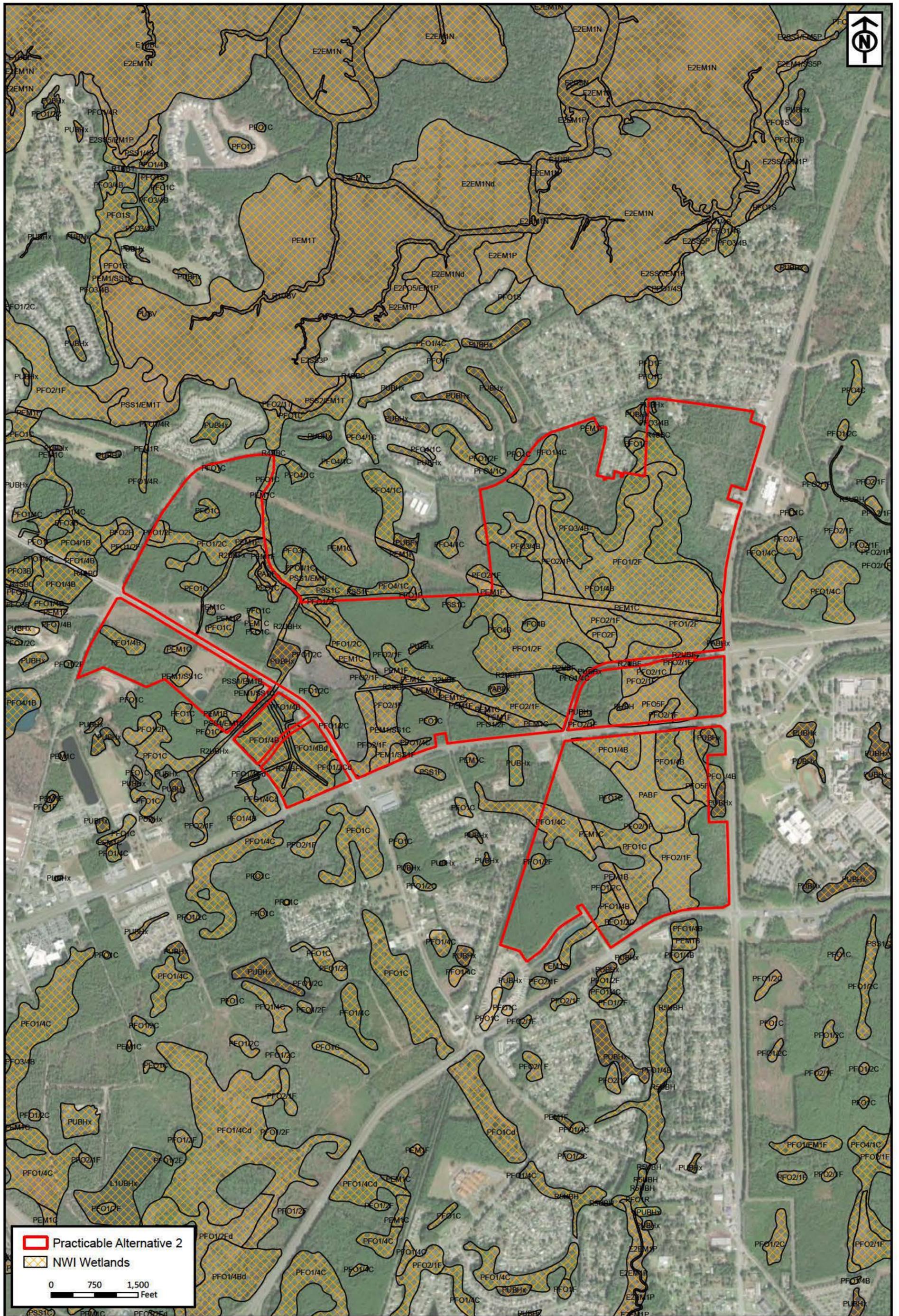


RLC Project No.: 21-168.2  
 Figure No.: 3  
 Prepared By: MW  
 Sketch Date: 11/16/2023  
 Map Scale: 1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Practicable Alternative 2  
 NRCS Soil Survey**  
 Prepared For: Raydient, LLC

