MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above-Referenced Standard Individual Permit Application

This document constitutes the Environmental Assessment, Section 404(b)(1) Guidelines Evaluation, Public Interest Review, and Statement of Findings for the subject application.

1.0 Introduction and Overview

Information about the proposal subject to one or more of the United States Army Corps of Engineers' (Corps') regulatory authorities is provided in Section 1, detailed evaluation of the activity is found in Sections 2 through 11 and findings are documented in Section 12 of this memorandum. Further, summary information about the activity including administrative history of actions taken during project evaluation is attached (ORM2 Summary) and incorporated in this memorandum.

1.1 Applicant name

Applicant: Mr. Hugh "Trip" Tollison
Savannah Harbor - Interstate 16 Corridor Joint Development Authority
131 Hutchinson Island Road, 4th Floor
Savannah, Georgia 31421

Co-Applicant: Mr. Pat Wilson, Commissioner
Georgia Department of Economic Development
Technology Square, 75 5th Street, N.W., Suite 1200
Atlanta, Georgia 30308

1.2 Activity location

The 2,541.25-acre project site contains waters and wetlands adjacent to Black Creek and is located south of the intersection of Georgia Highway 280 and Interstate 16, in Ellabell, Bryan County, Georgia (Latitude 32.1584, Longitude -81.4533).

1.3 Description of activity requiring permit

The proposed project involves the construction of Electric Vehicle Original Equipment Manufacturing (EVOEM) facility, which would manufacture and distribute fully electric vehicles. The EVOEM assembly facility's vehicle production components would accommodate various processes, including form pressing, fabrication, painting, product completion/assembly, quality control and special products production. The required distribution components include a train yard, truck yard, and finished product yard. The EVOEM complex would also include employee services components supporting the large workforce (e.g., food services, medical facilities, employee parking, training facilities, and administrative workspaces). The storage component would include the central storage building and liquid storage building. The quality facilities would include a

product testing area, testing station, and other miscellaneous buildings required for quality assurance support. Additional components include waste facilities, security facilities, and utility facilities.

As proposed, the project would result in the loss of 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch.

1.3.1 Proposed avoidance and minimization measures

The applicant stated that complete avoidance of aquatic resources was not feasible due to the size and configuration of the components of the proposed development in relation to the distribution and location of aquatic resources across the project site. However, the applicant avoided 403.64 acres of wetland on-site. Regarding minimization measures, the applicant has proposed to install culverts under the rail bed as well as employ best management practices during construction. For detailed avoidance and minimization measures, refer to Section 5 of this document.

1.3.2 Proposed compensatory mitigation

The applicant is proposing to mitigate the proposed impacts through the purchase of 145.43 riverine wetland credits, 51.45 slope wetland credits, and 367.50 intermittent stream credits from the Georgia Alabama Land Trust In Lieu Fee (ILF) program.

1.4 Existing conditions and any applicable project history

Existing Conditions: The proposed site is approximately 2,541.25 acres and is located in the southeast quadrant of the Interstate 16 and Highway 280 intersection. The site was created by assembling five parcels. The topography ranges from an elevation of 20' within the wetland area along Black Creek, to almost 90' near Interstate 16. Topographic elevation change of this magnitude is uncommon for properties within the lower Coastal Plain of Georgia.

Approximately 24 percent of the proposed project area consists of wetlands, streams, and other waters. The site has historically been managed for timber production, with much of the timber being harvested from uplands over the past five years, and portions continue to be harvested today. By letters dated May 22, 2015, and May 12, 2015, the Corps verified that the two parcels that comprise most of the project area (the Bradley Tract and the Samwilka Tract) contain 309.39 acres of jurisdictional wetland, 17.56 acres of isolated, non-jurisdictional wetland, 1,830 linear feet of perennial stream, 2,155 linear feet of intermittent stream, 1,060 linear feet of ephemeral stream, and 0.62 acre of man-made ditches. In addition, the applicant submitted a request for an Aquatic Resource Delineation Review (ARDR) for two additional parcels, the Drawdy Tract and Martin Tract. Based on the information provided in the ARDR requests, the Drawdy Tract contains 0.39 acre of wetland; whereas the Martin tract has 251.64 acres of wetland. In addition, the Corps is processing an AJD for the Martin Tract that identifies 11.31 acres (of the above wetland acreage) and 1.79 acres of open water pond as non-jurisdictional. As documented and recorded during the field surveys, dominant habitats on the entire site include managed pine plantation (both upland and wetland), forested

wetlands, scrub-shrub wetlands, isolated forested wetlands, isolated scrub-shrub wetlands, perennial and intermittent streams and man-made ditches; as further discussed below. The following summary provides a brief description of each of the above habitats.

Managed Pine Plantation Upland: The majority of the property consists of planted pine plantation that has been cut within the last year and replanted. Smaller areas of mature pines are located at the northern and southern portions of the project site. The recently clear cut areas contain only herbaceous and scattered shrub species mixed with the pine seedlings including slash pine seedlings (*Pinus elliottii*), loblolly pine seedlings (*Pinus taeda*), blackberry (*Rubus argutus*), and broomsedge (*Andropogon virginicus*). Areas cut several years ago were sprayed with herbicide to kill remaining hardwoods (i.e., water oaks, live oaks) and replanted in pines. The shrub and herbaceous layer within these areas is much denser than the recently cut areas and includes slash pine seedlings, loblolly pine seedlings, blackberry, broomsedge, saw palmetto (*Serenoa repens*), brackenfern (*Pteridium aquilinum)*, and yellow jasmine (*Gelsenium sempervirens*). Mature upland pine plantation includes slash pine, red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), and water oak (*Quercus nigra*) in the overstory and broomsedge, yellow jasmine, saw palmetto, brackenfern, and wax myrtle (*Myrica cerifera*) in the shrub and herbaceous layer.

Managed Pine Plantation Wetland: These areas are generally located in the southeastern portion of the property within the proposed rail spur and also along the upper fringe of portions of the forested wetland areas that are subject to more frequent hydrologic saturation and inundation. The dominant species found within the overstory consist of slash pine, red maple, sweetgum, and Red bay (*Persea borbonia*); whereas the dominant species found within the understory consist of wax myrtle, Swamp titi (*Cyrilla racemiflora*), greenbrier (*Smilax laurifolia*), giant cane (*Arundinaria gigantean*), sweetgum, water oak, red maple, yellow jasmine, and blackstem chainfern (*Woodwardia virginica*).

Forested Wetlands: Forested wetlands are dispersed across the project site. Those located immediately north of Tar City Road, south of Tar City Road, and at the southeastern project site drain into Black Creek. The majority of these wetlands have mature hardwood species in the center portions of the drain and a dense scrub-shrub layer of swamp titi along their perimeter, varying in width between twenty-five feet and fifty feet on average. Intermittent streams are present within the interior of several of these drainages. The dominant species found within the overstory consist of water oak, red maple, sweetgum, Red bay, blackgum (*Nyssa biflora*) and bald cypress (*Taxodium distichum*); whereas the dominant species found within the understory consist of wax myrtle, swamp titi, greenbrier, blackstem chainfern, sphagnum moss (*Sphagnum spp.*), poison ivy (*Toxicodendron radicans*), fetterbush (Lyonia lucida), blackberry and netted chainfern (*Woodwardia aerolata*).

Scrub-Shrub Wetlands: Hardwoods were harvested in some portions of the wetland areas on the project site, primarily along the perimeter of the forested wetland systems. These areas now have a dense understory. The dominant species found within the

understory consist of wax myrtle, swamp titi, greenbrier, blackstem chainfern, sphagnum moss, sweetgum, red maple, sweet bay, slash pine, and blackberry.

Isolated Forested Wetlands: The project site contains numerous isolated forested wetlands. These areas are depressional wetlands with mature overstory and varying degrees of shrub and herbaceous cover. The dominant species found within the overstory consist of water oak, red maple, sweetgum, red bay, blackgum and bald cypress; whereas the dominant species found within the understory consist of wax myrtle, swamp titi, greenbrier, blackstem chainfern, sphagnum moss, poison ivy, fetterbush, blackberry and netted chainfern.

Isolated Scrub-shrub Wetlands: The project site also contains numerous isolated scrub-shrub wetlands. These areas are depressional wetlands with shrub layers that are dominated by small pines. The dominant species found within the understory consist of slash pine, broomsedge, blackstem chainfern, sphagnum moss, and yellow jasmine.

Streams: The project site contains numerous intermittent streams located in the central portions of the forested wetland systems. These streams average approximately three feet in width and twelve inches in depth. The streams lack vegetation and consist of sand and mud bed and banks of varying heights. In addition, the site contains numerous perennial streams located along the southern and eastern boundaries of the site.

Man-Made Ditches: Approximately 0.62 acre of man-made ditch is present within the property. This habitat is defined by bed and bank of the feature with little to no vegetation present. The ditches were presumably constructed for silvicultural purposes and extend through several of the historically isolated wetlands.

Existing Road: Jernigan Road is a county-maintained dirt road which extends west to east through the center of the property.

Table 1. Habitat Summary

Habitat Type	Area (ac)
Depressional Wetlands	38.5
Existing Road	19.4
Managed Pine Plantation (including ditches)	1,836.8
Man-made Pond	6.5
Open Field	93.8
Slope Wetlands (including stream and ditches)	546.2
Total	**2,541.2**

Project History: To date, the Corps has completed two Approved Jurisdictional Determinations (AJD) and one expanded preliminary JD for a combination of four different tracts located within the project site. Currently, the Corps is processing an additional AJD, and aquatic resources delineation review associated with the Martin Tract.

In July 2018, the Corps issued a JPN for impacts to wetlands within the Bryan County Mega-Site to facilitate development of a gas-powered automobile OEM site. According to the applicant, "since that time, the auto industry has continued to shift its focus towards production of electric vehicles and many leading auto manufacturers goals to cease building petroleum powered cars. The transformation of the automotive industry towards electrification requires construction of much larger and complex OEM facilities designed specifically for production of electric vehicles. Because the previously proposed project, which accommodates gas-powered automobile production, does not accommodate the requirements for an EVOEM assembly facility, revisions to the site plan were required."

1.4.1 Jurisdictional Determination

Is this project supported by a jurisdictional determination? Yes, Approved Jurisdictional Determination

The project is supported by 3 AJDs.

1.5 Permit authority

Table 2 – Permit Authority	
Section 10 of the Rivers and Harbors Act (33 USC 403)	
Section 404 of the Clean Water Act (33 USC 1344)	X
Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1413)	

2.0 Scope of review for National Environmental Policy Act (i.e., scope of analysis), Section 7 of the Endangered Species Act (i.e., action area), and Section 106 of the National Historic Preservation Act (i.e., permit area)

2.1 Determination of scope of analysis for National Environmental Policy Act (NEPA)

The scope of analysis always includes the specific activity requiring a Department of the Army permit that is located within the Corps' geographic jurisdiction. In addition, we have applied the four factors test found in 33 CFR Part 325, Appendix B to determine if there are portions of the larger project beyond the limits of the Corps' geographic jurisdiction where the federal involvement is sufficient to turn these portions of an essentially private action into a federal action.

Based on our application of the guidance in Appendix B, we have determined that the scope of analysis for this review includes the Corps geographic jurisdiction and upland portions beyond the Corps geographic jurisdiction.

These upland components include manufacturing warehouses, buildings and associated infrastructure (i.e., roads, rail, utilities, etc.) These components have been determined to be within our scope of analysis as the extent of federal involvement is sufficient to turn these portions of an essentially private action into a federal action with the resulting environmental consequences of the larger project essentially being products of the Corps' permit action.

Final description of scope of analysis:

(a) Whether or not the regulated activity comprises "merely a link" in a corridor type project: The proposed project involves the construction of an EVOEM facility. It is not considered to be "merely a link" in a corridor type project.

(b) Whether there are aspects of the upland facility in the immediate vicinity of the regulated activity which affect the location and configuration of the regulated activity: The proposed project consists of the construction of a rail served EVOEM. The project is located in the wetlands as well as the upland area adjacent to the regulated activity. The majority of the proposed upland development would not occur without the proposed discharge. The extent and distribution of wetlands and other aquatic resources on the project site are such that very few project elements can be constructed without substantial discharge of fill material in wetlands. In addition, to the extent and distribution of wetlands and waters, the major project elements (i.e., building pads for various OEM facility components) collectively occupy in excess of 28 million square feet.

(c) The extent to which the entire project will be within the U.S. Army Corps of Engineers jurisdiction: The freshwater wetlands alone cover approximately 25% of the 2,541-acre tract. While the aquatic resources cover only 25% of the overall property, their distribution across the site is uniform such that there is no area of available uplands that will accommodate the proposed project without impacting areas within USACE jurisdiction.

(d) The extent of cumulative Federal control and responsibility: Due to the project requiring work in waters of the U.S. as well as the adjacent uplands, the Federal control would extend to the entire project area.

When considering all the above, the Corps has determined that the scope of analysis for NEPA is the entire 2,541.25-acre project site.

2.2 Determination of the Corps' action area for Section 7 of the Endangered Species Act (ESA)

The proposed work that requires impacts to aquatic resources and the work occurring in adjacent uplands are integrally related; therefore, the Corps has determined that the action area is the entire 2,541.25-acre project site.

2.3 Determination of Corps' permit area for Section 106 of the National Historic Preservation Act (NHPA)

The permit area includes those areas comprising waters of the United States that will be directly affected by the proposed work or structures, as well as activities outside of waters of the U.S. because all three tests identified in 33 CFR 325, Appendix C(g)(1) have been met.

Final description of the permit area: The proposed work that requires impacts to aquatic resources and the work occurring in adjacent uplands are integrally related; therefore, the Corps has determined that the permit area is the entire 2,541.25-acre project site.

3.0 Purpose and Need

3.1 Project purpose and need

Project purpose and need for the project as provided by the applicant and reviewed by the Corps:

The applicant's stated project purpose is "to develop a site that can accommodate the construction of an Electric Vehicle Original Equipment Manufacturing (EVOEM) assembly facility".

3.2 Basic project purpose

Basic project purpose, as determined by the Corps: The Corps has determined that the basic purpose of the proposed project is electric vehicle manufacturing.

3.3 Water dependency determination

The activity does not require access or proximity to or siting within a special aquatic site to fulfill its basic purpose. Therefore, the activity is not water dependent.

3.4 Overall project purpose

Overall project purpose, as determined by the Corps:

The Corps has determined that the overall purpose of the proposed project is to construct an EVOEM auto facility within the State of Georgia.

4.0 Coordination

4.1 Public Notice Results

The results of coordinating the proposal on public notice are identified below, including a summary of issues raised, any applicant response and the Corps' evaluation of concerns.

In July 2018, the Corps issued a Joint Public Notice (JPN) for impacts to wetlands within the Bryan County Mega-Site to facilitate development of a gas-powered automobile OEM site. According to the applicant, "since that time, the auto industry has continued to shift its focus towards production of electric vehicles and many leading auto manufacturers goals to cease building petroleum powered cars. The transformation of the automotive industry towards electrification requires construction of much larger and complex OEM facilities designed specifically for production of electric vehicles. Because the previously proposed project, which accommodates gas-powered automobile production, does not accommodate the requirements for an EVOEM assembly facility, revisions to the site plan were required." As a result, the Corps published an additional JPN to solicit comments on the updated project. The section below identifies the comments received in response to the Corps' June 7, 2022, JPN.

For the evaluation of the comments received in the original JPN, refer to the document entitled *"MEMORANDUM FOR RECORD, SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above-Referenced Standard Individual Permit Application,"* dated June 27, 2019 (i.e., Appendix B). Generally speaking, the comments received associated with the original project concerned the applicant's need and purpose statement, compliance with the 404(b)(1) Guidelines (the Guidelines) and National Environmental Policy Act (NEPA), cumulative impacts, the Corps' public interest review, traffic, the potential for noise and air pollution, and stormwater management. It should be noted that the updated project (i.e., May 27, 2022, DA Application) supersedes the original project, including the Corps' evaluation of comments received during the 2018 JPN.

Were comments received in response to the public notice? Yes.

Were comments forwarded to the applicant for response? Yes

Was a public meeting and/or hearing requested, and if so, was one conducted?

No, no public hearing or meeting was requested.

Comments received in response to public notice:

4.1.1 USFWS: By email dated June 9, 2022, the USFWS requested information from the application that documented the presence and/or absence of threatened and endangered species and their habitats on the site. In addition, the USFWS requested a site visit.

Corps' Evaluation: On June 9, 2022, the Corps provided the USFWS with the Threatened and Endangered (T&E) report. In addition, a site visit was performed on June 16, 2022, with the agent, USFWS, Georgia Department of Natural Resources, Wildlife Resources Division (Georgia WRD) and the Corps to assess the site for active gopher tortoise burrows. According to the agent, all gopher tortoises were removed in 2021 and in coordination with the USFWS and Georgia WRD.

During the site visit it was confirmed that at this time, there are no active gopher tortoise burrows located on-site. The USFWS also requested whether the applicant intended to educate contractors and other on-site personnel regarding the potential presence of the Eastern Indigo snake and/or gopher tortoise. The applicant stated they had developed an Eastern Indigo snake/gopher tortoise education pamphlet with the intention of providing it to all on-site personnel. The Eastern indigo snake pamphlet as well as signs depicting both species were provided to the USFWS on June 16, 2022, for review and comment. On June 29, 2022, the USFWS and Georgia WRD indicated they were satisfied with the information contained within the pamphlet regarding the Eastern indigo snake and requested the Corps include a special condition that required the applicant comply with the protocol established within the pamphlet (i.e., signage, education, notification of species siting, etc.). However, the USFWS also requested that a similar education program be developed for the gopher tortoise.

The Corps would include the following special condition in any draft permit issued for this project:

> *Regarding the future protection of the Eastern Indigo snake and/or gopher tortoise that have the potential to be within the vicinity of the project, the permittee shall comply with the following conditions:*
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> *a. The permittee shall comply with the document entitled, "STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE, U.S. Fish and Wildlife Service", dated March 23, 2021 (enclosed).*
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> *b. The permittee shall post both the Eastern indigo snake and gopher tortoise signs (enclosed) on the construction site.*
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> *c. If any gopher tortoise, juvenile or adult, are found on the site, the on-site personnel shall immediately contact the GA DNR at 912-314-0128.*

By email dated September 27, 2022, the USFWS concurred with the above effects determination.

4.1.2 Ogeechee Riverkeeper Comments: By letter dated July 6, 2022, the riverkeeper expressed concerns regarding the future EVOEM operator's environmental track record; the lack of assurances that the plant would be built; the adverse impacts the project may have on the Ogeechee River watershed and the region as a whole (i.e., noise, water, and/or air pollution; potential increases in stormwater due to the increase in impervious surface; traffic; etc.); the applicant's compensatory mitigation plan and the validity of the ARDR's and AJDs completed for the site (i.e., where they performed under the Navigable Waters Protection Rule or the Rapanos guidance).

Applicant's Response:

Regarding the operator's environmental track record, the applicant states,

> *On May 20 2022, Governor Brian P. Kemp and Hyundai Motor Group Executive Chair Euisun Chung announced that Hyundai Motor Group will open its first fully dedicated electric vehicle (EV) and battery manufacturing facility in the State of Georgia. Hyundai Motor Group (HMG, or "the Group") will invest $5.54 billion in opening a state-of-the-art U.S. smart factory at the Bryan County Megasite. Non-affiliated Hyundai Motor Group suppliers will invest approximately another $1 billion in the project. A complete copy of the press release is attached to this letter.*

Corps' Evaluation: The Corps is satisfied with the applicant's response. It should be noted that the Corps regulates the discharge of dredged and/or fill material in waters of the United States in accordance with Section 404 of the Clean Water Act and does not regulate or evaluate an applicant's environmental track record.

Regarding the lack of assurances that the plant would be built, the applicant states,

> *As previously noted, Governor Kemp and Hyundai Motor Group Executive Chair Euisun Chung announced that Hyundai Motor Group will construct its first fully dedicated electric vehicle (EV) and battery manufacturing facility on the Bryan County Mega Site. The project schedule includes initiation of site work in 2022, initiation of construction on the new facility in January 2023 and with full production expected in the first half of 2025.*

Corps' Evaluation: The Corps is satisfied with the applicant's response.

Regarding the potential adverse impacts, the project may have on the Ogeechee River watershed and the region as a whole, the applicant states,

> *As depicted in the attached permit drawings, the proposed site plan includes development of 2,009.9 acres within the 2,541.25-acre tract. The project requires 194.07 acres of wetland impact and 763 linear feet of intermittent stream impact for general site development and access roads, 1.58 acres of ditch impact for general site development and access roads, and 27.29 acres of wetland impact for rail access. As compensatory mitigation, the applicant is proposing to purchase the 4,120.20 legacy stream credits from Yam Grandy Mitigation Bank and satisfy the 1,328.24 legacy (166.08 2018 SOP) wetland mitigation credit requirement through the Savannah District In-Lieu Fee Program.*
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> *Regarding air, water, noise, and traffic, air pollutants emitted from manufacturing facilities in Georgia are regulated by the EPD. Hyundai Motor Group has engaged with EPD and the proposed project will have all permits required based on the emissions profile. The EPD has provided publicly*

available information and materials that explains these and other environmental regulatory requirements. Prior to commencing construction or operation activities, the applicants are required to obtain coverage under the EPD Permit No. GAR100003 Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharges Associated With Construction Activity for Common Development; and Permit No. GAR 050000, Authorization Discharge Under NPDES Stormwater Discharges Associated with Industrial Activity (Industrial Permit). These permits require practices to be in place to manage stormwater, prevent erosion and related discharges during construction, and prevent stormwater-related discharges during operation. Water and sewer will be provided by regional infrastructure plan developed in partnership by Bryan, Chatham, Bulloch and Effingham Counties. Lastly, the JDA and the Georgia Department of Transportation have completed the assessments and infrastructure improvement planning to accommodate the transportation needs for the proposed project.

Corps' Evaluation: The Corps is satisfied with the applicant's response.

Regarding potential impacts to air quality, both the construction and operation of the facility would increase air emissions, with the majority of the increase resulting from vehicular and rail traffic. However, the Corps regulates the discharge of dredged and/or fill material in waters of the United States in accordance with Section 404 of the Clean Water Act and does not regulate air quality. This is regulated by the USEPA under the Clean Air Act and potentially by a state agency and/or local issuing authority (LIA). In the state of Georgia, the Georgia Department of Natural Resources, Environment Protection Division (Georgia EPD) is responsible for regulating emissions from industrial and mobile sources as well as monitoring the ambient levels of air pollutants throughout the State to make sure Georgia meets all the National Ambient Air Quality Standards (NAAQS) established by the USEPA. As a result, the applicant would need to obtain the appropriate permissions from the Georgia EPD (and if appropriate, the LIA) regarding compliance with air emission standards. However, according to Georgia EPD, the latest ambient monitoring report indicates that the State of Georgia is meeting all the NAAQS standards. It should be noted that neither the USEPA nor Georgia EPD provided comments or expressed concerns regarding air quality impacts as a result of this project. Given all the above, the Corps has determined that the proposed project would have a minor long-term impact on air quality.

Regarding noise, short term, the project would have a temporary, minor adverse effect on noise levels within the vicinity of the project due to operation of heavy equipment during construction. However, once final build out has occurred it is expected that the facility would provide approximately 28 million square feet of OEM facility components (i.e., form pressing, fabrication, painting, product completion/assembly, quality control and special products production buildings as well as a train/rail yard, truck yard, and finished product yard). As a result, there would be an

increase in the ambient background noise levels associated with the operation of the facility (i.e., noise produced by truck traffic, forklift operations, etc.).

Regarding potential light pollution, there is limited to no lighting currently on the project site, and no nighttime commercial activities. Existing lighting is for street illumination (e.g., streetlights). Future development could increase levels of light above existing conditions; however, the applicant has indicated that there would be a buffer between the facility and the neighboring residential homes.

Again, it should be noted that the Corps does not regulate noise or light pollution either. Noise effects are regulated by the USEPA. The project was coordinated with the USEPA on June 7, 2022. To date, the USEPA has not provided any comments related to potential noise pollution. In addition, light pollution is regulated by the LIA. The Corps would include the following special condition in any permit issued for the proposed project:

> *The permittee shall obtain and comply with all applicable Federal, state and local authorizations required for the authorized activity. A stream buffer variance may be required from the Georgia Department of Natural Resources, Environmental Protection Division (Georgia EPD), as defined in the Georgia Erosion and Sedimentation Control Act of 1975. Information concerning variances can be obtained from Georgia EPD on their website at www.gaepd.org, or by calling (404) 463-1463.*

Given all the above, the Corps has determined that the proposed project would have a long term minor effect on noise and light pollution.

Regarding water quality concerns, by letter dated September 28, 2022, the Georgia EPD issued a conditioned Water Quality Certification (WQC) for this project pursuant to Section 401 of the Clean Water Act. With issuance of WQC, Georgia EPD has determined that the proposed project meets the applicable requirements of Section 401 of the Clean Water Act. In addition, any draft permit issued for the proposed project would include a special condition requiring compliance with the above State water quality certification as well as the following special conditions:

> *1. To assure compliance with State water quality standards, the applicant shall conduct all activities in a manner that will assure water quality adequate or necessary to protect and maintain designated uses. 33 U.S.C. § 1313(a)-(d); O.C.G.A. § 12-5-23(c)(2),(6),(9),(15); Ga. Comp. R. and Regs. 391-3-6-.03(2)(i), (ii).*
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> *a. To prevent or avoid degradation of water quality downstream, the applicant shall implement Best Management Practices (BMPs) that have been approved for in-water use to the extent practical and feasible, to minimize total suspended solids (TSS) and sedimentation for any work conducted within a state water or within the delineated boundaries of*

wetlands. 33 U.S.C. § 1313(a)-(d); O.C.G.A. § 12-5-23(c)(2), (6), (9), (15); O.C.G.A. § 12-5-29(a); O.C.G.A. §§ 12-7-6 to 7; Ga. Comp. R. and Regs. 391-3-6-.03(5).

b. In order to prevent or avoid violations of state water quality standards, the applicant must ensure that any fill placed in state waters must be clean fill that is free of solid waste, toxic, or hazardous contaminants. 33 U.S.C. §§ 1311; 1313(a)-(d); O.C.G.A. § 12-5-23(c)(2), (6), (9), (15); O.C.G.A. § 12-5-29(a); Ga. Comp. R. and Regs. 391-3-6- .03(5), (6), (11), (14)-(16).

2. To prevent sedimentation of state waters during construction, the applicant shall ensure that it obtains coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction for discharges comprised of storm water associated with construction activity and any required land disturbing activity permits intended to prevent soil erosion, sedimentation, and deposition into waters of the state. 33 U.S.C. § 1342(p); O.C.G.A. § 12-5-30; O.C.G.A. §§ 12-7-6 to 7; Ga. Comp. R. and Regs. 391-3-6-.06; Ga. Comp. R. and Regs. 391-3-6-.16

3. To prevent sedimentation of state waters post-construction, the applicant shall ensure that it obtains coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activity for discharges comprised of storm water associated with covered industrial activity, so that all discharges meet applicable water quality standards. 33 U.S.C. §§ 1311, 1313, 1342(b); 40 C.F.R. 122.26(b)(14); O.C.G.A. § 12-5-23, 30; Ga. Comp. R. and Regs. 391-3-6-.16.

4. The applicant shall ensure that it abides by the requirements of the stream buffer variance issued by Georgia EPD, BV-015-22-01, including provisions to ensure protection, restoration, or mitigation of or related to the stream buffer, which facilitates the protection of water quality. 33 U.S.C. §§ 1311; 1313(a)-(d); O.C.G.A. § 12-7-6; Ga. Comp. R. and Regs. 391-3-7-.05.

5. Modifications to this Project may require an amendment to these conditions. Accordingly, the applicant must notify the Georgia Environmental Protection Division of any modifications to the proposed activity including, but not limited to, modifications to the construction or operation of any facility, or any new, updated, or modified applications for federal permits or licenses for the Project. 33 U.S.C. §§ 1311-1313; O.C.G.A. § 12-5-23(c)(2),(6),(9),(15); Ga. Comp. R. and Regs. 391-3-6-.03.

The Corps would also include special conditions requiring the use of BMPs as well as the installation of culverts under sections of the proposed road and railbed. For a complete list of special conditions refer to Section 11.2 below.

The inclusion of the above special conditions would minimize the potential for sediment to migrate into adjacent and downstream aquatic resources as well as ensure that the post development stormwater discharge rates into downstream waters are equivalent to the current discharge rates (i.e., pre-development). Therefore, the Corps has determined that the project would have a long-term minor effect on water quality. For further evaluation of impacts to water quality, refer to Section 6.3 below.

Regarding impacts to wildlife, the project would result in the loss of 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch, all of which can provide habitat for wildlife. Since the fill for this project would eliminate the above aquatic resources, wildlife species occupying these areas would be impacted through loss or displacement. While sedentary species would not be able to move from the impact area and would be lost, it is anticipated that larger and more motile wildlife may move to other aquatic and high land areas as fill activities commence. Therefore, the Corps has determined that the project would have a long term minor effect on wildlife.

