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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.

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South Carolina Department of
Natural Resources

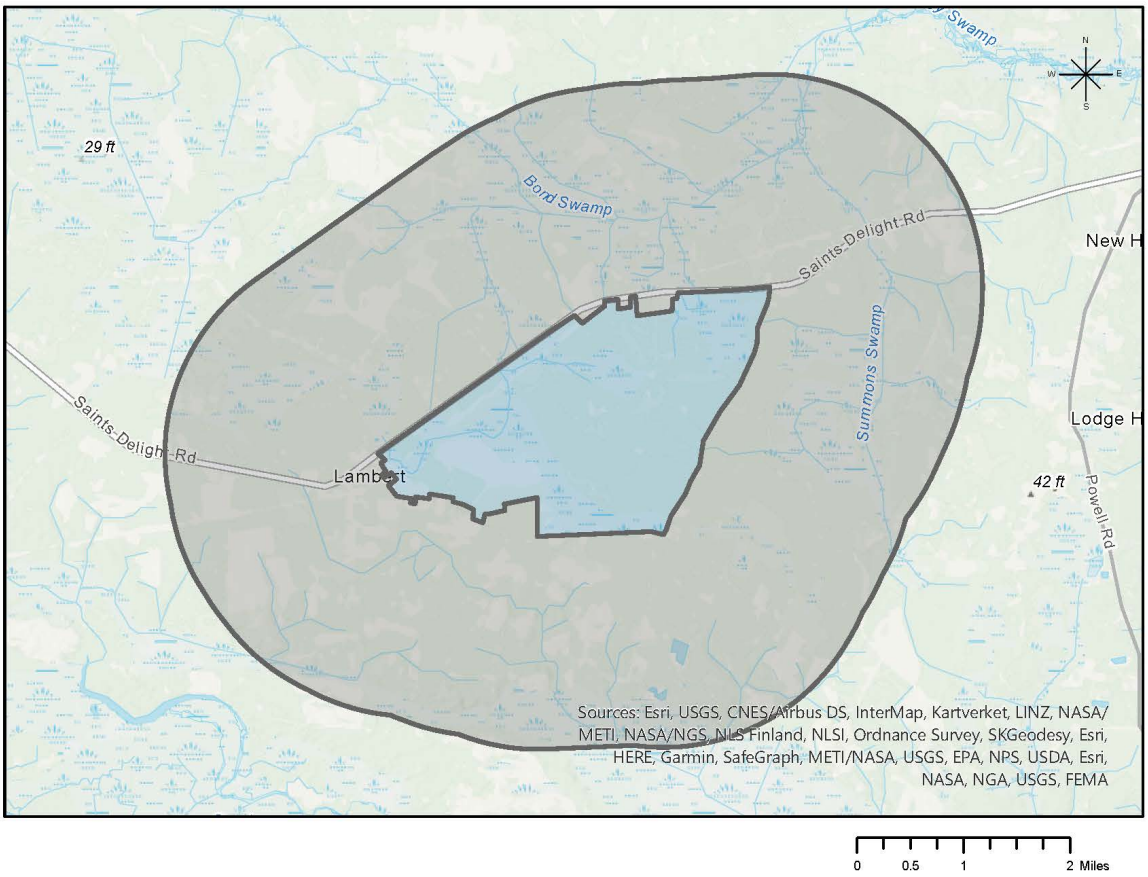
PO Box 167
Columbia, SC 29202
(803) 734-1396
speciesreview@dnr.sc.gov

Robert H. Boyles, Jr.
Director
Emily C. Cope
Deputy Director for
Wildlife and Freshwater Fisheries

Requested on Monday, October 18, 2021 by *Andrew Phillips*.

Re: Request for Threatened and Endangered Species Consultation
Andrew Phillips - SR Lambert Solar Facility Project
Solar
Georgetown County, South Carolina

The South Carolina Department of Natural Resources (SCDNR) has received your request for threatened and endangered species consultation of the above named project in Georgetown County, South Carolina. The following map depicts the project area and a 2 mile buffer surrounding:



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South Carolina Department of
Natural Resources

Robert H. Boyles, Jr.
Director
Emily C. Cope
Deputy Director for
Wildlife and Freshwater Fisheries

This report includes the following items:
A - A report for species which intersect the project area
B - A report for species which intersect the buffer around the project area
C - A list of best management practices relevant to species near to or within the project area
D - A list of best management practices relevant to the chosen project type
E - Instructions to submit new species observation records to the SC Natural Heritage Program

Please be advised:

The contents of this report, including all tables, maps, recommendations, and various other text, are produced as a direct result of the information a user provides at the time of submission. The SCDNR assumes that all information submitted by the user represents the project scope as proposed, and recommends that additional reports be requested should the scope deviate from how the project was initially represented to the SCDNR.

The technical comments outlined in this report are submitted to speak to the general impacts of the activities as described through inquiry by parties outside the South Carolina Department of Natural Resources. These technical comments are submitted as guidance to be considered and are not submitted as final agency comments that might be related to any unspecified local, state or federal permit, certification or license applications that may be needed by any applicant or their contractors, consultants or agents presently under review or not yet made available for public review. In accordance with its policy 600.01, Comments on Projects Under Department Review, the South Carolina Department of Natural Resources, reserves the right to comment on any permit, certification or license application that may be published by any regulatory agency which may incorporate, directly or by reference, these technical comments.

Interested parties are to understand that SCDNR may provide a final agency position to regulatory agencies if any local, state or federal permit, certification or license applications may be needed by any applicant or their contractors, consultants or agents. For further information regarding comments and input from SCDNR on your project, please contact our Office of Environmental Programs by emailing environmental@dnr.sc.gov or by visiting www.dnr.sc.gov/environmental. Pursuant to Section 7 of the Endangered Species Act, requests for formal letters of concurrence with regards to federally listed species should be directed to the USFWS.

Should you have any questions or need more information, please do not hesitate to contact our office by email at speciesreview@dnr.sc.gov or by phone at 803-734-1396.

Sincerely,

Joseph Lemeris, Jr.
Heritage Trust Program
SC Department of Natural Resources

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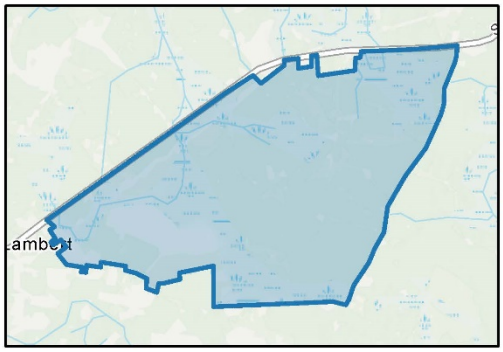
A. Project Area - Species Report

There are 0 tracked species records found within the project foot print. The following table outlines occurrences found within the project footprint (if any), sorted by listing status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found on site may be listed in this table but are not represented on the map. Please contact speciesreview@dnr.sc.gov should you have further questions related to sensitive species found within the project area.

Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS, FEMA



No records for species of concern are found within the project area

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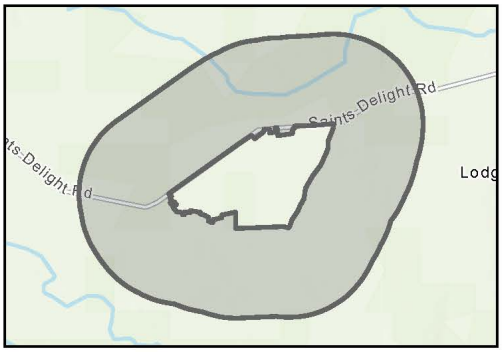
B. Buffer Area - Species Report

The following table outlines rare, threatened or endangered species found within 2 miles of the project footprint, arranged in order of protection status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found within the buffer area may be listed in this table but are not represented on the map.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS

Scientific Name	Common Name	G Rank	S Rank	Fed. Status	State Status	SWAP Priority	Last Obs. Date
Anguilla rostrata	American Eel	G4	S3S4	Not Applicable	Not Applicable	Highest	2007-05-14
Anguilla rostrata	American Eel	G4	S3S4	Not Applicable	Not Applicable	Highest	1977-07-11
Procambarus blandingii	Santee Crayfish	G4	S4	Not Applicable	Not Applicable	Moderate	No Date
Procambarus blandingii	Santee Crayfish	G4	S4	Not Applicable	Not Applicable	Moderate	1983-01-09

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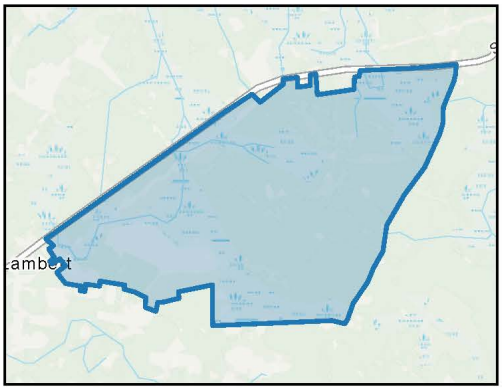
C. Species Best Management Practices (1 of 1)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to species of concern which may be found on or near to the project area. Please contact speciesreview@dnr.sc.gov should you have further questions with regard to survey methods, consultation, or other species-related concerns.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS, FEMA

Cavity- and tree-roosting bat species including the federally threatened northern long-eared bat (Myotis septentrionalis), state-endangered Rafinesque's big-eared bat (Corynorhinus rafinesquii), and the federally at-risk tricolored bat (Perimyotis subflavus) have been known to occur in the county of the proposed site. As a conservation measure, it is recommended that any tree clearing activities be conducted during the inactive season for Northern long-eared bat (November 15th through March 31st) to avoid negative impacts to the species. If any of the above species are found on-site, please contact the USFWS and SCDNR.
Species in the above table with SWAP priorities of High, Highest or Moderate are designated as having conservation priority under the South Carolina State Wildlife Action Plan (SWAP). SWAP species are those species of greatest conservation need not traditionally covered under any federal funded programs. Species are listed in the SWAP because they are rare or designated as at-risk due to knowledge deficiencies; species common in South Carolina but listed rare or declining elsewhere; or species that serve as indicators of detrimental environmental conditions. SCDNR recommends that appropriate measures should be taken to minimize or avoid impacts to the aforementioned species of concern.