**RESOURCE+LAND  
 CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898

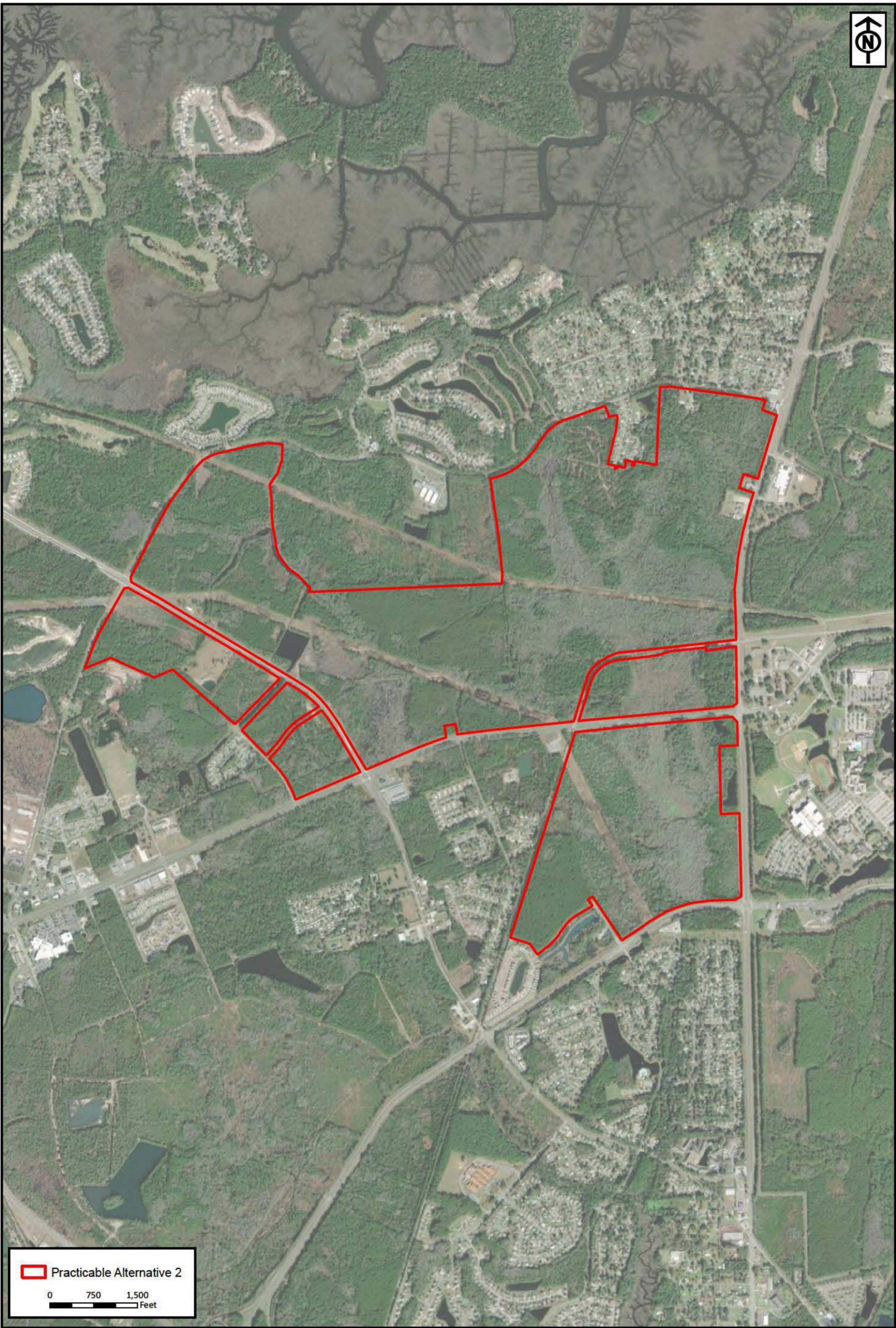


RLC Project No.: 21-168.2  
 Figure No.: 4  
 Prepared By: MW  
 Sketch Date: 11/16/2023  
 Map Scale: 1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Practicable Alternative 2  
 National Wetlands Inventory**  
 Prepared For: Raydient, LLC