Regarding stormwater, the applicant states,

> *If located within Georgia's Coastal Nonpoint Source Management Area, the applicant must use on-site minimum stormwater management standards that conform to the guidance established in the Coastal Stormwater Supplement to the Georgia Stormwater Management Manual to reduce the stormwater runoff volume generated by the first 1.2" of rainfall. If the full 1.2" of stormwater runoff volume cannot be reduced due to site characteristics or constraints, it should be intercepted and treated to provide for at least an 80% reduction in TSS loads and a reduction in nitrogen and bacteria loads to the maximum extent possible.*
>
> *The Bryan County Mega Site project is located in a Coastal Nonpoint Source Management Area. The Bryan County Mega Site will be governed by the Bryan County Unified Development Ordinance and Subdivision Regulation. These regulations require project stormwater design to be in accordance with methods and procedures outlined in the Coastal Stormwater Supplement to the Georgia Stormwater Management Manual, Volume 2, latest edition (CSS). To satisfy buffer GA EPD Buffer Mitigation Guidance, the first 1.2" runoff volume should be treated by runoff reduction volume of rainfall on the project site (Water Quality Volume) [and] will be intercepted and captured by runoff reduction BMPs listed in Table 1 below, prior to discharging into a stormwater wet pond. The stormwater design will consist of a wet stormwater pond as a final BMP prior to stormwater discharge to receiving waterways. A wet stormwater pond will provide 80% TSS removal (GSMM Table 4.1.3-1 BMP Selection Guide). Since final design has not been completed, runoff reduction volume best management practices have not yet been designed. As design progresses, runoff reduction volume BMPs will be designed to achieve 80% TSS as required by Bryan County Unified Development*

ordinance and the Coastal Stormwater Supplement to the Georgia Stormwater Management Manual, latest edition. Runoff reduction BMPs to be considered during design will include bio-retention areas, downspout disconnects, enhanced dry and wet swales, mechanical TSS separator units (proprietary systems), permeable paver systems and vegetated filter strips.

The CSS Water Quality Tool spreadsheet demonstrating the achievement of 80% TSS pollutant load reduction is required and will be submitted, pursuant to Bryan County ordinances, at the time of final design development permit submittal. Design of BMPs will be in conformance with the CSS/GSMM and Bryan County regulations.

Water Quality Protection:

The applicant must implement on-site best management practices (BMPs) that address common post-construction pollutants other than TSS. Practices used to address these other pollutants can be selected from the BMP Selection Guide, Table 4.1.3-1 of the Georgia Stormwater Management Manual. The applicant must choose an appropriate BMP or "treatment train;" that is, a combination of BMPs, to fully address all pollutants of concern generated on site. The BMP or "treatment train" shall be designed to retain the first 1.0" of rainfall on site or at designated off site treatment area to the maximum extent practicable. If the entire 1.0-inch runoff reduction standard cannon be achieved, the remaining runoff from the 1.2-inch rainfall event must be treated by BMPs to remove at least 80% of the calculated average annual post-development TSS loading from the site. Please refer to Section 4.1.6.1 of the Blue Book for calculating removal rates of "treatment trains." Should the applicant choose practices not listed in Table 4.1.3-1, documented and proven pollutant removal efficiency rates must be submitted with the proposed practice and be accepted by EPD during the application review process. Developments with significant parking spaces and/or high-volume traffic areas must implement BMPs addressing oil and grease as pollutants. Pollutant removal efficiencies for these oil and grease BMPs must be included in the buffer variance application.

For this type of project, total suspended solids, hydrocarbons and metals have been identified as potential target pollutants. Prior to discharging into the stormwater wet pond, post-developed stormwater runoff will flow into green infrastructure or low impact development stormwater BMPs. The design will include BMPS selected from Table 1 below, and placed in series (treatment train), to cumulatively result a minimum of 60% pollutant removal efficiency from of TSS, hydrocarbons and metals from post-construction stormwater runoff.

Table 2. Summary of Pollutant Removal Efficiencies

BMPs	Target Pollutants Precent Removal		
	Total Suspended Solid Removal	Metals	Hydrocarbons
Wet Stormwater Pond	80%[1]	50%[1]	81%[3]
Dry Detention Basins	60%[1]	50%[1]	NA
Bioretention Basins	85%[1]	95%[1]	80%[2]
Downspout Disconnects	80%[1]	40%[1]	NA
Enhanced Dry Swale	80%[1]	40%[1]	80%[2]
Enhanced Wet Swale	80%[1]	20%[1]	NA
Grass Channels	50%[1]	30%[1]	NA
Contech Stormceptor (or similar)	>80%	*	>90%
Permeable Paver Systems	80%[1]	60%[1]	NA
Vegetative Filter Strips	60%[1]	40%[1]	NA

*Pollutant removal rates vary – BMPs will only be used if required to achieve standards.

Sources:

[1]Georgia Stormwater Management Manual, Volume 2, 2nd Edition, 2016, Table 4.1.3-1.

[2]https://stormwater.pca.state.mn.us/index.php?title=Median_pollutant_removal_percentages_for_BMPs (Minnesota Pollution Control Agency).

[3]National Pollutant Removal Performance Database for Stormwater Treatment Practices, 2nd Edition, September 2000

[4] https://www.conteches.com/stormwater-management/treatment/stormceptor-systems

The treatment train of stormwater BMPs required to achieve these standards will be designed in accordance with the CSS/GSMM. The CSS/GSMM Water Quality Tool spreadsheet demonstrating the achievement of post-construction pollutant load reduction is required, and will be submitted, at the time of final design development permit submittal pursuant to Bryan County ordinances. Design of BMPs will be in conformance with the CSS/GSMM and Bryan County regulations.

Corps' Evaluation: The Corps is satisfied with the applicant's response. The Corps regulates the discharge of dredged and/or fill material in waters of the United States in accordance with Section 404 of the Clean Water Act. However, it does not regulate stormwater discharges and/or the creation/implementation of appropriate stormwater management. This is regulated by the USEPA and potentially a state agency/LIA to which the USEPA has delegated this authority. In the state of Georgia, the USEPA has delegated this authority to the Georgia Department of Natural Resources, Environment Protection Division (Georgia EPD). As a result, the applicant would need to obtain the appropriate permissions from the Georgia EPD (and if appropriate, the LIA) regarding stormwater management within the site.

Regarding traffic, the applicant stated,

> *GADOT has analyzed both existing and projected traffic volumes associated with proposed project. Based on this analysis, GDOT has developed a preliminary plan that includes over $220MM in infrastructure improvements generally including improvements to the existing Highway 280/Interstate 16 Interchange, removal of the Jernigan Road/Interstate 16 overpass and construction of a new interchange on Interstate 16 east of the proposed project, improvements to Highway 280 south of Interstate 16 to accommodate for the north and south entrance to the facility and access point improvements from Highway 280 into the site. The proposed infrastructure improvements will accommodate for any traffic volume increase associated with the proposed project.*

Corps' Evaluation: The Corps is satisfied with the applicant's response. The Corps regulates the discharge of dredged and/or fill material in waters of the United States in accordance with Section 404 of the Clean Water Act. However, it does not regulate traffic. Regarding traffic concerns, it is the responsibility of the County and GDOT to address these issues. However, any future development, including infrastructure improvements, would be required to avoid and minimize impacts to the aquatic resources to the maximum extent practicable and then compensate for any aquatic function losses over 1/10th of an acre (i.e., comply with the Guidelines). For further evaluation of the potential cumulative imp acts the proposed project may have, refer to Section 9 below.

Regarding the validity of the ARDRs and AJDs completed for the project site, the applicant states,

> *The permit application is based on a pre-Navigable Waters Protection Rule (NWPR) determination originally issued for the project site by the USACE and a post NWPR jurisdictional determination request submitted after vacatur of the NWPR. NWPR guidance has not been applied to the current project.*

Corps' Evaluation: The Corps is satisfied with the applicant's response. All ARDRs and AJDs have been completed under the current waters of the U.S. rule.

Regarding the compensatory mitigation plan, the applicant states,

> *The compensatory mitigation plan for the project was developed using the EPA and Army Corps federal rule, Compensatory Mitigation for Losses of Aquatic Resources, promulgated at 33 CFR Part 332. See 73 FR 19594 (April 10, 2008), and the Army Corps Savannah District Regulatory Guidelines to Evaluate Proposed Mitigation Bank Credit Purchases in the State of Georgia. Because commercial mitigation bank credits are not available within the primary or secondary service area for the project, the applicant developed the proposed plan with the input of the USACE.*

Corps' Evaluation: As currently proposed, the applicant would purchase 145.43 riverine wetland credits, 51.45 slope wetland credits, and 367.50 intermittent stream credits from the Georgia Alabama Land Trust ILF program. Refer to Section 8 below for further information regarding compensatory mitigation.

4.1.3 USEPA Comments: By email dated July 5, 2022, EPA provided general comments regarding the site selection criteria associated with the project and recommended that the U.S. Army Corps of Engineers, Savannah District require the applicant to amend his CWA 404 permit application to provide additional detail and clarity to his CWA 404(b)(1) alternatives analysis.

Applicant's Response: By letter dated August 16, 2022, the applicant responded stating,

> *For this particular project, the speed of Hyundai go-to-market strategy is crucial to site selection. Development at the selected site will be expedited by the location and the support of the regional human and natural resources. From a wider perspective, the electric vehicle (EV) industry must shift to meet the ever-growing need for decarbonizing global transportation. Georgia's abundant resources – including water and a growing renewable energy sector – along with the skilled workforce, advanced training focus, and access to superior transportation hubs will allow Hyundai to move to full production more quickly and viably than anywhere else reviewed.*
>
> *Other screening criteria address the availability of a property for the planned development, the ability to expand in the future, and the ability to acquire and use the land as needed for the project. The selected site is capable of utility and logistic infrastructure buildout within the parameters of meeting national EV demand for the next generation of Hyundai products. These are all critical to ensuring that a significant financial and resource-intensive investment can be sustainable and productive long into the future.*
>
> *As the Army Corps Savannah District Guidelines provide, "A site that fails one or more criteria would not be considered practicable." For example, Off-Site Alternative 2 (Peach County) would not meet the airport proximity criterion, there were concerns about the availability of a diverse and skilled labor force (evaluated by population density, average levels of educational attainment, median age, projected population growth, and median household income levels), and critically important, this site has an approximately 280-acre federal conservation easement located in the middle of the property that would preclude development and use for the project purpose. Similarly, Off-Site Alternative 3 (Bartow County) has no access to rail infrastructure and, depending on the route, would require between 2.25-3.5 miles of new rail construction. This could impact anywhere from 12 to 50 or more parcels, affect the overpass over Joe Frank Harris Parkway, and would cause significant cost and scheduling problems.*

The foregoing rationale demonstrates that each of the screening criteria presented in the application are important to the proposed project development and feasibility and were developed to fully evaluate potential sites. The applicants' analysis of the screening criteria is neither unsubstantiated nor vague, but rather provides appropriate detail on each of the alternate sites and why the screening criteria are not met.

As explained in the application materials, eight sites were evaluated against the site selection criteria. Only one property met all of the site selection criteria. This property was fully evaluated for water resources and a number of site configurations were evaluated based on potential impacts to streams, wetlands, other waters, federally listed threatened or endangered species, and cultural resources. Because none of the off-site alternatives met the initial screening criteria, they were not further evaluated for water resource conditions or other resource impacts.

Corps Evaluation: On September 22, 2022, and September 27, 2022, the Corps requested additional information regarding further justification of the size site selection criteria (i.e., why does a tract need to be at least 2,100 acres in size); the distance to an international airport criterion (i.e., why does a site need to be within 60 minutes of international airport); and the skilled labor force criterion (i.e., what constitutes a skilled labor force). In addition, the Corps requested further clarification as to why rail cannot be extended to Off-Site Alternative Sites 3 and 5. Further, the Corps informed the agent that based on the information within the application, Off-Site Alternative 4 was a practicable alternative and requested the applicant provide the amount of wetland and/or stream impact the project would have on this site.

Regarding the size site selection criteria, the applicant stated,

The project site must be contiguous and sufficiently sized to support the massive scale of an EVOEM assembly facility (which roughly translates to a minimum of ~2,100 acres of unencumbered *land). The proposed EVOEM includes the following:*

Approximately 1600 Acres: This acreage includes production components including form pressing, fabrication, painting, product completion/assembly, quality control and special products production. The required distribution components include a train/rail yard, truck yard, and finished product yard. The EVOEM complex will also include employee services components supporting the large workforce (e.g., food services, medical facilities, employee parking, training facilities, and administrative workspaces). The storage component will include the central storage building and liquid storage building. The quality facilities will include a product testing area, testing station, and other miscellaneous buildings required for quality assurance support. Additional components include waste facilities, security facilities, and utility facilities.

Approximately 170 Acres: Stormwater management facilities suitable in size to meet the Georgia Stormwater Management Manual standards for Post Development Total Suspended Solids and/or Stormwater Run-off Reduction and Water Quality Protection.

Approximately 80 Acres: This acreage includes the road network within and transportation access within the site required to support the manufacturing facility.

Approximately 250 Acres: The perimeter of the facility totals approximately 40,000 linear feet. This acreage includes area required for grading and for facility buffers off the project boundary totaling 250-500 linear feet.

Corps Evaluation: The Corps is satisfied with the Applicant's response.

Regarding the distance to an international airport site selection criteria, the applicant stated,

The EVOEM will be owned and operated by an international company. Due to the size and scale of the manufacturing facility and because it will be the companies first EV dedicated US facility, executives, cultural leaders, political leaders, employees, clients, vendors, etc. from around the world will regularly visit the facility. Additionally, the supply chain for the facility includes air cargo (i.e., expedited parts, support parts from international suppliers, etc.). Lastly, the project includes an aerospace partnership component with existing an existing aerospace company which requires international airport facilities.

Corps Evaluation: The Corps is satisfied with the Applicant's response. The applicant has successfully demonstrated that this project is being sponsored by an international company, with requirements for global interconnectedness. This can be accomplished most efficiently by proximity to multiple forms of modern transportation (airports, rail, highway, and port facilities). While airport proximity is thus acknowledged as necessary, any specific distance provided, in this instance, could be considered arbitrary. There is little functional difference between selecting 40, 60, or 120 minutes. That being said, the applicant has indicated that a site within 60 minutes of an international airport is one of their selection criteria. This distance would keep from imposing additional hardship on travelers if this is the first or last leg of a longer trip and would minimize delays in rush shipments. It would also limit the accumulated time and inefficiencies involved in having a large number of travelers coming and going from the airport at all times. As 60 minutes, or one hour, is a widely accepted unit of measure for time, it should also be a reasonable travel distance from airport to project location and thus a reasonable selection criterion.

Regarding the skilled labor force site selection criteria, the applicant stated,

To confirm the site could satisfy the labor force requirements for the proposed manufacturing facility, the company required a labor force of

400,000 within 60 miles of the site from which the project could service the operational requirement. The population within 60 miles of the Bryan County site is 1,007,017 and contains a labor force population of 447,742.

Corps Evaluation: The Corps is satisfied with the applicant's response. To support the above statement, the applicant provided a slide show presentation documenting the availability of a workforce within 60 minutes of the proposed project site.

Regarding Off-Site Alternative Site 3, the applicant stated,

This alternative is located adjacent to Interstate 75. Rail service is not located adjacent to the site and extension of rail access would require significant property acquisition and construction challenges. First, providing rail to the site would require construction of 2.3 to 3.5 miles of new rail line (depending on route). Second, the new rail line would cross three public roads including White Road, Old Highway 41 and Joe Frank Harris Parkway. Due to traffic safety concerns and frequency of rail use, these crossings would require construction of an overpass for each crossing. Lastly, the new rail corridor would impact anywhere from 12 to 50 or more private properties. These properties currently contain single family residential developments, agricultural parcels, educational facilities and commercial parcels. For this reason, this alternative is not logistically feasible.

Regarding Off-Site Alternative Site 5, the applicant stated,

This alternative is not located adjacent to a major interstate; however, the site is provided direct access to Interstate 16 located 4 miles north. Rail service is not located adjacent to the site and extension of rail access would require significant property acquisition and construction challenges. Providing rail to the site would require construction of 1.7 to 2.8 miles of new rail line (depending on route). The new rail line would also cross three public roads including Highway 280, Beautiful Zion Church Cemetery Road and Bulloch Bay Road. Due to traffic safety concerns and frequency of rail use, construction of an overpass on Highway 280 would be required. Lastly, the new rail corridor would impact anywhere from 4 to 15 or more private properties.

Corps Evaluation: The Corps is satisfied with the Applicant's responses to Off-Site Alternatives 3 and 5. While not specifically stated above, providing rail access to Alternative 5 would not be logistically feasible. For further evaluation of all alternatives presented in this application, refer to Section 5 below.

Regarding Off-Site Alternative Site 4, the applicant provided an updated alternative analysis documenting that this alternative was practicable, however it would result in more impacts to aquatic resources than the preferred alternative. Refer to Section 5 below for further evaluation of alternative 4.

Additional discussion of submitted comments, applicant response and/or Corps' evaluation: N/A

4.2 Additional issues raised by the Corps

Refer to the Corps' evaluation of the applicant's response to the USEPA comments in Section 4.1.3 above.

4.3 Comments regarding activities and/or effects outside of the Corps' scope of review

Refer to The Ogeechee Riverkeeper's comments in Section 4.1 above regarding noise, air and water pollution, traffic and stormwater management.

5.0 Alternatives Analysis

(33 CFR Part 325 Appendix B, 40 CFR 230.5(c), 40 CFR 1501, and RGL 88-13). An evaluation of alternatives is required under NEPA for all jurisdictional activities. NEPA requires discussion of a reasonable range of alternatives, including the no action alternative, and the effects of those alternatives. An evaluation of alternatives is required under the Section 404(b)(1) Guidelines for projects that include the discharge of dredged or fill material to waters of the United States. Under the Section 404(b)(1) Guidelines, practicability of alternatives is taken into consideration and no alternative may be permitted if there is a less environmentally damaging practicable alternative.

5.1 Site selection/screening criteria

In order to be practicable, an alternative must be available, achieve the overall project purpose (as defined by the Corps) and be feasible when considering cost, logistics and existing technology.

Criteria for evaluating alternatives as evaluated and determined by the Corps:

Geographic Location: According to the applicant, the project site must be within 60 minutes of an international airport and within a reasonable commute distance of a diverse and skilled labor force of sufficient population to meet and sustain the production facility (~10,000+ jobs).

The applicant contends that an alternative must be within 60 minutes of an international airport for the following reasons. First, the air cargo is required for the facility to reduce delay in the manufacturing process and finished product. The operation of the OEM facility will require support parts from international suppliers and occasional expedited parts, both of which will be delivered via air cargo. Extending the distance from the facility to the supporting airport increases transportation cost, creates manufacturing delays and impacts the overall logistics efficiencies of the facility. Second, the EVOEM will be owned and operated by an international company. Due to the size and scale of the manufacturing facility and because this plant will be the company's first EV dedicated US facility, executives, cultural leaders, political leaders, employees, clients,

vendors, etc. from around the world will regularly visit the facility. Thus, travel time to and from the airport and national and international flight connections were an important consideration in site selection. Additionally, employees from other facilities across the U.S. will regularly travel to and from the facility via the airport and extended travel from the airport to the plant reduces employee productivity. Lastly, the project includes an aerospace partnership component with an existing aerospace company which requires international airport facilities. In summary, the requirement for the site to be within 60 minutes of an international airport was established to maintain logistical and operational efficiencies for the supply chain required for operation of the OEM facility and to manage travel time for individuals traveling to and from the site (visitors, executives, employees, etc.).

Regarding a skilled labor force, the applicant has defined this as a labor force of 400,000 within 60 miles of the site from which the project could service the operational requirement.

Size: The project site must be contiguous and sufficiently sized to support the massive scale of an EVOEM assembly facility (which roughly translates to a minimum of ~2,100 acres of unencumbered land). The proposed EVOEM includes the following:

- Approximately 1,600 Acres: This acreage includes production components including form pressing, fabrication, painting, product completion/assembly, quality control and special products production. The required distribution components include a train/rail yard, truck yard, and finished product yard. The EVOEM complex will also include employee services components supporting the large workforce (e.g., food services, medical facilities, employee parking, training facilities, and administrative workspaces). The storage component will include the central storage building and liquid storage building. The quality facilities will include a product testing area, testing station, and other miscellaneous buildings required for quality assurance support. Additional components include waste facilities, security facilities, and utility facilities.

- Approximately 170 Acres: Stormwater management facilities suitable in size to meet the Georgia Stormwater Management Manual standards for Post Development Total Suspended Solids and/or Stormwater Run-off Reduction and Water Quality Protection.

- Approximately 80 Acres: This acreage includes the road network within and transportation access within the site required to support the manufacturing facility.

- Approximately 250 Acres: The perimeter of the facility totals approximately 40,000 linear feet. This acreage includes area required for grading and for facility buffers off the project boundary totaling 250-500 linear feet.

Utilities: Utility services or access to utility services (water, sewer, electrical, gas, phone, cable, etc.) are required. For this reason, location of existing utilities and cost associated with servicing the project site if those utilities were not already available is a consideration in the site screening criteria.

Access to Interstate and Rail. The project site needs to have immediate access to one or more Interstate Highways for large trucks and trailers and needs to have onsite (or reasonably attainable) rail infrastructure, and access to class-one rail.

Availability: Sites listed for sale or known to be available for purchase were considered. In addition, the number of parcels required to create a 1,500 acre development area was a consideration (acquiring one or two parcels is far more likely than assembling 70 parcels to create the same size development area).

Aquatic Resource Impacts: The amount of aquatic resources on the site were evaluated for each alternative.

Federally Listed Threatened or Endangered Species: A preliminary assessment of each practicable alternative was conducted to determine the potential occurrence of animal and plants species (or their preferred habitats) currently listed as threatened or endangered by state and federal regulations [Federal Endangered Species Act of 1973 (16 USC 1531-1543)]. The U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) database at http://ecos.fws.gov/ipac/ database was reviewed to determine plant and animal species as endangered or threatened for each alternative.

Cultural Resources: A preliminary assessment of cultural resources was conducted for each site by reviewing available State Historic Preservation Office information at http://www.nr.nps.gov/. Potential impacts to sites listed or eligible for listing on the National Register of Historic Places was noted for each alternative.

5.2 Description of alternatives

5.2.1 No action alternative

The applicant contends that due to the location of aquatic resources across the State and the size and scale of the EVOEM assembly facility (~28MM sq ft. of building footprint with attendant facilities and infrastructure), it was determined that complete avoidance of aquatic resource impacts was not feasible. According to the applicant, unlike more routine and smaller scale development activities, highly specialized industrial developments of this scale do not allow much flexibility in facility design or layout. At this scale and complexity, assembly facility layout and design are inextricable from productive capacity and are further impacted by numerous design constraints (e.g., the need for efficient and safe production and product progression; materials proximity in required quantities for use in manufacture and assembly; the need to provide for efficient and safe employee ingress/egress, on-site mobility, safety, and comfort; and the need to maintain security). The presence of wetlands and/or streams is not unique

to the project site and impacts to these resources would be required regardless of site location within the state. Because the “no-action” alternative and complete avoidance of impacts prohibits construction of an EVOEM assembly facility, this alternative was determined to be not practicable.

5.2.2 Off-site alternatives

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

Geographic Location: This alternative is not located within 60 minutes of an international airport. The closest international airport is Hartsfield-Jackson International Airport over 90 miles to the north of the site. However, the applicant contends that this alternative can meet the labor force requirements for this specific project.

Size: This alternative totals 1,693 acres of contiguous land which does not meet the minimum tract size requirement.

Utilities: This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).

Access to Interstate and Rail. This alternative is not located adjacent to a major interstate. Interstate 16 is over 30 miles west of the site. However, Class I rail service is adjacent to the site.

Availability: This alternative can be reasonably obtained. The site is currently controlled by the Development Authority of the City of Milledgeville and Baldwin County and has been identified as a regional mega-site by Georgia Department of Economic Development (GDEcD).

Wetland/Stream: The NWI, NHD and USGS maps depict 93.1 acres of wetland and 34,522 linear feet of stream. Portions of the property are located within the 100-year flood zone.

Threatened and Endangered Species: The IPaC indicates the following threatened and endangered species may be within the vicinity of this site: American chaffseed (*Schwalbea americana*). There is no designated critical habitat for this species. According to USFWS, suitable habitat for this species consists of frequently burned Longleaf Pine sandhills, savannas, and flatwoods as well as moist, grassy ecotones around natural depression ponds in these habitats. Based on Google Earth aerial imagery, these habitats may exist on this site. Therefore, per the Effects Determination Guidance for Endangered and Threatened Species (EDGES), the Corps anticipates that at a minimum, this alternative may affect, but is not likely to adversely affect the American chaffseed.

Cultural Resources: Review of Georgia's Natural Archaeological and Historic Resources GIS (GNAHRGIS) indicates historic resources are present on the property and within the general vicinity on adjacent properties. As proposed, this alternative would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia Department of Community Affairs, Historic Preservation Division, State Historic Preservation Office (Georgia SHPO), this type of activity would constitute no adverse effect. Therefore, this alternative, at a minimum would result in no adverse effects to cultural resources.

5.2.2.2 Off-site alternative 2: This alternative totals approximately 1,758 acres located 5.5 miles west of Interstate 75, adjacent to and north of Highway 96, and east of Highway 49 in Peach County. Based on review of aerial photography, habitats are typical for agricultural property within Peach County. The site contains agricultural field, orchards, managed pine plantation, forested slope wetland, streams and an open water pond. Aerial imagery documents timber harvesting has occurred on the property within the past 6 years. The following provides a summary of each criterion reviewed for this off-site alternative:

Geographic Location: This alternative is not located within 60 minutes of an international airport. The closest international airport is Hartsfield-Jackson International Airport over 90 miles to the north of the site. In addition, the applicant contends that this alternative cannot meet the labor force requirements for this specific project. Based on the census report analysis the total workers within 60 miles of the site is 385,866 and of those, only 360,375 have commuting ability. The remaining 25,491 do not commute or are required to use public transportation. Thus, the minimum 400,000 labor force required for the project was not met.

Size: This alternative totals 1,758 acres of contiguous land which does not meet the minimum tract size requirement.

Utilities: This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).

Access to Interstate and Rail. The site is located adjacent to a Class I railroad. However, the applicant contends that this alternative is not located adjacent to a major interstate. Based on Google Earth imagery, the site is located 0.36 miles north of Highway 96 which has a direct connection to I 75 approximately 5.5 miles to the east. Based on this connection, the Corps has determined that the site does have access to the interstate and therefore meets this criterion.

Availability: This alternative can be reasonably obtained. The site is currently controlled by the Development Authority of Peach County and has been identified as a regional mega-site by GDEcD. However, this alternative contains a conservation easement on the western 200 acres of the site which the applicant contends prohibits the construction

of an EVOEM assembly facility. However, the applicant did not address whether the easement could be lifted. Because the applicant did not address this issue, the Corps assumes that the easement could be extinguished and therefore, this criterion could be met.

Wetland/Stream: The NWI, NHD and USGS maps depict 11.6 acres of wetland and 6,532 linear feet of stream. Portions of the property are located within the 100-year flood zone.

Threatened and Endangered Species: The IPaC indicates the following threatened and endangered species may be within the vicinity of this site: relict trillium (*Trillium reliquum*). There is no designated critical habitat for this species. According to USFWS, suitable habitat for this species consists of mature hardwood forests in rich ravines and on stream terraces over calcium-rich bedrock such as amphibolite or limestone. Based on Google Earth aerial imagery, these habitats may exist on this site. Therefore, per the EDGES, the Corps anticipates that at a minimum, this alternative may affect, but is not likely to adversely affect relict trillium.

Cultural Resources: Review of GNAHRGIS indicates historic resources are present on the property and within the general vicinity on adjacent properties. As proposed, this alternative would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia SHPO, this type of activity would constitute no adverse effect. Therefore, this alternative, at a minimum would result in no adverse effects to cultural resources.

5.2.2.3 Off-site alternative 3: This alternative totals 2,360 acres located adjacent to and west of Interstate 75 and east of Highway 41 within Bartow County. Based on review of aerial photography, habitats are typical for undeveloped property within Bartow County. The site contains clear-cut upland, managed pine plantation, forested slope wetland, streams and an open water pond. Aerial imagery documents timber harvesting has occurred within several areas of the property within the past within the past 24 months. The following provides a summary of each criterion reviewed for this off-site alternative:

Geographic Location: This alternative is located within 60 minutes of an international airport. The closest international airport is Hartsfield-Jackson International Airport 45 miles to the southeast of the site. While the airport may be within 60 miles of from the site, the route from Alternative 3 to the Atlanta airport passes through downtown Atlanta or around the Atlanta bypass. Travel times in this metro area are highly variable and are an additional constraint on the feasibility of this alternative. In addition, the applicant contends that this alternative can meet the labor force requirements for this specific project.

Size: This alternative totals 2,360 acres of contiguous land which does meet the minimum tract size requirement.

Utilities: This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).

Access to Interstate and Rail: This alternative is located adjacent to Interstate 75. Rail service is not located adjacent to the site and according to the applicant extension of rail access would require significant property acquisition and construction challenges. First, providing rail to the site would require construction of 2.3 to 3.5 miles of new rail line (depending on route). Second, the new rail line would cross three public roads including White Road, Old Highway 41 and Joe Frank Harris Parkway. Due to traffic safety concerns and frequency of rail use, these crossings would require construction of an overpass for each crossing. Lastly, the new rail corridor would impact anywhere from 12 to 50 or more private properties. These properties currently contain single family residential developments, agricultural parcels, educational facilities and commercial parcels. For this reason, this alternative is not logistically feasible.

Availability: This alternative can be reasonably obtained. The site is currently controlled by the Development Authority of Bartow County and has been identified as a regional mega-site by GDEcD.