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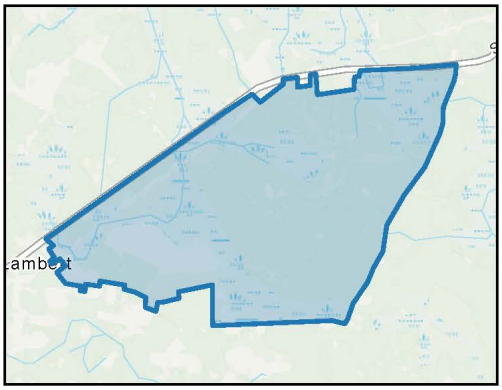
D. Project Best Management Practices (1 of 4)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



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Review of available data, National Wetlands Inventory and hydric soils, indicate that wetlands or waters of the United States are present within your project area. These areas may require a permit from the U.S. Army Corps of Engineers (USACE), as well as a compensatory mitigation plan. SCDNR advises that you consult with the USACE Regulatory to determine if jurisdictional wetlands are present and if a permit and mitigation is required for any activities impacting these areas. For more information, please visit their website at www.sac.usace.army.mil/Missions/Regulatory. Additionally, a 401 Water Quality Certification may also be required from the SC Department of Health & Environmental Control. For more information, please visit their website at https://www.scdhec.gov/environment/water-quality/water-quality-certification-section-401-clean-water-act.

If this project is associated with the Federal Government and the project area is or once was used as farmland, we recommend that consultation occur with the U.S. Department of Agriculture's Natural Resource Conservation Service (NRCS) per the Farmland Protection Policy Act; areas of the site are classified as prime farmland or farmland of statewide importance.

- All necessary measures must be taken to prevent oil, tar, trash and other pollutants from entering the adjacent offsite areas/wetlands/water.
- Once the project is initiated, it must be carried to completion in an expeditious manner to minimize the period of disturbance to the environment.
- Upon project completion, all disturbed areas must be permanently stabilized with vegetative cover (preferable), riprap or other erosion control methods as appropriate.
- The project must be in compliance with any applicable floodplain, stormwater, land disturbance, shoreline management guidance or riparian buffer ordinances.
- Prior to beginning any land disturbing activity, appropriate erosion and siltation control measures (e.g. silt fences or barriers) must be in place and maintained in a functioning capacity until the area is permanently stabilized.
- Materials used for erosion control (e.g., hay bales or straw mulch) will be certified as weed free by the supplier.
- Inspecting and ensuring the maintenance of temporary erosion control measures at least:
  a. on a daily basis in areas of active construction or equipment operation;
  b. on a weekly basis in areas with no construction or equipment operation; and
  c. within 24 hours of each 0.5 inch of rainfall.
- Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts.
- Land disturbing activities must avoid encroachment into any wetland areas (outside the permitted impact area).Wetlands that are unavoidably impacted must be appropriately mitigated.
- Your project may require a Stormwater Permit from the SC Department of Health & Environmental Control, please visit https://www.scdhec.gov/environment/water-quality/stormwater

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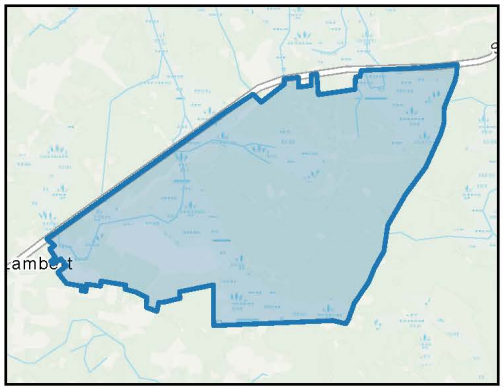
D. Project Best Management Practices (2 of 4)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS, FEMA

- If clearing must occur, riparian vegetation within wetlands and waters of the U.S. must be conducted manually and low growing, woody vegetation and shrubs must be left intact to maintain bank stability and reduce erosion.
- Construction activities must avoid and minimize, to the greatest extent practicable, disturbance of woody shoreline vegetation within the project area. Removal of vegetation should be limited to only what is necessary for construction of the proposed structures.
- Where necessary to remove vegetation, supplemental plantings should be installed following completion of the project. These plantings should consist of appropriate native species for this ecoregion.

Related to solar projects (1 of 3):

- On June 1, 2018, Governor McMaster signed into law the South Carolina Solar Habitat Act. This legislation allowed SCDNR to establish guidance for assisting solar developers in establishing their solar site as pollinator friendly habitat and to work with Clemson University to establish a framework for a voluntary solar habitat certification program. To learn more about the Solar Habitat Program, visit www.dnr.sc.gov/solar.
- Renewable energy production provides an appealing alternative to conventional forms of energy production as it does not involve many of the impacts to natural resources attributed to traditional methods. However, SCDNR believes solar farms can adversely affect valuable natural resources if they are not properly planned and constructed. Impacts to natural resources from the construction, operation, and maintenance of solar farms include: the removal of forests and riparian buffers; creation of monotypic habitat; introduction of invasive species; use of herbicides; creation of large, clear open spaces that may be barriers to dispersal; and barriers created from fencing. Furthermore, SCDNR generally discourages any type of large-scale habitat conversion. In order to offset the adverse impacts on the wildlife currently living in the project area, resulting from the permanent loss of the existing early successional forest and forested wetland habitat on this project site, we recommend the following measures be incorporated into the project design (see below):

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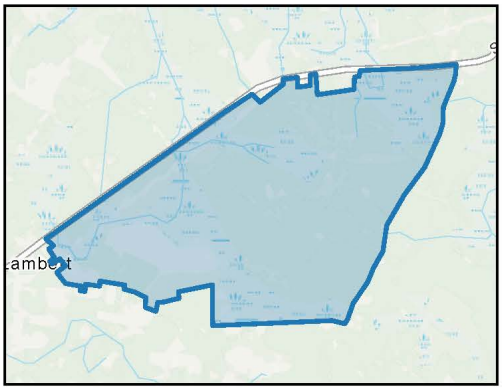
D. Project Best Management Practices (3 of 4)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



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Related to solar projects (2 of 3):

- SCDNR prefers and recommends the use of native warm season grasses and/or other native forbs that would be beneficial for wildlife and pollinators for stabilization and cover beneath the panels. Native warm season grass species suggestions include: indiangrass (Sorghastrum nutans), big bluestem (Andropogon gerardii) and little bluestem (Schizachyrium scoparium). A list of beneficial pollinator plant species, such as milkweed (Asclepias spp.), may be found at www.xerces.org/pollinators-southeast-region/ or at http://www.pollinator.org/guides. For planting details of quantities and timing, we recommend reaching out to the USDA NRCS Soil & Water Conservation Offices.
- Taller growing pollinator plant species should be planted around the periphery of the site and anywhere on the site where mowing can be restricted during the summer months. Taller plants, left unmowed during the summer, would provide benefits to pollinators, habitat to ground-nesting/feeding birds, and cover for small mammals. Low-growing/groundcover consisting of native species should be planted under the solar panels and between the rows of solar panels. This would provide benefits to pollinators while also minimizing the amount of maintenance such as mowing and herbicide treatment. Creating diversity in cover type is beneficial for a variety of wildlife.

Related to solar projects (3 of 3):

- Dependent upon the height of the solar panels, maintenance mowing should not occur between April 15 and August 1 to avoid impacts to nesting migratory birds. The mower deck should be set no lower than 6 inches high so native herbaceous vegetation will not be damaged.
- If fencing is utilized around the site, allow passage holes for small mammals/turtles.
- A vegetative buffer should be placed between the fence and the surrounding property edges. If tree shade encroaches into the solar site, use selective means of pruning to reduce the shading effects without clearing the trees completely when practical.
- Install bat and bird boxes throughout the site along with perch poles large enough to be used by raptors.
- Panels in large arrays should be treated with glare reducing coatings to minimize injury and/or direct mortality resulting from what is known as the “lake effect” (birds mistaking large solar arrays for lakes and attempting to land). Furthermore, SCDNR recommends that a plan be in place to report excessive damage to wildlife, and specifically injury/mortality of waterfowl and wading birds, which may result from the lake effect.
- Maximize stream and wetland buffer widths and do not use chemical treatments within recommended buffers, other than when necessary to control invasive species.
- Plan wildlife corridors/habitats within large arrays.