**RESOURCE+LAND  
 CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898



 Practicable Alternative 2

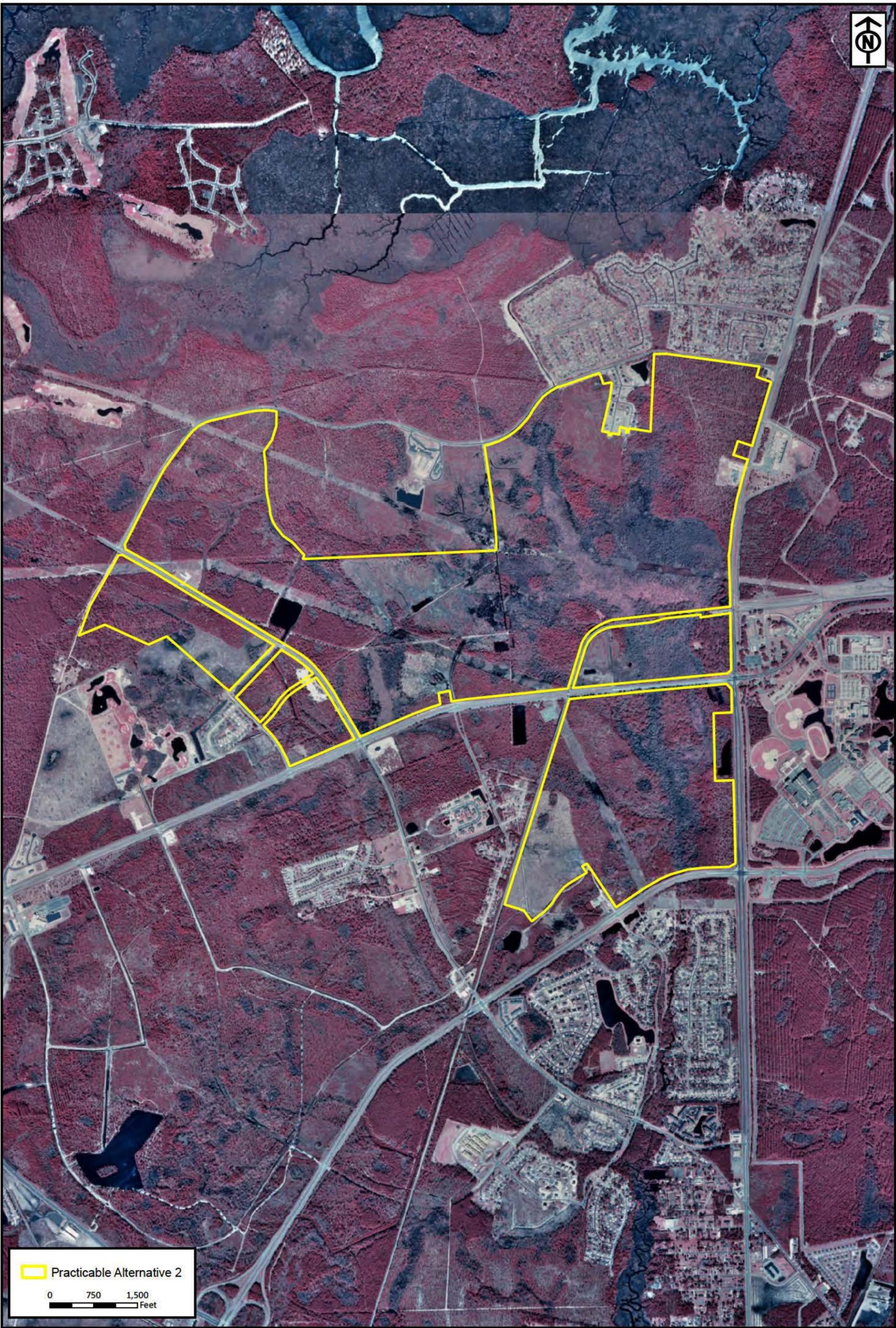
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Feet

RLC Project No.: 21-168.2  
 Figure No.: 5  
 Prepared By: MW  
 Sketch Date: 11/16/2023  
 Map Scale: 1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Practicable Alternative 2  
 Ortho Aerial**  
 Prepared For: Raydient, LLC