Wetland/Stream: The NWI, NHD and USGS maps depict 82.6 acres of wetland and 19,566 linear feet of stream. Portions of the property are located within the 100-year flood zone.

Threatened and Endangered Species: The IPaC indicates the following threatened and endangered may be within the vicinity of this site: Gray bat (*Myotis grisescens*); Northern long-eared bat (*Myotis septentrionalis*); Alabama moccasinshell (*Medionidus acutissimus*); Finelined pocketbook (*Lampsilis altilis*); Southern clubshell (*Pleurobema decisum*); Southern pigtoe (*Pleurobema georgianum*); Triangular kidneyshell (*Ptychobranchus greenii*); Interrupted rocksnail (*Leptoxis foreman*); Large-flowered skullcap (*Scutellaria montana*); Tennessee Yellow-eyed grass (*Xyris tennesseensis*); and White fringeless orchid (*Platanthera integrilabia*). There are no designated critical habitats for these species.

Regarding the Northern long-eared bat, as proposed, this alternative would require an individual permit under Section 404 of the Clean Water Act and based on Google Earth imagery would result in the cutting, harvest, and/or clearing of trees >3” diameter at breast height that may provide roost habitat for bats. Therefore, per the EDGES, the Corps anticipates that at a minimum, this alternative may affect, but is not likely to adversely affect the Northern long-eared bat.

Regarding the Gray bat, as proposed, this alternative would require an individual permit under Section 404 of the Clean Water Act and based on Google Earth imagery the site may contain features that potentially provide undocumented hibernacula and/or roosting habitat for gray bats (i.e., bridges, culverts, undocumented caves, karst geology). Therefore, per the EDGES, the Corps anticipates that at a minimum, this alternative may affect, but is not likely to adversely affect the Gray bat.

Regarding the Alabama moccasinshell; Finelined pocketbook; Southern clubshell; Southern pigtoe; Triangular kidneyshell; and Interrupted rocksnail, as proposed, this alternative would require an individual permit under Section 404 of the Clean Water Act and contains potentially suitable habitat for the above species. Therefore, per the EDGES, the Corps anticipates that at a minimum, this alternative may affect, but is not likely to adversely affect the above aquatic species.

Regarding the Large-flowered skullcap, suitable habitat for the species consists of moist hardwood and hardwood-pine forests with an open understory. Based on Google Earth aerial imagery, these habitats may exist on this site. Therefore, per the EDGES, the Corps anticipates that at a minimum, this alternative may affect, but is not likely to adversely affect the Large-flowered skullcap.

Regarding the Tennessee yellow-eyed grass, suitable habitat for the species consists of sunny, wet habitats over calcareous bedrock such as spring runs, edges of shallow streams and ponds, seeps, and wet meadows in northwest Georgia. Based on Google Earth aerial imagery, these habitats may exist on this site. Therefore, the Corps anticipates that at a minimum, this alternative may affect, but is not likely to adversely affect this species.

Regarding the White fringeless orchid, suitable habitat for the species consists of seepage sphagnum bogs, springheads, seepy stream banks, Red Maple-Black Gum swamps and often grows with Primrose-leaved Violet, Green Woodland Orchid, Cowbane, and Grass-of-Parnassus. Based on Google Earth aerial imagery, these habitats may exist on this site. Therefore, the Corps anticipates that at a minimum, this alternative may affect, but is not likely to adversely affect this species.

Historic Properties: Review of GNAHRGIS indicates historic resources are present on the property and within the general vicinity on adjacent properties. As proposed, this alternative would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia SHPO, this type of activity would constitute no adverse effect. Therefore, this alternative, at a minimum would result in no adverse effects to cultural resources.

5.2.2.4 Off-site alternative 4: This alternative totals 2,350 acres located adjacent to and east of U.S. Highway 19/41 within Clayton & Henry Counties. Based on review of aerial photography, habitats are typical for undeveloped property within Clayton & Henry Counties. The site contains clear-cut upland, managed pine plantation, forested slope wetland, streams and an open water pond. Aerial imagery documents timber harvesting has occurred within several areas of the property within the past two to three years. The following provides a summary of each criterion reviewed for this off-site alternative:

Geographic Location: This alternative is located within 60 minutes of an international airport. The closest international airport is Hartsfield-Jackson International Airport which is 12 miles to the north of the site. However, the applicant did not address whether there is a labor force within 60 minutes of this site. Based on Google Earth imagery, a

60 mile radius from this alternative encompasses the entire Atlanta metro area, northern Macon and the outskirts of Athens. Because the applicant did not address this issue, the Corps assumes that the population within the above areas could provide a labor force and therefore, this criterion could be met.

Size: This alternative totals 2,350 acres of contiguous land which does meet the minimum tract size requirement.

Utilities: This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).

Access to Interstate and Rail. The site is located adjacent to a Class I railroad. However, the applicant contends that this alternative is not located adjacent to a major interstate as the site is approximately 5 miles west of Interstate 75. Based on Google Earth imagery, the site is located immediately adjacent to U.S. Highway 19/41 which has a direct connection to I 75 approximately 8 miles to the north. The site also has a connection to I-75 via Jonesboro Road, which ties into I-75 five miles east of the site. The two directions could provide Access to I-75 north via U.S. Hwy 19/41 and access to I-75 south via Jonesboro Road. In addition, it should not be forgotten that this site has access to two U.S. Highways, which provide additional connectivity. Based on these connections, the Corps has determined that the site does have access to the interstate and therefore meets this criterion.

Availability: This alternative can be reasonably obtained. The site is currently controlled by the Clayton County Water Authority.

Wetland/Stream: The NWI, NHD and USGS maps depict 97.6 acres of wetland and 57,569 linear feet of stream. Portions of the property are located within the 100-year flood zone.

Threatened and Endangered Species: The IPaC indicates this site does not contain any threatened or endangered species or habitat required to support any listed species.

Historic Properties: Review of GNAHRGIS indicates historic resources are present on the property and within the general vicinity on adjacent properties. As proposed, this alternative would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia SHPO, this type of activity would constitute no adverse effect. Therefore, this alternative, at a minimum would result in no adverse effects to cultural resources.

5.2.2.5 Off-site alternative 5: This alternative totals 3,826.26 acres located adjacent to and west of Highway 67 and south of Interstate 16 within Bulloch County. Based on review of aerial photography, habitats are typical for undeveloped property within Bulloch County. The site contains clear-cut upland, managed pine plantation, forested

slope wetland, and streams. Aerial imagery documents timber harvesting has occurred within several areas of the property within the past two to three years. The following provides a summary of each criterion reviewed for this off-site alternative:

Geographic Location: This alternative is located approximately 30 miles west of Savannah/Hilton Head International Airport. However, the applicant did not address whether there is a labor force within 60 minutes of this site. Based on Google Earth imagery, a 60 mile radius from this alternative encompasses the cities of Savannah, Richmond Hill, Pooler, and Hinesville. Because the applicant did not address this issue, the Corps assumes that the population within the above areas could provide a labor force and therefore, this criterion could be met.

Size: This alternative totals 3,862 acres of contiguous land which does meet the minimum tract size requirement.

Utilities: This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).

Access to Interstate and Rail. This alternative is not located adjacent to a major interstate; however, the site is provided direct access to Interstate 16 located 4 miles north. Rail service is not located adjacent to the site and according to the applicant, the extension of rail access would require significant property acquisition and construction challenges. First, providing rail to the site would require construction of 1.7 to 2.8 miles of new rail line (depending on route). Second, the new rail line would cross three public roads including Highway 280, Beautiful Zion Church Cemetery Road and Bulloch Bay Road. Due to traffic safety concerns and frequency of rail use, construction of an overpass on Highway 280 would be required. Lastly, the new rail corridor would impact anywhere from 4 to 15 or more private properties.

Availability: The property is privately owned, and it is assumed that this alternative can be reasonably obtained. However, the site contains a perpetual Natural Resources Conservation Service Easement that currently prohibits any development activities within the property. Specifically, the site contains a perpetual U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Agricultural Conservation Easement Program Wetland Reserve Easement which prohibits any development activities within the property.

Wetland/Stream: The NWI, NHD and USGS maps depict 1,272 acres of wetland and 41,802 linear feet of stream. Portions of the property are located within the 100-year flood zone.

Threatened and Endangered Species: The IPaC indicates the following threatened and endangered may be within the vicinity of this site: Eastern indigo snake (*Drymarchon corais couperi*). According to the NRCS web soil survey, this alternative contains suitable soils (i.e., Albany, Lakeland and Stilson soils). Therefore, per the EDGES, at a minimum this alternative may affect but is not likely to adversely affect the Eastern indigo snake.

Historic Properties: Review of GNAHRGIS indicates historic resources are present on the property and within the general vicinity on adjacent properties. As proposed, this alternative would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia SHPO, this type of activity would constitute no adverse effect. Therefore, this alternative, at a minimum would result in no adverse effects to cultural resources.

5.2.2.6 Off-site alternative 6: This alternative totals 631 acres located adjacent to and east Old River Road and north of John Carter Road within Chatham County. Based on review of aerial photography, habitats are typical for undeveloped property within Chatham County. The site contains cleared and graded upland developed as pad ready sites, forested slope wetland, and storm water ponds. Aerial imagery documents that development activities have occurred within the site over the past 5 years. The following provides a summary of each criterion reviewed for this off-site alternative:

Geographic Location: This alternative is located within 30 minutes of Savannah/Hilton Head International Airport. However, the applicant did not address whether there is a labor force within 60 minutes of this site. Based on Google Earth imagery, a 60 mile radius from this alternative encompasses the cities of Savannah, Richmond Hill, Pooler, and Hinesville. Because the applicant did not address this issue, the Corps assumes that the population within the above areas could provide a labor force and therefore, this criterion could be met.

Size: This alternative totals 631 acres of contiguous land which does meet the minimum tract size requirement.

Utilities: This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).

Access to Interstate and Rail. This alternative is located adjacent to a major interstate and the primary access is located 2 miles from the interstate from Old River Road. However, the site does not afford rail access. Based on Google Earth imagery, the nearest rail is approximately 1.82 miles to the northeast. In order to extend rail access to this site, the rail would have to cross numerous private properties as well as Interstate 16. In addition, the rail would have to cross the Little Ogeechee River and Hardin Swamp, resulting in additional impacts to aquatic resources.

Availability: This alternative can be reasonably obtained. The site is currently controlled by the Savannah Economic Development Authority.

Wetland/Stream: The NWI, NHD and USGS maps depict 192.3 acres of wetland and 17,286 linear feet of stream. Portions of the property are located within the 100-year flood zone.

Threatened and Endangered Species: Based on the IPaC database, the following species have the potential to be located within or near this site: West Indian manatee (*Trichechus manatus*); Red cockaded woodpecker (*Picoides borealis*); wood stork (*Mycteria americana*); Eastern indigo snake (*Drymarchon corais couperi*); Frosted flatwoods salamander (*Ambystoma cingulatum*) and pondberry (*Lindera melissifolia*).

This alternative would not occur in tidal waters accessible to manatees. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect to the West Indian manatee.

Aerial photographs indicate this alternative does contain a pine forest > 100 acres in size and does contain mature pine forest, however the mature pine forest does not have an open understory. Therefore, per the EDGES, the Corps has determined that this alternative at a minimum, may affect, but is not likely to adversely affect the red cockaded woodpecker.

Regarding the Eastern indigo snake, according to the NRCS web soil survey, no suitable soils for gopher tortoise burrows are located on-site. Therefore, per the EDGES, at a minimum, this alternative may affect but is not likely to adversely affect the Eastern indigo snake.

Based on coordination with the USWFS, this alternative is not located within 2,500 feet from an active wood stork nesting colony. However, this alternative would result in more than 0.50 acre of impact to suitable foraging habitat. Therefore, at a minimum this alternative may affect, but is not likely to adversely affect the wood stork.

This alternative would not impact long-leaf pine-wiregrass flatwoods or slash pine flatwoods habitats. Although these pine species exist on-site, they are managed for timber production and therefore would not support the Frosted flatwoods salamander. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect on the Frosted flatwoods salamander.

Historic Properties: Review of GNAHRGIS indicates historic resources are present on the property and within the general vicinity on adjacent properties. As proposed, this alternative would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia SHPO, this type of activity would constitute no adverse effect. Therefore, this alternative, at a minimum would result in no adverse effects to cultural resources.

5.2.2.7 Off-site alternative 7: This alternative totals 1,490 acres located adjacent to and east of Old River Road and north of Interstate 16 within Effingham County. Based on review of aerial photography, habitats are typical for undeveloped property within Effingham County. The site contains clear-cut upland, managed pine plantation, forested slope wetland, and streams. Aerial imagery documents timber harvesting has

occurred within several areas of the property within the past within the past two to three years. The following provides a summary of each criterion reviewed for this off-site alternative:

Geographic Location: This alternative is located within 30 minutes of Savannah/Hilton Head International Airport. However, the applicant did not address whether there is a labor force within 60 minutes of this site. Based on Google Earth imagery, a 60 mile radius from this alternative encompasses the cities of Savannah, Richmond Hill, Pooler, and Hinesville. Because the applicant did not address this issue, the Corps assumes that the population within the above areas could provide a labor force and therefore, this criterion could be met.

Size: This alternative totals 1,490 acres of contiguous land which does not meet the minimum tract size requirement.

Utilities: This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).

Access to Interstate and Rail. This alternative is located adjacent to a major interstate and access is provided to Interstate 16 from Old River Road. This site does afford rail access.

Availability: This alternative can be reasonably obtained. The site is currently controlled by the Effingham County Development Authority.

Wetland/Stream: The NWI, NHD and USGS maps depict 742.9 acres of wetland and 7,618 linear feet of stream. Portions of the property are located within the 100-year flood zone.

Threatened and Endangered Species: Based on the IPaC database, the following species have the potential to be located within or near this site: Eastern indigo snake (*Drymarchon corais couperi*); Frosted flatwoods salamander (*Ambystoma cingulatum*) and pondberry (*Lindera melissifolia*).

Regarding the Eastern indigo snake, according to the NRCS web soil survey, this alternative contains suitable soils (i.e., Foxworth, Albany, Meldrim and Stilson soils). Therefore, per the EDGES, at a minimum this alternative may affect but is not likely to adversely affect the Eastern indigo snake. Therefore, per the EDGES, at a minimum, this alternative may affect but is not likely to adversely affect the Eastern indigo snake.

Based on coordination with the USWFS, this alternative is not located within 2,500 feet from an active wood stork nesting colony. However, this alternative would result in more than 0.50 acre of impact to suitable foraging habitat. Therefore, at a minimum this alternative may affect, but is not likely to adversely affect the wood stork.

This alternative would not impact long-leaf pine-wiregrass flatwoods or slash pine flatwoods habitats. Although these pine species exist on-site, they are managed for timber production and therefore would not support the Frosted flatwoods salamander. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect on the Frosted flatwoods salamander.

Historic Properties: Review of GNAHRGIS indicates historic resources are present on the property and within the general vicinity on adjacent properties. As proposed, this alternative would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia SHPO, this type of activity would constitute a no adverse effect. Therefore, this alternative, at a minimum would result in no adverse effects to cultural resources.

5.2.3 On-site alternatives

5.2.3.1 On-Site Alternative 1 (Applicant's Preferred Alternative): The preferred alternative totals approximately 2,541.25 acres generally located adjacent to and east of Highway 280 and adjacent to and south of Interstate 16 within Bryan County, Georgia. Based on review of aerial photography, habitats are typical for undeveloped property within Bryan County. A description of habitats is provided above. The NWI, National Hydrography Dataset (NHD) and USGS maps depict 581.3 acres of wetland and 21,672 linear feet of stream.

Geographic Location: This alternative is located within 60 minutes of Savannah/Hilton Head International Airport and can meet the labor force requirements for this specific project.

Size: This alternative totals 2,541.25 acres of contiguous land which does meet the minimum tract size requirement.

Utilities: This alternative currently contains utility services or access to utility services can be extended to the site (water, sewer, electrical, gas, phone, cable, etc.).

Access to Interstate and Rail: This alternative is located adjacent to Interstate 16 with direct interstate access from Highway 280 and Class I railroad access can be reasonably brought to the site. Based on Google earth imagery, the nearest railroad is approximately 1 mile to the east. Based on Bryan County property records, only one parcel would need to be acquired to access this rail.

Availability: This alternative can be reasonably obtained. The site is currently controlled by the JDA and has been identified as a regional mega-site by GDEcD.

Wetland/Stream: The NWI, NHD and USGS maps depict 581.3 acres of wetland and 21,672 linear feet of stream. Portions of the property are located within the 100-year flood zone.

Threatened and Endangered Species: Based on the IPaC database, the following species have the potential to be located within or near this site: Eastern black rail; wood stork; Eastern indigo snake and the Frosted flatwoods salamander.

Regarding the Eastern black rail, the project site is located within inland Bryan County and is approximately 48 miles northwest from the confluence of the Ogeechee River (nearest traditionally navigable water) and the Atlantic Ocean. In addition, based on Google Earth imagery, the site consists of forested freshwater wetlands, forested upland and cleared land. Per the EDGES, inland habitat for the Eastern black rail in non-tidal wetlands consists of Palustrine Persistent Emergent Wetlands; however, shrub-scrub and forested areas are not considered black rail habitat. Therefore, per the EDGES, the Corps anticipates that this alternative would have no effect on this species.

Regarding the Eastern indigo snake, according to the NRCS web soil survey, there are best soils (i.e., Lakeland), moderate soils (i.e., Fuquay and Stilson); and marginal soils (i.e., Albany) for gopher tortoise burrows within this site. Therefore, per the EDGES, at a minimum, this alternative may affect but is not likely to adversely affect the Eastern indigo snake.

Based on previous coordination with the USWFS, this alternative is not located within 2,500 feet from an active wood stork nesting colony. However, this alternative would result in more than 0.50 acre of impact to suitable foraging habitat. Therefore, at a minimum this alternative may affect, but is not likely to adversely affect the wood stork.

This alternative would not impact long-leaf pine-wiregrass flatwoods or slash pine flatwoods habitats. Although these pine species exist on-site, they are managed for timber production and therefore would not support the Frosted flatwoods salamander. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect on the Frosted flatwoods salamander.

Historic Properties: Review of GNAHRGIS indicates historic resources are present on the property and within the general vicinity on adjacent properties. As proposed, this alternative would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia SHPO, this type of activity would constitute no adverse effect. Therefore, this alternative, at a minimum would result in no adverse effects to cultural resources.

Preferred On-Site Configuration: The preferred on-site configuration includes vehicle access from Highway 280 on the western portion of the tract south of the Interstate 16/Highway 280 interchange. The rail component for this configuration extends into the site from the existing rail line on the eastern property boundary. The assembly facility layout generally includes production to the east/west, railyard to the northeast and vehicle storage to the south. Because the applicants Preferred On-Site Configuration contains all the required components of the project, this alternative met the site screening criteria and is therefore a practicable alternative.

5.2.3.2 On-Site Alternative 1: The on-site configuration includes vehicle access from Highway 280 on the western portion of the tract south of the Interstate 16/Highway 280 interchange. The rail component for this configuration extends into the site from the existing rail line on the eastern property boundary north and extends in an east/west direction adjacent to Interstate 16. The assembly facility layout generally includes production to the east/west and vehicle storage to the south. Because On-Site Configuration 1 contains all the required components of the project, this alternative met the site screening criteria and is therefore a practicable alternative. In addition, this alternative would result in the same impacts to threatened and endangered species as well as cultural resources as the preferred alternative.

5.2.3.3 On-Site Alternative 2: This on-site configuration includes vehicle access from Highway 280 on the western portion of the tract south of the Interstate 16/Highway 280 interchange. The rail component for this configuration extends into the site from the existing rail line on the eastern property boundary and is located in the center of the project area. The assembly facility layout generally includes production to the east/west. This configuration is similar to the preferred alternative but shifts the southern portion of the assembly facility further west. On-Site Configuration 2 contains all the required components of the project, therefore this alternative met the site screening criteria and is a practicable alternative. In addition, this alternative would result in the same impacts to threatened and endangered species as well as cultural resources as the preferred alternative.

5.3 Alternatives evaluation under the Section 404(b)(1) Guidelines and NEPA

Table 3. Evaluation of Practicable Alternatives

	Off-Site Alternatives							On-Site Alternatives		
	1	2	3	4	5	6	7	Preferred	1	2
Location	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Size	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Zoning	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Utilities	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Access	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes
Availability	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Overall Project Purpose	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Practicable	No	No	No	Yes	No	No	No	Yes	Yes	Yes

5.4 Least environmentally damaging practicable alternative under the Section 404(b)(1) Guidelines

Environmental Factors:

Stream Impacts (quantitative): The estimated linear footage of potential stream impact was evaluated for each practicable alternative.

Stream Impacts (qualitative): The functional value of potential stream impact areas was evaluated for each practicable alternative. A low, medium, or high value was assigned using the Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Coastal Plain Qualitative Stream Assessment Worksheet.

Wetland Impacts (quantitative): The estimated acreage of potential wetland impact was evaluated for each practicable alternative.

Wetland Function (qualitative): The functional value of potential wetland impact areas was evaluated for each practicable alternative. Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Non-Riverine Wetland Qualitative Stream Assessment Worksheet.

Impacts to Other Waters (quantitative): The acreage of open water impact for each site was considered during review of each practicable alternative.

Other Waters Functions (qualitative): The functional value of any open water impact area was evaluated for each practicable alternative. A low, medium, or high value was assigned based on habitat type and condition. Examples of high value would be lakes, impoundments, and/or features occurring naturally. Examples of low value would be man-made features which have not naturalized and provide little to no biological support (i.e., borrow pit).

Federally Listed Threatened or Endangered Species: A preliminary assessment of each practicable alternative was conducted to determine the potential occurrence of animal and plant species (or their preferred habitats) currently listed as threatened or endangered by state and federal regulations [Federal Endangered Species Act of 1973 (16 USC 1531-1543)]. The U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) database at http://ecos.fws.gov/ipac/ database was reviewed to determine potential occurrence of endangered or threatened plant and animal species for each alternative.

Cultural Resources: A preliminary assessment of cultural resources was conducted for each site by reviewing available State Historic Preservation Office information at http://www.nr.nps.gov/. Potential impacts to sites listed or eligible for listing on the National Register of Historic Places was noted for each alternative.

5.4.1 Off-Site Alternative 4: A summary of environmental impacts associated with Off-Site Alternative 4 is provided below.

Stream Impacts (quantitative): Based the NWI, the proposed project would require 32,723 linear feet of intermittent and perennial stream impact.

Stream Impacts (qualitative): An evaluation of each tributary (perennial, intermittent and ephemeral streams) and each specific impact was completed using the Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Coastal Plain Qualitative Stream Assessment Worksheet. Based on this assessment and by assessing the five functions (hydrology, hydraulics, geomorphology, chemistry and biology), the stream qualitative functional capacity score was determined to be moderate.

Wetland Impacts (quantitative): Based on the NWI and location of aquatic resources and assembly facility design, this alternative would require 93 acres of wetland impact.

Wetland Function (qualitative): An evaluation of each wetland and each specific impact was completed using the Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Non-Riverine Wetland Qualitative Stream Assessment Worksheet. Based on this assessment and by assessing the four functions (water storage, biogeochemical cycling, wetland community characteristic, and faunal habitat), the qualitative functional capacity score for all wetlands was determined to be moderate.

Impacts to Other Waters (quantitative): This alternative requires 6.51 acres of impact to a jurisdictional man-made open water pond and 1.58 acres of impact to man-made drainage ditch.

Other Waters Functions (qualitative): The open water pond within the property consists of deep open water aquatic habitat with herbaceous vegetation along the water’s edge. The ditch consisted of a highly entrenched conveyance system that was constructed for stormwater management purposes. The functional value of both features is low.

Federally Listed Threatened or Endangered Species: The IPaC indicates this site does not contain any threatened or endangered species or habitat required to support any listed species.

Cultural Resources: Review of GNAHRGIS indicates historic resources are present on the property and within the general vicinity on adjacent properties. As proposed, this alternative would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia SHPO, this type of activity would constitute no adverse effect. Therefore, this alternative, at a minimum would result in no adverse effects to cultural resources.

5.4.1. Proposed Action/Preferred Alternative/On-site Configuration: A summary of environmental impacts associated with Proposed Action/Preferred Alternative/On-site Configuration is provided below.

Stream Impacts (quantitative): Based on the location of aquatic resources and assembly facility design this on-site configuration requires 763 linear feet of intermittent stream impact.

Stream Impacts (qualitative): An evaluation of each tributary (perennial, intermittent and ephemeral streams) and each specific impact was completed using the Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Coastal Plain Qualitative Stream Assessment Worksheet. Based on this assessment and by assessing the five functions (hydrology, hydraulics, geomorphology, chemistry and biology), the stream qualitative functional capacity score was determined to be moderate.

Wetland Impacts (quantitative): Based on the NWI, the project would impact 246 acres of aquatic resources. Based on the approved aquatic resources delineation, this on-site configuration requires 222.34 acres of wetland impact.

Wetland Function (qualitative): An evaluation of each wetland and each specific impact was completed using the Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Non-Riverine Wetland Qualitative Stream Assessment Worksheet. Based on this assessment and by assessing the four functions (water storage, biogeochemical cycling, wetland community characteristic, and faunal habitat), the qualitative functional capacity score for all wetlands was determined to be moderate.

Impacts to Other Waters (quantitative): This alternative requires impacts to 1.58 acres of man-made drainage ditch.

Other Waters Functions (qualitative: The ditches consisted of a highly entrenched conveyance system that was constructed for stormwater management purposes. The functional value of this feature is low.

Federally Listed Threatened or Endangered Species: Based on the IPaC database, the following species have the potential to be located within or near this site: Eastern black rail; wood stork; Eastern indigo snake and the Frosted flatwoods salamander.

Regarding the Eastern black rail, the project site is located within inland Bryan County and is approximately 48 miles northwest from the confluence of the Ogeechee River (nearest traditionally navigable water) and the Atlantic Ocean. In addition, based on Google Earth imagery, the site consists of forested freshwater wetlands, forested upland and cleared land. Per the EDGES, inland habitat for the Eastern black rail in non-tidal wetlands consists of Palustrine Persistent Emergent Wetlands; however, shrub-scrub and forested areas are not considered black rail habitat. Therefore, per the EDGES, the Corps anticipates that this alternative would have no effect on this species.

Regarding the Eastern indigo snake, according to the NRCS web soil survey, there are best soils (i.e., Lakeland), moderate soils (i.e., Fuquay and Stilson); and marginal soils (i.e., Albany) for gopher tortoise burrows within this site. Therefore, per the EDGES, at a minimum, this alternative may affect but is not likely to adversely affect the Eastern indigo snake.

Based on previous coordination with the USWFS, this alternative is not located within 2,500 feet from an active wood stork nesting colony. However, this alternative would result in more than 0.50 acre of impact to suitable foraging habitat. Therefore, at a minimum this alternative may affect, but is not likely to adversely affect the wood stork.

This alternative would not impact long-leaf pine-wiregrass flatwoods or slash pine flatwoods habitats. Although these pine species exist on-site, they are managed for timber production and therefore would not support the Frosted flatwoods salamander. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect on the Frosted flatwoods salamander.

Cultural Resources: Review of GNAHRGIS indicates historic resources are present on the property and within the general vicinity on adjacent properties. As proposed, this alternative would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia SHPO, this type of activity would constitute no adverse effect. Therefore, this alternative, at a minimum would result in no adverse effects to cultural resources.

5.4.3 On-Site Configuration 2: A summary of environmental impacts associated with On-Site Configuration 2 is provided below.

Stream Impacts (quantitative): Based on the location of aquatic resources and assembly facility design this on-site configuration requires 763 linear feet of intermittent stream impact.

Stream Impacts (qualitative): An evaluation of each tributary (perennial, intermittent and ephemeral streams) and each specific impact was completed using the Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Coastal Plain Qualitative Stream Assessment Worksheet. Based on this assessment and by assessing the five functions (hydrology, hydraulics, geomorphology, chemistry and biology), the stream qualitative functional capacity score was determined to be moderate.

Wetland Impacts (quantitative): Based on the location of aquatic resources and assembly facility design, this on-site configuration requires 418.64 acres of wetland impact.

Wetland Function (qualitative): An evaluation of each wetland and each specific impact was completed using the Savannah District's Standard Operating Procedure (SOP) For Compensatory Mitigation (Version 2.0) Non-Riverine Wetland Qualitative Stream

Assessment Worksheet. Based on this assessment and by assessing the four functions (water storage, biogeochemical cycling, wetland community characteristic, and faunal habitat), the qualitative functional capacity score for all wetlands was determined to be moderate.

Impacts to Other Waters (quantitative): This alternative requires 6.51 acres of impact to a jurisdictional man-made open water pond and 1.58 acres of impact to man-made drainage ditch.

Other Waters Functions (qualitative): The open water pond within the property consists of deep open water aquatic habitat with herbaceous vegetation along the water's edge. The ditch consisted of a highly entrenched conveyance system that was constructed for stormwater management purposes. The functional value of both features is low.

Federally Listed Threatened or Endangered Species: This alternative would result in the same impacts to threatened and endangered species as the preferred alternative.

Cultural Resources: All on-site alternatives include tying into the existing rail line. Therefore, all on-site alternatives would result in an adverse effect to cultural resources.

