



29 April 2022

US Army Corps of Engineers
Savannah District / Regulatory Division
Attention: Mr. Adam White
4751 Best Road, Suite 140
College Park, Georgia 30337-5600

**Subject: Individual Permit Application
Stanton Spring North
Morgan and Walton Counties, Georgia**

RLC# 20-035.1

Dear Mr. White:

Resource & Land Consultants (RLC), on behalf of the Georgia Department of Economic Development and the Joint Development Authority of Jasper County, Morgan County, Newton County, and Walton County, is submitting the attached Section 404 Individual Permit Application requesting authorization to impact 4.86 acres of wetland, 17.71 acres of pond, 9,594.0 linear feet of perennial stream, 5,955.2 linear feet of intermittent stream, and 1,947.2 linear feet of ephemeral stream. The proposed aquatic resource impacts are required to facilitate construction of an electric vehicle original equipment manufacturing (EVOEM) facility. The project site is generally located north of Interstate 20, east of Highway 278, and west of Old Mill Road in Morgan and Walton Counties, Georgia (33.614720°, -83.668892°). For your review and use, the attached information includes the following information:

- Project Description
- CESAS Form 19
- Figures/Site Maps
- Permit Drawings
- Off-Site Alternatives Information
- On-Site Alternatives
- Compensatory Mitigation Calculations
- Threatened & Endangered Species, IPaC Database & Edges Information
- Cultural & Archaeology Resources Documentation
- Adjacent Landowner Information

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

Sincerely,

Alton Brown, Jr.
Principal
Resource & Land Consultants

Enclosures

cc: Mr. Pat Wilson – Georgia Department of Economic Development
Mr. Jerry Silvio - Joint Development Authority of Jasper County, Morgan County, Newton County & Walton County
Mr. Ralph Forbes – Thomas & Hutton Engineering
Mr. Steve Wiedl – GADNR-EPD

April 2022

Stanton Springs North

Prepared For:

Georgia Department of Economic Development

&

Joint Development Authority of

Jasper County, Morgan County, Newton County & Walton County



RESOURCE + LAND
CONSULTANTS

Resource + Land Consultants

41 Park of Commerce Way, Suite 101

Savannah, Georgia 31405

912.443.5896 | rlandc.com

Stanton Springs North

SECTION 404 INDIVIDUAL PERMIT APPLICATION
April 2022

Applicants: Georgia Department of Economic Development &
Joint Development Authority of Jasper County, Morgan County, Newton County & Walton County



RESOURCE+LAND
CONSULTANTS



Brockington
CULTURAL RESOURCES CONSULTING

Table of Contents

1.0 INTRODUCTION:	2
2.0 BACKGROUND:	2
3.0 BASIC & OVERALL PROJECT PURPOSE:	3
4.0 EXISTING SITE CONDITIONS:	3
4.1 Mature Mixed Pine & Hardwood Upland:	3
4.2 Mature Hardwood Upland:	4
4.3 Mature Hardwood Wetland:	4
4.4 Agricultural Field:	4
4.5 Agricultural Pond:	4
4.6 Recreational Food Plots:	4
4.7 Streams:	4
4.8 Roads:	5
5.0 PROPOSED PROJECT & DEVELOPMENT PLAN:	5
6.0 ALTERNATIVES ANALYSIS:	6
6.1 Practicability/Reasonability Screening Selection Criteria:	6
6.2 No Action Alternative:	7
6.3 Off-Site Alternatives & On-Site Configurations:	7
6.3.1 Preferred Site:	7
6.3.2 Off-Site Alternative 1:	8
6.3.3 Off-Site Alternative 2:	9
6.3.4 Off-Site Alternative 3:	10
6.3.5 Off Site Alternative 4:	11
6.3.6 Off Site Alternative 5:	11
6.4 On-Site Configurations:	12
6.4.1 Preferred On-Site Configuration:	12
6.4.2 On-Site Configuration 2:	12
6.4.3 Onsite Configuration 3:	13
6.4.4 Onsite Configuration 4:	13
6.5 Alternatives Not Practicable or Reasonable:	13
6.6 Review of Practicable Alternatives:	15
6.6.1 Proposed Action/Preferred Alternative/On-site Configuration:	16
6.6.2 On-Site Configuration 2:	17
6.6.3 On-Site Configuration 3:	18
6.6.3 On-Site Configuration 4:	18
6.6.5 Summary of Practicable Alternatives Analysis:	19
7.0 THREATENED AND ENDANGERED SPECIES:	20
8.0 CULTURAL RESOURCES:	20
9.0 STORM WATER MANAGEMENT	20
10.0 COMPENSATORY MITIGATION	20
11.0 CONCLUSION	21

APPENDIX:

- A: CESAS Form 19
- B: Figures/Site Maps
- C: Permit Drawings
- D: Off-Site Alternatives
- E: On-Site Configurations
- F: Compensatory Mitigation Calculations
- G: Threatened & Endangered Species Documentation, IPaC Database & Edges Information
- H: Cultural & Archaeological Resources Documentation
- I: Adjacent Landowner Information

1.0 INTRODUCTION:

The Georgia Department of Economic Development (“GDEcD”) and the Joint Development Authority of Jasper County, Morgan County, Newton County & Walton County (“JDA”) are proposing the development of an approximately 2,003.23-acre tract generally located adjacent to and north of Interstate 20, adjacent to and east of Highway 278 and adjacent to and west of Old Mill Road within Morgan and Walton Counties, Georgia (33.614720°, -83.668892°) (“Stanton Springs North” or the “Site”). Development of the Site will accommodate construction of a unique, electric-vehicle, original-equipment-manufacturing (“EVOEM”) facility, which will manufacture and distribute fully electric vehicles.

2.0 BACKGROUND:

Georgia Department of Economic Development. GDEcD is the state's sales and marketing arm, the lead agency for attracting new business investment, encouraging the expansion of existing industry and small businesses, aligning workforce education and training with in-demand jobs, locating new markets for Georgia products, attracting tourists to Georgia, and promoting the State as a destination for arts and a location for film, music and digital entertainment projects, as well as planning and mobilizing state resources for economic development. GDEcD seeks to improve the lives and welfare of all Georgians by creating jobs and promoting economic development opportunities.

In May 2020, the Site was identified in connection with an on-going, state-wide assessment of potential locations suitable to support new industries and business expansion. These assessments are performed pursuant to GDEcD’s mission and fully leveraging its expertise. GDEcD identifies these sites based on a number of criteria known to be important for target economic development opportunities, including proximity to population centers and potential work forces, proximity to existing shipping ports, airports, availability and condition of rail and interstate highway infrastructure, availability of utilities and utility infrastructure, and site buildability. GDEcD’s assessments and subsequent analyses have identified only a handful of, so called, “megasites.” These unique sites met initial screening criteria summarized above. Importantly, these megasites are also large enough to support the type and scale of project proposed here. In addition, given the fast-paced and highly-competitive business of state-recruitment for these projects, these sites were identified because they were reasonably available. These are key factors and criteria in GDEcD’s site-selection decisions at the State level.

GDEcD’s proactive efforts to identify suitable locations for economic development projects of this scale is a key component of the State’s successes in this (again) highly-competitive, fast-paced, international competition. In addition, Georgia has natural advantages, including a diverse and well-educated work force, exceptional technical colleges and universities, a desirable climate, relatively low cost of energy, diverse, renewable and replenishing natural resources, the Nation’s 4th largest port operations, four major interstate highways, and the World’s busiest airport. These factors weigh heavily on target companies’ site-selection decisions at the national and international level.

The Joint Development Authority of Jasper County, Morgan County, Newton County & Walton County. The JDA was created by joint resolutions of its four member counties (Jasper, Morgan, Newton, and Walton Counties) in 1999 for the purpose of creating jobs and investment in the region. It successfully developed a 1,600-acre industrial park in Newton, Walton and Morgan Counties east of Hwy 278 and south of I-20 known as Stanton Springs which is home to Takeda and two Meta data centers. The JDA worked with GDEcD to recruit this EVOEM opportunity for Georgia and worked as an advocate for the four-county region, highlighting the area’s significant advantages for this project – e.g., infrastructure, work force.

The Request for Proposal. In early 2021, the GDEcD and several other states, received a Request for Proposal (“RFP”) from a leader in the electric vehicle industry, who develops and produces compelling all electric vehicles, products, and services related to sustainable transportation (the “Company”). The Company sought proposals that met several specifications and could accommodate construction of a new, unique EVOEM facility, with attendant facilities. The Company seeks to expand its production capacity for additional electric vehicle lines and electric vehicle components

and to create a transportation technology center. The RFP announced the Company's desire to locate within a state that is committed to supporting the growth of the domestic electric vehicle industry and decarbonizing the world's transportation and energy sectors. Among other things, the RFP requested information allowing the Company to assess the State of Georgia's relative capabilities to meet the various requirements needed to develop and sustain the Company's EVOEM facility and broader objectives.

GDEcD revisited its prior assessments of specific sites in light of the RFP criteria and worked to identify the best fit for this opportunity—recognizing that it was engaged in a highly-competitive process, targeting a rare and highly-coveted project, and competing with many of its sister states. GDEcD leveraged its relationships with regional advocates like the JDA in responding to the RFP and has been working with the Company since early 2021 to bring the project to Georgia. The stakes are as great as the scope and scale of the EVOEM facility, which expects to bring \$5 billion in private capital investment and roughly 10,000+ jobs. In December 2021, the Company announced its selection of Georgia for its new EVOEM facility. Having invested significant resources and countless hours in pursuit of this opportunity and an optimal site, the JVA and GDEcD are pleased to submit this application for the development of Stanton Springs North to meet the Company's specifications for its construction of a unique, new EVOEM facility. On April 26, 2022, the JDA approved the final Economic Development Agreement for the project, which, among other things, would require GDEcD and the JDA to obtain required permits and prepare the site for the EVOEM facility on the extremely aggressive timeline required to support the Company's plans and success in the rapidly-developing and highly-competitive electric vehicle manufacturing and innovation industry.

3.0 BASIC & OVERALL PROJECT PURPOSE:

The basic purpose of the proposed project is to develop a site that can accommodate the construction of an EVOEM facility. The overall project purpose is to efficiently and timely provide a pad-ready site that meets all siting criteria for the construction of the EVOEM facility.

4.0 EXISTING SITE CONDITIONS:

The proposed Site (preferred alternative) is generally located within the northeast quadrant of the Interstate 20 and Highway 278 intersection. The topography ranges from elevation 710 feet within the area along Dennis Creek to almost 820 feet within the center of the Site. A Delineation Review of Aquatic Resources request has been submitted to the U.S. Army Corps of Engineers. Based on the delineation, the ~2003.23-acre project area contains 1,961.43 acres of upland (98% of the project area), 12.27 acres of wetland, 23.6 acres of agricultural pond, 5,021 linear feet of ephemeral stream, 18,508 linear feet of intermittent stream and 18,811 linear feet of perennial stream. As documented and recorded during the field surveys, the Site is characterized by eight habitat types which include Agricultural Field, Mature Mixed Pine and Hardwood Upland, Mature Hardwood Upland, Upland-Dug Pond, Food Plots, Road, Mature Hardwood Wetland, and Streams. A brief description of each habitat type is included below.

4.1 Mature Mixed Pine & Hardwood Upland: Approximately 948.05 acres of Mature Mixed Pine and Hardwood Upland is present within the Site. This habitat generally contains an overstory that is 40+ years in age and show no significant signs of recent disturbance. The overstory is comprised of a full canopy of hardwoods and pines and the understory is relatively open due to the heavy canopy coverage.

Overstory:

Loblolly Pine (*Pinus taeda*)
Pignut Hickory (*Carya glabra*)
Tulip Poplar (*Liriodendron tulipifera*)
Red Maple (*Acer rubrum*)
Sweetgum (*Liquidambar styraciflua*)
White Oak (*Quercus alba*)
Water Oak (*Quercus nigra*)
Red Cedar (*Juniperus virginiana*)

Understory:

American Beautyberry (*Callicarpa Americana*)
Bracken Fern (*Pteridium aquilinum*)
Chinese Privet (*Ligustrum sinense*)
Wax Myrtle (*Myrica cerifera*)
Goldenrod (*Solidago spp.*)
Christmas Tree Fern (*Polystichum acrostichoides*)
Ebony Spleenwort (*Asplenium platyneuron*)
Painted Buckeye (*Aesculus sylvatica*)

Southern Red Oak (*Quercus falcata*)

Flowering Dogwood (*Cornus florida*)

4.2 Mature Hardwood Upland: A total of 148.55 acres of Mature Hardwood Upland is present within the Site. These areas contain an overstory that is 40+ years in age and show no significant signs of disturbance in recent history. The overstory is comprised of a full canopy of mixed hardwoods.

Overstory:

White Oak
Pignut Hickory
Tulip Poplar
Red Maple
Sweetgum
White Oak
Water Oak
Southern Red Oak

Understory:

American Beautyberry
Bracken Fern
Chinese Privet
Wax Myrtle
Goldenrod
Christmas Tree Fern
Ebony Spleenwort
Painted Buckeye
Flowering Dogwood
Muscadine (*Vitis rotundifolia*)
Greenbrier (*Smilax spp.*)

4.3 Mature Hardwood Wetland: A total of 12.27 acres of mature forested wetland are present within the property. These areas are present within the narrow valleys of the Site and are often adjacent to the network of streams.

Overstory:

Sweetgum
Red Maple
Water Oak
Southern Red Oak

Understory:

Christmas Tree Fern
Virginia Chain Fern (*Woodwardia virginica*)
Netted Chain Fern (*Woodwardia aerolata*)
Chinese Privet
Soft Rush (*Juncus effusus*)
Greenbrier (*Smilax rotundifolia*)
Slough Sedge (*Carex obnupta*)

4.4 Agricultural Field: The project area contains a total of 827.72 acres of Agricultural Fields associated with the agricultural operations which continue to occur across the site. This habitat is maintained as open field and managed for hay production and grazing.

4.5 Agricultural Pond: The project area contains a total of 23.62 acres of man-made ponds that were constructed for agricultural purposes. The features consist of varying depths with scattered bank vegetation for stabilization and submerged aquatic vegetation. Based on review of historical aerial imagery, these ponds were constructed prior to the 1980's.

4.6 Recreational Food Plots: The project area contains a total of 16.66 acres of wildlife food plots. These areas are plowed, planted, and maintained annually for recreational hunting.

4.7 Streams: All three classifications of streams, ephemeral, intermittent, and perennial, are present within the project area. Approximately 42,341 linear feet of stream are present within the project area with approximately 5,021 linear feet (0.37 acres) of ephemeral stream, 18,508 linear feet (1.74 acres) of intermittent stream, and 18,811 linear feet (3.82 acres) of perennial streams. Perennial and Intermittent streams are incised, whereas

most ephemeral streams are closely associated with headwater wetlands.

4.8 Roads: The project area contains public roads including Sewell Church Road/Lynch Road, Retreat Lane, Davis Academy Road, Old Mill Road and a portion of Interstate 20.

Table 1. Habitat Summary

Aquatic Feature	Acreage	Linear Feet
Agricultural Pond	23.62	N/A
Ephemeral Stream	0.37	5,201
Intermittent Stream	1.74	18,508
Perennial Stream	3.82	18,811
Mature Forested Wetland	12.27	N/A
Agricultural Field	827.72	N/A
Food Plots	16.66	N/A
Mature Hardwood Upland	148.55	N/A
Mature Mixed Pine and Hardwood Upland	948.05	N/A
Road	20.43	N/A
Total	2,003.23	42,341

5.0 PROPOSED PROJECT & DEVELOPMENT PLAN:

The Site plans have been developed to meet the specific requirements of the EVOEM facility, to support and sustain its broad and complex operations, and to accommodate its many components, e.g., vehicle production facilities, battery cell production facilities, product and technology facilities, testing, training, and distribution facilities and infrastructure.

The primary access for the facility will be provided on Highway 278 approximately 1600 feet north of Interstate 20. This access will consist of a frontage road which parallels Interstate 20 and extends from Highway 278 east through the site to Old Mill Road. A secondary ingress/egress point will be installed on Highway 278 approximately 2,500 feet north of Interstate 20 and will tie directly into the EVOEM facility to the east.

The EVOEM facility's vehicle production components will accommodate various manufacturing processes, including pressing, fabrication, painting, product completion/assembly, and special products production. The required distribution components include a train yard, truck yard, and finished product yard. The EVOEM complex will also include employee services components supporting the large workforce (e.g., food services, medical facilities, employee parking, training facilities, and administrative workspaces). The storage component will include the central storage building and liquid storage building. The quality facilities will include a product testing area, testing station, and other miscellaneous buildings required for quality assurance support. Additional components include waste facilities, security facilities, utility facilities, and supplier facilities.

Facility layout was dictated by a variety of design considerations including topography, aquatic resources, the advanced principles of innovative manufacturing and assembly, as well as logistics and operational requirements for material flow and positioning during the manufacturing process. As depicted in the attached permit drawings, the proposed site plan would require 4.85 acres of wetland impact, 17.71 acres of open water pond impact, 1,947.2 linear feet of ephemeral stream impact, 5,955.0 linear feet of intermittent stream impact and 9,594.0 linear feet of perennial stream impact. Exhibits depicting the proposed Site plan and associated jurisdictional area impacts are provided in Appendix C.

6.0 ALTERNATIVES ANALYSIS:

As part of the overall project, thorough alternatives analysis was completed. A review of the 404(b)(1) guidelines 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, a No Action Alternative, six alternative sites including the preferred site, and four on-site configurations including the preferred on-site configuration were evaluated. As noted above, 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 configuration 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.

- o Capable of being done considering cost: Site development costs must be reasonable considering scope, scale, and type of project, total costs, funding source, etc.
- o Capable of being done considering logistics: Specific logistics requirements were associated with geographic location, size, entitlements, utilities, proximate infrastructure, site access, and other factors.
 - The project site must be within 60 minutes of an international airport with direct flights to San Jose, Santa Ana, Los Angeles, San Francisco, Detroit, and Chicago.
 - The project site must be located within a reasonable commute distance of a diverse and skilled labor force of sufficient population to meet and sustain the facility (~10,000+ jobs).
 - The project site must be located near (and no more than two-hours’ drive of) a large, internationally-recognized, engineering and technology university.
 - The project site must be contiguous and sufficiently sized to support the massive scale of an EVOEM facility (which roughly translates to a minimum of ~1,700 acres of unencumbered land).
 - The project site must have sufficient developable area to support approximately 15MM sq ft. of EVOEM facility and attendant features.
 - The project site must be fully entitled and free from encumbrances that could not be resolved or avoided on the strict project development timeline.
 - The project site must have or be capable of obtaining reliable and sustainable utility services to meet the needs of the EVOEM facility; where utilities were not already available, the costs and timeline for providing the required service were considered in the screening criteria.
 - The project site requires uninterrupted and efficient access to the Nation’s transportation and shipping infrastructure. Specifically, the project site needs to have immediate access to one or more

Interstate Highways for large trucks and trailers and needs to have onsite (or reasonably attainable) rail infrastructure and access to class-one rail. Access to shipping ports was equally critical, however, all sites evaluated were relatively similarly situated with respect to this criterion.

- o Property can be reasonably obtained: The project site must be available or could be acquired specifically for development of an EVOEM. Consideration was given to the timeline and potential costs associated with obtaining the required parcel(s).
- o Property can be reasonably expanded: The project site must be able to reasonably accommodate future expansion.
- o Property can be reasonably managed: The project site cannot contain restrictions precluding operation or management of the site for the intended use.
- o Property can meet the basic project purpose: The project site must meet the basic project purpose.
- o 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 aquatic resources across the State and the size and scale of the EVOEM facility (~15MM sq ft. building footprint with attendant facilities and infrastructure), it was determined that complete avoidance of aquatic resource impacts was not feasible, even before the other myriad criteria were considered. Unlike more routine and smaller scale development activities, highly-specialized industrial developments of this scale do not allow much flexibility in facility design. At this scale and complexity, facility layout and design are inextricable from productive capacity and are further impacted by numerous design constraints (e.g., the need for efficient and safe production and product progression; the need to provide for efficient and safe employee ingress, egress, on-site mobility, safety, and comfort; and the need to maintain security). And these design constraints are further complicated, intertwined, and sometimes vague, because of the need for OEM owners and operators to protect the proprietary processes. For these reasons, even minor modifications to the facility footprints are often not feasible. The presence of wetlands and/or streams is not unique to the project site and impacts to these resources would be required regardless of site location within the state. Because the “no-action” alternative and complete avoidance of impacts prohibits construction of an OEM manufacturing facility, this alternative was determined to be unreasonable and not practicable.

6.3 Off-Site Alternatives & On-Site Configurations: Considering the site selection criteria, the GDEcD evaluated six alternative sites including the preferred site and four on-site configurations including the preferred design. Exhibits depicting off-site alternatives are provided in Appendix D and exhibits depicting on-site configurations are provided in Appendix E.

6.3.1 Preferred Site: The preferred alternative totals approximately 2,003 acres generally located north of Interstate 20, east of Highway 278, and west of Old Mill Road in Morgan and Walton Counties. The following provides a summary of each criterion reviewed for the preferred site:

- o This alternative is capable of being done considering total cost, funding source, etc.
- o This alternative is capable of being done considering logistics for the following reason:
 - This alternative is located within 60 minutes of Hartsfield-Jackson International Airport with direct flights to San Jose, Santa Ana, Los Angeles, San Francisco, Detroit, and Chicago. The overwhelming majority of this distance is on Interstate Highways.

- This alternative is located on the eastern side of the Metro Atlanta region which can provide a skilled labor force suitable to support and sustain the projected number of manufacturing and technology employees.
 - This alternative is located approximately 33 miles from the University of Georgia and 47 miles from Georgia Institute of Technology both of which are major universities providing higher education in the fields of engineering and technology.
 - This alternative totals 2,003.23 acres of contiguous land which meets the minimum tract size requirement and provides logistics efficiency required for design and production.
 - This alternative does not contain any land use restrictions that prohibit construction of an EVOEM facility.
 - This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).
 - This alternative is located adjacent to Interstate 20 with direct interstate access from Highway 278 and is located adjacent to a CSX railroad which is a Class I railroad.
- This alternative can be reasonably obtained. The site is currently controlled by the Joint Development Authority of Jasper, Morgan, Newton & Walton Counties and has been identified as a regional megasite by GDECD.
 - This alternative can accommodate both the current and potential future expansion needs for the proposed facility.
 - 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 which is to construct an EVOEM facility.
 - This alternative meets the overall project purpose to provide an entitled site which complies with all siting criteria and can support an approximately 15MM square foot (sf) EVOEM manufacturing facility.

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 site totals 1,944.00 acres generally located adjacent to and east of Highway 280 and adjacent to and south of Interstate 16 within Bryan County. The following provides a summary of each criterion reviewed for the preferred site:

- This alternative is capable of being done considering total cost, funding source, etc.
- This alternative is not capable of being done considering logistics for the following reasons:
 - This alternative is located within 60 minutes of Savannah/Hilton Head International Airport which does not provide direct flights to San Jose, Santa Ana, Los Angeles, or San Francisco and greater than 60 minutes from Hartsfield-Jackson International Airport which does provide direct flights to those cities.
 - This alternative can provide a skilled labor force suitable to support and sustain the projected number of manufacturing and technology employees.
 - This alternative is not located within a reasonable distance from a major university which provides higher education in the fields of engineering and technology. This site is located approximately 220 miles from the University of Georgia and 251 miles from Georgia Institute of Technology.
 - This alternative totals 1,944 acres of contiguous land which meets the minimum tract size requirement and provides logistics efficiency required for design and production.
 - This alternative does not contain any land use restrictions that prohibit construction of an EVOEM facility.

- This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).
 - This alternative is located adjacent to Interstate 16 with direct interstate access from Highway 280 and is located adjacent to a Genesee & Wyoming rail line which is a Class III railroad that can provide access to a Class I railroad.
- o This alternative can be reasonably obtained. The site is currently controlled by the Savannah Harbor-Interstate 16 Corridor Joint Development Authority and has been identified as a regional megasite by GDEcD.
 - o This alternative can accommodate both the current and potential future expansion needs for the proposed facility.
 - o This alternative can be reasonably managed and does not contain restrictions precluding operation or management of the site for the intended use.
 - o This alternative meets the basic project purpose which is to construct an EVOEM facility.
 - o This alternative does not meet the overall project purpose to provide an entitled site which complies with all siting criteria and can support an approximately 15MM square foot (sf) EVOEM manufacturing facility.

In summary, Off-Site Alternative 1 does not meet all site screening criteria and is therefore not a practicable alternative.

6.3.3 Off-Site Alternative 2: This alternative totals approximately 1,758 acres located 5.5 miles west of Interstate 75, adjacent to and north of Highway 96, and east of Highway 49 in Peach County. The following provides a summary of each criterion reviewed for this off-site alternative:

- o This alternative is capable of being done considering total cost, funding source, etc.
- o This alternative is not capable of being done considering logistics for the following reasons:
 - This alternative is not located within 60 minutes of an international airport. The closest international airport is Hartsfield-Jackson International Airport over 90 miles to the north of the site.
 - This alternative cannot meet the labor force requirements for this specific project.
 - This alternative is located within a reasonable distance from a major university which provides higher education in the fields of engineering and technology. This site is located approximately 122 miles from the University of Georgia and 107 miles from Georgia Institute of Technology.
 - This alternative totals 1,758 acres of contiguous land which meets the minimum tract size requirement and provides logistics efficiency required for design and production.
 - This alternative contains a conservation easement on the western 200 acres of the site which prohibits construction of an EVOEM facility.
 - This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).
 - This alternative is not located adjacent to a major interstate. Interstate 75 is 5.5 miles east of the site. Class I rail service is adjacent to the site.
- o This alternative can be reasonably obtained. The site is currently controlled by the Development Authority of Peach County and has been identified as a regional megasite by GDEcD.
- o This alternative can accommodate both the current and potential future expansion needs for the proposed facility due to the size of the site and restrictions associated with a conservation easement.

- o This alternative cannot be reasonably managed and does contain restrictions precluding operation or management of the site for the intended use.
- o This alternative does not meet the basic project purpose which is to construct an EVOEM facility.
- o This alternative does not meet the overall project purpose to provide an entitled site which complies with all siting criteria and can support an approximately 15MM square foot (sf) EVOEM manufacturing facility.

In summary, Off-Site Alternative 2 does not meet all site screening criteria and is therefore not a practicable alternative.

6.3.4 Off-Site Alternative 3: This tract totals 1,693 acres and is located adjacent to and west of Highway 441 and south of Highway 49 within Baldwin County. The following provides a summary of each criterion reviewed for this off-site alternative:

- o This alternative is capable of being done considering total cost, funding source, etc.
- o This alternative is not capable of being done considering logistics for the following reasons:
 - This alternative is not located within 60 minutes of an international airport. The closest international airport is Hartsfield-Jackson International Airport over 90 miles to the north of the site.
 - This alternative cannot meet the labor force requirements for this specific project.
 - This alternative is located within a reasonable distance from a major university which provides higher education in the fields of engineering and technology. This site is located approximately 70 miles from the University of Georgia and 101 miles from Georgia Institute of Technology.
 - This alternative totals 1,693 acres of contiguous land which does not meet the minimum tract size requirement and fails to provide logistics efficiency required for design and production.
 - This alternative does not contain any land use restrictions that prohibit construction of an EVOEM facility.
 - This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).
 - This alternative is not located adjacent to a major interstate. Interstate 16 is over 30 miles west of the site. Class I rail service is adjacent to the site.
- o This alternative can be reasonably obtained. The site is currently controlled by the Development Authority of the City of Milledgeville and Baldwin County and has been identified as a regional megasite by GDEcD.
- o This alternative cannot accommodate both the current and potential future expansion needs for the proposed facility due to the size of the site.
- o This alternative can be reasonably managed and does not contain restrictions precluding operation or management of the site for the intended use.
- o This alternative meets the basic project purpose which is to construct an EVOEM facility.
- o This alternative does not meet the overall project purpose to provide an entitled site which complies with all siting criteria and can support an approximately 15MM square foot (sf) EVOEM manufacturing facility.

In summary, Off-Site Alternative 3 does not meet all site screening criteria and is therefore not a practicable alternative.

6.3.5 Off Site Alternative 4: This alternative totals 2,360 acres located adjacent to and west of Interstate 75 and east of Highway 41 within Bartow County. The following provides a summary of each criterion reviewed for this off-site alternative:

- o This alternative is capable of being done considering total cost, funding source, etc.
- o This alternative is not capable of being done considering logistics for the following reasons:
 - This alternative is not located within 60 minutes of an international airport. The closest international airport is Hartsfield-Jackson International Airport over just over 60 miles to the north of the site.
 - This alternative can provide a skilled labor force suitable to support and sustain the projected number of manufacturing and technology employees.
 - This alternative is located within a reasonable distance from a major university which provides higher education in the fields of engineering and technology. This site is located approximately 118 miles from the University of Georgia and 58 miles from Georgia Institute of Technology.
 - This alternative totals 2,360 acres of contiguous land which does meet the minimum tract size requirement and provides logistics efficiency required for design and production.
 - This alternative does not contain any land use restrictions that prohibit construction of an EVOEM facility.
 - This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).
 - This alternative is located adjacent to Interstate 75. Rail service is not located adjacent to the site.
- o This alternative can be reasonably obtained. The site is currently controlled by the Development Authority of Bartow County and has been identified as a regional megasite by GDEcD.
- o This alternative can accommodate both the current and potential future expansion needs for the proposed facility due to the size of the site.
- o This alternative can be reasonably managed and does not contain restrictions precluding operation or management of the site for the intended use.
- o This alternative meets the basic project purpose which is to construct an EVOEM facility.
- o This alternative does not meet the overall project purpose to provide an entitled site which complies with all siting criteria and can support an approximately 15MM square foot (sf) EVOEM manufacturing facility.

In summary, Off-Site Alternative 4 does not meet all site screening criteria and is therefore not a practicable alternative.

6.3.6 Off Site Alternative 5: This alternative totals 2,350 acres located adjacent to and east of Highway 19 within Clayton & Henry Counties. The following provides a summary of each criterion reviewed for this off-site alternative:

- o This alternative is capable of being done considering total cost, funding source, etc.
- o This alternative is not capable of being done considering logistics for the following reasons:
 - This alternative is located within 60 minutes of an international airport. The closest international airport is Hartsfield-Jackson International Airport which is 12 miles to the north of the site.

- This alternative is located within the Metro Atlanta region which can provide a skilled labor force suitable to support and sustain the projected number of manufacturing and technology employees.
 - This alternative is located approximately 91 miles from the University of Georgia and 24 miles from Georgia Institute of Technology both of which are major universities providing higher education in the fields of engineering and technology.
 - This alternative totals 2,350 acres of contiguous land which meets the minimum tract size requirement and provides logistics efficiency required for design and production.
 - This alternative does not contain any land use restrictions that prohibit construction of an EVOEM facility.
 - This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).
 - This alternative is not located adjacent to a major interstate. The site is approximately 5 miles west of Interstate 75. The site is located adjacent to a Class I railroad.
- This alternative can be reasonably obtained. The site is currently controlled by the Clayton County Water Authority.
 - This alternative can accommodate both the current and potential future expansion needs for the proposed facility.
 - 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 which is to construct an EVOEM facility.
 - This alternative does not meet the overall project purpose to provide an entitled site which complies with all siting criteria and can support an approximately 15MM square foot (sf) EVOEM manufacturing facility.

In summary, Off-Site Alternative 5 does not meet all site screening criteria and is therefore not a practicable alternative.

6.4 On-Site Configurations: In addition to considering off-site alternatives, on-site configurations were evaluated. The description of various components required to support and sustain the overall facility operation provided in Section 5.0 above are applicable to all on-site configurations. Since each of these components must exist for the facility to operate, omitting the paint building or the fabrication building (as an example) to reduce the overall facility footprint is not feasible. However, a detailed review of the proposed site plan and shift, redesign, and/or downsize certain features of the facility was implemented. Specifically, four on-site configurations were drafted and studied in an effort to avoid or minimize impacts to wetlands and waters identified within the property.

6.4.1 Preferred On-Site Configuration: The preferred on-site configuration includes vehicle access from Highway 278 on the western portion of the tract north of the Interstate 20/Highway 278 interchange. The rail component for this configuration is positioned on the northeastern portion of the property. The facility layout generally includes production to the north/northwest, railyard to the northeast and vehicle storage to the south. Because On-Site Configuration 1 contains all the required components of the project, this alternative met the site screening criteria and is therefore a practicable alternative.

6.4.2 On-Site Configuration 2: This on-site configuration includes vehicle access from Highway 278 on the western portion of the tract north of the Interstate 20/Highway 278 interchange. The rail component for this configuration is positioned on the northeastern portion of the property. The facility layout generally includes production to the north/northwest, railyard to the northeast and

vehicle storage to the south. While similar to Configuration 1, this design contains additional rail service and railyard on the northwestern portion of the tract. Because On-Site Configuration 2 contains all the required components of the project, this alternative met the site screening criteria and is therefore a practicable alternative.

6.4.3 Onsite Configuration 3: This on-site configuration includes vehicle access from Highway 278 on the western portion of the tract north of the Interstate 20/Highway 278 interchange. The rail component for this configuration is positioned on the north and oriented in an east/west direction. The facility layout generally includes production in the center of the site and vehicle storage to the east. Because On-Site Configuration 3 contains all the required components of the project, this alternative met the site screening criteria and is therefore a practicable alternative.

6.4.4 Onsite Configuration 4: This on-site configuration includes vehicle access from Highway 278 on the western portion of the tract north of the Interstate 20/Highway 278 interchange. The rail component for this configuration is positioned near the center of the property and oriented in an north/south direction. The facility layout generally includes production on the eastern side of the site and vehicle storage to the west towards highway 278. Because On-Site Configuration 4 contains all the required components of the project, this alternative met the site screening criteria and is therefore a practicable alternative.

6.5 Alternatives Not Practicable or Reasonable: Following review of both off site alternatives and onsite configurations, a comparison of alternatives was completed to determine practicability and reasonability. Table 2 below summarizes a comparison of each alternative discussed above to the screening criteria for practicability and reasonableness.

Table 2. Summary Table for Practicability and Reasonableness Screening Selection Criteria

Practicability/ Reasonability Screening Selection Criteria	Preferred Site	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Preferred On-Site Configuration	On-Site Configuration 2	On-Site Configuration 3	On-Site Configuration 4	No Action
Capable of being done considering cost	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Capable of being done considering logistics	Yes	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Property can be reasonably obtained	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Property can be reasonably expanded	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
Property can be reasonably managed	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Meets basic project purpose	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Meets overall project purpose	Yes	No	No	No	No	No	Yes	Yes	Yes	Yes	No
Practicable Site (Y or N)	Yes	No	No	No	No	No	Yes	Yes	Yes	Yes	No

6.6 Review of Practicable Alternatives:

Following a determination of practicable alternatives using the “Practicability/Reasonability Screening Selection Criteria”, an analysis of practicable alternatives to identify the least environmentally damaging practicable alternative pursuant to 40 CFR 230.7(b)(1) was completed. 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 potential environmental impacts that would result from construction of the proposed facility were evaluated. This evaluation was completed by considering environmental factors which could impact development of the site. The environmental factors included:

Environmental Factors:

- 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, medium, or high value was assigned using the *Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Piedmont/Ridge & Valley/Blue Ridge Qualitative Stream Assessment Worksheet*.
- 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) Non-Riverine Wetland Qualitative Stream Assessment Worksheet*.
- 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 areas was evaluated for each practicable alternative. A low, medium, 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 U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (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 State Historic Preservation Office information at <http://www.nr.nps.gov/>. Potential impacts to sites listed or eligible for listing on the National Register of Historic Places was noted for each alternative.

Considering the assessment criteria above, four alternative on-site configurations were reviewed. The following provides a summary of each practicable alternative and associated environmental impacts.

6.6.1 Proposed Action/Preferred Alternative/On-site Configuration: The preferred on-site configuration includes vehicle access from Highway 278 on the western portion of the tract north of the Interstate 20/Highway 278 interchange. The rail component for this configuration is positioned on the northeastern portion of the property. The facility layout generally includes production to the north/northwest, railyard to the northeast and vehicle storage to the south. Considering the site plan, a summary of environmental impacts is provided below.

- Stream Impacts (quantitative). Based on the location of aquatic resources and facility design, this on-site configuration requires 17,496.4 linear feet of perennial, intermittent and ephemeral stream impact.
- Stream Impacts (qualitative). An evaluation of each tributary (perennial, intermittent and ephemeral streams) and each specific impact (29 impact locations) was completed using the *Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Piedmont/Ridge & Valley/Blue Ridge Qualitative Stream Assessment Worksheet*. Based on this assessment and by assessing the five functions (hydrology, hydraulics, geomorphology, chemistry and biology), the stream qualitative functional capacity score determined to range from low to moderate depending on the specific stream and impact area.
- Wetland Impacts (quantitative). Based on the location of aquatic resources and facility design, this on-site configuration requires 4.86 acres of wetland impact.
- Wetland Function (qualitative). An evaluation of each wetland and each specific impact (27 impact locations) 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 location of aquatic resources and facility design, this on-site configuration requires 17.7 acres of other waters impact.
- Other Waters Functions (qualitative). The ponds within the site are manmade and were constructed and have been maintained for agricultural purposes. The functional value of these open water features is low.
- Federally Listed Threatened or Endangered Species. An intensive threatened and endangered species survey has been completed within the project site. A completed copy of the report of findings is attached to this permit application package and no impacts to federally listed threatened or endangered species are anticipated (Appendix G).
- Cultural Resources. Brockington & Associates has completed a field survey for cultural resources and archeology and a draft report is currently being prepared for submittal to and review by the USACE and GADNR-HPD. Upon completion, a copy will be provided to the USACE for agency review (Appendix H).
- Stream Buffer Impact. The proposed project will require impacts to state waters and stream buffers. A stream buffer variance will be obtained from the GADNR-EPD prior to initiation of buffer impacts.

6.6.2 On-Site Configuration 2: This on-site configuration includes vehicle access from Highway 278 on the western portion of the tract north of the Interstate 20/Highway 278 interchange. The rail component for this configuration is positioned on the northeastern portion of the property. The facility layout generally includes production to the north/northwest, railyard to the northeast and vehicle storage to the south. While similar to Configuration 1, this design contains additional rail service and rail yard on the northwestern portion of the tract. Considering the site plan, a summary of environmental impacts is provided below.

- Stream Impacts (quantitative). Based on the location of aquatic resources and facility design this on-site configuration requires 27,835.5 linear feet of perennial, intermittent and ephemeral stream impact.
- Stream Impacts (qualitative). An evaluation of each tributary (perennial, intermittent and ephemeral streams) and each specific impact was completed using the *Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Piedmont/Ridge & Valley/Blue Ridge Qualitative Stream Assessment Worksheet*. Based on this assessment and by assessing the five functions (hydrology, hydraulics, geomorphology, chemistry and biology), the stream qualitative functional capacity score determined to range from low to moderate depending on the specific stream and impact area.
- Wetland Impacts (quantitative). Based on the location of aquatic resources and facility design, this on-site configuration requires 5.6 acres of wetland impact.
- 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 location of aquatic resources and facility design, this on-site configuration requires 17.7 acres of other waters impact.
- Other Waters Functions (qualitative). The ponds within the site are manmade and were constructed and have been maintained for agricultural purposes. The functional value of these open water features is low.
- Federally Listed Threatened or Endangered Species. An intensive threatened and endangered species survey has been completed within the project site. A completed copy of the report of findings is attached to this permit application package and no impacts to federally listed threatened or endangered species are anticipated.
- Cultural Resources. Brockington & Associates has completed a field survey for cultural resources and archeology and a draft report is currently being prepared for submittal to and review by the USACE and GADNR-HPD. Upon completion, a copy will be provided to the USACE for agency review.
- Stream Buffer Impact. The proposed project will require impacts to state waters and stream buffers. A stream buffer variance will be obtained from the GADNR-EPD prior to initiation of buffer impacts.

6.6.3 On-Site Configuration 3: This on-site configuration includes vehicle access from Highway 278 on the western portion of the tract north of the Interstate 20/Highway 278 interchange. The rail component for this configuration is positioned on the north and oriented in an east/west direction. The facility layout generally includes production in the center of the site and vehicle storage to the east. Because On-Site Configuration 3 contains all the required components of the project, this alternative met the site screening criteria and is therefore a practicable alternative.

- Stream Impacts (quantitative). Based on the location of aquatic resources and facility design this on-site configuration requires 31,820 linear feet of perennial, intermittent and ephemeral stream impact.
- Stream Impacts (qualitative). An evaluation of each tributary (perennial, intermittent and ephemeral streams) and each specific impact was completed using the *Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Piedmont/Ridge & Valley/Blue Ridge Qualitative Stream Assessment Worksheet*. Based on this assessment and by assessing the five functions (hydrology, hydraulics, geomorphology, chemistry and biology), the stream qualitative functional capacity score determined to range from low to moderate depending on the specific stream and impact area.
- Wetland Impacts (quantitative). Based on the location of aquatic resources and facility design, this on-site configuration requires 11.3 acres of wetland impact.
- 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 location of aquatic resources and facility design, this on-site configuration requires 20.1 acres of other waters impact.
- Other Waters Functions (qualitative). The ponds within the site are manmade and were constructed and have been maintained for agricultural purposes. The functional value of these open water features is low.
- Federally Listed Threatened or Endangered Species. An intensive threatened and endangered species survey has been completed within the project site. A completed copy of the report of findings is attached to this permit application package and no impacts to federally listed threatened or endangered species are anticipated.
- Cultural Resources. Brockington & Associates has completed a field survey for cultural resources and archeology and a draft report is currently being prepared for submittal to and review by the USACE and GADNR-HPD. Upon completion, a copy will be provided to the USACE for agency review.
- Stream Buffer Impact. The proposed project will require impacts to state waters and stream buffers. A stream buffer variance will be obtained from the GADNR-EPD prior to initiation of buffer impacts.

6.6.3 On-Site Configuration 4: This on-site configuration includes vehicle access from Highway 278 on the western portion of the tract north of the Interstate 20/Highway 278 interchange. The rail component

for this configuration is positioned near the center of the property and oriented in an north/south direction. The facility layout generally includes production on the eastern side of the site and vehicle storage to the west towards highway 278. As documented above and summarized below, this alternative was not able to avoid and minimize environmental impacts to the greatest extent practicable.

- Stream Impacts (quantitative). Based on the location of aquatic resources and facility design this on-site configuration requires 33,939 linear feet of perennial, intermittent and ephemeral stream impact.
- Stream Impacts (qualitative). An evaluation of each tributary (perennial, intermittent and ephemeral streams) and each specific impact was completed using the *Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Piedmont/Ridge & Valley/Blue Ridge Qualitative Stream Assessment Worksheet*. Based on this assessment and by assessing the five functions (hydrology, hydraulics, geomorphology, chemistry and biology), the stream qualitative functional capacity score determined to range from low to moderate depending on the specific stream and impact area.
- Wetland Impacts (quantitative). Based on the location of aquatic resources and facility design, this on-site configuration requires 11.0 acres of wetland impact.
- 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 location of aquatic resources and facility design, this on-site configuration requires 21.2 acres of other waters impact.
- Other Waters Functions (qualitative). The ponds within the site are manmade and were constructed and have been maintained for agricultural purposes. The functional value of these open water features is low.
- Federally Listed Threatened or Endangered Species. An intensive threatened and endangered species survey has been completed within the project site. A completed copy of the report of findings is attached to this permit application package and no impacts to federally listed threatened or endangered species are anticipated.
- Cultural Resources. Brockington & Associates has completed a field survey for cultural resources and archeology and a draft report is currently being prepared for submittal to and review by the USACE and GADNR-HPD. Upon completion, a copy will be provided to the USACE for agency review.
- Stream Buffer Impact. The proposed project will require impacts to state waters and stream buffers. A stream buffer variance will be obtained from the GADNR-EPD prior to initiation of buffer impacts.

6.6.5 Summary of Practicable Alternatives Analysis: When comparing the practicable alternatives, the Preferred Alternative requires less wetlands, open water, floodplain impact than alternative sites and when considering environmental impacts, the 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

FACTORS	Preferred Alternative & Configuration			
Environmental Factors		On-Site Conf 2	On-Site Conf 3	On-Site Conf 4
Stream Impacts (Linear Feet)	17,496.4	27835.5	31,820	33,939
Functional Value of Impacted Stream	Low/Moderate	Low/Moderate	Low/Moderate	Low/Moderate
Wetland Impacts (Acres)	4.85	5.6	11.3	11
Functional Value of Impacted Wetland	Moderate	Moderate	Moderate	Moderate
Impacts to Other Waters (Acres)	17.7	17.7	20.1	21.2
Functional Value of Impacted Other Waters	Low	Low	Low	LOW
Federal Endangered Species Impact	No	No	No	No
Cultural Resources Impact	No	No	No	No
LEDPA	Yes	No	No	No

In summary, the 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 design team 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 for the project site in December 2021. The IPaC database indicates that Michaux's Sumac is the only federally listed species that may occur within the project area. Based on a review of available information and a pedestrian survey, habitat required to support this species is not present within the project site and no individuals or populations of this species was observed. Thus, site development within the project area will have no effect on any federally protected species. The complete report can be found in Appendix G.

8.0 CULTURAL RESOURCES:

Brockington & Associates has been retained to complete a Phase I Cultural Resources and Archaeological Survey. A copy of the Phase I report will be submitted to the USACE and GADNR-HPD upon completion. Data available on Georgia's Natural, Archaeological and Historic Resources GIS database is provided in Appendix H.

9.0 STORM WATER MANAGEMENT

A preliminary stormwater management plan has been designed by Thomas & Hutton (consulting engineer), and although this plan has not yet been finalized, preliminary plan includes construction of stormwater ponds designed to accommodate the stormwater volume associated with development of the site. The final plan will meet any and all state stormwater management requirements for the project.

10.0 COMPENSATORY MITIGATION

The proposed project requires impacts to 4.85 acres of wetland, 17.71 acres of pond, 9,594.0 linear feet of perennial stream, 5,955.0 linear feet of intermittent stream, and 1,947.2.5 linear feet of ephemeral stream. As documented in the attached mitigation credit calculations and mitigation credit calculation summary below, the project will require 29.2 legacy wetland mitigation credits and 122,824.8 legacy stream credits including 36,469.8 legacy intermittent stream credits, 86,355.0 legacy perennial stream credits. As compensatory mitigation, the

applicant is proposing to purchase available mitigation credits from approved primary and secondary service area mitigation banks that service the project site.