 **RESOURCE+LAND  
 CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898



 Practicable Alternative 2

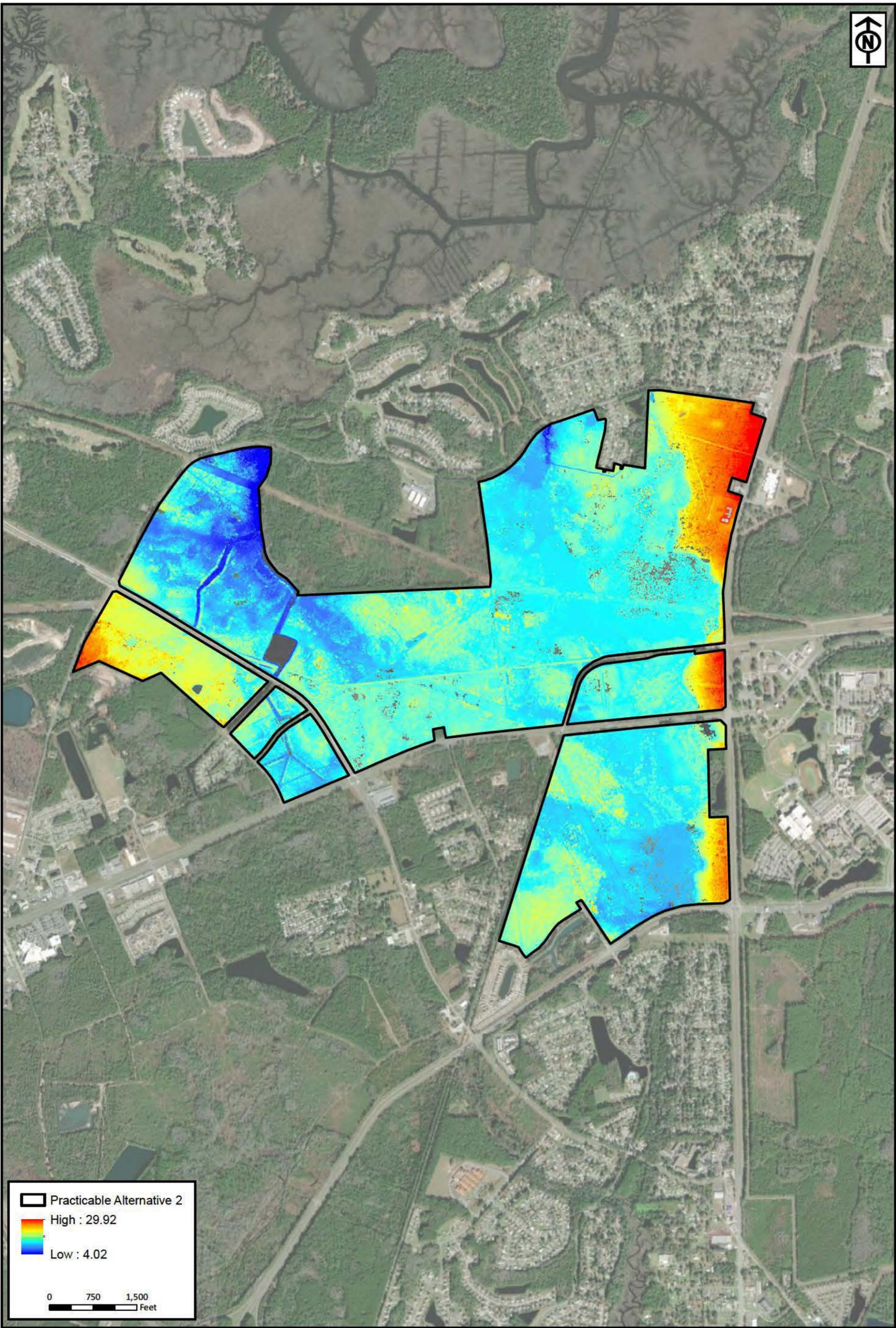
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Feet

RLC Project No.: 21-168.2  
 Figure No.: 6  
 Prepared By: MW  
 Sketch Date: 11/16/2023  
 Map Scale: 1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Practicable Alternative 2  
 1999 Color-infrared Imagery**  
 Prepared For: Raydient, LLC

 **RESOURCE+LAND  
 CONSULTANTS**  
 41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898



 Practicable Alternative 2

 High : 29.92

Low : 4.02

0 750 1,500  
Feet

RLC Project No.:	21-168.2
Figure No.:	7
Prepared By:	MW
Sketch Date:	11/16/2023
Map Scale:	1 inch = 1,500 feet