Table 4. Summary of Least Environmentally Damaging Practicable Alternative Assessment

FACTORS	Off-Site Alternative 4	Preferred Alternative	On-Site 1 Alternative	On-Site 2 Alternative
Stream Impacts (Linear Feet)	32,723	5,100	5,100	5,100
Functional Value of Impacted Stream	Moderate	Moderate	Moderate	Moderate
Wetland Impacts (Acres)	93	246	249.14	418.64
Functional Value of Impacted Wetland	Moderate	Moderate	Moderate	Moderate
Impacts to Other Waters (Acres)	0.0	1.58	6.51	6.51
Functional Value of Impacted Other Waters	Low	Low	Low	Low
Federal Endangered Species Impact	MANLAA	MANLAA	MANLAA	MANLAA
Cultural Resources Impact	MANLAA	MANLAA	MANLAA	MANLAA
LEDPA	**No**	Yes	**No**	**No**

In this situation, the preferred alternative includes 229 acres of wetland impact versus 93 acres of wetland impact for Offsite Alternative 4. However, Alternative 4 also includes 32,723 linear feet of stream impact versus 5,100 linear feet of stream impact

for the preferred alternative. It should be noted that the preferred alternative is located in the Ogeechee watershed, which is within coastal Georgia, whereas Off-site alternative 4 is located in the Ocmulgee watershed and is in the Piedmont region of Georgia. As this assessment of alternatives spans across different HUCs and eco-regions, the Corps analysis must also take into consideration the relative importance and quantity of aquatic resources in the respective watershed and eco-regional settings. Generally speaking, wetlands are more prevalent in the coastal watersheds, and conversely rarer within the piedmont watersheds. Therefore, the wetlands within the piedmont watersheds are more valuable to their perspective watershed, than the wetlands within the coastal watersheds.

The same logic applies to the value of streams within the watersheds. Generally speaking, streams are more prevalent in the piedmont watersheds, and conversely rarer within the coastal watersheds. Therefore, the streams within the coastal watersheds are more valuable to their perspective watershed, than the streams within the piedmont watersheds.

Although the proposed cumulative loss of wetlands for the Preferred Alternative in the Ogeechee watershed is higher than the cumulative loss of wetlands for Offsite Alternative 4 in the Ocmulgee watershed, a loss of wetland resources in the Ocmulgee watershed is more impactful than a loss in the Ogeechee watershed. Therefore, the Corps has determined that the preferred alternative is the LEDPA. For further evaluation, refer to the document entitled “Least Environmentally Damaging Practicable Alternative Watershed Analysis”.(Appendix A).

6.0 Evaluation for Compliance with the Section 404(b)(1) Guidelines

The following sequence of evaluation is consistent with 40 CFR 230.5

6.1 Practicable alternatives

Practicable alternatives to the proposed discharge consistent with 40 CFR 230.5(c) are evaluated in Section 5.

The statements below summarize the analysis of alternatives:

In summary, based on the analysis in Section 5 above, the no-action alternative, which would not involve discharge into waters of the United States, is not practicable.

For those projects that would discharge into a special aquatic site and are not water dependent, the applicant has demonstrated there are no practicable alternatives that do not involve special aquatic sites.

It has been determined that there are no alternatives to the proposed discharge that would be less environmentally damaging (Subpart B, 40 CFR 230.10(a)).
The proposed discharge in this evaluation is the practicable alternative with the least adverse impact on the aquatic ecosystem, and it does not have other significant environmental consequences.

6.2 Candidate disposal site delineation (Subpart B, 40 CFR 230.11(f))

Each disposal site shall be specified through the application of these Section 404(b)(1) Guidelines:

As proposed, the project would require impacts to 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch. The intermittent stream proposed for impact averages approximately three feet in width and twelve inches in depth. The streams lack vegetation and consists of sand and mud bed and banks of varying heights. The wetlands to be impacted are generally saturated to the surface with some wetlands experiencing surface water. The discharge of fill would convert these aquatic resources to upland and thus reduce (and where pervious surfaces are proposed, eliminate) the ability of these areas to undergo ground water recharge (i.e., the ability for water to infiltrate).

6.3 Potential impacts on physical and chemical characteristics of the aquatic ecosystem (Subpart C 40 CFR 230.20-40 CFR 230.25)

The following has been considered in evaluating the potential impacts on physical and chemical characteristics (see Table 5):

Table 5 – Potential Impacts on Physical and Chemical Characteristics

Physical and Chemical Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Substrate					X	
Suspended particulates/ turbidity				X		
Water					X	
Current patterns and water circulation			X			
Normal water fluctuations			X			
Salinity gradients		X				

Discussion:

Substrate: Construction of the proposed project would result in the discharge of fill material into 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch, resulting in the loss of organic soils and displacement of aquatic and benthic organisms. Utilization of best management practices, including erosion control devices would limit the effect on substrate to only the immediate area of aquatic impact. The loss of the on-site aquatic resources and substrate would be offset by the applicant's proposed compensatory mitigation plan. Therefore, the Corps has determined that the proposed project would have a minor long term effect on substrate.

Suspended particulates/turbidity: During project construction there would be a potential for stormwater induced runoff from exposed fills to cause an increase in suspended particulates and turbidity in adjacent aquatic resources that are not proposed for impact; and possibly in downstream waters located off the project site. Any increase in suspended particulates and turbidity in these resources would clear upon project completion and stabilization of exposed soils. The applicant would also be required to comply with both State and local issuing authority requirements for development and implementation of an Erosion and Sedimentation Control Plan, and a Stormwater Management Plan; thus, limiting turbidity increases in any wetlands and other downstream aquatic resources.

By letter of September 28, 2022, the Georgia EPD issued a conditioned Water Quality Certification (WQC) for this project pursuant to Section 401 of the Clean Water Act. With issuance of WQC, Georgia EPD has determined that the proposed project meets the applicable requirements of Section 401 of the Clean Water Act. In addition, any draft permit issued for the proposed project would include a special condition requiring compliance with the above State water quality certification as well as the following special conditions:

1. To assure compliance with State water quality standards, the applicant shall conduct all activities in a manner that will assure water quality adequate or necessary to protect and maintain designated uses. 33 U.S.C. § 1313(a)-(d); O.C.G.A. § 12-5-23(c)(2),(6),(9),(15); Ga. Comp. R. and Regs. 391-3-6-.03(2)(i), (ii).

a. To prevent or avoid degradation of water quality downstream, the applicant shall implement Best Management Practices (BMPs) that have been approved for in-water use to the extent practical and feasible, to minimize total suspended solids (TSS) and sedimentation for any work conducted within a state water or within the delineated boundaries of wetlands. 33 U.S.C. § 1313(a)-(d); O.C.G.A. § 12-5-23(c)(2), (6), (9), (15); O.C.G.A. § 12-5-29(a); O.C.G.A. §§ 12-7-6 to 7; Ga. Comp. R. and Regs. 391-3-6-.03(5).

b. In order to prevent or avoid violations of state water quality standards, the applicant must ensure that any fill placed in state waters must be clean fill that is free of solid waste, toxic, or hazardous contaminants. 33 U.S.C. §§ 1311; 1313(a)-(d); O.C.G.A. § 12-5-23(c)(2), (6), (9), (15); O.C.G.A. § 12-5-29(a); Ga. Comp. R. and Regs. 391-3-6- .03(5), (6), (11), (14)-(16).

2. To prevent sedimentation of state waters during construction, the applicant shall ensure that it obtains coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction for discharges comprised of storm water associated with construction activity and any required land disturbing activity permits intended to prevent soil erosion, sedimentation, and deposition into waters of the state. 33 U.S.C. § 1342(p); O.C.G.A. § 12-5-30; O.C.G.A. §§ 12-7-6 to 7; Ga. Comp. R. and Regs. 391-3-6-.06; Ga. Comp. R. and Regs. 391-3-6-.16

3. To prevent sedimentation of state waters post-construction, the applicant shall ensure that it obtains coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activity for discharges comprised of storm water associated with covered industrial activity, so that all discharges meet applicable water quality standards. 33 U.S.C. §§ 1311, 1313, 1342(b); 40 C.F.R. 122.26(b)(14); O.C.G.A. § 12-5-23, 30; Ga. Comp. R. and Regs. 391-3-6-.16.

4. The applicant shall ensure that it abides by the requirements of the stream buffer variance issued by Georgia EPD, BV-015-22-01, including provisions to ensure protection, restoration, or mitigation of or related to the stream buffer, which facilitates the protection of water quality. 33 U.S.C. §§ 1311; 1313(a)-(d); O.C.G.A. § 12-7-6; Ga. Comp. R. and Regs. 391-3-7-.05.

5. Modifications to this Project may require an amendment to these conditions. Accordingly, the applicant must notify the Georgia Environmental Protection Division of any modifications to the proposed activity including, but not limited to, modifications to the construction or operation of any facility, or any new, updated, or modified applications for federal permits or licenses for the Project. 33 U.S.C. §§ 1311-1313; O.C.G.A. § 12-5-23(c)(2),(6),(9),(15); Ga. Comp. R. and Regs. 391-3-6-.03.

The inclusion of the above special conditions would minimize the potential for sediment to migrate into adjacent and downstream aquatic resources we well as ensure that the post development stormwater discharge rates into downstream waters are equivalent to the current discharge rates (i.e., pre-development). Therefore, the Corps has determined that the project would have a short-term minor effect on this factor.

Water: By letter of September 28, 2022, the Georgia EPD issued a conditioned Water Quality Certification (WQC) for this project pursuant to Section 401 of the Clean Water Act. With issuance of WQC, Georgia EPD has determined that the proposed project meets the applicable requirements of Section 401 of the Clean Water Act. During project construction there would be a potential for a stormwater induced runoff from exposed fills to cause an increase in suspended particulates and turbidity in adjacent wetlands that are not impacted. Any increase in suspended particulates and turbidity in adjacent wetlands would clear upon project completion and stabilization of exposed soils. Any increase in the turbidity of stormwater runoff from the project site could result in an impact to downstream waters, but these impacts would be short term and clear upon project construction. In addition, the Corps would include the special conditions identified above in the suspended particulates/turbidity factor as well as the following special conditions:

a. All dredged or borrowed material used as fill in waters of the United States shall be from clean, uncontaminated sources and free from cultural resources. For the purposes of these special permit conditions, the term waters of the United States includes all jurisdictional streams, wetlands, open waters, ditches, swales and other conveyance located on the project site.

b. Construction debris, uncured concrete, demolition debris, or other waste materials shall not be discharged into streams, wetlands, or other open waters; or placed at sites near such areas, where migration into waters of the United States could be anticipated.

c. Equipment staging areas and equipment maintenance areas are prohibited within 200 feet of streambanks or within 50 feet of wetlands and other open waters to minimize the potential for wash water, petroleum products, or other contaminants from construction equipment entering waters of the United States. The inclusion of the above special conditions would minimize the potential for sediment and/or contaminants to migrate into adjacent and downstream aquatic resources we well as ensure that the post development stormwater discharge rates into downstream waters are equivalent to the current discharge rates (i.e., pre-development).

Therefore, given all the above, the Corps has determined that the project would have a long term minor effect on this factor.

Current patterns and water circulation: Construction of the proposed project would result in the discharge of fill material into 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch. As a result, there would be a minor disruption of on-site flow patterns of stormwater runoff post construction. However, the applicant would be required to comply with all applicable local and State requirements for development and implementation of a Stormwater Management Plan. This plan would ensure that the post development stormwater discharge rates into downstream waters and/or adjacent aquatic resources are equivalent to the current discharge rates (i.e., pre-development).

In addition, the applicant would install culverts under the proposed rail bed. The Corps would include the following culvert special conditions in any permit for this project:

a. The width of the base flow culvert shall be approximately equal to the average width of the stream channel immediately above and below the culvert installation site. Culverts shall not permanently widen or constrict the channel, or reduce or increase stream depth. Multi-pipe culverts may not be used to pass base flows. Culverts shall be sized to maintain the existing bank-full cross-sectional area, and to accommodate bank-full stream flows.
b. The upstream and downstream invert of culverts (except bottomless culverts) shall be buried/embedded to a depth of twenty percent of the culvert height to allow natural substrate to colonize the structures bottom and encourage fish movement.

c. Culvert slope shall be consistent with average slope of the stream in the immediate vicinity of the culvert installation site, but shall not exceed 4 percent.

d. Culverts shall be sized to adequately accommodate anticipated storm events. Where floodplain is adjacent to the stream, an equalizer culvert(s) shall be installed at floodplain elevation to accommodate flood events exceeding bankfull. Sufficient equalizer culverts shall be installed to accommodate normal floodplain sheet flow. Culverts shall be installed in a manner that does not cause flooding of adjacent uplands, with the exception of floodplains, or the disruption of hydrology in aquatic areas located up and downstream of the culvert.

e. Unless specifically stated in this permit, installation of undersized culverts to attain stormwater management or wastewater treatment is not authorized.

f. A waiver from the above culvert specifications may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with these specifications would result in more adverse impacts to the aquatic environment or that such design is not practicable.

Inclusion of the above special conditions as well as compliance with both State and local issuing authority requirements for development and implementation of a Stormwater Management Plan would minimize impacts to current patterns and water circulation. Therefore, the Corps has determined that there would be a negligible effect on current patterns and water circulation.

Normal water fluctuations: The wetlands located on the project site are saturated to the surface, with some that exhibit surface water. There is little potential for water levels to fluctuate in these on-site wetlands pre-construction. However, as stated above, there would be a minor disruption of on-site flow patterns of stormwater runoff post construction which could impact the normal water fluctuations within the aquatic resources on-site and subsequently those resources off-site. The applicant would be

required to comply with all applicable local and State requirements for development and implementation of a Stormwater Management Plan. This would ensure that the post development stormwater discharge rates into downstream waters are equivalent to the current discharge rates (i.e., pre-development). In addition, the installation of the culverts along with the inclusion of the above culvert special conditions would ensure that the current aquatic flows are maintained post construction.

The project would also result in the discharge of fill into 763 linear feet of intermittent stream and 1.58 acres of ditch The stream is a headwater stream that originates within the wetland (near the wetland/upland boundary) and terminates in Black Creek. The proposed fill would result in the normal water fluctuations within the stream and ditch being permanently altered (i.e., converted to upland). However, the applicant's proposed compensatory mitigation plan would help offset this loss.

When considering all the above, the Corps has determined that any effect on this factor would be negligible.

Salinity gradient: There are no tidal saltwater or brackish wetlands located on the project site. Therefore, the Corps has determined that the project would have no effect on salinity gradients.

6.4 Potential impacts on the living communities or human uses (Subparts D, E and F)

6.4.1 Potential impacts on the biological characteristics of the aquatic ecosystem (Subpart D 40 CFR 230.30)

The following has been considered in evaluating the potential impacts on biological characteristics (see Table 6):

Table 6 – Potential Impacts on Biological Characteristics

Biological Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Threatened and endangered species		X			X	
Fish, crustaceans, mollusks, and other aquatic organisms					X	
Other wildlife					X	

Discussion:

Threatened and Endangered Species: Based on the IPaC database, the following species have the potential to be located within or near this site: Eastern black rail; wood stork; Eastern indigo snake and the Frosted flatwoods salamander.

Regarding the Eastern black rail, the project site is located within inland Bryan County and is approximately 48 miles northwest from the confluence of the Ogeechee River (nearest traditional navigable water) and the Atlantic Ocean. In addition, based on Google Earth imagery, the site consists of forested freshwater wetlands, forested upland and cleared land. Per the EDGES, inland habitat for the Eastern black rail in non-tidal wetlands consists of Palustrine Persistent Emergent Wetlands; however, shrub-scrub and forested areas are not considered black rail habitat. Therefore, per the EDGES, the Corps has determined that the proposed project would have no effect on this species.

Based on previous coordination with the USWFS, this alternative is not located within 2,500 feet from an active wood stork nesting colony. In addition, the project would result in the discharge of fill in 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch, all of which is considered potential foraging habitat for the wood stork. However, based on aerial imagery, there is ample essential foraging habitat near the project site in which the wood stork could forage. In addition, to minimize the effects to downstream waters (including adjacent foraging habitat), the Corps would include the following special conditions in any permit issued for the proposed project:

a. All work conducted under this permit shall be located, outlined, designed, constructed and operated in accordance with the minimal requirements of the Georgia Erosion and Sedimentation Control Act of 1975, as amended. Utilization of plans and specifications contained in the "Manual for Erosion and Sediment Control," (Latest Edition), published by the Georgia Soil and Water Conservation Commission, will aid in achieving compliance with the aforementioned minimal requirements.

b. The permittee shall install and maintain erosion and sediment control measures in upland areas of the project site, in accordance with the Georgia Erosion and Sedimentation Control Act of 1975, as amended, to minimize the introduction of sediment into and the erosion of streams, wetlands and other waters of the United States. This permit does not authorize installation of check-dams, weirs, riprap, bulkheads or other erosion control measures in streams, wetlands or other waters of the United States. Authorization would be required from the U.S. Army Corps of Engineers prior to installing any erosion control measures in waters of the United States.

c. The permittee shall install and maintain erosion and sediment control measures for all fill material that is authorized to be discharged in streams, wetlands and other waters of the United States, in accordance with the Georgia Erosion and Sedimentation Control Act of 1975, as amended, and permanently stabilize fill areas at the earliest practicable date.

Given the availability of foraging habitat near the project site and the inclusion of the above special conditions, the proposed project may affect, but is not likely to adversely affect the wood stork. By email dated September 22, 2022, the USFWS concurred with the above effects determination.

Regarding the Eastern indigo snake, as stated in Section 1.4 above, all gopher tortoises were relocated off the property in coordination with the USFWS and Georgia WRD. In addition, once removed, all active gopher tortoise burrows were collapsed. On

June 16, 2022, the Corps met with the agent, USFWS, and Georgia WRD to assess the site for active gopher tortoise burrows. During the site visit it was confirmed that at this time, there are no active gopher tortoise burrows located on-site.

However, the USFWS requested whether the applicant intended to educate contractor's and other on-site personnel regarding the potential presence of the Eastern Indigo snake and/or gopher tortoise on-site. The applicant stated they had developed an Eastern Indigo snake/gopher tortoise education pamphlet with the intention of providing it to all on-site personnel. The pamphlet was provided to the USFWS on June 16, 2022. On June 29, 2022, the USFWS and Georgia WRD indicated they were satisfied with the information contained within the pamphlet and requested the Corps include a special condition that required the applicant comply with the protocol established within the pamphlet (i.e., signage, education, notification of species siting, etc.).

The Corps would include the following special condition in any draft permit issued for this project:

> *Regarding the future protection of the Eastern Indigo snake and/or gopher tortoise that have the potential to be within the vicinity of the project, the permittee shall comply with the following conditions:*
>
> *a. The permittee shall comply with the document entitled, "STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE, U.S. Fish and Wildlife Service", dated March 23, 2021 (enclosed).*
>
> *b. The permittee shall post both the Eastern indigo snake and gopher tortoise signs (enclosed) on the construction site.*
>
> *c. If any gopher tortoise, juvenile or adult, are found on the site, the on-site personnel shall immediately contact the GA DNR at 912-314-0128.*

By email dated September 27, 2022, the USFWS concurred with the above effects determination.

Regarding the frosted flatwoods salamander, the proposed project would not impact long-leaf pine-wiregrass flatwoods or slash pine flatwoods habitats. Although these pine species exist on-site, they are managed for timber production and therefore would

not support the Frosted flatwoods salamander. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect on the Frosted flatwoods salamander.

Fish, crustaceans, mollusks, and other aquatic organisms: The proposed project would fill 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch, which are habitat for fish, crustaceans, mollusks and other aquatic organisms in the food web. The proposed work would have a long-term minor adverse effect on interstitial aquatic organisms in the footprint of the proposed fill, and any aquatic organisms that occupy these areas would be lost.

While sedentary organisms would not be able to move from the impact area and would be lost, more mobile organisms may move to other wetland areas as fill activities commence. The applicant would avoid 403.64 acres of wetland within the project site. It is anticipated that mobile species could relocate to these areas. In addition, the applicant's proposed compensatory mitigation plan would also help to offset the loss in aquatic habitat within the Lower Ogeechee watershed. Therefore, the Corps has determined that the proposed project would have a long term minor effect on fish, mollusks, crustaceans, and other aquatic organisms.

Other Wildlife: The project would result in the loss of 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch, all of which can provide habitat for wildlife. Since the fill for this project would eliminate the above aquatic resources, wildlife species occupying these areas would be impacted through loss or displacement. While sedentary species would not be able to move from the impact area and would be lost, it is anticipated that larger and more motile wildlife may move to other aquatic and high land areas as fill activities commence. Therefore, the Corps has determined that the project would have a long term minor effect on wildlife.

6.4.2 Potential impacts on special aquatic sites (Subpart E 40 CFR 230.40)

The following has been considered in evaluating the potential impacts on special aquatic sites (see Table 7):

Table 7 – Potential Impacts on Special Aquatic Sites

Special Aquatic Sites	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Sanctuaries and refuges		X				
Wetlands					X	
Mud flats		X				
Vegetated shallows		X				
Coral reefs		X				
Riffle pool complexes		X				

Discussion:

Sanctuaries and Refuges: The proposed project is located over 16.9 miles west of the Savannah National Wildlife Refuge, which is the closest sanctuary or refuge. Due to the distance to the nearest refuge, the Corps has determined that the proposed project would have no effect on sanctuaries and refuges.

Wetlands: Construction of the proposed project would result in the permanent loss of 221.36 acres of wetland. The wetlands on-site consist of pine plantation wetland, forested wetland, scrub-shrub wetland, isolated forested wetland, and isolated scrub-shrub wetland. A more detailed description of the wetland habitat on-site (including species composition and wetland function), can be found in section 1.4 of this document.

With the loss of these wetlands, there would be an associated loss of the aquatic function. However, compensatory mitigation to offset these impacts would be accomplished through the applicant's approved compensatory mitigation plan. As part of the approved mitigation plan the applicant proposes to purchase 145.43 riverine wetland credits, 51.45 slope wetland credits, and 367.50 intermittent stream credits from the Georgia Alabama Land Trust ILF program. Based on a functional assessment of the approved mitigation plan, loss of aquatic resource function would be compensated to achieve no net loss of wetlands. Regarding secondary and cumulative impacts to wetlands, please refer to Section 9.5 below. Therefore, the Corps has determined that the project would have a long term minor adverse effect to wetlands.

Mud Flats: There are no mud flats located within the project site. Therefore, the Corps has determined the project would have no effect on this factor.

Vegetated Shallows: There are no vegetated shallows located within or near the project site. Therefore, the Corps has determined the project would have no effect on this factor.

Coral Reefs: There are no coral reefs located within the project site. Therefore, the Corps has determined the project would have no effect on this factor.

Riffle and pool complexes: No riffle and pool complexes are found within or surrounding the project site. Therefore, the Corps has determined that the project would have no effect on riffle and pool complexes.

6.4.3 Potential impacts on human use characteristics (Subpart F 40 CFR 230.50)

The following has been considered in evaluating the potential impacts on human use characteristics (see Table 8):

Table 8 – Potential Effects on Human Use Characteristics						
Human Use Characteristics	**N/A**	**No Effect**	**Negligible Effect**	**Minor Effect (Short Term)**	**Minor Effect (Long Term)**	**Major Effect**
Municipal and private water supplies			X			
Recreational and commercial fisheries		X		X		
Water-related recreation				X		
Aesthetics					X	
Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves		X				

Discussion:

Municipal and Private Water Supplies: The aquatic resources proposed to be impacted are not a source of potable water. In addition, this project would not require water withdrawals or a permit from Georgia EPD, Water Resources Management Branch. The applicant has indicated that the development would receive its water supply from Bryan County, an existing municipal water supply. The volume of potable water that would be required by the development is unknown, but it would be reasonable to assume that the Bryan County supply is adequate to meet the need of the proposed project.

During JPN comment period for the initial project, the Whispering Pines Neighborhood expressed concerns regarding the effect the project would have on water pressure and quality of their community well. In response to the above concerns the applicant stated, "Water service to the proposed facility will be provided by Bryan County and the project will not have an impact on water pressure nor water quality of the community well." It should be noted that none of the residents in the above neighborhood submitted comments to the Corps regarding the current proposal.

When considering all aspects of the proposed project, the Corps has determined that the proposed project would have a negligible effect to municipal and private water supplies.

Recreational and Commercial Fisheries: There are no open water areas within the permit area that would support recreational and/or commercial fisheries. However, numerous perennial streams, including Black Creek, are located adjacent and downstream of the site that could (and in some instances do) support recreational fishing. As proposed, there would be no direct impacts to the creek or other perennial streams. During project construction there would be a potential for stormwater induced

runoff from exposed fills to cause an increase in suspended particulates and turbidity in these adjacent and/or downstream aquatic resources. Any increase in suspended particulates and turbidity in these resources could result in adverse effects to fish species residing in the water column and subsequently recreational fishing. However, it is anticipated that this would clear upon project completion and stabilization of exposed soils.

In addition, the applicant would be required to comply with local issuing authority requirements for development and implementation of an Erosion and Sedimentation Control Plan, and a Stormwater Management Plan; thus, limiting turbidity increases in any wetlands and downstream aquatic resources. Given the above, the Corps has determined that there would be no effect to commercial fisheries, however there would be a short term minor adverse effect to recreational fisheries.

Water-related Recreation: No water-related recreation opportunities currently exist within the development area, and none are proposed as part of this project. As stated above, recreational fishing could be impacted during construction as a result of stormwater induced runoff from exposed fill impacting the water quality within adjacent and downstream waters. However, it is anticipated that these impacts would subside upon project completion. In addition, the applicant would be required to comply with the aforementioned BMPs regarding stormwater management and erosion and sedimentation control. Therefore, the Corps has determined that there would be a short term minor effect on water-related recreation.

Aesthetics: The majority of the site has been actively managed for timber production. As a result, these areas are clear cut on a rotational basis similar to the site preparation activities proposed as a part of this project. Development of the proposed project would result in the permanent conversion of wooded lands to manufacturing and industrial facilities. However, most of this development would be screened from view by 200’ natural forested buffer that would surround the developed area. Therefore, the Corps has determined that project would have a long term minor adverse effect on this factor.

Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites and Similar Preserves: There are no Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves on or near the proposed project area. Therefore, there would be no effect on Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites and Similar Preserves.

6.5 Pre-testing evaluation (Subpart G, 40 CFR 230.60)

The following has been considered in evaluating the biological availability of possible contaminants in dredged or fill material (see Table 9):

Table 9 – Possible Contaminants in Dredged/Fill Material	
Physical substrate characteristics	X
Hydrography in relation to known or anticipated sources of contaminants	
Results from previous testing of the material or similar material in the vicinity of the project	
Known, significant sources of persistent pesticides from land runoff or percolation	
Spill records for petroleum products or designated hazardous substances (Section 311 of the Clean Water Act)	
Other public records or significant introduction of contaminants from industries, municipalities, or other sources	
Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	

Discussion: The subject property is not known to have any contaminant related issues or concerns. In addition, any draft permit issued by this office would contain the following special condition: *"All dredged or borrowed material used as fill on this project will be from clean, uncontaminated sources and free from cultural resources."*

It has been determined that testing is not required because the likelihood of contamination by contaminants is acceptably low and the material may be excluded from evaluation procedures.

6.6 Evaluation and testing (Subpart G, 40 CFR 230.61)

Discussion: N/A. As stated in Section 6.5 above, testing is not required.

6.7 Actions to minimize adverse impacts (Subpart H)

The following actions, as appropriate, have been taken through application of 40 CFR 230.70-230.77 to ensure no more than minimal adverse effects of the proposed discharge (see Table 10):

Table 10 – Actions to Minimize Adverse Effects	
Actions concerning the location of the discharge	X
Actions concerning the material to be discharged	X
Actions controlling the material after discharge	X
Actions affecting the method of dispersion	
Actions related to technology	
Actions affecting plant and animal populations	

Table 10 – Actions to Minimize Adverse Effects	
Actions affecting human use	
Other actions	

Discussion:

Regarding actions concerning the location of the discharge of fill and the actions controlling the material after the discharge of fill, the following special conditions would be included in any draft permit issued for the proposed project:

a. All work conducted under this permit would be located, outlined, designed, constructed, and operated in accordance with the requirements of the Georgia ESCA, as amended. Utilization of plans and specifications contained in the "Manual for Erosion and Sediment Control, (Latest Edition)," published by the Georgia Soil and Water Conservation Commission, would aid in achieving compliance with the Georgia ESCA.

b. The permittee would install and maintain erosion and sediment control measures in upland areas of the project site, in accordance with the Georgia ESCA to minimize the introduction of sediment into and the erosion of streams, wetlands and other waters of the U.S. This permit does not authorize installation of check-dams, weirs, riprap, bulkheads o other erosion control measures in streams, wetlands or other waters of the U.S. The permittee would obtain Corps authorization prior to installing any erosion control measures in waters of the U.S.

c. The permittee would install and maintain erosion and sediment control measures in fill material that is authorized to be discharged in streams, wetlands, and other waters of the U.S., in accordance with the Georgia ESCA; and permanently stabilize fill areas at the earliest practicable date.

Regarding actions concerning the material to be discharged, the following special conditions would be included in any draft permit issued for the proposed project:

a. All dredged or borrowed material used as fill in waters of the U.S. would be from clean, uncontaminated sources and free from cultural resources. For the purposes these special permit conditions, the term waters of the U.S. include all jurisdictional streams, wetlands, open waters, ditches, swales and other conveyance located on the project site.

b. Construction debris, uncured concrete, demolition debris, or other waste materials would not be discharged into streams, wetlands, or other open waters; or placed at sites near such areas, where migration into waters of the U.S. could be anticipated.

