



Spaceport Camden Coastal Consistency Certification

December 2020

Federal Consistency Determination for Spaceport Camden

Georgia Coastal Management Program

Introduction

The Coastal Zone Management Act of 1972 (CZMA), 16 United States Code (U.S.C.) § 1451 et. seq., as amended, requires each Federal agency activity performed within or outside the coastal zone (including development projects) that affects land or water use or natural resources of the coastal be carried out in a manner consistent, to the maximum extent practicable, with the enforceable policies of approved state management programs. To implement the CZMA and to establish procedures for compliance with its Federal consistency provisions, the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, has promulgated regulations which are contained in 15 Code of Federal Regulations (CFR) Part 930. This Consistency Determination is being submitted in compliance with 15 CFR § 930.50 through 930.66. This Consistency Determination addresses the proposed construction and operation of a commercial space launch site in Camden County, Georgia.

Proposed Action / Project Description

Camden County is applying to the Federal Aviation Administration (FAA) for a LSOL. The license would allow Camden County to offer Spaceport Camden to commercial launch operators to conduct launches of liquid-fueled, small lift class, orbital vertical launch vehicles. A future launch operator would be required to obtain a launch license from the FAA, and a separate environmental review would be conducted at that time.

The Spaceport Camden Launch Site Operator License Application **does not** include a request for permission to support the launch of unproven launch vehicles.

The Spaceport Camden Launch Site Operator License Application does not include a request for permission to support the launch of unproven launch vehicles. The launch vehicle class (i.e., the size of the launch vehicle) and propellant type (i.e., liquid) cannot change unless the County applies for a LSOL modification; this action would trigger additional environmental review.

Spaceport Camden would accommodate up to 12 vertical launches per year. In addition, in support of the launches, there would be up to 12 wet dress rehearsals (a launch rehearsal performed with vehicle propellant loading) and up to 12 static fire engine tests (a wet dress rehearsal combined with the ignition of first stage engines for a few seconds and then shutting them down) per year.

The County is proposing to construct Spaceport Camden approximately 11.5 miles due east of the City of Woodbine, Georgia, 5 miles due west of Cumberland Island National Seashore (CUIS), less than 1 nautical mile from the Satilla River, and 6.7 nautical miles from the Atlantic Ocean (see Figure 1). The proposed launch site would be constructed within an existing 11,800-acre industrial site consisting of property currently owned by the Union Carbide Corporation and Bayer CropScience. The FAA would not make a license determination on the County's application until after issuing a Final Environmental Impact Statement (EIS) and Record of Decision and completing any associated safety and policy reviews.

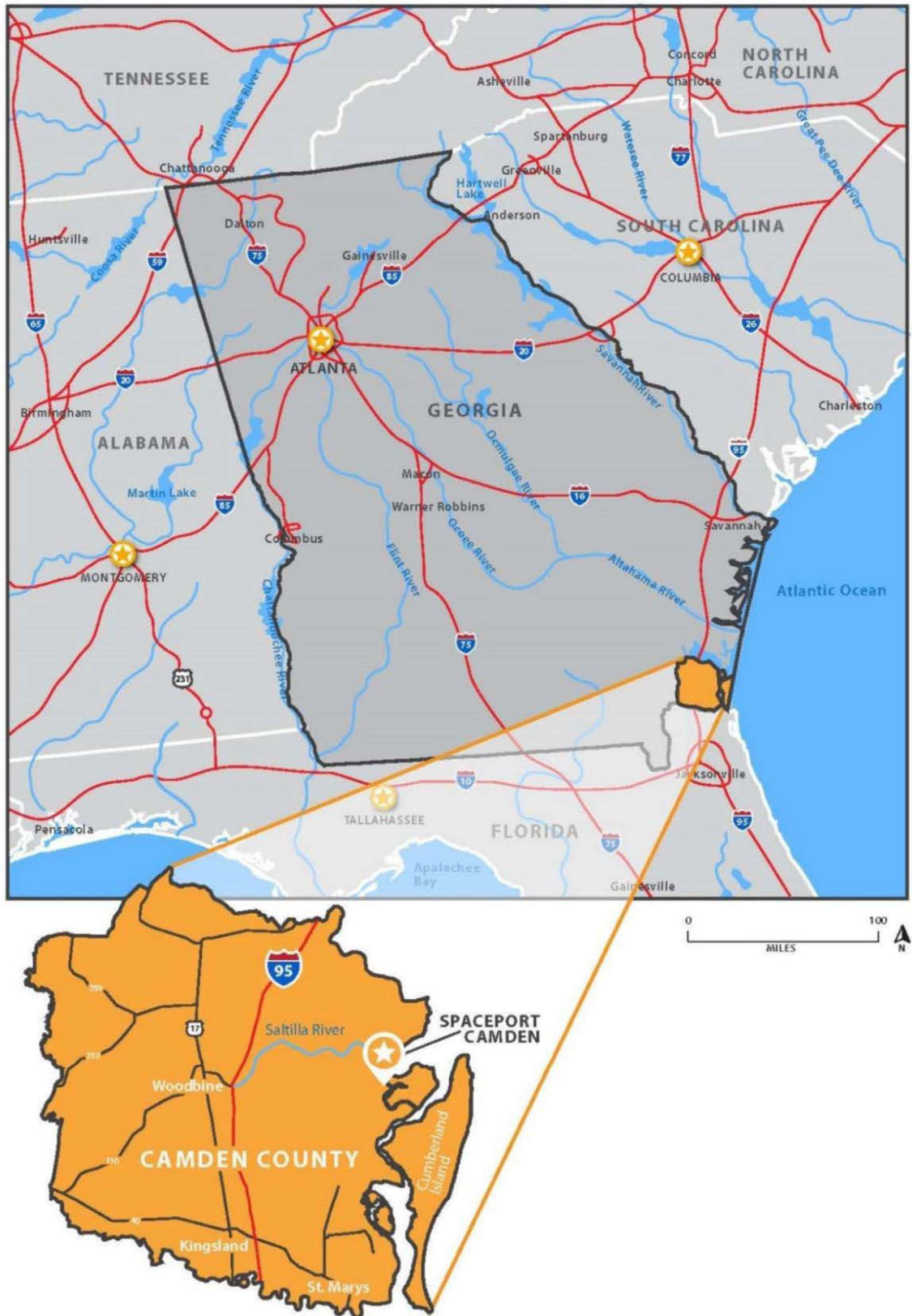


Figure 1. Proposed Spaceport Camden Location

Construction

Proposed activities include the construction of four facilities and associated infrastructure: a Vertical Launch Facility, a Launch Control Center Complex, an Alternate Control Center and Visitor Center, and a Mission Preparation Area (see Figure 2). No in-water construction activities (including dredging or pile driving) would occur. Construction of the launch site would occur on approximately 100 noncontiguous acres of this industrial site.

The Vertical Launch Facility would include a launch pad and its associated structures, storage tanks, and handling areas; vehicle and payload integration facilities; a lightning protection system; deluge water systems and associated water capture tank; water tower; and other launch-related facilities and systems including shops, office facilities, and stormwater retention ponds. The Launch Control Center Complex would include a Launch Control Center Building housing a control room and related equipment and a Payload Processing Building. The Alternate Control Center would mirror the Launch Control Center in facility construction, providing a backup launch control capability, and would also include a Visitor Center containing informational displays and accommodations for visitors to view launches. The Mission Preparation Area would be used for remote vehicle processing and would occupy approximately 13 acres. It would primarily consist of a 400-foot by 400-foot concrete pad as well as a building for operations, storage, and fuel and oxidizer tanks.

Each of the launch site facilities and the western boundary of the site would be fenced to provide security and control access. The Alternate Control Center and Visitor Center is located outside of the Spaceport Camden site boundary on what is currently Bayer CropScience property.

Onsite infrastructure improvements would include improvements to existing internal roads, construction of new roadways, and new electrical distribution, water distribution, and septic systems on the launch site. However, electricity and water are available on the adjoining Bayer CropScience property, and there is an access road to the launch site. The County does not anticipate that improvements or expansions would be required for Harrietts Bluff Road/Union Carbide Road outside the proposed spaceport site, which would provide access to the site. Additionally, the County does not anticipate required expansions or improvements to the utilities that bring electricity and communications to the external boundary of the industrial property, although expansions and improvements may be required within the boundary of the site to provide utilities to various facilities.

The County expects construction activities to last approximately 15 months. Construction activities would occur during daylight hours, five days a week. It is anticipated that 40 to 50 construction workers would be required for the construction of the facilities and 20 additional construction workers would be required for the construction of new infrastructure (water, sewer, drainage, and roads). Launch site construction activities would not commence until after the NEPA process, including issuance of a Record of Decision, has been completed and any required permits or approvals have been granted.



Figure 2. Proposed Spaceport Camden Site Plan

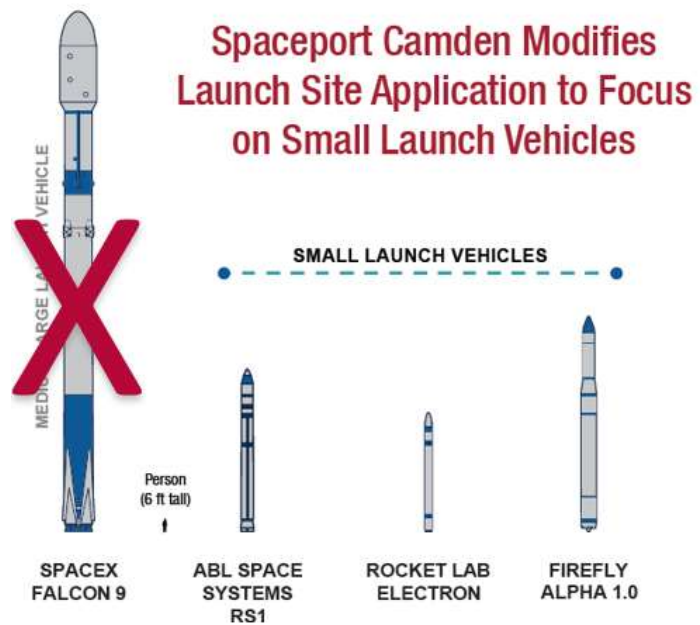
Operations

Operations would consist of up to 12 launches and up to 12 static fire engine tests and 12 wet dress rehearsals of a small-lift class Liquid propellant launch vehicle per year. One of the 12 launches could be a night launch. The proposed trajectory in the Spaceport Camden Launch Site Operator License Application is 100 degrees from true north (see Figure 3).

As part of the launch license evaluation process, FAA conducts a policy review, payload review, financial determination, and safety review. For FAA to complete a safety review, an individual launch operator is required to submit a number of analyses to the FAA, including a flight safety analysis that details the specific vehicle trajectory, trajectory specific safety zones, and demonstrates compliance with the 14 CFR Part 400 requirements. The FAA's issuance of a license to a launch operator to conduct a launch at Spaceport Camden would require additional environmental review.

Spaceport Camden would be available to a range of launch operators, each of which offers various launch vehicles. While these vehicles would include only small-lift-class launch vehicles and use liquid propellants, they would have different design and operating specifications.

The small-lift-class representative launch vehicle that the County proposed for analysis is a two-stage, liquid-fueled (liquid oxygen and RP-1) launch vehicle with approximately 18,500 pound-feet of thrust at lift-off, carrying a small (100- to 300-pound) payload/satellite to low Earth orbit. The representative launch vehicle would be similar in design and performance to a RocketLab Electron launch vehicle. The representative launch vehicle carries approximately 1,000 gallons of liquid oxygen and 750 gallons of fuel. The representative launch vehicle is between 40 to 60 feet tall. The first stage of the representative launch vehicle would drop about 200 to 300 miles offshore in the Atlantic Ocean and not be recovered.



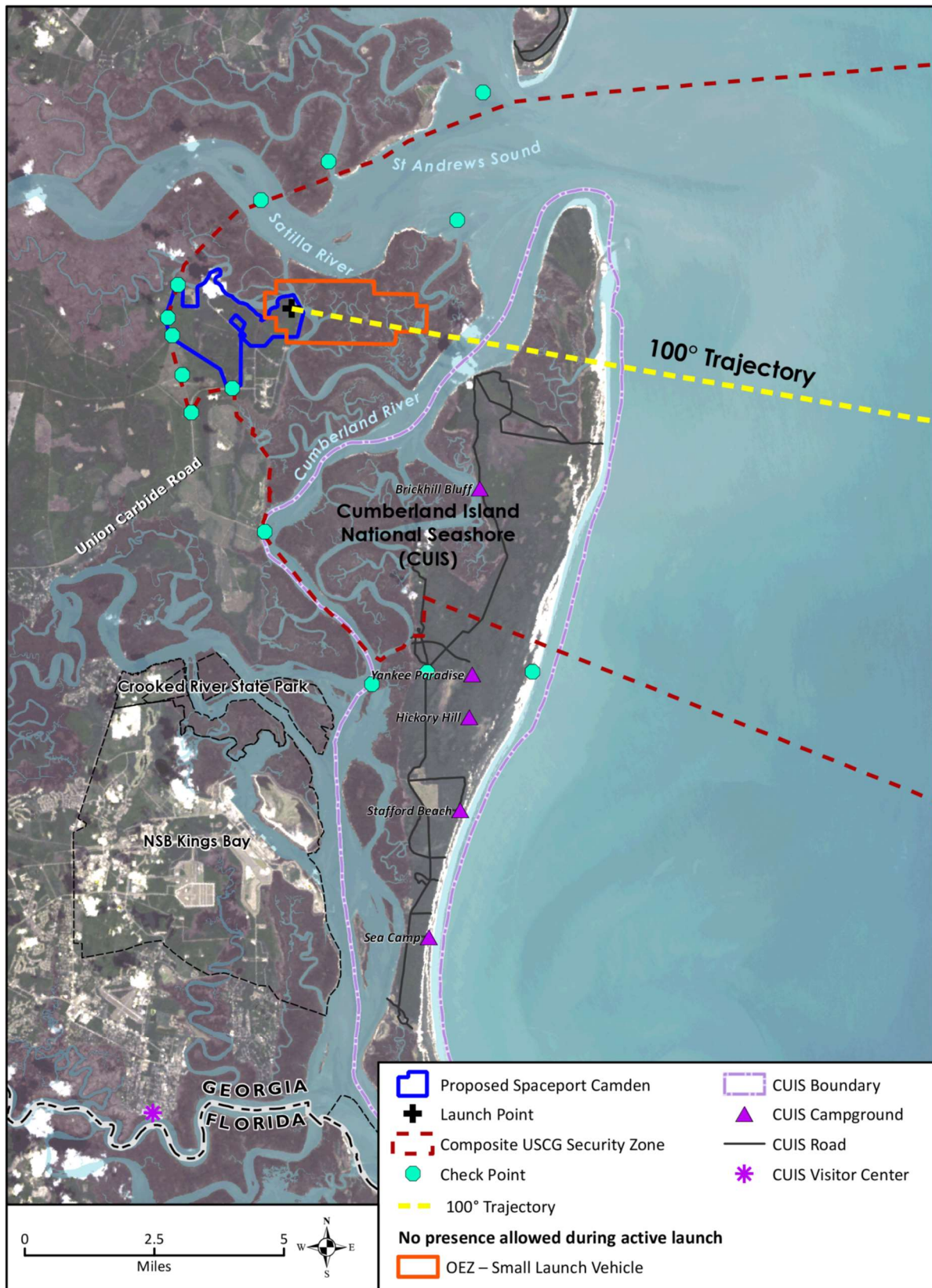


Figure 3. Composite Launch Security Zone and Restricted Areas (100-degree Trajectory)