**St. Marys Road  
Mixed Use Development**  
Camden County, Georgia

**Practicable Alternative 2  
NOAA Topographic Lidar**  
Prepared For: Raydient, LLC

 **RESOURCE+LAND  
CONSULTANTS**  
41 Park of Commerce Way, Ste 101  
Savannah, GA 31405  
tel 912.443.5896 fax 912.443.5898



 Practicable Alternative 2: ~1,202.9 Acres  
 USFWS NWI: ~579.29 Acres  
 NWI Impact: 496.03 Acres

0      600      1,200      2,400  
Feet

RLC Project No.:	21-168.2
Figure No.:	8
Prepared By:	MG
Sketch Date:	11/17/2023
Map Scale:	1 inch = 1,200 feet

**St. Marys Road  
Mixed Use Development**  
Camden County, Georgia

**Practicable Alternative 2  
USFWS NWI Impact**  
Prepared For: Raydient, LLC

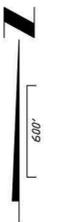
 **RESOURCE+LAND  
CONSULTANTS**  
41 Park of Commerce Way, Ste 101  
Savannah, GA 31405  
tel 912.443.5896 fax 912.443.5898



**RESOURCE+LAND**  
CONSULTANTS

## **APPENDIX E:** On-Site Configurations

SCENARIO 2 - LEGEND	
	TOTAL PROJECT AREA 1,784.83 Ac±
	UPLAND AREA 1,176.82 Ac±
	JURISDICTIONAL WETLANDS TO REMAIN 608.01 Ac±
	TIDAL MARSH 137.10 Ac±
	TOTAL JURISDICTIONAL WETLAND IMPACTS 107.44 Ac±