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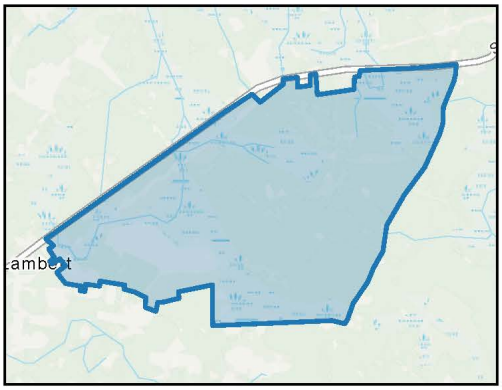
D. Project Best Management Practices (4 of 4)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



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- Your project boundary lies within a coastal county in South Carolina which means you may also need a Coastal Zone Consistency Certification for your project from the SC Department of Health and Environmental Control. For more information, visit: https://www.scdhec.gov/environment/your-water-coast/ocean-coastal-management/beach-management/coastal-permits/coastal-zone
- If your project could affect coastal waters, tidelands, beaches and beach/dune systems, you may also need a critical area permit from the SC Department of Health and Environmental Control. For more information, visit: https://www.scdhec.gov/environment/your-water-coast/ocean-coastal-management/beach-management/coastal-permits/critical-1

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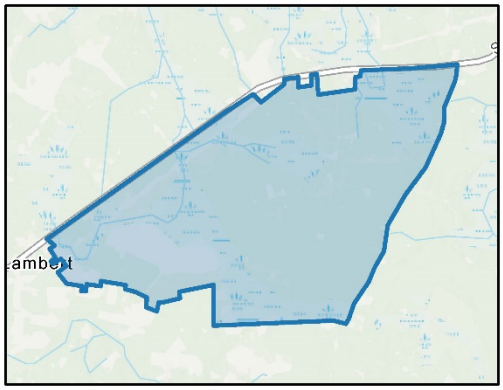
E. Instructions for Submitting Species Observations

The SC Natural Heritage Dataset relies on continuous monitoring and surveying for species of concern throughout the state. Any records of species of concern found within this project area would greatly benefit the quality and comprehensiveness of the statewide dataset for rare, threatened and endangered species. Below are instructions for how to download the SC Natural Heritage Occurrence Reporting Form through the Survey123 App.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS, FEMA

Instructions for accessing the SC Natural Heritage Occurrence Reporting Form

For use in a browser (on your desktop/PC):

1) Follow https://bit.ly/scht-reporting-form
2) Select 'Open in browser'
3) The form will open and you can begin entering data!

This method of access will also work on a browser on a mobile device, but only when connected to the internet. To use the form in the field without relying on data/internet access, follow the steps below.

For use on a smartphone or tablet using the field app:

1) Download the Survey123 App from the Google Play store or the Apple Store. This app is free to download. Allow the app to use your location.
2) No need to sign in. However, you will need to provide the app with our Heritage Trust GIS portal web address. You will only need to do this once: (this is a known bug with ESRI's software, and future releases of the form should not require the below steps. Bear with us in the meantime!).
   a. Tap 'Sign in'
   b. Tap the settings (gear symbol) in the upper right corner
   c. Tap 'Add Portal'
   d. After the 'https://', type schtportal.dnr.sc.gov/portal
   e. Tap 'Add Portal'
   f. Tap the back-arrow icon (upper left corner) twice to return to the main sign in page.
3) Use the camera app (or other QR Reader app) to scan the QR code on this page from your smartphone or tablet. Click on the 'Open in the Survey123 field app'. This will prompt a window to allow Survey123 to download the SC Natural Heritage Occurrence Reporting Form. Select 'Open.'
4) The form will automatically open in Survey123, and you can begin entering data! This form will stay loaded in the app on your device until you manually delete it, and you can submit as many records as you like.

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Appendix C

USFWS Correspondence

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Schottleutner, Karsen

From: Caldwell, Mark <mark_caldwell@fws.gov>
Sent: Monday, June 29, 2020 7:31 AM
To: Wade, Blair
Subject: RE: [EXTERNAL] Lambert Site

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Blair,

Thank you for your inquiry. I don't see any recorded occurrences on the site. There is a 30 year old RCW record 2.5 miles north. I suggest you check out SCDNR's updated heritage trust databased. They have a very good website now. https://schtportal.dnr.sc.gov/portal/apps/sites/#/natural-heritage-program

Mark A. Caldwell
Deputy Field Supervisor
US Fish and Wildlife Service
South Atlantic-Gulf Region
South Carolina Ecological Services
176 Croghan Spur Road, Suite 200
Charleston, SC 29407
843-300-0426 (direct line)
843-870-0041 (cell)
843-300-0189 – facsimile

This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act and may be disclosed to third parties.

From: Wade, Blair <Blair.Wade@hdrinc.com>
Sent: Thursday, June 25, 2020 10:19 AM
To: Caldwell, Mark <mark_caldwell@fws.gov>
Subject: [EXTERNAL] Lambert Site

Hi Mark,

HDR is working on a site near Andrews, SC and part of our scope of services includes a review for federally threatened and endangered species. We've compiled a list of species and habitats for our field team based on the USFWS IPaC and the County list. I also checked the new SCDNR tool and did not see any occurrences of state species documented or bald eagle nests. The site is in active silviculture use. Do you have any records of occurrence in this area or any T&E concerns that we need to make our field teams aware of?

Thank you,

Blair

1

United States Department of the Interior
FISH AND WILDLIFE SERVICE
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

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December 9, 2021

Mr. Andrew Phillips
HDR Engineering, Inc.
4400 Leeds Avenue
North Charleston, South Carolina 29405

Re: Federal Listed Species Effects – Silicon Ranch Lambert I and II Solar Facility Project
Lambert, Georgetown County, South Carolina
FWS Log No. 2022-TA-0206

Dear Mr. Phillips:

The U.S. Fish and Wildlife Service (Service) has reviewed your December 8, 2021, letter regarding the proposed construction of a solar facility on approximately 2,082 acres of land located in Georgetown County, South Carolina. The following comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4321 *et seq*.); Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. § 668-668d) (BGEPA); Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661667e); and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 15311543) (ESA).

Threatened and Endangered Species – HDR personnel conducted sites assessments on July 21st and again in October 2021. According to your letter, the project site has historically been used for silviculture for several decades. Most of the site has been recently timbered by the current landowner. Grubbing of tree stumps and minor grading would be conducted in preparation for project construction. About 135 acres of temporary and 2 acres of permanent impacts would occur on wetlands across the site. Construction of the solar facility is tentatively scheduled to begin in spring or summer of 2022.

HDR identified potentially suitable habitat for the northern long-eared bat (*Myotis septentrionalis*) (NLEB) on site. To the extent possible, the project would minimize effects on the NLEB by conducting the remaining tree clearing during the inactive season (November 15-March 31). Therefore, HDR determined that project activities *may affect but are not likely to adversely affect* the NLEB. After reviewing the information provide, the Service agrees that the project is not likely to result in *take* as prohibited under section 9 of the ESA. However, obligations of the ESA must be reconsidered if: (1) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered; (2) the proposed action is subsequently modified to include activities which were not considered during this consultation; or (3) new species are listed, or critical habitat designated that might be affected by the proposed action.

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Fish and Wildlife Coordination Act

Based upon the presence of wetlands, streams, and drainages on the project area, the developer should contact the U.S. Army Corps of Engineers prior to performing the work, if the project involves a discharge of dredged or fill material into waters of the United States.

Conservation of Migratory Birds & BGEPA

The Service recommends that migratory birds be considered when assessing potential effects of solar facilities include all found within the area. These include individuals that are resident, breeding, overwintering, migrating, staging, roosting, feeding, resting, and otherwise transiting through potential project areas. Particularly close attention should be paid to avian species listed in the Birds of Conservation Concern (BCC), a set of lists generated by the Service identifying migratory birds of high conservation priorities at a variety of spatial scales.

Potential bald eagle nesting habitat includes large trees, often near river systems, reservoirs, lakes, bays, and other fish-bearing bodies of water. Nests are usually located near the tops of the tallest trees and are added to and reused year after year. The project areas should be thoroughly surveyed immediately prior to land clearing to determine if this federally protected species or its nests may occur in the impact areas.

The Service believes it is prudent to identify preliminary concerns regarding potential impacts to migratory birds if a solar farm is constructed. We are concerned that reflective glare from a photovoltaic solar panel array may adversely affect migratory birds. While a single panel may not pose a significant threat, a collection of panels may create a reflective glare that could be mistaken as a body of water by birds in flight and their insect prey, a phenomenon referred to as the "lake effect." Injury or direct mortality may result if birds attempt to land on the solar panel array. In order to avoid or minimize migratory bird impacts, we encourage the use of glare reducing coatings on any potential solar panel array proposed for the tract.