Public Notification of Test and Launch Operations

An estimated launch window for a particular mission is established as far out as practicable and is usually publicly published. A specific target date(s) for the actual launch, wet dress rehearsal, and/or static fire engine test and associated United States Coast Guard (USCG) Security Zone establishment is typically identified at least 1 to 3 months in advance, and would generally be made available to government agency personnel (including police, fire, and rescue personnel) and the general public for planning purposes. The County will work to provide as much advance notice as possible and expects that a minimum notice of 30 days generally will be provided. However, providing a 30-day notice may not always be possible due to launch delays or more immediate launch needs.

Public notification would be disseminated via multiple channels, including dynamic messaging signs, marine band radio broadcast to mariners, social media announcements, and County-maintained websites. Notifications would include the intended date, time, and location of USCG Security Zone activation, the expected dimensions for the USCG Security Zones, durations, and backup closure dates and times. The County and/or the launch operator would post written notices of the date, time, and the proposed USCG Security Zones at several locations, including public boat ramps frequented by recreational and commercial fishermen, as well as in local newspapers. Public notifications would be disseminated for the establishment of the USCG Security Zone, as well as the “all clear” call upon completion of operations.

The County would coordinate with Glynn County, the Georgia Department of Natural Resources (GDNR), law enforcement agencies, the USCG, the U.S. Navy at Naval Submarine Base Kings Bay, the Marine Corps Air Station Beaufort, the appropriate regional Air Route Traffic Control Center (Jacksonville Tower), and local commercial/general aviation airports. Notices to Mariners (NOTMARs) and Notices to Airmen would also be disseminated. The County and the launch operator would also notify the City of Brunswick, the National Parks Service (NPS), Crooked River State Park, and other appropriate agencies of the test or launch operation and associated establishment of USCG Security Zones.

Public notification would be disseminated via multiple channels, including dynamic messaging signs, marine band radio broadcast to mariners, social media announcements, and County-maintained websites.

The actual date for anticipated activity (to include USCG Security Zone establishment) would be re-confirmed about 2 weeks in advance and notification would once again be made to officials and the public. Changes in the estimated, target, and/or actual dates could occur any time prior to the planned activity due to weather, technical issues, or other mission critical parameters. In such cases, government agency personnel and the public would be notified of any cancellation or changes in the target date of the activity and any associated USCG Security Zone establishment. In an atypical scenario for a small launcher and its primary payload (e.g., a rush launch to replace a critical asset that has failed on orbit), this timeline could potentially be condensed to under 1 month or less, but this would be very unusual. The GDNR Coastal Resources Division recommends avoiding or minimizing launch operations that require limited access on weekends, holidays, and during organized fishing tournaments in the vicinity, as well as posting limited access dates/times at all public access points within 10 miles of proposed USCG Security Zones, including public boat ramps, 30 days in advance (Official Code of Georgia Annotated [O.C.G.A.] 12-5-320, *Coastal Management Act*). Camden County intends to coordinate with the GDNR Coastal Resources Division to implement these requests.

USCG Security Zones

During launch operations, a USCG Security Zone would be established to control and monitor public access. As part of the licensing process, the County and the launch operator would jointly develop a Comprehensive Launch Plan that defines the process for controlling access within the USCG Security Zones. The Comprehensive Launch Plan would include safety and security personnel for each launch operation activity and roadblocks and other land and water security checkpoints to control and monitor public access to USCG Security Zones.

The Camden County Emergency Management Agency centrally coordinates all special events/incidents that are large in scale with multiple agencies/organizations involved that could impact public safety, including those where multiple jurisdictions are involved, through use of the Federal Emergency Management Agency (FEMA) National Incident Management System (NIMS) doctrine (FEMA, 2017a). NIMS provides a common, nationwide framework that enables the whole community to work together to manage all threats and hazards. NIMS applies to all incidents, regardless of cause, size, location, or complexity. The Comprehensive Launch Plan would use common practices already in place across all local and regional first responders and government agencies to manage incidents. The Spaceport Camden Comprehensive Launch Plan would describe the procedures for establishing USCG Security Zones where public access would be controlled and/or monitored during test and launch operations.

The Overflight Exclusion Zone (OEZ), which is calculated based on factors such as the launch vehicle, launch trajectory, propellant, and payload, would be expected to include the upland, marshland, and water immediately adjacent to the Vertical Launch Facility. For the representative launch vehicle, the OEZ does not extend onto Cumberland Island or Little Cumberland Island. No public access would be allowed in the OEZ during launch operations; however, the marshland and waterway portion of the OEZ would remain open to the public at all other times.

No public access would be allowed in the OEZ during launch operations; however, **the marshland and waterway portion of the OEZ would remain open to the public** at all other times.

The land-based portion of the USCG Security Zone would be expected to include areas around the access points to the launch site at the end of Harrietts Bluff Road (also referred to as Union Carbide Road). Current residents and their guests, ticketed park visitors, government personnel, and other Spaceport Camden–designated persons would have the same rights of access as they currently experience on areas of Little Cumberland Island and Cumberland Island located within the USCG Security Zone. Beach driving for security sweeps would require a state authorization under O.C.G.A. 12-5-230 et seq., Shore Protection Act, prior to commencing.

The water-based portion of the USCG Security Zone would be expected to include the waterways surrounding the launch site and some of the waterways surrounding Cumberland Island and Little Cumberland Island extending along the trajectory and out to sea. The water-based portion of the Security Zone would be enforced by the USCG and their designated authorities. On a case-by-case basis and subject to operation-specific considerations, the Captain of the Port and/or their designated authority could allow vessel travel through the USCG Security Zone.

Figure 3 above shows the composite USCG Security Zone as described in the USCG’s feasibility determination as documented in a Letter of Agreement dated June 12, 2019, and the USCG Notice of

Inquiry published on September 19, 2018. Figure 3 shows the composite USCG Security Zone as well as the extent of the OEZ restricted areas for a launch based on the 100-degree reference trajectory. Each launch would have an individually defined USCG Security Zone and OEZ restricted area, depending on the specific type of vehicle, the trajectory, and the mission. The composite USCG Security Zone, as depicted for representative launch activities, encompasses an area that accounts for safety concerns associated with the range of launch trajectories and the medium-large lift vehicle previously assessed in the Draft EIS. However, individual launch USCG Security Zones associated specifically with the 100-degree trajectory and small lift vehicle would be smaller and depend on several factors unique to each event, such as actual trajectory, lift class, and payload. Control of marshland for hazardous operations shall be pursuant to agreements with the USCG for the implementation of an appropriate Security Zone in accordance with 33 CFR § 165.20 and the Letter of Agreement.

The OEZ for pre-launch testing operations/activities (specifically, cold flow tests and static fire tests) corresponds to the explosive siting criteria and is an approximate 4,021-foot radius from the launch location; this does not extend beyond the marshlands bordering the northeastern portion of the site location.

The County (as the launch site operator) and/or the launch operator would coordinate with the following entities (and possibly others) to develop and implement the Comprehensive Launch Plan: Camden County, Glynn County, and Georgia state law enforcement agencies; the cities of Brunswick, St. Marys, Woodbine and Kingsland; the NPS; U.S. Navy/Marines; FAA; Crooked River State Park; Jekyll Island State Park; the Georgia Department of Transportation; U.S. Fish and Wildlife Service/National Marine Fisheries Service; GDNR; and the USCG.

Advanced planning work sessions with all stakeholders would occur to ensure that every organization's role and responsibilities are defined and understood and that a detailed (minute-by-minute) launch checklist (count down and contingency plan) would be created. There may be dry runs of the detailed launch checklist before the first few launches to make sure everyone is clear on how the process would flow, and the detailed launch checklist would be updated as needed to account for lessons learned. Appropriate cost recovery mechanisms would be put in place as needed for those government agencies that are a part of the process. Provisions for ensuring access to the USCG Security Zone for current residents and their guests, ticketed park visitors, government personnel, and other Spaceport Camden-designated persons would also be implemented. Should those persons wish to depart the area on Cumberland Island or Little Cumberland Island before a launch, Spaceport Camden personnel would facilitate transportation for those individuals to and from their houses or camp sites on the day of the launch.

During test and launch operations, the County proposes to control and monitor access to the OEZ and USCG Security Zone for members of the public. These pre-defined checkpoints would be stationed at approximately the locations as indicated in Figure 3 near the launch site to ensure that unauthorized persons remain off the launch site. Under the direction of the Camden County Incident Commander, the Camden County Sheriff's Office would be responsible for setting up and enforcing these checkpoints. Only approved government, Camden County, launch operator, and emergency personnel, and others with appropriate credentials would be allowed on the launch site during test or launch operations. Current residents and their guests, ticketed park visitors, government personnel, and other Spaceport Camden-designated persons would have the same rights of access as they currently experience on areas of Little Cumberland Island and Cumberland Island located within the USCG Security Zone (outside the OEZ).

It is Spaceport Camden's intent to establish a two-factor log-in web-based registration system, much like major public events that impact local neighborhoods, where Cumberland Island and Little Cumberland Island property owners would register their family and/or guests for access to limited access areas during a USCG Security Zone associated with launch operations. Owners and guests would be electronically registered and verified at established access control points using State-issued identification card against an active online registration list. At established geospatial control points, assigned safety/security personnel, acting under the delegated authority of the USCG, would control access and would follow posted orders based on elements of the USCG Security Zone directive and/or USCG area commander orders necessary to ensure the safety of persons and property during launch operations. All USCG Security Zone enforcement personnel would maintain an up-to-date master list of authorized personnel for reference. Where issues arise outside of established posted orders, access control personnel would be required to communicate with the on-scene commander, or designee, for resolution. Beach sweeps on Little Cumberland Island would be restricted to areas below the high tide, which are navigable waters.

As shown in Figure 3, for the 100 degree trajectory, the waterway checkpoints could be located along the Satilla River/St. Andrews Sound area, the Atlantic Ocean, and the Cumberland River. Under USCG delegation of authority, Camden County Sheriff's Office, supported by Range Safety Boats, would be used to secure the river, streams, and ocean checkpoints. Additional support would be provided through Range Safety Aircraft as assigned. If needed, additional land security checkpoints could be implemented on Cumberland Island near Brickhill Bluff or Plum Orchard and on the Atlantic beach to ensure appropriate population monitoring.

The proposed USCG Security Zone has been developed in coordination with multiple Federal, State, and local government stakeholders, including NPS, USCG, and GDNR. Refinement of these USCG Security Zones would continue in consultation with the launch operator and the Federal, State, and local government stakeholders to ensure minimal impact to activities and operations in Cumberland Island National Seashore and the Satilla River/St. Andrews Sound area. The range of potential USCG Security Zones proposed by the USCG for Spaceport Camden operations would not require closures to either the Sea Camp or Dungeness docks at Cumberland Island National Seashore.

The duration of the USCG Security Zone and OE) during a typical launch is anticipated to be up to 3.5 hours; however, access controls could be in place for up to 12 hours on an atypical launch day. The atypical 12-hour duration allows for potential aborts and contingencies. The OEZ for a wet dress rehearsal or static fire engine test would only include those areas within a 4,021-foot radius of the launch pad and would typically be in place for 3 hours or less.

The Estimated Total Access Limitation Time (USCG Security Zone) and Closure Time (OEZ) per Year (12 launches / 12 static fire engine tests and 12 wet dress rehearsals) is up to **42 hours** (USCG Security Zone) / **114 hours** (OEZ), respectively.

During the periods of public access limitations, monitoring would be conducted by vehicles (car/truck) along existing roads, as well as by video surveillance (e.g., high-definition video cameras with zoom lenses placed well above ground level on the water tower and/or lightning towers). Camden County personnel, the launch operator, and/or law enforcement would monitor the area to the east of the checkpoints to ensure that the area would remain clear. Except in case of an emergency, Camden County personnel and/or the launch operator would not conduct ground sweeps. Only if video surveillance is insufficient would other monitoring methods be used, such as the following:

- Unmanned aerial surveillance (no more than two unmanned vehicles at the same time), with unmanned vehicles abiding by FAA requirements under a Certificate of Authorization, outside of restricted airspace to include Naval Submarine Base Kings Bay and the Cumberland Island National Seashore (and generally not overflying the wilderness area);
- Manned aerial surveillance (one fixed-wing aircraft with flight time less than 30 minutes at an altitude of less than 1,000 feet); or
- USCG or designated vessel.