Table 4. Mitigation Credit Requirement

Aquatic Resource	Credit Requirement (Legacy)
Non-Perennial	36,469.8
Perennial	86,355.0
Wetland	29.2

Appendix F provides a summary table of Stream and Wetland Qualitative Functional Capacity Score for each impact area and a table summarizing credit availability as of April 2022 based on conversations with the various mitigation banks and review of available information on the Corps Regulatory In lieu fee Bank Information Tracking System (RIBITS) database. If the total wetland and/or stream credits are not available within the primary or secondary service area of the project, the applicant is requesting approval to purchase the remaining wetland and/or stream credits through the Georgia Land Trust In-Lieu Fee Program.

11.0 CONCLUSION

The GDEcD and JDA are proposing the development of an EVOEM manufacturing facility adjacent to Interstate 20 within Morgan, Newton and Walton Counties, Georgia. The project requires impacts to 4.85 acres of wetland, 17.71 acres of pond, 9,594.0 linear feet of perennial stream, 5,955.2 linear feet of intermittent stream, and 1,947.2 linear feet of ephemeral stream. Compensatory mitigation for aquatic resource impacts will be provided via purchase of 29.2 legacy wetland mitigation credits and 122,824.80 legacy stream credits from USACE approved mitigation banks within the primary and secondary service areas for the project. Best management practices will be employed during site development to further minimize impacts within the project area.



RESOURCE+LAND
CONSULTANTS

APPENDIX A: CESAS Form 19

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

INSTRUCTIONS FOR SUBMITTING APPLICATION:

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

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

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

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

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

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

1. Application No. _____

2. Date _____

3. For Official Use Only _____

4. Name and address of applicant.

Georgia Department of Economic Development
Attn: Mr. Pat Wilson - Commissioner
Technology Square, 75 5th Street N.W. Suite 1200
Atlanta, Georgia 30308
1-404-962-4000

Joint Development Authority of Jasper County,
Morgan County, Newton County & Walton County
Attn: Mr. Jerry Silvio - Chairman
Post Office Box 826
Monroe, Georgia 30655
770.235.1083

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

Lat. 33.614720° Long. -83.668892°

Morgan, Walton County	Military District	In City or Town
Rutledge		
Near City or Town	Subdivision	Lot No.
Lot Size	Approximate Elevation of Lot	Georgia State
Dennis Creek		
Name of Waterway	Name of Nearest Creek, River, Sound, Bay or Hammock	

Pat Wilson

Jerry Silvio

Jerry L. Silvio 4/27/22

13. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein? Yes X NO (If "yes", explain).

Note: Items 14 and 15 are to be completed if you want to bulkhead, dredge or fill.

14. Description of operation: (If feasible, this information should be shown on the drawing).

- A. Purpose of excavation or fill Construction of EVOEM Manufacturing Facility
1. Access channel : length_____ depth_____ width_____
2. Boat basin : length_____ depth_____ width_____
3. Fill area : see attached length_____ depth_____ width_____
4. Other: Excavation Area: length_____ depth_____ width_____
- B. 1.If bulkhead, give dimensions N/A
- 2.Type of bulkhead construction (material) N/A
- Backfill required: Yes _____ No _____ Cubic yards _____
- Where obtained _____
- C. Excavated material :
- 1.Cubic yards N/A
- 2.Type of material N/A

15.Type of construction equipment to be used Mechanized earth-moving/construction equipment

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

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

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

weir(s), and typical cross sections of the dikes.
B. Please provide the following statements:

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

17. Application is hereby made for a permit or permits to authorize the activities described herein, Water Quality Certification from the Georgia Environmental Protection Division is also requested if needed. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities.

Pat Wilson

Signature of Applicant/Date

Jerry Silvio

Signature of Applicant/Date

4/27/22

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

PRIVACY ACT NOTICE

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

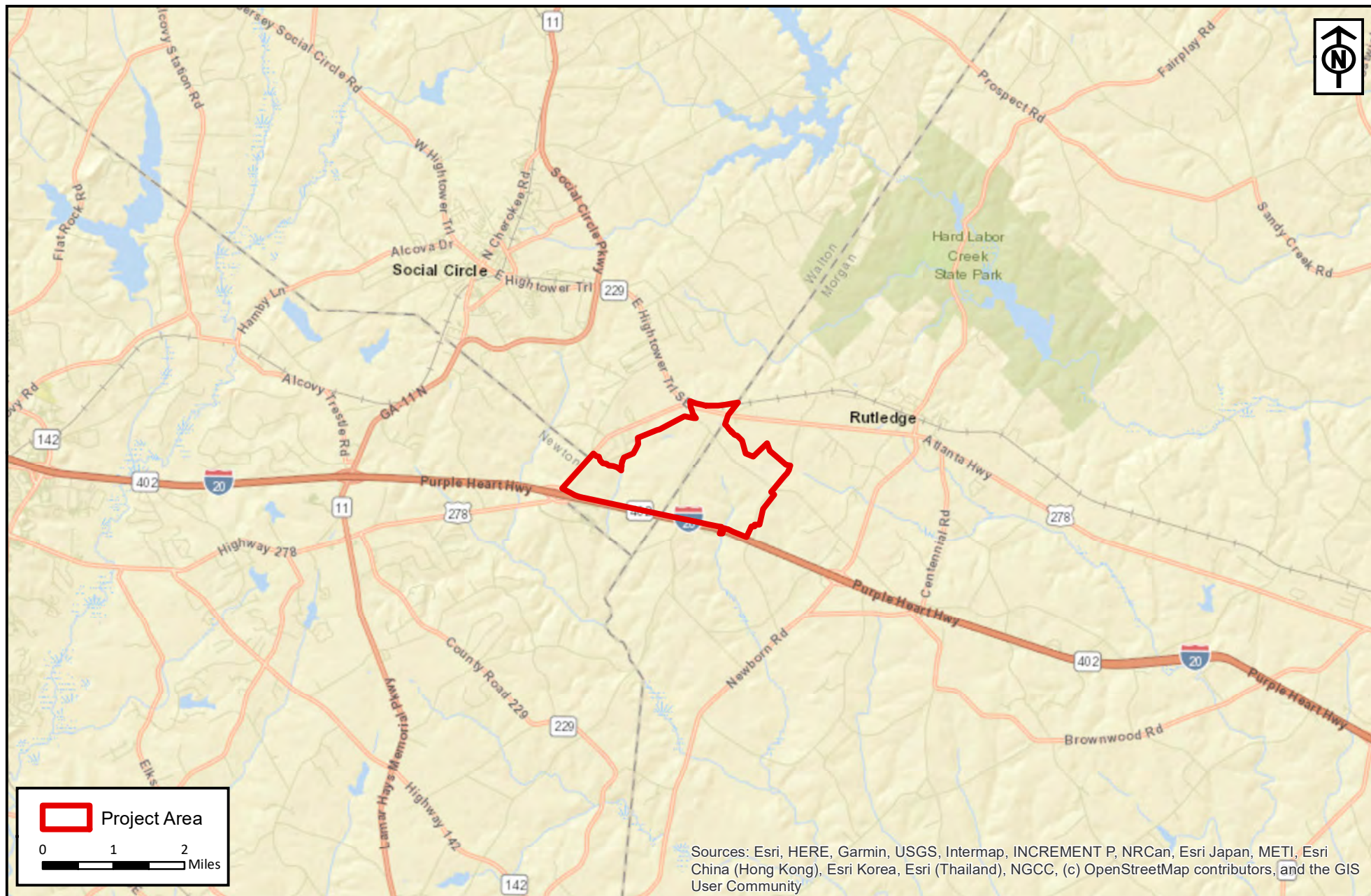
SUPPORTING REMARKS:

See Attached.



RESOURCE+LAND
CONSULTANTS

APPENDIX B: Figures/Site Maps



RLC Project No.:	20-035.1
Figure No.:	1
Prepared By:	MG
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2 miles

Stanton Springs North

Walton and Morgan Counties, Georgia

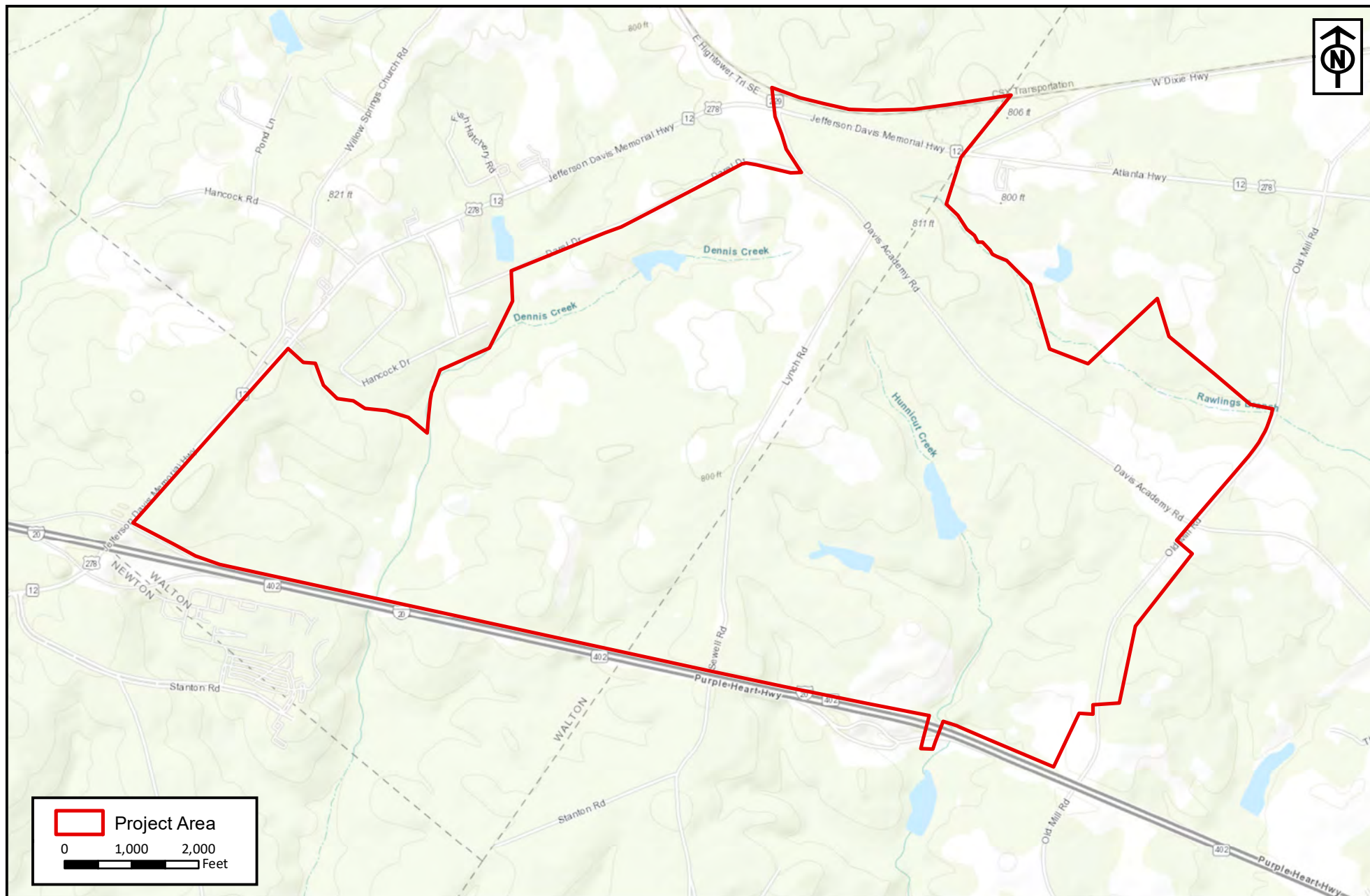
Project Location Map

Prepared For: GDEcd & JDA of Jasper County, Morgan County, Newton County & Walton County



RESOURCE+LAND CONSULTANTS

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



RLC Project No.:	20-035.1
Figure No.:	2
Prepared By:	MG
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Stanton Springs North

Walton and Morgan Counties, Georgia

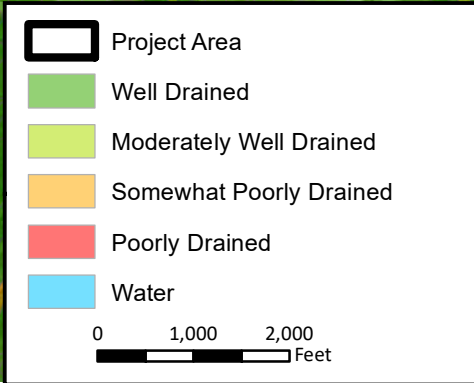
USGS Topographic Map

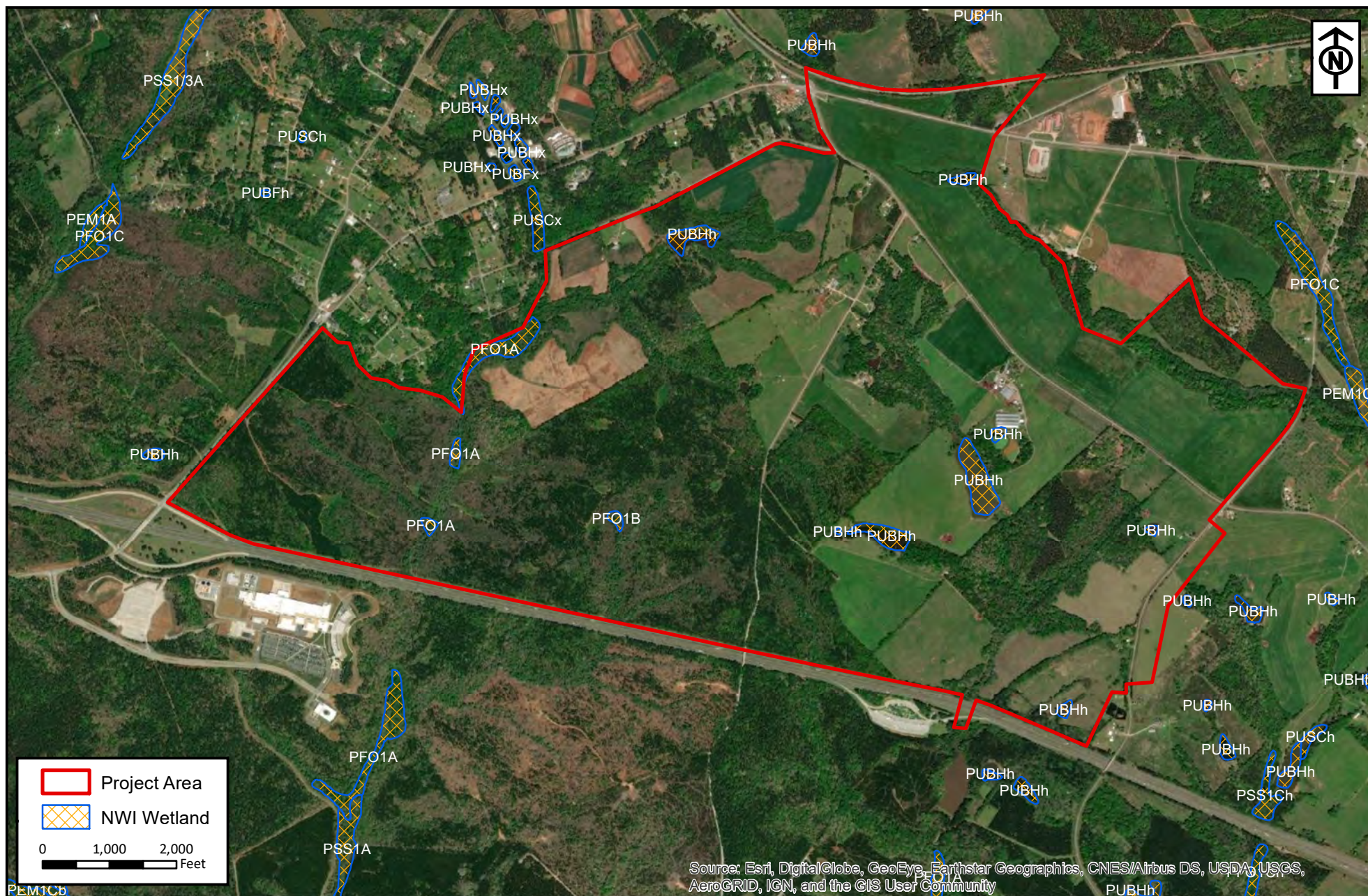
Prepared For: GDEcd & JDA of Jasper County, Morgan County, Newton County & Walton County



RESOURCE+LAND CONSULTANTS

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





RLC Project No.: 20-035.1
 Figure No.: 4
 Prepared By: MG
 Sketch Date: 4/26/2022
 Map Scale : 1 inch = 2,000 feet

Stanton Springs North

Walton and Morgan Counties, Georgia

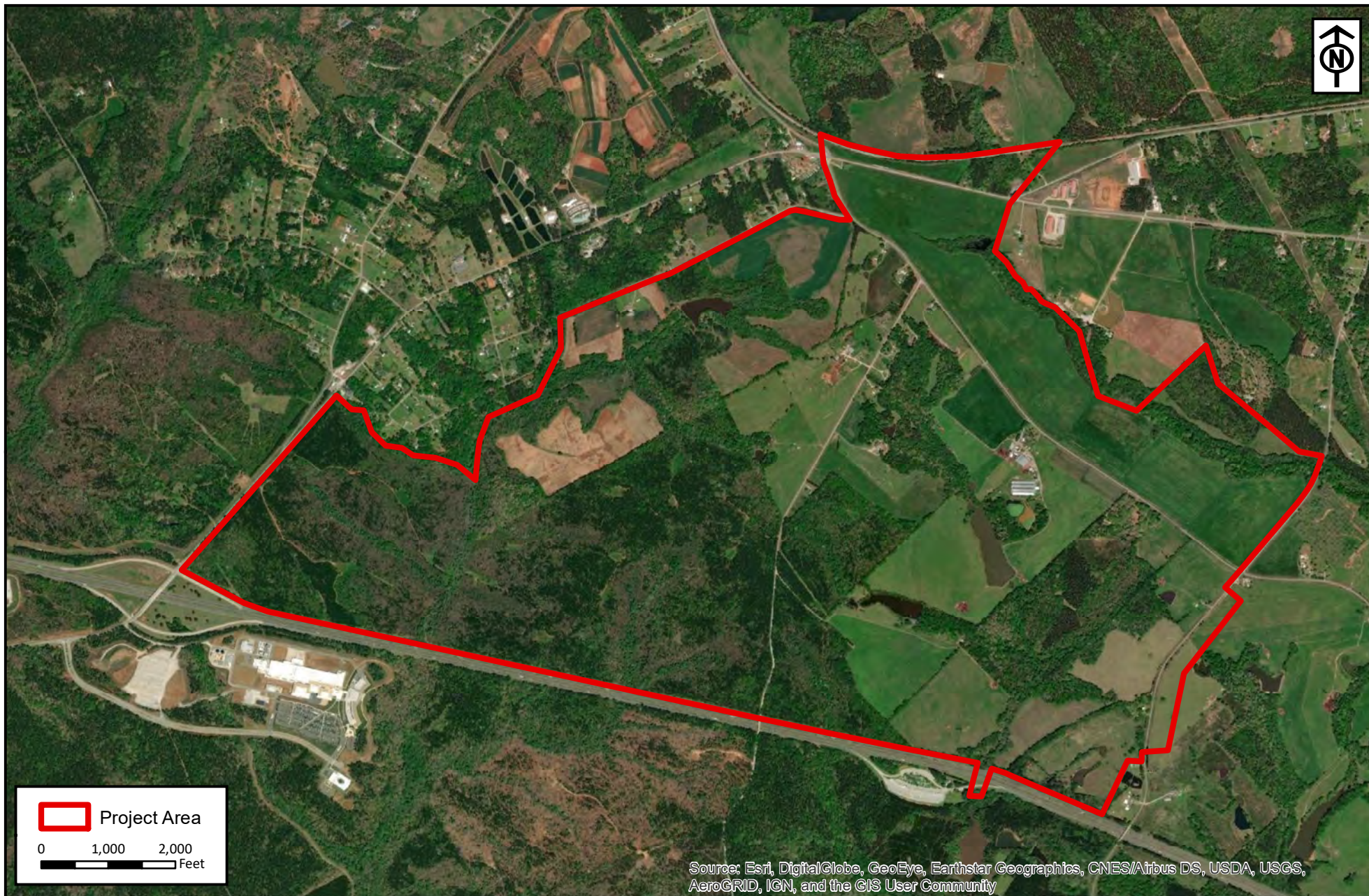
National Wetlands Inventory

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County



RESOURCE+LAND CONSULTANTS

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



RLC Project No.:	20-035.1
Figure No.:	5
Prepared By:	MG
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Stanton Springs North
Walton and Morgan Counties, Georgia

2017 NAIP Ortho Aerial

Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County



RESOURCE+LAND
CONSULTANTS

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



RLC Project No.:	20-035.1
Figure No.:	6
Prepared By:	MG
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Stanton Springs North
Walton and Morgan Counties, Georgia

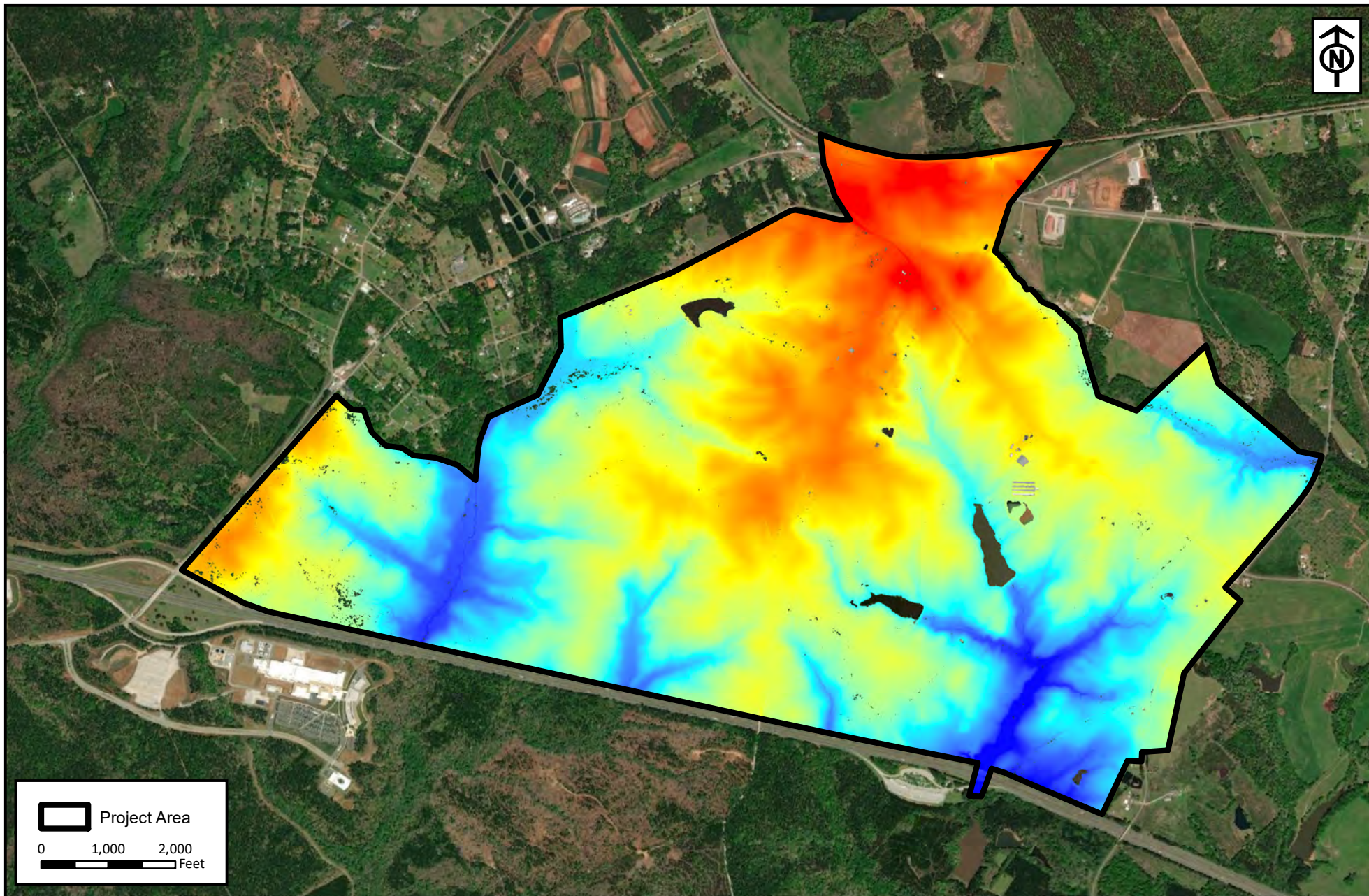
1999 Color-Infrared Imagery

Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County



RESOURCE+LAND
CONSULTANTS

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



RLC Project No.:	20-035.1
Figure No.:	7
Prepared By:	MG
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Stanton Springs North
Walton and Morgan Counties, Georgia

**NOAA Topographic
Lidar**

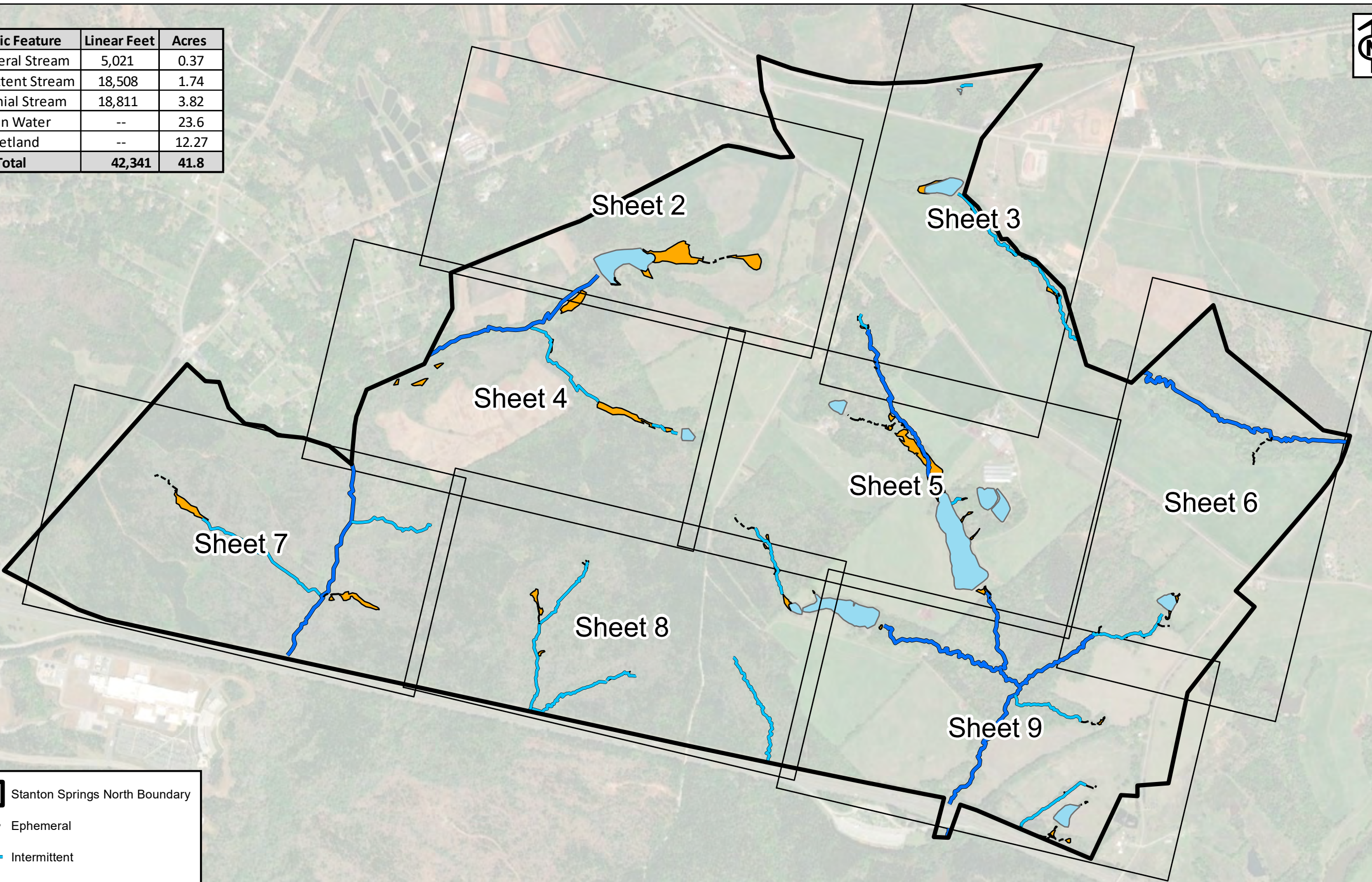
Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County



**RESOURCE+LAND
CONSULTANTS**

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

Aquatic Feature	Linear Feet	Acres
Ephemeral Stream	5,021	0.37
Intermittent Stream	18,508	1.74
Perennial Stream	18,811	3.82
Open Water	--	23.6
Wetland	--	12.27
Total	42,341	41.8



Stanton Springs North Boundary

Ephemeral

Intermittent

Perennial

Open Water

Wetland

06251,250

Feet

RESOURCE+LAND
CONSULTANTS

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

RLC

Aquatic Resources
Delineation Exhibit

Prepared For: GDECD & JDA of Jasper County, Morgan
County, Newton County & Walton County

Stanton Springs North

Walton & Morgan Counties, Georgia

RLC Project No.: 20-035

Figure No.: 1

Prepared By: RP

Sketch Date: 4/26/2022

Map Scale : 1 inch = 1250 feet

Y:\2020 Projects\20-035 Ralph Forbes East Atlanta Mega Site\Graphics\2022-04-25_USACE_Delineation Exhibit_Index.mxd

Aquatic Feature	Linear Feet	Acres
Ephemeral Stream	5,021	0.37
Intermittent Stream	18,508	1.74
Perennial Stream	18,811	3.82
Open Water	--	23.6
Wetland	--	12.27
Total	42,341	41.8

Stanton Springs North Boundary

Open Water

Wetland

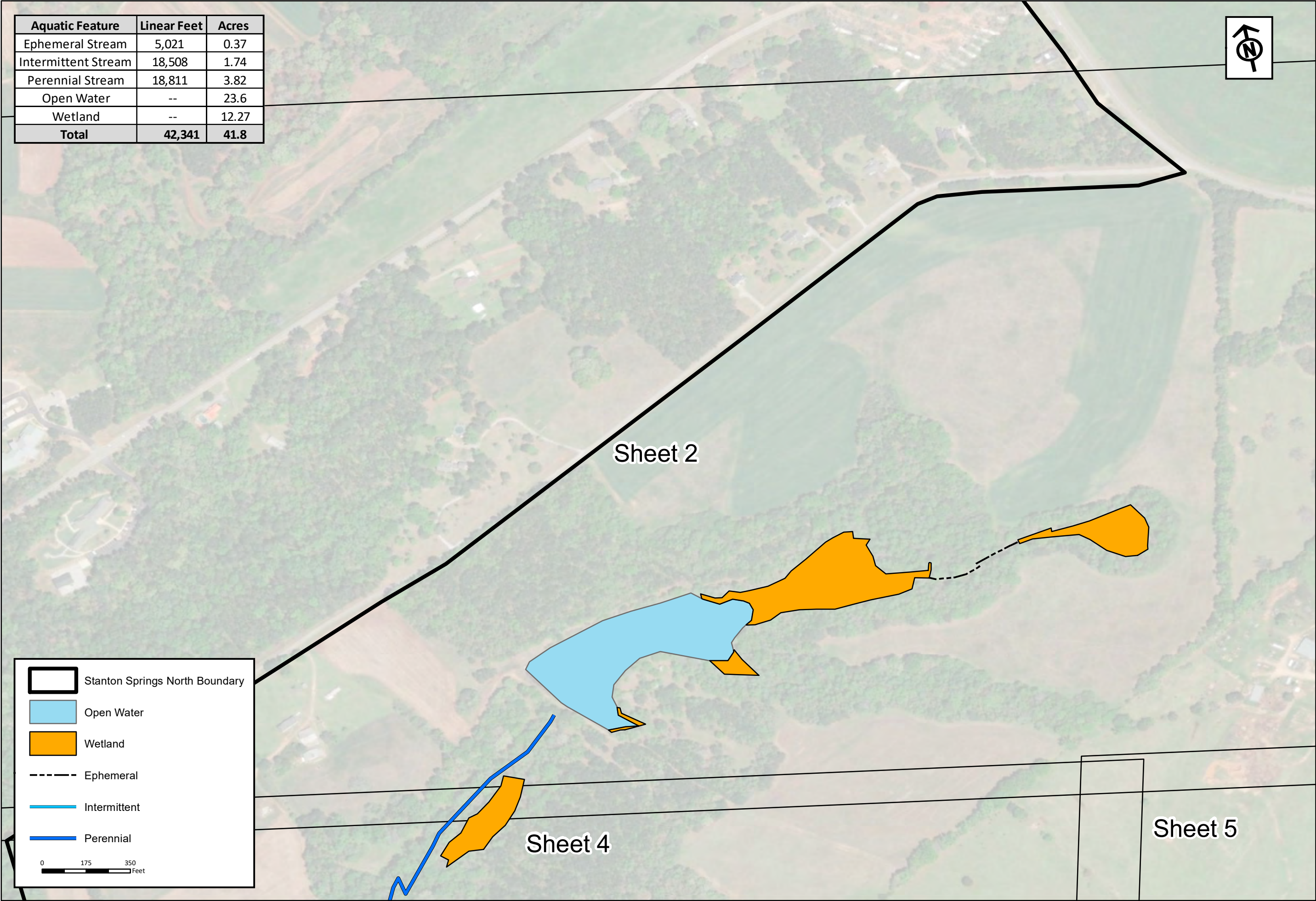
Ephemeral

Intermittent

Perennial

0175350

Feet



RESOURCE+LAND
CONSULTANTS

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

RLC

Aquatic Resources
Delineation Exhibit

Prepared For: GDECD & JDA of Jasper County, Morgan
County, Newton County & Walton County

Stanton Springs North

Walton & Morgan Counties, Georgia

RLC Project No.:	20-035
Figure No.:	Sheet 2
Prepared By:	RP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 350 feet

Aquatic Feature	Linear Feet	Acres
Ephemeral Stream	5,021	0.37
Intermittent Stream	18,508	1.74
Perennial Stream	18,811	3.82
Open Water	--	23.6
Wetland	--	12.27
Total	42,341	41.8

Stanton Springs North Boundary

Open Water

Wetland

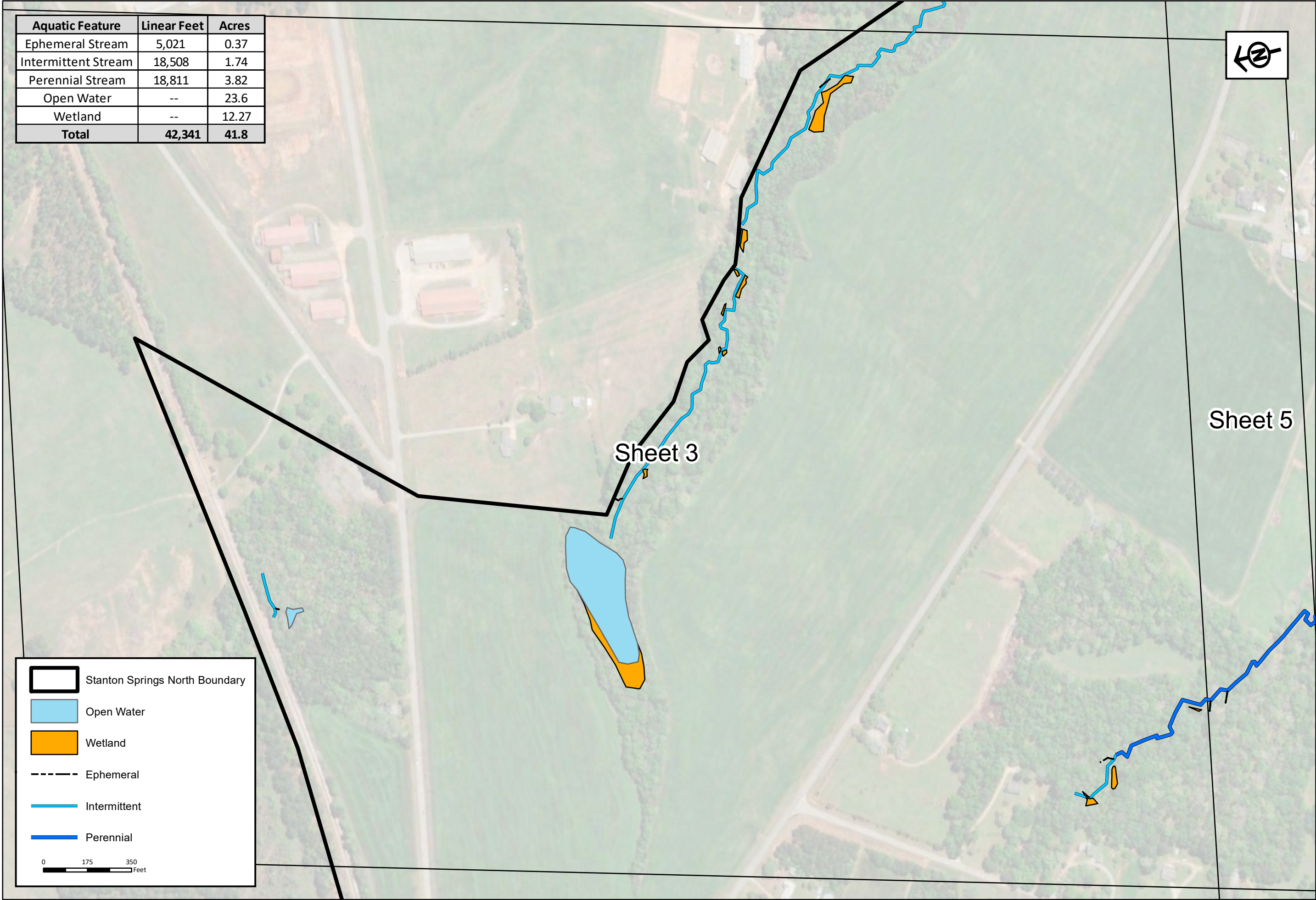
Ephemeral

Intermittent

Perennial

0175350

Feet



RLC Project No.:	20-035
Figure No.:	Sheet 3
Prepared By:	RP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 350 feet

Stanton Springs North
Walton & Morgan Counties, Georgia

**Aquatic Resources
Delineation Exhibit**
Prepared For: GDECD & JDA of Jasper County, Morgan
County, Newton County & Walton County



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

Aquatic Feature	Linear Feet	Acres
Ephemeral Stream	5,021	0.37
Intermittent Stream	18,508	1.74
Perennial Stream	18,811	3.82
Open Water	--	23.6
Wetland	--	12.27
Total	42,341	41.8

Stanton Springs North Boundary

Open Water

Wetland

Ephemeral

Intermittent

Perennial

0175350

Feet

Sheet 2

Sheet 4

Sheet 8

et 7



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

RLC

Aquatic Resources
Delineation Exhibit
Prepared For: GDECD & JDA of Jasper County, Morgan
County, Newton County & Walton County

Stanton Springs North
Walton & Morgan Counties, Georgia

RLC Project No.:	20-035
Figure No.:	Sheet 4
Prepared By:	RP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 350 feet

Aquatic Feature	Linear Feet	Acres
Ephemeral Stream	5,021	0.37
Intermittent Stream	18,508	1.74
Perennial Stream	18,811	3.82
Open Water	--	23.6
Wetland	--	12.27
Total	42,341	41.8

Stanton Springs North Boundary

Open Water

Wetland

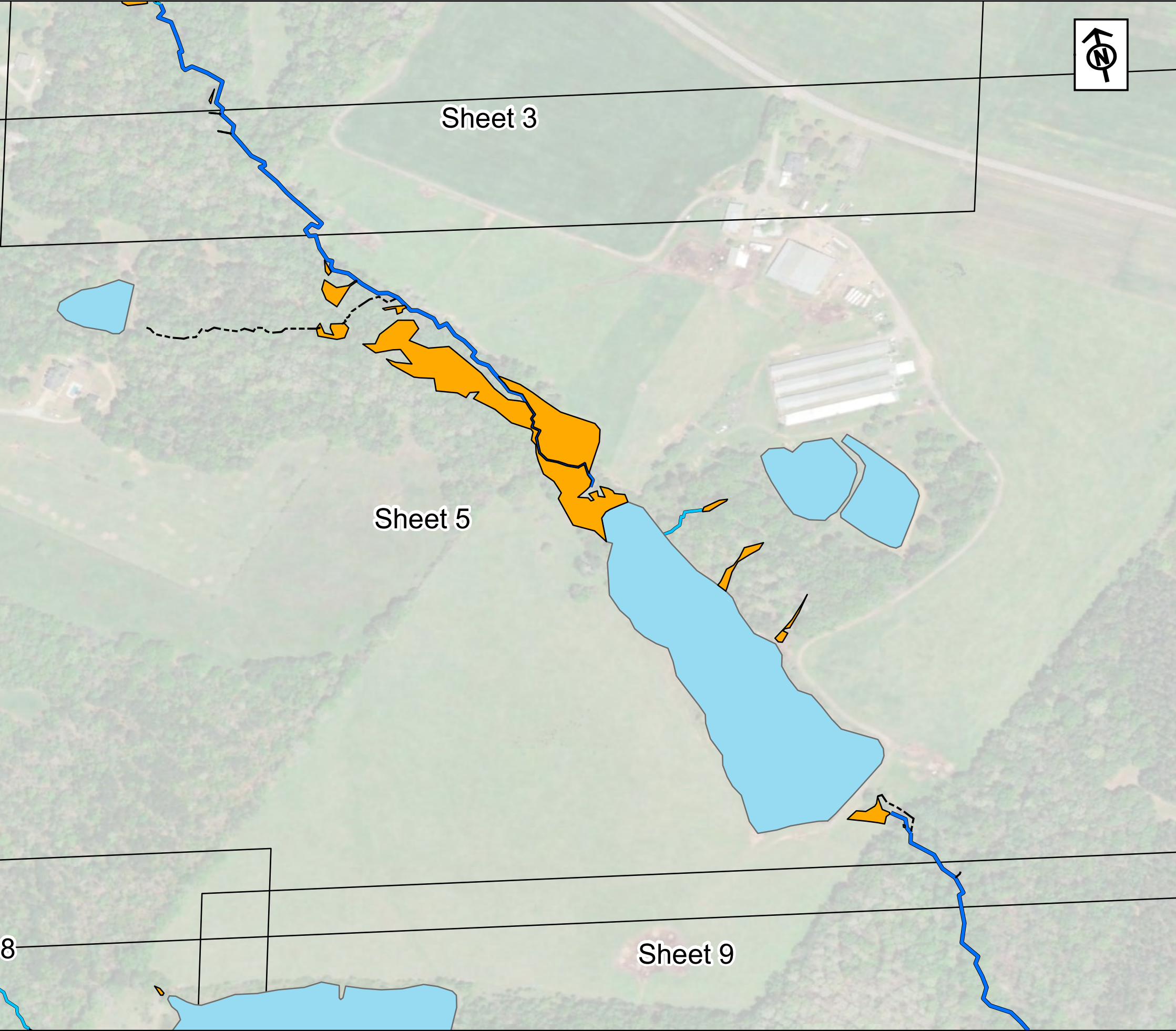
Ephemeral

Intermittent

Perennial

0175350

Feet



RLC Project No.: 20-035

Figure No.: Sheet 5

Prepared By: RP

Sketch Date: 4/26/2022

Map Scale : 1 inch = 350 feet

Stanton Springs North

Walton & Morgan Counties, Georgia

Aquatic Resources
Delineation Exhibit

Prepared For: GDECD & JDA of Jasper County, Morgan
County, Newton County & Walton County

RESOURCE+LAND
CONSULTANTS

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

Aquatic Feature	Linear Feet	Acres
Ephemeral Stream	5,021	0.37
Intermittent Stream	18,508	1.74
Perennial Stream	18,811	3.82
Open Water	--	23.6
Wetland	--	12.27
Total	42,341	41.8

Stanton Springs North Boundary

Open Water

Wetland

Ephemeral

Intermittent

Perennial

0175350

Feet



Sheet 6

Sheet 9

Sheet 5

RESOURCE+LAND
CONSULTANTS

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

RLC

Aquatic Resources
Delineation Exhibit

Prepared For: GDECD & JDA of Jasper County, Morgan
County, Newton County & Walton County

Stanton Springs North

Walton & Morgan Counties, Georgia

RLC Project No.:	20-035
Figure No.:	Sheet 6
Prepared By:	RP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 350 feet

Aquatic Feature	Linear Feet	Acres
Ephemeral Stream	5,021	0.37
Intermittent Stream	18,508	1.74
Perennial Stream	18,811	3.82
Open Water	--	23.6
Wetland	--	12.27
Total	42,341	41.8