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Invasive Exotic Species – The Service is concerned with the introduction and spread of invasive exotic species in association with the proposed project. Without active management, including the re-vegetation of disturbed areas with native species, the project area will likely be a source for the movement of invasive exotic plant species. Exotic species are a major contributor to species depletion and extinction, second only to habitat loss. Exotics are a factor contributing to the endangered or threatened status of more than 40 percent of the animals and plants on the *Federal List of Endangered and Threatened Wildlife and Plants*[1]. It is estimated that at least 4,000 exotic plant species and 2,300 exotic animal species are now established in the United States, costing more than $130 billion a year to control[2]. Additionally, the U.S. Government has many programs and laws in place to combat invasive species and thus cannot spend money to counter these efforts. Specifically, Section 2(a)(3) of Executive Order 13112 Invasive Species (February 3, 1999) directs Federal agencies to "not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere". Despite their short-term erosion control benefits, many exotic species used in soil stabilization seed mixes are persistent once they are established, thereby preventing the reestablishment of native vegetation. Many of these exotics plants[3] are also aggressive invaders of nearby natural areas, where they are capable of displacing already established native species. Therefore, we strongly recommend that only native plant species be used in association with all aspects of this project.

Pollinator Recommendations – Although solar energy production is a fast-growing renewable energy source that can lessen overall impacts to natural resources when compared to conventional energy sources (coal, oil, gas, etc.), the Service believes solar farms can adversely affect valuable natural resources if they are not properly planned and constructed. Impacts to natural resources from the construction, operation, and maintenance of solar farms include: the removal of forests and riparian buffers; creation of monotypic habitat; introduction of invasive species; use of herbicides; creation of large, clear open spaces; and barriers created from fencing. Recent evidence indicates that pollinators, especially native bees, and monarch butterflies, are in serious decline. Loss of habitat and diminished native food sources has decreased the populations and diversity of pollinators throughout the country. For these reasons, we recommend that solar facilities be sited in areas that are previously disturbed (fallow fields, closed industrial sites, etc.) or sites that do not impact mature forests, streams, or wetlands. To offset the overall impacts of solar facilities and/or to increase the habitat and species diversity within the solar facility area, we further recommend the following measures be implemented into project design:

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[1]Wilcove, D. S., D. Rothstein, J. Dubow, A. Phillips, and E. Losos. 1998. Quantifying threats to imperiled species in the United States. BioScience 48:607615.

[2]Pimentel, D., L. Lach, R. Zuniga, and D. Morrison. 2000. Environmental and economic costs of nonindigenous species in the United States. BioScience 50:5365.

[3]Lists of invasive exotic plants can be found at *http://www.tneppc.org* / and *http://www.invasive.org/eastern/srs/* on the Internet.

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1. Sow native seed mixes with plant species that are beneficial to pollinators throughout the site. Taller growing pollinator plant species should be planted around the periphery of the site and anywhere on the site where mowing can be restricted during the summer months. Taller plants, left un-mowed during the summer, would provide benefits to pollinators, habitat to ground nesting/feeding birds, and cover for small mammals. Low growing/groundcover native species should be planted under the solar panels and between the rows of solar panels. This would provide benefits to pollinators while also minimizing the amount of maintenance such as mowing and herbicide treatment. Using a seed mix that includes milkweed species (milkweed is an important host plant for monarch butterflies) is especially beneficial. The following Web site provides a comprehensive list of native plant species that benefit pollinators: http://www.pollinator.org/PDFs/OuterCoastal.rx5.pdf. Additional information regarding plant species, warm season grasses, seed mixes, and pollinator habitat requirements can be provided upon request.

2. Create openings in fencing to allow passage issues for small mammals and turtles.

3. If possible, the solar field should be designed with open areas spread throughout the project site and planted and maintained with taller/pollinator friendly plant species. This practice would benefit pollinators, create diversity throughout the site, and provide much needed shelter islands to aid in the movement of small mammals and birds.

4. Mitigate for the loss of forested habitat. Though the loss of forested habitat cannot be fully mitigated when cleared for solar facilities, the Service believes measures should be implemented into the design plans to offset the impacts of the project to the greatest extent practicable. We recommend the construction and placement of bat and bird boxes throughout the site along with perch poles that are large enough to be used by raptors.

5. Provide nesting sites for pollinator species. Different pollinators have different needs for nesting sites. Therefore, the Service recommends designing the solar facility to maintain a diverse array of habitats to accommodate varied pollinators from hummingbirds to butterflies to bees. Hummingbirds typically nest in trees or shrubs while many butterflies lay eggs on specific host plants. Most bees nest in the ground and in wood or dry plant stems.

The Service recommends you contact the South Carolina Department of Natural Resources regarding potential impacts to State protected species. If you have any questions or comments or require additional information regarding this letter, please contact Ms. Morgan Wolf of my staff at 843-300-0428, or email at morgan_wolf@fws.gov, and reference FWS Log No. 2022-TA-0206.

Sincerely,

Thomas D. McCoy

Thomas D. McCoy
Field Supervisor

TDM/MKW

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SOUTH CAROLINA DEPARTMENT OF
ARCHIVES & HISTORY

September 21, 2021

Josh Fletcher
Senior Archaeologist
HDR Engineering
1122 Lady Street, Suite 1100
Columbia, SC 29201-3372
joshua.fletcher@hdrinc.com

Re: SR Lambert Project Draft CR Assessment
Georgetown County, South Carolina
SHPO Project No. 21-EJ0180

Dear Josh Fletcher:

Our Office has received on September 7, 2021 the documentation dated September 2, 2021 that you submitted as due diligence for the project referenced above, including a cover letter and the *Cultural Resources Assessment of the SR Lambert Project*. This letter is for preliminary, informational purposes only and does not constitute consultation or agency coordination with our Office as defined in 36 CFR 800: "Protection of Historic Properties" or by any state regulatory process. The recommendation stated below could change once the responsible federal and/or state agency initiates consultation with our Office.

The proposed project is defined as a development of two solar facilities (SR Lambert I and II). The project area encompasses approximately 2,082 acres and is bordered to the north by Alt. US 17 (Saints Delights Road), to the east by Wild Horse Road, to the south by County Road S-22-387, and to the west by Windum Drive. The project is approximately 6.7 miles south of the town of Andrews, South Carolina.

Our office knows of no documented historic properties that are eligible for listing or listed in the National Register of Historic Places (NRHP) in the proposed project area. Two surveys have been conducted in the project area for cultural resources/historic properties. In 1978, *Winyah-Jeffries 230 kV Transmission Line Rebuild* project survey was conducted by David Anderson of Commonwealth Associates. In 2005, the *Lambert Town kV Project* was conducted by Michael Trinkley and Nicole Southerland of the Chicora Foundation.

There is one historic structure (architectural resource 0721 also known as "The Hanging Tree") and one prehistoric (Early Archaic to Late Woodland) archaeological site (38GE0165) within a 0.5 mile buffer of the project. Historic structure 0721 was recommended not eligible for the NRHP. Archaeological site 38GE0165 is potentially eligible for the NHRP but it is located outside of the project area in the 0.5 mile buffer zone.

According to the Cultural Resource Assessment (CRA), SR Lambert I and II are composed of 2,082 acres of which 1,504.95 acres are wetlands and the remaining 577.05 acres are marginally higher in elevation with additional areas being covered in standing water at the time of the CRA. The soils at the Project Area are heavily disturbed. Some soils previously identified as high potential/ higher elevation were found to be inundated with water. Standing water was present at 4 of the 16 shovel tests locations and no shovel tests were excavated in areas with standing water. The ground surface was inspected at each shovel test and on the exposed areas along unpaved roads, ditches, and unwooded silviculture furrows. There are no intact soils within the Project Area. The CRA identified no archaeological resources in the Area of Potential Effect (APE).

Our office accepts the draft report as final. To complete the reporting process, please provide at least two (2) hard copies of a final report: a digital copy in ADOBE Acrobat PDF format for the SHPO; one (1) bound and one (1) unbound hard copies and a digital copy in ADOBE Acrobat PDF format for SCIAA. Investigators should send all copies directly to the SHPO. The SHPO will distribute the appropriate copies to SCIAA.

Please ensure that a copy of our comments letter is included in the Appendices and Attachments of the final report.

Please provide GIS shapefiles for the surveyed area (and architectural sites as applicable). Shapefiles for identified archaeological sites should be coordinated with SCIAA. Shapefiles should be compatible with ArcGIS (.shp file format) and should be sent as a bundle in .zip format. For additional information, please see our GIS Data Submission Requirements.

Please ensure that all Final survey deliverables (reports, survey forms and photographs, and GIS shapefiles) are sent to the SHPO at the same time using the same medium (e.g., DVD-RW, thumb drive, or FTP/file sharing site) to assist in project tracking. Files should be sent to rc@scdah.sc.gov. This new email address is only to be used for submitting survey deliverables. Contact your assigned reviewer directly for any questions or concerns.

If the SR Lambert Project were to require state permits or federal permits, licenses, funds, loans, grants, or assistance for development, we would recommend to the federal or state agency or agencies that additional cultural resources/historic property identification survey of the project area, as currently proposed, is not needed. Additional consultation with our office is needed if the proposed alignment changes.