The Estimated Total Access Limitation Time (USCG Security Zone) and Closure Time (OEZ) per Year (12 launches / 12 static fire engine tests and 12 wet dress rehearsals) is up to 42 hours (USCG Security Zone) / 114 hours (OEZ), respectively.

The Comprehensive Launch Plan would also include a process for clearing offshore areas. This process would include coordinating with the USCG and issuing a NOTMAR. As noted above, advance notice of waterway closures would be posted at public docks to inform recreational and commercial fishermen. The USCG or delegated authority could conduct a boat patrol to sweep the offshore area; sweeps would continue until the launch operator is ready to load propellant to the vehicle (approximately 3 hours prior to launch). If necessary, a final sweep of the water-based portion of the USCG Security Zone by manned fixed-wing aircraft or unmanned aerial vehicle could be implemented at this time to ensure the areas are clear.

After the launch operation is completed or postponed, the County and/or the launch operator would notify law enforcement that the area has been deemed safe, allowing them to reopen the USCG Security Zone and OEZ. In the event that the launch would be postponed, the USCG Security Zone and OEZ would be reestablished for the rescheduled launch.

Launch Failures

While launch failures are possible, they are unlikely. A “failure” generally describes a situation where the vehicle does not perform as intended (such as when the vehicle fails to inject payload into or near the intended orbit) and does not necessarily include a catastrophic failure that would result in an explosion or crash. A launch can be categorized as a failure for several reasons, including failure to obtain the desired orbit. While a failure can occur at any point in the launch, historically, failures have typically occurred at the pad, soon after ignition/lift off and over the launch site, or much later in the flight which in this case would be well out to sea.

Over the past 25 years, there have been **no fatalities, serious injuries, or significant property damage to the public** (i.e., persons/properties not involved in launch activities) from commercial space launch activities licensed or permitted by FAA.

Failures would be expected to result in the complete destruction of the launch vehicle and payload; most, if not all, of the propellants carried on the vehicle would be consumed by the event. Spaceport Camden, in collaboration with the launch operator, would be required to develop a Hazardous Materials Emergency Response Plan and establish an emergency response team for any hazardous or toxic propellants and materials. Spills would be contained and cleaned up in accordance with the procedures identified in the Hazardous Materials Emergency Response Plan. The Hazardous Materials Response Plan must be submitted to the GDNR Coastal Resources Division to determine if any additional plan-specific authorizations are required prior to implementation 21 (O.C.G.A. 12-5-320, Coastal Management Act).

Each Launch License application undergoes a rigorous safety review that not only accounts for the launch vehicle and its reliability statistics, but the associated fuel types, payload, and individual trajectory. As part of the Launch License application, FAA requires launch providers to demonstrate compliance with risk limits as defined in 14 CFR § 417.107 (for expendable launch vehicle), which limit the risk from launch to an individual to 1×10^{-6} per mission (a one-in-a-million chance). Regardless of the accident probability, FAA launch safety requirements limit risk (defined as the expected number of casualties) from all hazards (debris, toxic releases, and blast overpressure) from a launch accident to 1×10^{-4} (a less than 1-in-10,000 chance) during any launch. Over the past 25 years, there have been no fatalities, serious injuries, or significant property damage to the public (i.e., persons/properties not involved in launch activities) from commercial space launch activities licensed or permitted by FAA.

Per analysis conducted pursuant to 417.107(b)(2), the likelihood of getting hurt or worse on Little Cumberland Island ranges from less than 1 in 10 million to 1 in 100 million per launch and does not require evacuation of the island.

State Enforceable Policies

The goals of the Georgia Coastal Management Program are attained by enforcement of the policies of the State as codified within the O.C.G.A. “Policy” or “policies” of the Georgia Coastal Management Program means the enforceable provisions of present or future applicable statutes of the State of Georgia or regulations promulgated duly thereunder (O.C.G.A. 12-5-322). The statutes cited as policies of the Georgia Coastal Management Program were selected because they reflect the overall program goals of developing and implementing a balanced program for the protection of the natural resources, as well as promoting sustainable economic development of the coastal area.

The list of state laws shown in Tables 1 and 2, along with their associated regulations, describe the legal authority for the State’s regulation of its salt marshes, beaches and dune fields, and tidal water bottoms. Each of the coastal resources and use areas of concern is discussed separately. For each statute, a scope is provided with a direct citation to Georgia law. The laws are not cited in their entirety. Instead, the purpose of the statute, or a pertinent section of the statute, is cited. The statutes cited here are, therefore, supported by legally binding laws of the State of Georgia, through which Georgia is able to exert control over impacts to the land and water uses and natural resources in the coastal area. The statutes referenced herein can be found in the Official Code of Georgia Annotated. Table 1 presents statutes that are not applicable to the Proposed Action and are not addressed further. Statutes addressed as part of the Georgia Coastal Zone Management Program consistency review and considered in the analysis of the Proposed Action are identified in Table 2.

In accordance with the CZMA, 16 U.S.C. § 1456(c), as amended, it has been determined that the proposed construction and operation of the launch site would be carried out in a manner fully consistent with the enforceable policies of the Georgia Coastal Management Plan. This determination applies to the Proposed Action and the effects of the Proposed Action on the land uses, water uses, or natural resources of the coastal zone, as directed by 15 CFR § 930.39.

Table 1. Statutes Not Applicable to the Proposed Project

Statute	Scope	Applicability
O.C.G.A. 27-4-251, Aquaculture Development	Provides for the establishment of the Aquaculture Development Commission to study aquaculture development in Georgia.	Not applicable. This statute addresses cultivation of aquatic organisms for the state.
O.C.G.A. 12-5-370, Safe Dams	Provides for the inspection and permitting of certain dams to protect the health, safety, and welfare of Georgia residents.	Not applicable. The proposed project would not involve dam construction.
O.C.G.A. 27-1-3, Game and Fish Code	Provides the ownership of, jurisdiction over, and control of all wildlife to be vested in the state of Georgia. Declares custody of all wildlife in the state vested with the GDNR for management and regulation.	Not applicable. The proposed project includes no feature to hunt, trap, fish, possess, or transport any recreational or commercial fish or wildlife species.
O.C.G.A. 12-4-40, Oil and Gas and Deep Drilling	Regulates oil and gas drilling activities to provide protection of underground freshwater supplies and certain environmentally sensitive areas.	Not applicable. The proposed project would not involve oil or gas exploration.
O.C.G.A. 12-4-100, Phosphate Mining	Provides policy regarding the State's management of phosphate deposits; provides licenses to dig, mine, and remove phosphate deposit.	Not applicable. The proposed project would not involve phosphate mining.
O.C.G.A. 50-16-61, Revocable License Program	Provides authority to the GDNR to issue revocable licenses for recreational docks on State-owned tidal land bottoms.	Not applicable. The proposed project would not require a license for a recreational dock.
O.C.G.A. 12-3-110, Scenic Trails	Authorizes the GDNR to establish a scenic trails system in Georgia.	Not applicable. This statute pertains to the establishment of trails by the State.
O.C.G.A. 27-4-190, Shellfish	Requires commercial shellfish harvesters to have a license issued by the GDNR. Authorizes shellfish growing areas for commercial harvest under guidelines established by the National Shellfish Sanitation Program.	Not applicable. This statute is for commercial shellfish activities.
O.C.G.A. 12-4-70, Surface Mining	Regulates all surface mining in Georgia, including the coastal zone.	Not applicable. The proposed project would not include surface mining activities.
O.C.G.A. 12-13-1, Underground Storage Tank	Provides the authority to define State criteria for operating, detecting, releases, corrective actions, and enforcement of the utilization of underground storage tanks.	Not applicable. The proposed project would not utilize underground storage tanks.
O.C.G.A. 12-6-170, Wildflower Preservation	Provides for the designation of and protection of plant species that are rare, unusual, or in danger of extinction. Protection offered to these species is limited to those that are found on public lands of the State.	Not applicable. The proposed project would not include construction on public lands.

Table 2. Georgia Coastal Management Program Consistency Review

Statute	Scope	Consistency
O.C.G.A. 12-9-1, Air Quality	This statute provides authority to the Environmental Protection Division to promulgate rules and regulations necessary to abate or control air pollution for the state as a whole or from area to area. Establishes ambient air quality standards, emission limitations, emission control standards, and other measures necessary to provide standards.	There would be air emissions associated with construction activities resulting in short-term and temporary emissions during these activities. While emissions associated with operational activities would be temporary with respect to individual launches, they would continue for the term of the Launch Site Operator License or longer. However, launch-related emissions would be minimal compared to the regional baseline emissions. Based on air quality analysis the Proposed Action would not result in any significant adverse air quality impacts because emissions would not cause any pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS) for any of the time periods analyzed. Air emissions would be permitted by the GDNR. Once the final construction plan is determined and facilities are constructed, an emissions inventory should be prepared in order to accurately determine if the facility will be required to obtain a Title V operating permit. Accordingly, the proposed project is consistent with Georgia’s statutes and regulations regarding air quality.
O.C.G.A. 52-7-1, Boat Safety	Provides enforceable rules and regulations for safe boating practices on Georgia’s lakes, rivers, and coastal waters. Establishes boating safety zones for a distance of 1,000 feet from the high water mark on Jekyll Island, Tybee Island, St. Simons Island, and Sea Island.	<p>The USCG Security Zone, which is not an FAA requirement, represents both the land and water area controlled in accordance with the Comprehensive Launch Plan and is consistent with the County’s Launch Site Operator License Application pursuant to 33 CFR §§ 165.5 and 165.20. The water and tidal areas of the USCG Security Zone are defined in accordance with USCG regulations.</p> <p>Each launch would have an individually defined USCG Security Zone and OEZ restricted area, depending on the specific type of vehicle, the trajectory, and the mission. The composite USCG Security Zone, as depicted for representative launch activities, encompasses an area that accounts for safety concerns associated with the range of launch trajectories and the medium-large lift vehicle previously assessed in the Draft EIS. However, individual launch USCG Security Zones associated specifically with the 100-degree trajectory and small-lift-class vehicle would be smaller and depend on several factors unique to each event, such as actual trajectory, lift class, and payload. Control of marshland for hazardous operations shall be pursuant to agreements with USCG for the implementation of an appropriate Security Zone in accordance with 33 CFR § 165.20 and the USCG Letter of Agreement.</p> <p>The water-based portion of the USCG Security Zone would be expected to include the waterways surrounding the launch site and some of the waterways surrounding Cumberland Island and Little Cumberland Island extending along the trajectory and out to sea. Soft checkpoints would be established at certain points on both land and water throughout the USCG Security Zone in order to control and monitor access. The water-based portion of the USCG Security Zone would be enforced by the USCG and their designated authorities. On a case-by-case basis and subject to operation-specific considerations, the Captain of the Port and/or their designated authority would allow vessel travel through the USCG Security Zone. The land-based portion of the USCG Security Zone would be expected to include areas around the access points to the launch site at the end of Harrietts Bluff Road (also referred to as Union Carbide Road). Current residents and their guests, ticketed park visitors, government personnel, and other Spaceport Camden–designated persons would have the same rights of access as they currently experience on</p>

		<p>areas of Little Cumberland Island and Cumberland Island located within the USCG Security Zone.</p> <p>A launch event may increase boating traffic outside of the USCG Security Zone. The number of potential spectators on boats is unknown and would likely vary between each launch event. Spectators would not be allowed within the USCG security zone identified for each launch. Launch activities would have the potential to introduce extra or unusual hazards to the safety of observers or subject the water and adjoining upland resource to extra or unusual stress from pollution, litter, or overuse. This may require a Marine Event Permit. If required, Camden County would apply for the Marine Event Permit prior to each closure.</p> <p>USCG and Camden County security patrol boats associated with launch operations would follow established safety zone rules and regulations. The proposed project does not propose to alter the boating safety zones at Jekyll Island, Tybee Island, St. Simons Island, or Sea Island. Therefore, the proposed project is consistent with Georgia’s statutes and regulations for safe boating practices.</p>
O.C.G.A. 12-5-320, Coastal Management	Provides enabling authority for the State to prepare and administer a coastal management program. Establishes procedural requirements for the GDNR to develop and implement a program for the sustainable development and protection of coastal resources.	<p>15 CFR part 930 provides flexible procedures which foster intergovernmental cooperation and minimize duplicative effort and unnecessary delay, while making certain that the objectives of the federal consistency requirement of the Act are satisfied. Federal agencies, State agencies, and applicants should coordinate as early as possible in developing a proposed federal action, and may mutually agree to intergovernmental coordination efforts to meet the requirements of these regulations, provided that public participation requirements are met and applicable State management program enforceable policies are considered.</p> <p>The County, FAA, and GDNR have agreed to a phased concurrence process, wherein the County will provide GDNR with information necessary for GDNR to make a reasoned decision on the consistency of the proposed project (see 15 CFR § 930.58(3)(c)) as the project moves through the development and operational phases. The County and FAA will provide GDNR with requested plans and documentation as they become available, and will coordinate development of operational plans that may affect coastal resources to ensure consistency with GDNR requirements.</p> <p>State agencies, regional authorities, and the public will be provided with an opportunity to review and comment on this Coastal Consistency Certification. This Coastal Consistency Certification has been developed in coordination with, and with input from, the Georgia Department of Natural Resources, Coastal Resources division, and is intended to document compliance with the state’s Coastal Management Program.</p> <p>Temporary closure of the waterways to support test and launch operations would have the potential to affect local and visiting anglers, boaters, and recreationalists. To minimize these impacts, Camden County would work with the launch operator to avoid launch operations requiring closure on the weekends, holidays, and during organized fishing tournaments in the vicinity of the site. Additionally, Camden County will post closure dates and times at public access points within 10 miles of proposed closure areas, including public boat ramps, as far in advance as possible. Accordingly, the proposed project is consistent with Georgia’s Coastal Management Program.</p>