Stanton Springs North Boundary

Open Water

Wetland

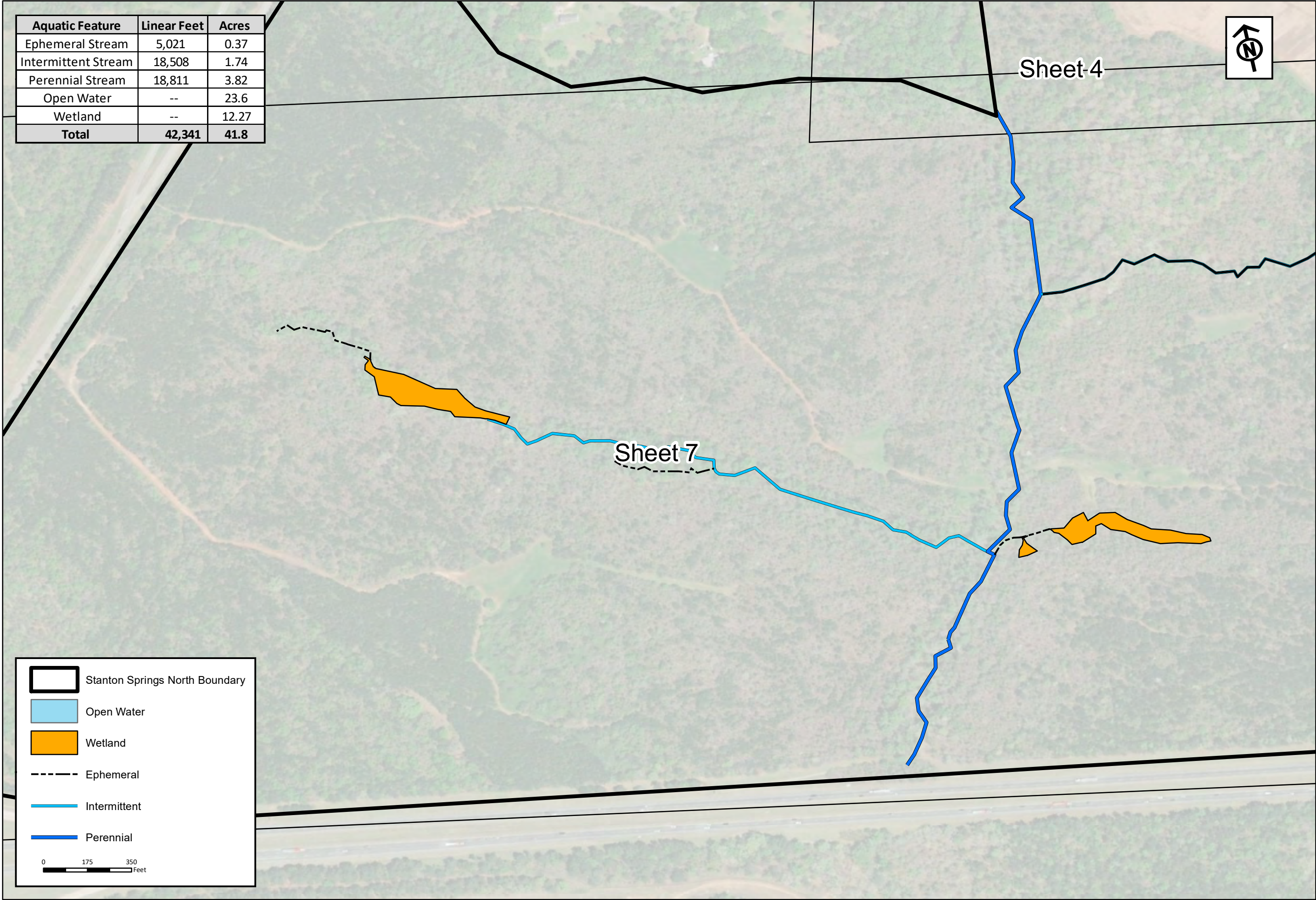
Ephemeral

Intermittent

Perennial

0175350

Feet



RESOURCE+LAND
CONSULTANTS

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

RLC

Aquatic Resources
Delineation Exhibit

Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County

Stanton Springs North

Walton & Morgan Counties, Georgia

RLC Project No.:	20-035
Figure No.:	Sheet 7
Prepared By:	RP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 350 feet

Aquatic Feature	Linear Feet	Acres
Ephemeral Stream	5,021	0.37
Intermittent Stream	18,508	1.74
Perennial Stream	18,811	3.82
Open Water	--	23.6
Wetland	--	12.27
Total	42,341	41.8

Stanton Springs North Boundary

Open Water

Wetland

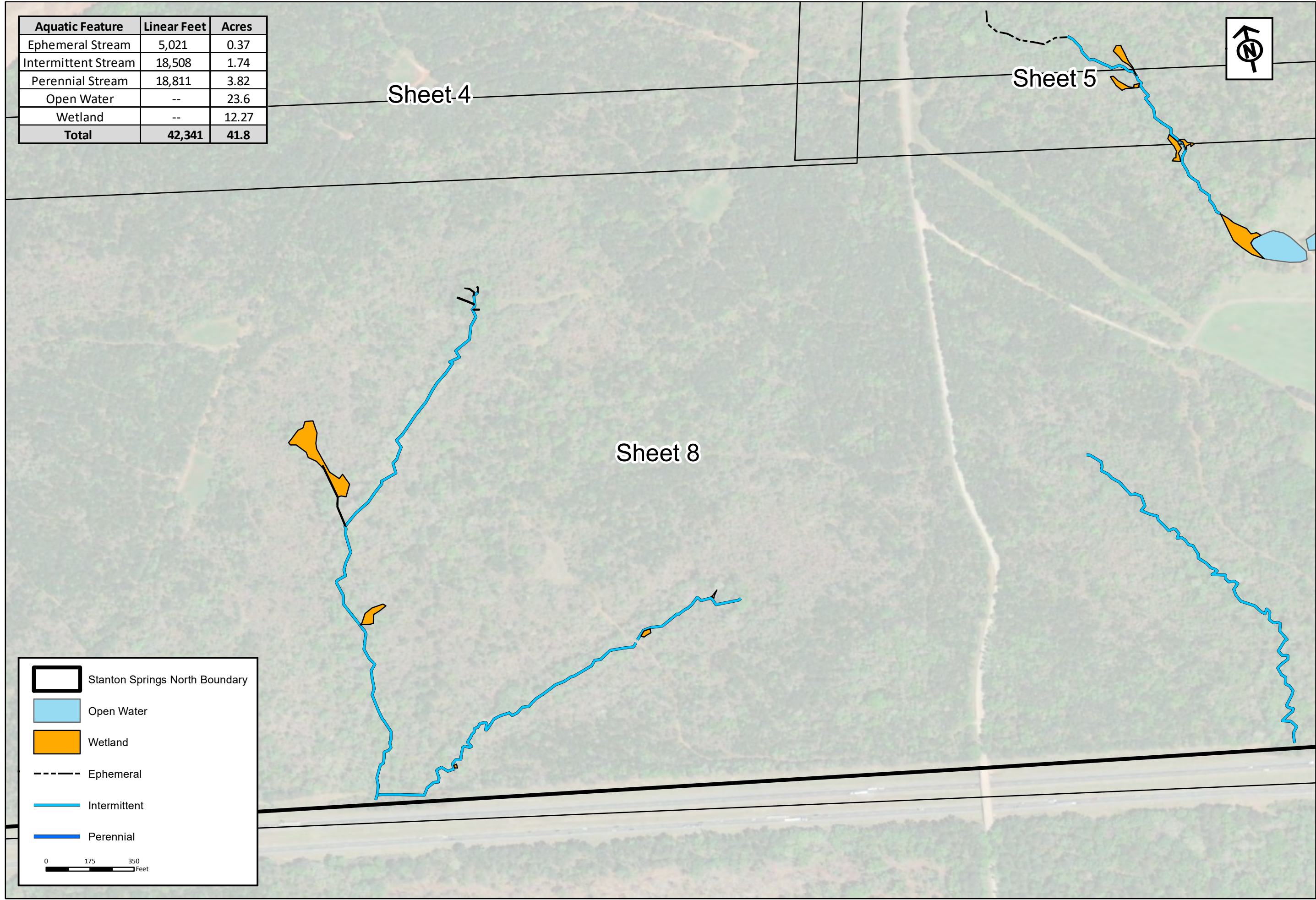
Ephemeral

Intermittent

Perennial

0175350

Feet



RESOURCE+LAND
CONSULTANTS

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

RLC

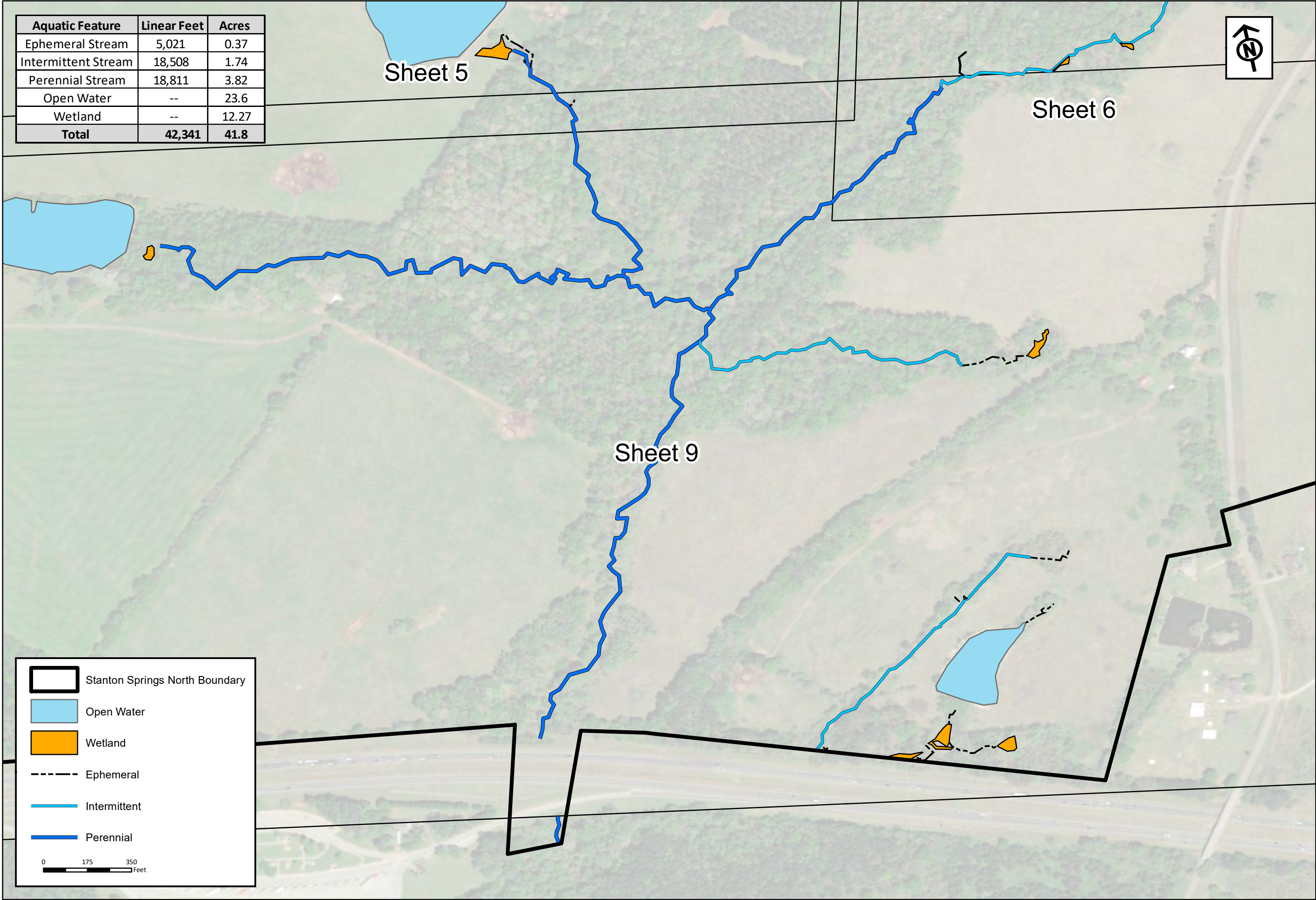
Aquatic Resources
Delineation Exhibit

Prepared For: GDECD & JDA of Jasper County, Morgan
County, Newton County & Walton County

Stanton Springs North

Walton & Morgan Counties, Georgia

RLC Project No.:	20-035
Figure No.:	Sheet 8
Prepared By:	RP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 350 feet



Aquatic Feature	Linear Feet	Acres
Ephemeral Stream	5,021	0.37
Intermittent Stream	18,508	1.74
Perennial Stream	18,811	3.82
Open Water	--	23.6
Wetland	--	12.27
Total	42,341	41.8

Stanton Springs North Boundary

Open Water

Wetland

Ephemeral

Intermittent

Perennial

0175350

Feet

RLC Project No.: 20-035

Figure No.: Sheet 9

Prepared By: RP

Sketch Date: 4/26/2022

Map Scale : 1 inch = 350 feet

Stanton Springs North

Walton & Morgan Counties, Georgia

Aquatic Resources
Delineation Exhibit

Prepared For: GDECD & JDA of Jasper County, Morgan
County, Newton County & Walton County

RESOURCE+LAND
CONSULTANTS

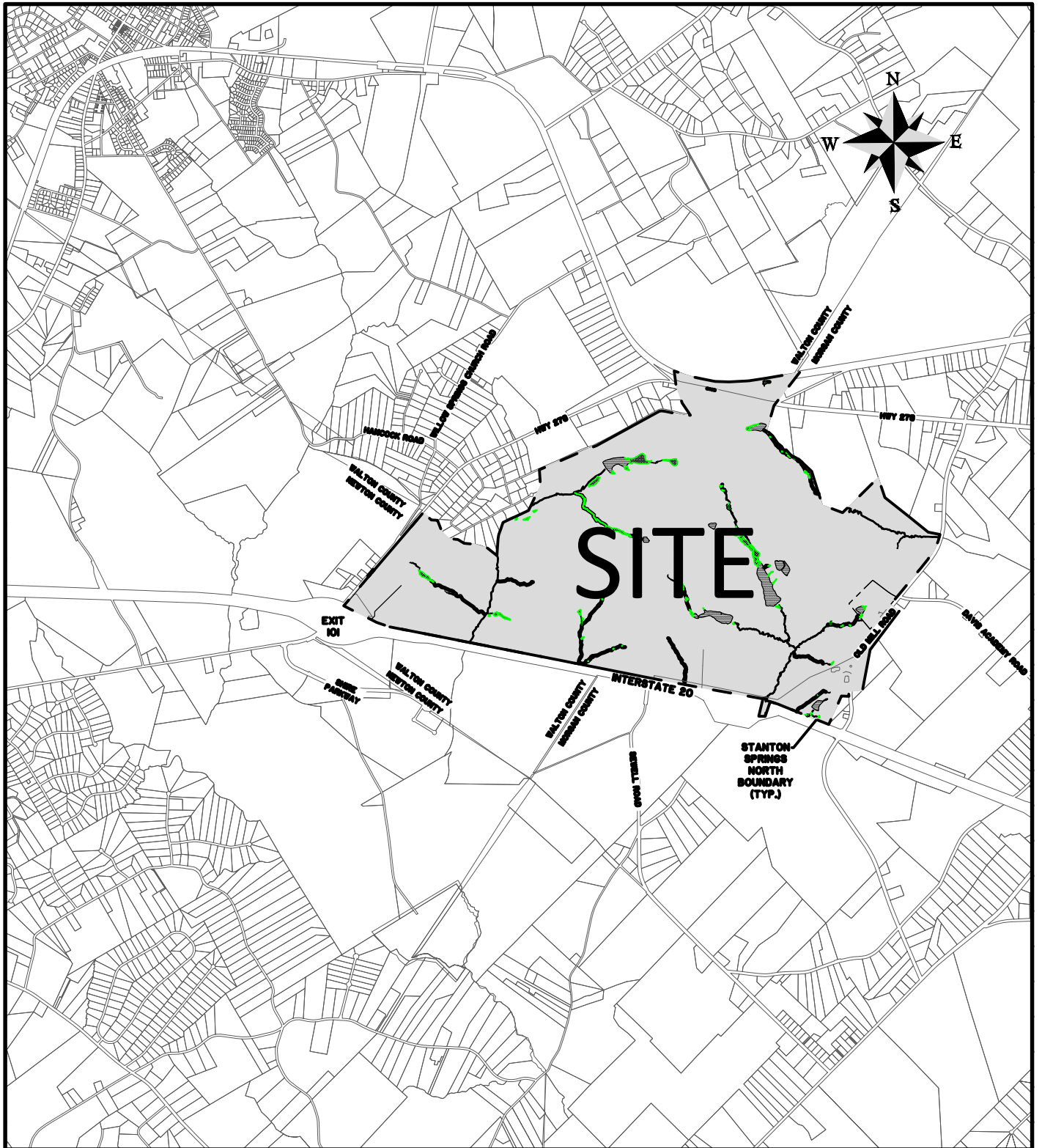
41 Park of Commerce Way, Ste 101
Savannah, GA 31405
tel 912.443.5896 fax 912.443.5898

RLC



RESOURCE+LAND
CONSULTANTS

APPENDIX C: Permit Drawings



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN COUNTY - GA
DATE: MARCH 17, 2022
JOB NUMBER: J-26900.0001

DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: CO
SCALE: 1"=4,000'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com

LEGEND

ACREAGE SUMMARY TABLE

TOTAL PROJECT ACREAGE		2003.23 AC
	TOTAL WETLAND AREA	12.27 AC.
	TOTAL POND AREA	23.6 AC.
	TOTAL PERENNIAL STREAM	18,811 LF
	TOTAL INTERMITTENT STREAM	18,508 LF
	TOTAL EPHEMERAL STREAM	5,021 LF

JURISDICTIONAL IMPACTS

JURISDICTIONAL IMPACTS

	WETLAND IMPACT	4.86 AC
	FRESHWATER POND IMPACT	17.71 AC
	PERENNIAL STREAM IMPACTS	9,594.0 LF
	INTERMITTENT STREAM IMPACTS	5,955.2 LF
	EPHEMERAL STREAM IMPACTS	1,947.2 LF

STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT SUMMARY

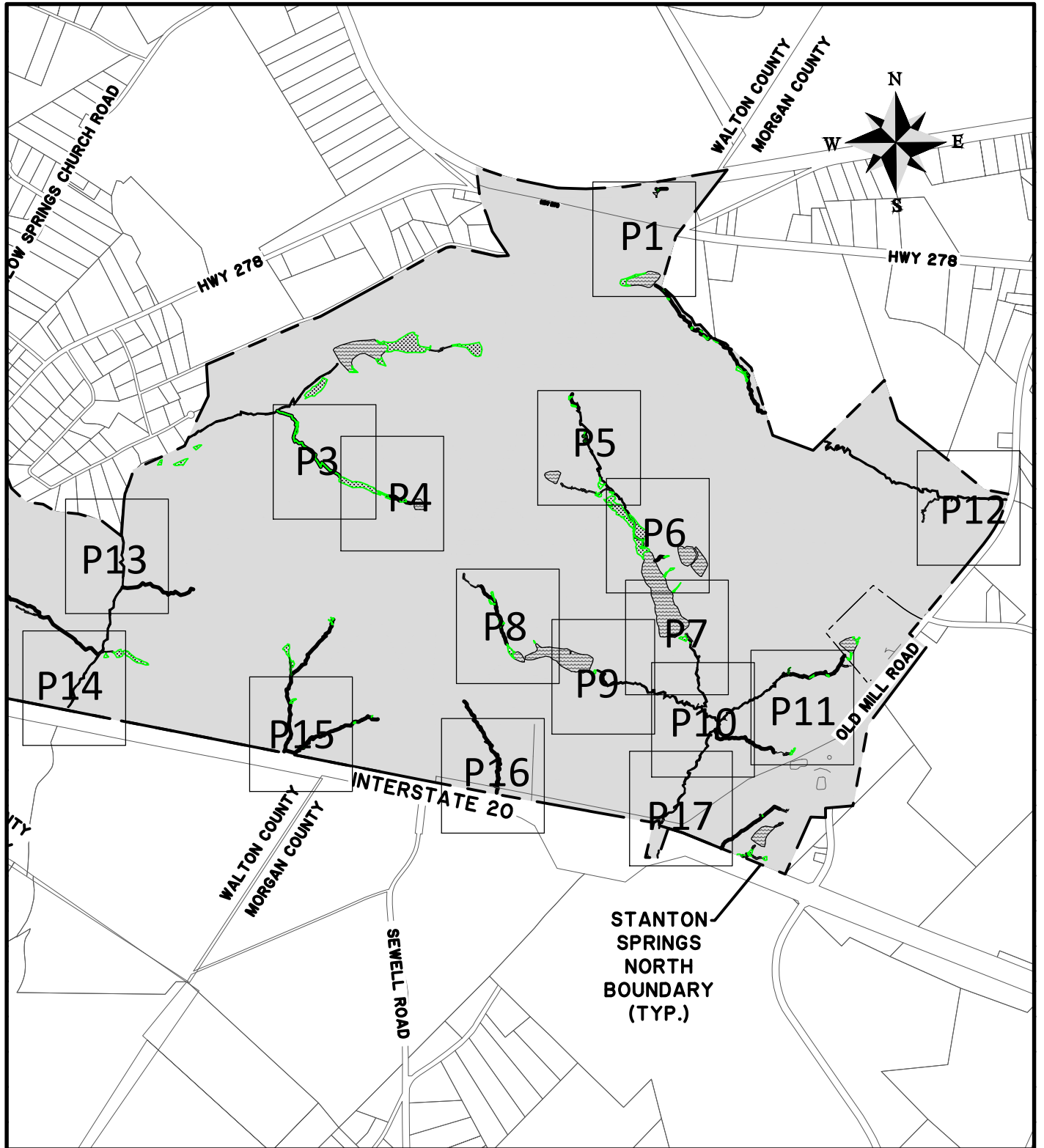
CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN COUNTY-GA
DATE: 3-22-2022 DRAWN BY: DSG SHEET: SUM
JOB NUMBER: J-26900.0001 REVIEWED BY: JOC SCALE: NTS



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN COUNTY - GA
DATE: MARCH 17, 2022
JOB NUMBER: J-26900.0001

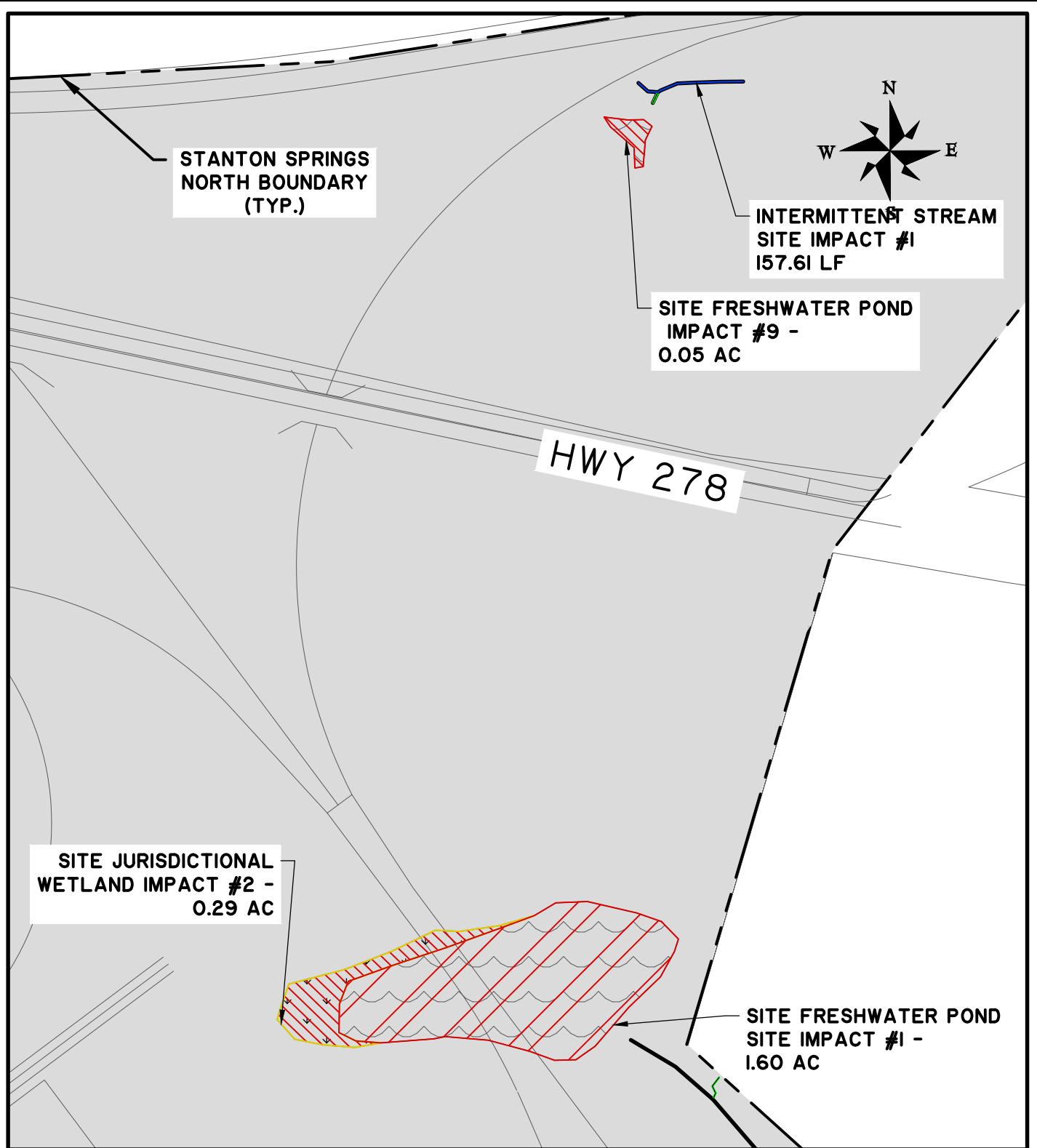
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: INDEX
SCALE: 1"=4,000'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

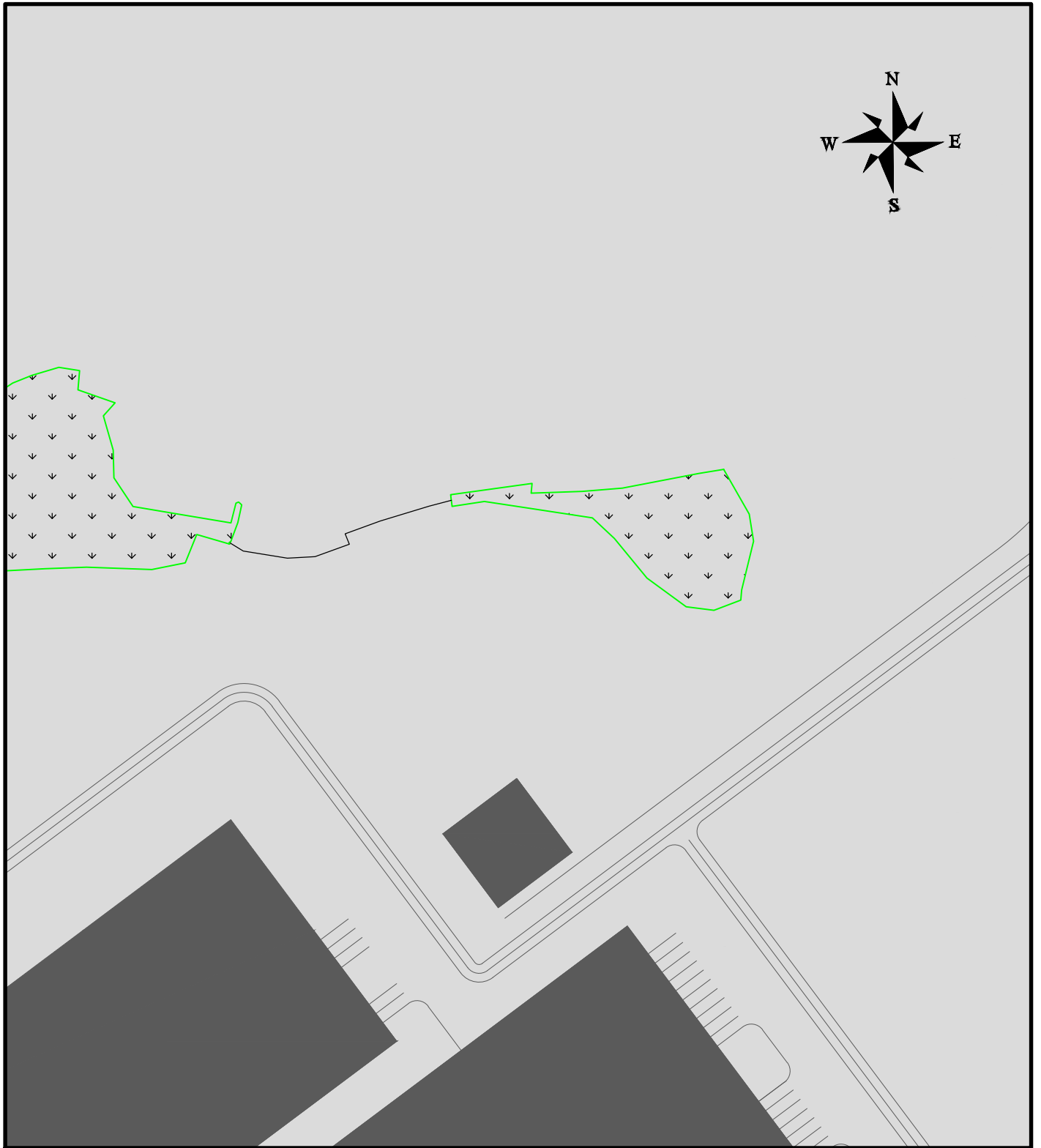
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P1
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

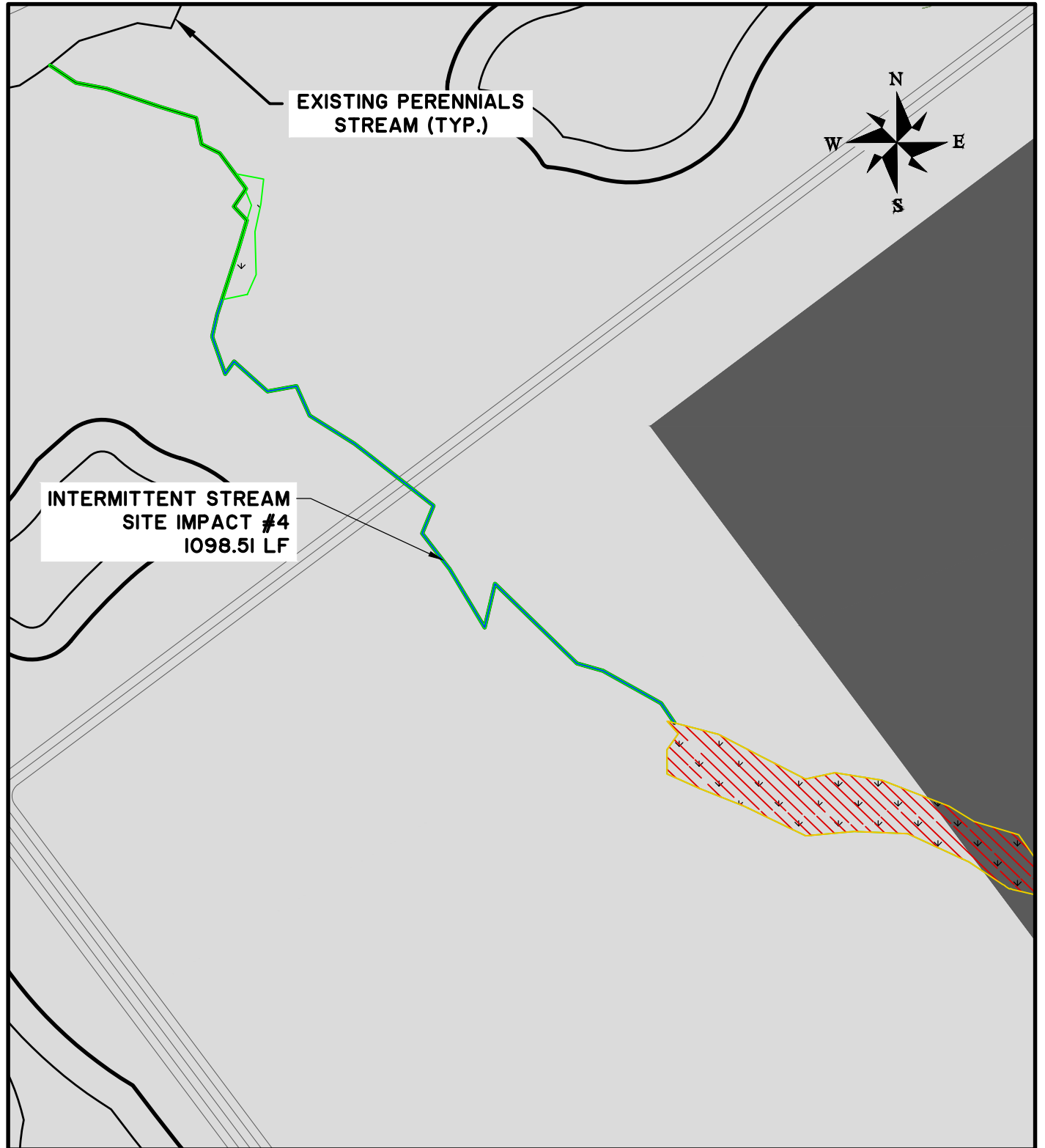
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P2
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

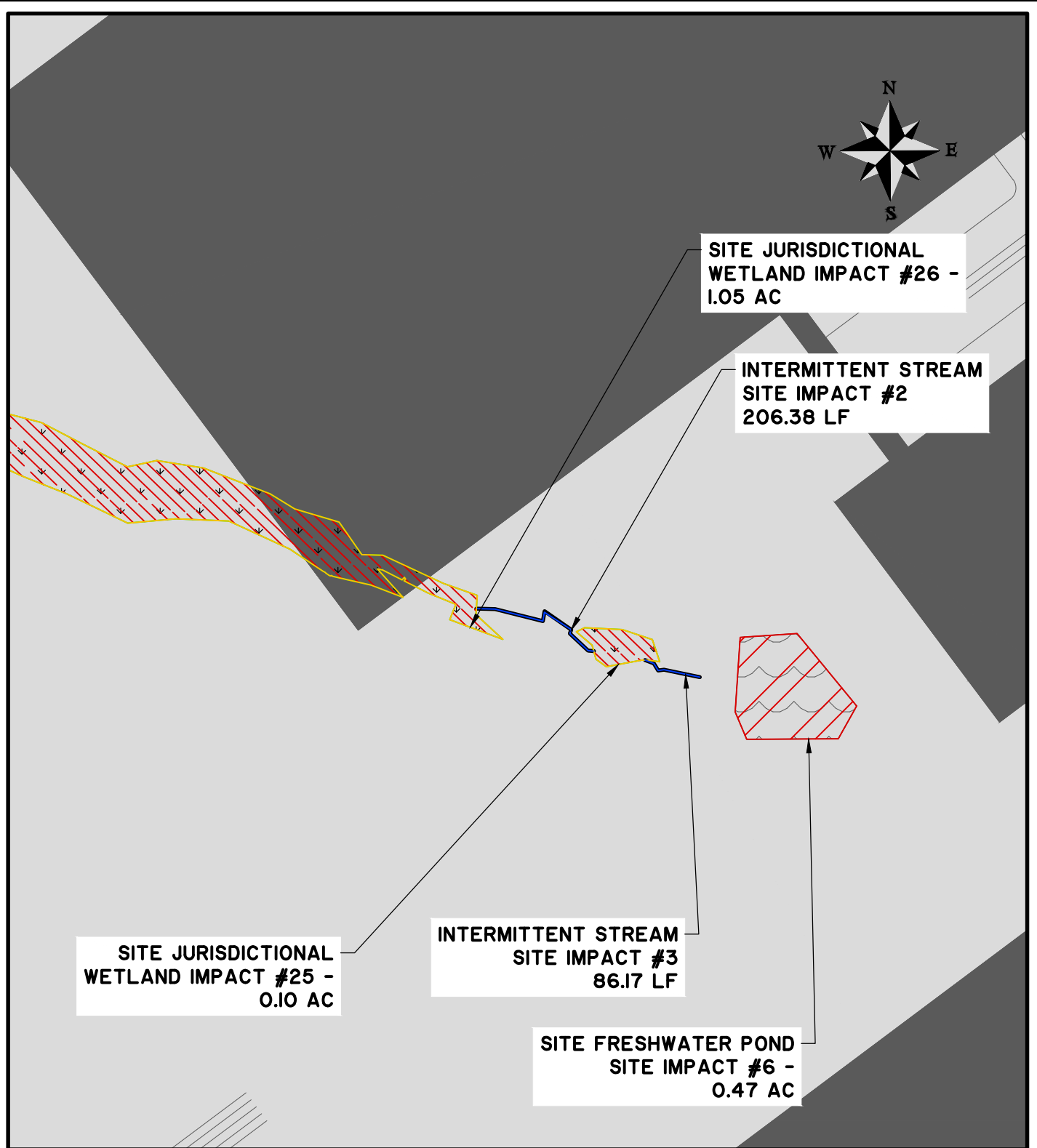
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P3
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

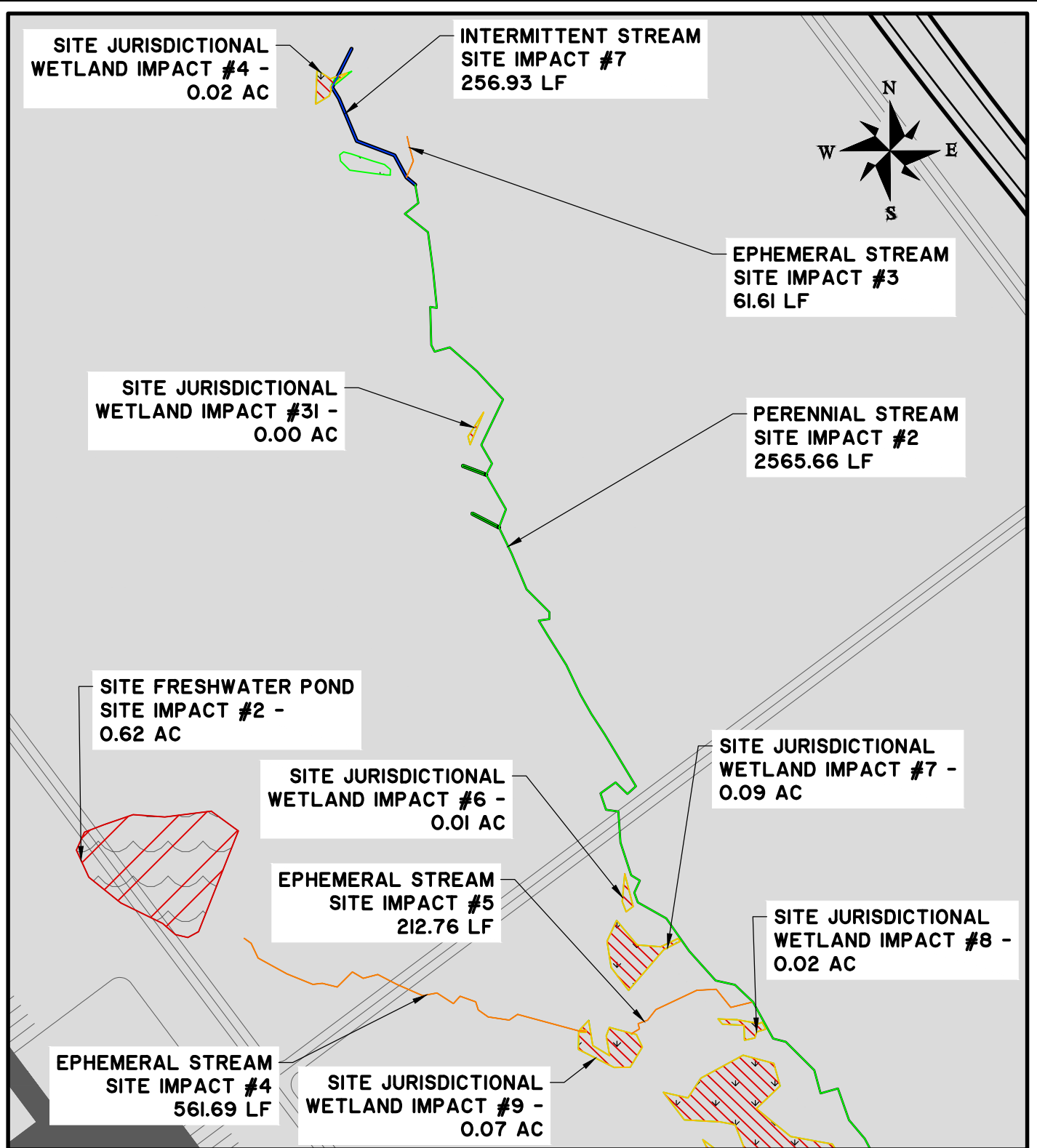
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P4
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

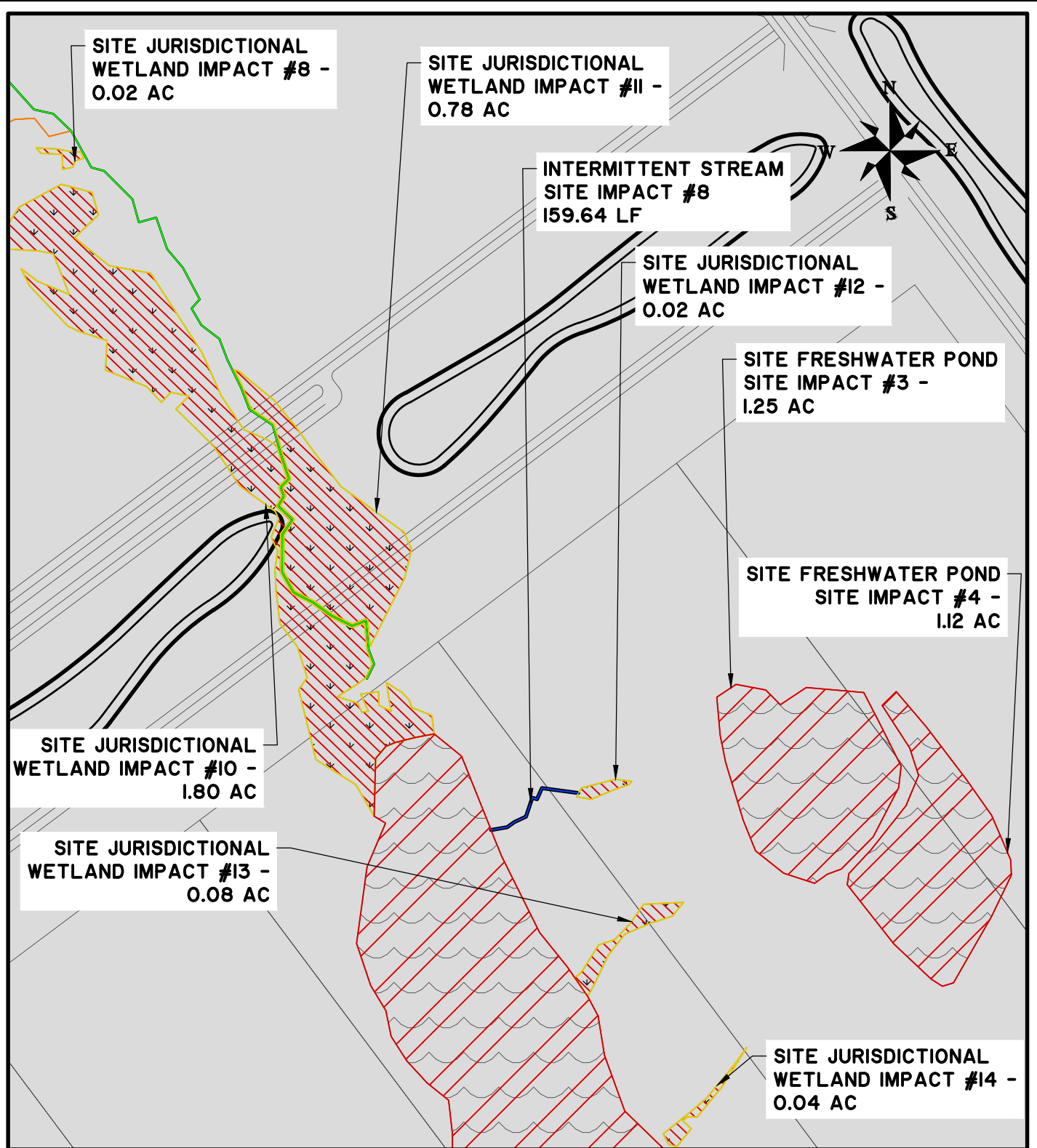
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P5
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

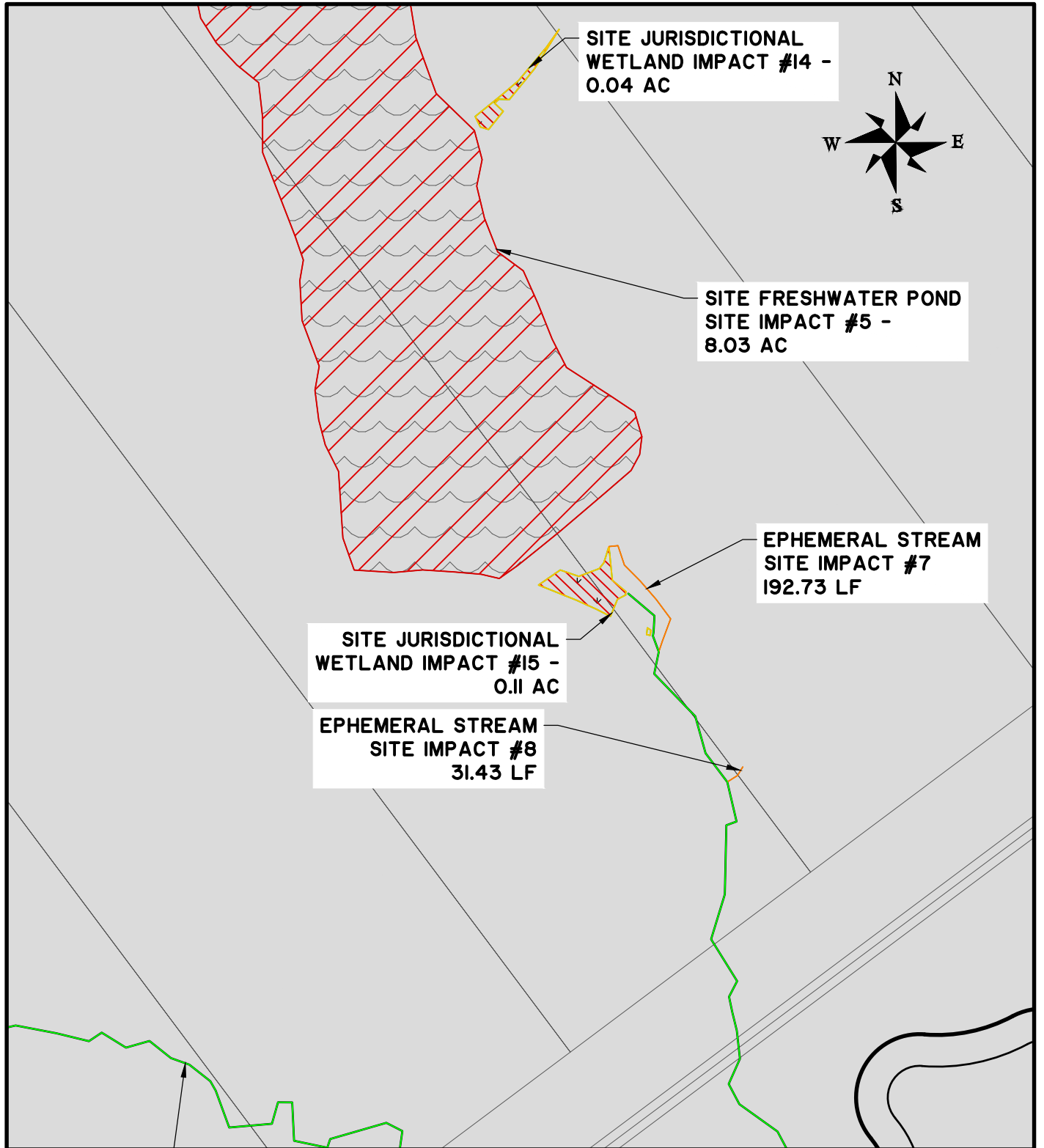
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P6
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