The federal or state agency or agencies will take our recommendation(s) into consideration when evaluating the project and will determine if further investigation will be required.

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The State Historic Preservation Office will provide comments regarding historic architectural and archaeological resources and effects to them once the federal or state agency initiates consultation. Project Review Forms and additional guidance regarding our Office's role in the compliance process and historic preservation can be found on our website at: http://shpo.sc.gov/programs/revcomp.

Please refer to SHPO Project Number 21-EJ0180 in any future correspondence regarding this project. If you have any questions, please contact me at (803) 896-6181 or at RPando@scdah.sc.gov

Sincerely,

Roberto G. Muñoz-Pando

Roberto G. Muñoz-Pando
Archaeologist
State Historic Preservation Office

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Attachment E

Offsite Alternatives Analyses Maps

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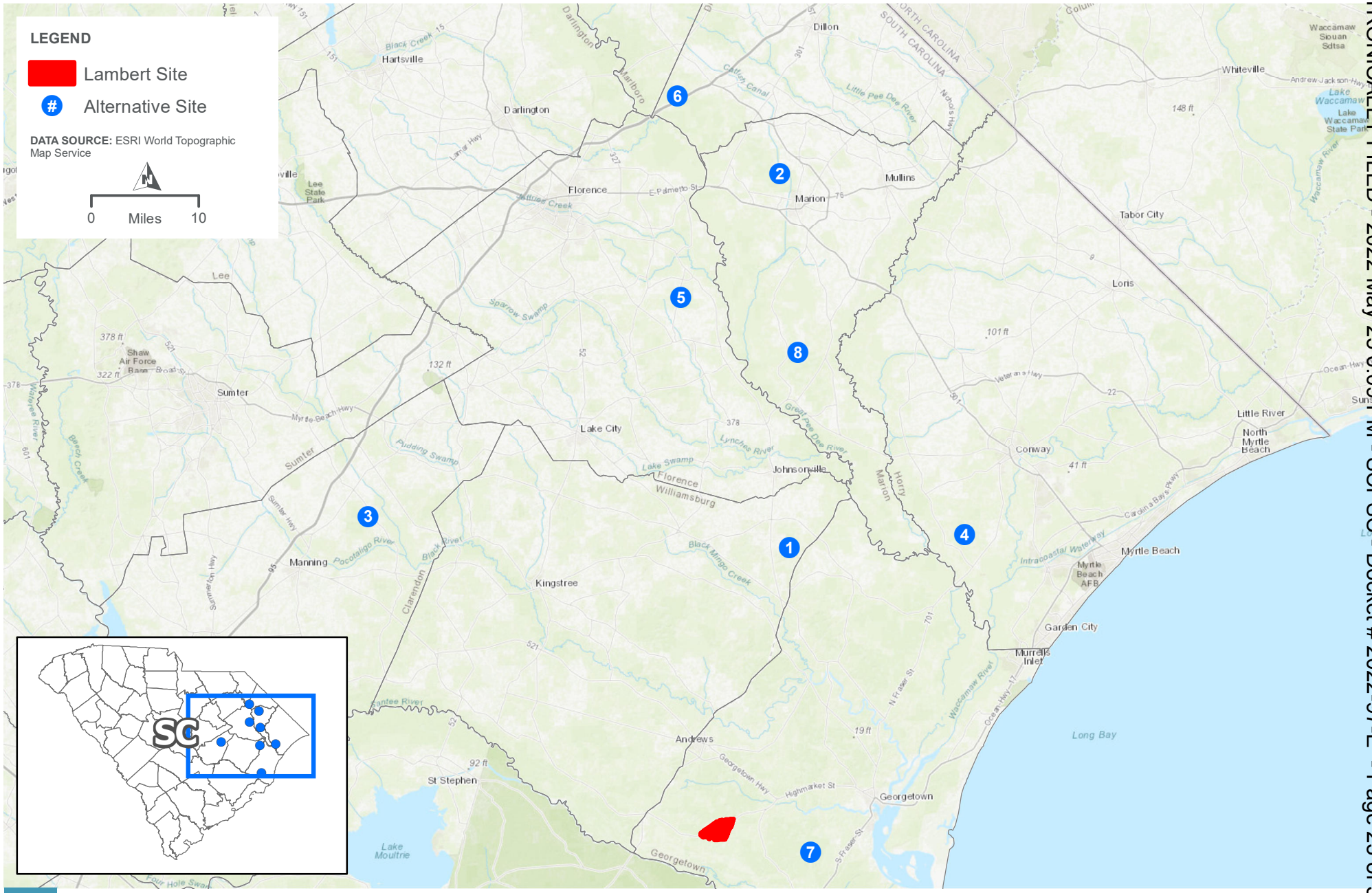

SR LAMBERT

ALTERNATIVE SITE LOCATIONS

FIGURE 1

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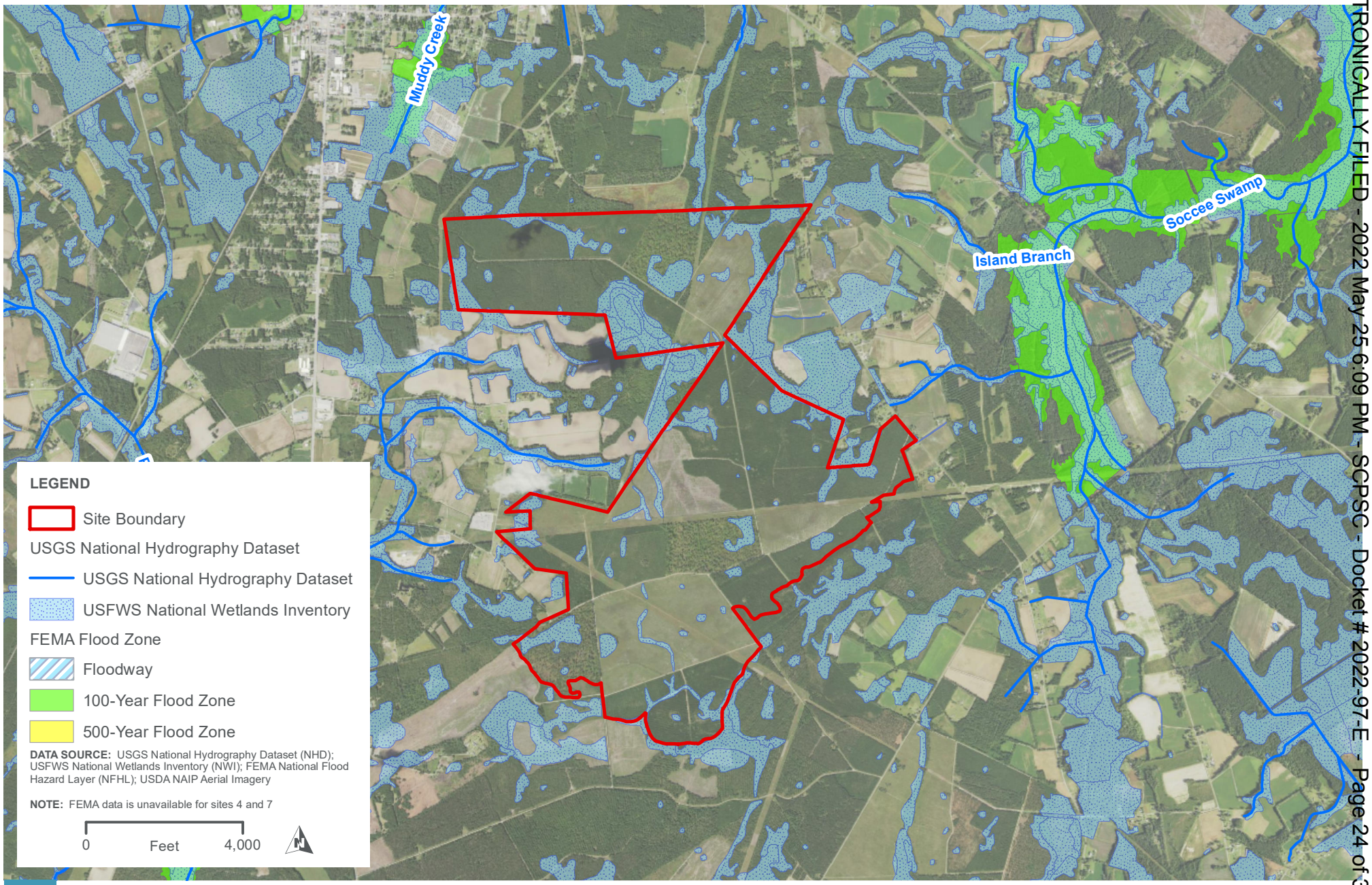