O.C.G.A. 12-5-280, Coastal Marshlands Protection	Provides the Coastal Resources Division with the authority to protect tidal wetlands. Limits certain activities and structures in marsh areas and requires permits for other activities and structures.	<p><i>Construction</i></p> <p>The entire Spaceport Camden site, which totals approximately 11,800 acres, consists of two properties owned by two companies: the Union Carbide Corporation, who owns about 4,000 acres, and Bayer CropScience, who owns the remaining 7,800 acres. The site is a combination of uplands and marshlands. The County proposes to construct the majority of the Spaceport Camden infrastructure on uplands within the Union Carbide Corporation property.</p> <p>Of the 4,000 acre Union Carbide Corporation property, approximately 1,200 acres are uplands and 2,800 acres are marshlands. Spaceport Camden infrastructure would be constructed on approximately 100 noncontiguous acres of the approximately 1,200 acres of uplands. The remainder of the property would be included within the Spaceport Camden boundary, although there are no plans for constructing supporting facilities on the remaining upland areas at this time. No structures would be placed in the marshland areas.</p> <p>No in-water improvements or modifications to the existing in-water structure (Floyd Creek dock) are planned at this time. Use of this dock or any work on the dock, including maintenance, must be coordinated with the GDNR Coastal Resources Division and the U.S. Army Corps of Engineers (USACE) to obtain applicable permits/permissions (O.C.G.A. 12-5-280, Coastal Marshlands Protection Act, and O.C.G.A. 50-16-61, Administrative Procedures Act/Revocable License Program), to include a USACE Section 404 and Section 10 permit, and Coastal Marshlands Protection Committee permit. The dock is currently permitted for recreational use and the County would be required to coordinate permitting for other uses with GDNR.</p> <p><i>Operation</i></p> <p>Due to the low probability of launch failure and the limited footprint associated with small launch vehicles, substantial damage to marshland in the vicinity of Spaceport Camden is not expected. However, Camden County would work with the launch vehicle operator to conduct cleanup and marsh restoration activities in the event of a launch failure. Additionally, emergency contingency planning and response measures would serve to minimize potential adverse impacts, and emergency consultation with regulatory agencies would be required should a launch failure result in impacts to sensitive resources. Any launch vehicle debris landing in tidally-influenced marsh or State waters out to 3 miles must be recovered when feasible and may require authorization from the GDNR Coastal Resources Division (O.C.G.A. 12-5-230, Shore Protection Act, and/or O.C.G.A. 12-5-280, Coastal Marshlands Protection Act, and/or O.C.G.A. 50-16-61, Administrative Procedures Act/Revocable License Program).</p> <p>Therefore, construction and operation of the proposed project is consistent with Georgia's statutes and regulations for coastal marshlands.</p>
O.C.G.A. 12-5-170, Safe Drinking Water	Establishes rules and policies for the administration of drinking water management programs.	None of the aquifers located in Camden County are considered U.S. Environmental Protection Agency (USEPA) sole source aquifers. A sole source aquifer is a unique aquifer that supplies at least 50 percent of the drinking water for its service area and for which there is no reasonably available alternative drinking water source should the aquifer become contaminated. The nearest sole source aquifer is located approximately 80 miles south of the proposed Spaceport Camden near Daytona Beach, Florida.

		<p>Due to the depth of the Brunswick and Floridan aquifers potentially used for potable water and the confined nature of these aquifers, it is highly unlikely that the proposed project would impact these aquifers. In the vicinity of the project, groundwater recharge for the Brunswick and Floridan aquifers in occurs outside of the project area to the north and west.</p> <p>Two existing drinking water wells are located on the site and withdraw water from the Floridan aquifer. No construction activities would occur in the vicinity of these wells. Proposed construction activities would not occur in any areas in or near water bodies that have a direct, known relationship with groundwater recharge. No impact to groundwater within these aquifers is anticipated from construction-related activities.</p> <p>The operation of the proposed Spaceport Camden is anticipated to annually withdraw 16.3 million gallons of water. This is based on a nominal water usage of 11,500 gallons per day, with peak usage of 405,000 gallons per day (dominated by the activation of the water deluge system, which could use up to 250,000 gallons per launch). The site is currently permitted to withdraw 1.7 million gallons of water daily from the two existing groundwater wells. Camden County is located in the portion of the Georgia Coast Region that does not restrict additional withdrawals from the Floridan aquifer.</p> <p>The storage of hazardous materials would not occur in any areas in or near water bodies that have a direct, known relationship with groundwater recharge, nor would storage of these materials occur in the vicinity of existing groundwater wells.</p> <p>Although the potential is minimal, launch failures on the launch pad or during ascent could result in the release of hazardous chemicals into wetland and surface water areas. This is unlikely to the low probability of launch failure and the limited footprint associated with small launch vehicles. These chemicals could be released as direct spills or burning byproducts. Chemicals that reach these waters could also degrade water quality. Emergency contingency planning and response measures would serve to minimize potential adverse impacts, and emergency consultation with regulatory agencies would be required should a launch failure result in impacts to sensitive resources.</p> <p>The proposed project has not been shown to result in impacts associated with exceedances of surface water or groundwater quality standards established by Federal, State, local, and tribal regulatory agencies or result in the potential to contaminate public drinking water supplies or aquifers such that public health may be adversely affected. Therefore, the proposed project is consistent with Georgia’s statutes and regulations regarding drinking water management programs.</p>
O.C.G.A. 27-3-130, Endangered Wildlife	Provides for the identification, inventory, and protection of animal species that are rare, unusual, or in danger of extinction. Protection is limited to species that are found on public lands of the state.	Potential impacts to protected species from the construction and operation of Spaceport Camden may include direct physical impacts, habitat loss/degradation/fragmentation, and harassment from noise and human activity. As a result of the potential impacts to protected species, the FAA initiated consultation with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). The FAA determined the Proposed Action would either have “no effect” or “may affect but is not likely to adversely affect” Endangered Species Act (ESA)-listed species depending on the particular species and scope of associated activity. In September 2020, the USFWS provided concurrence that the proposed project is not likely to adversely affect federally listed species provided that conservation measures identified in the consultation are implemented. In October 2020, the NMFS provided their concurrence that the proposed project is not likely to adversely

		<p>affect listed species provided that conservation measures identified in the consultation are implemented.</p> <p>USFWS and NMFS conservation measures are provided below. These measures will be included as enforceable terms and conditions of any FAA-issued license.</p> <p>USFWS</p> <p>See Appendix A of this document.</p> <p>NMFS</p> <p><i>Essential Fish Habitat</i></p> <ul style="list-style-type: none">• As part of National Pollutant Discharge Elimination System (NPDES) permit program, a Stormwater Pollution Prevention Plan (SWPPP) would be developed and implemented to include techniques that diffuse and slow the velocity of stormwater.• No excavated or fill material would be placed in delineated Clean Water Act (CWA) Section 404 waters of the U.S. except as authorized by a permit from U.S. Army Corps of Engineers (USACE).• Concrete mixing and placement activities would be conducted to ensure discharge water associated with these activities would not reach surrounding water bodies or pools unless specifically authorized in a CWA discharge permit.• To the maximum extent practicable and where feasible, a vegetated upland buffer of up to 75-feet between developed areas and wetlands would be developed and maintained. <p><i>Construction</i></p> <p>The following measures are part of the proposed action to avoid and minimize the potential for water quality impacts to ESA-listed species and designated critical habitat from construction (e.g., soil erosion, runoff, sedimentation):</p> <ol style="list-style-type: none">1. Camden County does not expect interactions with ESA-listed species and designated critical habitat under NMFS jurisdiction to happen during construction of Spaceport Camden. However, due to proximity, all personnel associated with any aspect of Spaceport Camden construction shall be instructed about the presence of ESA-listed species and designated critical habitat prior to the beginning of any aspect of construction.<ol style="list-style-type: none">a. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing ESA-listed species. More information about ESA-listed species is available on the NMFS website at: https://www.fisheries.noaa.gov/southeast/consultations/threatened-and-endangered-species-and-critical-habitats2. As part of the NPDES permit program (U.S. Environmental Protection Agency), a SWPPP shall be developed and implemented to include techniques that diffuse and slow the velocity of storm water (e.g., silt fencing) during construction.3. No excavated or fill material shall be placed in delineated CWA Section 404 waters of the U.S. without an authorized permit from USACE.4. Concrete mixing and placement activities shall be conducted to ensure discharge water associated with these activities would not reach surrounding water bodies or pools unless specifically authorized in a CWA discharge permit.
--	--	--

		<p>Operation</p> <p>The following measures are part of the proposed action to avoid and minimize the potential for operations to effect ESA-listed species and designated critical habitat:</p> <p>5. All personnel associated with Spaceport Camden launch operations shall be instructed about the presence of species and designated critical habitat protected under the ESA and species protected under the Marine Mammal Protection Act (MMPA) prior to conducting any launch or patrol operation.</p> <ul style="list-style-type: none">a. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing ESA-listed species or marine mammals.b. More information about ESA-listed species is available on the NMFS website at: https://www.fisheries.noaa.gov/southeast/consultations/threatened-and-endangered-species-and-critical-habitatsc. All marine mammals are protected under the MMPA. More information is available on the NMFS website at: http://www.nmfs.noaa.gov/pr/laws/mmpa/ and http://www.nmfs.noaa.gov/pr/species/mammals/ <p>6. A dedicated observer, other than the captain, shall be responsible for monitoring and reporting ESA-listed species sightings and interactions during all overwater activities associated with launch or patrol operations.</p> <ul style="list-style-type: none">a. During all overwater operations, the dedicated observer shall maintain watch for protected species and keep a logbook noting the date, time, location, species, number of animals, distance and bearing from the vessel, direction of travel, and other relevant information, for all sightings. Logbooks shall be provided to NMFS Protected Resources Division (PRD) by email to takereport.nmfs@noaa.gov upon completion of every launch operation.b. In the event of an overwater launch failure, the dedicated observer shall survey the impact area for evidence of ESA-listed species killed or injured. The observer shall note the date, time, location, species, number of animals, and other relevant information, for all mortalities or injuries and report those immediately to NMFS PRD at (1-727-824-5312) or by email to takereport.nmfs@noaa.gov.c. Any collision(s) with and/or injury to any ESA-listed species, shall be reported immediately to NMFS PRD at (1-727-824-5312) or by email to takereport.nmfs@noaa.gov.d. Any stranded, injured, or dead marine mammals shall be reported to 1-877-WHALE HELP (1-877-942-5343).e. Any injured, dead, or entangled North Atlantic right whales (NARW) shall be reported to the U.S. Coast Guard via VHF Channel 16. <p>7. All vessels underway and traveling within or between operations shall follow speed and distance requirements, defined below, while ensuring vessel safety:</p> <ul style="list-style-type: none">a. If an ESA-listed species is spotted within the vessel’s path, initiate evasive maneuvers to avoid collision.b. If dolphins are bow-riding, maintain course when safely possible, avoiding abrupt speed or direction changes.
--	--	---

		<p>c. If a whale (other than a NARW) is spotted, maintain a distance of at least 300 feet (100 yards).</p> <p>d. If a NARW is spotted, slow to 10 knots and maintain a distance of at least 1,500 feet (500 yards) in accordance with the North Atlantic Right Whale Protection Rule (62 FR 6729) and report the observation to 1-877-WHALE-HELP.</p> <p>8. All vessels involved with the proposed action between November 1 and April 30 regardless of time of day will follow speed restrictions designed to protect NARW and travel no greater than 10 knots within the Southeast U.S. Seasonal Management Area (as required by 50 CFR 224.103 (c)). (http://www.fisheries.noaa.gov/pr/shipstrike/).</p> <p>9. Captains shall check various communication media for general information regarding avoiding ship strikes and specific information regarding NARW sightings in the area. These include NOAA weather radio, USGC NAVTEX broadcasts, and NOTMARs.</p> <p>10. To minimize conflicts with NARW aerial surveys:</p> <ul style="list-style-type: none"> a. Maximum airspace closure shall not exceed 3 hours b. Airspace closures shall be limited to a total of 10 hours/month between the hours of 9 a.m. and 4 p.m. (i.e., when aerial surveys typically fly) c. Launch operators shall work with early warning system air survey contractors on days where launches and NARW aerial surveys may overlap <p>11. When NARW are suspected to be in or adjacent to the launch trajectory, a NMFS Protected Species Observer shall ride aboard the “sweeping” plane(s) or vessel(s) or sit next to the UAV operator when monitoring the closed/restricted area.</p> <p>12. Spaceport Camden operations shall not prevent emergency responses to dead, entangled, or injured NARW. FAA inspectors and Spaceport Camden operators shall be added to an email distribution list that will provide information on when and where emergency response operations are planned or initiated. FAA inspectors and Spaceport Camden operators shall email nmfs.ser.rw.subscribe@noaa.gov with a request to be added to the email distribution list. The email distribution list and information relayed therein shall not be shared with anyone outside of Spaceport Camden due to emergency planning purposes and the safety of all personnel involved.</p>
O.C.G.A. 12-16-1, Environmental Policy	Requires that all State agencies and activities prepare an Environmental Impact Report as part of the decision-making process. Required for all activities that may have an impact on the environment.	This FAA is preparing an EIS pursuant to NEPA for the proposed action. State agencies have had the opportunity to review and comment on the Draft EIS, will be provided the opportunity to review the Final EIS. Additionally, this Coastal Consistency Certification will also be made available for public review. Accordingly, the proposed project is consistent with Georgia’s statutes and regulations regarding the environment.
O.C.G.A. 12-7-1, Erosion and Sedimentation Control	Requires that each county or municipality adopt a comprehensive ordinance establishing procedures governing land-disturbing activities. Permits are required for specified land disturbing activities.	<p>For construction, a SWPP and sediment and erosion control plan would be required in compliance with Georgia NPDES requirements and Georgia’s Erosion and Sedimentation Act of 1975. Operational stormwater discharges would be permitted under NPDES Industrial Stormwater General Permit GAR0500000. The County would be required to submit a notice of intent to discharge under this permit no less than seven days before commencing to discharge.</p> <p>Permit conditions would specify best management practices and mitigative measures required to prevent fugitive soil, sediment, and other potential contaminants from entering water bodies and wetlands. There would be a vegetative buffer of at least 25 feet along all state waters (per Georgia state laws 12-7-6[b]15[A] and 12-7-b[b][17][A]. Three retention ponds would be installed at the Vertical Launch Facility, two retention ponds</p>