6.8 Factual Determinations (Subpart B, 40 CFR 230.11)

The following determinations are made based on the applicable information above, including actions to minimize effects and consideration for contaminants (see Table 11):

Table 11 – Factual Determinations of Potential Effects

Site	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Physical substrate					X	
Water circulation, fluctuation and salinity		X			X	
Suspended particulates/turbidity				X		
Contaminants		X				
Aquatic ecosystem and organisms					X	
Proposed disposal site					X	
Cumulative effects on the aquatic ecosystem					X	
Secondary effects on the aquatic ecosystem					X	

Discussion:

Physical substrate: See discussion above at 6.3.

Water circulation, fluctuation and salinity: See discussion above at 6.3.

Suspended particles/turbidity: See discussion above at 6.3.

Contaminants: See discussion above at 6.5.

Aquatic ecosystem and organisms: See discussion above at 6.4.

Proposed disposal site: See discussion above at 6.2.

Cumulative effects on aquatic ecosystem: See discussion below at 9.0.

Secondary effects on aquatic ecosystem: See discussion below at 9.0.

6.9 Findings of compliance or non-compliance with the restrictions on discharges (40 CFR 230.10(a-d) and 230.12)

Based on the information above, including the factual determinations, the proposed discharge has been evaluated to determine whether any of the restrictions on discharge would occur (see Table 12):

Table 12 – Compliance with Restrictions on Discharge		
Subject	**Yes**	**No**
1. Is there a practicable alternative to the proposed discharge that would be less damaging to the environment (any alternative with less aquatic resource effects, or an alternative with more aquatic resource effects that avoids other significant adverse environmental consequences?)		X
2. Will the discharge cause or contribute to violations of any applicable water quality standards?		X
3. Will the discharge violate any toxic effluent standards (under Section 307 of the Clean Water Act)?		X
4. Will the discharge jeopardize the continued existence of endangered or threatened species or their critical habitat?		X
5. Will the discharge violate standards set by the Department of Commerce to protect marine sanctuaries?		X
6. Will the discharge cause or contribute to significant degradation of waters of the United States?		X
7. Have all appropriate and practicable steps (Subpart H, 40 CFR 230.70) been taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?	X	

7.0 General Public Interest Review (33 CFR 320.4 and Regulatory Guidance Letter 84-09)

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest as stated at 33 CFR 320.4(a). To the extent appropriate, the public interest review below also includes consideration of additional policies as described in 33 CFR 320.4(b) through (r). The benefits which reasonably may be expected to accrue from the proposal are balanced against its reasonably foreseeable detriments.

7.1 Public interest factors review

All public interest factors have been reviewed and those that are relevant to the proposal are considered and discussed in additional detail (see Table 13):

Table 13 – Public Interest Factors						
Factor	**None**	**Detrimental**	**Neutral (mitigated)**	**Negligible**	**Beneficial**	**Not Applicable**
1. Conservation: See below for discussion.	X					
2. Economics: See below for discussion.					X	
3. Aesthetics: Refer to Section 6.4.3 above.		X				
4. General Environmental Concerns: See below for discussion.		X				
5. Wetlands: Refer to Section 6.4 above.			X			
6. Historic Properties: See below for discussion.				X		
7. Fish and Wildlife Values: Refer to Section 6.4.1 above.		X				
8. Flood Hazards: See below for discussion.				X		
9. Floodplain Values: See below for discussion.				X		
10. Land Use: See below for discussion.		X				
11. Navigation: See below for discussion.	X					
12. Shoreline Erosion and Accretion: See below for discussion.	X					
13. Recreation: See below for discussion.				X		
14. Water Supply and Conservation: Refer to Section 6.4.3 above.				X		
15. Water Quality: Refer to Section 6.3 above.		X				
16. Energy Needs: See below for discussion.				X		
17. Safety: See below for discussion.				X		
18. Food and Fiber Production: See below for discussion.				X		
19. Mineral Needs: See below for discussion.				X		
20. Consideration of Property Ownership: See below for discussion.	X					
21. Needs and Welfare of the People: See below for discussion.				X		

Additional discussion of effects on factors above:

1) Conservation: The proposed project would be constructed to avoid unnecessary adverse impacts to the natural environment, during and after construction. Specifically, the applicant would avoid 403.64 acres of wetland. Any draft permit issued for this office would include a special condition concerning avoidance of the remaining 403.64 acres of on-site wetlands. These natural wetland and stream areas were avoided as part of the permit application review process and therefore will not be disturbed by any dredging, filling, mechanized land clearing, agricultural activities, or other construction work whatsoever. The U.S. Army Corps of Engineers reserves the right to deny review of any requests for future impacts to these natural wetland and/or stream areas. Therefore, the Corps has determined that project construction would have no effect on conservation values.

2) Economics/Social: During construction of the proposed project, there would be a short term economic benefit to employed construction workers, equipment operators, contractors and others in the construction industry. Once the manufacturing facility is operational, there would be a long term economic benefit as well. The construction of the manufacturing and assembly facility is projected to involve over $1 billion in private investment and generate a total of 10,000 new jobs following completion. Furthermore, in addition to creating new jobs, the project is expected to attract a chain of suppliers and vendors, each adding new jobs and income to the local and state economy. There would also be an associated property tax benefit to the local government, through increase in property values. Therefore, the Corps has determined that the proposed project would have an overall long term beneficial effect on economic factors.

4) General Environmental Concerns: The environmental concerns for this project focus on impacts to aquatic resources (i.e., 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch), water quality, fish, wildlife, threatened and endangered species and historic properties. No more than minimal adverse environmental impacts are anticipated. Therefore, the Corps has determined that the proposed project would have a negligible effect on general environmental concerns.

6) Historic Properties: The subject project consists of constructing an EVOEM and associated roads and parking infrastructure on seven combined Bryan County parcels (030 007 02, 030 007 03, 030 026, 035 005, 036 005, 030 025, and 030 012) located along Highway 280 near Interstate 16 in Ellabell. The project was previously determined to have no adverse effect on the National Register of Historic Places (NRHP)-eligible GNAHRGIS resource 225086/BN-123/10199 Hwy 280 and an adverse effect on NRHP-eligible Central of Georgia Rail Line. On July 27, 2022, the applicant provided the Corps and SHPO with a revised cultural resource survey and assessment of effects for the updated permit area.

Based on the information provided and desktop research, on August 24, 2022, HPD concurred that archaeological sites 9BN1637, 9BN1638, 9BN1639, 9BN1640, 9BN1641, and 9BN1642, and Isolated Finds (IF) 1, 2, 3, 4, 5, 6, 7, 8, and 9, by definition, are not eligible for listing in the NRHP. In addition, HPD determined that,

based on the information provided and the clarification of the scope of work related to the construction of the railroad spur lines, that the previous adverse effect determination is no longer applicable. As such, it is HPD determined that the subject project, as proposed, will have no adverse effect to historic properties that are eligible for listing in the NRHP, as defined in 36 CFR Part 800.5(d)(1) due to the scope and location of the work and the current survey.

Therefore, the Corps has determined that the proposed project would have a negligible effect on historic properties.

8) Flood Hazards and 9) Flood Plain: The site is located within the 100-year floodplain; however, the project should not restrict the flow of a 100-year flood. The proposed project does not include construction of any impoundments, therefore there is no flood hazard risk. The applicant would be responsible for ensuring that the project complies with all rules, regulations and/or requirements of the Federal Emergency Management Agency (FEMA) with regard to flood plains and flood ways. As there is no fill proposed in floodplains and stormwater runoff would be managed to maintain runoff rates, there should be no effect to floodplain values. A special condition requiring compliance with applicable FEMA regulations would be included in any issued permit.

10) Land use: The 2,541.25-acre project site has been under the same private ownership for many years, and has been used for pine timber production. In addition, the property is currently zoned properly to be converted to the proposed industrial use. There is no information available to the Corps concerning any conflict with the proposed use of this tract. Therefore, the Corps has determined that the proposed project would have a negligible impact on land use.

11) Navigation: There are no tributaries or navigable waterways located on the proposed project site that are utilized by boat traffic. Therefore, the project would have no effect on navigation.

12) Shoreline Erosion and Accretion: There are no open water areas located on the project site. Therefore, the Corps has determined that the proposed project would have no effect on shoreline erosion and accretion.

13) Recreation: Regarding potential impacts to water related recreational activities, refer to Section 6.4.3 above. The site could also be used for passive recreation such as hunting. However, the site is privately owned and therefore not accessible to the public. In addition, the development of the EVOEM would not create, destroy, or restrict access to any parks or recreational facilities near the project site. When considering all the above, the Corps has determined that the proposed project would have a negligible effect on recreation.

16) Energy Needs: Construction and use of facilities on this project site would require the consumption of electricity and petroleum. However, these sources of energy are readily available and there is ample supply. Therefore, the Corps has determined that the proposed project would have a negligible effect on energy needs.

17) Safety: During project construction, minor interruptions to traffic flow along Highway 280 may occur due to dump truck and heavy equipment usage, which could cause a short-term safety issue. However, traffic interruptions would subside upon project completion. Once the project is constructed and operational, there would be a resulting long term increase in automobile and truck traffic in the vicinity of the project area. The applicant would be responsible for ensuring that all appropriate Federal, State and local traffic safety protocols are followed during construction and after. In addition, the applicant has stated,

> *GADOT has analyzed both existing and projected traffic volumes associated with proposed project. Based on this analysis, GDOT has developed a preliminary plan that includes over $220MM in infrastructure improvements generally including improvements to the existing Highway 280/Interstate 16 Interchange, removal of the Jernigan Road/Interstate 16 overpass and construction of a new interchange on Interstate 16 east of the proposed project, improvements to Highway 280 south of Interstate 16 to accommodate for the north and south entrance to the facility and access point improvements from Highway 280 into the site. The proposed infrastructure improvements will accommodate for any traffic volume increase associated with the proposed project.*

When considering all the above, the Corps has determined that the project may have a minor, long-term detrimental effect on traffic safety in the vicinity of the project.

18) Food and Fiber Production: The 2,541.25-acre project site is currently being used for timber production (wood fiber). Construction of the project would remove this area from future timber production. However, much of the undeveloped lands in Coastal Georgia are producing timber; therefore, the loss of timber production on the project site would represent a very small overall loss to wood fiber production in the vicinity of the project site. In addition, due to the site's utilization for timber production, there is very little opportunity for food production (i.e., agriculture). Therefore, the Corps has determined that the proposed project would have a negligible effect on food and fiber production.

19) Mineral Resources and Needs: The project site has not been used for mining of mineral resources, and the proposed project would not enhance or decrease any potential mineral needs in the area. Minor amounts of earthen fill material, concrete, rock, and other mineral resources would be consumed for construction of the proposed project. However, these resources are in ample supply. Therefore, the Corps has determined that construction of the proposed project would have a negligible effect on mineral needs.

20) Consideration of Property Ownership: According to the applicant, they are currently under contract to purchase the property, with the contingency that the automotive manufacturer selects the site. There is no information available to the Corps concerning

any conflict with the proposed use of this tract or with property ownership. Therefore, the Corps has determined that the proposed project would have no effect on property ownership.

21) Needs and Welfare of the People: According to the applicant, the proposed project would provide approximately 10,000 new jobs as full-time employees at the advanced manufacturing and assembly facility, and would likely attract a chain of supplier and vendor businesses to the area that would represent additional jobs and economic growth to the local area and the state. In addition, the project would result in an increase in local, state, and federal tax revenue. Therefore, provided the permittee complies with environmental commitments and permit conditions issued to ensure the short and long term protection of the environment, the project would have a beneficial long term effect on the needs and welfare of the people.

7.2 Public and private need

The relative extent of the public and private need for the proposed structure or work:

The applicant's stated purpose and need for the project is "to obtain a 404 permit to facilitate development of a site suitable to support an OEM auto manufacturing facility." As result, construction of this project would provide local public benefits such as employment opportunities at the facility and a potential increase in the local, State and Federal tax bases.

7.3 Resource use unresolved conflicts

If there are unresolved conflicts as to resource use, explain how the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work was considered.

There were no unresolved conflicts identified as to resource use.

7.4 Beneficial and/or detrimental effects on the public and private use

The extent and permanence of the beneficial and/or detrimental effects that the proposed work is likely to have on the public and private use to which the area is suited is described below:

Detrimental effects are expected to be minimal and permanent.

Beneficial effects are expected to be minimal and permanent.

7.5 Climate Change

The proposed activities within the Corps' federal control and responsibility likely will result in a negligible release of greenhouse gases into the atmosphere when compared to global greenhouse gas emissions. Greenhouse gas emissions have been shown to contribute to climate change. Aquatic resources can be sources and/or sinks of

greenhouse gases. For instance, some aquatic resources sequester carbon dioxide whereas others release methane; therefore, authorized impacts to aquatic resources can result in either an increase or decrease in atmospheric greenhouse gas. These impacts are considered de minimis. Greenhouse gas emissions associated with the Corps' federal action may also occur from the combustion of fossil fuels associated with the operation of construction equipment, increases in traffic, etc. The Corps has no authority to regulate emissions that result from the combustion of fossil fuels. These are subject to federal regulations under the Clean Air Act and/or the Corporate Average Fuel Economy (CAFE) Program. Greenhouse gas emissions from the Corps' action have been weighed against national goals of energy independence, national security, and economic development and determined not contrary to the public interest.

8.0 Mitigation

(33 CFR 320.4(r), 33 CFR Part 332, 40 CFR 230.70-77, and 40 CFR 1508)

8.1 Avoidance and minimization

Avoidance and Minimization: When evaluating a proposal including regulated activities in waters of the United States, consideration must be given to avoiding and minimizing effects to those waters. Avoidance and minimization are described in Section 1.3.1 above.

Describe other mitigative actions including project modifications implemented to minimize adverse project impacts? (See 33 CFR 320.4(r)(1)(i))

N/A

8.2 Compensatory mitigation requirement

Is compensatory mitigation required to offset environmental losses resulting from proposed unavoidable impacts to waters of the United States? Yes
Provide rationale: Savannah District's current standard operation procedure for compensatory mitigation requires that impacts greater than 0.10 acre of wetland be offset with appropriate mitigation. The Corps has reviewed the proposed compensatory mitigation plan and determined that it is in compliance with the Savannah District's most recent guidance on compensatory mitigation requirements; and the 2008 Final Compensatory Mitigation Rule (33 CFR Parts 325 and 332).

8.3 Type and location of compensatory mitigation

8.3.1 Mitigation bank service area

Is the impact in the service area of an approved mitigation bank? Yes

Does the mitigation bank have the appropriate number and resource type of credits available? No, see Section 8.3.4 for discussion regarding the use of the mitigation hierarchy.

8.3.2 In-lieu fee program service area

Is the impact in the service area of an approved in-lieu fee program? Yes

Does the in-lieu fee program have the appropriate number and resource type of credits available? Yes

8.3.3 Compensatory mitigation

Selected compensatory mitigation type/location(s) (see Table 14):

Table 14 – Mitigation Type and Location	
Mitigation bank credits	
In-lieu fee program credits	X
Permittee-responsible mitigation under a watershed approach	
Permittee-responsible mitigation, on-site and in-kind	
Permittee-responsible mitigation, off-site and/or out-of-kind	

8.3.4 Mitigation hierarchy

Does the selected compensatory mitigation option deviate from the order of the options presented in 33 CFR 332.3(b)(2)-(6)? No

8.3.5 Watershed approach

Does the selected compensatory mitigation option follow a watershed approach? Yes

Is the impact in a watershed with a watershed plan? Yes

Is the compensatory mitigation consistent with the watershed plan? Yes

8.4 Amount of compensatory mitigation

The Corps has approved the applicant's compensatory mitigation plan for this project, which is the purchase of 145.43 riverine wetland credits, 51.45 slope wetland credits, and 367.50 intermittent stream credits from the Georgia Alabama Land Trust ILF program.

Rationale for required compensatory mitigation amount:

Mitigation credits were calculated by the applicant using the Savannah District’s SOP Worksheet. The Corps agrees with the applicant’s proposed mitigation plan and mitigation credit calculations.

9.0 Consideration of Cumulative Effects

(40 CFR 1508 & RGL 84-9) Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-

Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor direct and indirect but collectively significant actions taking place over a period of time. A cumulative effects assessment should consider how the direct and indirect environmental effects caused by the proposed activity requiring DA authorization (i.e., the incremental impact of the action) contribute to the aggregate effects of past, present, and reasonably foreseeable future actions, and whether that incremental contribution is significant or not.

9.1 Identify/describe the direct and indirect effects which are caused by the proposed activity:

Direct effects of the project include the filling of 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch (i.e., converting these resources to upland). Filling of these resources would result in a loss in aquatic functions they provide such as ground water recharge, storm water retention and habitat for wildlife and aquatic organisms.

The project has also been reviewed for potential secondary/indirect impacts. Based on information provided by the applicant, construction of the manufacturing and assembly facility is anticipated to generate a total of 10,000 new jobs. The project is also expected to attract a chain of suppliers and vendors to serve the project, each adding additional new jobs. These new jobs would attract employees to the four-county region, creating a need for additional housing, restaurants, services, etc.; which would result in additional development. The environmental impacts that may be associated with this potential secondary development would be difficult to predict. However, any resulting secondary construction related impacts to aquatic resources would require prior Corps' authorization, including compensatory mitigation. There may also be a project related, indirect impact to water quality associated with increased stormwater runoff from the project site, into downstream waters in Black Creek and the Ogeechee River.

9.2 The geographic scope for the cumulative effects assessment is:

The geographic area/ROI for purposes of consideration of the proposed project is the Lower Ogeechee River Basin and United States Geological Service, Georgia Hydrologic Unit Code (HUC) 03060202. The area includes portions of Bryan, Bulloch, Chatham, Effingham, Emanuel, Jenkins, and Screven Counties. This area also includes the majority of the area where Savannah Harbor related commercial and industrial development occurs. The Corps has determined that actions taken in the Lower Ogeechee River Basin and HUC 03060202 would be sufficiently similar in location, topography, watershed impacts, habitat types, etc., to be considered in a cumulative impacts assessment.

The proposed action, in addition to other projects in the geographic area of consideration/ROI (i.e., HUC 03060202), have the possibility to result in either negative or positive impacts in a cumulative manner. Cumulative impacts are most likely to occur

when a relationship exists between a proposed action, or alternative, and other actions expected to occur in a similar location, time period, and/or involving similar actions, i.e., past, present, and reasonably foreseeable future actions.

9.3 The temporal scope of this assessment covers:

The data available to the Corps concerning past actions resulting in loss of wetlands, dates back to the early 1990's. This assessment also covers current known actions, and reasonably foreseeable future actions.

9.4 Describe the affected environment:

The 2,541.25-acre project site is located in a rural area of Bryan County, Georgia (Latitude 32.1584, Longitude -81.4533). The dominant on-site habitats are upland pine plantation, forested wetlands, scrub shrub wetlands, perennial and intermittent streams, and man-made ditches. Black Creek, the largest nearby tributary, is located immediately to the south and east of the project site, and flows into the Ogeechee River (see Section 1.4 above for a more detailed description).

9.5 Determine the environmental consequences:

The Corps identified the following target resources because of their scarcity and/or importance in HUC 03060202: (1) wetlands; (2) streams; (3) water quality; and (4) aquatic species. Target resources are important resources that could be cumulatively affected by activities in HUC 03060202. The following is an assessment of the potential impacts of the proposed project on these target resources.

(1) Wetlands: The U.S. Fish and Wildlife Service, National Wetland Inventory (NWI) map that covers HUC 03060202 was produced in the early 1990's, and indicates that this HUC contained approximately 445,876 acres of freshwater wetlands at that time. The Corps has authorized approximately 1,044 acres of wetland impacts in HUC 03060202 since approximately 1990, according to the Corps' regulatory database. Therefore, since 1990, the data suggests an approximate 0.23 percent loss of wetlands in this HUC.

The project would result in the loss of approximately 221.36 acres of wetland, which would be a proportionally small impact to wetlands, when compared to the total acreage of wetland located within HUC 03060202. To offset the unavoidable loss to aquatic resource function that would result from these impacts, the applicant proposes the purchase of 145.43 riverine wetland credits and 51.45 slope wetland credits from the Georgia Alabama Land Trust ILF program. With implementation of the proposed compensatory mitigation, the project would have long-term minor adverse impact on wetlands in HUC 03060202, when considered alone or in concert with the other past, present and reasonably foreseeable future projects in the basin that also impact wetlands or other aquatic resources.

In addition to the above, the District is currently processing multiple applications that are proposing to fill a total of approximately 178 acres of wetland associated with the construction of an additional 43,508,927 million square feet of warehousing space in the Savannah Region to support the increase in import and exports from the Port of Savannah. Specifically, within the Lower Ogeechee River Watershed, applicants have proposed to fill approximately 41 acres of wetland for the construction of approximately 8,689,146 million square feet of warehousing space. If you combine these impacts with the amount of impacts recorded in the Corps' databases, there should be at least 445,569 acres of non-tidal wetlands remaining in the basin post project completion. This equals a loss of approximately .29% of the wetlands within this watershed since 1990, not counting the wetland mitigation associated with these proposed impacts.

Just as mitigation is currently required for impacts to wetlands that exceed 0.10 acre after avoidance and minimization, future projects such as potential related commercial and residential development would also require avoidance and minimization of impacts to aquatic resources and mitigation for impacts that exceed whatever mitigation threshold is in place. For this reason (off-setting mitigation) and the insignificant loss (0.23%) of wetlands in this HUC, the potential cumulative effects associated with this project are considered minimal.

(2) Streams: The project would result in the loss of 763 linear feet of intermittent stream. Corps' permitted projects do not often result in impacts to streams within HUC 03060202. Therefore, there is limited data is available regarding historical stream impacts associated with Corps' permitted projects. To offset the unavoidable loss in aquatic function that would result from these impacts, the applicant proposed the purchase of 367.50 intermittent stream credits from the Georgia Alabama Land Trust ILF program. With implementation of the proposed mitigation, the project would have a minimal impact on streams located in HUC 03060202, when considered alone or in concert with the other past, present and reasonably foreseeable future projects in the basin that also impact streams or other aquatic resources.

(3) Water Quality: Water quality is affected by changes to the environment (referred to as stressors) that adversely affect aquatic life or impair human uses of a water body. Point sources are municipal and industrial wastewater discharge. Non-point sources consist of sediment, litter, bacteria, pesticides, fertilizers, metals, oils, grease, and a variety of other pollutants that are washed from rural and urban lands by storm water. Expected growth in population and employment in the basin will mean more potential stress from storm water runoff as well as non-point source loading. The USEPA's "How's My Watershed" database for the Lower Ogeechee watershed (i.e., HUC 03060202) has one waterway listed as not supporting its designated use. (https://mywaterway.epa.gov/community/030602020508/overview). Specifically, Black Creek is listed as impaired for aquatic life due to low oxygen.

Residential, commercial and industrial development results in an increase in impervious surfaces (foundations, paved roads, parking lots, etc.), which affects stormwater discharges. Development results in an increase in non-point source contaminant loading through associated increases in urban landscaping (pesticides and fertilizers),

increased traffic (oil, grease and metals), and other associated activities. There would be an anticipated incremental increase in adverse impacts to water quality as impervious surfaces increase in HUC 03060202. The amount of impervious surface coverage is increasingly recognized as a valuable predictor of overall water quality within a watershed. In general, as population increases, so does impervious surface. As impervious surface area increases, water quality decreases. This effect is mitigated by the fact that each county is responsible for regulating non-point source stormwater discharges pursuant to Section 402 of the Clean Water Act.

The impacts to wetlands discussed above would be expected to have a negligible effect on water quality due to the loss of associated aquatic functions (flood water retention, filtration, contaminant removal, sediment retention, etc.). The mitigation for these impacts (including the purchase of wetland and stream mitigation credits) would help to offset these impacts to water quality. For further evaluation of potential impacts to water quality, refer to Section 6.3.

In view of the above, the Corps determined that the proposed project, with proposed special permit conditions, would have minimal impacts on water quality when considered alone or in concert with the other past, present and reasonably foreseeable future projects in the basin.

(4) Aquatic Species: Construction of the proposed project would result in the loss of approximately 221.36 acres of wetland, 763 linear feet of intermittent stream and 1.58 acres of ditch, which would displace habitat and substrate that supports aquatic species. A method to measure or predict potential future impacts on aquatic species in HUC 03060202 is not available; however, there would likely be a minor impact to aquatic species from the above discussed impacts to water quality. Therefore, the Corps determined that the proposed project, with proposed compensatory stream and wetland mitigation, would have no more than minimal impact on aquatic species when considered alone or in concert with the other past, present and reasonably foreseeable future projects in the basin. For further evaluation of potential impacts to aquatic species, refer to Section 6.4.1.

9.6 Conclusions regarding cumulative impacts:

When considering the direct and indirect impacts that will result from the proposed activity, in relation to the overall direct and indirect impacts from past, present, and reasonably foreseeable future activities, the incremental contribution of the proposed activity to cumulative impacts in the area described in section 9.2, are not significant . Compensatory mitigation will be required to offset the impacts of the proposed activity to eliminate or minimize its incremental contribution to cumulative effects within the geographic area described in Section 9.2. Mitigation required for the proposed activity is discussed in Section 8.0.

10.0 Compliance with Other Laws, Policies and Requirements

10.1 Section 7(a)(2) of the Endangered Species Act (ESA)

Refer to Section 2.2 for description of the Corps' action area for Section 7 of the ESA.

10.1.1 Lead federal agency for Section 7 of the ESA

Has another federal agency been identified as the lead agency for complying with Section 7 of the ESA with the Corps designated as a cooperating agency and has that consultation been completed? No

10.1.2 Listed/proposed species and/or designated/proposed critical habitat

Are there listed or proposed species and/or designated critical habitat or proposed critical habitat that may be present or in the vicinity of the Corps' action area? Yes. Refer to Section 6.4.1 above.

Effect determination(s), including no effect, for all known species/habitat, and basis for determination(s): Refer to Section 6.4.1 above.

10.1.3 Section 7 ESA consultation

Consultation with either the National Marine Fisheries Service and/or the United States Fish and Wildlife Service was initiated and completed as required, for any determinations other than "no effect" (see the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation)

10.2 Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), Essential Fish Habitat (EFH)

10.2.1 Lead federal agency for EFH provisions of the Magnuson-Stevens Act

Has another federal agency been identified as the lead agency for complying with the EFH provisions of the Magnuson-Stevens Act with the Corps designated as a cooperating agency and has that consultation been completed? No

10.2.2 Magnuson-Stevens Act

Did the proposed project require review under the Magnuson-Stevens Act? No. The project site is not tidally influenced.

10.2.3 National Marine Fisheries Service consultation

Consultation with the National Marine Fisheries Service was initiated and completed as required (see the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation)

10.3 Section 106 of the NHPA

Refer to Section 2.3 for permit area determination.

10.3.1 Lead federal agency for Section 106 of the NHPA

Has another federal agency been identified as the lead federal agency for complying with Section 106 of the NHPA with the Corps designated as a cooperating agency and has that consultation been completed? No

10.3.2 Historic properties

Known historic properties present? Yes. Refer to Section 7.6. above.

Effect determination and basis for that determination: Refer to Section 7.6 above.

10.3.3 Consultation with the appropriate agencies, tribes and/or other parties for effect determinations

Consultation was initiated and completed with the appropriate agencies, tribes and/or other parties for any determinations other than “no potential to cause effects.” (See the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation)

10.4 Tribal Trust Responsibilities

10.4.1 Tribal government-to-government consultation

Was government-to-government consultation conducted with federally-recognized tribe(s)? No

10.4.2 Other Tribal consultation

Other Tribal consultation including any discussion of Tribal Treaty rights.

N/A

10.5 Section 401 of the Clean Water Act – Water Quality Certification (WQC)

10.5.1 Section 401 WQC requirement

Is an individual Section 401 WQC required, and if so, has the certification been issued or waived?

An individual WQC is required and has been granted.

By letter dated September 28, 2022, the Georgia EPD issued the 401 WQC.

10.5.2 401(a)(2) Process

If the certifying authority granted an individual WQC, did the United States Environmental Protection Agency make a determination that the discharge ‘may affect’ water quality in a neighboring jurisdiction? No

10.6 Coastal Zone Management Act (CZMA)

10.6.1 CZMA consistency concurrence

Is a CZMA consistency concurrence required, and if so, has the concurrence been issued, objected to, or presumed?

An individual CZMA consistency concurrence is required and has been issued by the appropriate agency. By letter dated September 28, 2022, the Georgia DNR, Coastal Resources Division concurred with the applicant’s consistency concurrence.

10.7 Wild and Scenic Rivers Act

10.7.1 National Wild and Scenic River System

Is the project located in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system? No

10.8 Effects on Corps Civil Works Projects (33 USC 408)

10.8.1 Permission requirements under Section 14 of the Rivers and Harbors Act (33 USC 408)

Does the applicant also require permission under Section 14 of the Rivers and Harbors Act (33 USC 408) because the activity, in whole or in part, would alter, occupy, or use a Corps Civil Works project?

No, there are no federal projects in or near the vicinity of the proposal.

10.9 Corps Wetland Policy (33 CFR 320.4(b))

10.9.1 Wetland Impacts

Does the project propose to impact wetlands? Yes

10.9.2 Wetland impact public interest review

Based on the public interest review herein, the beneficial effects of the project outweigh the detrimental impacts of the project.

10.10 Other (as needed)

N/A.