HDR SILICON RANCH

SR LAMBERT

SITE ANALYSIS

FIGURE 2 SITE 1

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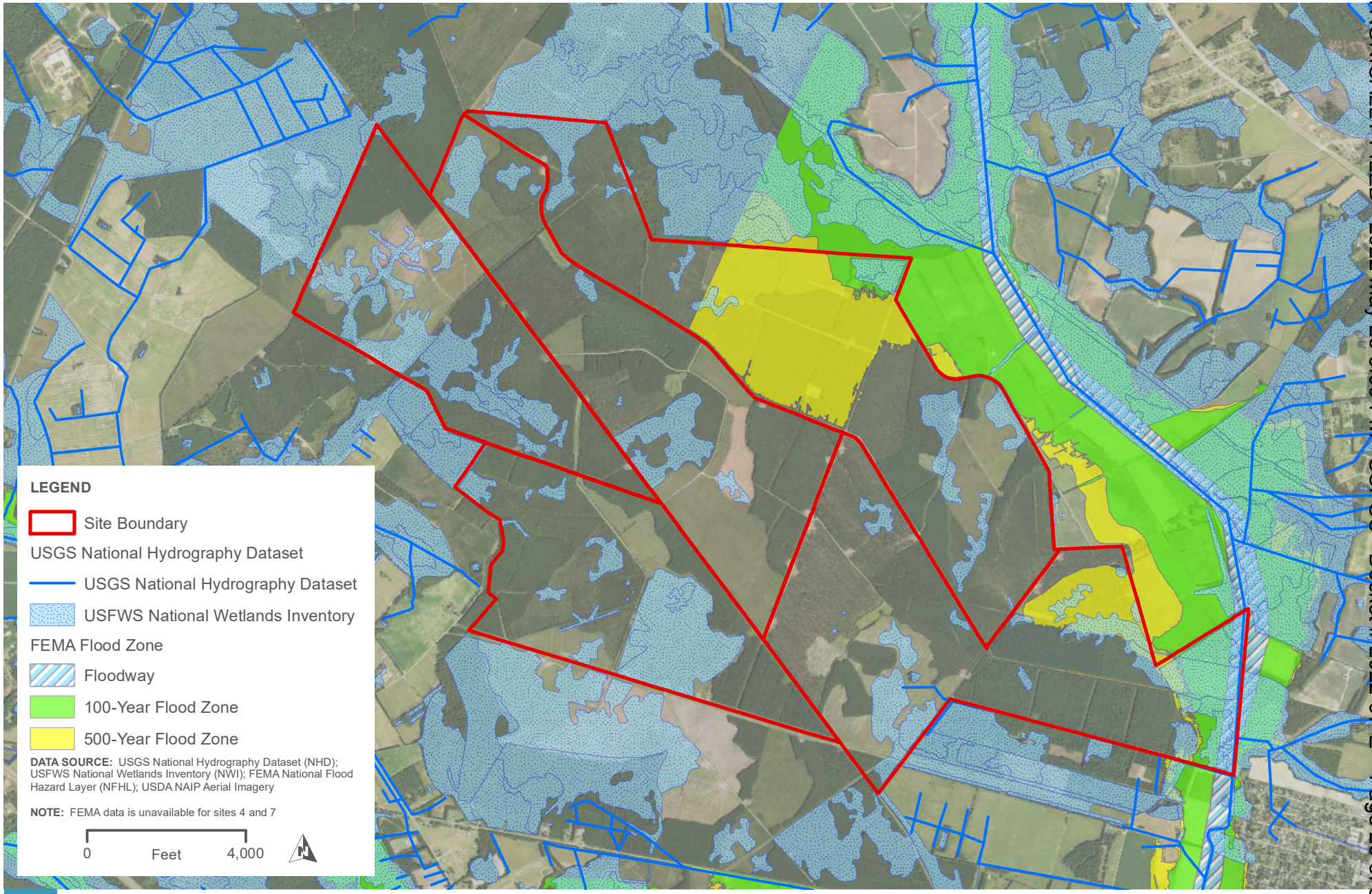

HDR SILICON RANCH

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SITE ANALYSIS

FIGURE 2 SITE 2

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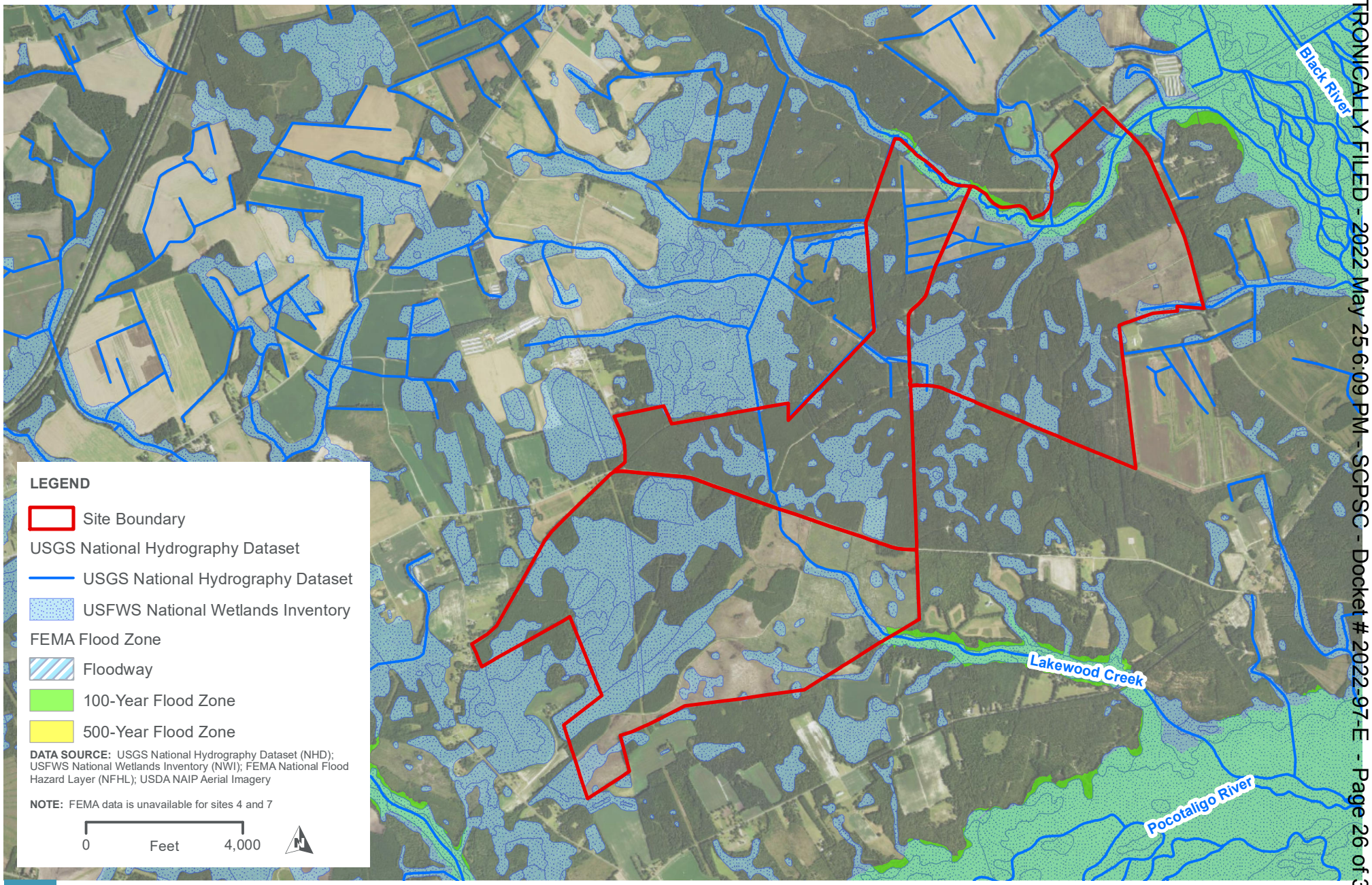