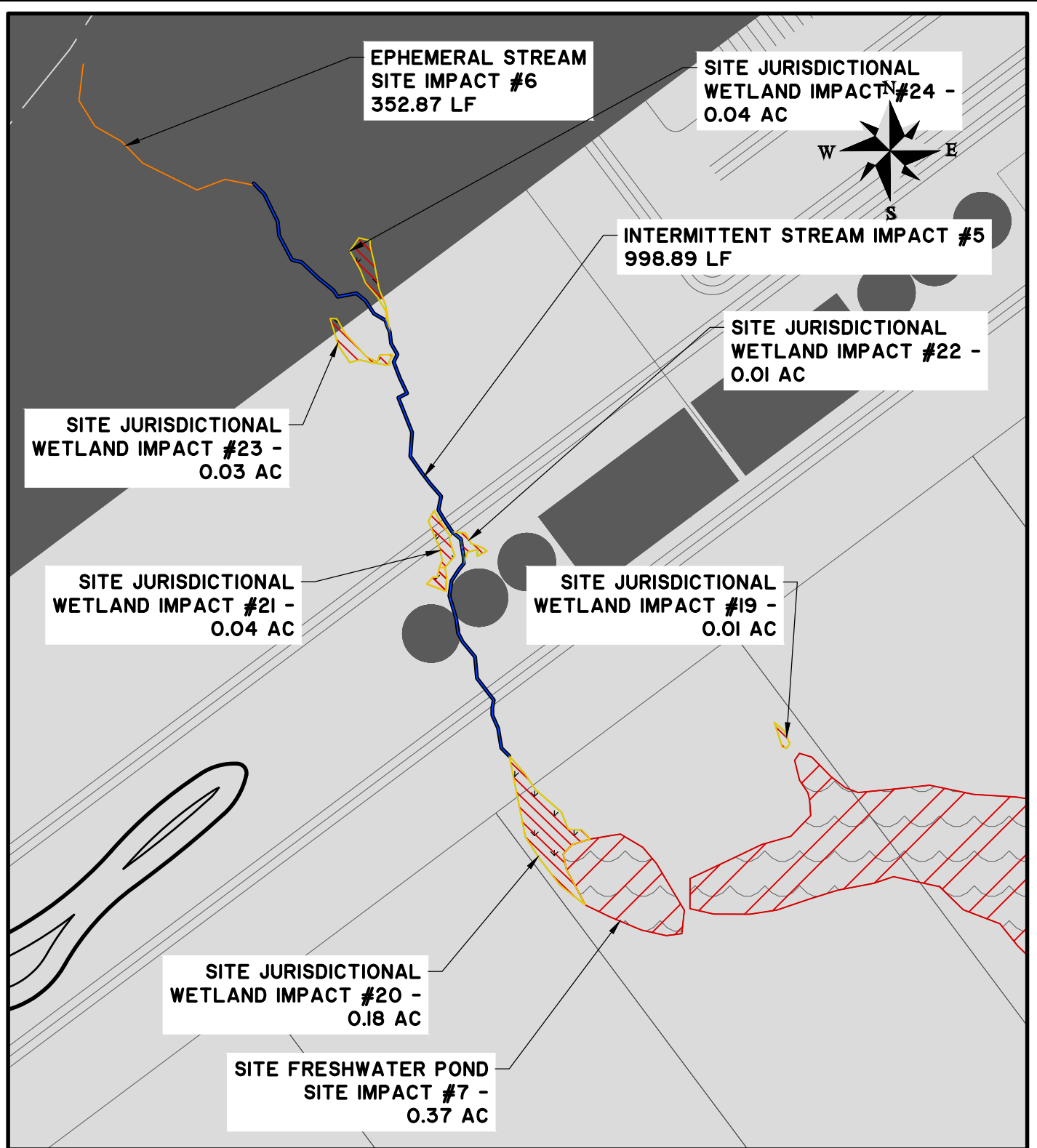
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P7
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

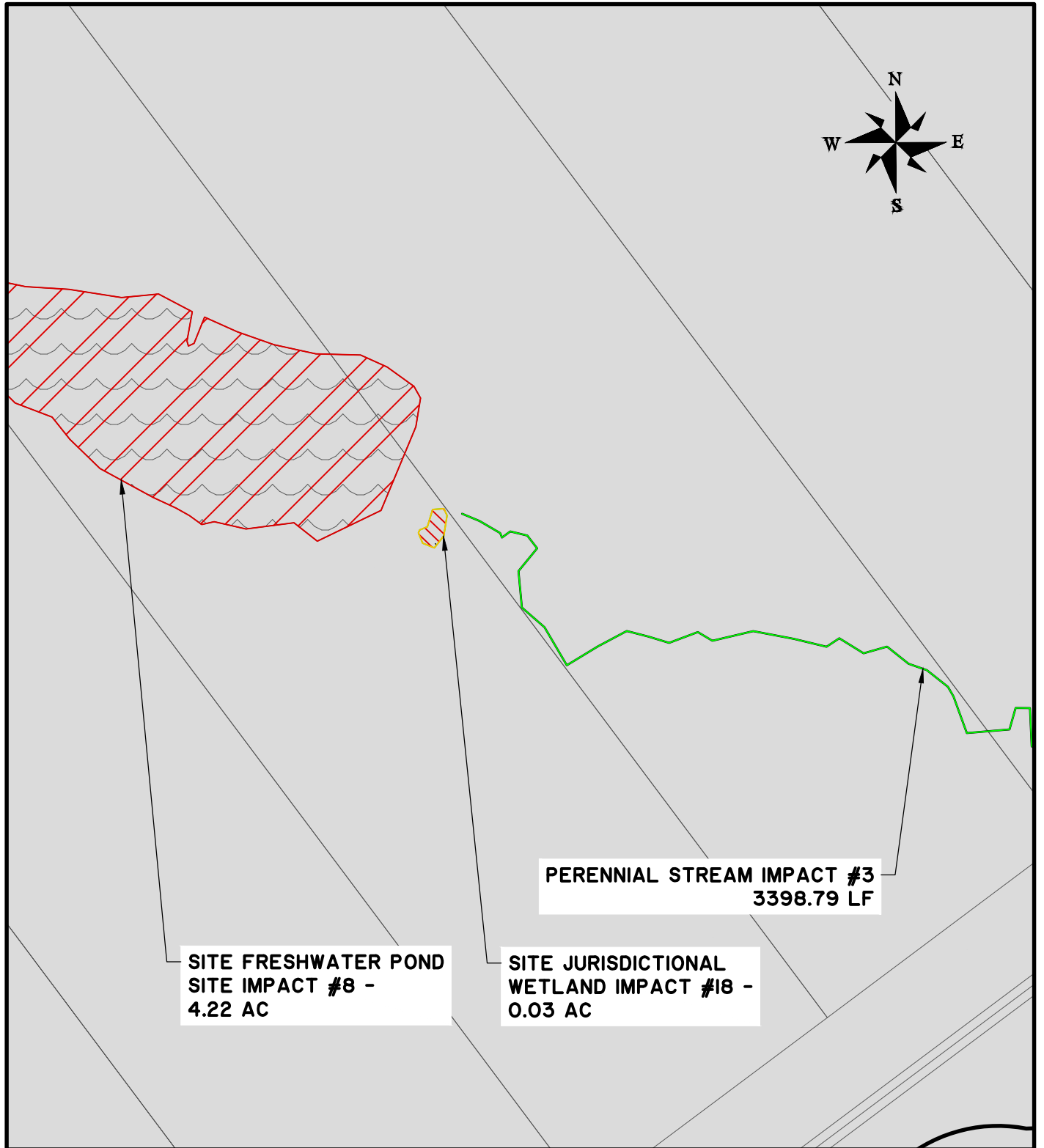
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P8
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

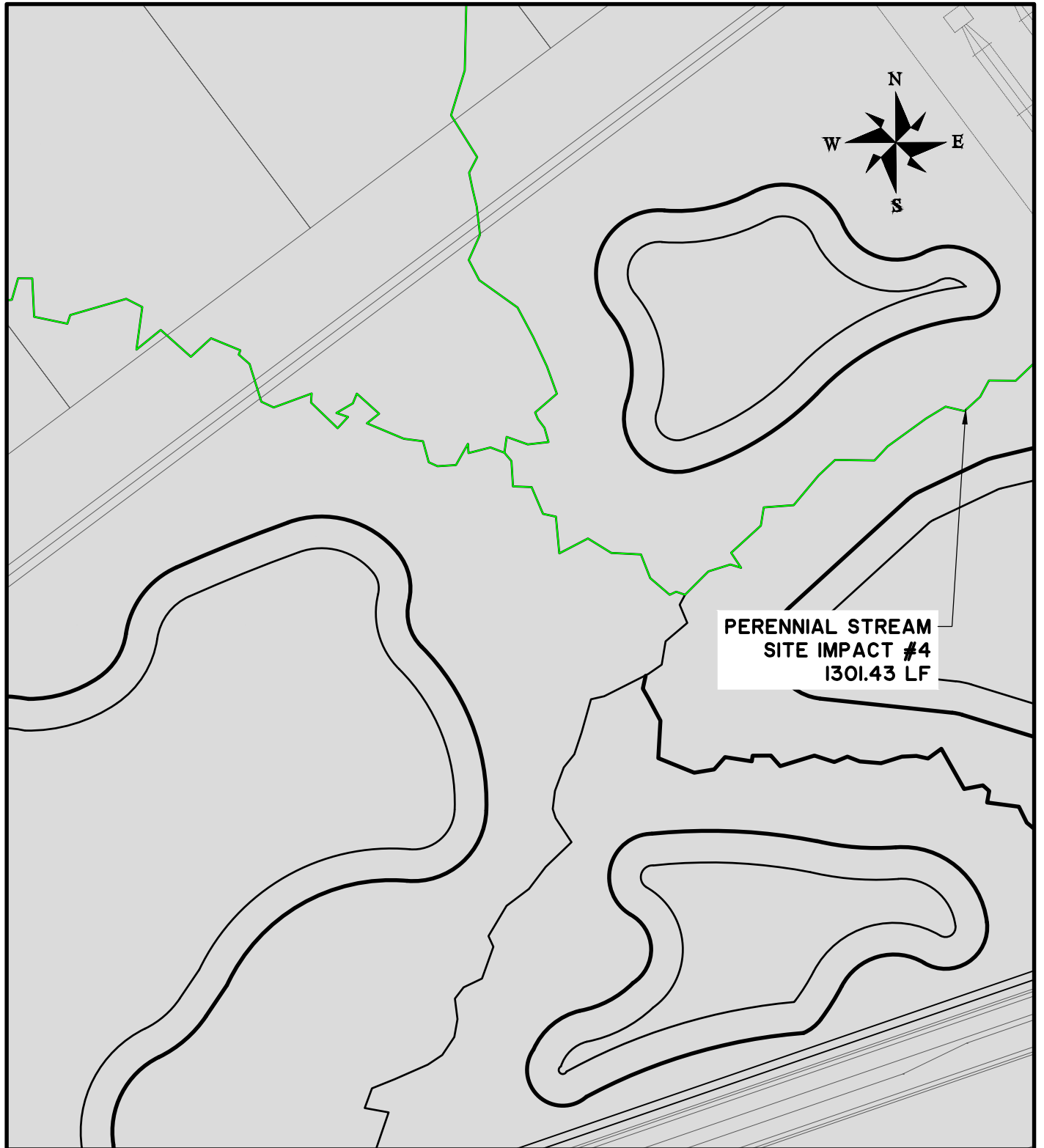
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P9
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

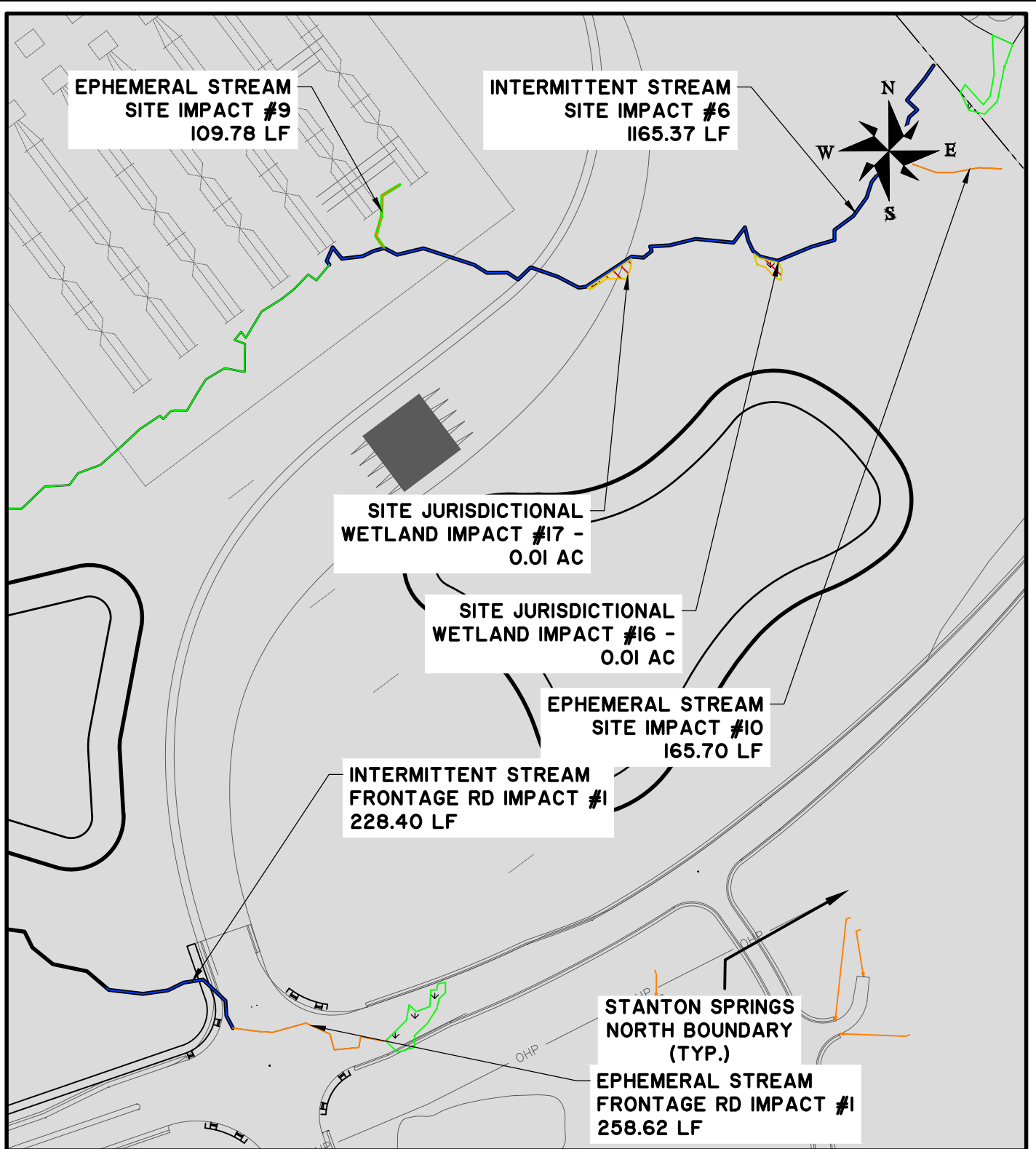
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P10
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

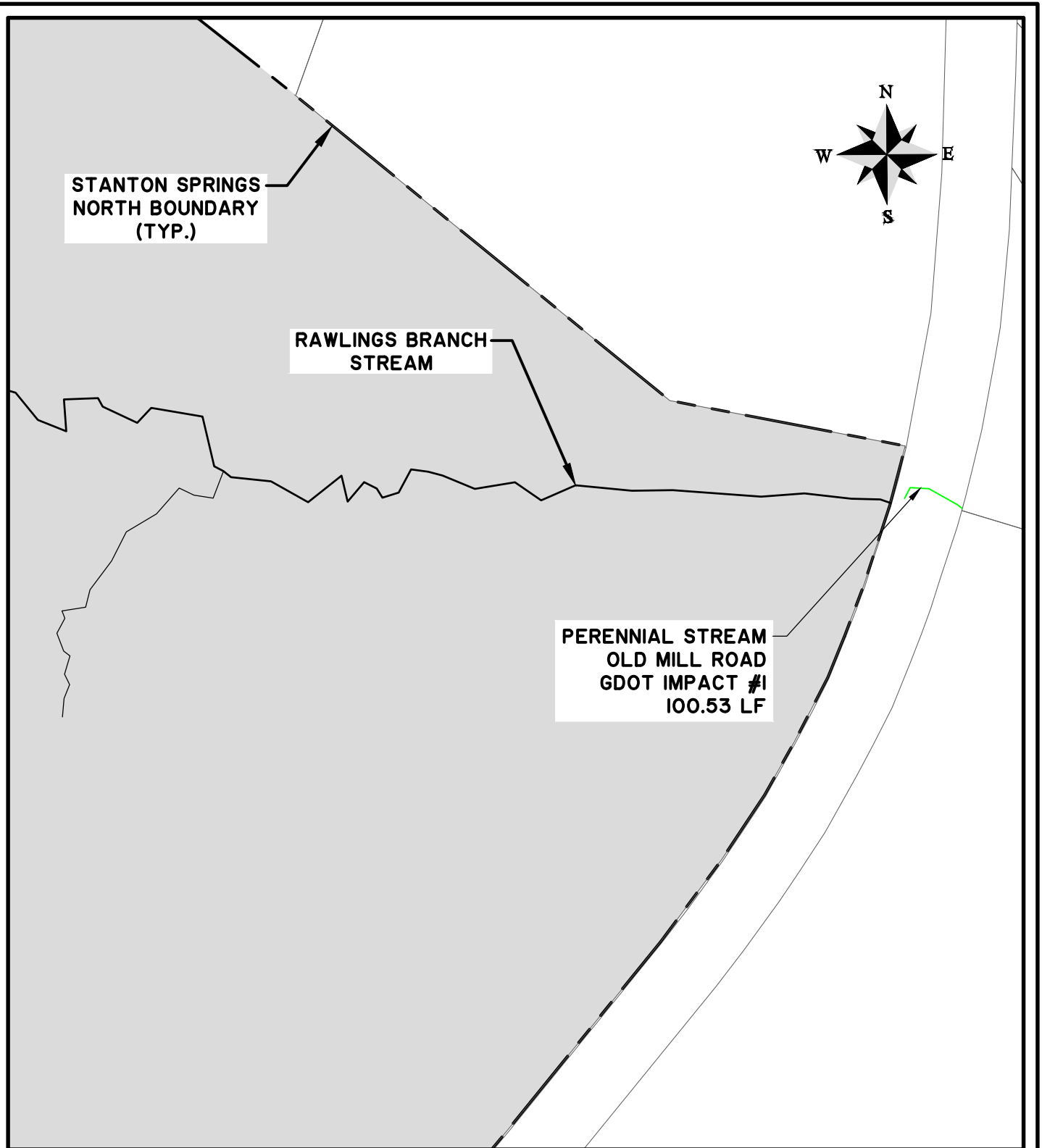
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P11
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

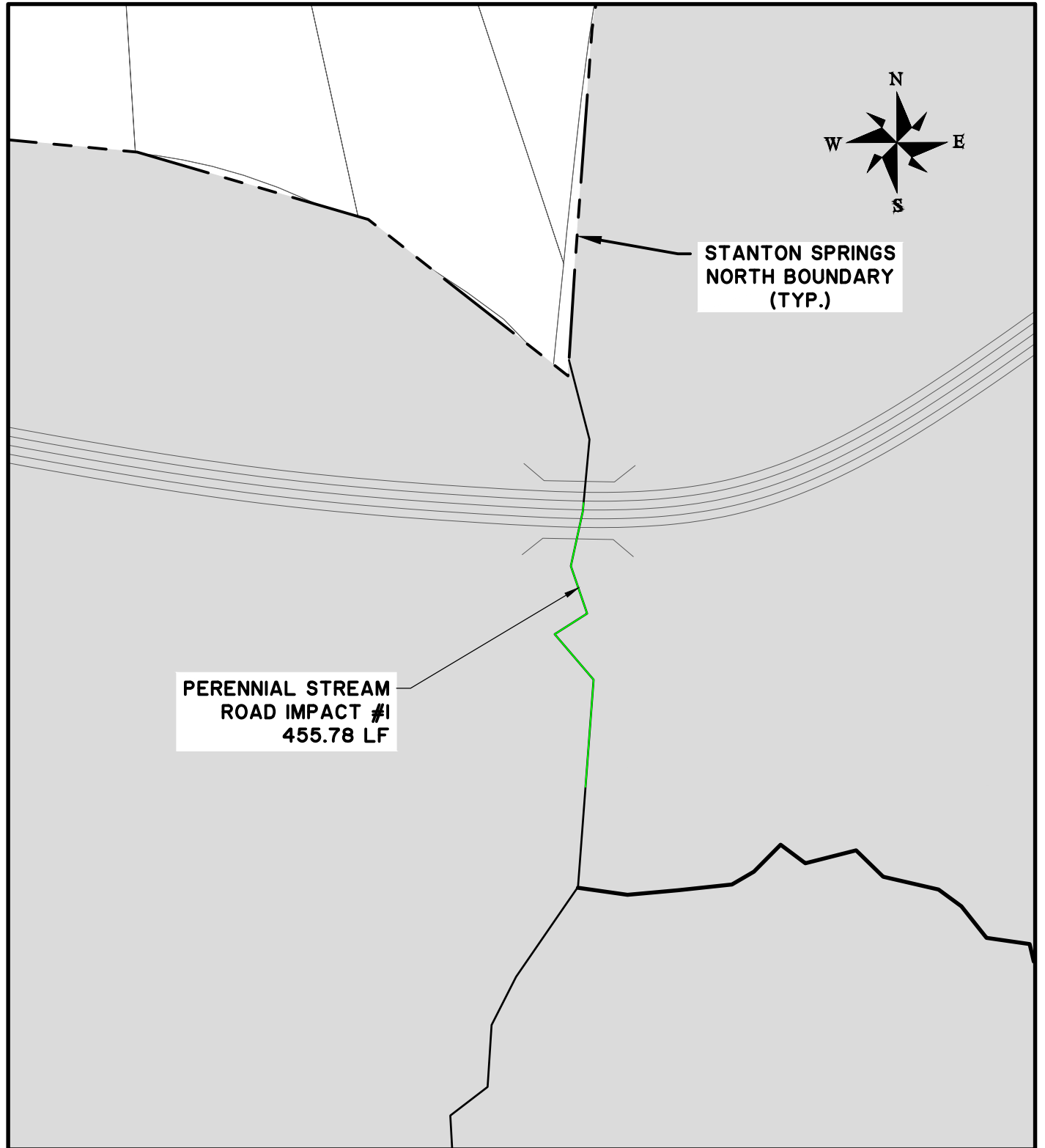
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P12
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

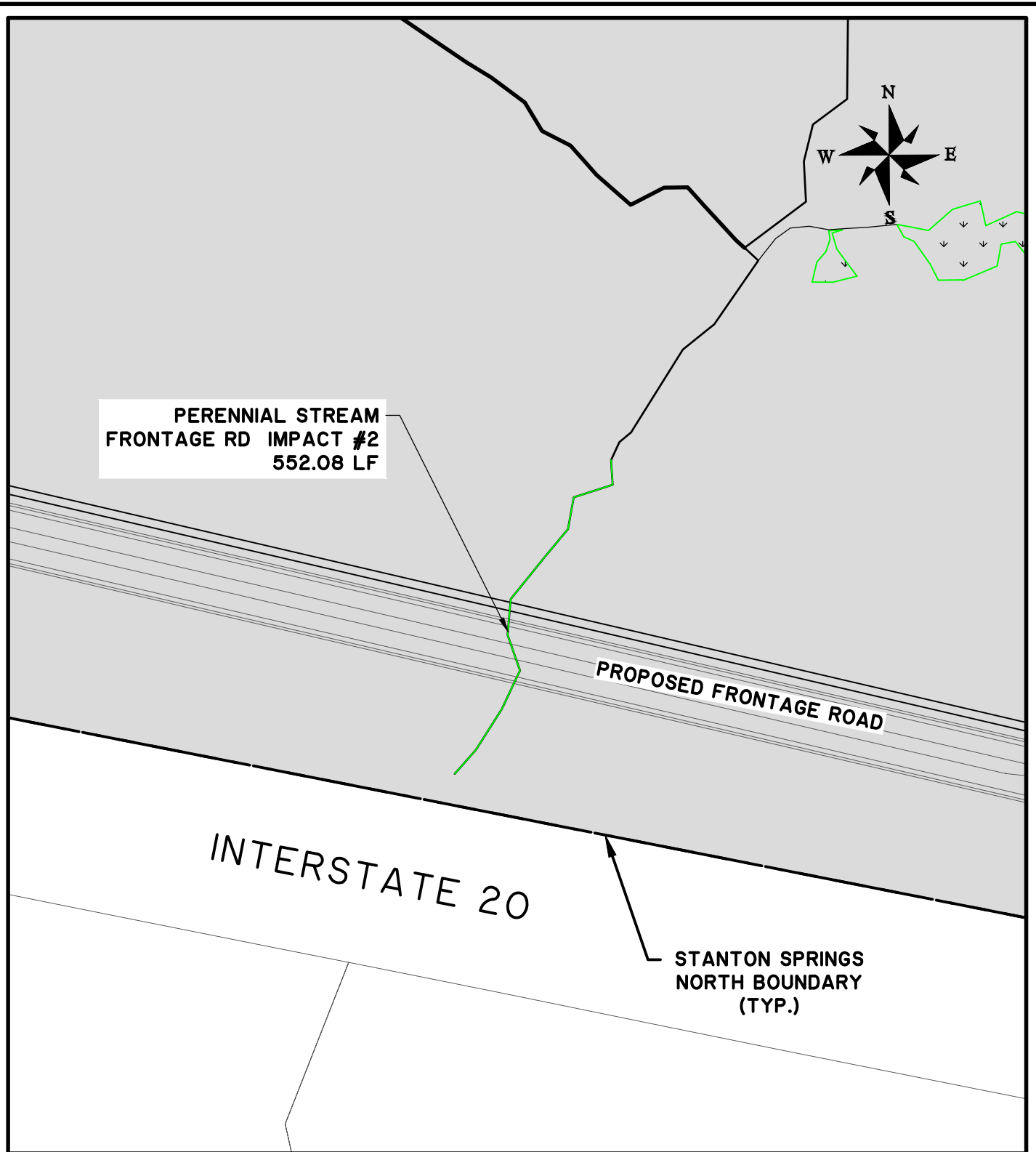
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P13
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

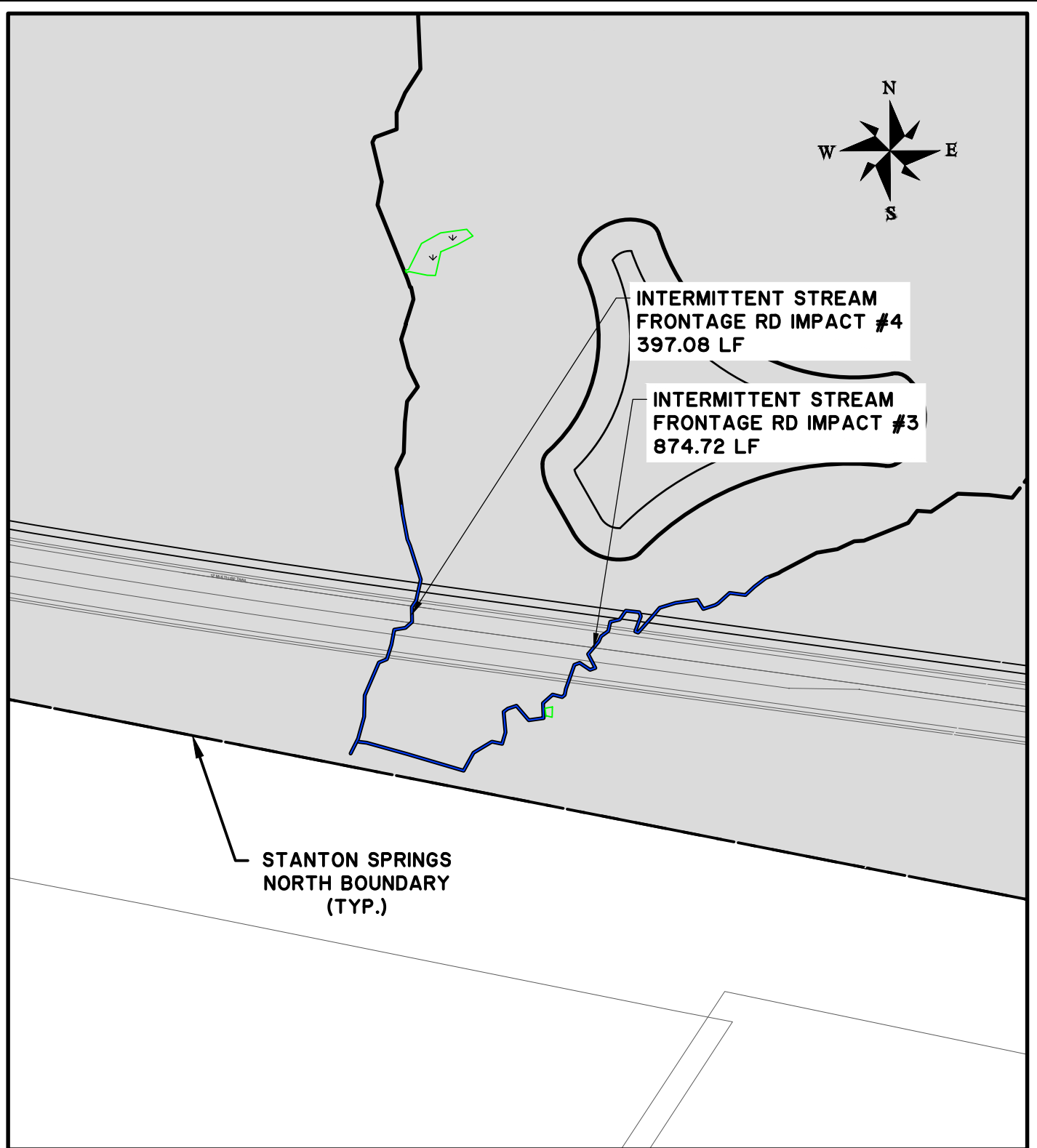
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P14
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

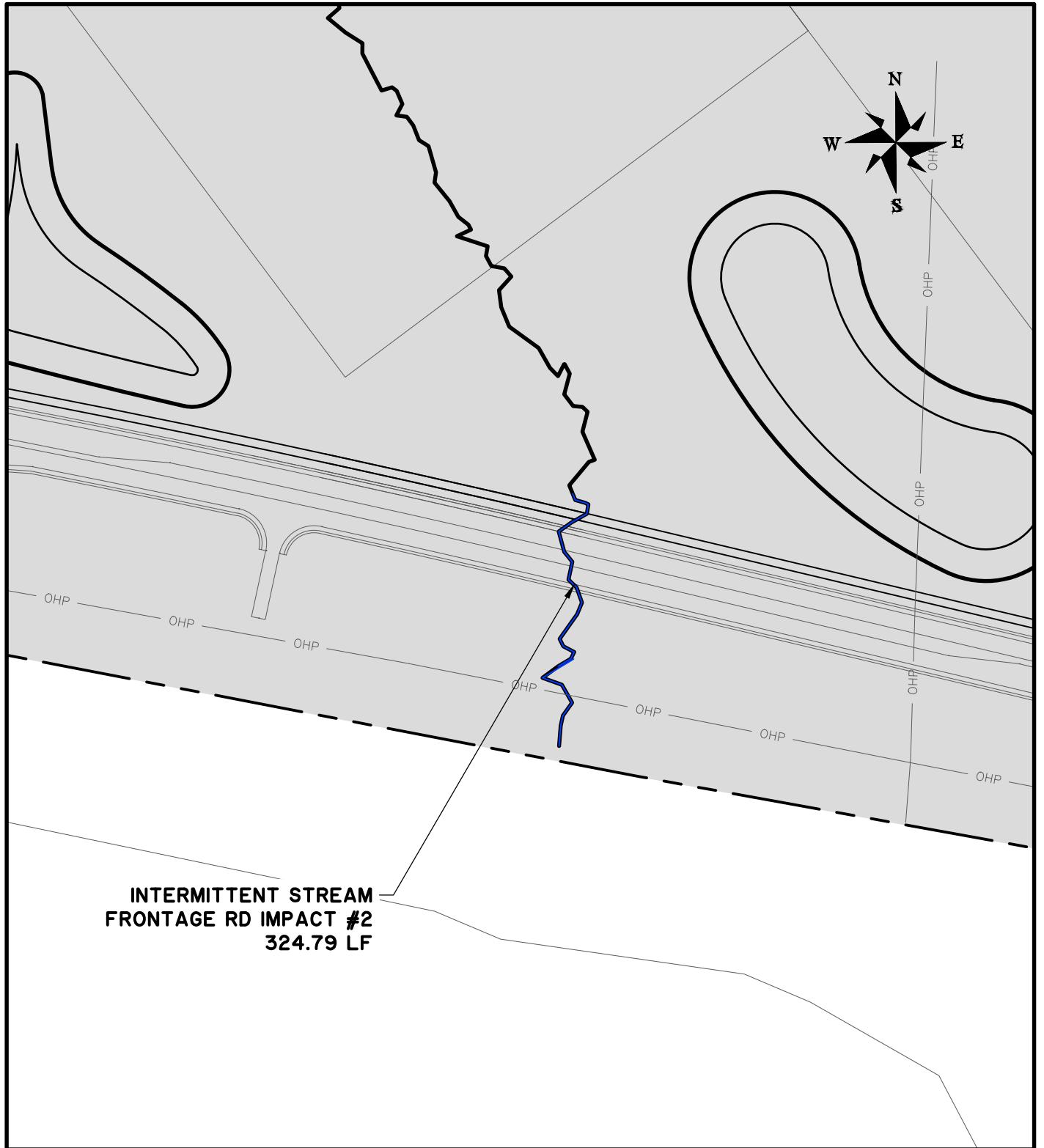
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P15
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

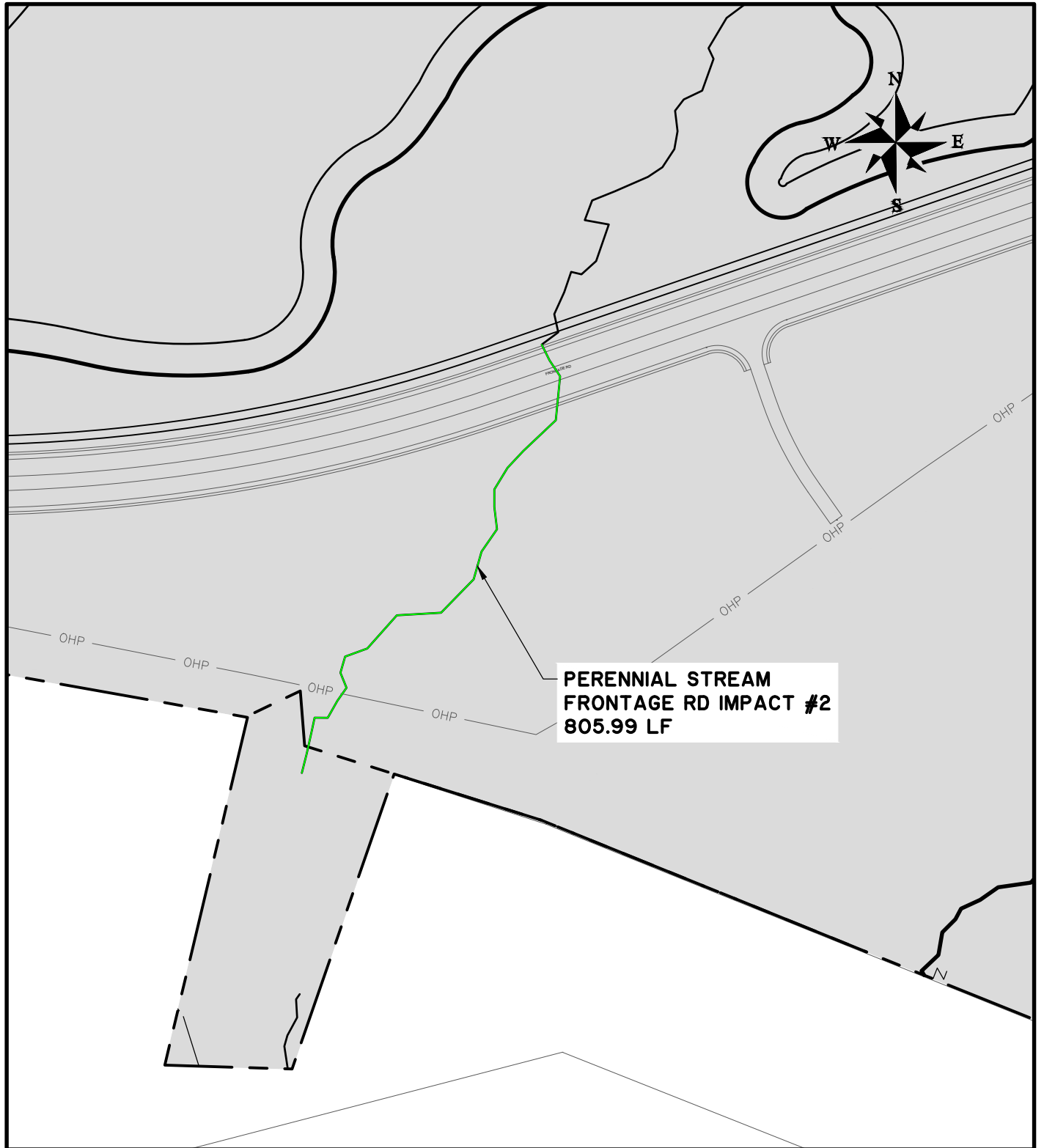
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P16
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT DRAWING

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

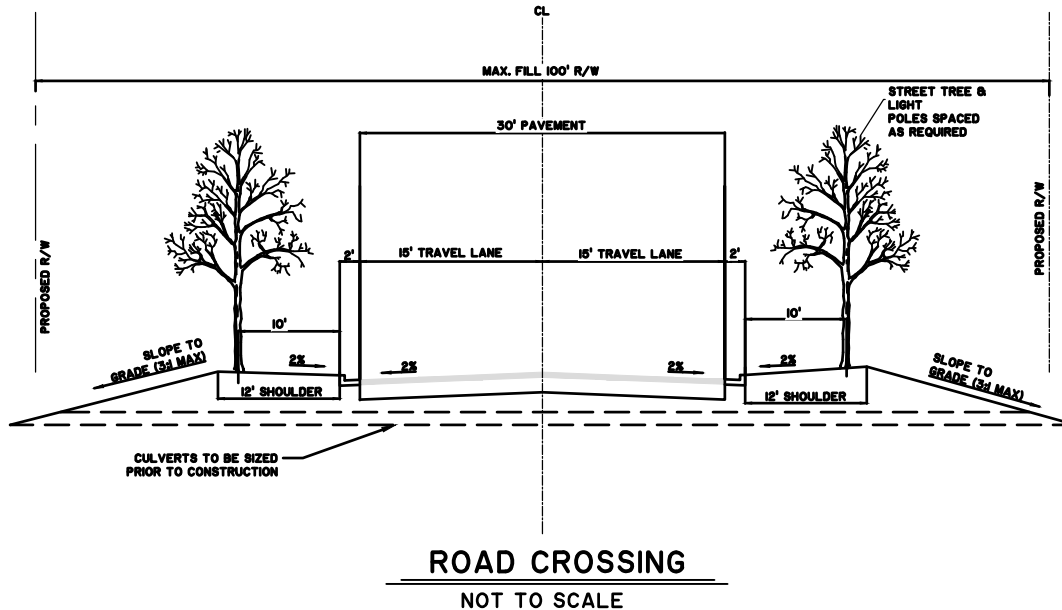
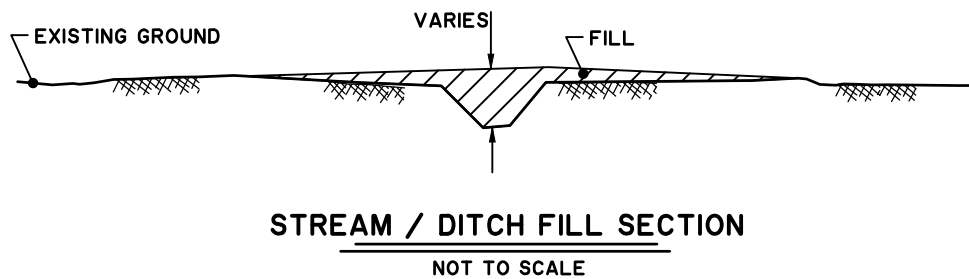
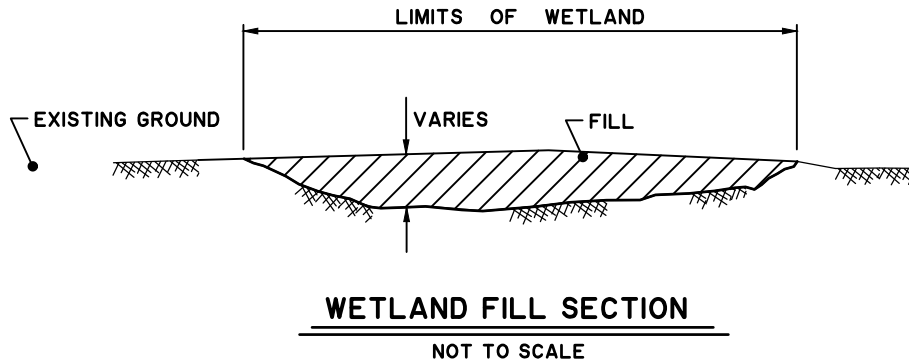
DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P17
SCALE: 1" = 200'



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



STANTON SPRINGS NORTH

PROPOSED ACTIVITY:
WETLAND IMPACT PERMIT SECTIONS

CLIENT:
JOINT DEVELOPMENT AUTHORITY OF JASPER, MORGAN, & WALTON COUNTIES

LOCATION: WALTON/MORGAN - GA
DATE: MARCH 22, 2022
JOB NUMBER: J-26900.0001

DRAWN BY: DSG
REVIEWED BY: JOC

SHEET: P18
SCALE: NTS

**THOMAS
&
HUTTON**

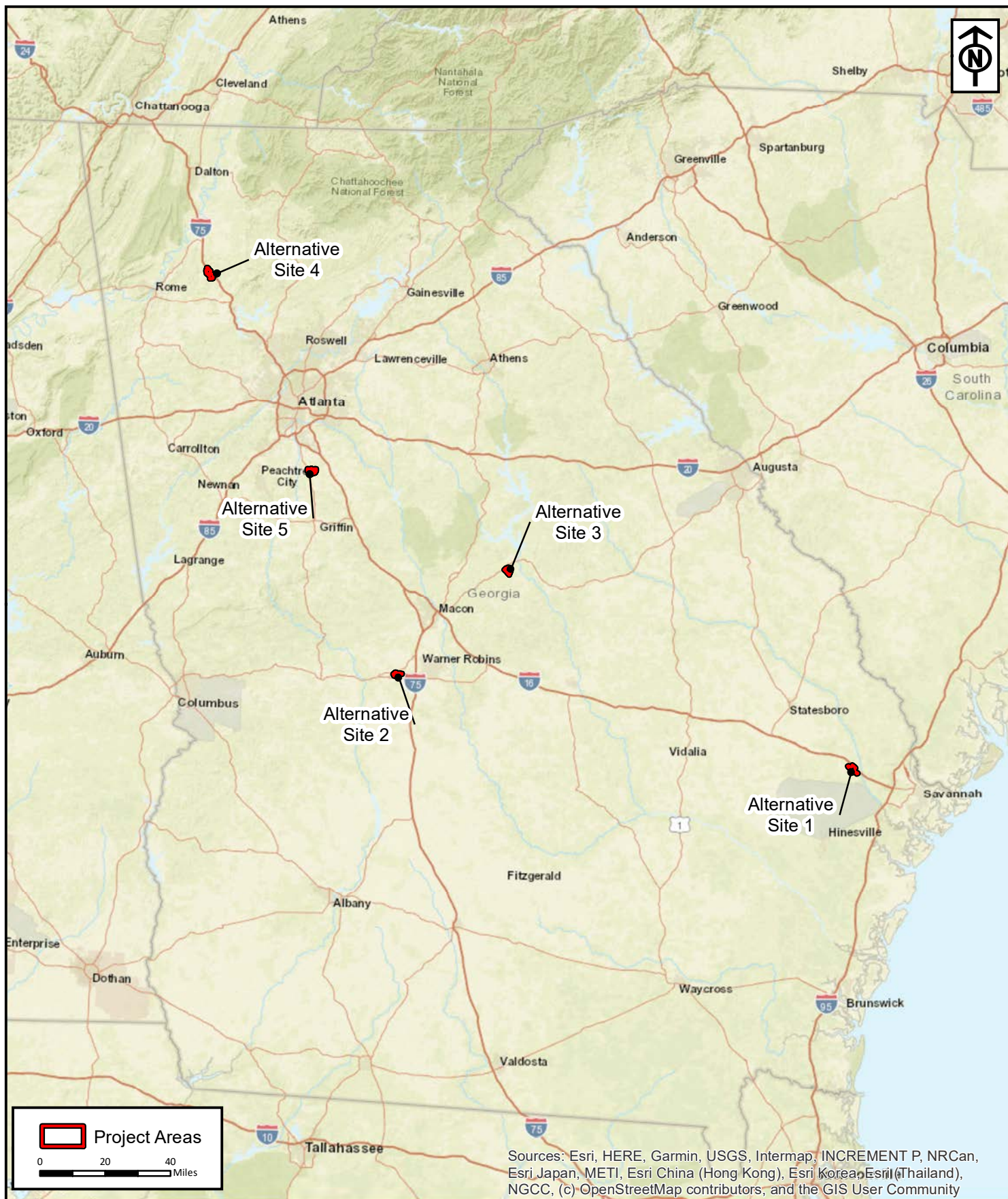
50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com