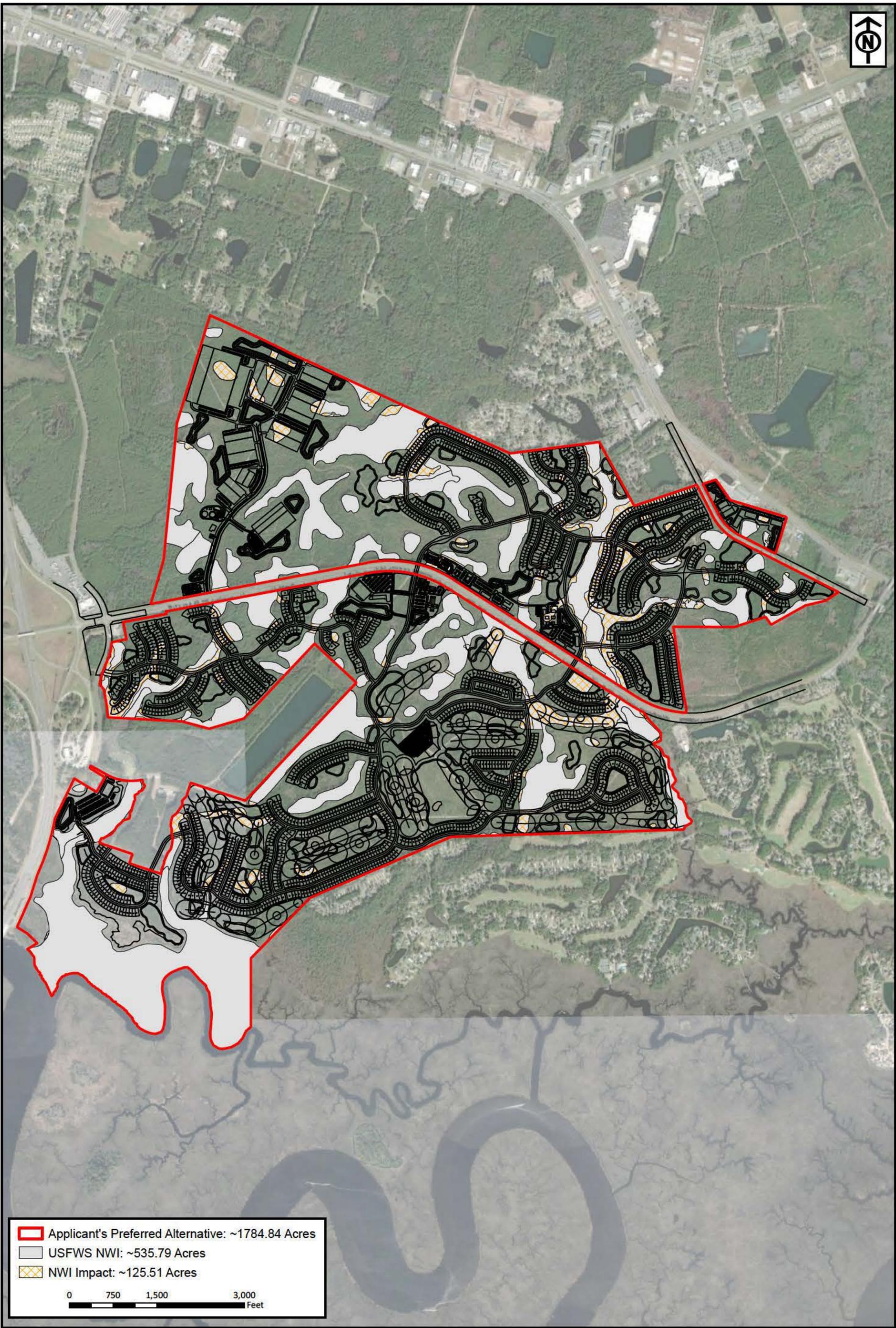
**WETLAND IMPACT PLAN-SCENARIO 2**

**ST. MARYS, GA**

**ETM** England-Thim & Miller, Inc.  
 1411 Edgewater Drive, Suite 200  
 Orlando, FL 32804  
 TEL: (407) 536-5379  
 CA - 00002584 LC - 0000316

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F:\2019\19-239\19-239-01 - Royshier Work\19-239-01-029 St. Marys\LandUse\Design\Plots\Exhibits\Scenario Impacts\Wetland Impacts\Scenario 2-Overall Exhibit.dwg  
 PLOTTED: November 21, 2023 - 9:56 AM, BY: L. Larsen



Applicant's Preferred Alternative: ~1784.84 Acres  
 USFWS NWI: ~535.79 Acres  
 NWI Impact: ~125.51 Acres

0      750      1,500      3,000  
 Feet

RLC Project No.: 21-168.2  
 Figure No.: 1  
 Prepared By: MW  
 Sketch Date: 11/17/2023  
 Map Scale: 1 inch = 1,500 feet

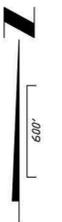
**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Onsite Alternative 1  
 USFWS NWI Impact**  
 Prepared For: Raydient, LLC

RLC

**RESOURCE+LAND  
 CONSULTANTS**  
41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898

SCENARIO 3 - LEGEND	
	TOTAL PROJECT AREA 1,784.83 Ac±
	UPLAND AREA 1,181.40 Ac±
	JURISDICTIONAL WETLANDS TO REMAIN 603.43 Ac±
	TIDAL MARSH 137.10 Ac±
	TOTAL JURISDICTIONAL WETLAND IMPACTS 112.02 Ac±



**WETLAND IMPACT PLAN-SCENARIO 3**

**ST. MARYS, GA**

**ETM** England-Thim & Miller, Inc.  
 1411 Edgewater Drive, Suite 200  
 Orlando, FL 32804  
 TEL: (407) 536-5379  
 CA - 00002584 LC - 0000316

VISION • EXPERIENCE • RESULTS

F:\2019\19-239\19-239-01 - Royshier Work\19-239-01-029 St. Marys\LandUse\Design\Plots\Exhibits\Scenario Impacts\Wetland Impacts\Scenario 3-Overall Exhibit.dwg  
 PLOTTED: November 21, 2023 - 9:56 AM, BY: L. Larsen



Applicant's Preferred Alternative: ~1784.84 Acres  
 USFWS NWI: ~535.79 Acres  
 NWI Impact: ~128.78 Acres

0      750      1,500      3,000  
 Feet

RLC Project No.: 21-168.2  
 Figure No.: 1  
 Prepared By: MW  
 Sketch Date: 11/17/2023  
 Map Scale: 1 inch = 1,500 feet

**St. Marys Road  
 Mixed Use Development**  
 Camden County, Georgia

**Onsite Alternative 2  
 USFWS NWI Impact**  
 Prepared For: Raydient, LLC

RLC

**RESOURCE+LAND  
 CONSULTANTS**  
41 Park of Commerce Way, Ste 101  
 Savannah, GA 31405  
 tel 912.443.5896 fax 912.443.5898