HDR SILICON RANCH

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SITE ANALYSIS

FIGURE 2 SITE 3

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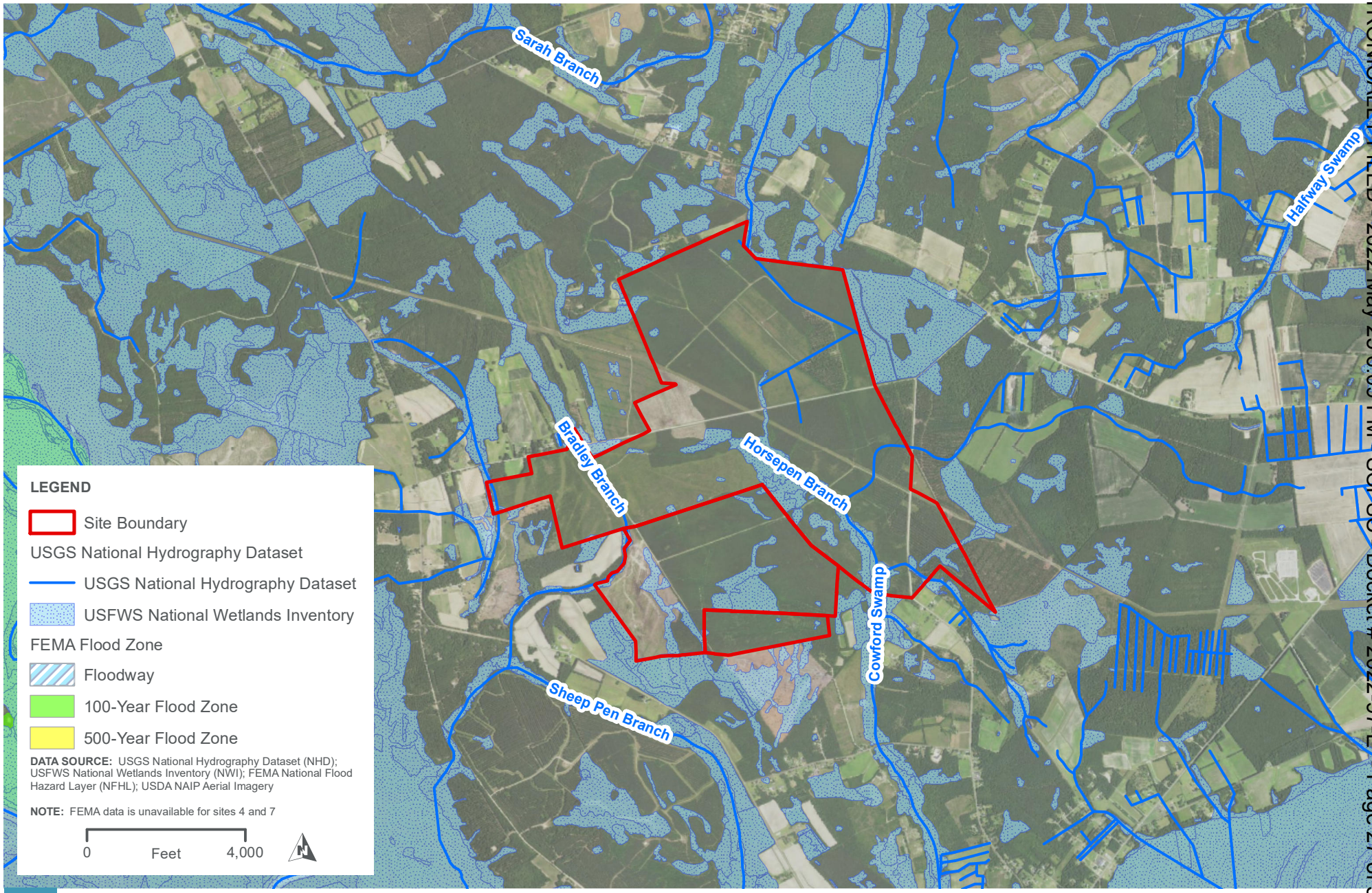

HDR SILICON RANCH

SR LAMBERT

SITE ANALYSIS

FIGURE 2 SITE 4

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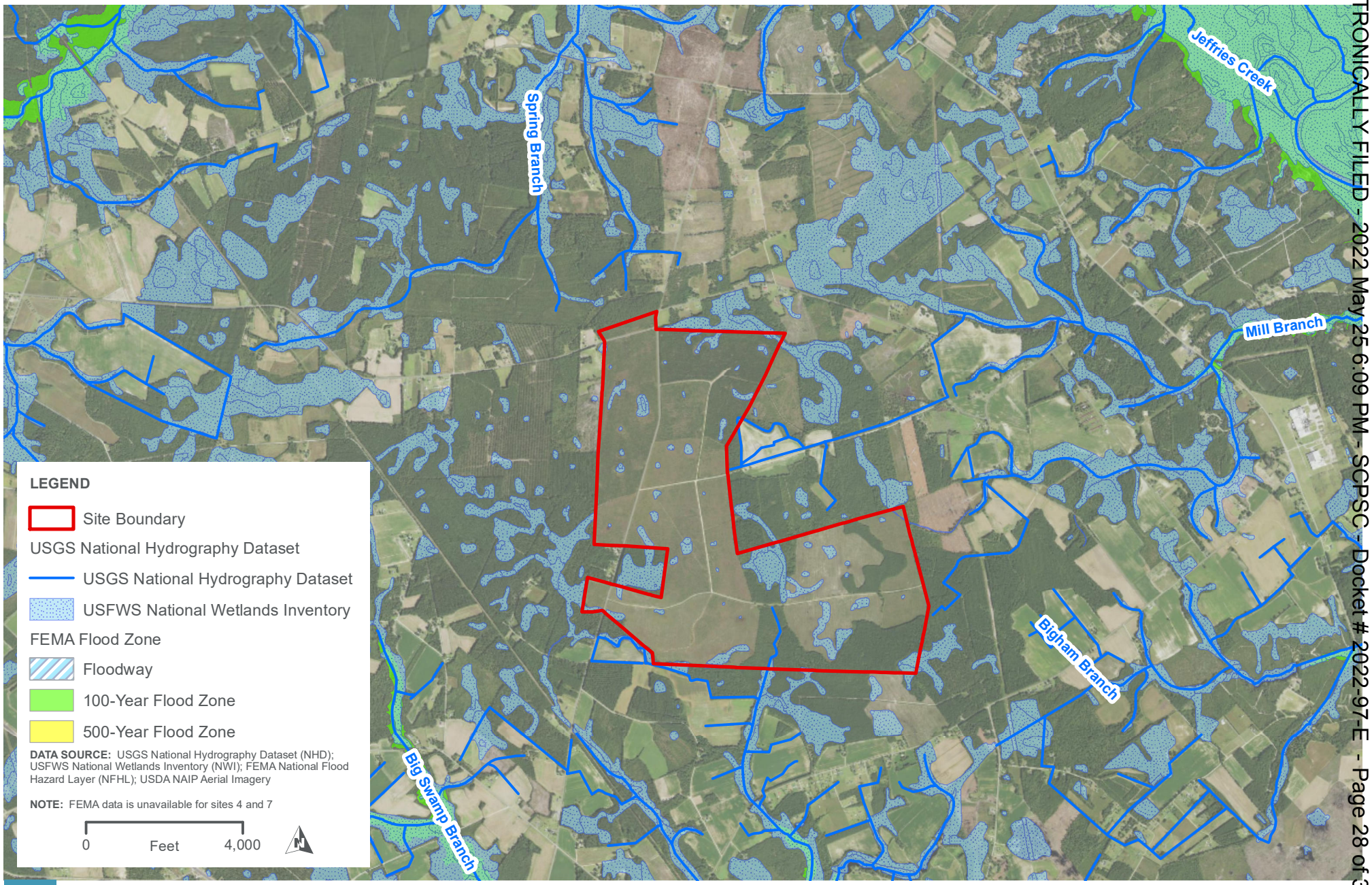

HDR SILICON RANCH

SR LAMBERT

SITE ANALYSIS

FIGURE 2 SITE 5

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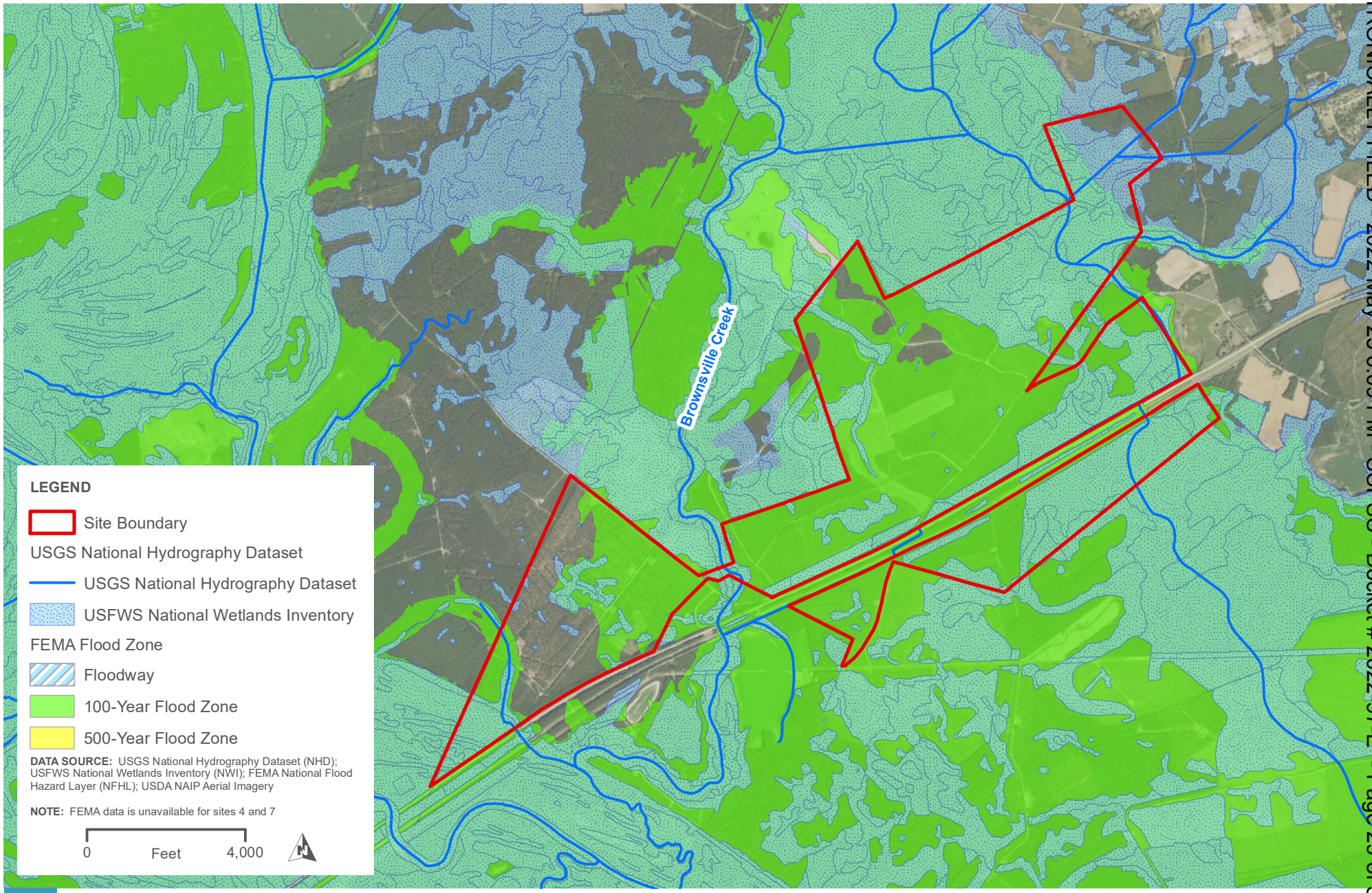