RESOURCE+LAND
CONSULTANTS

APPENDIX D: Off-Site Alternatives



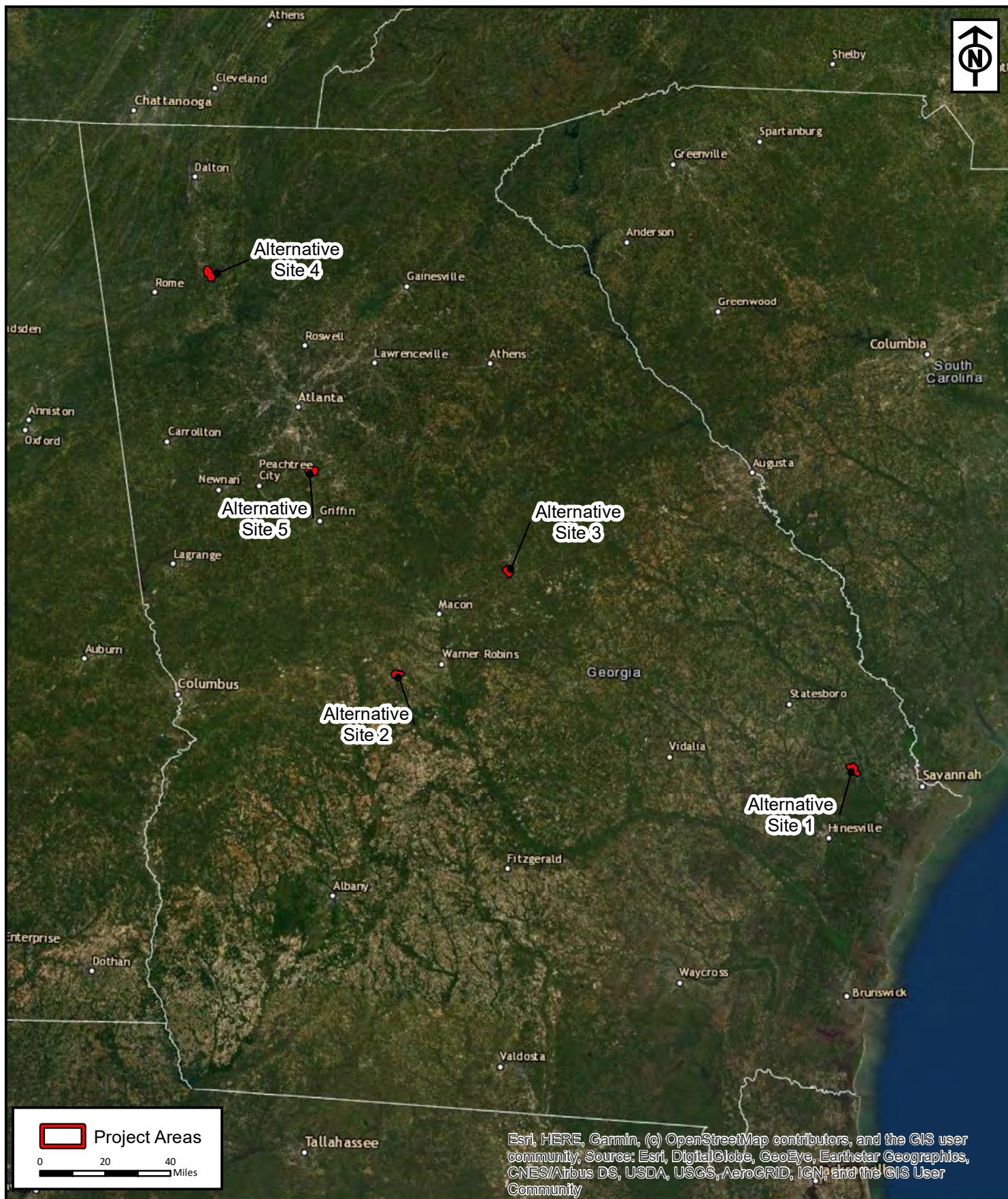
RLC Project No.:	20-035.1
Figure No.:	1
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 40 miles

Alternative Sites
Baldwin, Bartow, Bryan, Clayton,
and Peach County Georgia

Project Location Map

Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County

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



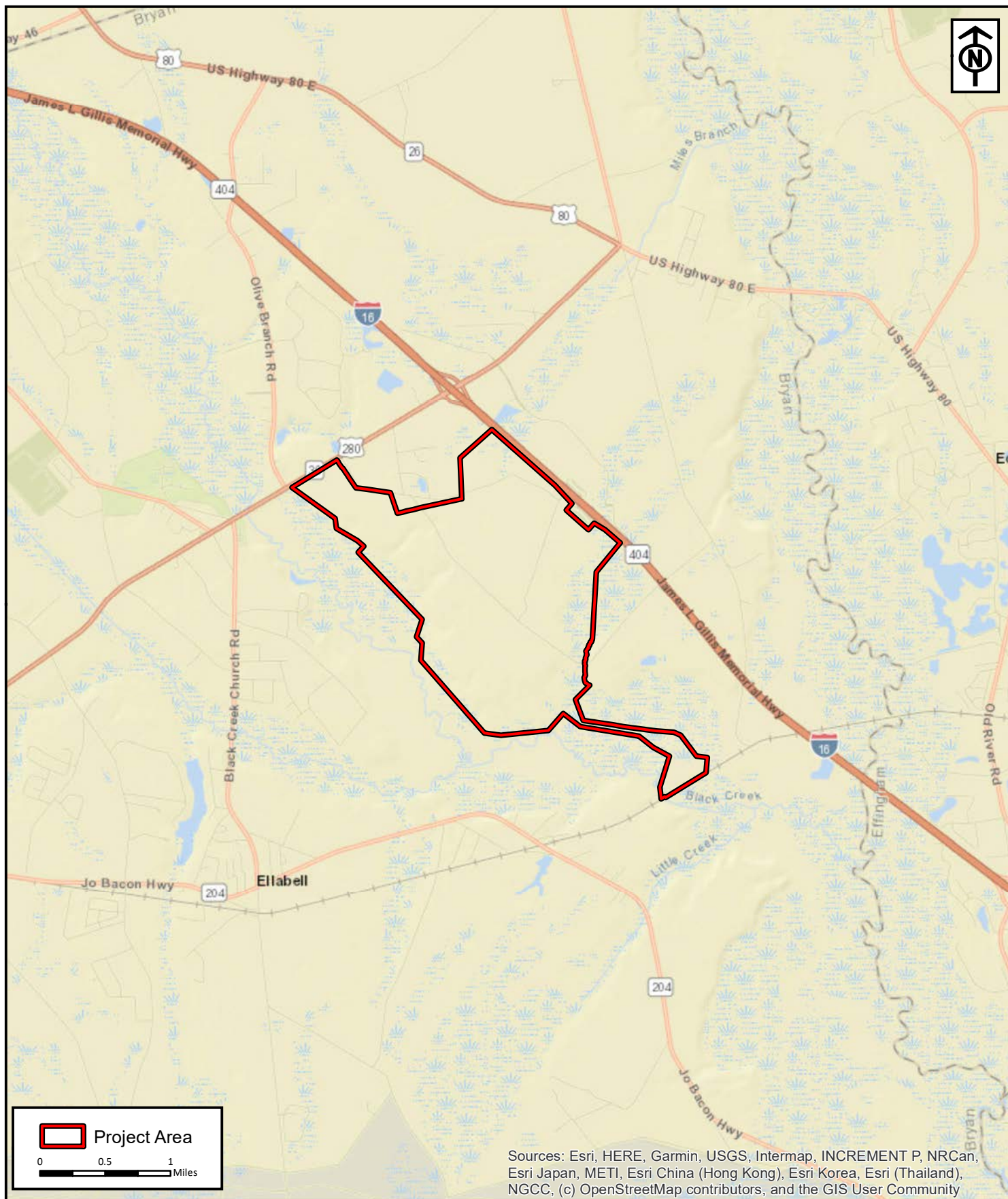
RLC Project No.:	20-035.1
Figure No.:	2
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 40 miles

Alternative Sites
Baldwin, Bartow, Bryan, Clayton,
and Peach County Georgia

2021 Ortho Aerial

Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County

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



RLC Project No.:	20-035.1
Figure No.:	1
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 1 miles

Alternative Site 1

Bryan County, Georgia

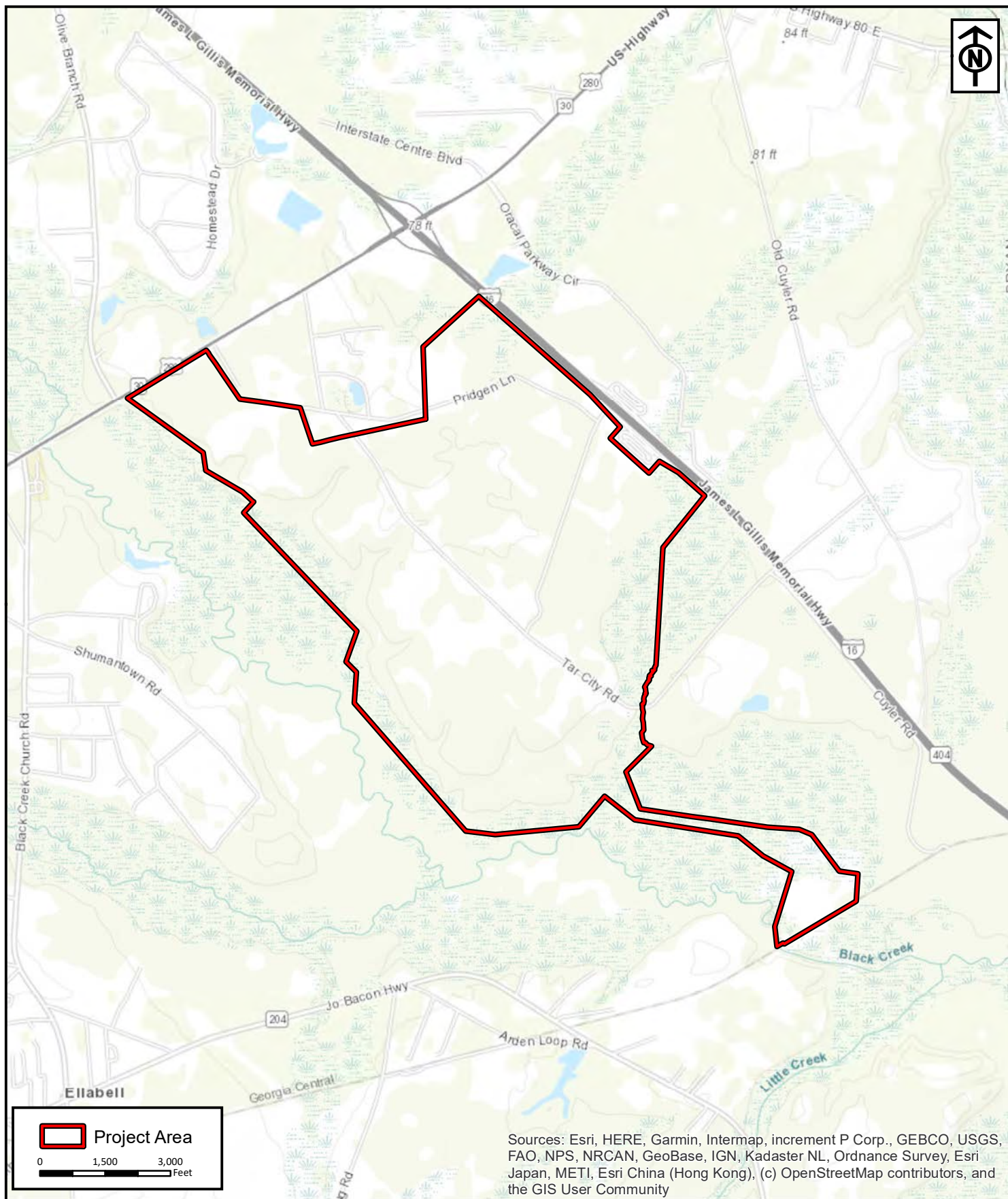
Project Location Map

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County



**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	2
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 1

Bryan County, Georgia

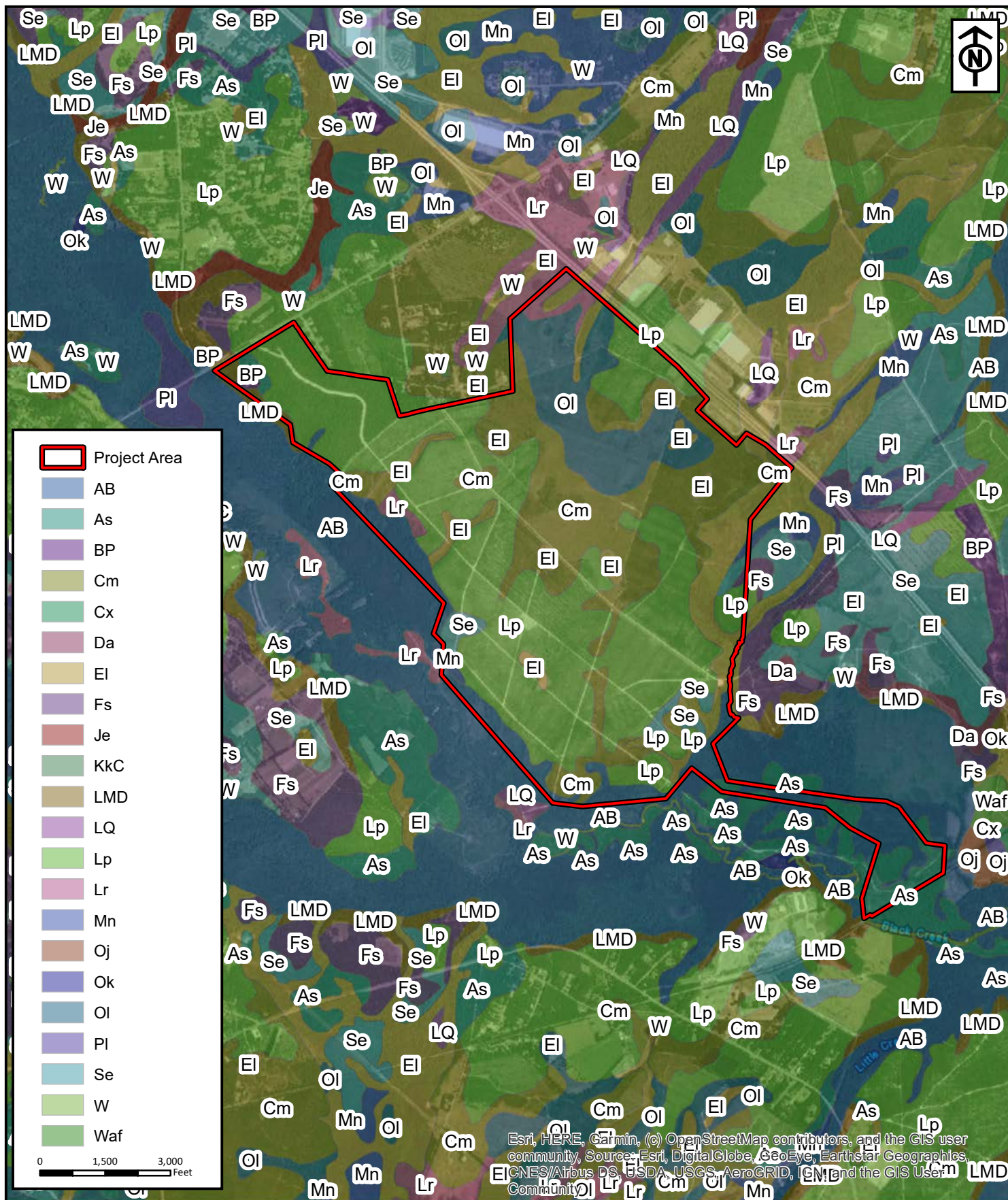
USGS Topographic Map

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County



**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	3
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 1

Bryan County, Georgia

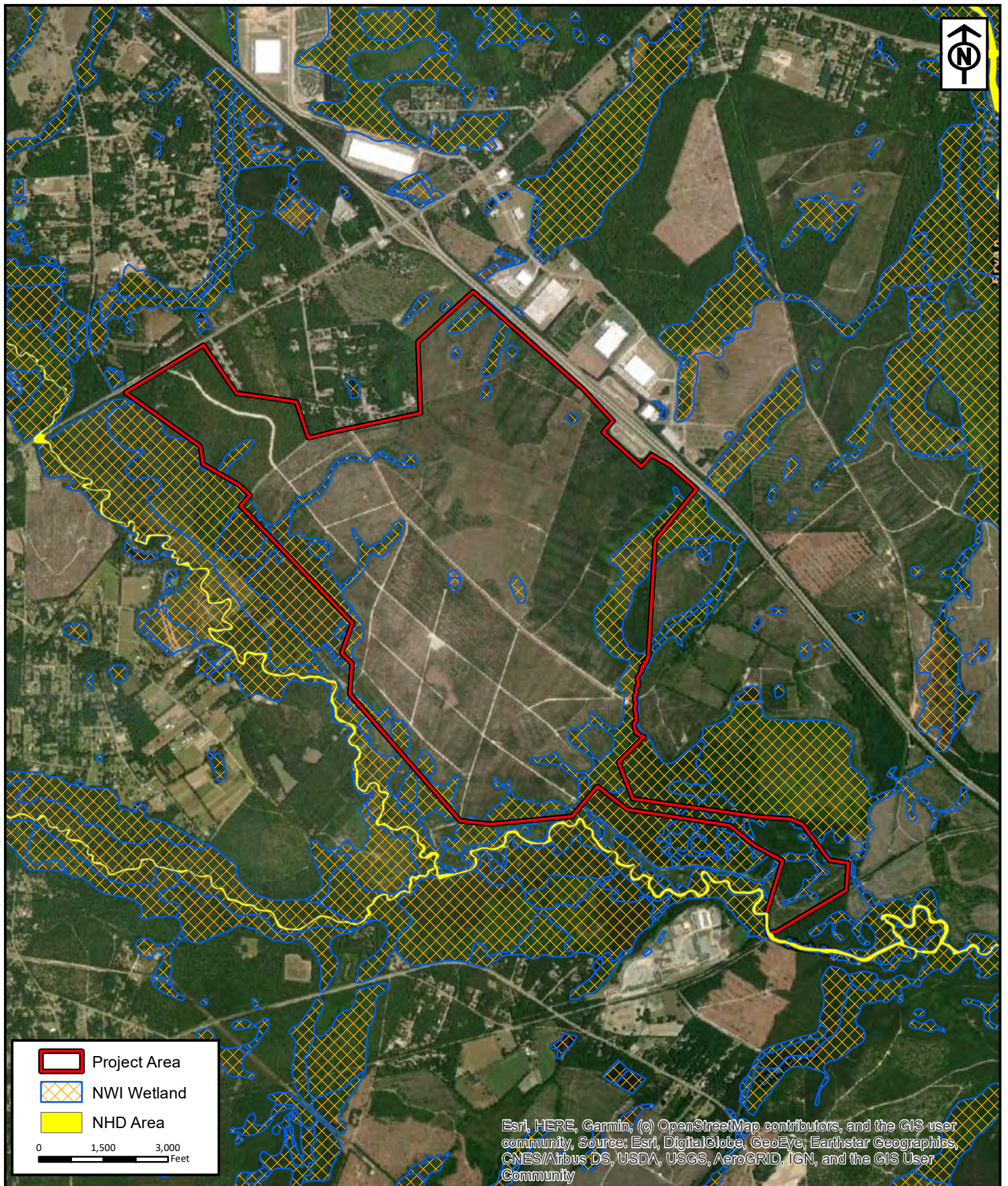
NRCS Soil Map

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

411 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rlandc.com



RLC Project No.:	20-035.1
Figure No.:	4
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 1

Bryan County, Georgia

National Wetlands

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

411 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rland.com



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

RLC Project No.:	20-035.1
Figure No.:	5
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 1

Bryan County, Georgia

2021 Ortho Aerial

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

RESOURCE+LAND
CONSULTANTS

411 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rland.com



RLC Project No.:	20-035.1
Figure No.:	6
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 1

Bryan County, Georgia

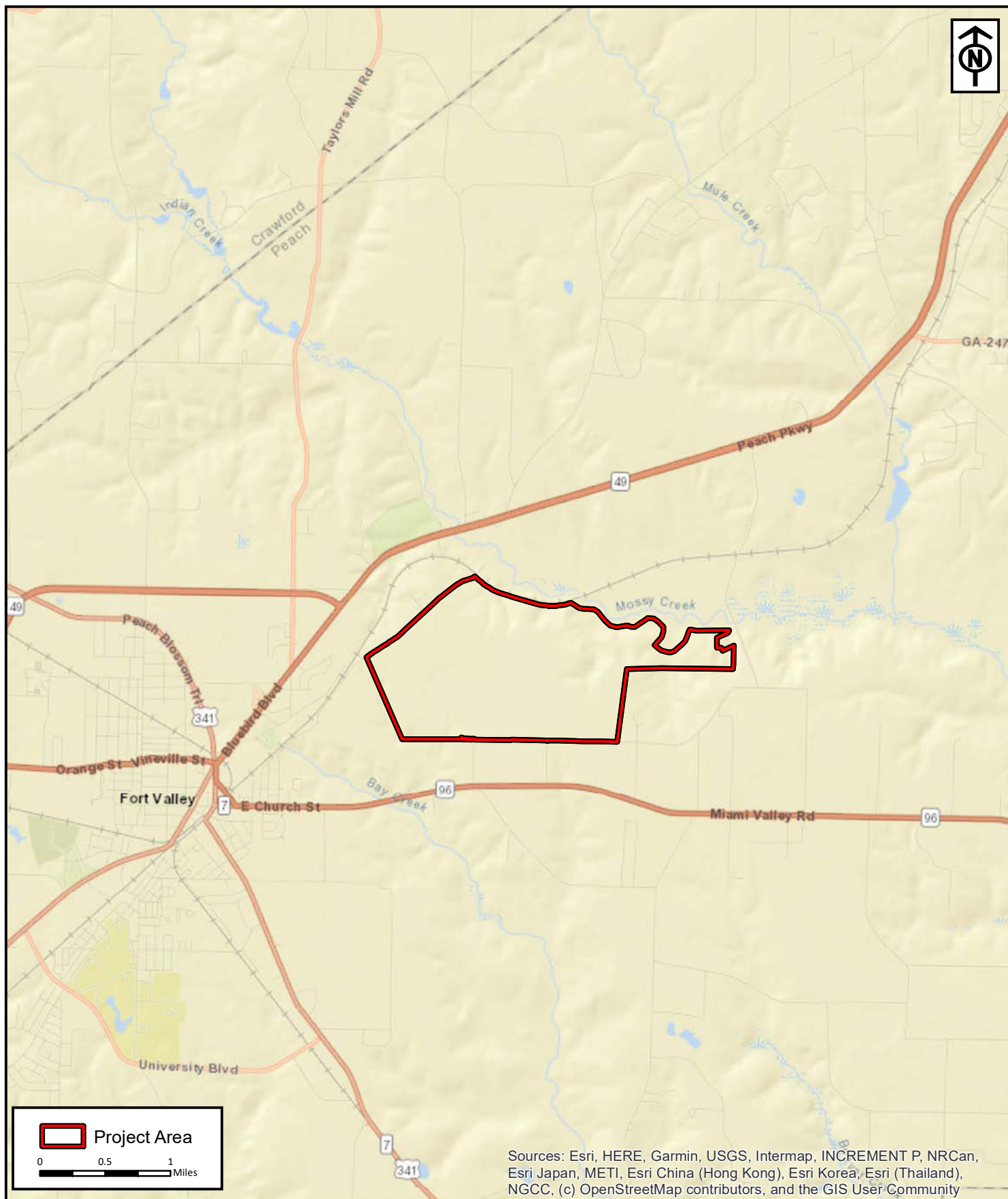
Color-Infrared Imagery

Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

411 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rlcinc.com



RLC Project No.:	20-035.1
Figure No.:	1
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 1 miles

Alternative Site 2

Peach County, Georgia

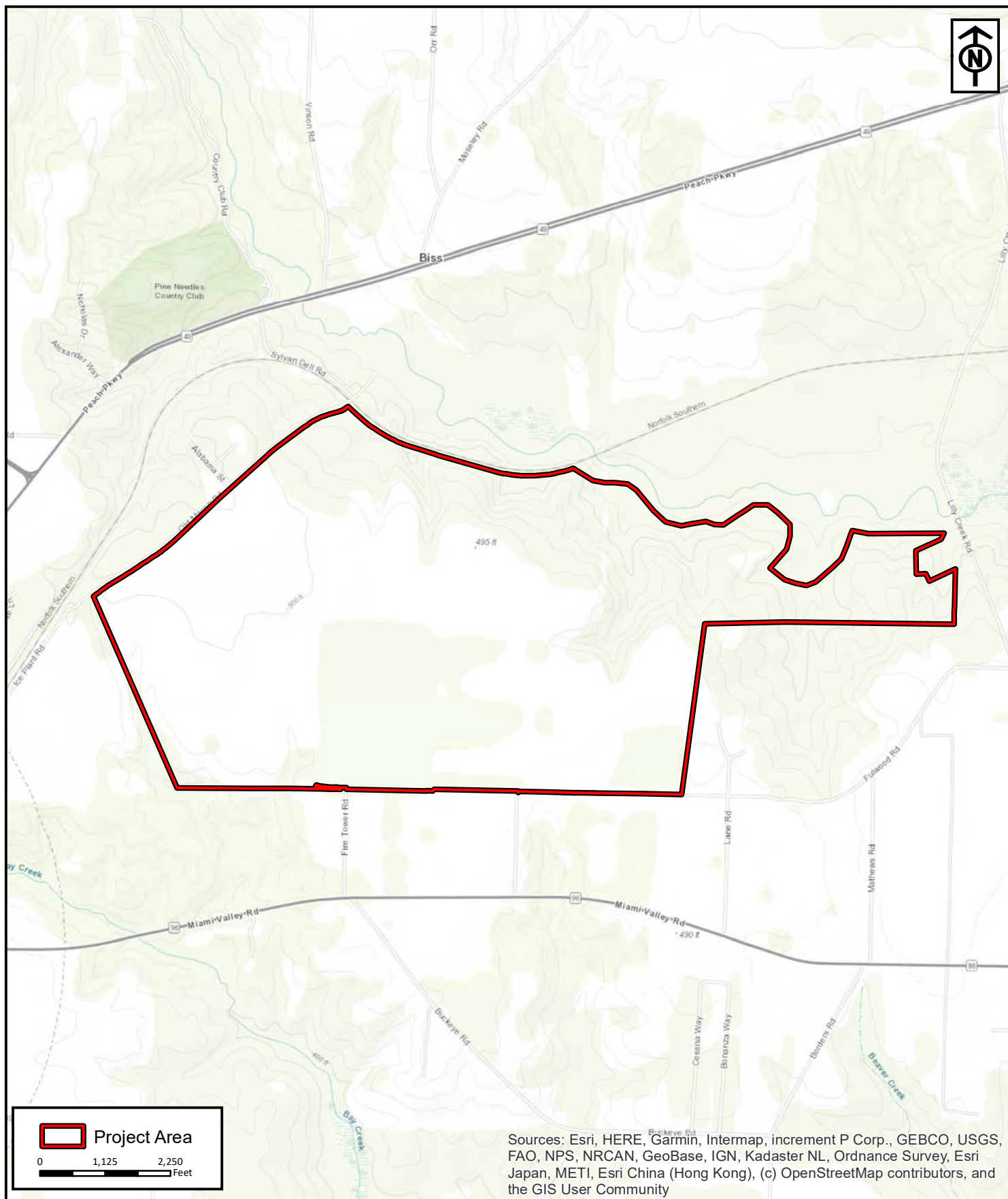
Project Location Map

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

411 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rlandc.com



RLC Project No.:	20-035.1
Figure No.:	2
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,250 feet

Alternative Site 2

Peach County, Georgia

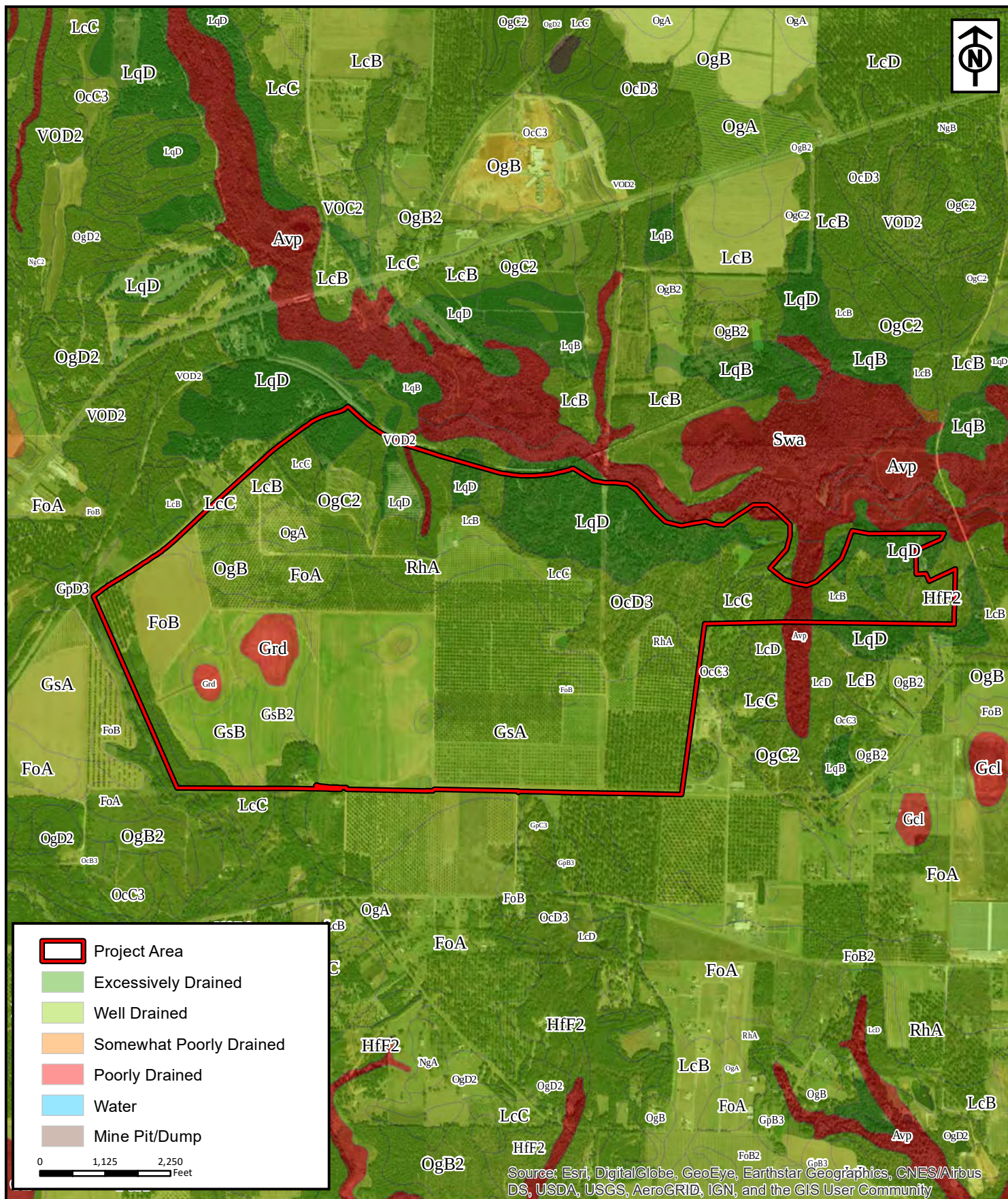
USGS Topographic Map

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.: 20-035.1

Figure No.: 3

Prepared By: JP

Sketch Date: 4/26/2022

Map Scale : 1 inch = 2,250 feet

Alternative Site 2

Peach County, Georgia

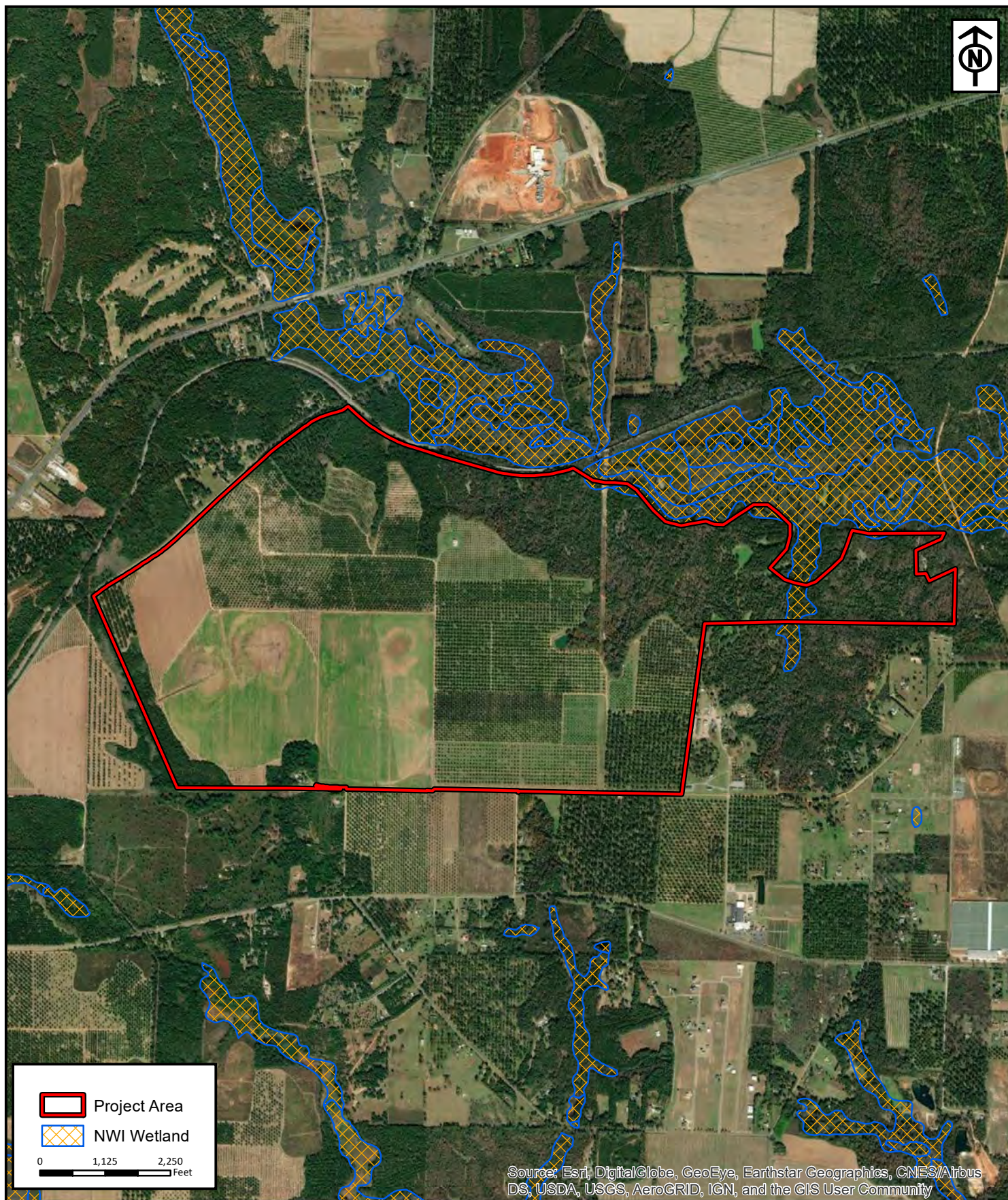
NRCS Soil Map

Prepared For: GDECd & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	4
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,250 feet

Alternative Site 2

Peach County, Georgia

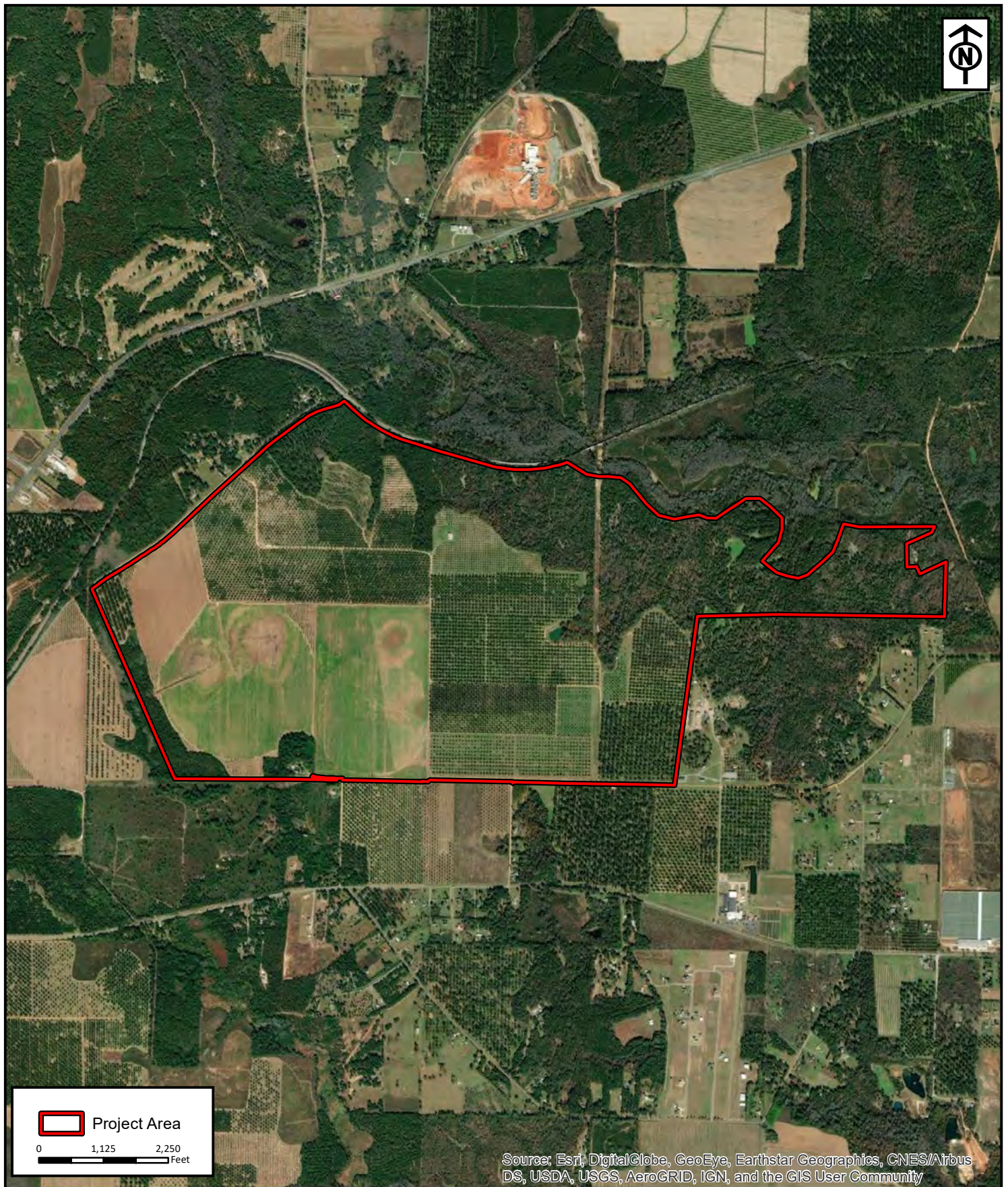
National Wetlands

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

431 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rlandc.com



RLC Project No.:	20-035.1
Figure No.:	5
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,250 feet

Alternative Site 2

Peach County, Georgia

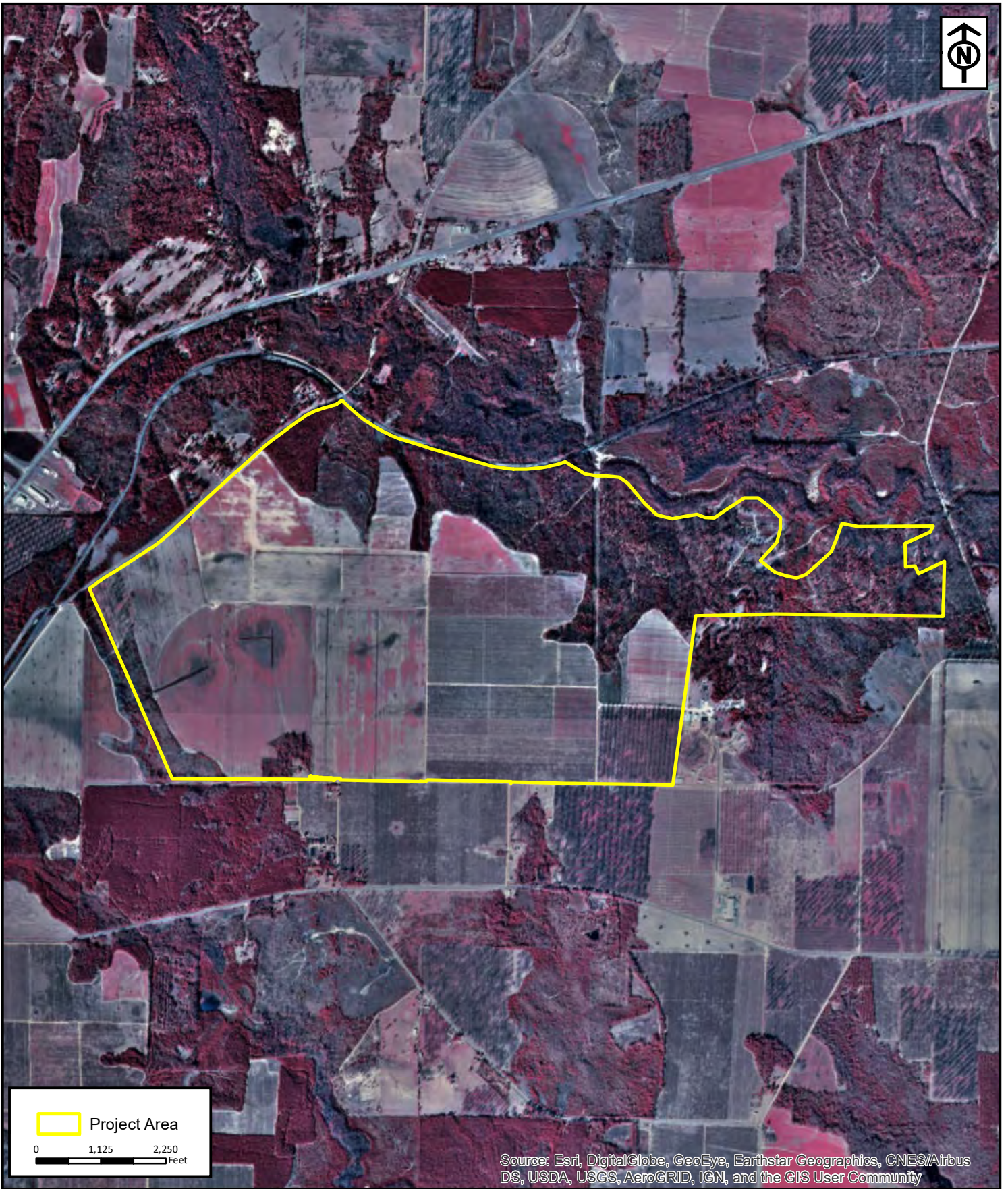
2021 Ortho Aerial

Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

411 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rlandc.com



RLC Project No.:	20-035.1
Figure No.:	6
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,250 feet