		would be installed at the Launch Control Center Complex, and two retention ponds would be installed at the Alternate Control Center and Visitor Center for stormwater runoff control. Therefore, the proposed project is consistent with Georgia's statutes and regulations regarding erosion and sediment control.
O.C.G.A. 12-5-90, Groundwater Use	Administers rules and regulations relating to the conduct, content, and submission of water conservation plans, including water conservation practices, water drilling protocols, and specific rules for withdrawal and utilization of groundwater.	See response to O.C.G.A. 12-5-170, Safe Drinking Water, above. The proposed project is consistent with Georgia's statutes and regulations regarding groundwater use.
O.C.G.A. 12-8-60, Hazardous Waste Management	Establishes a comprehensive, statewide program to manage hazardous wastes through regulating hazardous waste generation, transportation, storage, treatment, and disposal.	<p>While hazardous materials would be utilized and hazardous and solid wastes generated during construction and operation, impacts would be minimal. No National Priorities List properties are involved in the project, and landfill capacities would not be exceeded. There is the potential for effects to historical contamination sites. Once the land is acquired by the County, the potentially contaminated sites could continue to be managed under the existing hazardous waste facility permit, or it is possible that another State program such as the Georgia Brownfields Program could be utilized. Also, the County, as the owner of the property, would be responsible for any limitations placed on the property as part of State-approved corrective actions for the historical sites.</p> <p>Because more than 1,320 gallons of petroleum would be stored onsite, a federally mandated Spill Prevention, Control, and Countermeasure (SPCC) Plan would be developed and implemented. The SPCC Plan would describe all oil-handling operations, spill prevention practices, discharge or drainage controls, and training requirements, as well as the personnel, equipment, and resources at the facility that would be used to prevent oil spills. Additional chemical-specific spill response plans would be developed for other hazardous materials stored onsite.</p> <p>Spaceport Camden would coordinate with, and obtain approval from, the State Fire Marshall regarding the onsite storage of any flammable materials (e.g., diesel, gasoline, propane). Additionally, Spaceport Camden would comply with the Emergency Planning and Community Right-to-Know (EPCRA) hazardous materials reporting requirements. Under EPCRA Sections 311 and 312 (Community Right to Know Requirements) facilities handling or storing any hazardous chemicals in excess of applicable reporting thresholds must submit Material Safety Data Sheets and annual inventory (Tier II) forms to State and local officials and local fire departments. In Georgia, the reporting threshold is 10,000 pounds for most common chemicals, with lower thresholds for chemicals identified as extremely hazardous substances (e.g., hydrazine).</p> <p>Georgia follows Federal hazardous waste management regulations, which allow the disposal of hazardous waste generated by conditionally exempt small-quantity generators (CESQGs) in municipal waste landfills permitted by the State (such as the Camden County construction and demolition [C&D] and Industrial Waste Landfill). The regulations governing hazardous waste management are found in Georgia Administrative Code 391-3-11, Hazardous Waste Management. Generation rates for a CESQG (i.e., less than 220 pounds per month) would have a negligible impact on disposal capacity on this landfill or on other landfills in the region.</p> <p>The County has not identified any significant adverse impacts associated with hazardous materials, solid waste, or pollution prevention. Landfill capacities would not be exceeded. There is the potential for effects to historical contamination sites. Once the land is acquired</p>

		<p>by Camden County, these potentially contaminated sites would likely be managed under the Georgia Brownfields Program. In this case, Camden County would be responsible for soil and groundwater investigations and cleanup of soil and source material to meet Georgia risk reduction standards. This would involve preparing a Corrective Action Plan, which would work like a contract for soil and source cleanup at these sites in accordance with State of Georgia requirements.</p> <p>In addition, Spaceport Camden (in coordination with the launch vehicle operator) would prepare and implement a Hazardous Materials Emergency Response Plan to ensure that adequate and appropriate guidance, policies, and protocols regarding hazardous material incidents and associated emergency response are available to and followed by all personnel.</p> <p>Further, the containment areas surrounding the fuel storage tanks and any fueling facilities would be designed to ensure adequate containment or catchment of fuel so that tidal resources would not be impacted by a fuel spill.</p> <p>Therefore, the proposed project would be consistent with Georgia’s statutes and regulations regarding hazardous waste generation, transportation, storage, treatment, and disposal.</p>
O.C.G.A. 12-3-70, Heritage Trust	Addresses preservation of certain real property in Georgia that exhibits unique natural characteristics, special historical significance, or particular recreational value.	<p>Temporary effects to architectural historic properties, identified through the National Historic Preservation Act Section 106 consultation process, could arise from the changes to the audible and visual environment during operation of the spaceport through introduction of elements inconsistent primarily with the historic properties’ setting, but there would be no adverse effect.</p> <p>Within the project area but outside the construction zone, three National Register of Historic Places (NRHP)-eligible components of the Floyd’s Fairfield and Bellevue Plantations/Union Carbide Property would experience no adverse effect from vibration related to noise from wet dress rehearsals, static testing, and launches of small-lift vehicles. On Cumberland Island, there would be effects to the setting of the portion of the NRHP listed High Point-Half Moon Bluff Historic District (including six contributing elements); to the NRHP-listed Main Road; and to the NRHP-eligible Cumberland Island Cultural Historic Landscape (a Historic Vernacular Landscape).</p> <p>Effects would be from temporary noise from launches, visual impacts from light from lightning poles and the water tower, temporary visual impacts from the launch, and visual impacts from the view of the launch facility as seen from some portions of the historic district, the Main Road, and the historic landscape. These mostly temporary effects to historic properties’ setting will not result in any adverse effect or significant impact to cultural resources. The same conditions hold true for the NRHP-eligible resources at the Dover Bluff Club Historic District, the Tabby Ruins associated with the Black Hammock Plantation, and the Cabin Bluff Cumberland River Retreat Historic District. There is a potential for adverse effects to archaeological resources during construction. Four archaeological sites that are potentially eligible for the NRHP are located within the construction footprint of the Vertical Launch Facility. If project activities cannot avoid these sites, a Phase II archaeology survey would be required. If Phase II testing determines that the sites are eligible for listing on the NRHP, they would be adversely affected by construction of the spaceport through direct disturbance related to construction activities, and mitigation would be required to mitigate those impacts. The requirements for any</p>

		<p>avoidance, Phase II testing requirements, and mitigation would be identified through consultation and a Section 106 agreement document, to be completed before issuance of the Final EIS.</p> <p>FAA is currently conducting consultation with the Georgia State Historic Preservation Office (SHPO), Advisory Council on Historic Preservation, and other interested parties regarding its determination of no adverse effect to architectural (above ground) historic properties and potential adverse effects to archaeological historic properties and with concerned federally recognized Native American tribes regarding cultural resources and Traditional Cultural Properties. Accordingly, the proposed project is consistent with Georgia’s statutes and regulations regarding heritage trust.</p>
O.C.G.A. 12-3-50, Historic Areas	Provides the GDNR with the powers and duties to promote and increase knowledge and understanding of the history of the state. Requires promotion and assistance in publicizing historical resources.	See response to O.C.G.A. 12-3-70, Heritage Trust above. The proposed project is consistent with Georgia’s statutes and regulations regarding historic areas.
O.C.G.A. 12-3-90, Natural Areas	Authorizes the GDNR to identify areas in the state that are of unusual ecological significance, and to secure the preservation of such areas in an undisturbed natural state.	<p>There is one state natural area located within the operational area, the Satilla River Marsh Island Natural Area. The Satilla River Marsh Natural Area occurs within and is surrounded by the Satilla River.</p> <p>No construction-related impacts to the Satilla River Marsh Island Natural Area are anticipated that would adversely impact this river system. The river is located more than 1 mile from proposed construction activities, and the potential for the offsite migration of sediments would be low. As there are no anticipated adverse impacts to surface waters from operation of the spaceport, there would be no adverse operational impacts to the Satilla River Marsh Island Natural Area.</p> <p>Due to the low probability of launch failure and the limited footprint associated with small launch vehicles, substantial damage to marshland in the vicinity of Spaceport Camden is not expected. However, Camden County would work with the launch vehicle operator to conduct cleanup and marsh restoration activities in the event of a launch failure. Additionally, emergency contingency planning and response measures would serve to minimize potential adverse impacts, and emergency consultation with regulatory agencies would be required should a launch failure result in impacts to sensitive resources. Any launch vehicle debris landing in tidally-influenced marsh or State waters out to 3 miles must be recovered when feasible and may require authorization from the GDNR Coastal Resources Division (O.C.G.A. 12-5-230, Shore Protection Act, and/or O.C.G.A. 12-5-280, Coastal Marshlands Protection Act, and/or O.C.G.A. 50-16-61, Administrative Procedures Act/Revocable License Program).</p> <p>Therefore, the proposed project is consistent with Georgia’s statutes and regulations regarding natural areas.</p>
O.C.G.A. 52-1-30, Right of Passage	Provides the right of use of all navigable waterways of the state by all citizens of Georgia. Establishes the mechanism to remove structures that are capable of being used as a place of habitation, are not used as or are not capable of use as a means of transportation, and do not have a permit under the act.	During test and launch operations, the County proposes to control and monitor access to the OEZ and USCG Security Zone for members of the public. The water-based portion of the USCG Security Zone would be expected to include the waterways surrounding the launch site and some of the waterways surrounding Cumberland Island and Little Cumberland Island extending along the trajectory and out to sea. The water-based portion of the Security Zone would be enforced by the USCG and their designated authorities. On a case-by-case basis and subject to operation-specific considerations, the Captain of the

		<p>Port and/or their designated authority could allow vessel travel through the USCG Security Zone. Current residents and their guests, ticketed park visitors, government personnel, and other Spaceport Camden–designated persons would have the same rights of access as they currently experience on areas of Little Cumberland Island and Cumberland Island located within the USCG Security Zone.</p> <p>The OEZ, which is calculated based on factors such as the launch vehicle, launch trajectory, propellant, and payload, would be expected to include the upland, marshland, and water immediately adjacent to the Vertical Launch Facility. For the representative launch vehicle, the OEZ does not extend onto Cumberland Island or Little Cumberland Island. No public access would be allowed in the OEZ during launch operations; however, the marshland and waterway portion of the OEZ would remain open to the public at all other times. Control of marshland for hazardous operations shall be pursuant to agreements with the USCG for the implementation of an appropriate Security Zone in accordance with 33 CFR § 165.20 and the Letter of Agreement.</p> <p>A specific target date(s) for the actual launch, wet dress rehearsal, and/or static fire engine test and associated USCG Security Zone establishment is typically identified at least 1 to 3 months in advance, and would generally be made available to government agency personnel (including police, fire, and rescue personnel) and the general public for planning purposes.</p> <p>The proposed project does not preclude right of use for Georgia’s citizens and is consistent with Georgia’s statutes and regulations regarding right of passage.</p>
O.C.G.A. 12-2-1, River Corridor Protection	Authorizes the GDNR to develop minimum standards for the protection of river corridors (and mountains, watersheds, and wetlands) that can be adopted by local governments (includes Satilla River and St. Marys River in Camden County).	<p>Potential indirect impacts from proposed construction activities could result in additional sediment loads being transported to surface waters in the vicinity of proposed construction. Increases in sedimentation could alter stream and wetland functions and result in the loss of wildlife habitat. However, during construction a SWPPP and Sediment and Erosion Control Plan would be prepared in compliance with Georgia’s National Pollutant Discharge Elimination System requirements and Georgia’s Erosion and Sedimentation Act of 1975. The SWPPP and Sediment and Erosion Control Plan would implement the use of management practices to minimize erosion and sedimentation. Implementation of these management practices would minimize indirect impacts and no significant adverse impacts to surface waters would be anticipated.</p> <p>Surface waters and wetlands could be impacted by spills of fuels and other hazardous materials during construction and during operation of Spaceport Camden. Spills could result in the loss of vegetation and pollution of wetlands or surface waters resulting in a short-term loss of wildlife habitat. However, all hazardous materials use would be conducted in accordance with standard operating procedures that minimize the potential for spills.</p> <p>No construction related impacts to the Satilla River are anticipated that would adversely impact this river system. The river is located more than 1 mile from proposed construction activities and the potential for the offsite migration of sediments would be low. Operational impacts to the Satilla River would primarily be related to noise and the possible impacts to recreational use of the river.</p> <p>Although the potential is minimal, launch failures on the launch pad or during ascent could result in the release of hazardous chemicals into wetland and surface water areas. These</p>