10.11 Compliance Statement

The Corps has determined that it has fulfilled its responsibilities under the following laws, regulations, policies, and guidance:

Table 15 – Compliance with Federal Laws and Responsibilities		
Laws, Regulations, Policies, and Guidance	**Yes**	**N/A**
Section 7(a)(2) of the ESA	X	
EFH provisions of the Magnuson-Stevens Act	X	
Section 106 of the NHPA	X	
Tribal Trust	X	
Section 401 of the Clean Water Act	X	
CZMA	X	
Wild and Scenic Rivers Act		X
Section 408 - 33 USC 408		X
Corps Wetland Policy (33 CFR 320.4(b))	X	
Other:		X

11.0 Special Conditions

11.1 Special condition(s) requirement(s)

Are special conditions required to ensure minimal effects, ensure the authorized activity is not contrary to the public interest and/or ensure compliance of the activity with any of the laws above? Yes

11.2 Required special condition(s)

(1) The Project Area shall only be developed by an automobile manufacturing company. Prior to initiating any authorized work within Phase 1 of the Permit Area, the Permittee shall notify the Corps in writing that a contract has been signed with an automotive manufacturing company, which will develop the Project Area in accordance with the terms, conditions, and development plans of this permit.

(2) Prior to the commencement of construction, you shall purchase 145.43 riverine wetland credits, 51.45 slope wetland credits, and 367.50 intermittent stream credits from the Georgia Alabama Land Trust ILF program.

(3) All dredged or borrowed material used as fill in waters of the United States shall be from clean, uncontaminated sources and free from cultural resources. For the purposes these special permit conditions, the term waters of the United States includes all jurisdictional streams, wetlands, open waters, ditches, swales and other conveyance located on the project site.

(4) Unless specifically authorized by this permit, no construction, discharge of fill material, excavation, mechanized land clearing, tree or other vegetation removal, stockpiling of fill material or other work/activity shall occur in waters of the United States.

(5) Prior to any land disturbing activity on the project site, the permittee shall clearly mark all waters of the United States that are authorized to be impacted (impact-waters). Acceptable forms of marking include high visibility orange construction fencing or flagging at eye level, at intervals of 25 feet or less along the entire jurisdictional boundary. Pin flags or other ground level marking is not acceptable. In addition, the permittee shall clearly mark waters of the United States that are not to be impacted (no-impact-waters), if they are located within 50 feet of any construction activities. The boundaries of impact-waters and no-impact□waters shall be marked differently, to ensure that these areas are clearly identifiable to equipment operators. All no-impact-waters marking shall be maintained until the entire project has been completed.

(6) Unless specifically authorized by this permit, borrow pits or sites for stockpiling fill dirt are prohibited within 200 feet of streambanks or within 50 feet of wetlands and open waters to minimize the potential for introduction of sediment into waters of the United States.

(7) Construction debris, uncured concrete, demolition debris, or other waste materials shall not be discharged into streams, wetlands, or other open waters; or placed at sites near such areas, where migration into waters of the United States could be anticipated.

(8) Equipment staging areas and equipment maintenance areas are prohibited within 200 feet of streambanks or within 50 feet of wetlands and other open waters to minimize the potential for wash water, petroleum products, or other contaminants from construction equipment entering waters of the United States.

(9) The permittee shall ensure that all features of the project's master drainage plan, such as drainage ditches, road-side ditches, swales and other storm-water conveyances, are designed and constructed to avoid: drainage of wetlands; diversion of storm-water away from wetlands; and other hydrologic alterations of natural drainage patterns that would adversely impact wetlands. The permittee shall be responsible for any inadvertent and/or unforeseen hydrologic impacts to waters of the United States resulting from alteration of natural drainage patterns. The permittee shall also ensure that secondary road ditches and/or small after-project drainage ditches do not inadvertently impact wetlands or waters of the United States.

(10) The permittee shall minimize bank erosion and sedimentation in construction areas by utilizing Best Management Practices for stream corridors, installing and maintaining significant erosion and sediment control measures, and providing daily reviews of construction and stream protection methods. Check dams and riprap placed in streams and wetlands as erosion control measures are considered a fill and not authorized under this permit unless they were specifically authorized by this permit.

(11) All work conducted under this permit shall be located, outlined, designed, constructed and operated in accordance with the requirements of the Georgia Erosion and Sedimentation Control Act of 1975 (Georgia ESCA), as amended. Utilization of plans and specifications contained in the "Manual for Erosion and Sediment Control, (Latest Edition)," published by the Georgia Soil and Water Conservation Commission, will aid in achieving compliance with the Georgia ESCA.

(12) The permittee shall install and maintain erosion and sediment control measures in upland areas of the project site, in accordance with the Georgia Erosion and Sedimentation Control Act of 1975 to minimize the introduction of sediment into and the erosion of streams, wetlands and other waters of the United States. This permit does not authorize installation of check-dams, weirs, riprap, bulkheads or other erosion control measures in streams, wetlands or other waters of the United States. The permittee shall obtain U.S. Army Corps of Engineers authorization prior to installing any erosion control measures in waters of the United States.

(13) The permittee shall install and maintain erosion and sediment control measures in fill material that is authorized to be discharged in streams, wetlands and other waters of the United States, in accordance with the Georgia Erosion and Sedimentation Control Act of 1975; and permanently stabilize fill areas at the earliest practicable date.

(14) Once the project site is sufficiently stabilized through re-vegetation, the permittee shall remove all silt fencing and other non-biodegradable erosion control measures from stream banks, riparian areas, wetlands and upland areas immediate adjacent to other waters of the United States.

(15) The permittee shall obtain and comply with all applicable Federal, state and local authorizations required for the authorized activity. A stream buffer variance may be required from the Georgia Department of Natural Resources, Environmental Protection Division (Georgia EPD), as defined .in the Georgia Erosion and Sedimentation Control Act of 1975. Information concerning variances can be obtained from Georgia EPD on their website at www.gaepd.org, or by calling (404) 463-1463.

(16) If you or your contractors discover any federally listed threatened or endangered species and/or their habitat while accomplishing the activities authorized by this permit, you must immediately STOP work and notify the U.S. Army Corps of Engineers within 24 hours. The U.S. Army Corps of Engineers will contact the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service to determine if the species and/or habitat warrant further consultation.

(17) Regarding the future protection of the Eastern Indigo snake and/or gopher tortoise that have the potential to be within the vicinity of the project, the permittee shall comply with the following conditions:

(a) The permittee shall comply with the document entitled, “STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE, U.S. Fish and Wildlife Service”, dated March 23, 2021 (enclosed).

(b) The permittee shall post both the Eastern indigo snake and gopher tortoise signs (enclosed) on the construction site.

(c) If any gopher tortoise, juvenile or adult, are found on the site, the on-site personnel shall immediately contact the GA DNR at 912-314-0128.

(18) The permittee shall ensure that culverts installed in streams and wetland, including replacement culverts, are constructed in accordance with the following conditions:

(a) The width of the base flow culvert shall be approximately equal to the average width of the stream channel immediately above and below the culvert installation site. Culverts shall not permanently widen or constrict the channel, or reduce or increase stream depth. Multi-pipe culverts may not be used to pass base flows. Culverts shall be sized to maintain the existing bank-full cross-sectional area, and to accommodate bank-full stream flows.

(b) The upstream and downstream invert of culverts (except bottomless culverts) shall be buried/embedded to a depth of twenty percent of the culvert height to allow natural substrate to colonize the structures bottom and encourage fish movement.

(c) Culvert slope shall be consistent with average slope of the stream in the immediate vicinity of the culvert installation site, but shall not exceed 4 percent.

(d) Culverts shall be sized to adequately accommodate anticipated storm events. Where floodplain is adjacent to the stream, an equalizer culvert(s) shall be installed at floodplain elevation to accommodate flood events exceeding bankfull. Sufficient equalizer culverts shall be installed to accommodate normal floodplain sheet flow. Culverts shall be installed in a manner that does not cause flooding of adjacent uplands, with the exception of floodplains, or the disruption of hydrology in aquatic areas located up and downstream of the culvert.

(e) Unless specifically stated in this permit, installation of undersized culverts to attain stormwater management or wastewater treatment is not authorized.

(f) A waiver from the above culvert specifications may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with these specifications would result in more adverse impacts to the aquatic environment or that such design is not practicable.

(19) Prior to the commencement of any permitted construction activity in designated floodplains and/or floodways on the project site, the permittee shall ensure that the activity complies with the applicable rules, requirements and regulations of the

regulatory programs administered by the Federal Emergency Management Agency and/or the Georgia Floodplain Management Office; including revision of the National Flood Insurance Program map, if required.

(20) This permit does not authorize the interference with any existing or proposed Federal Project and the permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein, which may be caused by or result from existing or future operations undertaken by the United States in the public interest.

(21) A copy of this permit, including the approved drawings and plans; special conditions; and any amendments shall be maintained at the work site whenever work is being performed. The permittee(s) shall assure that all contractors, subcontractors, and other personnel performing the permitted work are fully aware of the permit's terms and conditions.

(22) The permittee shall notify the issuing office, in writing (electronic facsimile is acceptable), at least 10 days in advance of their intent to commence work in waters of the United States for the permitted activity. The permittee shall also notify this office, in writing, 30 days after this project is completed using the enclosed Certification of Compliance Form.

(23) All work will be performed in accordance with the following attached plans and drawings which are incorporated in and made part of the permit:

(a) Bryan County Mega Site, Location Map, Savannah Harbor-Interstate 16 Corridor Joint Development Authority, Bryan County, Georgia (Sheet 1 of 18), dated May 11, 2022.

(b) Bryan County Mega Site, Legend, Savannah Harbor-Interstate 16 Corridor Joint Development Authority, Bryan County, Georgia (Sheet 2 of 18), dated May 11, 2022.

(c) Bryan County Mega Site, Sheet Index, Savannah Harbor-Interstate 16 Corridor Joint Development Authority, Bryan County, Georgia (Sheet 3 of 18), dated May 11, 2022.

(d) Bryan County Mega Site, Wetland Permit, Savannah Harbor-Interstate 16 Corridor Joint Development Authority, Bryan County, Georgia (Sheets 4 through 18), dated May 11, 2022.

(24) The Permittee shall avoid the remaining 403.64 acres of on-site wetland, as detailed on Drawings 1 through 18 of (enclosed). These natural wetland and stream areas were avoided as part of the permit application review process and therefore will not be disturbed by any dredging, filling, mechanized land clearing, agricultural activities, or other construction work whatsoever. The U.S. Army Corps of Engineers reserves the right to deny review of any requests for future impacts to these natural wetland and/or stream areas.

(25) In the event that archeological and/or cultural remains materials are encountered during construction, use, or maintenance of this location, the Permittee shall cease work immediately and notify the Corps. The Corps shall then notify the Georgia State Historic Preservation Officer and the appropriate Tribal Historic Preservation Officers to reinitiate Section 106, NHPA, consultation.

Rationale: The above special conditions would be included in any draft permit issued for this project to: (1) minimize unavoidable impacts to aquatic resources and thereby, reduce potential project related losses in aquatic function and (2) to minimize impacts to threatened and endangered species.

12.0 Findings and Determinations

12.1 Section 176(c) of the Clean Air Act General Conformity Rule Review:

The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed *de minimis* levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

12.2 Presidential Executive Orders (EO)

12.2.1 EO 11988, Floodplain Management

This action is not located in a floodplain.

12.2.2 EO 12898 and EO 14008, Environmental Justice

12.2.2.1 Provide details regarding screening and mapping tools and available information utilized during the review.

To identify whether disadvantaged communities are in the vicinity of the project, the Corps reviewed the Climate and Economic Justice Screening Tool (https://screeningtool.geoplatform.gov/en/#10.67/32.1814/-81.4837). It should be noted that his screening tool is a beta site that according to the website is "an early, in-progress version of the tool with limited datasets that will be regularly updated."

12.2.2.2 Have disadvantaged communities been identified within the vicinity of the proposed project? Yes

Although the tool identifies that there may be a disadvantaged community within the vicinity of the project, it does not provide the community's location in relation to the project site. The tool only identifies the area as Census tract 13029920101. Based on Google Earth aerial imagery, this tract is approximately 32,000 acres in size and the

project site is located in the southeast corner of the area. Further, the tool indicates that this community is disadvantaged due to unemployment only.

12.2.2.3 What meaningful involvement efforts did the Corps take for potentially affected disadvantaged communities and other interested individuals, communities, and organizations?

On June 7, 2022, the Corps issued a JPN advertising the project. In addition, the applicant has held meetings with the adjacent neighborhoods of Aspen Hill and Groover Lane as well as the adjacent the Black Creek Community which is located just south of the project site. Further, the proposed project has been reported on by numerous local media outlets, including written form (i.e., newspaper), online, public radio and television.

12.2.2.4 Describe if resource impacts are high and adverse.

As stated above, the tool indicates that there is a disadvantaged community in the census tract due to unemployment. Given that this project is expected to provide 10,000 jobs within this area, the Corps has determined that the project would not have an adverse effect on unemployment.

Do the impacts fall disproportionately on disadvantaged communities? No

Refer to the Sections above.

12.2.2.5 Based upon the discussion and analysis in the preceding sections, the Corps has determined that portions of the proposed project within our federal control and responsibility would not have a disproportionately high and adverse human health or environmental effect on disadvantaged communities.

12.2.3 EO 13112, Invasive Species, as amended by EO 13751

There are no invasive species issues involved in this proposed project.

12.2.4 EO 13212 and EO 13302, Energy Supply and Availability

The proposal is not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety.

12.3 Findings of No Significant Impact

Having reviewed the information provided by the applicant and all interested parties and an assessment of the environmental impacts, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an environmental impact statement will not be required.

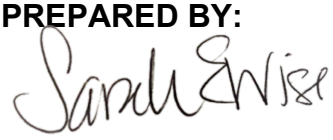
12.4 Compliance with the Section 404(b)(1) Guidelines

The proposed discharge complies with the Guidelines.

12.5 Public interest determination

Having reviewed and considered the information above, I find that the proposed project is not contrary to the public interest. The permit will be issued with appropriate conditions included to ensure minimal effects, ensure the authorized activity is not contrary to the public interest and/or ensure compliance of the activity with any of the authorities identified in Section 10.

PREPARED BY:



Date: 10/4/22

Sarah E. Wise
Lead Biologist, Coastal Branch

REVIEWED BY:

Date: 4 OCT 22

John E. Ballard
Assistant District Counsel

APPROVED BY:

Date: October 4, 2022

William M. Rutlin
Chief, Coastal Branch

APPENDIX A

Least Environmentally Damaging Practicable Alternative Watershed Analysis

10/4/2022

Although the proposed cumulative loss of wetlands for the Preferred Alternative in the Ogeechee 8-digit Hydrologic Unit Code ((HUC) 03060202) is higher (0.12%) than the cumulative loss of wetlands for Offsite Alternative 4 (0.08%) in the Ocmulgee 8-digit HUC (03070101), the rarity of wetland resources is greater in the Ocmulgee HUC than the Ogeechee HUC. As this assessment of alternatives spans across different HUCs and eco-regions, the Corps analysis must also take into consideration the relative importance and quantity of aquatic resources in the respective watershed and eco-regional settings. In the Ogeechee HUC, wetlands make up approximately 27.9% of the total HUC landmass, whereas in the Ocmulgee HUC, wetlands make up approximately 6.5% of the total HUC landmass. Further, the Ocmulgee HUC is approximately 2.5 times larger in landmass area than the Ogeechee HUC, which requires normalization for the purposes of comparing the proposed alternatives. As a result for the need of normalization, the Corps developed a “Wetland Rarity Ratio” as a means to compare the relative size and rarity of wetland impacts in each watershed and eco-regional context. The Wetland Rarity Ratio is the percent of proposed cumulative loss of wetlands of each alternative (within the respective HUC) divided by the percent of wetland acres in the respective HUC. According to the comparison of Wetland Rarity Ratios for the project alternatives, the wetlands being impacted on Offsite Alternative 4 are 2.82 times rarer in the Ocmulgee HUC than those of the Preferred Alternative in the Ogeechee HUC. When multiplying this factor (2.82) by the proposed acres of impact (93.0) for Offsite Alternative 4, the Corps believes that the proposed wetland impact for Offsite Alternative 4 is should be considered as the equivalent of approximately 262 acres of impacts due to the increased rarity of wetland resources in the Ocmulgee HUC, and of greater environmental impacts to wetlands than the preferred alternative.

	Resource Impacts on Preferred Alternative	Ogeechee Watershed (HUC 03060202)	Potential Cumulative Loss (%)	Resource Impacts on Offsite Alternative 4	Ocmulgee Watershed (HUC 03130101)	Potential Cumulative Loss ((%)
Linear feet of streams as identified via NHDPlus*	5,100.00	10,536,133.40	0.05%	32,723.00	19,866,729.00	0.16%
Acres of wetlands as identified via NWI**	246.00	211,874.77	0.12%	93.00	122,870.60	0.08%

* Calculations were made from the analysis of the NHDPlus V.2.0 dataset (downloaded from EPA website on 09/27/22). Flowlines for both "StreamRiver" and "Artificial Path" feature types were included within the ca

** Calculations were made from the analysis of the NWI dataset (downloaded from USFWS website on 09/28/22). Wetlands calculatios included Freshwater Emergent Wetland, Freshwater Forested/Shrub Wetlands, and Riverine Wetlands. Freshwater Ponds and Lakes were omitted from this analysis.

	Acres in Size
Ogeechee	759,133.07
Ocmulgee	1,902,868.97
	2.51

*** Ocmulgee is 2.51 times greater in size than the Ogeechee

	Percent of Wetland Impact Acres as Compared to Total Wetland Acres in HUC (same as Potential Cumulative Loss %)	Percent of Wetlands in HUC	Wetland Rarity Ratio (Potential Cumulative Loss (%)/Percent of Wetlands in HUC) ****
Ogeechee - Preferred Alt.	0.11611%	27.91%	0.0041600
Ocmulgee/Offsite Alt. 4	0.07569%	6.46%	0.0117218
		Comparitive Rarity Ratio *****	**2.82**

**** Larger ratio indicates increased rarity.

***** Wetland impacts on Offsite Alternative 4 are 2.82 times more rare in their watershed context than wetland impacts on the Preferred Alternative.

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above-Referenced Standard Individual Permit Application

This document constitutes the Environmental Assessment, 404(b)(1) Guidelines Evaluation, as applicable, Public Interest Review, and Statement of Findings for the subject application.

1.0 Introduction and Overview: Information about the proposal subject to one or more of the Corps' regulatory authorities is provided in Section 1, detailed evaluation of the activity is found in Sections 2 through 11 and findings are documented in Section 12 of this memorandum. Further, summary information about the activity including administrative history of actions taken during project evaluation is attached (ORM2 Summary) and incorporated in this memorandum.

1.1 Applicant: Mr. Hugh "Trip" Tollison; Savannah Harbor - Interstate 16 Corridor Joint Development Authority (JDA). The JDA was created in 2014 to pursue those industrial/manufacturing development projects, which offered the potential for significant regional economic impact. The JDA is comprised of development authorities from Chatham, Effingham, Bryan, and Bulloch Counties, Georgia.

1.2 Activity location: The 1,944-acre project site is located south of the intersection of Georgia Highway 280 and Interstate 16, in Ellabell, Bryan County, Georgia (Latitude 32.1584, Longitude -81.4533).

1.3 Description of activity requiring permit: The discharge of fill material into 62.83 acres of wetland, 833 linear feet of stream, and 0.62 acre of ditch, to facilitate the construction of an automotive Original Equipment Manufacturing (OEM) facility. The facility would be constructed in two phases. Phase 1 involves development of approximately 1,350 acres for manufacturing and production space, a rail spur, and associated infrastructure (i.e. roads, utilities, etc.). Phase 2 would involve development of an additional 594 acres for expansion of manufacturing, distribution, and quality assurance components. While the timing for the initiation of construction of Phase 2 is dependent on market conditions, it is expected to be completed and operational within 10 years of completing construction of Phase 1. No impacts to waters of the United States are authorized for construction of Phase 2.

1.3.1 Proposed avoidance and minimization measures: The applicant stated that complete avoidance of aquatic resources was not feasible due to the size and configuration of the components of the proposed development; and the distribution and location of aquatic resources across the project site. However, the applicant avoided 229.89 acres of wetland and 4,212 linear feet of stream. Regarding minimization measures, the applicant has proposed to install culverts under the rail bed. For detailed avoidance and minimization measures, refer to Section 5 of this document.

1.3.2 Proposed compensatory mitigation: As proposed, the project would result in unavoidable impacts to 62.83 acres of wetland, 1,833 linear feet of stream, and 0.62 acre of ditch. To offset the unavoidable loss in aquatic function that would result from these impacts, the applicant proposed the purchase of 425.6 wetland credits and 5,997.6 stream credits from Corps' approved mitigation banks with a primary geographic service area that includes the Permit Area.

1.4 Existing conditions and any applicable project history: The proposed site is approximately 1,944 acres and is located in the southeast quadrant of the Interstate 16 and Highway 280 intersection. The site was created by assembling three parcels (i.e. the Bradley Tract, Samwilka Tract and Drawdy Tract). According to the applicant, they are currently under contract to purchase the property, with the contingency that the automotive manufacturer selects the site. The topography ranges from an elevation of 20' within the wetland area along Black Creek, to almost 90' near Interstate 16. Topographic elevation change of this magnitude is uncommon for properties within the lower Coastal Plain of Georgia. Based on the experience of the Savannah District, most large development tracts located in the lower Coastal Plain are comprised by approximately 30 percent streams, wetlands, and other water of the United States.

Only 16 percent of the proposed project area consists of wetlands, streams, and other waters. The site has historically been managed for timber production, with much of the timber being harvested from uplands over the past five years, and portions continue to be harvested today. By letters dated May 22, 2015, and May 12, 2015, the Corps verified that the two parcels that comprise most of the project area (the Bradley Tract and the Samwilka Tract) contain 309.39 acres of jurisdictional wetland, 17.56 acres of isolated, non-jurisdictional wetland, 1,830 linear feet of perennial stream, 2,155 linear feet of intermittent stream, 1,060 linear feet of ephemeral stream, and 0.62 acre of man-made ditches. In addition, the applicant has submitted a request for an Aquatic Resource Delineation Review (ARDR) for the third parcel, the Drawdy Tract. Based on the information provided in the ARDR request, the Drawdy Tract contains 0.39 acre of wetland. As documented and recorded during the field surveys, dominant habitats on the entire site include managed pine plantation (both upland and wetland), forested

wetlands, scrub-shrub wetlands, isolated forested wetlands, isolated scrub-shrub wetlands, perennial and intermittent streams and man-made ditches; as further discussed below. The following summary provides a brief description of each of the above habitats.

Managed Pine Plantation Upland: The majority of the property consists of planted pine plantation that has been cut within the last year and replanted. Smaller areas of mature pines are located at the northern and southern portions of the project site. The recently clear cut areas contain only herbaceous and scattered shrub species mixed with the pine seedlings. Areas cut several years ago were sprayed with herbicide to kill remaining hardwoods (i.e., water oaks, live oaks) and replanted in pines. The shrub and herbaceous layer within these areas is much denser than the recently cut areas. Table 1 below identifies the species composition and distribution within each area.

Table 1. Vegetation within the Managed Pine Plantation Upland

	Recently Clear Cut Areas	Previously Clear Cut Areas	Mature Pine Plantation
Overstory	Live oak (*Quercus grandiflora*)	N/A (sprayed)	Slash pine; Red maple (*Acer rubrum*); Sweetgum (*Liquidambar styraciflua*); Water Oak (*Quercus nigra*)
Understory	Slash pine seedlings (*Pinus elliottii*); loblolly pine seedlings (*Pinus taeda*); blackberry (*Rubus argutus*); broomsedge (*Andropogon virginicus*)	Slash pine seedlings; loblolly pine seedlings; blackberry; broomsedge; Saw palmetto (*Serenoa repens*); Bracken fern (*Pteridium aquilinum)*; Yellow jasmine (*Gelsenium sempervirens*)	Broomsedge; Yellow jasmine; saw palmetto; bracken fern; wax myrtle (*Myrica cerifera*)

Managed Pine Plantation Wetland: These areas are generally located in the southeastern portion of the property within the proposed rail spur and also along the upper fringe of portions of the forested wetland areas that are subject to more frequent hydrologic saturation and inundation. The dominant species found within the overstory consist of slash pine, red maple, sweetgum, and Red bay (*Persea borbonia*); whereas the dominant species found within the understory consist of wax myrtle, Swamp titi (*Cyrilla racemiflora*), greenbrier (*Smilax laurifolia*), giant cane (*Arundinaria gigantean*), sweetgum, water oak, red maple, yellow jasmine, and blackstem chainfern (*Woodwardia virginica*).

Forested Wetlands: Forested wetlands are dispersed across the project site. Those located immediately north of Tar City Road, south of Tar City Road, and at the southeastern project site drain into Black Creek. The majority of these wetlands have mature hardwood species in the center portions of the drain and a dense scrub-shrub layer of swamp titi along their perimeter, varying in width between twenty-five feet and fifty feet on average. Intermittent streams are present within the interior of several of these drainages. The dominant species found within the overstory consist of water oak, red maple, sweetgum, Red bay, blackgum (*Nyssa biflora*) and bald cypress (*Taxodium distichum*); whereas the dominant species found within the understory consist of wax myrtle, swamp titi, greenbrier, blackstem chainfern, sphagnum moss (*Sphagnum spp.*), poison ivy (*Toxicodendron radicans*), fetterbush (*Lyonia lucida*), blackberry and netted chainfern (*Woodwardia aerolata*).

Scrub-Shrub Wetlands: Hardwoods were harvested in some portions of the wetland areas on the project site, primarily along the perimeter of the forested wetland systems. These areas now have a dense understory. The dominant species found within the understory consist of wax myrtle, swamp titi, greenbrier, blackstem chainfern, sphagnum moss, sweetgum, red maple, sweet bay, slash pine, and blackberry.

Isolated Forested Wetlands: The project site contains numerous isolated forested wetlands. These areas are depressional wetlands with mature overstory and varying degrees of shrub and herbaceous cover. The dominant species found within the overstory consist of water oak, red maple, sweetgum, red bay, blackgum and bald cypress; whereas the dominant species found within the understory consist of wax myrtle, swamp titi, greenbrier, blackstem chainfern, sphagnum moss, poison ivy, fetterbush, blackberry and netted chainfern.

Isolated Scrub-shrub Wetlands: The project site also contains numerous isolated scrub-shrub wetlands. These areas are depressional wetlands with shrub layers that are dominated by small pines. The dominant species found within the understory consist of slash pine, broomsedge, blackstem chainfern, sphagnum moss, and yellow jasmine.

Streams: The project site contains numerous intermittent streams located in the central portions of the forested wetland systems. These streams average approximately three feet in width and twelve inches in depth. The streams lack vegetation and consist of sand and mud bed and banks of varying heights. In addition, the site contains numerous perennial streams located along the southern and eastern boundaries of the site.

Man-Made Ditches: Approximately 0.62 acre of man-made ditch is present within the property. This habitat is defined by bed and bank of the feature with little to no vegetation present. The ditches were presumably constructed for silvicultural purposes and extend through several of the historically isolated wetlands.

1.5 Permit Authority: Section 404 of the Clean Water Act (33 USC 1344).

2.0 Scope of review for National Environmental Policy Act (i.e. scope of analysis), Section 7 of the Endangered Species Act (i.e. action area), and Section 106 of the National Historic Preservation Act (i.e. permit area)

2.1 Determination of scope of analysis for National Environmental Policy Act (NEPA):

The scope of analysis includes the specific activity requiring a Department of the Army permit. Other portions of the entire project are included because the Corps does have sufficient control and responsibility to warrant federal review.

Final description of scope of analysis: The proposed work that requires impacts to aquatic resources and the work occurring in adjacent uplands are integrally related; therefore, the Corps has determined that the scope of analysis for NEPA is the entire 1,944-acre project site.

2.2 Determination of the "Corps action area" for Section 7 of the Endangered Species Act (ESA): The proposed work that requires impacts to aquatic resources and the work occurring in adjacent uplands are integrally related; therefore, the Corps has determined that the action area for Section 7 ESA is the entire 1,944-acre project site.

2.3 Determination of permit area for Section 106 of the National Historic Preservation Act (NHPA):

The permit area includes those areas comprising waters of the United States that will be directly affected by the proposed work or structures , as well as activities outside of waters of the U.S. because all three tests identified in 33 CFR 325, Appendix C(g)(1) have been met.
Final description of the permit area: The proposed work that requires impacts to aquatic resources and the work occurring in adjacent uplands are integrally related; therefore, the Corps has determined that the permit area for Section 106 NHPA review is the entire 1,944-acre site.

3.0 Purpose and Need

3.1 Purpose and need for the project as provided by the applicant and reviewed by the Corps: The applicant's stated purpose and need for the project is "to obtain a 404 permit to facilitate development of a site suitable to support an OEM auto manufacturing facility."

3.2 Basic project purpose, as determined by the Corps: The Corps has determined that the basic purpose of the proposed project is to construct an OEM auto facility.

3.3 Water dependency determination: The activity does not require access or proximity to or siting within a special aquatic site to fulfill its basic purpose. Therefore, the activity is not water dependent.

3.4 Overall project purpose, as determined by the Corps: The Corps has determined that the overall project purpose is to construct an OEM auto manufacturing facility within the area of Chatham, Effingham, Bryan, and Bulloch Counties, that is located within 50 miles of the Savannah Harbor.

4.0 Coordination

4.1 The results of coordinating the proposal on Public Notice (PN) are identified below, including a summary of issues raised, any applicant response and the Corps' evaluation of concerns.