Alternative Site 2

Peach County, Georgia

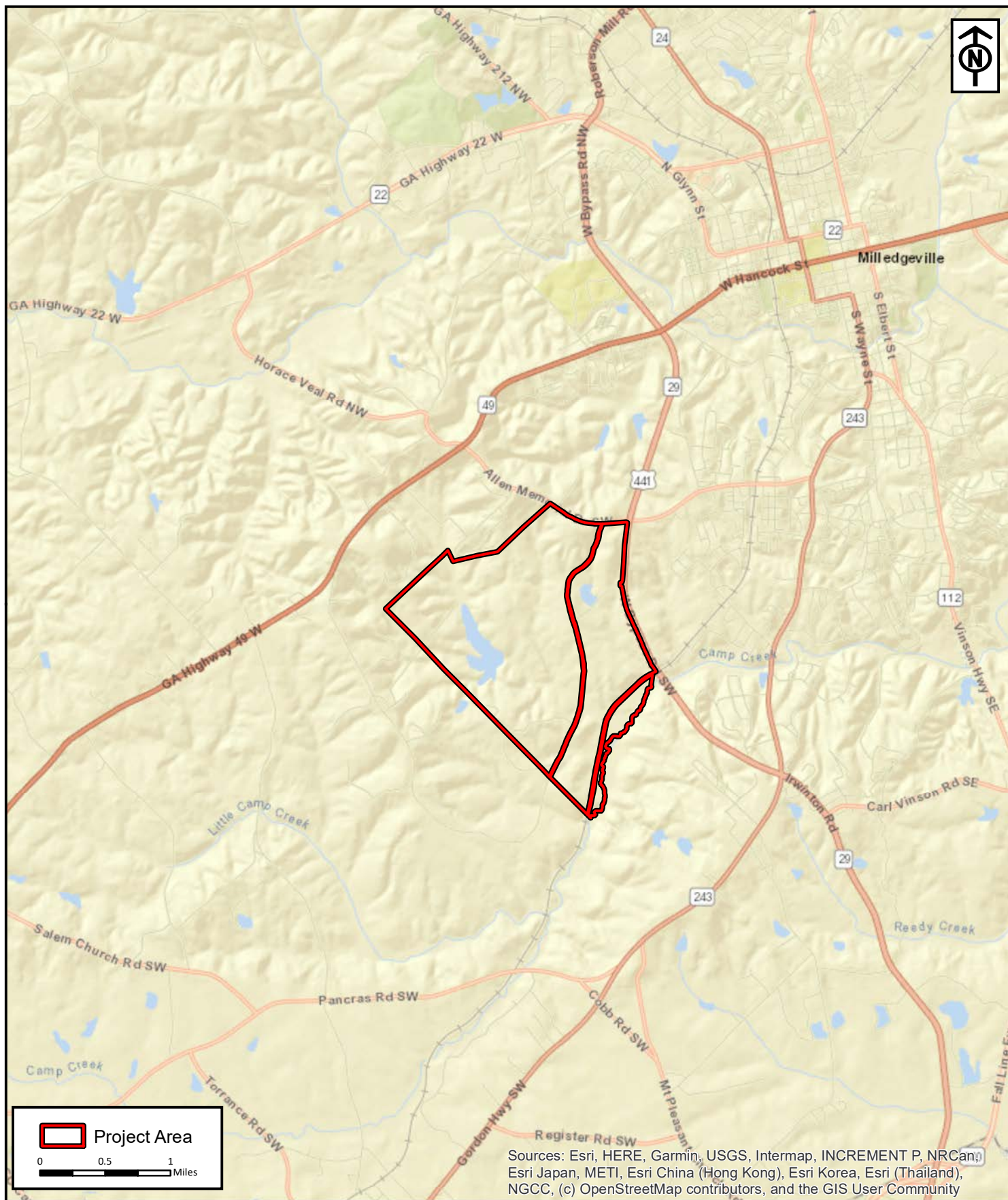
Color-Infrared Imagery

Prepared For: GDEC & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

411 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rland.com



RLC Project No.:	20-035.1
Figure No.:	1
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 1 miles

Alternative Site 3

Baldwin County, Georgia

Project Location Map

Prepared For: GDECD & JDA of Jasper County, Morgan County, Newton County & Walton County

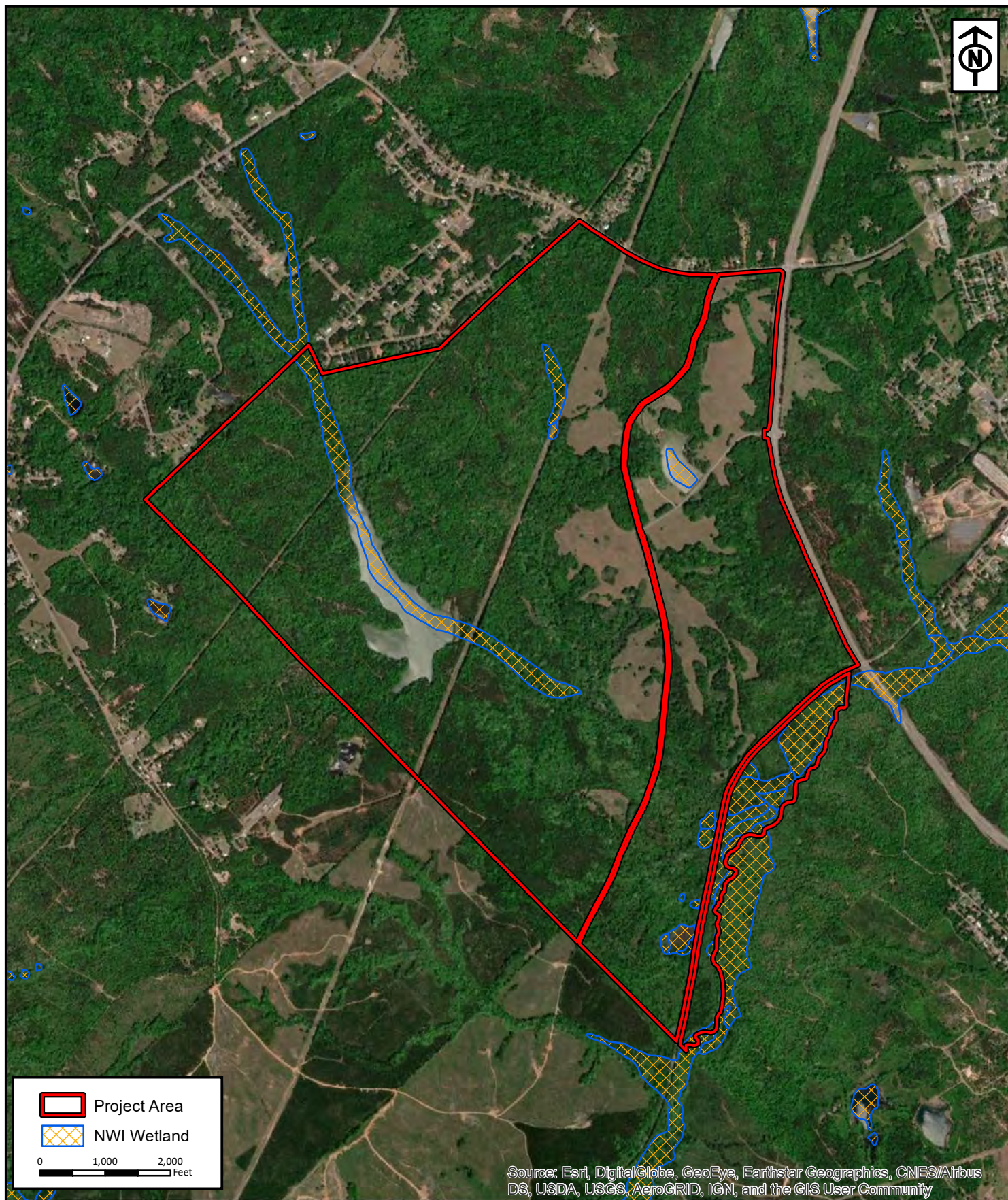
RLC

**RESOURCE+LAND
CONSULTANTS**

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



Source(s): USDA Soil Survey; ESRI Basemap, 2021 Ortho Aerial



RLC Project No.:	20-035.1
Figure No.:	4
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Alternative Site 3

Baldwin County, Georgia

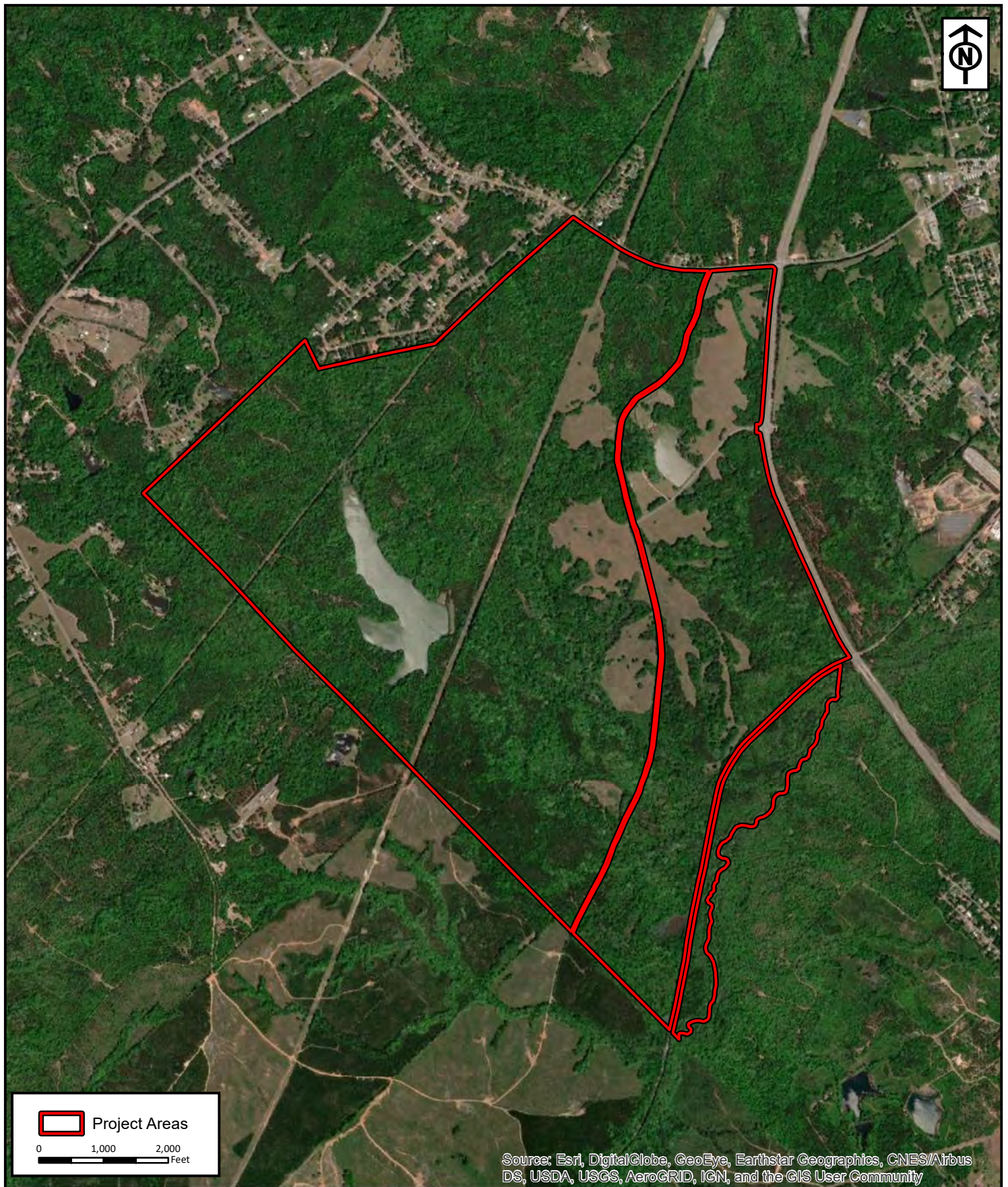
National Wetlands

Prepared For: GDECd & JDA of Jasper County, Morgan
County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	5
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Alternative Site 3

Baldwin County, Georgia

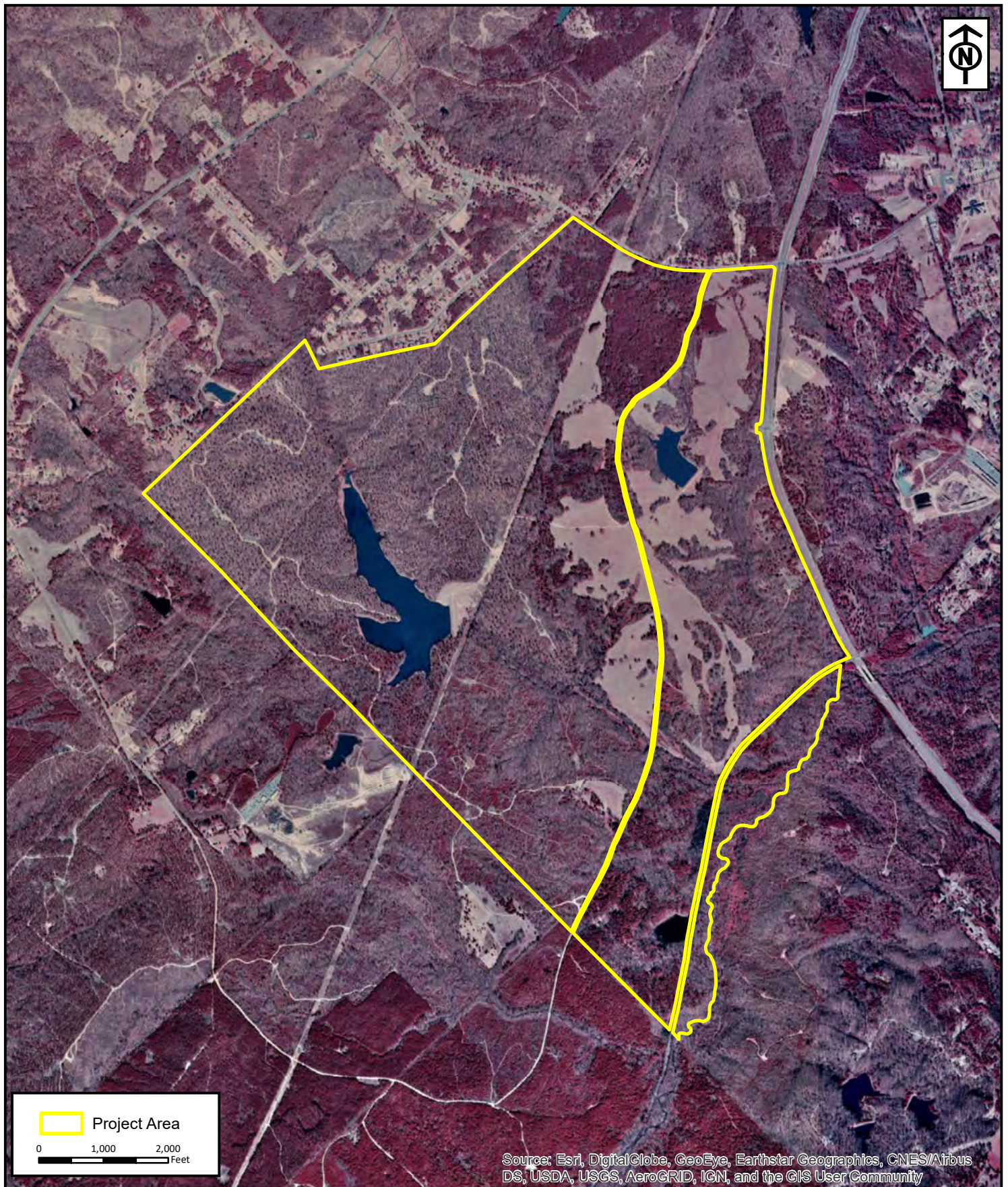
2021 Ortho Aerial

Prepared For: GDECd & JDA of Jasper County, Morgan
County, Newton County & Walton County



**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	6
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Alternative Site 3

Baldwin County, Georgia

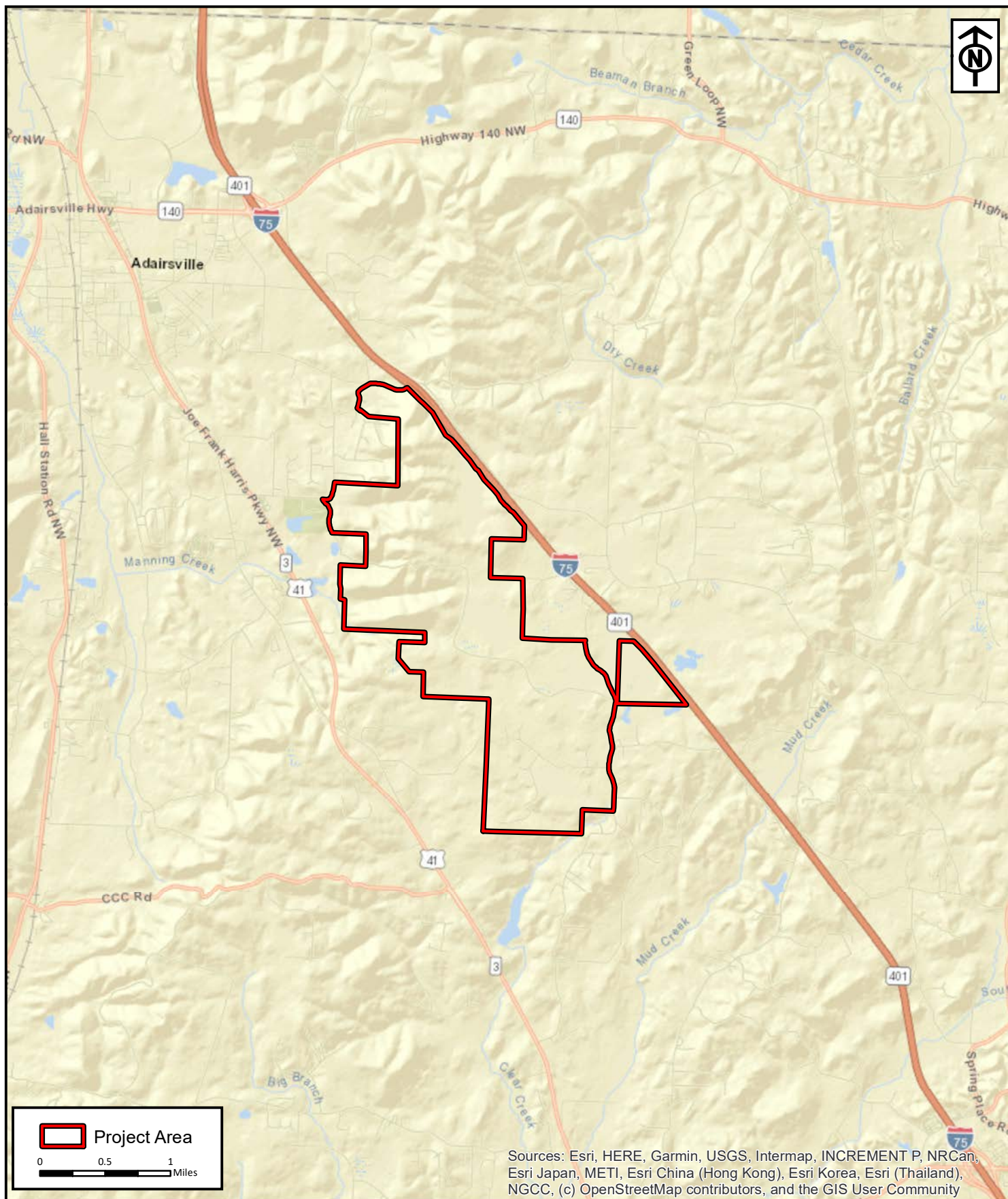
Color-Infrared Imagery

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	1
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 1 miles

Alternative Site 4

Bartow County, Georgia

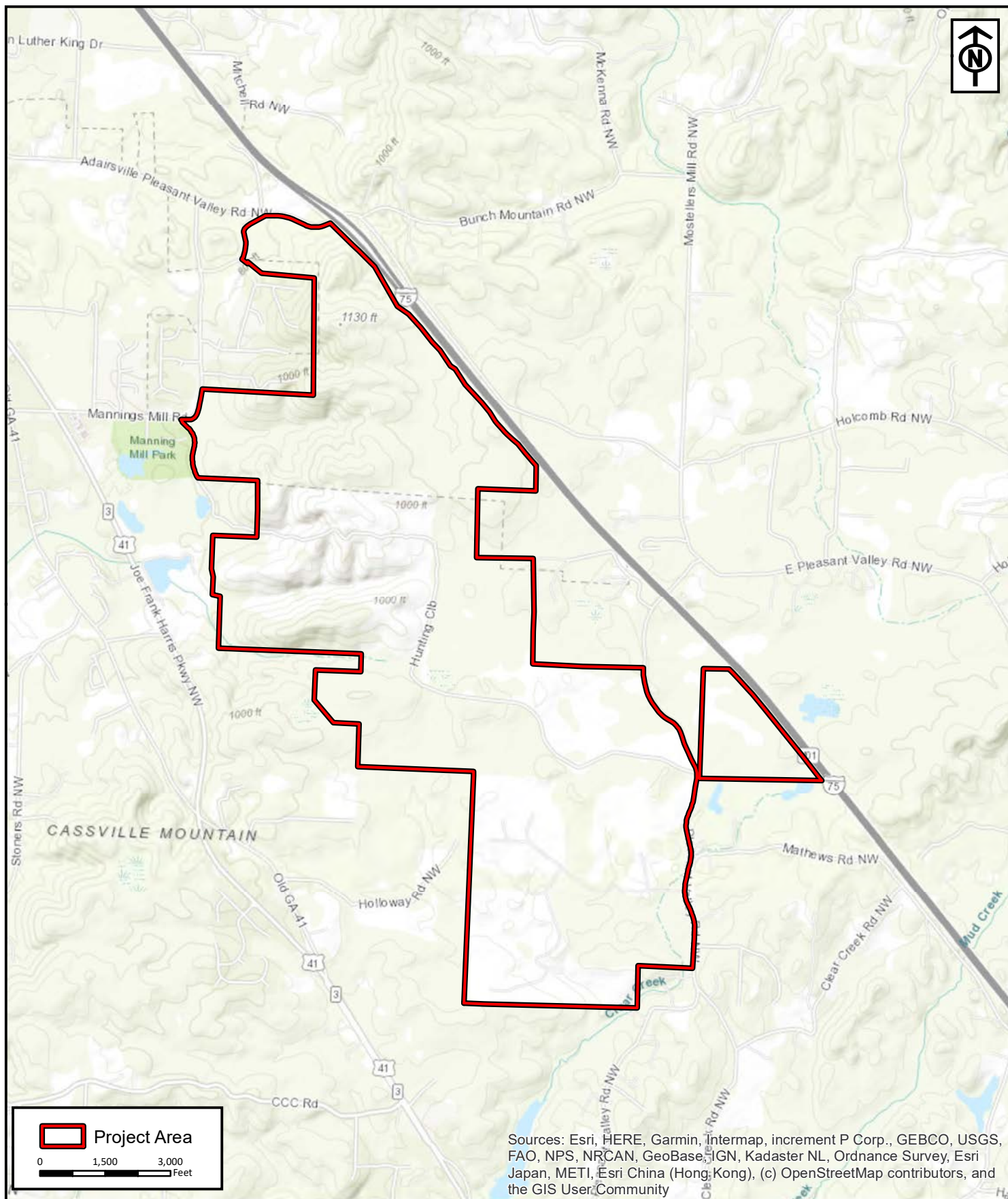
Project Location Map

Prepared For: GDECd & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

41 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5596 www.rlandc.com



RLC Project No.:	20-035.1
Figure No.:	2
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 4

Bartow County, Georgia

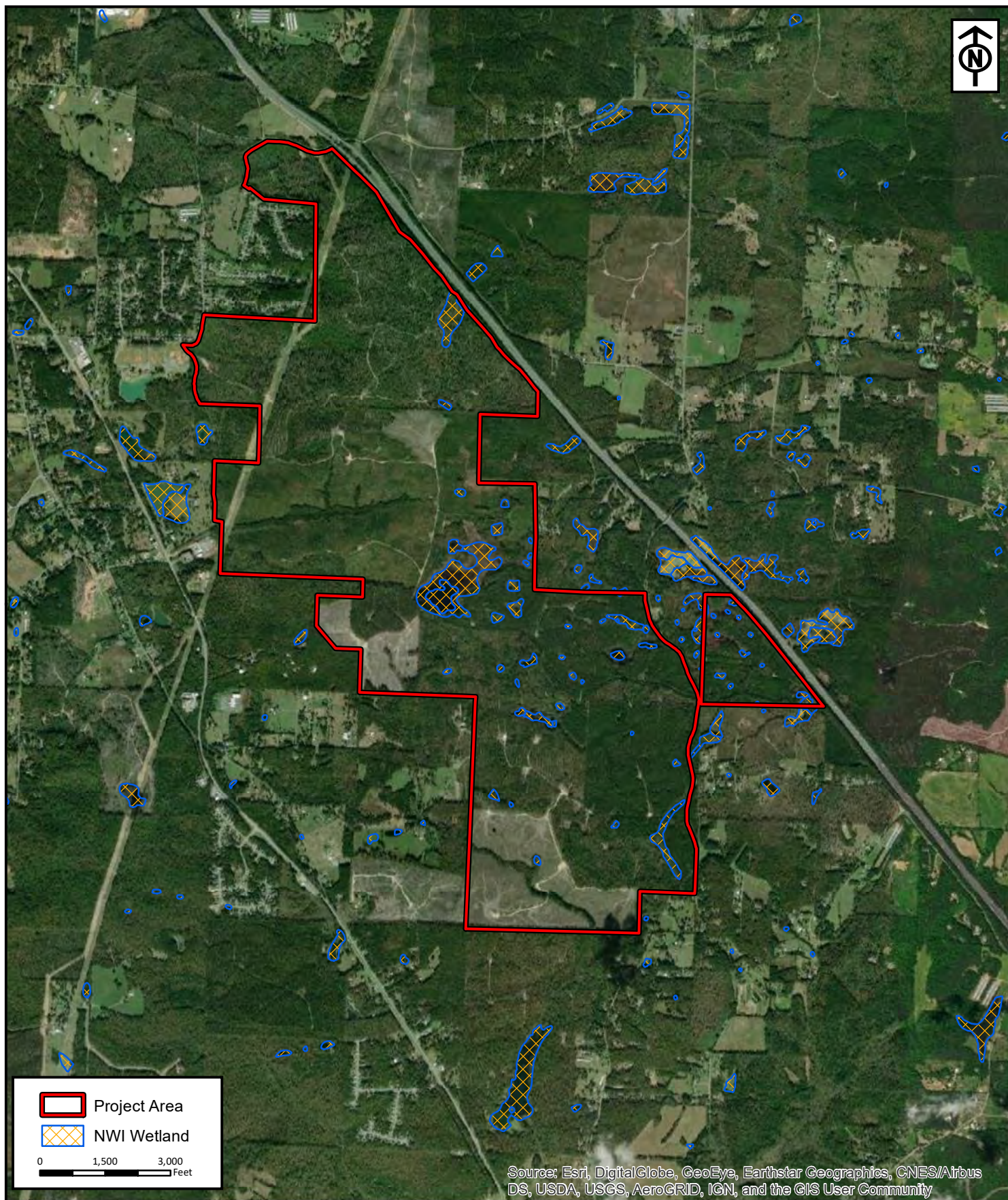
USGS Topographic Map

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	4
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 4

Bartow County, Georgia

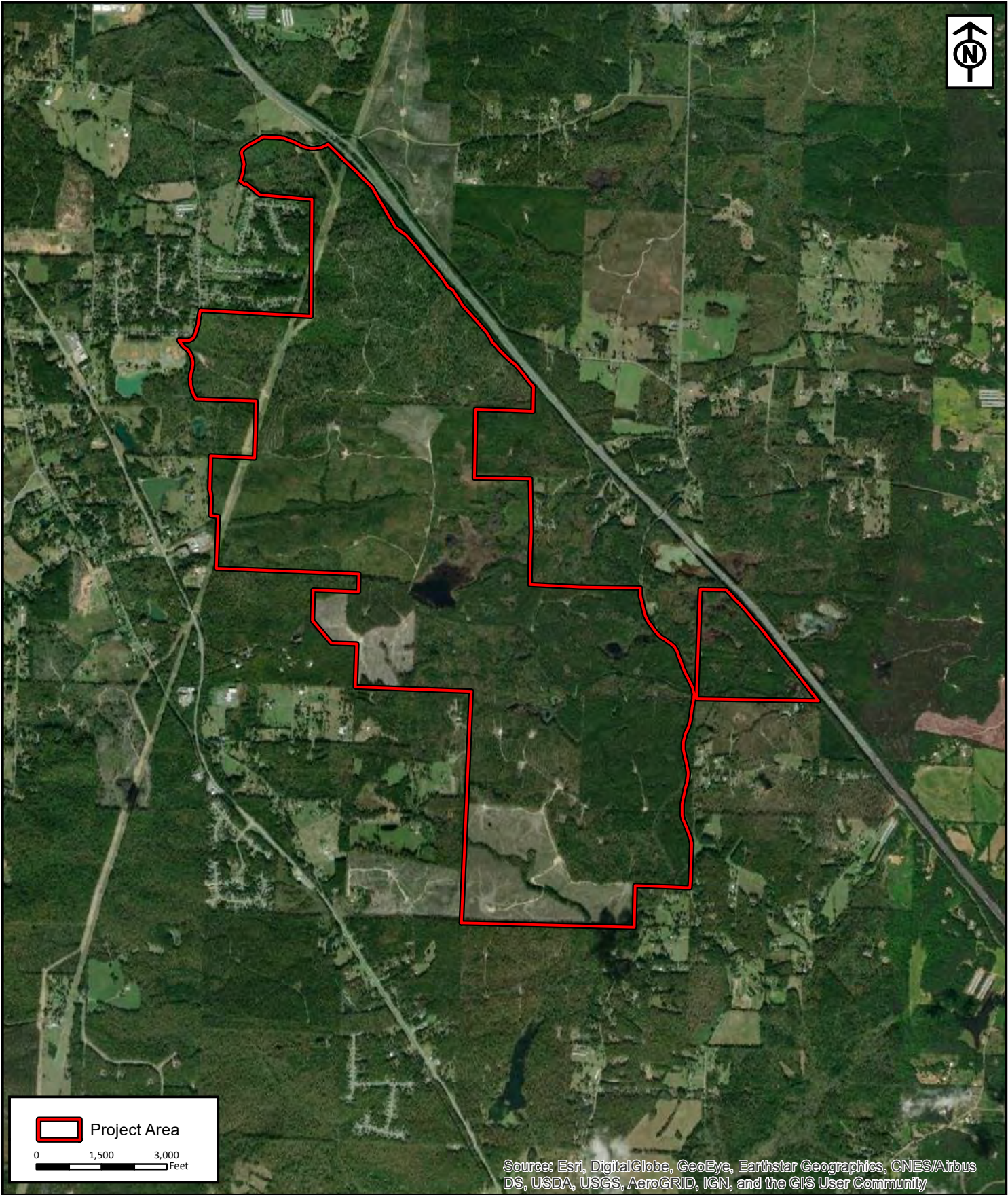
National Wetlands

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	5
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 4

Bartow County, Georgia

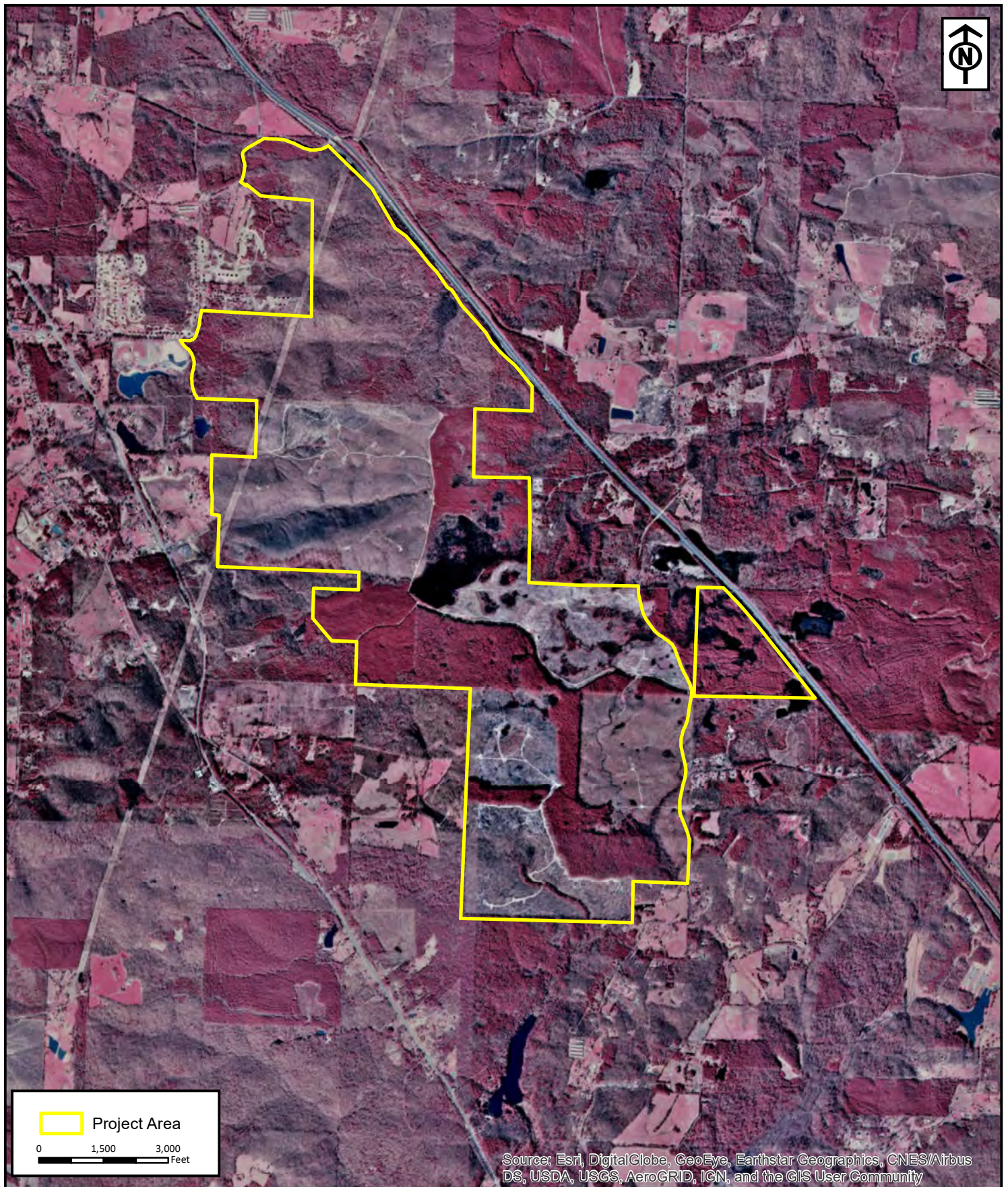
2021 Ortho Aerial

Prepared For: GDEC & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

RESOURCE+LAND
CONSULTANTS

431 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rlcinc.com



RLC Project No.:	20-035.1
Figure No.:	6
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 4

Bartow County, Georgia

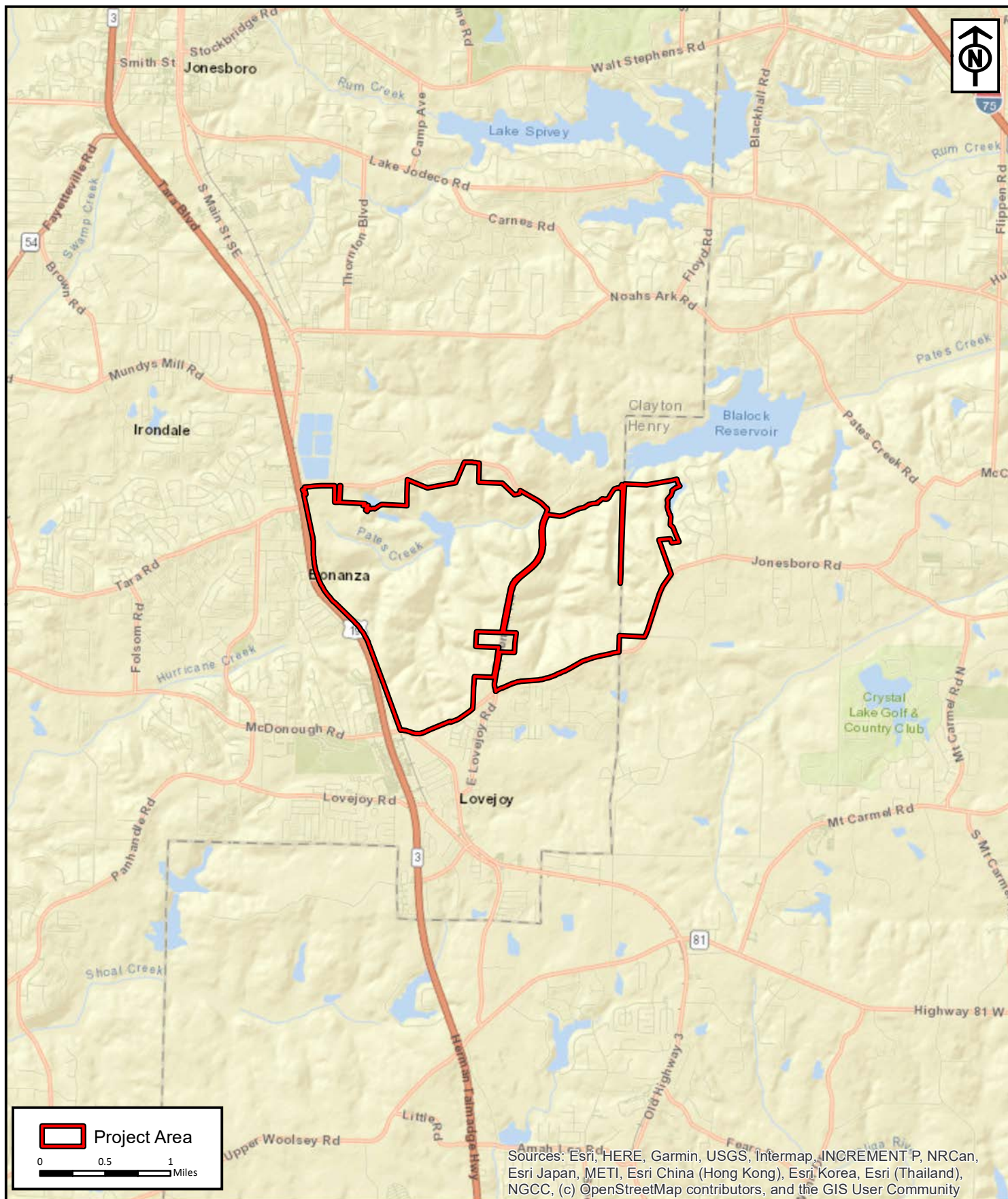
Color-Infrared Imagery

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	1
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 1 miles

Alternative Site 5

Clayton County, Georgia

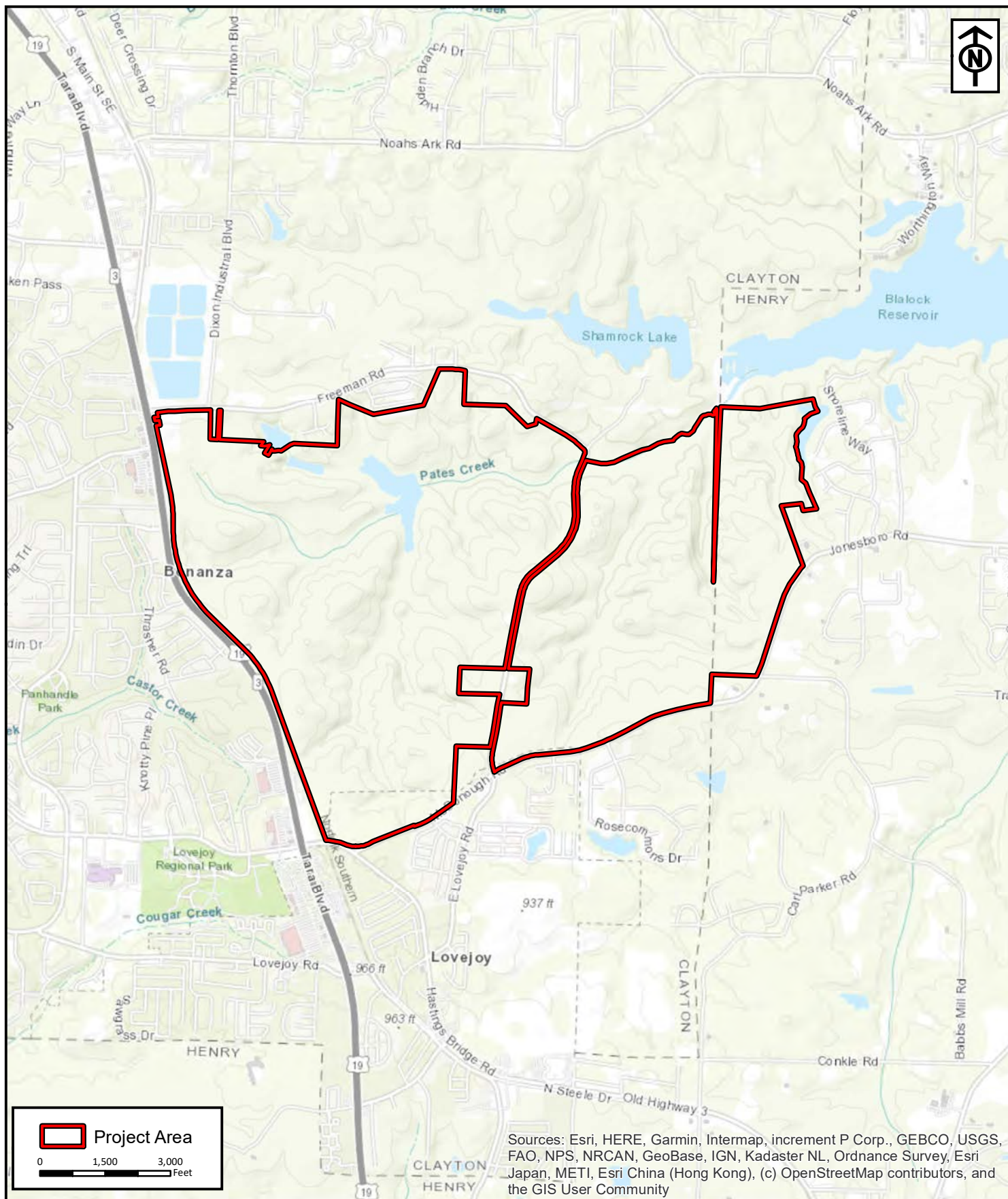
Project Location Map

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	2
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 5

Clayton County, Georgia

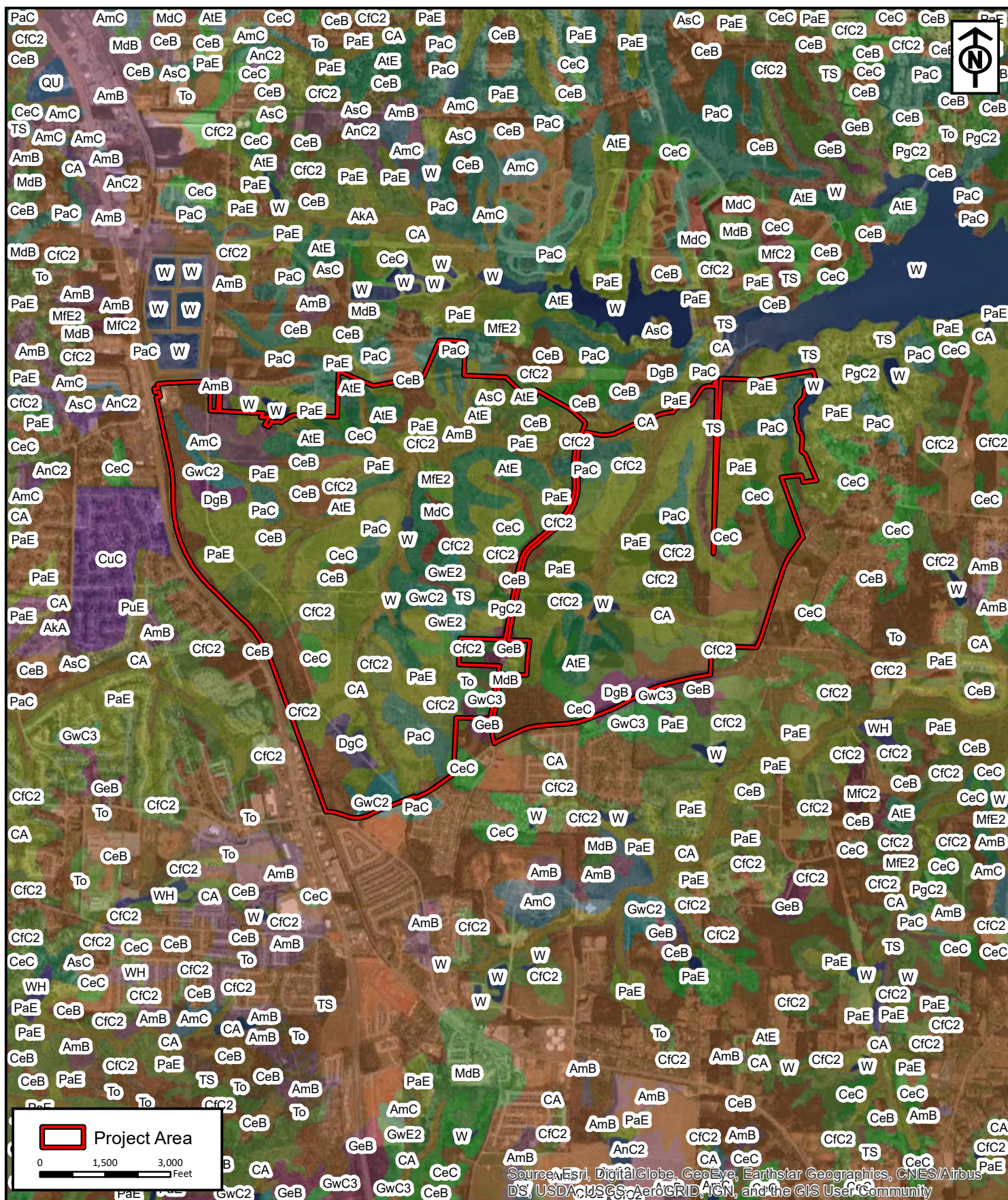
USGS Topographic Map

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.: 20-035.1

Figure No.: 3

Prepared By: JP

Sketch Date: 4/26/2022

Map Scale : 1 inch = 3,000 feet

Alternative Site 5

Clayton County, Georgia

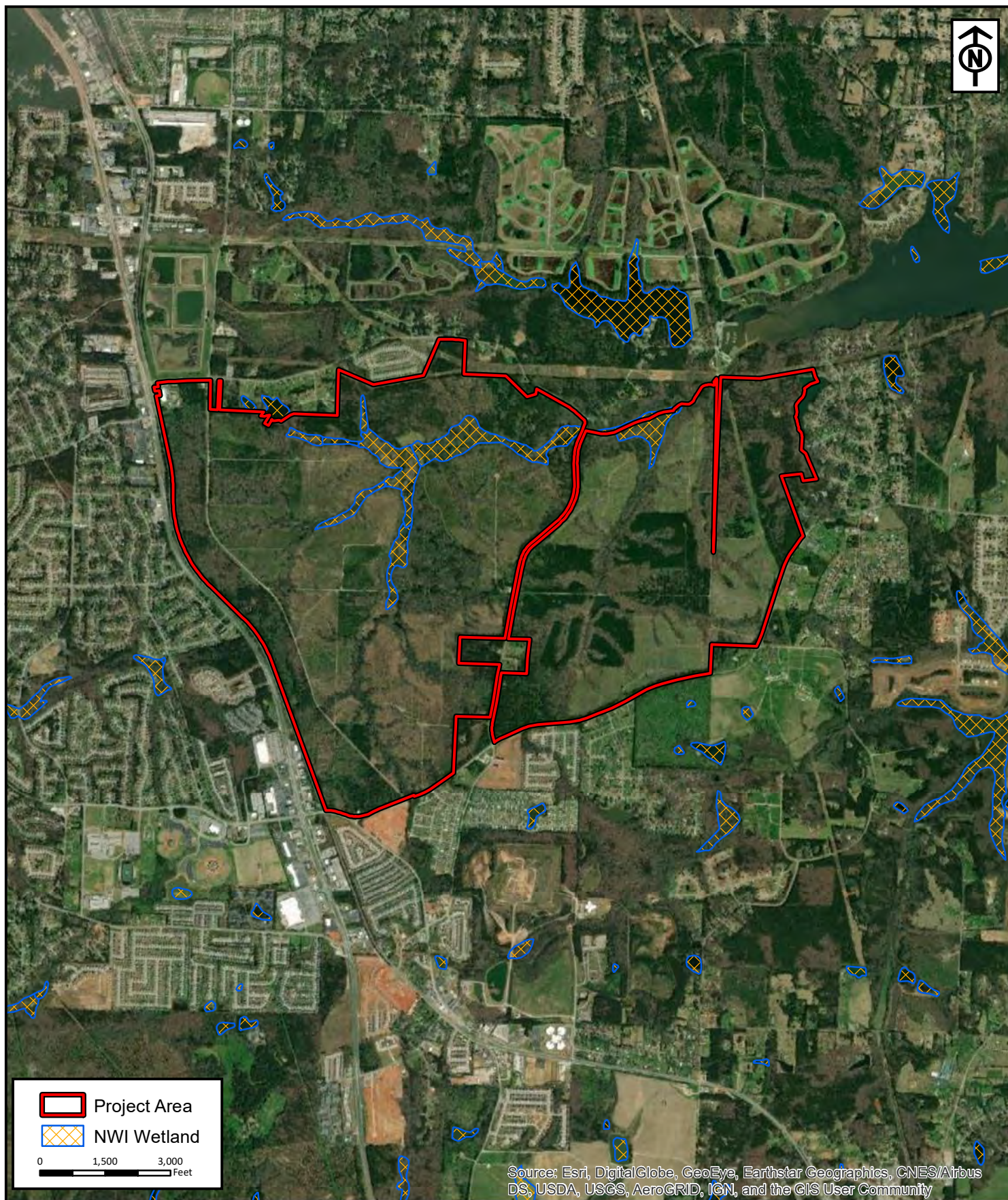
NRCS Soil Map

Prepared For: GDECd & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	4
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 5