		<p>chemicals could be released as direct spills or burning byproducts. Direct spills and fire could result in the loss or alteration of vegetation and a corresponding loss of wetland or surface water habitat function. Chemicals that reach these waters could also degrade water quality. Emergency contingency planning and response measures would serve to minimize potential adverse impacts, and emergency consultation with regulatory agencies (e.g., the USFWS, Georgia SHPO, USACE) would be required should a launch failure result in impacts to sensitive resources.</p> <p>Accordingly, the proposed project is consistent with Georgia’s statutes and regulations regarding river corridor protection.</p>
O.C.G.A. 12-5-350, Scenic Rivers	Defines scenic rivers as rivers that have valuable scenic, recreational, or natural characteristics that should be preserved for the benefit of present and future generations.	<p>There are no federally designated Wild and Scenic Rivers in the vicinity of the proposed project. The Satilla River is listed on the Nationwide Rivers Inventory. Significant adverse impacts to surface waters are not anticipated from construction or nominal operations at the spaceport.</p> <p>Although the potential is minimal, launch failures on the launch pad or during ascent could result in the release of hazardous chemicals into wetland and surface water areas. These chemicals could be released as direct spills or burning byproducts. Direct spills and fire could result in the loss or alteration of vegetation and a corresponding loss of wetland or surface water habitat function. Chemicals that reach these waters could also degrade water quality. Emergency contingency planning and response measures would serve to minimize potential adverse impacts, and emergency consultation with regulatory agencies (e.g., the USFWS, Georgia SHPO, USACE) would be required should a launch failure result in impacts to sensitive resources.</p> <p>Accordingly, the proposed project is consistent with Georgia’s statutes and regulations regarding scenic rivers.</p>
O.C.G.A. 31-2-7; O.C.G.A. 31-3-5.1, Septic Tank Law	Provides standards and regulations for individual sewage management systems to ensure that leachate from those systems does not infiltrate waters of the state.	<p>Septic systems would be constructed at each of the four facilities to manage sanitary sewage. Commercial grade onsite sewage disposal (septic) systems would be utilized to treat the wastewater generated at each facility. Septic systems are sized based on the anticipated daily sewage flow; the anticipated flow for the launch site would be nearly 60,000 gallons per day (12,500 at the Launch Control Center Complex, 25,000 at the Alternate Control Center and Visitor Center, 2,500 at the Mission Prep Area, and 19,000 at the Vertical Launch Facility).</p> <p>Septic systems would require a construction permit from the County Health Department for the installation of an onsite sewage management system. Septic systems would be designed and constructed in accordance with the Georgia Department of Public Health, Chapter 511-3-1. In accordance with this rule: septic tanks would be installed at least 50 feet from existing or proposed wells, springs, sink holes, or suction water lines, and tanks shall be located downgrade from wells or springs if physically possible; septic tanks would be installed at least 25 feet from geothermal boreholes, lakes, ponds, streams, water courses, and other impoundments. Therefore, the proposed project is consistent with Georgia’s statutes and regulations regarding sewage management systems.</p>
O.C.G.A. 2-5-230, Shore Protection	Provides legal authority for the protection and management of Georgia’s shoreline features including sand dunes, beaches, sandbars, and shoals, collectively known as the	Construction and operation of Spaceport Camden is not expected to impact shoreline systems. Only in the case of an emergency would Camden County and/or the launch operator conduct ground sweeps on Little Cumberland Island or Cumberland Island.

	sand-sharing system. Limits activities in shore areas and requires a permit for certain activities and structures on the beach.	Spaceport security employees would be briefed on shore protection measures when conducting patrols on or near Little Cumberland Island and Cumberland Island. Therefore, the proposed project would be consistent with Georgia's statutes and regulations regarding shore protection.
O.C.G.A. 12-8-21, Solid Waste Management	Regulates solid waste disposal in the state.	<p>A total of approximately 200,000 square feet of building space would be constructed as part of the proposed project, with the largest construction associated with the Vehicle Integration Building (120,000 square feet). Using conventional construction methods, approximately 4.34 pounds of C&D debris would be generated for every square foot of building space. This would equate to a total of approximately 435 tons of C&D debris generated.</p> <p>Building materials, such as asphalt and concrete, would not be expected to generate significant waste since they are produced in the needed quantities and can be recycled in the event that the material or its placement does not meet specifications. In the case of paved surfaces, C&D debris would likely consist mostly of wooden forms that could be recycled.</p> <p>Soil excavated during construction activities would be stockpiled for construction and landscaping uses, while woody debris from land-clearing activities could also be chipped or mulched onsite and used for landscaping. Other non-hazardous waste generated would be the result of construction site operations (e.g., lunch waste, office waste, packaging materials). The quantity of this type of waste would be minor when compared to the C&D debris generated.</p> <p>Operations would generate non-hazardous solid waste such as office waste, break room waste, packaging from supplies, and solid waste maintenance activities that use non-hazardous materials. There would be approximately 75 full-time employees at the facility, with up to 300 staff present during launch operations. Based on an estimated generation rate of 9.2 pounds per worker per day, the annual generation would be approximately 250 tons (assuming an average annual staff of 150 personnel). For comparison, the Camden County Municipal Solid Waste Landfill accommodates up to 400 tons per day of solid wastes; consequently, no adverse impacts would be anticipated.</p> <p>Construction and operational activities would apply pollution prevention measures to the greatest extent possible. These measures may include purchase of environmentally friendly products; recycling cardboard containers and wooden pallets; incorporating energy-efficient building design for cooling, heating, and lighting; and using alternate power sources such as photovoltaic cells.</p> <p>Therefore, the proposed project is consistent with Georgia's statutes and regulations regarding solid waste management.</p>
O.C.G.A. 52-1-1, Protection of Tide Waters	Establishes the State of Georgia as the owner of the beds of all tidewaters within the state, except where title by a private party can be traced to a valid British Crown or State land grant.	During test and launch operations, the County proposes to control and monitor access to the OEZ and USCG Security Zone for members of the public. The water-based portion of the USCG Security Zone would be expected to include the waterways surrounding the launch site and some of the waterways surrounding Cumberland Island and Little Cumberland Island extending along the trajectory and out to sea. The water-based portion of the Security Zone would be enforced by the USCG and their designated authorities. On a case-by-case basis and subject to operation-specific considerations, the Captain of the Port and/or their designated authority could allow vessel travel through the USCG Security

		<p>Zone. Current residents and their guests, ticketed park visitors, government personnel, and other Spaceport Camden–designated persons would have the same rights of access as they currently experience on areas of Little Cumberland Island and Cumberland Island located within the USCG Security Zone.</p> <p>The OEZ, which is calculated based on factors such as the launch vehicle, launch trajectory, propellant, and payload, would be expected to include the upland, marshland, and water immediately adjacent to the Vertical Launch Facility. For the representative launch vehicle, the OEZ does not extend onto Cumberland Island or Little Cumberland Island. No public access would be allowed in the OEZ during launch operations; however, the marshland and waterway portion of the OEZ would remain open to the public at all other times. Control of marshland for hazardous operations shall be pursuant to agreements with the USCG for the implementation of an appropriate Security Zone in accordance with 33 CFR § 165.20 and the Letter of Agreement.</p> <p>The proposed project would not conflict with the State’s ownership of the beds of all tidewaters within the state. Accordingly, the proposed project is consistent with Georgia’s statutes and regulations regarding the protection of tide waters.</p>
O.C.G.A. 12-5-20, Water Quality Control	Authority to ensure that water uses in the state are used prudently, are maintained or restored to a reasonable degree of purity, and are maintained in adequate supply. Regulates water quality and quantity, permit conditions and effluent limitations, and permissible limits of surface water usage.	<p>See responses to:</p> <ul style="list-style-type: none"> • O.C.G.A. 12-5-170, Safe Drinking Water • O.C.G.A. 12-7-1, Erosion and Sedimentation Control • O.C.G.A. 12-2-1, River Corridor Protection <p>The proposed project is consistent with Georgia’s statutes and regulations regarding water quality control.</p>
O.C.G.A. 12-5-120, Water Wells Standards	Provides standards for siting, constructing, operating, maintaining, and abandoning wells and boreholes. Requires that individual and nonpublic wells must be located as far removed as possible from known or potential sources of pollutants.	<p>Two existing drinking water wells are located on the site and withdraw water from the Floridan aquifer. No construction activities would occur in the vicinity of these wells. Proposed construction activities would not occur in any areas in or near water bodies that have a direct, known relationship with groundwater recharge. No impact to groundwater within these aquifers is anticipated from construction-related activities.</p> <p>The operation of the proposed Spaceport Camden is anticipated to annually withdraw 16.3 million gallons of water. This is based on a nominal water usage of 11,500 gallons per day, with peak usage of 405,000 gallons per day (dominated by the activation of the water deluge system, which could use up to 250,000 gallons per launch). The site is currently permitted to withdraw 1.7 million gallons of water daily from the two existing groundwater wells. Camden County is located in the portion of the Georgia Coast Region that does not restrict additional withdrawals from the Floridan aquifer.</p> <p>The storage of hazardous materials would not occur in any areas in or near water bodies that have a direct, known relationship with groundwater recharge, nor would storage of these materials occur in the vicinity of existing groundwater wells. Therefore, the proposed project is consistent with Georgia’s statutes and regulations regarding water wells standards.</p>

Appendix A. United States Fish and Wildlife Service Conservation Measures

2.3 Conservation Measures

This section describes the conservation measures that Spaceport Camden would implement to avoid, minimize, and compensate for potential effects on federally listed species and critical habitat from the proposed construction and operational activities described in Section 2.2, *Description of the Proposed Project*. The conservation measures would be implemented through coordinated efforts of the FAA, Camden County, and future spaceport operators. Spaceport Camden would designate an employee or contractor as the Natural Resources Specialist who would be responsible for overseeing compliance with these conservation measures. The Natural Resources Specialist would be a biologist or have similar ecology or natural resources training. The FAA would require compliance with these conservation measures as part of maintaining an active Launch Site Operator License. If Camden County purchases the remaining portion of the Bayer CropScience property in the future, that land area would be incorporated into the Protected Species and Habitat Management Plan (PSHMP) in coordination with the USFWS and Georgia Department of Natural Resources (GDNR) and all conservation measures would apply; any activities planned for the Bayer CropScience property outside the scope of that analyzed in this BA or the associated EIS would require additional NEPA and consultation efforts.

The following conservation measures are organized by those applying to (1) the overall project, (2) construction, and (3) operations.

2.3.1 Project-level Measures

1. In cooperation with the USFWS and GDNR, Camden County would develop a comprehensive PSHMP. To ensure timely implementation of the measures identified in the PSHMP, Camden County would finalize the PSHMP at least six months prior to starting construction. The PSHMP would include the following modules:

- a. **Protected Species Management, Monitoring, and Reporting**

The goal of protected species management, monitoring, and reporting is to provide for species-specific adaptive management for the preservation and/or enhancement of identified sensitive species present at the Spaceport Camden site, with the objectives being to (1) provide species-specific management procedures, (2) identify species-specific monitoring protocols, and (3) develop reporting procedures to inform the USFWS and GDNR of progress in meeting the program objectives. Camden County would commit to this goal and supporting objectives by developing a plan module for protected species management, monitoring, and reporting that outlines specific requirements and procedures as agreed upon by Camden County, USFWS, and GDNR for the species included in this consultation. This module would include the species-related conservation measures listed below for construction and operations (Sections 2.3.2 and 2.3.3 in this BA), as well as applicable requirements from the USFWS as a result of consultation. For example, this module would include details regarding pre-construction species surveys and reports, as well as surveys conducted during and after launches, species-specific monitoring protocols to measure impacts of spaceport operations and the health and abundance of sensitive species at the site.

b. Habitat Management, Monitoring, and Reporting

The goal of habitat management, monitoring, and reporting is to preserve and/or enhance the natural habitats present at Spaceport Camden, in particular those that support sensitive species, with the objectives being to provide a clear path forward regarding habitat management by (1) identifying specific habitat management protocols by habitat type, (2) monitoring protocols per habitat type, and (3) reporting requirements supporting habitat management. Camden County would commit to this goal and supporting objectives by developing a plan module for habitat management and improvement, monitoring, and reporting that outlines specific requirements and procedures as agreed upon by Camden County, USFWS, and GDNR for the sensitive habitats included in this consultation. This module would include applicable habitat measures listed below for construction and operations, as well as applicable requirements from the USFWS as a result of consultation. This habitat management program would provide for special considerations for the closed areas of the site due to the presence of unexploded ordnance or contamination from previous use. Considerations may include limitations on the types and frequency of management activities that could occur in these areas, or special management practices to account for these issues.

Timber management would also be included as part of the habitat management program. To the extent practicable, timber revenue from the Spaceport Camden project site would be used to fund habitat enhancement and improvement programs. Exhibit 2-22 shows habitat types that are suitable for timber management. A timber management module would be developed in coordination with the USFWS and GDNR that outlines guidelines for thinning, clear cutting, and a general regeneration plan (e.g., regeneration of pine sites to longleaf and regeneration of other sites, naturally or with planting, to appropriate local native species based on habitat type).

c. Wildland Fire Management

The goals of the wildland fire management program are to reduce the potential for ignition of wildfires at the spaceport and enhance habitat through controlled, prescribed burning—the objectives being to (1) identify processes and procedures for identifying, preventing, and responding to wildfires resulting from spaceport-related activities, and (2) establish a prescribed fire program that details the frequency, timing, and location of prescribed burns. To meet these goals and objectives, Camden County would develop a Wildland Fire Management and Burn Plan that specifically identifies, among other items: wildfire prevention education for spaceport personnel, identification of first responders and other emergency personnel, procedures for notification of wildfires, sensitive/restricted activity areas, burn units and associated burn rotations that allow for a frequency of at least every three years (notwithstanding other factors such as weather, etc.). Exhibit 2-23 shows the areas currently considered as suitable for prescribed fire; these may be updated regularly in coordination with the USFWS and GDNR. Specific details of the Wildland Fire Management and Burn Plan would be developed in coordination with USFWS and GDNR at least six months prior to Spaceport Camden development. Should the GDNR Non-game Conservation Section or the USFWS decide in their own opinion that prescribed burning conducted by Camden County is not adequate, they may express their concerns to Camden County and mutually agree to an appropriate course of action.