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SITE ANALYSIS

FIGURE 2 SITE 6

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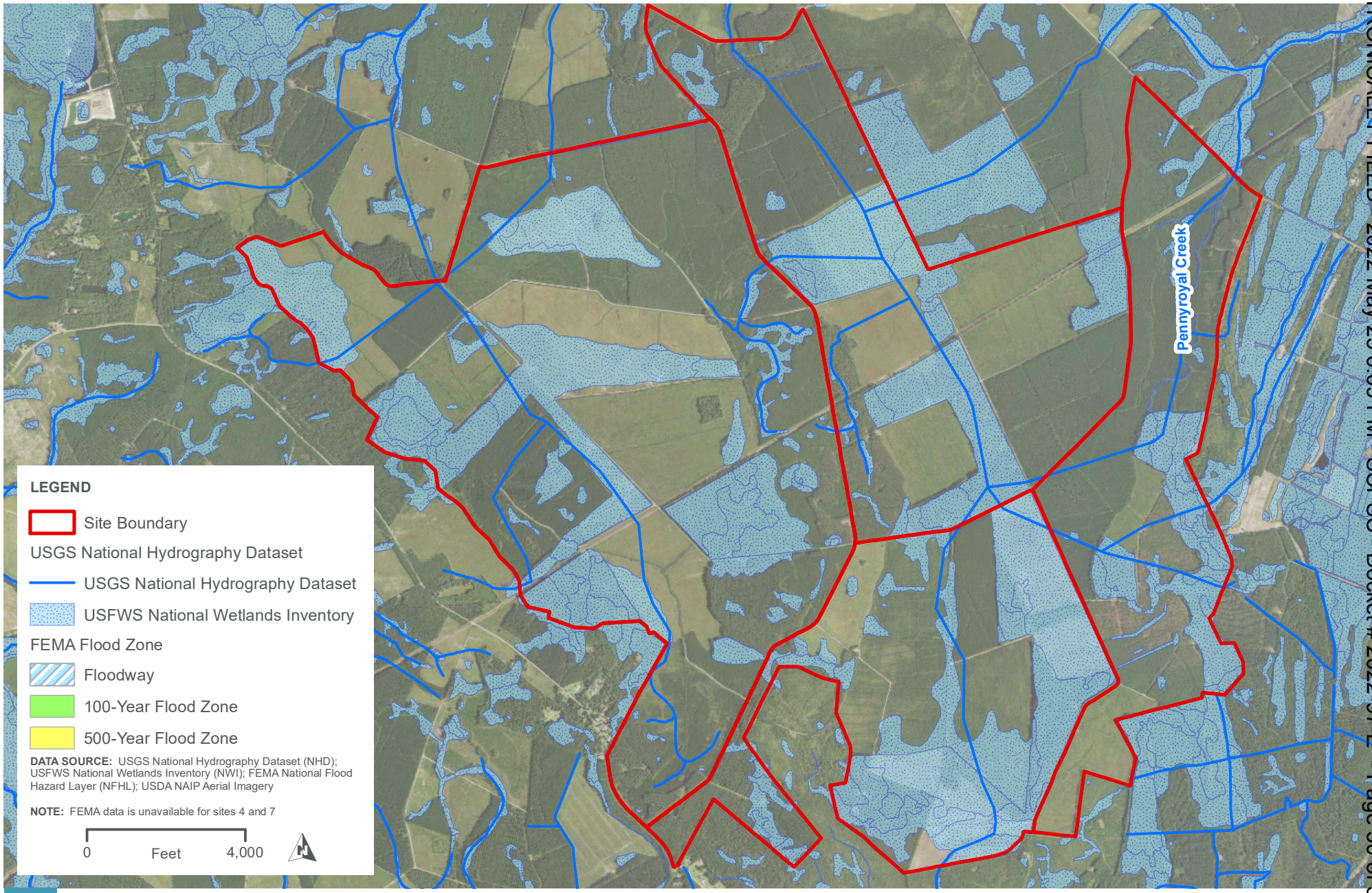

HDR SILICON RANCH

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SITE ANALYSIS

FIGURE 2 SITE 7

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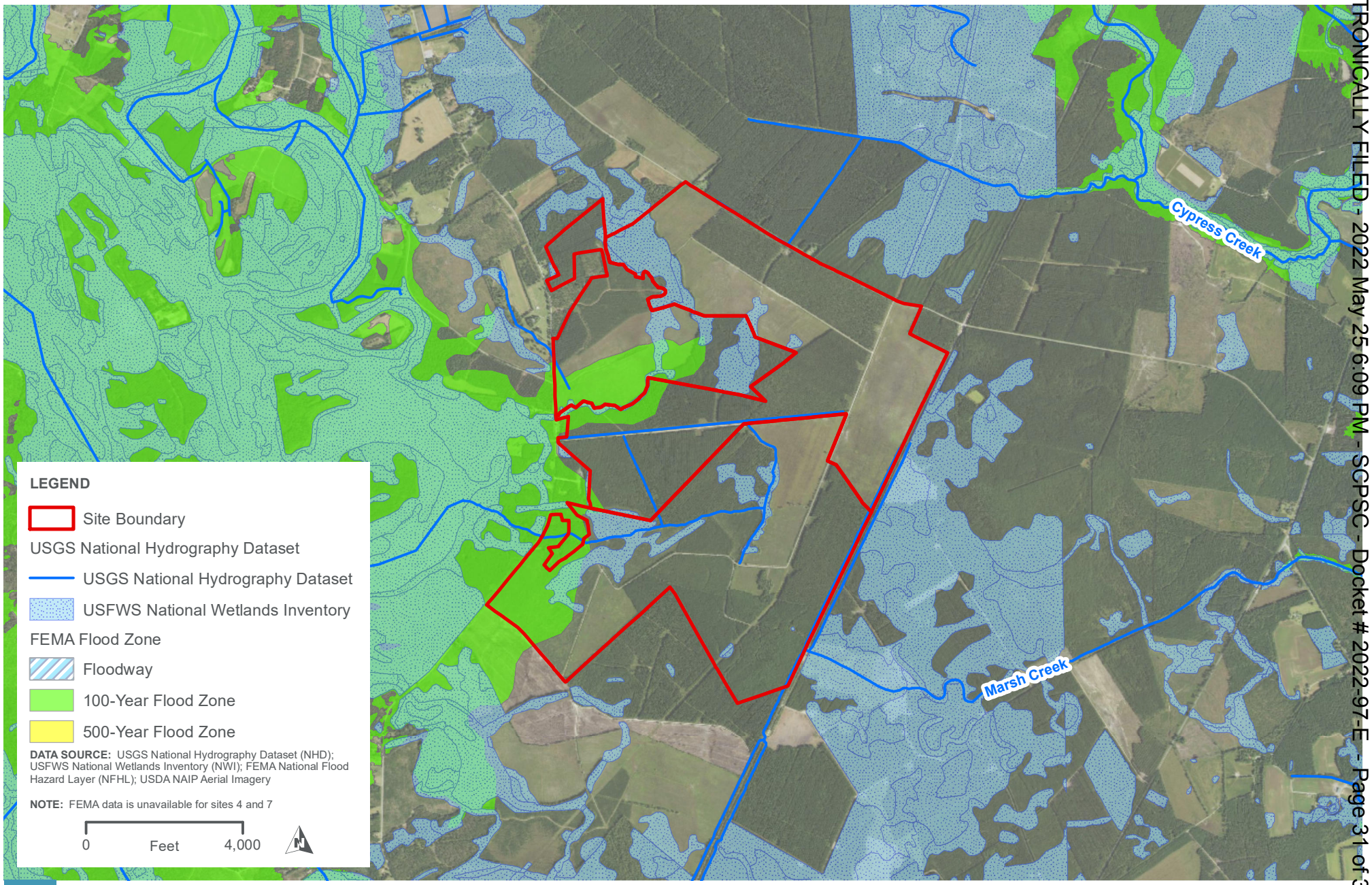

HDR SILICON RANCH

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SITE ANALYSIS

FIGURE 2 SITE 8

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