Were comments received in response to the PN? Yes

Were comments forwarded to the applicant for response? Yes

Was a public meeting and/or hearing requested and, if so, was one conducted?

Yes, a public meeting/hearing was requested but was not held.

Comments received in response to public notice:

(1) Southern Environmental Law Center (SELC): By letter dated August 3, 2018, SELC submitted comments in response to the JPN regarding the applicant's need and purpose statement, compliance with the 404(b)(1) Guidelines (the Guidelines) and National Environmental Policy Act (NEPA), cumulative impacts, the Corps' public interest review and stormwater management. Specifically, SELC stated that the application was premature as

the applicant had not identified a tenant for the site, nor did they provide final site plans. According to SELC, the application is "unrealistically speculative" and without an identified user/tenant and final site plans, avoidance and minimization, cumulative impacts and alternative analyses cannot be performed nor can a stormwater management plan be designed. Therefore compliance with the Guidelines and NEPA cannot be achieved and thus a permit cannot be issued.

In addition, after the public comment period closed, SELC provided supplemental comments on February 7, 2019, and February 11, 2019, that were similar in nature to their August 2018 comments. These comments focused on SELC's assertion that the project purpose is speculative, the site selection criteria are hypothetical and that a county development authority may not request a permit for an activity it does not intend to undertake.

To support their February 2019 comments regarding the assertion of the project being speculative, SELC provided a report entitled, "Are Megasites Necessary to Attract Major Automotive Companies in the Southeast?," prepared by Baum & Associates, and dated February 8, 2019. According to the report, "While growth may continue with investment from both automakers and suppliers (including some non-traditional players such as technology firms), the need for a Megasite for a large automotive assembly facility is not obvious. Auto industry trends suggest more specialized facilities to accommodate the need to reduce investment risk and enable product-focused opportunities generally of a smaller size than what we have seen in facilities such as BMW in Spartanburg, SC, Mercedes in Vance, AL, and Nissan in Smyrna, TN. Opportunities with large suppliers and/or specialty vehicle companies may be available, but these companies will generally be looking for real estate and/or facilities with less cost than that of the Megasites used by other companies. Further, auto companies are becoming more conservative in terms of major facility investments as they are being pressured with new product investment in safety, ride sharing, electrification, infotainment, and even a change in their business model."

Applicant's Response: By letter dated October 26, 2018, the applicant's agent provided the following responses to the SELC's initial round of comments made during the public comment period.

Regarding SELC's comments on the project being speculative, the agent stated:

> "This project is not speculative, and the project purpose is clearly and narrowly defined. The purpose of this project is to obtain a USACE Section 404 permit to facilitate the construction and development of an OEM site. The overall project purpose is to provide a pad ready OEM site which complies with all nine site criteria discussed within the permit application and can support a manufacturing facility. More specifically, the project is proposed to support an automotive OEM site.

> A project which could not define the proposed land use would be speculative. For example, a project which proposes to obtain a permit for development where "development" is not defined would be speculative. Evaluation of a project requires that the site use be defined because specific types of developments require specific types of designs to comply with industry standards. A single-family residential subdivision design is different than multifamily. Commercial office space requirements are different than commercial flex space or commercial retail. Requirements for industrial manufacturing are different than industrial sites supporting distribution. Because the use is clearly and narrowly defined and because the site plan has been developed to comply with industry standards, the project is not speculative."

Corps Evaluation: On August 3, 2018, the applicant informed the Corps that the tenant for the project site would be an automotive manufacturer. In addition, on February 11, 2019, the applicant provided an updated site-specific development plan, depicting the facilities proposed for construction, with associated aquatic resource impacts. Therefore, while there is no specific end use tenant identified by name, the Corps has been provided specific information on the type of facility: an OEM auto manufacturing site. This information is supported by site specific criteria, including specific components of an OEM that would be required, and updated site plans. Based on the identification of the type of tenant, and submittal of the updated site plans, the Corps has determined that the project is not speculative in nature, and adequately defined for the purposes of conducting an alternatives analysis, pursuant to the Guidelines.

Regarding the applicant's comments on the overall project purpose, per the Guidelines, it is the responsibility of the Corps, not the applicant, to define the overall project purpose. However, the applicant's needs are considered in the context of the desired geographic area of the development, and the type of project being proposed. Based on information contained in the application, the Corps has determined that the overall project purpose is to construct an OEM auto manufacturing facility within the area of Chatham, Effingham, Bryan, and Bulloch Counties that is within 50 miles of the Savannah Harbor. This overall purpose is supported by the fact that the applicant is comprised of development authorities for these four Georgia Counties, which are all located within 50 miles of Savannah Harbor. The applicant has also provided information indicating that the proposed project would provide 4,000 new jobs. It is reasonable to assume that the JDA intends for the project and the resulting new jobs to be located within the four-county region under their jurisdiction.

Regarding SELC's comments on the lack of final site plans and the potential inability of the project to comply with the Guidelines and NEPA regarding avoidance and minimization, cumulative impacts and alternative analyses, the agent stated the following:

"The site design and facility layout are based on standard automobile OEM site requirements and all components of the plan are concrete, factual and mandatory when considering a typical OEM project. OEM facilities will typically require management and commercial facilities including corporate offices, a visitor's center, a customer experience center, a training center, etc. Manufacturing elements are expected to include the press building, fabrication building, paint building, product completion building and special products building. The distribution elements will most likely include the train yard, truck yard, and completed product yard. The employee services component will probably include a cafeteria, medical center, employee parking, training center, and the central office. The storage component will likely include the central storage building and liquid storage building. The quality facilities will potentially include a product testing area, testing station and other miscellaneous buildings required for quality assurance support. The final components are expected to include waste facilities, security facilities such as the guard house and fire house, the utility facilities including gas, electric and water, and supplier facilities. Lastly, facility orientation on any OEM site with Interstate or Highway frontage will parallel the road and will be designed to accommodate standard operational and production flow (i.e. the paint shop is not located at the beginning of the production line). To demonstrate the size and scope of these facilities, five existing manufacturing facilities from various locations across the southeast were overlaid on the project site. While the configuration varies (primarily due to topography), the exhibits clearly justify the proposed project's size and scope."

Corps Evaluation: As stated above, on February 11, 2019, the applicant provided updated site plans. Based on the updated site plans, the Corps has completed a 404(b)(1) analysis, including an analysis of both on and off-site alternatives, and concluded that the applicant's preferred alternative (i.e. the project as proposed) is the Least Environmentally Damaging Practicable Alternative (LEDPA) and thus complies with the Guidelines. Applicants are required to submit accurate information with an individual permit application; however, there may varying degrees of certainty with any given application, regarding the site development plan.

For the subject project, the Corps considered the site development plan that was included in the original application to be too speculative or conceptual to complete a permit evaluation; and in particular an analysis of the project pursuant to the Section 404 (b)(1) Guidelines. However, the applicant subsequently submitted a revised site development plan that depicted the layout of the proposed project, with an acceptable degree of certainty. In addition, the applicant confirmed that the JDA intended to clear the site, fill all wetlands authorized for impact, purchase required compensatory mitigation, and construct all infrastructure.

The Corps would include the following special conditions in any initial proffered permit for the project:

> "The Project Area shall only be developed by an automobile manufacturing company. Prior to initiating any authorized work within Phase 1 of the Permit Area, the Permittee shall notify the Corps in writing that a contract has been signed with an automotive manufacturing company, which will develop the Project Area in accordance with the terms, conditions, and development plans of this permit."

The above special conditions would ensure that the work/fill authorized by the permit is only for the construction of an automobile manufacturing facility and that all tenants would be required to adhere to the permit's special conditions, including the authorized site plans. Should someone wish to develop the site for a different purpose or change the permitted site plans (including changing the amount of authorized fill), a modification to the permit would be required. The above special conditions serve to address concern that no authorized work would occur if there is no tenant for the site (i.e. the JDA cannot fill wetland or make the site "pad ready" in order to attract a tenant).

Please refer to Section 5 of this document for the Corps' complete evaluation of the proposal, pursuant to the Guidelines. Furthermore, the Corps' Environmental Assessment of the subject applicant concluded that the proposed project is compliant with NEPA.

Regarding cumulative impacts, the Corps has completed a cumulative impact analysis. When considering the overall impacts that would result from the proposed activity, the has Corps determined that the proposed project, with proposed special permit conditions (including the requirement for compensatory mitigation), would not result in a significant impact on the human environment when considered alone or in concert with the other past, present and reasonably foreseeable future projects in the basin. Please refer to Section 9 of this document for the cumulative impact analysis.

Regarding SELC's comments on stormwater management, the agent stated, "The proposed project will comply with all state and local stormwater requirements including treatment and detention."

Corps Evaluation: Stormwater on the site would be required to pass through stormwater detention ponds designed to meet both the requirements of Section 402 of the Clean Water Act and State stormwater management regulations for treatment before it is allowed to flow off the site and/or into downstream waters. By letter dated February 13, 2019, the Georgia Department of Natural

Resources, Environmental Protection Division, issued a conditioned Water Quality Certification for this project pursuant to Section 401 of the Clean Water Act. The applicant is responsible for compliance with the conditions of this certification.

Regarding the Baum report, the report is focused on alternatives to the applicant's stated need and purpose; which would be contrary to regulations concerning the Corps evaluation of the applicant's need and purpose. Specifically, 33 Code of Federal Regulation (CFR) 320.4(q) states "When private enterprise makes application for a permit, it will generally be assumed that appropriate economic evaluations have been completed, the proposal is economically viable, and is needed in the market place." Pursuant to the Corps' implementing regulations (33 CFR Part 325, Appendix B, 9b(4)), the Corps takes into consideration the applicant's stated need and purpose to develop the determined need and purpose.

(2) U.S. Fish and Wildlife Service (USFWS): By email dated June 18, 2018, the USFWS stated the following: "I recommend that all gopher tortoises be relocated off the property. This should be done through coordination with John Jensen of the GADNR. The property should be thoroughly surveyed to be sure all gopher tortoise burrows are located for relocation. Relocation should occur in warm weather months when snakes are less likely to inhabit tortoise burrows. Burrows that tortoises are captured from should be scoped before considered them empty and collapsing them."

Applicant's Response: As outlined in the permit application package and as recommended by USFWS, the applicant will coordinate with GADNR to relocate all gopher tortoises within the project area prior to initiation of any land disturbance activities.

Corps Evaluation: The gopher tortoise is not a federally listed species; however, the applicant has voluntarily agreed to coordinate with GADNR to relocate tortoises. The Corps completed Section 7 consultation with FWS concerning the potential for the proposed project to affect the Eastern Indigo snake (*Drymarchon couperi*). As a result of this consultation, the FWS concurred with the Corps may affect, but not likely to affect determination, provided the following special conditions are included in any draft permit issued for the proposed project.

a. Prior to work occurring on the site, the permittee shall survey the project site for gopher tortoise burrows. All borrows shall be scoped to determine if they are active (i.e. occupied by the tortoise) or empty.

b. Should a burrow be determined active, the gopher tortoise shall be relocated off the property. All relocations shall be coordinated with Mr. John Jensen of the Georgia Department of Natural Resources. Relocation shall occur in warm weather months when snakes are less likely to inhabit the tortoise burrows.

c. Once the gopher tortoise has been relocated, the burrow shall be collapsed. Prior to collapsing the burrow, the burrow shall be scoped to ensure it is empty. Based on the inclusion of the above special conditions, the Corps has determined that the proposed project may effect, but is not likely to adversely affect the Eastern Indigo snake and gopher tortoise.

By email dated January 29, 2018, the USFWS concurred with the above effects determination.

(3) Georgia Department of Natural Resources, Environmental Protection Division (GAEPD): By letter dated July 25, 2018, the GAEPD requested that the applicant investigate areas south of the proposed rail spur alignment to see if there would be less impact to aquatic resources. In addition, GAEPD requested that "culverts/underpasses be employed in order to benefit wildlife passage and wetland hydrologic connectivity over this rather lengthy approximately 6,000 foot wetland crossing."

Applicant's Response: "The proposed project will be serviced by Genesee & Wyoming, Inc. (G&W) which is a short line railroad company. As part of the project design and review, the applicant and engineering team considered alternative rail routes that meet the service and rail access needs for the project and comply with G&W industrial track construction specification (see attached). Considerations included wetland impacts, habitat conditions, property ownership and fixed rail termini (rail must be located within the center of proposed facility and must connect to existing rail line). Four alternative routes were evaluated which are summarized in the following Table:

Table 2: Evaluation of Rail Alternatives

Option	Complies w/Rail Specification	Avoids Property Acquisition	Wetland Impacts (acres)	Stream Impacts (Linear Feet)	Avoids Mature Habitat
A (Applicant's preferred)	Yes	Yes	27.29	0.0	Yes
B	Yes	No	32.32	135	No
C	Yes	No	15.71	130	Yes
D	No	No	22.43	0.0	Yes

"Option A was proposed because it complied with rail specifications, avoided acquisition of additional property and avoided mature forested wetland habitat (required impacts to managed pine wetland). Option B was determined suitable and was preferred due to the direct linear access and reduced tract length. However, Option B required greater wetland impacts, required impacts to mature hardwood habitats and required acquisition of additional property from multiple property owners. Option C was determined suitable but required additional property acquisition and during discussions between the JDA and the property owner, the property owner raised objections to the proposed corridor bisecting/fragmenting the property. Option D evaluated installation of the rail line on the northern portion of the property at the request of the applicant. This alternative alignment avoided bisecting the property but does not comply with rail construction specifications (greatly exceeded minimum slope and radius requirements). For these reasons, Option A was determined to be the only practicable corridor for rail access. As recommended by EPD, the railroad spur will include culverts/underpasses to maintain hydrologic connectivity and wildlife passage. A typical section of the rail bed and culverts is attached."

Corps Evaluation: The Corps is satisfied with the applicant's response regarding Options B and D. However, regarding Option C, the Corps determined that additional information was needed to determine whether this alignment was a practicable alternative under the Guidelines. Specifically, the Corps requested the applicant provide justification as to why the cost of acquiring this property precludes this alignment as a practicable alternative under the Guidelines. The Corps also advised the applicant that when evaluating the practicability of the cost of an alternative, the analysis should consider all project costs, including: land already in ownership and/or land acquisition; land clearing, infrastructure, and project development; compensatory mitigation; permitting; and other associated project costs.

On February 25, 2019, the applicant provided the requested information for Option C. Specifically, the applicant provided a cost-benefit analysis documenting that the costs associated with constructing the rail spur along this alignment would render this alternative not practicable. Based on this analysis, the Corps has determined that Option C is not a practicable alternative.

By letter of February 13, 2019, the Georgia Department of Natural Resources, Environmental Protection Division, issued a conditioned Water Quality Certification for this project pursuant to Section 401 of the Clean Water Act.

National Marine Fisheries Service, Habitat Protection Division (NMFS, HPD): By letter dated July 16, 2018, NMFS, HPD stated "Based on the information in the public notices, the proposed projects would not occur in the vicinity of essential fish habitat (EFH) designated by the South Atlantic Fishery Management Council, Mid-Atlantic Fishery Management Council, or the NMFS. Present staffing levels preclude further analysis of the proposed work and no further action is planned."

Applicant's Response: N/A

Corps Evaluation: N/A

(4) Mr. Corde Wilson: By letter dated August 1, 2018, Mr. Wilson provided comments regarding the proposed mitigation plan. Specially, Mr. Wilson expressed concerns that the purchase of 721.52 wetland credits from mitigation banks within the Ogeechee River Basin would result in a deficit of wetland credits within the basin. As a result, future projects would be left with no other option than the GA Land Trust In Lieu Fee program. In addition, Mr. Wilson suggested routing the rail line from the facility through his family's property to reduce wetland impacts associated with the rail alignment.

Applicant's Response: "Addressed above."

Corps Evaluation: Mr. Wilson's suggested rail alignment is identified as Option C in the applicant's response to GAEPD's comments. As stated above, the applicant provided an alternative analysis for the various rail alignments, which documented the cost of land purchase and constructions of Option C. The applicant's analysis documented that Option C would result in an approximate eighteen percent increase in the overall cost of the project, which rendered this alternative impracticable.

Regarding Mr. Wilson's comments on the compensatory mitigation plan, any future projects requiring compensatory mitigation would comply with the Savannah District's most recent guidance on compensatory mitigation requirements; and the 2008 Final Compensatory Mitigation Rule (33 CFR Parts 325 and 332). This would allow applicant's to compensate for project impacts within the Ogeechee watershed via the purchase of credits from a mitigation bank within the secondary service area. As a result, future projects within this watershed would be mitigated for.

(5) Whispering Pines Neighborhood: By letter dated July 29, 2018, the Whispering Pines neighborhood expressed concerns regarding the potential for increased danger for residents entering and leaving the neighborhood with the proposed entrance at the top of a hill approximately 1000 feet from the subdivision road, the effect the project would have on water pressure and quality of the community well, noise from possible tractor trailer traffic in and out of the development, noise from the proposed rail spur, and the impact on wildlife around the neighborhood.

Applicant's Response: "As discussed with the USACE, the JDA has met with the neighborhood to discuss the project and concerns expressed by Ms. Stafford. In addition, the JDA is providing the following response to specific questions:

Traffic Safety: The JDA has met with Bryan County and Georgia Department of Transportation (GDOT) regarding the proposed project. The JDA, Bryan County and GDOT will continue to work together to evaluate and resolve any traffic safety concerns.

Effect of Project on Water Pressure and Community Well: Water service to the proposed facility will be provided by Bryan County and the project will not have an impact on water pressure nor water quality of the community well.
Noise from Tractor Trailer Traffic and Rail Spur: Highway 280 is a heavily used State Highway and there will be an increase in truck traffic following completion of the project. However, to aid in the overall reduction of noise impacts, the project will consider design features such as vegetated buffers, constructed berms, etc. within the project area. The proposed rail spur will not have a noise impact as the closest point of rail within the site is over one mile from the neighborhood and proposed rail access is located three miles east of the neighborhood.

Impact on Wildlife: As with any development, this project will result in the loss of managed pine plantation which is used by a wide variety of wildlife species common for Bryan County however, the project will not impact federally listed threatened/endangered species and much of the wildlife currently using the site will continue to use green spaces within the development upon project completion."

Corps Evaluation: The Corps is satisfied with the applicant's response regarding traffic, water pressure/quality and noise impacts. Regarding traffic concerns, it is the responsibility of the County and GDOT to address traffic concerns/issues. To date, the Corps has not received any comments from GDOT regarding the need for additional traffic improvements associated with the project.
Regarding water quality concerns, by letter of February 13, 2019, the Georgia Department of Natural Resources, Environmental Protection Division, issued a conditioned Water Quality Certification for this project pursuant to Section 401 of

the Clean Water Act. In addition, if the project is authorized, the Corps would include special permit conditions to ensure that downstream water quality is not adversely affected during construction.

With the issuance of the State 401 Water Quality Certification and the inclusion of the above special conditions, the Corps has determined that the project would have a negligible effect on water quality.

Regarding impacts to wildlife, the project would result in the loss of 62.83 acres of wetland, 17.56 acres of isolated, non-jurisdictional wetland, 833 linear feet of stream and 0.62 acre of ditch, all of which can provide habitat for wildlife. Since the fill for this project would eliminate the above aquatic resources, wildlife species occupying these areas would be impacted through loss or displacement. While sedentary species would not be able to move from the impact area and would be lost, it is anticipated that larger and more motile wildlife may move to other aquatic and high land areas as fill activities commence. Therefore, the Corps has determined that the project would have a long term minor effect on wildlife.

(4) Comments regarding the applicant's proposed compensatory mitigation plan: The Corps received several comment letters objecting to the proposed mitigation plan. Specifically, the commenters expressed concerns with the applicant's proposal to utilize the in lieu fee program, instead of purchasing credits from a mitigation bank within the secondary service area once all credits have been exhausted in the primary service area.

Applicant's Response: "The JDA will provide compensatory wetland and stream mitigation in accordance with *SAVANNAH DISTRICT, US ARMY CORPS OF ENGINEERS, REGULATORY GUIDELINES TO EVALUATE PROPOSED MITIGATION BANK CREDIT PURCHASES IN THE STATE OF GEORGIA.* Compensatory mitigation will be provided in the form of wetland and stream mitigation credit purchase from USACE approved mitigation banks."

Corps Evaluation: To offset the unavoidable loss in aquatic function that would result from these impacts, the applicant proposed the purchase of 425.6 wetland credits and 5,997.6 stream credits from Corps' approved mitigation banks with a primary geographic service area that covers the Permit Area. If all or part of the required primary service area mitigation credits were not available when needed, the applicant would be required to notify the Corps and obtain approval prior to purchase. Regardless of what type of credits and/or from what source mitigation credits may be purchased as compensatory mitigation for this project, the credit purchase must be compliant with the 2008 Mitigation Rule.

4.2 Were additional issues raised by the Corps including any as a result of coordination with other Corps offices? No

4.3 Were comments raised that do not require further discussion because they address activities and/or effects outside of the Corps' purview? No

5.0 Alternatives Analysis (33 CFR Part 325 Appendix B(7), 40 CFR 230.5(c) and 40 CFR 1502.14). An evaluation of alternatives is required under NEPA for all jurisdictional activities. An evaluation of alternatives is required under the Section 404(b) (1) Guidelines for projects that include the discharge of dredged or fill material. NEPA requires discussion of a reasonable range of alternatives, including the no action alternative, and the effects of those alternatives; under the Guidelines, practicability of alternatives is taken into consideration and no alternative may be permitted if there is a less environmentally damaging practicable alternative.

5.1 Site selection/screening criteria: In order to be practicable, an alternative must be available, achieve the overall project purpose (as defined by the Corps), and be feasible when considering cost, logistics and existing technology.

Criteria for evaluating alternatives as evaluated and determined by the Corps:

Geographic Location: The area within Chatham, Effingham, Bryan, and Bulloch Counties that is located within 50 miles of Savannah Harbor. According to the applicant, the project will require import and export of product, supplies, parts, etc., and that it is therefore preferable for the project to be located within 50 miles of the Savannah Harbor Port. According to the applicant, the JDA was "created to pursue industrial/manufacturing projects of regional significance…And, successful recruitment of a large project would result in significant job creation and capital investment among all four counties." Due to the fact that the applicant is comprised of the development authorities for this four-county region, it is important for the proposed project and employment opportunities to be sighted within this area.

Size: 1,500 acres of developable land. According to the applicant, the OEM site would consist of manufacturing, commercial, employee services, and storage components, as well as quality control facilities. Generally speaking, the manufacturing component would consist of the press building, fabrication building, paint building, product completion building and special products building; whereas the commercial component would consist of corporate offices, a visitor's center, a customer experience center, and a training center. The

project would also require distribution elements consisting of the train yard, truck yard, and completed product yard. The employee services component would include a cafeteria, medical center, employee parking, training center, and the central office. The storage component would include the central storage building and liquid storage building. The quality control facilities would include a product testing area, testing station and other miscellaneous buildings required for quality assurance support. The final components generally include waste facilities, security facilities such as the guard house and fire house, the utility facilities including gas, electric and water, and supplier facilities. Based on the need for these components, the minimum tract size needed to support the proposed project is approximately 1,500 acres of contiguous land.

Zoning: Land use restrictions associated with current zoning are a major consideration in all industrial projects. Truck traffic, equipment operation, adjoining land use, buffers, etc. make the location of the project and the current zoning a critical component. For this site screening criterion, tracts that are currently zoned for the intended use or that could be reasonably re-zoned to accommodate the proposed project were considered.

Utilities: Utility services or access to utility services (water, sewer, electrical, gas, phone, cable, etc.) are required. For this reason, location of existing utilities and cost associated with servicing the project site if those utilities were not already available is a consideration in the site screening criteria.

Access to Interstate and Rail. Suitable access to an Interstate Highway by a paved road, suitable to support heavy truck traffic (semi-trailer truck) associated with the proposed manufacturing facility. The site must be located adjacent to or within two miles of an Interstate interchange. For this project, alternative sites were limited to interchanges along Interstate 95 or Interstate 16. Rail must be present within the site, adjacent to the site, or could be reasonably extended to the site.

Availability: Sites listed for sale or known to be available for purchase were considered. In addition, the number of parcels required to create a 1,500 acre development area was a consideration (acquiring one or two parcels is far more likely than assembling 70 parcels to create the same size development area).

5.2 Description of alternatives

5.2.1 No action alternative: Under the No Action Alternative, either the project is constructed with no impacts to waters of the U.S. and therefore no permit is required or issued, or the requested permit is denied and no project is

constructed. The JDA has submitted that due to the location of the aquatic resources and the size of the facility, it is not possible to entirely avoid aquatic resources and meet the overall project purpose at the proposed location. On this basis, the No Action Alternative can be considered equivalent to a permit denial, which would only meet the project purpose and need if another location were available which would have no impacts to waters of the U.S.

5.2.2 Off-site alternatives

Off-site alternative 1: This tract is known as the Chatham County Economic Development Site. The site is in the northeast quadrant of Interstate 16 and Interstate 95, near Savannah, within Chatham County, Georgia. Based on the exhibits provided by the applicant, this tract is 1,647 acres.

- Geographic Location. The site is located approximately 5 miles from the Port of Savannah and therefore falls within the 50 mile geographic location. The site, with acquisition of additional parcels would meet the minimum size criteria for the project.

- Size. Based on the exhibits provided by the applicant, the current tract size is 1,200 acres; however an additional 447 acres (+/- 33 parcels) located adjacent to the site could be acquired to create the area/acreage required to facilitate the proposed project. It is assumed that the additional parcels/acreage (considering overall project cost) could be purchased to create the area/acreage.

- Zoning. The majority of the tract is currently zoned for industrial and manufacturing uses, and the additional parcels that would require acquisition could likely be rezoned.

- Utilities. Utilities are currently available at the site.

- Access to Interstate and Rail. Suitable access to Interstate 16 is currently afforded via Dean Forest Road. In addition, an existing railroad line is located immediately adjacent to the site and a rail spur has already been extended into the tract.

- Availability. This site has been developed as a regional OEM-site and currently contains all utilities required to service the proposed project.

This alternative is capable of being done when considering cost and logistics, the property can be reasonably obtained, expanded and managed, and the project site meets the basic and overall project purpose. This alternative is practicable.

Off-site alternative 2: This tract totals 4,055 acres and is located west of Interstate 95, southeast of Highway 17 and south of Highway 84 within Liberty County, Georgia.

- Geographic Location. The site is located in Liberty County, which is not within the four-county geographic area of consideration. However, the site is 35 miles from the Port of Savannah and therefore falls within the 50 mile geographic location.

- Size. The site totals 4,055 acres which meets the minimum size criteria for the project.

- Zoning. The majority of the tract is currently zoned for industrial and manufacturing uses. Any portions of the tract not currently zoned for these uses could likely be rezoned.

- Utilities. This site has been developed as a regional OEM-site and currently contains all utilities required to service the proposed project.

- Access to Interstate and Rail. Suitable access to Interstate 95 is currently afforded via Highway 84 and construction of a new interchange is not required. In addition, an existing railroad line extends through the property.

- Availability. The project site could be purchased and would not require acquisition of additional parcels.

This alternative is capable of being done when considering cost and logistics, the property can be reasonably obtained, expanded and managed, and the project site meets the basic and overall project purpose. This alternative is practicable.

Off-site Alternative 3: This tract totals 2,603 acres and is located east of Hodgeville Road, south of Blanford Road and west of Highway 21 near Rincon, Effingham County, Georgia.

- Geographic Location. The site is located approximately 15 miles from the Port of Savannah and falls within the 50 mile geographic location.

- Size. The site totals 2,603 acres which meets the minimum size criteria for the project.

- Zoning. The tract is currently zoned for industrial use and no rezoning is required.

- Utilities. This site is located within 3 miles of Rincon and existing utilities which could reasonably be extended to the site to service the proposed project.

- Access to Interstate and Rail. Rail is located immediately adjacent to and east of the site and could be easily extended into the tract. However, the site does not contain suitable access to a major interstate and/or interchange. Hodgeville Road to the west and Blandford Road to the east are both rural two lane roads. Miles of major roadway improvements would be required to manage semi-trailer truck traffic servicing the manufacturing facility. In addition, the only reasonable access point to Highway 21 is located east of the project site and within the primary retail commercial area of Rincon. This site access point cannot accommodate the increase in truck traffic associated with the proposed manufacturing facility.

- Availability. The project site could be purchased and would not require acquisition of additional parcels.

This site satisfies many of the selection criteria; however, accessibility to a major interstate and traffic management/public safety issues associated with site access prohibits use of this site. This alternative is not practicable.

Off-site Alternative 4: This tract totals 3,588 acres and is located approximately 1 mile north of Interstate 16 and adjacent to and west of Arcola Road within Bulloch County, Georgia.

- Geographic Location. The site is located approximately 32 miles from the Port of Savannah and falls within the 50 mile geographic location.

- Size. The site totals 3,588 acres which meets the minimum size criteria for the project.
- Zoning. This property is not currently zoned for the intended use, but it is likely that the property could be rezoned.

- Utilities. Utilities necessary to support the proposed project are not present at or within the site. However, extension of required utilities would be both physically and economically feasible.

- Access to Interstate and Rail. Access to Interstate 16/existing interchange is available via Arcola Road. While improvements to approximately 2 miles of road would be required, these improvements would be economically feasible. However, this site does not contain rail which is a requirement for the project.

The closest rail line is approximately 7 miles south of the site. Extending rail would require installation of 7 miles of new line and installation of two overpasses (one over Highway 119 and one over Interstate 16) which is cost prohibitive.