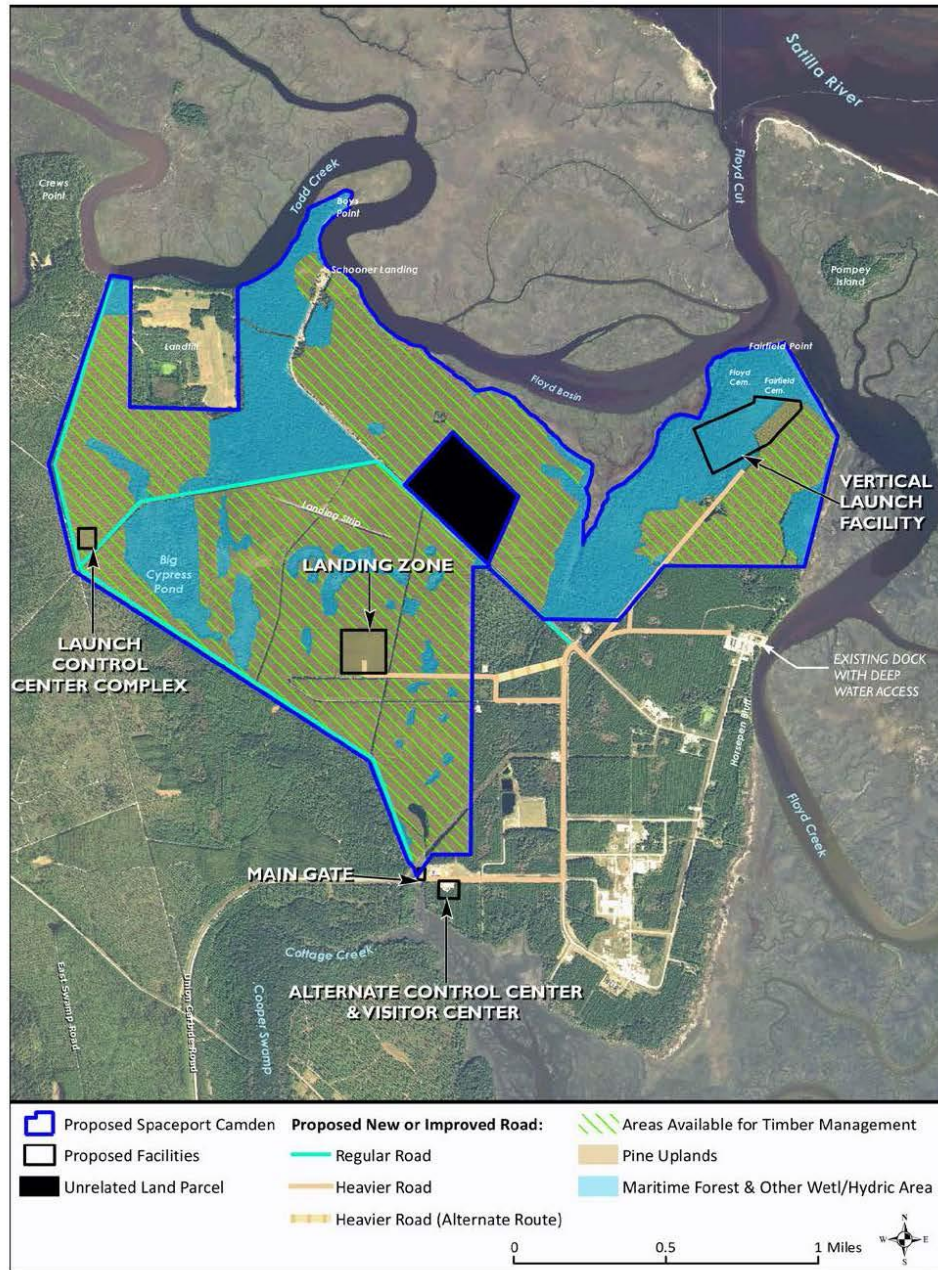


Exhibit 2-22. SCC Potential Timber Management Areas

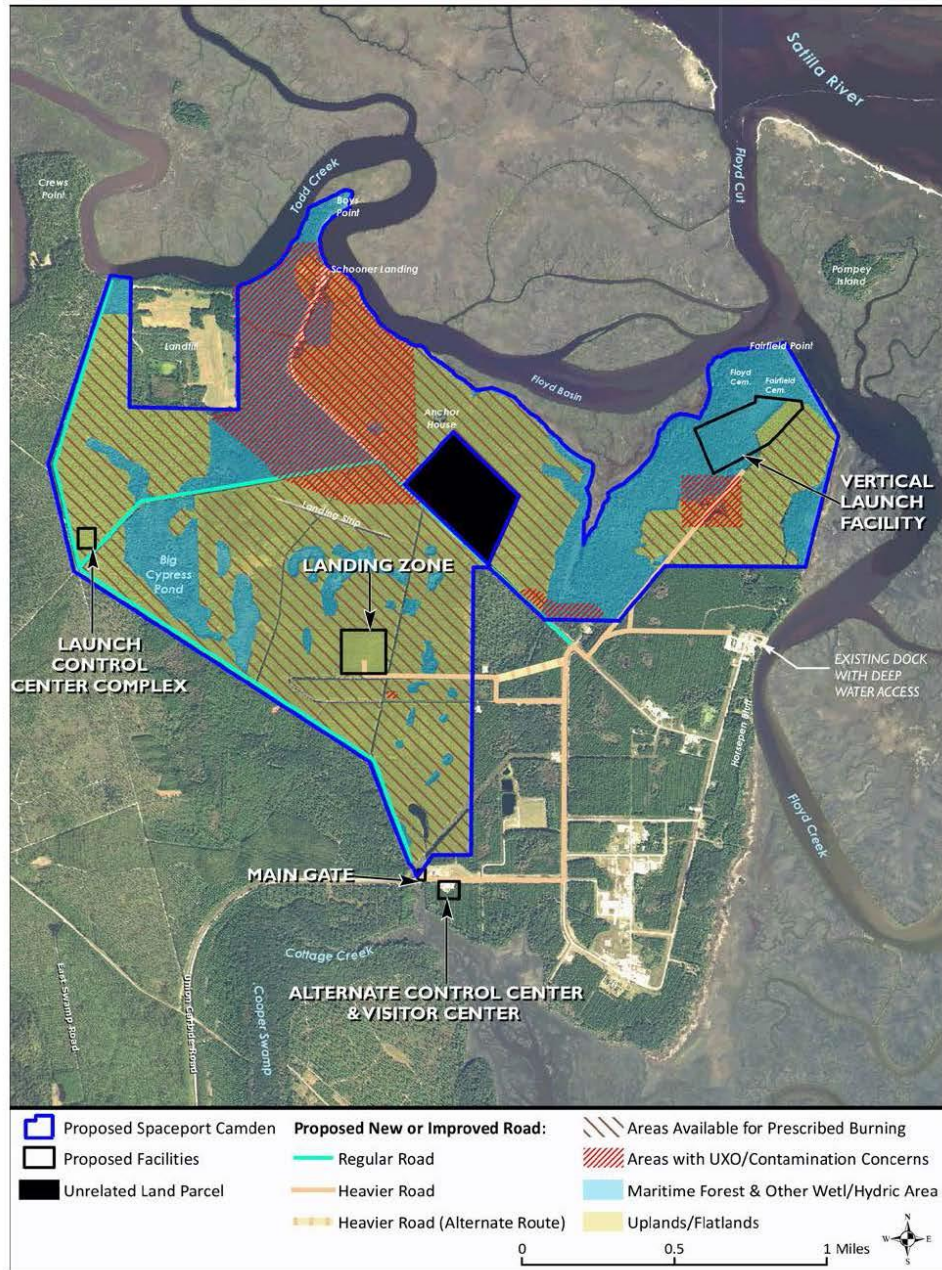


Exhibit 2-23. SCC Potential Prescribed Burn Areas

d. Artificial Lighting Management

The goal for artificial light management is to minimize to the extent possible visibility of facility glow, sky glow, or direct light to sea turtle nesting beaches. The objectives for the program would be to (1) provide clear guidance to project and/or facility managers, (2) determine the extent of sky glow/direct lighting from spaceport operations, and (3) identify corrective actions. This module would provide details on spaceport lighting (e.g., type [wavelengths, etc.] and location of lights via a plan drawing of exterior lighting), timing and positioning considerations for exterior lighting, measures to minimize light glow (shielding mechanisms, directed lighting, etc.), and processes and procedures for lighting installation and management. Additionally, the module would include lighting-related measures listed below for construction and operations, as well as applicable terms and conditions identified by the USFWS resulting from this consultation. Camden County would consult the International Dark-Sky Association or another similar professional organization when developing the lighting design and management module for the spaceport.

e. Environmental Education

The goal of the environmental education program is to provide a comprehensive natural resources-related education program for spaceport employees, contractors, launch applicants, and visitors. The objectives supporting this goal include 1) educating personnel on the sensitive habitats and species present at the site, and associated avoidance and impact minimization requirements for spaceport activities, 2) tracking training/education (e.g., utilization of rosters/sign-in sheets, etc.), and 3) ensuring compliance of the habitat and species management programs. The module would support these objectives by including educational materials that Camden County would develop to train spaceport employees and educate visitors about protected species, how to avoid affecting protected species, and what to do if a protected species is encountered (see related educational measure below in Section 2.3.2, *Construction Measures*). The employee training materials would also highlight the civil and criminal penalties for harming, harassing, or killing a federally listed species.

2. Camden County and the current land owners are mutually considering an appropriate form of conservation easement on portions of the proposed spaceport site. The overall site is approximately 4,000 acres; currently Camden County has set aside approximately 90 percent of the spaceport site (3,600 acres) for potential conservation easement, identified in Exhibit 2-24. The details of the conservation easement will be finalized prior to transferring ownership of the property to Camden County.

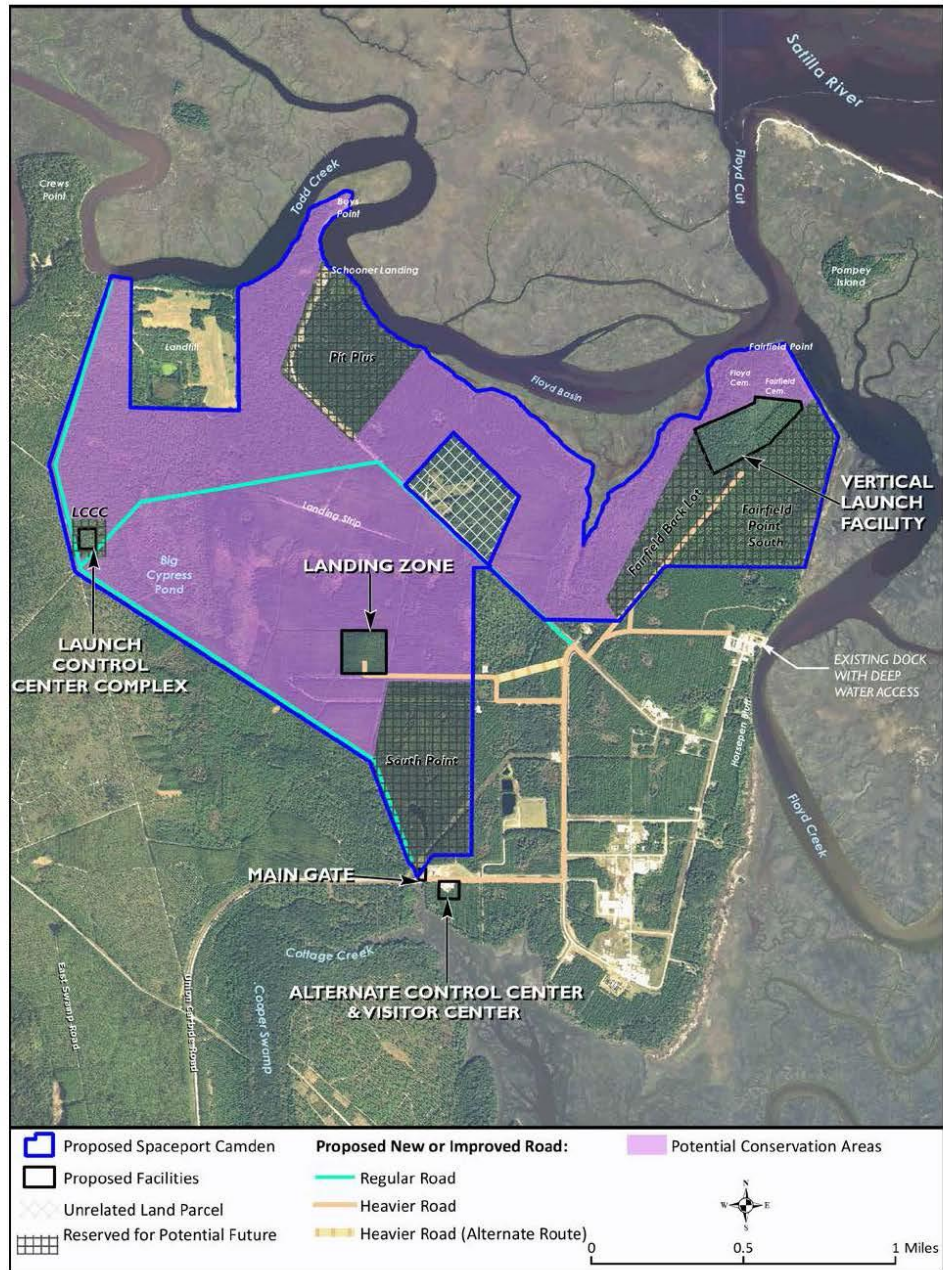


Exhibit 2-24. SCC Conservation Easement Areas

2.3.2 Construction Measures

1. Surveys¹⁵ for gopher tortoise, indigo snake, striped newt, red-cockaded woodpecker (RCW), and wood stork would be required at least 30 days before construction. Surveys would identify suitable habitat, presence/absence of the species, and confirm locations of nest sites, roost sites, and burrows. Appropriate buffers or relocation of species would be coordinated with the USFWS and GDNr. Species surveys would be discussed in the PSHMP.
2. Surveys for and relocation of gopher tortoises would follow Florida Fish and Wildlife Conservation Commission (FWC) protocols in agreement/coordination with the GDNr and associated permit requirements.
3. To prevent gopher tortoises and indigo snakes from re-entering construction sites after relocation, construction fencing (i.e., trenched silt fence) would be erected around the construction site. Camden County would coordinate with the USFWS and/or GDNr regarding installation of the silt fence. Fencing details would be included in the PSHMP. Should gopher tortoises or indigo snakes make their way past the fence, then site workers would assist in the identification of individual tortoises and snakes (based on the educational materials in the PSHMP). Once identified, the site worker(s) would contact the Natural Resources Specialist, who would attempt to capture and relocate the gopher tortoise(s) and indigo snake(s) as permitted.
4. The closest known wood stork colony is approximately 5 miles north of the proposed Spaceport Camden site. As applicable, construction activities would follow management zones and guidelines from the USFWS Habitat Management Guidelines for the Wood Stork in the Southeast Region (1990), including the following.
 - a. At feeding sites:
 - i. Human activity should be at least 300 feet away (where vegetation screen is present) and 750 feet (when no vegetation screen exists).
 - ii. Ensure no alteration of traditional water levels or the seasonally normal drying rates and patterns.
 - iii. Avoid deposition of contaminants, herbicides, or fertilizers into wetlands.
 - iv. Avoid construction of tall towers (particularly those with guy wires) within 3 miles or high power lines within 1 mile.
 - b. At nesting sites, within the primary zone (500 to 1,500 feet):
 - i. Avoid timber or vegetation removal.
 - ii. Avoid activities that alter the flooding of wetlands under and surrounding the colony.
 - iii. Avoid construction of buildings, roadways, towers, power lines, and canals.