Clayton County, Georgia

National Wetlands

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	5
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 5

Clayton County, Georgia

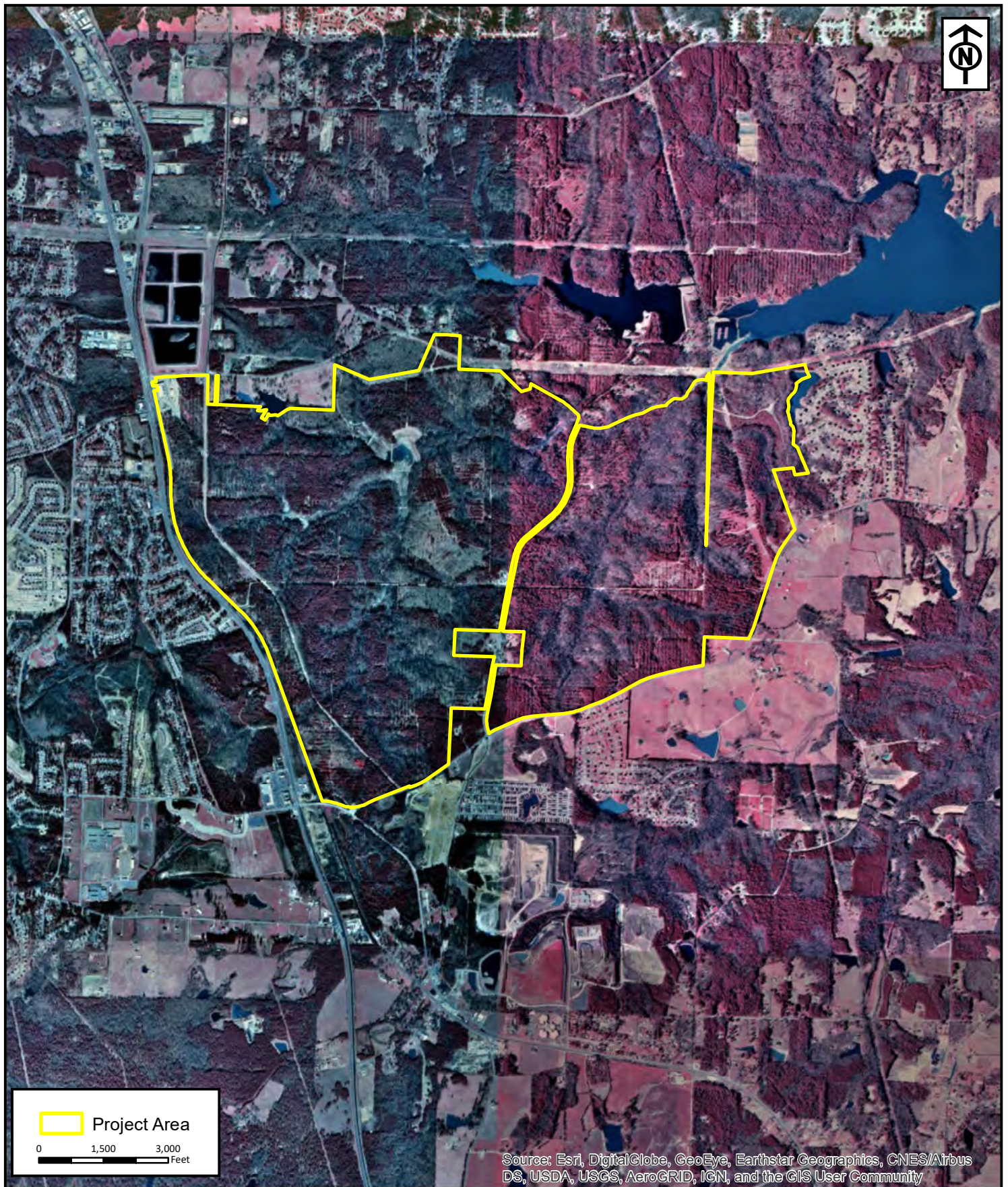
2021 Ortho Aerial

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

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



RLC Project No.:	20-035.1
Figure No.:	6
Prepared By:	JP
Sketch Date:	4/26/2022
Map Scale :	1 inch = 3,000 feet

Alternative Site 5

Clayton County, Georgia

Color-Infrared Imagery

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County

RLC

**RESOURCE+LAND
CONSULTANTS**

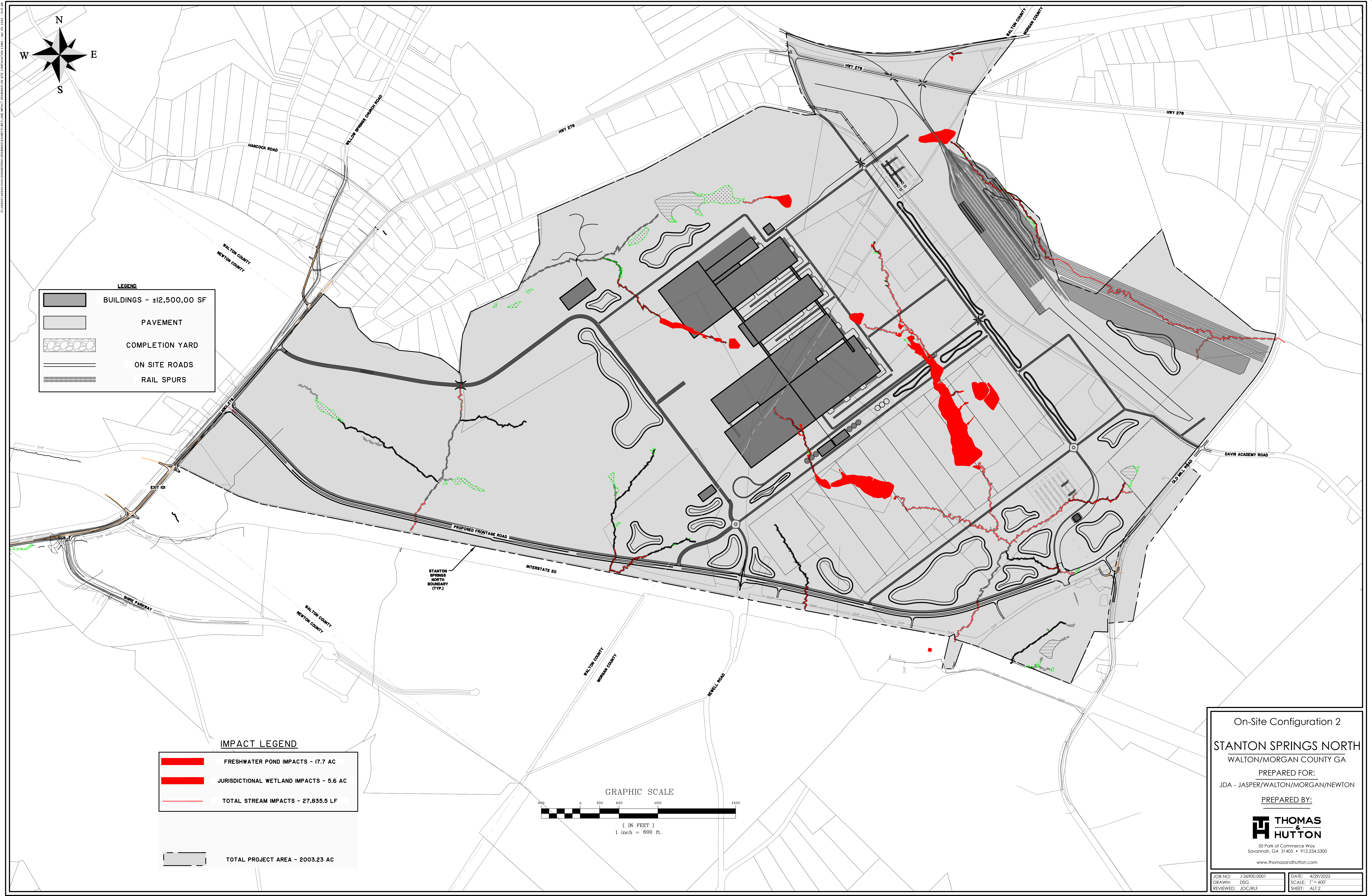
411 Park of Commerce Way, Ste. 101
Savannah, Georgia 31405
912.443.5896 www.rlandc.com



RESOURCE+LAND
CONSULTANTS

APPENDIX E: On-Site Configurations

ALTERNATIVE 2: ON-SITE CONFIGURATION 2: WETLAND IMPACTS AND MITIGATION MEASURES - 4/29/2022 - 10/15/2022



On-Site Configuration 2

STANTON SPRINGS NORTH
WALTON/MORGAN COUNTY GA

PREPARED FOR:
JDA - JASPER/WALTON/MORGAN/NEWTN

PREPARED BY:
THOMAS & HUTTON
50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300
www.thomasandhutton.com

JOB NO: J-26900.0001	DATE: 4/29/2022
DRAWN: DSG	SCALE: 1" = 600'
REVIEWED: JOC/RLF	SHEET: ALT 2

ALTERNATIVE DESIGN SUBMITTALS DRAWINGS EXHIBIT 1: WETLAND IMPACT DRAWINGS ON SITE CONFIGURATION 3DAR - Apr 29, 2022 - 10:15 AM



LEGEND

	BUILDINGS - ±12,500,00 SF
	PAVEMENT
	COMPLETION YARD
	ON SITE ROADS
	RAIL SPURS

IMPACT LEGEND

	FRESHWATER POND IMPACTS - 20.1 AC
	JURISDICTIONAL WETLAND IMPACTS - 11.3 AC
	TOTAL STREAM IMPACTS - 31,820 LF

GRAPHIC SCALE

TOTAL PROJECT AREA - 2003.23 AC

(IN FEET)

1 inch = 600 ft.

On-Site Configuration 3

STANTON SPRINGS NORTH

WALTON/MORGAN COUNTY GA

PREPARED FOR:

JDA - JASPER/WALTON/MORGAN/NEWTON

PREPARED BY:

THOMAS & HUTTON

50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300
www.thomasandhutton.com

JOB NO: J-26900.0001	DATE: 4/29/2022
DRAWN: DSG	SCALE: 1" = 600'
REVIEWED: JOC/RLF	SHEET: ALT 3



RESOURCE+LAND
CONSULTANTS

APPENDIX F: Compensatory Mitigation Calculations

Qualitative Worksheet Summary For Wetland Adverse Impacts						
Worksheet Number	Name of Wetland	Wetland Type	Acres of Impact (ac.)	Impact Duration	2018 Credits	Legacy Credits
1	1,2,4,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,32	Slope Wetlands	4.86	Permanent/Reoccurring	3.65	29.20
2			0.00		#N/A	#N/A
3			0.00		#N/A	#N/A
4			0.00		#N/A	#N/A
5			0.00		#N/A	#N/A
6			0.00		#N/A	#N/A
7			0.00		#N/A	#N/A
8			0.00		#N/A	#N/A
9			0.00		#N/A	#N/A
10			0.00		#N/A	#N/A
Summary of Credits Owed						
Wetland Type	Acres of Impact (ac.)	2018 Credits	Legacy Credits			
Freshwater Tidal Wetlands	0.00	0.00	0.00			
Saltwater Tidal Wetlands	0.00	0.00	0.00			
Riverine/Lacustrine Fringe Wetlands	0.00	0.00	0.00			
Slope Wetlands	4.86	3.65	29.20			
Depressional/Flat Wetlands	0.00	0.00	0.00			
Open Water/Ditch/Canal	0.00	0.00	0.00			

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Stanton Springs North
Impact Wetland Name:	1,2,4,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Acres of Impact (Acres):	4.86
Wetland Type:	Slope Wetlands
Date:	March 31, 2022

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Wetland Qualitative Functional Capacity Score (<u>WQFC</u>)	Moderate	0.75
2. Impact Category Description (<u>Impact Category</u>)	Discharge of Fill	1.00
3. Product of WQFC and Impact (<u>WQFC Impact</u>) =		0.75
4. Duration of Impact (<u>Duration</u>)	Permanent/Reoccurring	1.00
5. Product of WQFC Impact and Duration (<u>Total WQFC Impact</u>) =		0.75
6. Product of Total WQFC Impact and Acres (<u>Total 2018 Wetland Credits Owed</u>) =		3.65
7. Conversion of Total 2018 Wetland Credits to Legacy Credits (<u>Legacy Wetland Credits Owed</u>) =		29.20

Legend

Green Cells = User must manually input information.

Orange Cells = User must select the index choice from the drop-down list.

Grey Cells = The calculation of these cells is automated.

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Frontage Ephemeral 1			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	11.00	Sq. Mi.:	0.02	
SAR Center Coordinates:	33.60578758, -83.65315673			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
Yes	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Moderate			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Low			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Low			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Frontage Intermittent 1			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	12.00	Sq. Mi.:	0.02	
SAR Center Coordinates:	33.60596611, -83.65380362			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
Yes	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Moderate			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Frontage Intermittent 2			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	34.00	Sq. Mi.:	0.05	
SAR Center Coordinates:	33.60492834, -83.66644847			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
No	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	High			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Frontage Intermittent 3			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	40.00	Sq. Mi.:	0.06	
SAR Center Coordinates:	33.606232, -83.675367			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	High			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Frontage Intermittent 4			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	70.00	Sq. Mi.:	0.11	
SAR Center Coordinates:	33.606412, -83.676185			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes				
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	High			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes				
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	High			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE				
Moderate				
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT			
Project Name:	Stanton Springs North		
Impact Reach Name:	Frontage Perennial 1		
Stream Type:	Perennial (< 3 Sq. Miles)		
Catchment Size (in Acres):	1,062.00	Sq. Mi.:	1.66
SAR Center Coordinates:	33.608380, -83.686220		
Date:	4/29/2022		
Hydrology - 1			
Value	Questions		
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)		
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Moderate		
Hydraulics - 2			
Value	Questions		
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)		
Yes	Are there headcuts in the assessment reach? (Y/N)		
No	Has the assessment reach been previously straightened? (Y/N)		
FUNCTION SCORE	Low		
Geomorphology - 3			
Value	Questions		
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)		
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)		
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)		
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)		
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)		
FUNCTION SCORE	Moderate		
Chemistry - 4			
Value	Questions		
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)		
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?		
FUNCTION SCORE	High		
Biology - 5			
Value	Questions		
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?		
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)		
SUM	Moderate		
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate		
Legend			
Green Cell = User must manually input information.			
Orange Cells = User must select the index choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.			

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Frontage Perennial 2			
Stream Type:	Perennial (< 3 Sq. Miles)			
Catchment Size (in Acres):	900.00	Sq. Mi.:	1.41	
SAR Center Coordinates:	33.603558, -83.658184			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Moderate			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
Yes	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Moderate			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

Qualitative Worksheet Summary For Stream Adverse Impacts						
Worksheet Number	Name of Stream	Stream Type	Length of Impact (L.F.)	Impact Duration	2018 Credits	Legacy Credits
1	Frontage Ephemeral 1	Non-Perennial Streams	259	Permanent/Reoccurring	64.75	466.20
2	Frontage Intermittent 1-4	Non-Perennial Streams	1825	Permanent/Reoccurring	1368.75	9855.00
3	Frontage Perennial 1 & 2	Perennial Streams (less than 3 square miles)	1358	Permanent/Reoccurring	1018.50	12222.00
4				Choose Duration	Credits Owed	Legacy Credits Owed
5				Choose Duration	Credits Owed	Legacy Credits Owed
6				Choose Duration	Credits Owed	Legacy Credits Owed
7				Choose Duration	Credits Owed	Legacy Credits Owed
8				Choose Duration	Credits Owed	Legacy Credits Owed
9				Choose Duration	Credits Owed	Legacy Credits Owed
10				Choose Duration	Credits Owed	Legacy Credits Owed
Summary of Credits Owed						
Stream Type	Length of Impact (L.F.)	2018 Credits	Legacy Credits			
Non-Perennial Streams	2084	1433.50	10321.20			
Perennial Streams (less than 3 square miles)	1358	1018.50	12222.00			
Perennial Streams (greater than 3 square miles)		0.00	0.00			
Open Water/Ditch/Canal		0.00	0.00			

Worksheet 1: Qualitative Worksheet for Stream Adverse Impacts

Project Name:	Stanton Springs North
Impact Reach Name:	Frontage Ephemeral 1
Linear Feet of Impact (<i>Feet</i>):	259
Stream Type:	Non-Perennial Streams
Non-Perennial Flow Regime:	Ephemeral
Date:	April 29, 2022

Impact Factors

1. Stream Qualitative Functional Capacity Score (*SQFC*)

<u>Index Description</u>	<u>Index Value</u>
Low	0.50

2. Type of Impact (*Impact*)

Discharge of Fill (Including Culverts)	1.00
--	------

3. Product of SQFC and Impact (*SQFC Impact*) =

0.50

4. Duration of Impact (*Duration*)

Permanent/Reoccurring	1.00
-----------------------	------

5. Product of SQFC Impact and Duration (*Total SQFC Impact*) =

0.50

6. Product of Total SQFC Impact and Linear Feet (*Total 2018 Stream Credits Owed*)¹ =

64.75

7. Conversion of Total 2018 Stream Credits to Legacy Credits (*Legacy Stream Credits Owed*)^{2,3} =

466.20

Green Cells = User must manually input information.

Orange Cells = User must select the index choice from the drop-down list.

Grey Cells = The calculation of these cells is automated.

¹Total 2018 Stream Credits Owed are prorated to 50% for Non-Perennial Streams with Ephemeral Flow.

²Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Intermittent Flow.

³Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Ephemeral Flow.

Worksheet 2: Qualitative Worksheet for Stream Adverse Impacts

Project Name:	Stanton Springs North
Impact Reach Name:	Frontage Intermittent 1-4
Linear Feet of Impact (<i>Feet</i>):	1,825
Stream Type:	Non-Perennial Streams
Non-Perennial Flow Regime:	Intermittent
Date:	April 29, 2022

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Stream Qualitative Functional Capacity Score (<i>SQFC</i>)	Moderate	0.75
2. Type of Impact (<i>Impact</i>)	Discharge of Fill (Including Culverts)	1.00
3. Product of SQFC and Impact (<i>SQFC Impact</i>) =		0.75
4. Duration of Impact (<i>Duration</i>)	Permanent/Reoccurring	1.00
5. Product of SQFC Impact and Duration (<i>Total SQFC Impact</i>) =		0.75
6. Product of Total SQFC Impact and Linear Feet (<i>Total 2018 Stream Credits Owed</i>) ¹ =		1,368.75
7. Conversion of Total 2018 Stream Credits to Legacy Credits (<i>Legacy Stream Credits Owed</i>) ^{2,3} =		9,855.00

Green Cells = User must manually input information.

Orange Cells = User must select the index choice from the drop-down list.

Grey Cells = The calculation of these cells is automated.

¹Total 2018 Stream Credits Owed are prorated to 50% for Non-Perennial Streams with Ephemeral Flow.

²Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Intermittent Flow.

³Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Ephemeral Flow.

Worksheet 3: Qualitative Worksheet for Stream Adverse Impacts

Project Name:	Stanton Springs North
Impact Reach Name:	Frontage Perennial 1 & 2
Linear Feet of Impact (<i>Feet</i>):	1,358
Stream Type:	Perennial Streams (less than 3 square miles)
Non-Perennial Flow Regime:	
Date:	April 29, 2022

Impact Factors

- Stream Qualitative Functional Capacity Score (*SQFC*)
- Type of Impact (*Impact*)
- Product of SQFC and Impact (*SQFC Impact*) =
- Duration of Impact (*Duration*)
- Product of SQFC Impact and Duration (*Total SQFC Impact*) =
- Product of Total SQFC Impact and Linear Feet (*Total 2018 Stream Credits Owed*)¹ =
- Conversion of Total 2018 Stream Credits to Legacy Credits (*Legacy Stream Credits Owed*)^{2,3} =

Index Description

Index Value

Moderate	0.75
Discharge of Fill (Including Culverts)	1.00
	0.75
Permanent/Reoccurring	1.00
	0.75
	1,018.50
	12,222.00

Green Cells = User must manually input information.

Orange Cells = User must select the index choice from the drop-down list.

Grey Cells = The calculation of these cells is automated.

¹Total 2018 Stream Credits Owed are prorated to 50% for Non-Perennial Streams with Ephemeral Flow.

²Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Intermittent Flow.

³Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Ephemeral Flow.

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT			
Project Name:	Stanton Springs North		
Impact Reach Name:	Old Mill Perennial 1		
Stream Type:	Perennial (< 3 Sq. Miles)		
Catchment Size (in Acres):	247.00	Sq. Mi.:	0.39
SAR Center Coordinates:	33.615662, -83.642439		
Date:	4/29/2022		
Hydrology - 1			
Value	Questions		
Yes	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)		
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)		
FUNCTION SCORE	Moderate		
Hydraulics - 2			
Value	Questions		
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)		
Yes	Are there headcuts in the assessment reach? (Y/N)		
No	Has the assessment reach been previously straightened? (Y/N)		
FUNCTION SCORE	Low		
Geomorphology - 3			
Value	Questions		
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)		
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)		
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)		
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)		
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)		
FUNCTION SCORE	Moderate		
Chemistry - 4			
Value	Questions		
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)		
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?		
FUNCTION SCORE	Moderate		
Biology - 5			
Value	Questions		
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?		
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)		
SUM	Moderate		
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate		
Legend			
Green Cell = User must manually input information.			
Orange Cells = User must select the index choice from the drop-down list.			
Grey Cells = The calculation of these cells is automated.			
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.			

Qualitative Worksheet Summary For Stream Adverse Impacts						
Worksheet Number	Name of Stream	Stream Type	Length of Impact (L.F.)	Impact Duration	2018 Credits	Legacy Credits
1	Old Mill Perennial 1	Perennial Streams (less than 3 square miles)	101	Permanent/Reoccurring	75.75	909.00
2				Permanent/Reoccurring	Pick Stream Type	Pick Stream Type
3				Permanent/Reoccurring	Pick Stream Type	Pick Stream Type
4				Choose Duration	Credits Owed	Legacy Credits Owed
5				Choose Duration	Credits Owed	Legacy Credits Owed
6				Choose Duration	Credits Owed	Legacy Credits Owed
7				Choose Duration	Credits Owed	Legacy Credits Owed
8				Choose Duration	Credits Owed	Legacy Credits Owed
9				Choose Duration	Credits Owed	Legacy Credits Owed
10				Choose Duration	Credits Owed	Legacy Credits Owed
Summary of Credits Owed						
Stream Type	Length of Impact (L.F.)	2018 Credits	Legacy Credits			
Non-Perennial Streams		0.00	0.00			
Perennial Streams (less than 3 square miles)	101	75.75	909.00			
Perennial Streams (greater than 3 square miles)		0.00	0.00			
Open Water/Ditch/Canal		0.00	0.00			

Worksheet 1: Qualitative Worksheet for Stream Adverse Impacts

Project Name:	Stanton Springs North
Impact Reach Name:	Old Mill Perennial 1
Linear Feet of Impact (<u>Feet</u>):	101
Stream Type:	Perennial Streams (less than 3 square miles)
Non-Perennial Flow Regime:	
Date:	April 29, 2022

Impact Factors

1. Stream Qualitative Functional Capacity Score (SQFC)

<u>Index Description</u>	<u>Index Value</u>
Moderate	0.75

2. Type of Impact (Impact)

Discharge of Fill (Including Culverts)	1.00
--	------

3. Product of SQFC and Impact (SQFC Impact) =

0.75

4. Duration of Impact (Duration)

Permanent/Reoccurring	1.00
-----------------------	------

5. Product of SQFC Impact and Duration (Total SQFC Impact) =

0.75

6. Product of Total SQFC Impact and Linear Feet (**Total 2018 Stream Credits Owed**)¹ =

75.75

7. Conversion of Total 2018 Stream Credits to Legacy Credits (**Legacy Stream Credits Owed**)^{2,3} =

909.00

Green Cells = User must manually input information.

Orange Cells = User must select the index choice from the drop-down list.

Grey Cells = The calculation of these cells is automated.

¹Total 2018 Stream Credits Owed are prorated to 50% for Non-Perennial Streams with Ephemeral Flow.

²Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Intermittent Flow.

³Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Ephemeral Flow.

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Ephemeral 3			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	0.50	Sq. Mi.:	0.00	
SAR Center Coordinates:	33.619394, -83.662596			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
Yes	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	High			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Ephemeral 4			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	10.50	Sq. Mi.:	0.02	
SAR Center Coordinates:	33.616114, -83.662620			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
No	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Moderate			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
No	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Ephemeral 5			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	16.00	Sq. Mi.:	0.03	
SAR Center Coordinates:	33.616097, -83.661313			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
No	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Moderate			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
No	Is there high bank erosion present throughout the assessment reach? (Y/N)			
No	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Ephemeral 6			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	9.30	Sq. Mi.:	0.01	
SAR Center Coordinates:	33.612423, -83.667698			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
No	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Moderate			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Ephemeral 7			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	0.50	Sq. Mi.:	0.00	
SAR Center Coordinates:	33.606412, -83.676185			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
No	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Moderate			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
No	Is there high bank erosion present throughout the assessment reach? (Y/N)			
No	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
Yes	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Moderate			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Moderate			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Low			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Ephemeral 8			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	0.50	Sq. Mi.:	0.00	
SAR Center Coordinates:	33.609522, -83.657048			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
No	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Moderate			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Ephemeral 9			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	3.00	Sq. Mi.:	0.00	
SAR Center Coordinates:	33.608998, -83.652841			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
Yes	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	High			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
No	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	High			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Ephemeral 10			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	2.80	Sq. Mi.:	0.00	
SAR Center Coordinates:	33.609143, -83.650189			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
No	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
No	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Moderate			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Low			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Low			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Intermittent 1			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	4.50	Sq. Mi.:	0.01	
SAR Center Coordinates:	33.627822, -83.658672			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
Yes	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
No	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Moderate			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Low			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Intermittent 2			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	14.00	Sq. Mi.:	0.02	
SAR Center Coordinates:	33.615866, -83.671475			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Moderate			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	High			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Intermittent 3			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	7.00	Sq. Mi.:	0.01	
SAR Center Coordinates:	33.615617, -83.670588			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
Hydraulics - 2				
Value	Questions			
Yes	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
No	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	High			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
No	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Moderate			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Moderate			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Intermittent 4			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	41.00	Sq. Mi.:	0.06	
SAR Center Coordinates:	33.617387, -83.674914			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Moderate			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	High			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Intermittent 5			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	12.00	Sq. Mi.:	0.02	
SAR Center Coordinates:	33.611315, -83.666442			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
Yes	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	High			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	High			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Intermittent 6			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	10.00	Sq. Mi.:	0.02	
SAR Center Coordinates:	33.608862, -83.651494			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
No	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Moderate			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
Yes	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	High			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
Yes	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Low			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Intermittent 7			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	8.00	Sq. Mi.:	0.01	
SAR Center Coordinates:	33.619496, -83.662876			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Moderate			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	High			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	High			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Intermittent 8			
Stream Type:	Non-Perennial			
Catchment Size (in Acres):	2.50	Sq. Mi.:	0.00	
SAR Center Coordinates:	33.613424, -83.658862			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
No	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
No	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
No	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	Low			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Moderate			
Biology - 5				
Value	Questions			
No	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Low			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Low			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Perennial 1			
Stream Type:	Perennial (< 3 Sq. Miles)			
Catchment Size (in Acres):	861.00	Sq. Mi.:	1.35	
SAR Center Coordinates:	33.613336, -83.684001			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
Yes	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	High			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
No	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Moderate			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Perennial 2			
Stream Type:	Perennial (< 3 Sq. Miles)			
Catchment Size (in Acres):	81.00	Sq. Mi.:	0.13	
SAR Center Coordinates:	33.616499, -83.661568			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Moderate			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
Yes	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	High			
Chemistry - 4				
Value	Questions			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
Yes	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Moderate			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
Yes	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	High			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Perennial 3			
Stream Type:	Perennial (< 3 Sq. Miles)			
Catchment Size (in Acres):	321.00	Sq. Mi.:	0.50	
SAR Center Coordinates:	33.607770, -83.658056			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
Yes	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	High			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
Yes	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Low			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

PIEDMONT / RIDGE & VALLEY / BLUE RIDGE QUALITATIVE STREAM ASSESSMENT				
Project Name:	Stanton Springs North			
Impact Reach Name:	Site Perennial 4			
Stream Type:	Perennial (< 3 Sq. Miles)			
Catchment Size (in Acres):	89.00	Sq. Mi.:	0.14	
SAR Center Coordinates:	33.607850, -83.654526			
Date:	4/29/2022			
Hydrology - 1				
Value	Questions			
No	The surface and groundwater hydrology of the assessment reach are free of upstream catchment impairments (e.g., diversions, stormwater management structures, wastewater facilities, agricultural ditches)? (Y/N)			
No	Is the contributing drainage basin of the assessment reach at least 50 percent forested? (Y/N)			
FUNCTION SCORE	Low			
Hydraulics - 2				
Value	Questions			
No	Is the assessment reach connected to it's floodplain at bankfull event? (Y/N)			
Yes	Are there headcuts in the assessment reach? (Y/N)			
No	Has the assessment reach been previously straightened? (Y/N)			
FUNCTION SCORE	Low			
Geomorphology - 3				
Value	Questions			
Yes	Does the assessment reach have bedform diversity (i.e., the presence of riffle/pool or step/pool complexes)? (Y/N)			
Yes	Is there high bank erosion present throughout the assessment reach? (Y/N)			
Yes	Is there large woody debris (LWD) in the assessment reach? (Y/N)			
Yes	Are riffles/runs in the assessment reach comprised of coarse material (i.e., gravel or larger)? (Y/N)			
Yes	Is there a woody riparian buffer (i.e., 25 feet in width) adjacent to both sides of the assessment reach? (Y/N)			
FUNCTION SCORE	High			
Chemistry - 4				
Value	Questions			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
Yes	Is the assessment reach designated as an impaired water on the most recent 303(D)/305(b) list?			
FUNCTION SCORE	Low			
Biology - 5				
Value	Questions			
Yes	Is there habitat diversity in the assessment reach (i.e., at least 3 of the following habitats: riffles, pools, steps, overhangs, leaf packs, woody debris)?			
No	Is the contributing drainage basin of the assessment reach at least 50 percent of the forested? (Y/N)			
SUM	Moderate			
STREAM QUALITATIVE FUNCTIONAL CAPACITY SCORE	Moderate			
Legend				
Green Cell = User must manually input information.				
Orange Cells = User must select the index choice from the drop-down list.				
Grey Cells = The calculation of these cells is automated.				
Dark Grey Cells = These cells do not require input. The corresponding index value is populated from the user input to a previous question.				

Qualitative Worksheet Summary For Stream Adverse Impacts						
Worksheet Number	Name of Stream	Stream Type	Length of Impact (L.F.)	Impact Duration	2018 Credits	Legacy Credits
1	3,4,5,6,7,8,9	Non-Perennial Streams	1524	Permanent/Reoccurring	571.50	4114.80
2	2,3,4,5,6,7	Non-Perennial Streams	3813	Permanent/Reoccurring	2859.75	20590.20
3	1,2,3,4	Perennial Streams (less than 3 square miles)	8136	Permanent/Reoccurring	6102.00	73224.00
4	10	Non-Perennial Streams	166	Permanent/Reoccurring	41.50	298.80
5	1,8	Non-Perennial Streams	318	Permanent/Reoccurring	159.00	1144.80
6				Choose Duration	Credits Owed	Legacy Credits Owed
7				Choose Duration	Credits Owed	Legacy Credits Owed
8				Choose Duration	Credits Owed	Legacy Credits Owed
9				Choose Duration	Credits Owed	Legacy Credits Owed
10				Choose Duration	Credits Owed	Legacy Credits Owed
Summary of Credits Owed						
Stream Type	Length of Impact (L.F.)	2018 Credits	Legacy Credits			
Non-Perennial Streams	5821	3631.75	26148.60			
Perennial Streams (less than 3 square miles)	8136	6102.00	73224.00			
Perennial Streams (greater than 3 square miles)		0.00	0.00			
Open Water/Ditch/Canal		0.00	0.00			

Worksheet 1: Qualitative Worksheet for Stream Adverse Impacts

Project Name:	Stanton Springs North
Impact Reach Name:	3,4,5,6,7,8,9
Linear Feet of Impact (<i>Feet</i>):	1,524
Stream Type:	Non-Perennial Streams
Non-Perennial Flow Regime:	Ephemeral
Date:	April 29, 2022

Impact Factors

1. Stream Qualitative Functional Capacity Score (*SQFC*)

<u>Index Description</u>	<u>Index Value</u>
Moderate	0.75

2. Type of Impact (*Impact*)

Discharge of Fill (Including Culverts)	1.00
--	------

3. Product of SQFC and Impact (*SQFC Impact*) =

0.75

4. Duration of Impact (*Duration*)

Permanent/Reoccurring	1.00
-----------------------	------

5. Product of SQFC Impact and Duration (*Total SQFC Impact*) =

0.75

6. Product of Total SQFC Impact and Linear Feet (*Total 2018 Stream Credits Owed*)¹ =

571.50

7. Conversion of Total 2018 Stream Credits to Legacy Credits (*Legacy Stream Credits Owed*)^{2,3} =

4,114.80

Green Cells = User must manually input information.

Orange Cells = User must select the index choice from the drop-down list.

Grey Cells = The calculation of these cells is automated.

¹Total 2018 Stream Credits Owed are prorated to 50% for Non-Perennial Streams with Ephemeral Flow.

²Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Intermittent Flow.

³Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Ephemeral Flow.

Worksheet 2: Qualitative Worksheet for Stream Adverse Impacts

Project Name:	Stanton Springs North
Impact Reach Name:	2,3,4,5,6,7
Linear Feet of Impact (<i>Feet</i>):	3,813
Stream Type:	Non-Perennial Streams
Non-Perennial Flow Regime:	Intermittent
Date:	April 29, 2022

Impact Factors

1. Stream Qualitative Functional Capacity Score (*SQFC*)

<u>Index Description</u>	<u>Index Value</u>
Moderate	0.75

2. Type of Impact (*Impact*)

Discharge of Fill (Including Culverts)	1.00
--	------

3. Product of SQFC and Impact (*SQFC Impact*) =

0.75

4. Duration of Impact (*Duration*)

Permanent/Reoccurring	1.00
-----------------------	------

5. Product of SQFC Impact and Duration (*Total SQFC Impact*) =

0.75

6. Product of Total SQFC Impact and Linear Feet (*Total 2018 Stream Credits Owed*)¹ =

2,859.75

7. Conversion of Total 2018 Stream Credits to Legacy Credits (*Legacy Stream Credits Owed*)^{2,3} =

20,590.20

Green Cells = User must manually input information.

Orange Cells = User must select the index choice from the drop-down list.

Grey Cells = The calculation of these cells is automated.

¹Total 2018 Stream Credits Owed are prorated to 50% for Non-Perennial Streams with Ephemeral Flow.

²Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Intermittent Flow.

³Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Ephemeral Flow.

Worksheet 3: Qualitative Worksheet for Stream Adverse Impacts

Project Name:	Stanton Springs North
Impact Reach Name:	1,2,3,4
Linear Feet of Impact (<i>Feet</i>):	8,136
Stream Type:	Perennial Streams (less than 3 square miles)
Non-Perennial Flow Regime:	
Date:	April 29, 2022

Impact Factors

- Stream Qualitative Functional Capacity Score (*SQFC*)
- Type of Impact (*Impact*)
- Product of SQFC and Impact (*SQFC Impact*) =
- Duration of Impact (*Duration*)
- Product of SQFC Impact and Duration (*Total SQFC Impact*) =
- Product of Total SQFC Impact and Linear Feet (***Total 2018 Stream Credits Owed***)¹ =
- Conversion of Total 2018 Stream Credits to Legacy Credits (***Legacy Stream Credits Owed***)^{2,3} =

Index Description

Index Value

Moderate	0.75
Discharge of Fill (Including Culverts)	1.00
	0.75
Permanent/Reoccurring	1.00
	0.75
	6,102.00
	73,224.00

Green Cells = User must manually input information.

Orange Cells = User must select the index choice from the drop-down list.

Grey Cells = The calculation of these cells is automated.

¹Total 2018 Stream Credits Owed are prorated to 50% for Non-Perennial Streams with Ephemeral Flow.

²Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Intermittent Flow.

³Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Ephemeral Flow.

Worksheet 4: Qualitative Worksheet for Stream Adverse Impacts

Project Name:	Stanton Springs North
Impact Reach Name:	10
Linear Feet of Impact (<i>Feet</i>):	166
Stream Type:	Non-Perennial Streams
Non-Perennial Flow Regime:	Ephemeral
Date:	April 29, 2022

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Stream Qualitative Functional Capacity Score (<i>SQFC</i>)	Low	0.50
2. Type of Impact (<i>Impact</i>)	Discharge of Fill (Including Culverts)	1.00
3. Product of SQFC and Impact (<i>SQFC Impact</i>) =		0.50
4. Duration of Impact (<i>Duration</i>)	Permanent/Reoccurring	1.00
5. Product of SQFC Impact and Duration (<i>Total SQFC Impact</i>) =		0.50
6. Product of Total SQFC Impact and Linear Feet (<i>Total 2018 Stream Credits Owed</i>) ¹ =		41.50
7. Conversion of Total 2018 Stream Credits to Legacy Credits (<i>Legacy Stream Credits Owed</i>) ^{2,3} =		298.80

Green Cells = User must manually input information.

Orange Cells = User must select the index choice from the drop-down list.

Grey Cells = The calculation of these cells is automated.

¹Total 2018 Stream Credits Owed are prorated to 50% for Non-Perennial Streams with Ephemeral Flow.

²Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Intermittent Flow.

³Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Ephemeral Flow.

Worksheet 5: Qualitative Worksheet for Stream Adverse Impacts

Project Name:	Stanton Springs North
Impact Reach Name:	1,8
Linear Feet of Impact (<i>Feet</i>):	318
Stream Type:	Non-Perennial Streams
Non-Perennial Flow Regime:	Intermittent
Date:	April 29, 2022

Impact Factors

	<u>Index Description</u>	<u>Index Value</u>
1. Stream Qualitative Functional Capacity Score (<i>SQFC</i>)	Low	0.50
2. Type of Impact (<i>Impact</i>)	Discharge of Fill (Including Culverts)	1.00
3. Product of SQFC and Impact (<i>SQFC Impact</i>) =		0.50
4. Duration of Impact (<i>Duration</i>)	Permanent/Reoccurring	1.00
5. Product of SQFC Impact and Duration (<i>Total SQFC Impact</i>) =		0.50
6. Product of Total SQFC Impact and Linear Feet (<i>Total 2018 Stream Credits Owed</i>) ¹ =		159.00
7. Conversion of Total 2018 Stream Credits to Legacy Credits (<i>Legacy Stream Credits Owed</i>) ^{2,3} =		1,144.80

Green Cells = User must manually input information.

Orange Cells = User must select the index choice from the drop-down list.

Grey Cells = The calculation of these cells is automated.

¹Total 2018 Stream Credits Owed are prorated to 50% for Non-Perennial Streams with Ephemeral Flow.

²Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Intermittent Flow.

³Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Ephemeral Flow.

Worksheet 6: Qualitative Worksheet for Stream Adverse Impacts

Project Name:	
Impact Reach Name:	
Linear Feet of Impact (<i>Feet</i>):	
Stream Type:	
Non-Perennial Flow Regime:	
Date:	

<u>Impact Factors</u>	<u>Index Description</u>	<u>Index Value</u>
1. Stream Qualitative Functional Capacity Score (<i>SQFC</i>)	Choose SQFC	SQFC Index
2. Type of Impact (<i>Impact</i>)	Choose Primary Adverse Impact	Impact Index
3. Product of SQFC and Impact (<i>SQFC Impact</i>) =		SQFC Impact
4. Duration of Impact (<i>Duration</i>)	Choose Duration	Duration Index
5. Product of SQFC Impact and Duration (<i>Total SQFC Impact</i>) =		Total SQFC Impact
6. Product of Total SQFC Impact and Linear Feet (<i>Total 2018 Stream Credits Owed</i>) ¹ =		Credits Owed
7. Conversion of Total 2018 Stream Credits to Legacy Credits (<i>Legacy Stream Credits Owed</i>) ^{2,3} =		Legacy Credits Owed

Green Cells = User must manually input information.
Orange Cells = User must select the index choice from the drop-down list.
Grey Cells = The calculation of these cells is automated.
¹ Total 2018 Stream Credits Owed are prorated to 50% for Non-Perennial Streams with Ephemeral Flow.
² Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Intermittent Flow.
³ Legacy Stream Credits Owed are prorated to 60% for Non-Perennial Streams with Ephemeral Flow.

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

April 2022

Stanton Springs North Threatened & Endangered Species Survey

Prepared For:

Georgia Department of Economic Development

&

Joint Development Authority of

Jasper County, Morgan County, Newton County & Walton County



RESOURCE+LAND
CONSULTANTS

Resource + Land Consultants

41 Park of Commerce Way, Suite 101

Savannah, Georgia 31405

912.443.5896 | rlandc.com

RLC # 20-035.1

TABLE OF CONTENTS

I.	PROJECT OVERVIEW	2
A.	Introduction.....	2
B.	Survey Methodology	2
C.	Habitats and Land Use Areas	2
II.	FEDERALLY PROTECTED RESOURCES	4
A.	Protected Species and Habitats.....	4
B.	Federally Threatened and Endangered Species	4
III.	CONCLUSION.....	5

Appendices

Appendix A - RLC Prepared Figures

Appendix B - U.S. Fish and Wildlife Service, Trust Resources List (IPaC)

I. PROJECT OVERVIEW

A. Introduction

A protected species assessment for the ±2,003.23-acre Stanton Springs North was completed by Resource & Land Consultants (RLC) during December 2021. The tract is generally located north of Interstate 20, east of Highway 278, and west of Old Mill Road in Morgan and Walton Counties, Georgia (33.614720°, -83.668892°; Figure 1). RLC personnel conducted the assessment to determine the potential for occurrence of animal and plant species currently listed as threatened or endangered by federal regulations located within and surrounding the project area.

B. Survey Methodology

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 (NWI) Maps, and Natural Resource Conservation Service (NRCS) Soil Survey were examined in an effort to complete a preliminary determination of existing habitats prior to the field visit. A review of the U.S. Fish and Wildlife Service's (US-FWS) Information, Planning, and Conservation System (IPaC, Appendix B) was also conducted to identify species that are known to occur within and surrounding the project area. Following review of available information, RLC conducted a pedestrian survey of the project site to confirm existing habitats on site and the potential for those habitats to support any federally listed species. Pedestrian surveys were conducted on 14 and 15 December 2021. The age and species composition of existing habitats were recorded, and vegetative community and habitat types were identified.

C. Habitats and Land Use Areas

This site is characterized by eight habitat types which include Agricultural Field, Mature Mixed Pine and Hardwood Upland, Mature Hardwood Upland, Upland-Dug Pond, Food Plots, Road, Mature Hardwood Wetland, and Streams. A brief description of each habitat type is included below.

Mature Mixed Pine and Hardwood Upland: Approximately 948.05 acres of Mature Mixed Pine and Hardwood Upland is present within the property. This habitat generally contains an overstory that is 40+ years in age and show no significant signs of recent disturbance. The overstory is comprised of a full canopy of hardwoods and pines and the understory is relatively open due to the heavy canopy coverage.