¹⁵ Surveys would consider seasonal species requirements to ensure surveys are accurate and relevant (USFWS, 2017).

- iv. When the colony is active, avoid unauthorized human entry closer than 300 feet, any increase or irregular pattern in human or animal activity within the primary zone, and any aircraft operation within 500 feet.
 - c. At nesting sites, within the secondary zone (out to 2,500 feet):
 - i. Avoid increases in human activity above that from the first year that the colony formed.
 - ii. Avoid hydrologic alteration.
 - iii. Avoid substantial decrease (more than 20 percent) in areas of wetlands and woods potentially used for roosting and feeding.
 - iv. Avoid high-tension power lines within 1 mile and tall transmission towers within 3 miles of active colonies.
 - v. Limit expansion of any roads or facilities that are already located within the primary or secondary zones.
 - d. At roosting sites:
 - i. Avoid human activities within 500 to 1,000 feet of roost sites during seasons of the year and times of day that storks might be present, particularly activities at night.
 - ii. Preserve the hydrological and vegetative characteristics of important roosting sites (i.e., those that are used annually by flocks of more than 25 storks).
- 5. To reduce potential impacts (e.g., soil loss and sedimentation) to water quality during construction, activities would follow the Coastal Stormwater Supplement (CSS) to the Georgia Stormwater Management Manual (GSMM), including techniques to hold, diffuse, and slow the velocity of stormwater. The applicant would follow the criteria in the CSS to the GSMM (Sections 4.4.3, 4.4.5, and 4.5.1) for primary conservation areas, extreme flood protection, and special criteria.
- 6. Construction would follow USFWS recommendations for communications tower siting, construction, operation, and decommissioning (USFWS, 2016a) unless structural or human safety would be compromised.
- 7. Construction would follow the guidelines for the Georgia Power Avian Protection Plan developed in coordination with the Avian Power Line Interaction Committee (APLIC) and USFWS (2005) to minimize impacts from power lines, unless structural or human safety would be compromised.
- 8. Construction vehicles and equipment would use existing roads and parking areas to the greatest extent possible. Any construction staging sites and vehicle routes off existing disturbed areas would be surveyed for protected species prior to use.
- 9. The perimeter of all areas to be disturbed during construction or maintenance activities would be clearly demarcated using flagging or temporary construction fence (i.e., silt fence), and no disturbance outside that perimeter would be authorized, particularly in tidal flats. All access routes into and out of the proposed disturbance area would be flagged, and no construction travel outside those boundaries would be authorized. When available, areas already disturbed by past activities or those

that would be used later in the construction period would be used for staging, parking, and equipment storage.

10. Construction speed limits would not exceed 35 miles per hour (mph) on major unpaved roads and 25 mph on all other unpaved roads. Nighttime travel speeds of construction equipment would not exceed 25 mph.
11. Roads would be designed and located where roadbed erosion into federally listed species habitat is avoided or minimized, and the potential for entrapment of surface flows within the roadbed due to grading would also be avoided or minimized.
12. The depth of any pits created would be minimized so animals do not become trapped. The Natural Resources Specialist would monitor for trapped animals during construction.
13. Materials such as gravel or topsoil would be obtained from existing developed or previously used sources, not from undisturbed areas adjacent to the property.
14. Drip pans would be used underneath equipment and containment zones would be used when refueling vehicles or equipment.
15. Non-hazardous waste materials, litter, and other discarded materials, such as construction waste, would be contained within secured containers until removed from the construction site. All trash containers would have secured closures to prevent animal foraging.
16. Prior to entry into the project area, all equipment would be cleaned to prevent importation of nonnative plant species and inspected to ensure hydraulic fittings are tight, hydraulic hoses are in good condition and replaced if damaged, and there are no petroleum leaks.
17. No excavated or fill material would be placed in delineated Clean Water Act (CWA) Section 404 waters of the U.S. except as authorized by a permit from the U.S. Army Corps of Engineers (USACE). Concrete mixing and placement activities would be conducted to ensure discharge water associated with these activities would not reach surrounding water bodies or pools, unless specifically authorized in a CWA discharge permit.
18. The Natural Resources Specialist would provide all construction personnel and spaceport employees with an environmental worker education briefing that would include, but not be limited to, the following:
 - a. Information regarding special status species with potential to occur in the area, impacts that may occur, conservation measures being implemented, their responsibilities under the ESA, and avoidance and reporting procedures (e.g., avoid gopher tortoises and indigo snakes on roads).
 - b. Wildfire prevention measures, including restricting smoking to areas clear of vegetation, ensuring no fires of any kind are ignited, and equipping vehicles with spark arrestors and fire extinguishers.
 - c. Requirements for safe handling and disposal of hazardous wastes.
 - d. The potential for vehicle collisions with wildlife and onsite speed limits. Speed limit signs would be clearly posted and enforced, and signs showing gopher tortoises and indigo snakes would also be posted along roads to the spaceport site to remind drivers to be alert to their presence.

19. Camden County would maintain clear shoulders on road edges to allow drivers to more easily see wildlife along the road edge and reduce incidents of vehicle/wildlife collisions.
20. Personnel would be instructed to avoid work within 4 meters of a gopher tortoise burrow (FWC, 2017).
21. Personnel would follow applicable measures from the CSS to the GSMM to reduce potential impacts to manatees and their habitat.
22. Spaceport-related and controlled boat and vessel operations by spaceport personnel would follow these manatee protection measures:
 - a. Personnel would be informed of the civil and criminal penalties for harming, harassing, or killing manatees.
 - b. Vessels would operate at “no wake/idle” speeds at all times while near the dock unless human safety considerations dictate otherwise. All vessels would follow routes of deep water when entering or exiting the project area and while operating in the project area (all areas of shoreline, marsh, and open waters within 100 feet of the outermost perimeter of the authorized dock facility), whenever possible.
 - c. Personnel would be responsible for observing for the presence of manatees in the project area. Boats would avoid manatees by 50 feet whenever possible, and animals would not be harassed into leaving.
 - d. If an injured or dead manatee is found near the project site, Camden County would immediately notify the GDNr at 912-264-7218 or 1-800-272-8363 on weekdays between 8:00 a.m. to 4:30 p.m. or 1-800-241-4113 on nights and weekends. When possible, within one hour of a manatee injury or mortality, Camden County would notify the USFWS, Georgia Ecological Services Field Office at 912-832-8739. Any dead manatee found in the project area would be secured to a stable object to prevent the carcass from moving with the current.
 - e. Spaceport employees would periodically inspect and maintain hoses, faucets, and other potential sources of fresh water, and immediately stop any freshwater leak.
 - f. Camden County would work with GDNr (912-264-7218) to develop a permanent manatee awareness sign plan, and install signs in accordance with the GDNr-approved plan.
 - g. As part of the education briefing noted above, the Natural Resources Specialist would educate spaceport-affiliated boaters on manatee biology, how watercraft can adversely affect the manatee, and actions that boaters can take to avoid impacts to the manatee. The Natural Resources Specialist would use the GDNr video *Sharing the Coast – Manatees* as a manatee education awareness program (available at www.youtube.com/watch?v=whD8KX4PBNA). Camden County would ensure all spaceport-related boat and vessel operators view this video before using the docks.
 - h. Camden County would develop and maintain spill contingency plans in accordance with the requirements of the GDNr Coastal Resources Division.

2.3.3 Operational Measures

2.3.3.1 Daily Operations

1. Spaceport vehicle operators would observe speed limits not to exceed 25 mph at night to reduce collisions with protected species.
2. The Natural Resources Specialist would be responsible for:
 - a. Coordinating implementation of the PSHMP.
 - b. Providing an environmental worker education briefing, as described in Section 2.3.2, *Construction Measures*.
 - c. Educating the public that visits the spaceport site on protected species in the area and posting areas to avoid in locations where spectators are allowed.
3. As applicable, operational activities would follow management zones and guidelines from the USFWS Habitat Management Guidelines for the Wood Stork in the Southeast Region (1990).
4. Spaceport Camden would have procedures, equipment, site staff, and local first responders trained on emergency response for hazardous materials and activities at the site. Spills would be contained and cleaned up per the procedures identified in a Hazardous Materials Emergency Response Plan.
5. Spaceport affiliated boat and vessel operations would follow the manatee protection measures described in Section 2.3.2, *Construction Measures*.

2.3.3.2 Launches, Landings, and Static Test Fires

1. The proposed closure area (refer to Section 2.2.2.5, *Security and Safety Zones*) would be developed in consultation with the FAA, USFWS, GDNr, and NPS to ensure the Cumberland Island National Seashore and the Satilla River, Andrews Sound, and Cumberland River areas are properly secured, with minimal impact to USFWS, GDNr, and NPS activities and operations related to habitat and wildlife management.
2. All spaceport security employees, contractors, and tenants would be briefed on special status species prior to conducting patrols via unmanned aerial systems, boats, or all-terrain vehicles, or on foot. Vehicle operators would observe speed limits not to exceed 25 mph, or other speeds as safety allows and/or dictates, while traveling in the vertical launch facility and control center complex. Except in case of an emergency or a safety or security issue, Camden County and/or the launch operator would not conduct ground sweeps.
 - a. A 24-hour emergency contact for the USFWS and GDNr would be provided to security employees, should an injured or dead protected species be found during security patrols.
 - b. During a launch-related closure, monitoring would be conducted via video surveillance (e.g., high-definition video cameras with zoom lenses placed well above ground level on the water tower and/or lightning protection towers) (see Section 2.2.2.5, *Security and Safety Zones*). If video surveillance was insufficient at maintaining security and safety zones, other monitoring methods may be used, such as security patrol routes on Cumberland Island National Seashore. These patrol routes would abide by the following requirements:

- i. Avoid marked and clearly visible sea turtle nests by a minimum of 50 feet.
 - ii. Stay below the mean high tide water line.
 - iii. If an adult sea turtle were observed on the beach, personnel would remain quiet, allowing the turtle to continue its activities. If hatchling turtles were observed, all security patrol activities would cease until the hatchlings reached the ocean.
 - iv. Ruts or disturbed areas created by security patrol vehicles greater than 2 feet long and deeper than 2 inches would be removed prior to sunset during sea turtle hatching season.
 - v. Vehicles would not be allowed within piping plover critical habitat; personnel would be required to patrol on foot or by boat along shore in this area.
 - c. Spaceport-affiliated boats and vessels 65 feet in length or longer conducting clearance within the Southeast Seasonal Management Area of the Atlantic Ocean would restrict speed to 10 knots or less to avoid potential strikes to manatees.
3. To detect possible impacts to special status species, during the first three years of operations, the Natural Resources Specialist would conduct pre- and post-launch on-site visual surveys for gopher tortoises, indigo snakes, piping plovers, red knots, and wood storks. The visual surveys would also include the brown pelican, which was ESA delisted in 2009 due to recovery (the only brown pelican rookery in Georgia is approximately 1.4 miles from the launch pad; the USFWS is monitoring the brown pelican population). The on-site visual survey would be conducted within the area of impact of the vertical launch or landing area the day before and the day after the event. The on-site visual survey would include presence/absence surveys and would record the number and location of listed species observed. Once a year, an annual monitoring report would be sent to the USFWS. After three years, the USFWS and Spaceport Camden would mutually determine the need for continued pre- and post-launch on-site visual surveys.
 4. Prior to static fire tests, launches, and landings, warning sirens may be employed to deter birds and minimize the probability of bird strikes. The launch team would also look for birds on the radar prior to liftoff, assuming primary radar is in use.

2.4 Description of the Action Area

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR §402.02). Exhibit 2-25 provides a depiction of the various habitats at the proposed spaceport site. The action area for the project includes the construction action area (Exhibit 2-26) and the operational action area (Exhibit 2-27). The areas depicted in Exhibit 2-26 and Exhibit 2-27 are expected to encompass all of the effects of the proposed project.