Overstory:

Loblolly Pine (*Pinus taeda*)
Pignut Hickory (*Carya glabra*)
Tulip Poplar (*Liriodendron tulipifera*)
Red Maple (*Acer rubrum*)
Sweetgum (*Liquidambar styraciflua*)
White Oak (*Quercus alba*)
Water Oak (*Quercus nigra*)
Red Cedar (*Juniperus virginiana*)
Southern Red Oak (*Quercus falcata*)

Understory:

American Beautyberry (*Callicarpa Americana*)
Bracken Fern (*Pteridium aquilinum*)
Chinese Privet (*Ligustrum sinense*)
Wax Myrtle (*Myrica cerifera*)
Goldenrod (*Solidago spp.*)
Christmas Tree Fern (*Polystichum acrostichoides*)
Ebony Spleenwort (*Asplenium platyneuron*)
Painted Buckeye (*Aesculus sylvatica*)
Flowering Dogwood (*Cornus florida*)

Mature Hardwood Upland: A total of 148.55 acres of Mature Hardwood Upland is present within the site. These areas contain an overstory that is 40+ years in age and show no significant signs of disturbance in recent history. The overstory is comprised of a full canopy of mixed hardwoods.

Overstory:

White Oak
Pignut Hickory
Tulip Poplar
Red Maple
Sweetgum
White Oak
Water Oak
Southern Red Oak

Understory:

American Beautyberry
Bracken Fern
Chinese Privet
Wax Myrtle
Goldenrod
Christmas Tree Fern
Ebony Spleenwort
Painted Buckeye
Flowering Dogwood
Muscadine (*Vitis rotundifolia*)
Greenbrier (*Smilax spp.*)

Mature Hardwood Wetland: A total of 12.27 acres of mature forested wetland are present within the property. These areas are present within the narrow valleys of the site and are often adjacent to the network of streams.

Overstory:

Sweetgum
Red Maple
Water Oak
Southern Red Oak

Understory:

Christmas Tree Fern
Virginia Chain Fern (*Woodwardia virginica*)
Netted Chain Fern (*Woodwardia aerolata*)
Chinese Privet
Soft Rush (*Juncus effusus*)
Greenbrier (*Smilax rotundifolia*)
Slough Sedge (*Carex obnupta*)

Agricultural Field: The project area contains a total of 827.72 acres of Agricultural Fields associated with the agricultural operations which continue to occur across the site. This habitat is maintained as open field and managed for hay production and grazing.

Agricultural Pond: The project area contains a total of 23.62 acres of man-made ponds that were constructed for agricultural purposes. The features consist of varying depths with scattered bank vegetation for stabilization and submerged aquatic vegetation. Based on review of historic aerial imagery, these ponds were constructed prior to the 1980's.

Recreational Food Plots: The project area contains a total of 16.66 acres of wildlife food plots. These areas are plowed, planted, and maintained annually for recreational hunting.

Streams: All three classifications of streams, ephemeral, intermittent, and perennial, are present within the site. An estimated 42,341 linear feet of stream are present within the project area with approximately 5,021 linear feet of ephemeral stream, 18,508 linear feet of intermittent stream, and 18,811 linear feet of perennial streams. Perennial and Intermittent streams are incised, whereas most ephemeral streams are closely associated with headwater wetlands.

Roads: The survey area contains several paved roads. The roads are public, and county maintained.

Table 1. Habitat Summary

Habitat Type	Area (ac)	Length (lf)
Agricultural Pond	23.62	--
Ephemeral Stream	0.37	5,021
Intermittent Stream	1.74	18,508
Perennial Stream	3.82	18,811
Mature Forested Wetland	12.27	--
Agricultural Field	827.72	--
Food Plots	16.66	--
Mature Hardwood Upland	148.55	--
Mature Mixed Pine and Hardwood Upland	948.05	--
Road	20.43	--
Total	2003.23	42,341

II. FEDERALLY PROTECTED RESOURCES

A. Protected Species and Habitats

The project area was assessed in consideration of the Endangered Species Act of 1973. The USFWS IPaC database was reviewed for the project site pursuant to the Endangered Species Act (Appendix B). Pedestrian surveys were conducted to identify the presence of a protected species and/or potential habitat that could support a protected species. One species was noted within the IPaC database query for survey area. Table 2 represents all federally protected species identified during the IPaC evaluation of the survey area.

B. Federally Threatened and Endangered Species

In compliance with Section 7 of the ESA, RLC surveyed for the presence of threatened and endangered species, presence of their designated critical habitat, and provided a determination of potential impact. The following provides a general description of the listed species and likelihood for the species to occur within the survey area.

Michaux's Sumac (*Rhus michauxii*):

Michaux's or dwarf sumac is dioecious and female flowers and male flowers are on separate plants. Because of habitat fragmentation, female and male plants are often isolated from one another and the plants cannot reproduce sexually. Plants spread vegetatively by extending underground stems (rhizomes) as much as 20 feet away. Although some large, mixed-sex populations of dwarf sumac produce fruit, the seeds are often sterile. Pollinators and seed dispersers are unknown, but the flowers of other sumac species are visited by bees, and their fruits are dispersed by birds. Where Michaux's sumac occurs with smooth sumac (*Rhus glabra*), the two may hybridize. The preferred habitat of the Michaux's sumac is dry, open, rocky, or sandy woodlands over mafic bedrock with high levels of calcium, magnesium, or iron; often on ridges and river bluffs.

Considering existing habitats and habitat fragmentation associated current land uses, the subject property does not contain habitat typically associated with this species. In addition, neither individuals nor populations of species were observed within the review area during the pedestrian survey. For this reason, the recommended biological effect determination for Michaux's sumac is "no effect."

Table 2- Protected Species

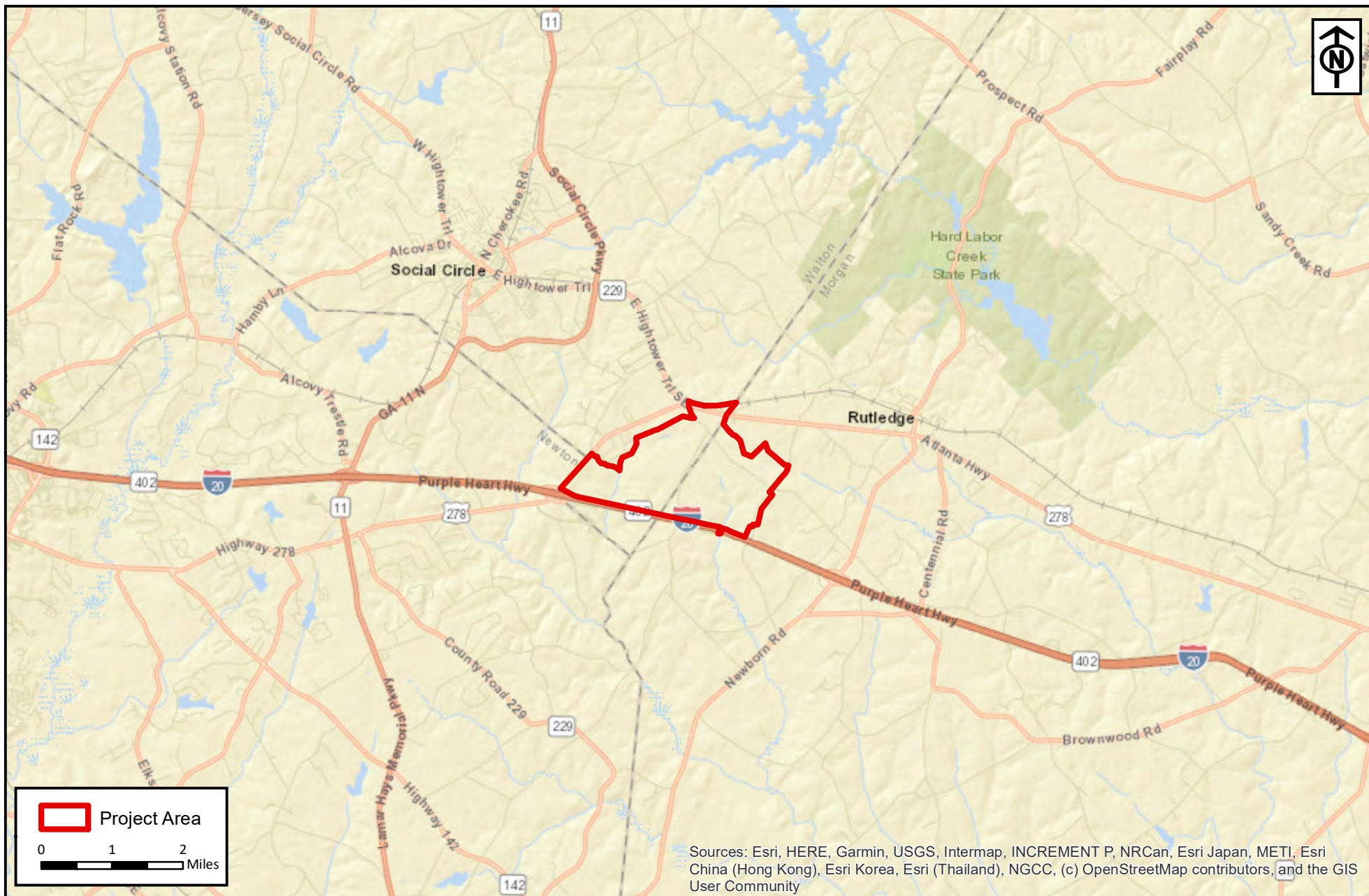
Type	#	Common Name	Scientific Name	Legal Status		Habitat Present	Species Present	Biological Determination
				Federal	State			
Flowering Plants	1	Michaux's Sumac	<i>Rhus michauxii</i>	E	E	No	No	No effect
*Sources include the USFWS and GA-DNR websites.								

III. Conclusion

In December 2021, RLC completed a Threatened and Endangered Species Assessment for the ±2,003.23-acre Stanton Springs North located in Morgan and Walton Counties, Georgia. The IPaC database indicates that Michaux's Sumac is the only federally listed species that may occur within the project area. Based on a review of available information and a pedestrian survey, habitat required to support this species is not present within the project site and no individuals or populations of this species were observed. Thus, site development within the project area will have no effect on any federally protected species.

Appendix A

RLC Prepared Figures



RLC Project No.:	20-035.1
Figure No.:	1
Prepared By:	MG
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2 miles

Stanton Springs North

Walton and Morgan Counties, Georgia

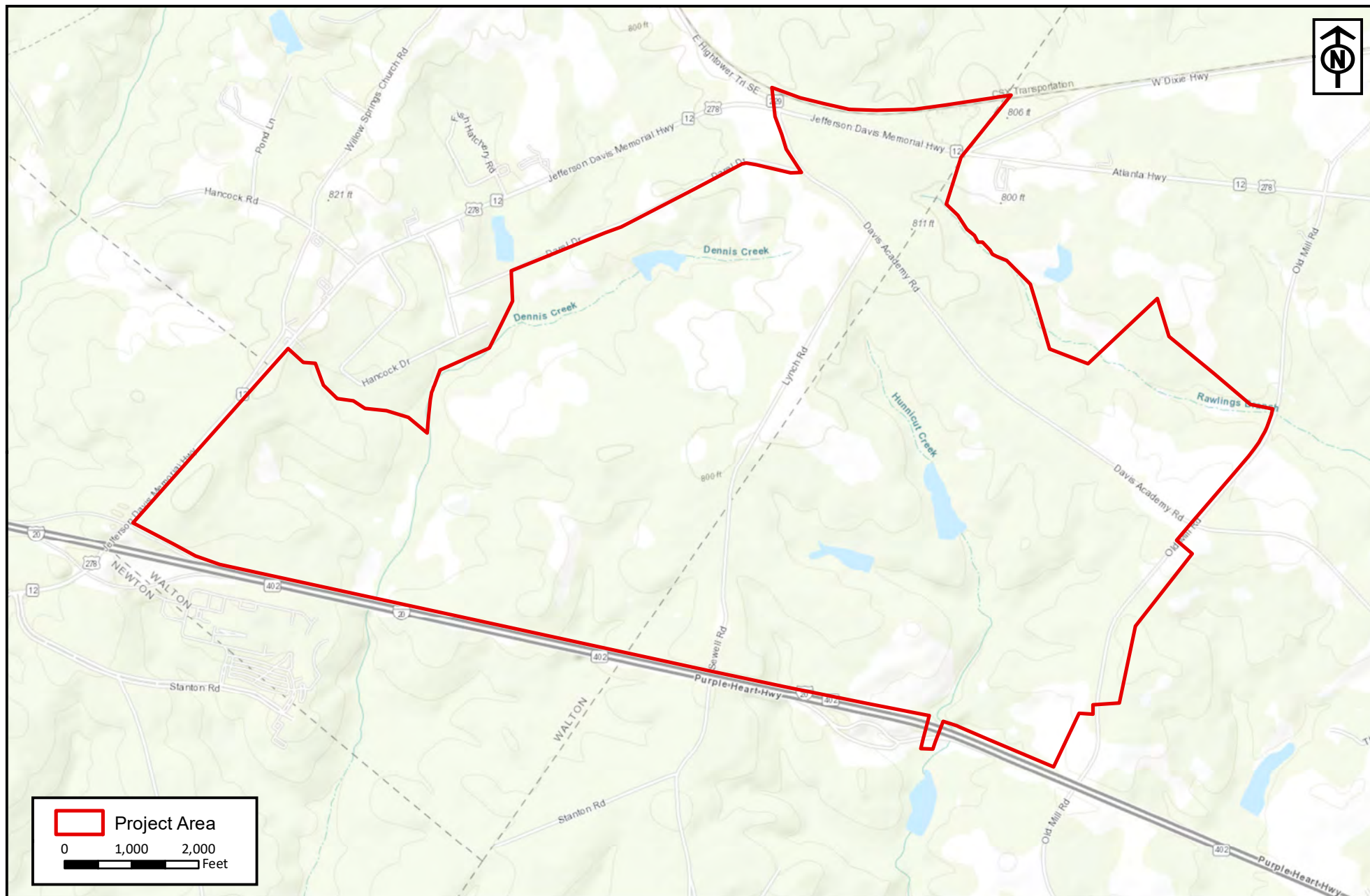
Project Location Map

Prepared For: GDEcd & JDA of Jasper County, Morgan County, Newton County & Walton County



RESOURCE+LAND CONSULTANTS

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



RLC Project No.: 20-035.1
 Figure No.: 2
 Prepared By: MG
 Sketch Date: 4/26/2022
 Map Scale : 1 inch = 2,000 feet

Stanton Springs North

Walton and Morgan Counties, Georgia

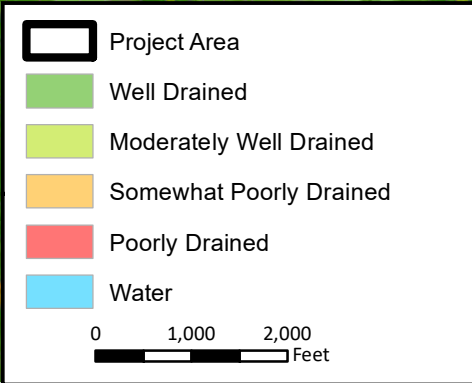
USGS Topographic Map

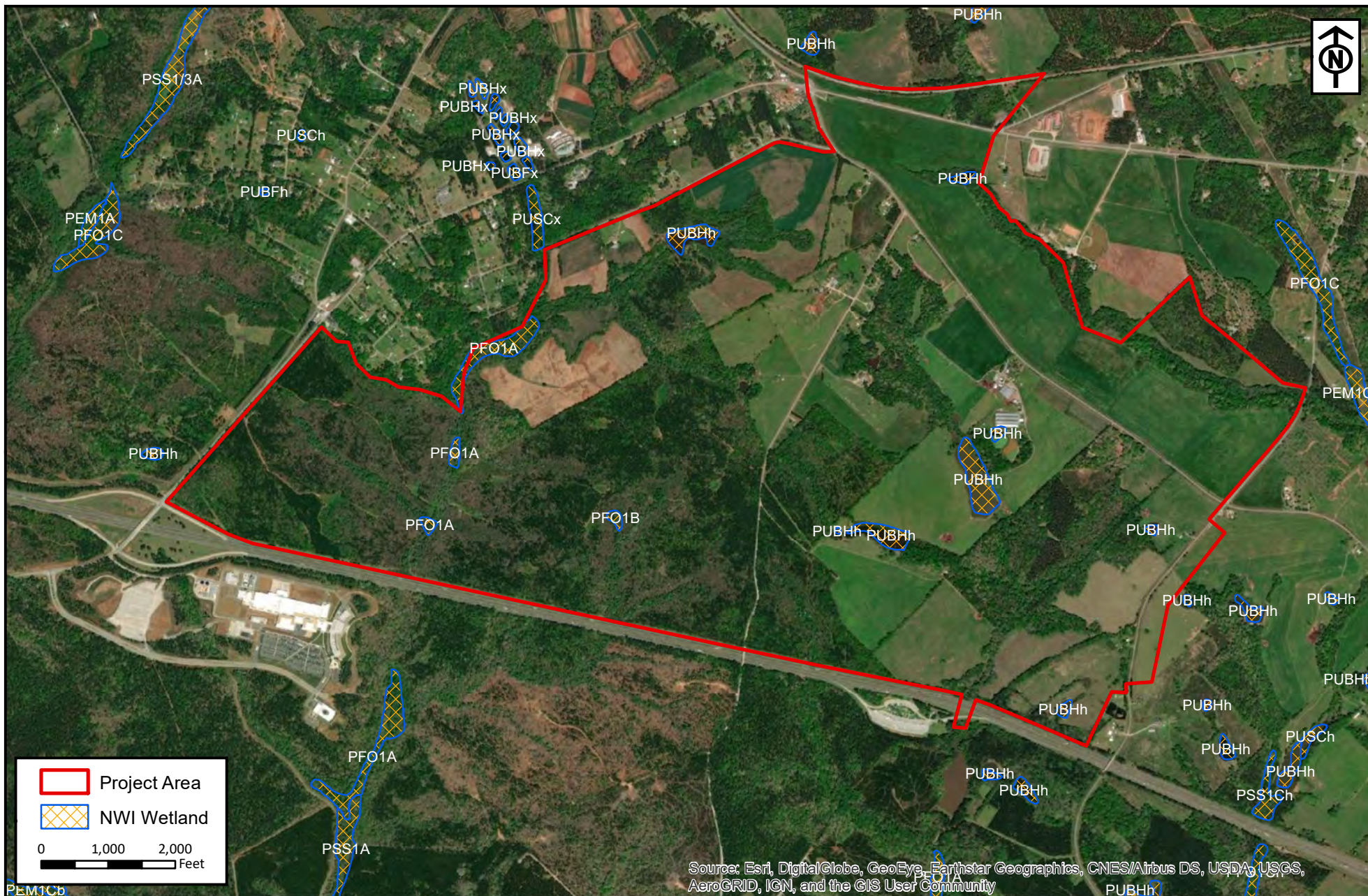
Prepared For: GDEcd & JDA of Jasper County, Morgan
 County, Newton County & Walton County



RESOURCE+LAND CONSULTANTS

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





RLC Project No.:	20-035.1
Figure No.:	4
Prepared By:	MG
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Stanton Springs North

Walton and Morgan Counties, Georgia

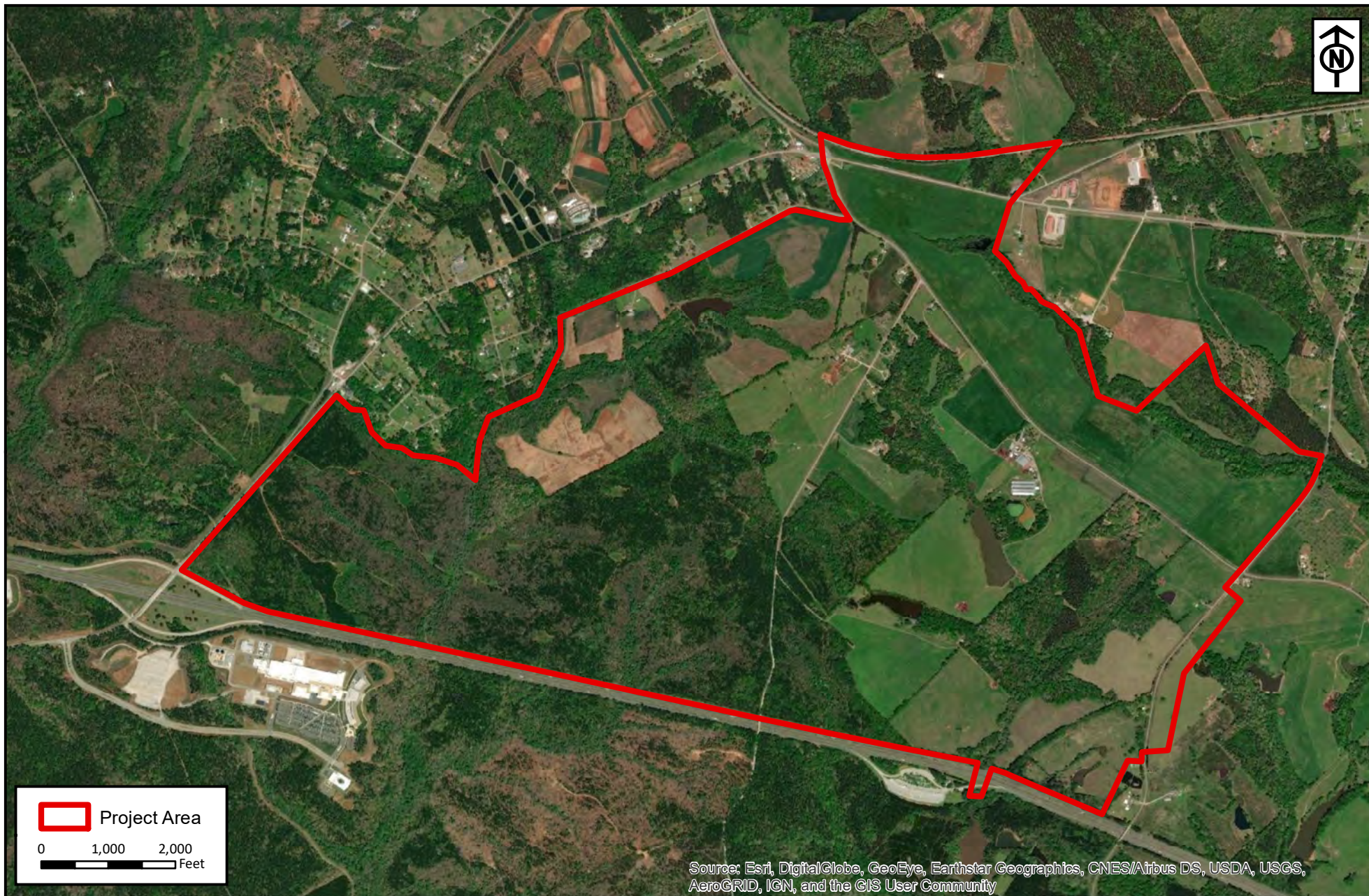
National Wetlands Inventory

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County



RESOURCE+LAND CONSULTANTS

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



RLC Project No.:	20-035.1
Figure No.:	5
Prepared By:	MG
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Stanton Springs North

Walton and Morgan Counties, Georgia

2017 NAIP Ortho Aerial

Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County



RESOURCE+LAND CONSULTANTS

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



RLC Project No.:	20-035.1
Figure No.:	6
Prepared By:	MG
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Stanton Springs North
Walton and Morgan Counties, Georgia

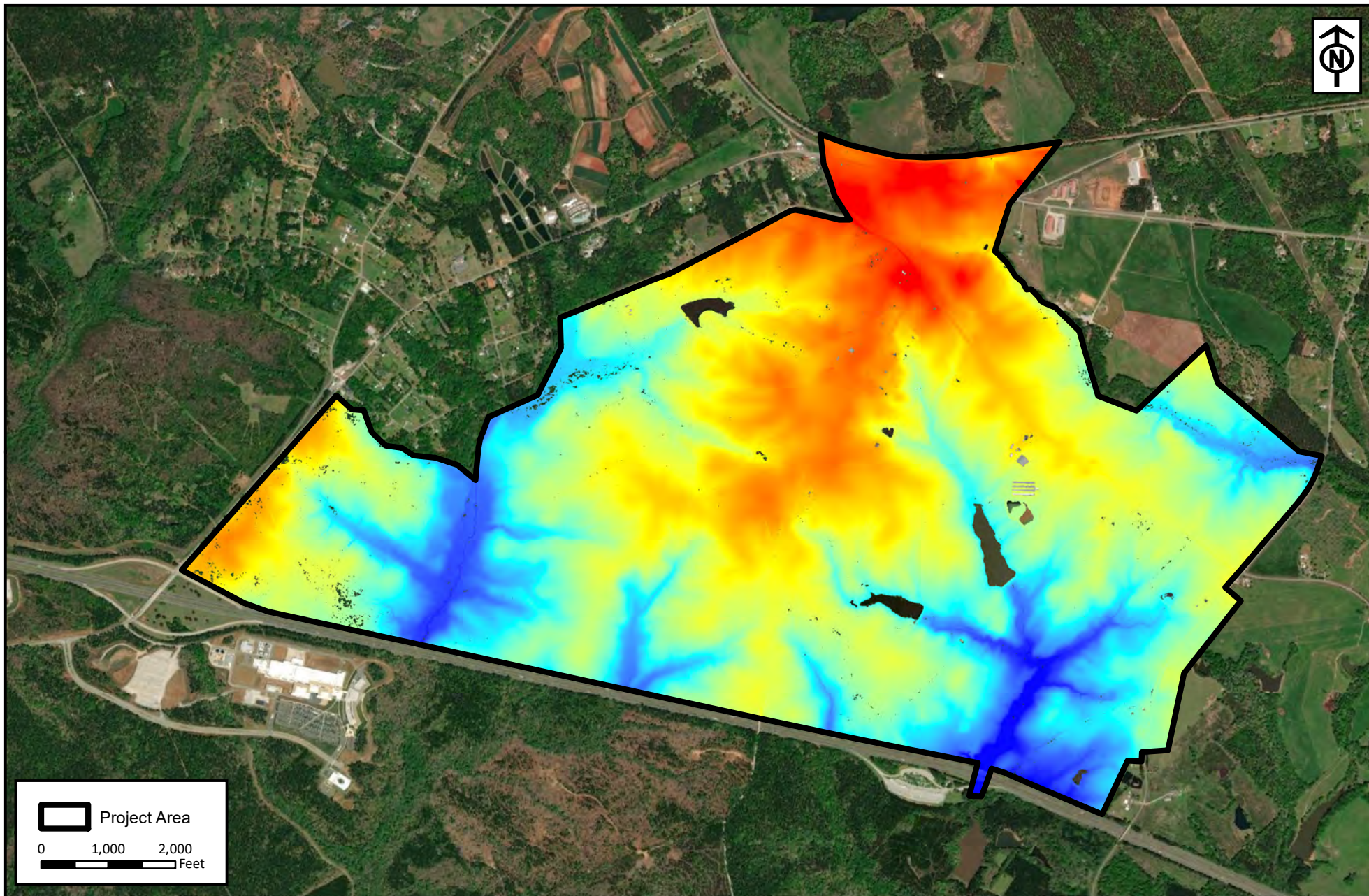
1999 Color-Infrared Imagery

Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County



RESOURCE+LAND
CONSULTANTS

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



RLC Project No.:	20-035.1
Figure No.:	7
Prepared By:	MG
Sketch Date:	4/26/2022
Map Scale :	1 inch = 2,000 feet

Stanton Springs North
Walton and Morgan Counties, Georgia

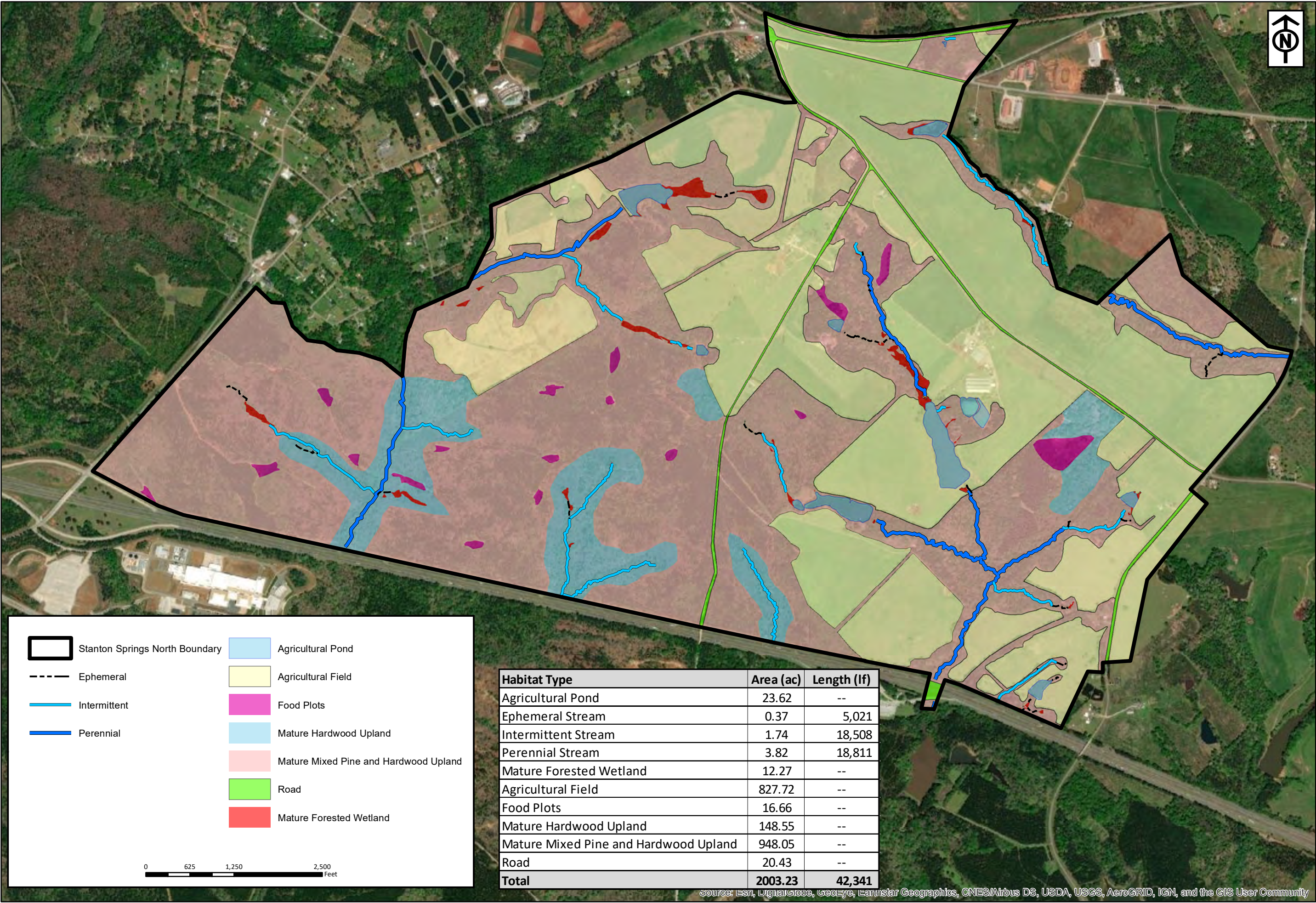
**NOAA Topographic
Lidar**

Prepared For: GDEcD & JDA of Jasper County, Morgan
County, Newton County & Walton County



**RESOURCE+LAND
CONSULTANTS**

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



Habitat Type	Area (ac)	Length (lf)
Agricultural Pond	23.62	--
Ephemeral Stream	0.37	5,021
Intermittent Stream	1.74	18,508
Perennial Stream	3.82	18,811
Mature Forested Wetland	12.27	--
Agricultural Field	827.72	--
Food Plots	16.66	--
Mature Hardwood Upland	148.55	--
Mature Mixed Pine and Hardwood Upland	948.05	--
Road	20.43	--
Total	2003.23	42,341

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

RLC Project No.: 20-035

Figure No.: 8

Prepared By: JP

Sketch Date: 4/26/2022

Map Scale : 1 inch = 1250 feet

Stanton Springs North

Walton & Morgan Counties, Georgia

Habitat Map

Prepared For: GDEcd & JDA of Jasper County, Morgan County, Newton County & Walton County

RESOURCE+LAND
CONSULTANTS

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

RLC

Source(s): 2013 NAIP Ortho Aerial, Chatham County



Photo 1: Mature Mixed Pine and Hardwood Upland



Photo 2: Agricultural Field



Photo 3: Agricultural Pond



Photo 4: Intermittent Stream

RLC Project No.:	20-035.1
Figure No.:	9
Prepared By:	JP
Photo Date:	12/15/2021
Exhibit Date:	4/26/2022

Stanton Springs North

Camden County, Georgia

Site Photographs 1 of 2

Prepared For: GDEcD & JDA of Jasper County, Morgan County, Newton County & Walton County



RESOURCE+LAND CONSULTANTS

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



Photo 1: Perennial Stream



Photo 2: Ephemeral Stream



Photo 3: Mature Forested Wetland



Photo 4: Mature Hardwood Upland

RLC Project No.:	20-035.1
Figure No.:	10
Prepared By:	JP
Photo Date:	12/15/2021
Exhibit Date:	4/26/2022

Stanton Springs North

Camden County, Georgia

Site Photographs 2 of 2

Prepared For: GDECD & JDA of Jasper County, Morgan County, Newton County & Walton County



RESOURCE+LAND
CONSULTANTS

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

Appendix B

U.S. Fish and Wildlife Service, Trust Resources List (IPaC)

Savannah District EDGES Applicant Coordination Slip

Project: Stanton Springs North County: Morgan & Walton
 GDEcD & JDA of Jasper County, Morgan County, Newton County,
 Applicant: and Walton County Coordinates: 33.614720, -83.668892
 Consultant: Resource + Land Consultants Date of Consultants Assessment: 4/26/2022
 FWS-GA Review of Project or Survey Data (yes/no): no Date of FWS-GA Review: n/a
 Project Modifications After FWS-GA Review (including changes in timing): n/a

Species IPaC Indicated May Occur on Site	Ipac Status	Critical Habitat (yes / no)	Applicable EDGES	Species Habitat(s), as Described in the EDGES (e.g., wetland, stream, forested, flatwoods, sandhills)	Does this Habitat occur on Project Site (yes / no)	Will this Habitat be Altered by the Project (yes / no)	Determination	
							EDGES	RLC
Michaux's Sumac (<i>Rhus michauxii</i>)	Endangered	No	Michaux's Sumac	Sandy or rocky open woods on sandy or sandy loam soils. Depends on some form of disturbance to maintain the open quality of its habitat.	No	No	No Effect	No Effect

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



United States Department of the Interior

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



In Reply Refer To:
Project Code: 2022-0036037
Project Name: Stanton Springs North

April 26, 2022

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

To Whom It May Concern:

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

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

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

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

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

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

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

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

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

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

WETLANDS AND FLOODPLAINS

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

MIGRATORY BIRDS

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

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

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

BALD AND GOLDEN EAGLES

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

NATIVE BATS

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

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

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

MONARCH BUTTERFLY

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

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

STATE AGENCY COORDINATION

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

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

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

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

Attachment(s):

- Official Species List
 - Migratory Birds
 - Wetlands
-

Official Species List

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

This species list is provided by:

Georgia Ecological Services Field Office

355 East Hancock Avenue

Room 320

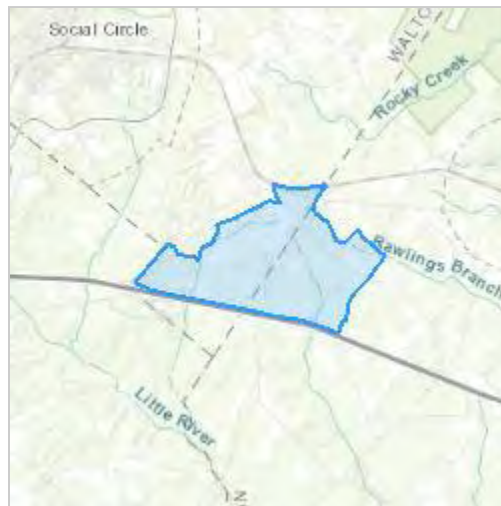
Athens, GA 30601-2523

(706) 613-9493

Project Summary

Project Code: 2022-0036037
Event Code: None
Project Name: Stanton Springs North
Project Type: New Constr - Above Ground
Project Description: Stanton Springs North
Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@33.614869549999995,-83.66344069121598,14z>



Counties: Morgan , Newton , and Walton counties, Georgia

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

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

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

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

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

Insects

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

Flowering Plants

NAME	STATUS
Michaux's Sumac <i>Rhus michauxii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5217	Endangered

Critical habitats

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

Migratory Birds

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

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

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

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

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20

NAME	BREEDING SEASON
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

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

Probability of Presence (■)

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

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

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12

(0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

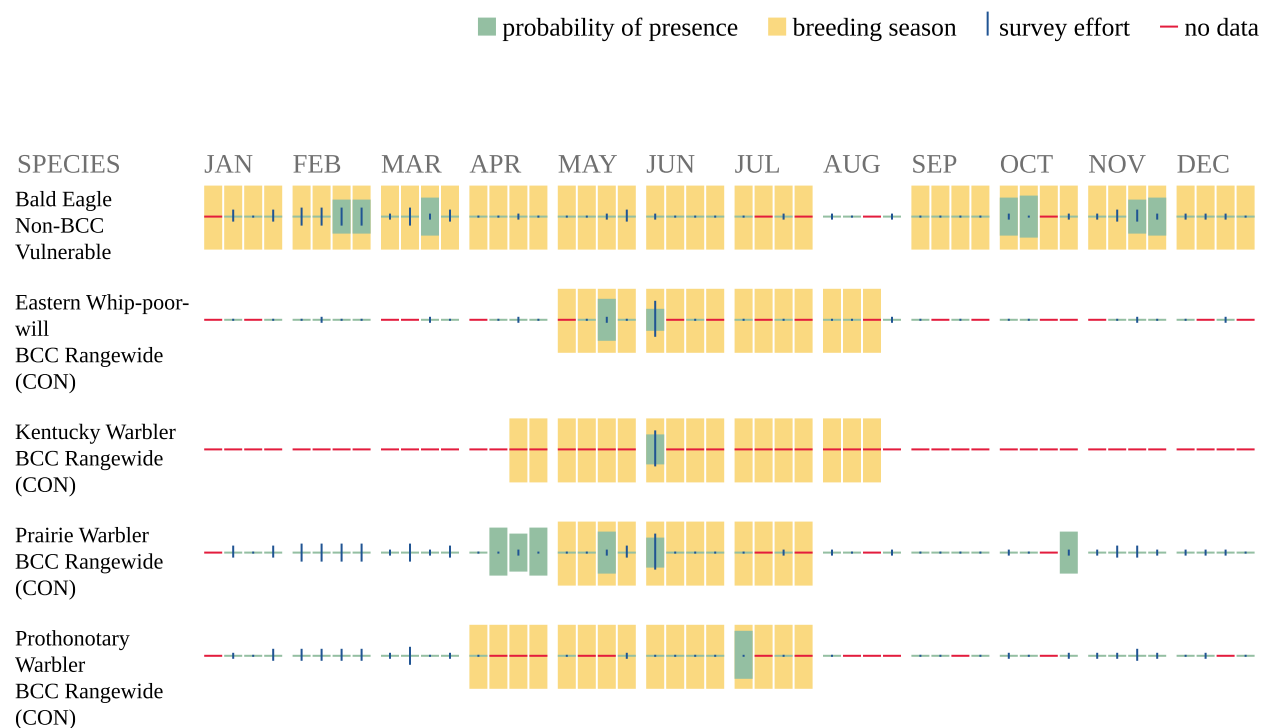
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

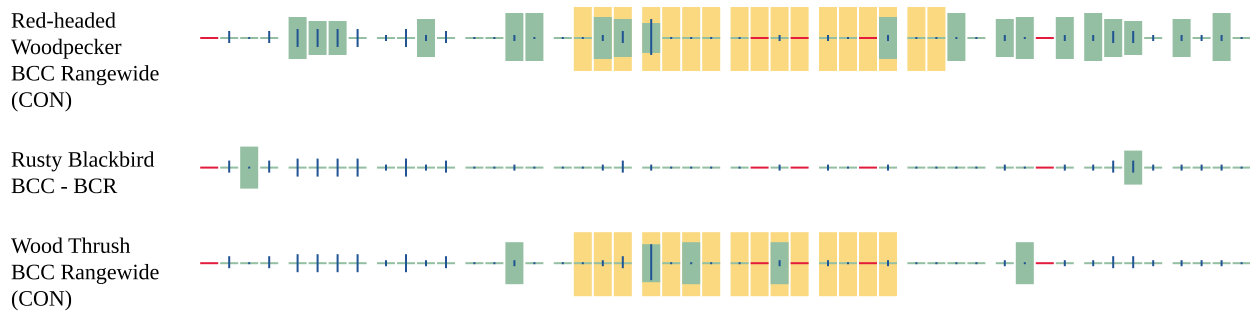
No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

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

Migratory Birds FAQ

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

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

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

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

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

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

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

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

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

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

[Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Wetlands

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

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

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

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE VISIT [HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML](https://www.fws.gov/wetlands/data/mapper.html) OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPaC User Contact Information

Agency: Resource and Land Consultants
Name: Jeremy Plauger
Address: 41 Park of Commerce Way
Address Line 2: Suite 101
City: Savannah
State: GA
Zip: 31404
Email: jplauger@rlandc.com
Phone: 3014014444

APPENDIX H: Cultural & Archaeological Resources Documentation

[RECORDS FALLING WITHIN AN EXCLUSION]



RESOURCE+LAND
CONSULTANTS

APPENDIX I: Adjacent Landowner Information

ADJACENT PROPERTY OWNERS:

PRESTON, JAMES E
1890 OLD MILL RD, RUTLEDGE, GA 30663-2603

HAYMORE, ANN DARLENE
1830 OLD MILL RD, RUTLEDGE, GA 30663-2603

HAYMORE, RICHARD M
1830 OLD MILL RD, RUTLEDGE, GA 30663-2603

HAYMORE FAMILY LAND TRUST NO 001, & COPELAND, GENEVA MOSS
1841 OLD MILL RD, RUTLEDGE, GA 30663-2602

THE ESTATE OF JOHN ROBERT BROADWELL, & JAMIE ANN GREEN BROADWELL
562 INDIAN CREEK TRL, RUTLEDGE, GA 30663-2709

THE ALBERT FELTON JENKINS JR
800 CRAWFORD ST, MADISON, GA 30650-1909

JENKINS, A FELTON & FOLLOWILL, EMILY J
107 SW DOGWOOD LN Unit 1, WHITE SALMON, WA 98672-8755

SHEPHERD, ROGER ALAN & SHEPHERD, SARA THOMAS
PO BOX 278, RUTLEDGE, GA 30663-0278

BRUCE, DANNY
7010 ATLANTA HWY, RUTLEDGE, GA 30663-2626

JOHNSON, DEWEY W
2186 TILLINGHAM CT, ATLANTA, GA 30338-5343

BRUCE, D KENNETH & BRUCE, DANNY
7010 ATLANTA HWY, RUTLEDGE, GA 30663-2626

BRUCE, MARY KATE
7180 ATLANTA HWY, RUTLEDGE, GA 30663-2625

LONG BRANCH INVESTMENTS LLC
620 SEA ISLAND RD, SAINT SIMONS ISLAND, GA 31522-1767

PATEL, KANTILAL & PATEL, RAVI
4620 ATLANTA HWY, RUTLEDGE, GA 30663-2558

CHASE, CHARLES C
764 HANCOCK BRIDGE RD, WINDER, GA 30680-3109

DARBY, JAMIE L
5813 DAVIS ACADEMY RD, SOCIAL CIRCLE, GA 30025-4709

GRAY, MICHAEL H & GRAY, JOYCE C
PO BOX 944, SOCIAL CIRCLE, GA 30025-0944

EVANS, JAMES M & EVANS, KATHLEEN L
1845 DAREL DR, SOCIAL CIRCLE, GA 30025-4724

BISHOP, JEREMY
1855 DAREL DR, SOCIAL CIRCLE, GA 30025-4724

TAYLOR, MARSHALL J & TAYLOR, MICHELLE M
1865 DAREL DR, SOCIAL CIRCLE, GA 30025-4724

MOSS, JESSE A & MOSS, SAMANTHA L
1875 DAREL DR, SOCIAL CIRCLE, GA 30025-4724

BROADNAX, JASON CHARLIE & BROADNAX, MOLLIE RICE
1942 HIGHWAY 278, SOCIAL CIRCLE, GA 30025-4739

WERTZ, RAY W & WERTZ, CHRISTINA A
2005 DAREL DR, SOCIAL CIRCLE, GA 30025-4701

STATE OF GEORGIA, & GAME-FISH CO
2123 HIGHWAY 278, SOCIAL CIRCLE, GA 30025-4714

WOODEN, JOY V & WOODEN, MICHAEL
5419 CLEMONS RD, EAST RIDGE, TN 37412-3109

MORGAN, THOMAS EUGENE
2243 COLE DR, SOCIAL CIRCLE, GA 30025-4706

SHEPPARD, DONALD L & NUNNALLY, BETTY SUE
5786 MEADOW DR, OAKWOOD, GA 30566-3531

KIM, LIAN
2252 COLE DR, SOCIAL CIRCLE, GA 30025-4706

SHEPPARD, DONALD L
5786 MEADOW DR, OAKWOOD, GA 30566-3531

CHEEK, JIMMY D
987 FORSYTH ST, MONTICELLO, GA 31064-1323

OBERRY, MATTIE A
6270 W DIXIE HWY, RUTLEDGE, GA 30663-2367

KING, KATHLEEN
1015 BOULDERVISTA WAY, LAWRENCEVILLE, GA 30043-2638

SHEFFIELD, ANGELA THERESA
PO BOX 879, SOCIAL CIRCLE, GA 30025-0879

SMITH, KRISTIE D
2332 HANCOCK DR, SOCIAL CIRCLE, GA 30025-4704

SMITH, KRISTIE D
2332 HANCOCK DR, SOCIAL CIRCLE, GA 30025-4704

GRANT, JOSHUA L & MOORE, MAGGI J
2352 HANCOCK DR, SOCIAL CIRCLE, GA 30025-4704

MICHAEL, WESLEY L & MICHAEL, SARA B
2362 HANCOCK DR, SOCIAL CIRCLE, GA 30025-4704

ROCKDALE BAPTIST CHURCH
1295 SMYRNA RD SW, CONYERS, GA 30094-5759

JACKSON CROSSROADS LLC
620 SEA ISLAND RD, SAINT SIMONS ISLAND, GA 31522-1767A