- Availability. The project site could be purchased and would not require acquisition of additional parcels.

This alternative is capable of being done when considering cost and logistics, the property can be reasonably obtained, expanded and managed, and the project site meets the basic and overall project purpose. Off-Site Alternative 4 satisfies many of the site selection criteria; however, the site does not have rail access. This alternative is not practicable.

Off-Site Alternative 5: This tract totals approximately 3,200 acres and is located adjacent to and west of Highway 67, approximately 4 miles south of the Highway 67/Interstate 16 Interchange in Bulloch County, Georgia.

- Geographic Location. The site is located approximately 40 miles from the Port of Savannah and falls within the 50 mile geographic location.

- Size. The site totals 3,200 acres which meets the minimum size criteria for the project.

- Zoning. This property is not currently zoned for the intended use and currently contains a NRCS easement which prohibits industrial development.

- Utilities. Utilities necessary to support the proposed project are not present at or within the site. However, extension of required utilities would be both physically and economically feasible.

- Access to Interstate and Rail. Access to Interstate 16/existing interchange is available via Highway 67. While improvements to approximately 4 miles of road would be required, these improvements would be economically feasible. However, the site does not have access to rail and according to the applicant would require a minimum of 2 miles of new rail that would traverse numerous properties and cross over a state route.

- Availability. The project site could be purchased and would not require acquisition of additional parcels.

This alternative is capable of being done when considering cost and logistics, the property can be reasonably obtained, expanded and managed, and the project site meets the basic and overall project purpose. However, due to the existing NRCS easement, the project site could not currently be rezoned for industrial use. This alternative is not practicable.

Off-Site Alternative 6: This tract totals 6,450 acres and is generally located east of Highway 17, south of Harris Neck Road and northeast of Minton Road in McIntosh County, Georgia.

- Geographic Location. The site is located in McIntosh County, which is not within the four-county geographic area of consideration. The site is located approximately 39 miles from the Port of Savannah and falls within the 50 mile geographic location.

- Size. The site totals 6,450 acres and while the entire tract would not be purchased, the minimum size requirement for the project and acquisition of 2,000 acres could be achieved.

- Zoning. This property is not currently zoned for the intended use, but it is likely that the property could be rezoned.

- Utilities. Due to the rural location of the project, major utility infrastructure improvements including water, sewer, electrical, etc. would be required. For this site, wells would need to be installed, a wastewater treatment facility would need to be constructed, and power, gas and data/telecom would need to be extended to the site. In addition, commitments from a municipality for future operation and maintenance of the infrastructure would be required. Practically and economically, these requirements could not be met for this site at this time

- Access to Interstate and Rail. Access to Interstate 95 and an existing interchange is available via Harris Neck Road. While improvements to approximately 2 miles of road would be required, these improvements would be economically feasible. However, rail is not available at the site and is not available in McIntosh County. McIntosh County is one of the few counties in Georgia that no longer has an active railroad. The most recent active rail line was the Seaboard Coast Line Railroad which ran north to south along the western part of the county. However, the last active tract was removed by CSX in the late 1980s, leaving McIntosh County without any railroad track. Extension of an active line to the site for required rail access would be cost prohibitive.

- Availability. The project site could be purchased and would not require acquisition of additional parcels.

This alternative is capable of being done when considering cost and the property can be reasonably obtained, expanded and managed. However, this property does not meet the basic and overall project purpose when considering access, logistics, and utilities. Therefore, this alternative is not practicable.

Off-Site Alternative 7: This tract totals 3,175 acres and is located north of Interstate 16 and east of GA Highway 199 in East Dublin, Laurens County, Georgia.

- Geographic Location. The site is located in Laurens County, which is not within the four-county geographic area of consideration. The site is located over 100 miles from the Port of Savannah and falls far outside the 50 mile geographic location requirement.

- Size. The site totals 3,175 acres which meets the minimum size criteria for the project.

- Zoning. This property is not currently zoned for the intended use, but it is likely that the property could be rezoned.

- Utilities. Utilities necessary to support the proposed project are not present at or within the site. However, the extension of required utilities from the nearby City of Dublin would be both physically and economically feasible.

- Access to Interstate and Rail. Access to Interstate 16/existing interchange is available via Old River Road. Since the site is located immediately adjacent to the interchange, only a minimal amount of improvements would be required and these improvements would be economically feasible. In addition, rail is located adjacent to the site and could be extended to the site.

- Availability. The project site could be purchased and would not require acquisition of additional parcels.

This alternative is capable of being done when considering cost, and the property can be reasonably obtained, expanded, and managed. However, the site is located in Laurens County, and is not within 50 miles of a major port; and therefore, does not meet the geographic location requirement. Therefore, this alternative is not practicable.

Off-Site Alternative 8: This tract totals approximately 887 acres and is located north of Glynn Street and south of Highway 212 within Baldwin County, Georgia.

- Geographic Location. The site is located in Baldwin County, which is not within the four-county geographic area of consideration. The site also located over 160 miles from the Port of Savannah, and falls far outside the 50 mile geographic location requirement.

- Size. The site consists of the Milledgeville Baldwin County Development Authority Tract totaling approximately 887 acres and does not meet the minimal size criteria for the project.
- Zoning. This property is currently zoned for the intended use.

- Utilities. Utilities necessary to support the proposed project are located at the site.

- Access to Interstate and Rail. This site does not meet the requirement for major Interstate access as the closest interstate (I16/I75) is over 29 miles from the site. In addition, the site does not have access to rail and according to the applicant would require a minimum of 1.1 miles of new rail that would traverse numerous properties and cross over a state route.

- Availability. The project site could be purchased and would not require acquisition of additional parcels.

This alternative is capable of being done when considering cost and the property can be reasonably obtained, expanded and managed. However, this property does not meet the basic and overall project purpose when considering geographic location, size and major interstate access. This alternative is not practicable.

5.2.3 On-site alternatives

On-site alternative 1 (applicant's preferred alternative): The applicant's preferred alternative includes a commercial component totaling approximately 180 acres and a manufacturing component totaling 1000 acres. This plan includes vehicle access from Highway 280 west of the site approximately 1 mile south of the Interstate 16/Highway 280 interchange. The plan includes rail access from an existing rail line located on the southeastern boundary of the site. The facility is generally oriented with buildings on the north and south and product handling (i.e. rail yard, truck yard, completed product yard, etc.) within the center of the tract. This alternative contains all the required components of the project, and meets all site screening criteria. This is a practicable alternative.

On-site Alternative 2: This alternative includes a commercial component footprint totaling approximately 200 acres and a manufacturing component footprint totaling 1,000 acres. This plan includes vehicle access from Highway 280 west of

the site approximately 1 mile south of the Interstate 16/Highway 280 interchange. The plan includes rail access from an existing rail line located on the southeastern boundary of the site. The facility is generally oriented with buildings on the north and south and product handling (i.e. rail yard, truck yard, completed product yard, etc.) within the center of the tract. This alternative contains all the required components of the project, and meets all site screening criteria. This is a practicable alternative.

On-site Alternative 3: This alternative includes a commercial component footprint totaling approximately 180 acres and a manufacturing component footprint totaling 1,100 acres. This plan includes vehicle access from Highway 280 west of the site and rail access from an existing rail line located on the southeastern boundary of the site. The facility is generally oriented with buildings on the north and south and product handling (i.e. rail yard, truck yard, completed product yard, etc.) within the center of the tract. This alternative contains all the required components of the project, and meets all site screening criteria. This is a practicable alternative.

On-site Alternative 4: This alternative includes a commercial component footprint totaling approximately 200 acres and a manufacturing, component footprint totaling 1,100 acres. This plan includes vehicle access from Highway 280 west of the site and rail access from an existing rail line located on the southeastern boundary of the site. The facility is generally oriented with buildings on the west and south and product handling (i.e. rail, Yard, truck yard, completed product yard, etc.) extending from near Interstate 16 south through the site. This alternative contains all the required components of the project, and meets all site screening criteria. This is a practicable alternative.

On-site Alternative 5: On-site Configuration 5 was the original design proposed for the project. This plan includes a commercial component footprint totaling approximately 180 acres and a manufacturing component footprint totaling 1,300 acres. This plan incorporates a larger manufacturing component footprint when compared to On-Site Configuration 1 and On-Site Configuration 2 and maximizes use of the property. This plan includes vehicle access from Highway 280 west of the site and rail access from an existing rail line located on the southeastern boundary of the site. The facility is generally oriented with buildings on the north and south and product handling (i.e. rail yard, truck yard, completed product yard, etc.) within the center of the tract. This alternative contains all the required components of the project, and meets all site screening criteria. This is a practicable alternative.

5.2.3 On-Site Rail Alignment Alternatives: The proposed project would be serviced by Genesee & Wyoming, Inc. (G&W), which is a short line railroad company. The alternative rail routes that were considered to bring rail service into the project site, from an existing nearby rail-line, must meet the service and rail access needs for the project and comply with G&W industrial track construction specifications (Appendix B). Practicability screening criteria for rail alignment alternatives are: compliance with the G&W specifications; wetland/stream impacts; property ownership; and rail termini (i.e., the rail must terminate within the center of proposed facility and must also connect to existing rail line).

Rail Alignment 1 (Applicant's preferred): The applicant's preferred alternative would tie into the existing rail line near the southern boundary of the project site and travel west/southwest into the center of the project site. This alternative: meets the G&W specifications; impact 27.29 acres of wetland, and no streams; does not require additional property acquisition; and has required fixed rail termini. This alternative meets all screening criteria, is practicable, and is the Corps' determined Least Environmental Damaging Practicable Alternative (LEDPA) for the rail alignment.

Rail Alignment 2 (Option B): This alignment would tie into the existing rail line north of the preferred alignment and travel west into the center of the project site. This alternative: meets G&W specifications; impacts 135 linear feet of stream and 32.32 acres of wetland; requires acquisition of additional property from multiple property owners; and has required fixed rail termini. This alternative meet all screening criteria and is practicable. However, this alternative would result in more impacts to aquatic resources than the preferred; therefore, this alternative is not the LEDPA for the rail alignment.

Rail Alignment 3 (Option C): This alignment would tie into the existing rail line north of the Option B and travel north/northwest into the center of the project site. This alternative: meets G&W specifications; impacts 15.72 acres of wetland, and not streams; requires acquisition of additional property from a single property owner; and has required fixed rail termini. However, the property owner objected to the JDA's proposed purchase of a rail corridor, which would bisect the property. As a result, the JDA considered acquiring the entire tract. On February 11, 2019, the JDA has provided a cost analysis for this alternative. According to this information, the costs of acquiring this entire tract would result in an increase in overall project costs of 17.9%. Although this alternative would result in the least amount of aquatic impact, the Corps has determined that this alternative is not practicable due to costs.

Rail Alignment 4 (Option D): This alignment would tie into the existing rail line at the same locations as Option C. However, the rail would continue to travel north until it reaches Interstate 16 (I-16). Once at I-16, the rail would extend west and travel parallel to the interstate before ultimately extending south to the center of the project site. This alternative: does not meet G&W specifications; impacts 22.43 acres of wetland, and no streams; does not require acquisition of additional property; and has required fixed rail termini. Due to the failure to meet G&W specifications, this alternative is not practicable.

5.3 Evaluate alternatives and whether or not each is practicable under the Guidelines or reasonable under NEPA:

Table 3. Summary of the Determination of Practicable Alternatives

	Off-Site Alternatives								On-Site Alternatives				
	1	2	3	4	5	6	7	8	1	2	3	4	5
Location	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Zoning	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Utilities	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Access	Yes	Yes	No	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Availability	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Overall Project Purpose	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Practicable	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes

5.4 Least environmentally damaging practicable alternative under the 404(b)(1) Guidelines (if applicable) and the environmentally preferable alternative under NEPA: The applicant completed an analysis of the above identified practicable alternatives, to identify the least environmentally damaging practicable alternative pursuant to 40 CFR 230.7(b)(l). The purpose of the below analysis is to ensure that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem." The applicant evaluated potential environmental impacts that would result from construction of the proposed facility. This evaluation was completed by considering environmental factors which could impact development of the site. Environmental factors included:

- Stream Impacts (quantitative): The estimated linear footage of potential stream impact was evaluated for each practicable alternative.

- Stream Impacts (qualitative): The functional value of potential stream impact areas was evaluated for each practicable alternative. A low, medium, or high value was assigned based on current structure and hydrologic conditions. Examples of high value would be stable geomorphology and diverse biological community. Examples of low value would be evidence of full impairment such as extensive culverting, piping, or impoundment within the stream.

- Wetland Impacts (quantitative). The estimated acreage of potential wetland impact was evaluated for each practicable alternative, including the applicant's preferred alternative, utilizing the USFWS' National Wetland Inventory map.

- Wetland Function (qualitative): The functional value of potential wetland impact areas was evaluated for each practicable alternative. A low, medium, or high value was assigned based on current vegetative structure and hydrologic conditions. Examples of high value would be mature canopy, no evidence of ditching, rare habitats, etc. Examples of low value would be evidence of habitat manipulation through ditching, clear cutting, diking, fragmentation, etc.

- Impacts to Other Waters (quantitative): The acreage of open water impact for each site was considered during review of each practicable alternative.

- Other Waters Functions (qualitative): The functional value of any open water impact areas was evaluated for each practicable alternative. A low, medium, or high value was assigned based on habitat type and condition. Examples of high value would be lakes, impoundments, and/or features occurring naturally. Examples of low value would be man-made features which have not naturalized and provide little to no biological support (i.e. borrow pit).

- Federally Listed Threatened or Endangered Species: A preliminary assessment of each practicable alternative was conducted to determine the potential occurrence of animal and plants species (or their preferred habitats) currently listed as threatened or endangered by state and federal regulations [Federal Endangered Species Act of 19'f 3 (16 USC 1531-1543)]. The U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) database at http://ecos.fws.gov/ipac/ database was reviewed to determine plant and animal species as endangered or threatened for each alternative.

- Cultural Resources: A preliminary assessment of cultural resources was conducted for each site by reviewing available State Historic Preservation Office information at http://www.nr.nps.gov/. Potential impacts to sites listed or eligible for listing on the National Register of Historic Places was noted for each alternative.

5.4.1 Off-Site Alternative Site 1: This alternative totals 1,647 acres and is known as the Chatham County Economic Development Site. The site is in the northeast quadrant of Interstate 16 and Interstate 95 near Savannah. Through several permit actions from 2002 to 2014, the Corps authorized impacts to jurisdictional waters for development of this OEM industrial site. Due to the size of the proposed manufacturing facility, acquisition of an additional +/- 33 parcels and additional wetland impact would be required to create suitable contiguous development area for the proposed project. The following provides a further review of this alternative.

- Stream Impacts (quantitative): No stream impacts are associated with this alternative.

- Stream Impacts (qualitative): N/A.

- Wetland Impacts (quantitative): Previously authorized wetland impacts for this site total 185.54 acres. In addition to the previously authorized impacts to an estimated 216.46 acres of additional wetland impact (including impacts to preserved wetlands associated with the Corps permit action) would be required to facilitate development of the proposed project. In total, this project would require an estimated 402 acres of wetland impact and removal of restrictive covenant protections for a portion of these wetlands.

- Wetland Function (qualitative): Because the preserved wetlands are protected with a restrictive covenant and consist of both mature forested wetland habitat and restored wetland associated with the previous permit action's compensatory mitigation plan, these areas would have the highest level of functional value. The other non-preserved jurisdictional wetland consists of mature forested hardwood wetland with a relatively high function and value.

- Impacts to Other Waters (quantitative): Previously authorized impacts to other waters included approximately 36 acres of open water pond. Additional impacts associated with this project would include an estimated 1.9 acres of stormwater canal impact, approximately 4.3 acres of the Savannah-Ogeechee Canal (S&O) impact, and approximately 4.6 acres of additional pond impact. Total other waters impact for this project would be 46.8 acres.

- Other Waters Functions (qualitative): The other waters within the site have been created through historical mining of sand and borrow material. Because these waters are man-made borrow pits, the value of these other waters would be low. In addition, both the S&O Canal and the stormwater canal within the property provide minimal open water functions and would therefore be assigned a relatively low value.

- Federally Listed Threatened or Endangered Species: Based on the USFWS Information, Planning, and Conservation System (IPaC) database, the following species have the potential to be located within or near this site: Frosted flatwoods salamander (*Ambystoma cingulatum*); Red knot (*Calidris canutus rufa*); Piping plover (*Charadrus melodus*); West Indian manatee (*Trichechus manatus*); leatherback sea turtle (*Dermochelys coriacea*); loggerhead sea turtle (*Caretta caretta*); green sea turtle (*Chelonia mydas*); Kemp's Ridley sea turtle (*Lepidochelys kempii*); pondberry (*Lindera melissifolia*); Red cockaded woodpecker (*Picoides borealis*); wood stork (*Mycteria americana*); gopher tortoise (*Gopherus polyphemus*-candidate species); and Eastern indigo snake (*Drymarchon corais couperi*).

  This alternative would not impact long-leaf pine-wiregrass flatwoods or slash pine flatwoods habitats. Although these pine species exist on-site, they are managed for timber production and therefore would not support the Frosted flatwoods salamander. Therefore, per the Effects Determination Guidance for Endangered and Threatened Species (EDGES), the Corps has determined that this alternative would have no effect on the Frosted flatwoods salamander.

  There is no designated critical habitat for the piping plover located within this alternative site. In addition, the project would not impact a coastal beach. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect on the red knot, piping plover and piping plover critical habitat. No habitat suitable for supporting any life stage of the green, leatherback, Kemp's Ridley and/or loggerhead sea turtles occur within this alternative site. In addition, the site does not contain any listed critical habitat. Therefore, the Corps has determined that this alternative would have no effect to these species.

  This alternative would not occur in tidal waters accessible to manatees. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect for West Indian manatee.

  Aerial photographs indicate this alternative does contain a pine forest > 100 acres in size and does contain mature pine forest, however the mature pine forest does not have an open understory. Therefore, per the EDGES, the Corps has determined that this alternative may affect, but is not likely to adversely affect the red cockaded woodpecker.

Based on coordination with the USWFS, this alternative is not located within 2,500 feet from an active wood stork nesting colony. However, this alternative would result in more than 0.50 acre of impact to suitable foraging habitat. Therefore, at a minimum this alternative may affect, but is not likely to adversely affect the wood stork.

- Cultural Resources: As proposed, the project would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia Department of Natural Resources, Historic Preservation Division, State Historic Preservation Office (Georgia SHPO), this type of activity would constitute an adverse effect. In addition, this alternative would require crossing the S&O Canal, a site that is listed on the NRHP. This crossing would also constitute an adverse effect. Therefore, this alternative, at a minimum would result in adverse effects to two historic sites.

5.4.2 Off-Site Alternative 2: This tract consists of approximately 4,055 acres and is located west of Interstate 95, southeast of Highway 17 and south of Highway 84 within Liberty County, Georgia. Based on review of available information the tract consists of forested upland, forested wetland, and tidal wetland/waters. The tract has been historically managed for timber production. The following provides a further review of this alternative.

- Stream Impacts (quantitative): The project area contains several tidal tributaries. The project would require an estimated 2,858 linear feet of tidal tributary impact.

- Stream Impacts (qualitative): Because these tributaries are tidal, a high functional value would be assigned.

- Wetland Impacts (quantitative): This alternative would require an estimated 362 acres of wetland impact, including impacts to tidal saltwater wetland and tidal brackish/freshwater wetland.

- Wetland Function (qualitative): The functional value of the tidal wetland areas would be high while historic land management practices and silvicultural activities would result in a medium functional value score for the non-tidal wetlands.

- Impacts to Other Waters (quantitative): Several small borrow pits totaling an estimated 3 acres would be impacted by the proposed project.

- Other Waters Functions (qualitative): Other waters present within the Off-Site Alternative Site 2 are man- made open water ponds/former borrow pits whose functions are low.

- Federally Listed Threatened or Endangered Species: According to the USFWS Information, Planning, and Conservation System (IPaC) database, the following species have the potential to be located within this site: Frosted flatwoods salamander; Red cockaded woodpecker; piping plover; wood stork; Red knot; West Indian manatee; leatherback sea turtle; loggerhead sea turtle; green sea turtle; gopher tortoise (candidate species), Eastern indigo snake and pondberry.

  This alternative would not impact long-leaf pine-wiregrass flatwoods or slash pine flatwoods habitats. Although these pine species exist on-site, they are managed for timber production and therefore would not support the Frosted flatwoods salamander. Therefore, per the Effects Determination Guidance for Endangered and Threatened Species (EDGES), the Corps has determined that this alternative would have no effect on the Frosted flatwoods salamander.

  There is no designated critical habitat for the piping plover located within this alternative site. In addition, the project would not impact a coastal beach. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect on the red knot, piping plover and piping plover critical habitat.

  No habitat suitable for supporting any life stage of the green, leatherback, and/or loggerhead sea turtles occur within this alternative site. In addition, the site does not contain any listed critical habitat. Therefore, the Corps has determined that this alternative would have no effect to these species.
  This alternative would not occur in tidal waters accessible to manatees. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect for West Indian manatee.

  Aerial photographs indicate this alternative does contain a pine forest > 100 acres in size and does contain mature pine forest, however the mature pine forest does not have an open understory. Therefore, per the EDGES, the Corps has determined that a minimum this alternative may affect, but is not likely to adversely affect the red cockaded woodpecker.

  Based on coordination with the USWFS, this alternative is not located within 2,500 feet from an active wood stork nesting colony. However, this alternative would result in more than 0.50 acre of impact to suitable foraging habitat. Therefore, at a minimum this alternative may affect, but is not likely to adversely affect the wood stork.

- Cultural Resources: As proposed, the project would tie into an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places. Based upon previous similar consultations with the Georgia SHPO, this type of activity would constitute an adverse effect. Therefore, this alternative would result in an adverse effect to cultural resources.

5.4.3 On-Site Alternative 1 (Applicant's Preferred Alternative): As discussed above, the preferred alternative includes construction of the facility adjacent to Highway 280 and Interstate 16. The site design includes approximately 180 acres of commercial development and 1,100 acres of manufacturing development. As depicted on the final site development plan, this design shifts the manufacturing facility to the western boundary and reduces jurisdictional area impacts to a large wetland system on the eastern portion of the property. Additional reduction in overall impacts was achieved by downsizing building footprints, proposing vertical design rather than horizontal design on some buildings, reducing and relocating parking areas, reducing the distance between buildings, and redesigning the distribution yard.

- Stream Impacts (quantitative): The proposed project will require 833 linear feet of stream impact.

- Stream Impacts (qualitative): As noted above, the project site has been managed for intensive timber production for many years. While evidence of historic impacts within these tributaries was observed (historic rutting, installation of road crossings, and channelization) these tributaries remain functional with a relatively intact buffer and canopy. Thus, a high qualitative value was assigned.

- Wetland Impacts (quantitative): 62.83 acres of jurisdictional wetland impact and 17.56 acres of non-jurisdictional wetland impact would be required.

- Wetland Function (qualitative): Field review of existing site conditions documented that the historic limits of the wetlands have been impacted by past land management practices including installation of roads, installation of drainage ditches, and timber harvesting. The vast majority of wetland area proposed for impact has been timbered within the past 30 years and portions have been timbered as recent as one year ago. The functional value of the wetland areas proposed for impact was assigned a medium value. It should be noted that Black Creek and adjacent wetlands remain intact with a relatively mature overstory with a high function and value. For this reason, the project area developed for the manufacturing facility was designed specifically to avoid these areas.

- Impacts to Other Waters (quantitative): This alternative requires impacts 0.62 acres of man-made ditch.

- Other Waters Functions (qualitative): The functions and values of the ditches are low.

- Federally Listed Threatened or Endangered Species: The following endangered and threatened species may occur within Bryan County, where this alternative is located: Frosted flatwoods salamander; Red knot; West Indian manatee; leatherback sea turtle; green sea turtle; loggerhead sea turtle; Red cockaded woodpecker; wood stork; gopher tortoise (candidate species), and the Eastern indigo snake.

  This alternative would not impact long-leaf pine-wiregrass flatwoods or slash pine flatwoods habitats. Although these pine species exist on-site, they are managed for timber production and therefore would not support the Frosted flatwoods salamander. Therefore, per the Effects Determination Guidance for Endangered and Threatened Species (EDGES), the Corps has determined that the proposed project would have no effect on the Frosted flatwoods salamander.

  There is no designated critical habitat for the red knot located within this site. In addition, the project would not impact a coastal beach. Therefore, per the EDGES, the Corps has determined that the proposed project would have no effect on the red knot.

  No habitat suitable for supporting any life stage of the green, leatherback, and/or loggerhead sea turtles occur within this site. In addition, the site does not contain any listed critical habitat. Therefore, the Corps has determined that this alternative would have no effect to these species.

  This alternative would not occur in waters accessible to manatees. Therefore, per the EDGES, the Corps has determined that this alternative would have no effect for West Indian manatee.

  Aerial photographs indicate this alternative site does contain a pine forest > 100 acres in size and does contain mature pine forest, however the mature pine forest does not have an open understory. Therefore, per the EDGES, the Corps has determined that this alternative at a minimum may affect, but is not likely to adversely affect the red cockaded woodpecker.

  This site is not located within 2,500 feet from an active wood stork nesting colony. However, this alternative would result in the fill of more than 0.50 acre of suitable foraging habitat. Therefore, per the EDGES, the Corps has determined that at a minimum, this alternative may affect, but is not likely to adversely affect this species.

  In addition, this site does contain multiple gopher tortoise burrows in which the Eastern Indigo snake could inhabit. Therefore, per the EDGES, the Corps has determined that at a minimum, this alternative may affect, but is not likely to adversely affect this species.

- Cultural Resources: As proposed, the project would tie into the Central Line of Georgia Rail Line, an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places (NRHP). Based upon previous similar consultations with the Georgia Department of Natural Resources, Historic Preservation Division, State Historic Preservation Office (Georgia SHPO), this type of activity would constitute an adverse effect. Therefore, this alternative would result in an adverse effect to a cultural resource.

5.4.4 On-Site Alternative 2: This alternative was the applicant's initial preferred alternative that was submitted with the application. However, the applicant was able to provide final site plans that reduced the jurisdictional wetland impacts from 65.31 acres to 35.36 acres. This alternative included a commercial component footprint totaling approximately 200 acres and a manufacturing component footprint totaling 1,000 acres. This plan also included vehicle access from Highway 280 west of the site approximately 1 mile south of the Interstate 16/Highway 280 interchange. The plan includes rail access from an existing rail line located on the southeastern boundary of the site. The facility is generally oriented with buildings on the north and south and product handling (i.e. rail yard, truck yard, completed product yard, etc.) within the center of the tract.

- Stream Impacts (quantitative): The proposed project will require 833 linear feet of stream impact.

- Stream Impacts (qualitative): As noted above, the project site has been managed for intensive timber production for many years. While evidence of historic impacts within these tributaries was observed (historic rutting, installation of road crossings, and channelization) these tributaries remain functional with a relatively intact buffer and canopy. Thus, a high qualitative value was assigned.

- Wetland Impacts (quantitative): 92.6 acres of jurisdictional wetland impact and 17.56 acres of non-jurisdictional wetland impact would be required.

- Wetland Function (qualitative): Field review of existing site conditions documented that the historic limits of the wetlands have been impacted by past land management practices including installation of roads, installation of drainage ditches, and timber harvesting. The vast majority of wetland area proposed for impact has been timbered within the past 30 years and portions have been timbered as recent as one year ago. The functional value of the wetland areas proposed for impact was assigned a medium value. It should be noted that Black Creek and adjacent wetlands remain intact with a relatively mature overstory with a high function and value. For this reason, the project area developed for the manufacturing facility was designed specifically to avoid these areas.

- Impacts to Other Waters (quantitative): This alternative requires impacts 0.62 acre of man-made ditch.

• Other Waters Functions (qualitative): The functions and values of the ditches are low.

• Federally Listed Threatened or Endangered Species: This alternative would result in the same impacts to threatened and endangered species as the preferred alternative.

• Cultural Resources: As proposed, the project would tie into the Central Line of Georgia Rail Line, an existing rail line that is over 50 years in age and thus potentially eligible for the National Register of Historic Places (NRHP). Based upon previous similar consultations with the Georgia Department of Natural Resources, Historic Preservation Division, State Historic Preservation Office (Georgia SHPO), this type of activity would constitute an adverse effect. Therefore, this alternative would result in an adverse effect to a cultural resource.

5.4.5 On-Site Alternative 3: This proposal includes construction of the facility adjacent to Highway 280 and Interstate 16 with site access immediately south of the existing interchange. The site design includes approximately 180 acres of commercial area footprint and 1,100 acres of manufacturing area footprint. As depicted on the plan, this design shifts the manufacturing facility to the western boundary and substantially reduces jurisdictional area impacts to the large wetland system on the eastern portion of the property. Additional reduction in overall impacts were achieved by downsizing building footprints, proposing vertical design rather than horizontal design on some buildings, reducing and relocating parking areas, reducing the distance between buildings and redesigning the distribution yard. Considering the site plan, a summary of environmental impacts is provided below.

- Stream Impacts (quantitative): This configuration would require 2,631 linear feet of stream impact.

- Stream Impacts (qualitative): The project site has been managed for intensive timber production for many years. While evidence of historic impacts within these tributaries was observed (historic rutting, installation of road crossings, and channelization) these tributaries remain functional with a relatively intact buffer and canopy. Thus, a medium to high qualitative value was assigned.

- Wetland Impacts (quantitative): 124.51 acres of jurisdictional wetland impact and 17.56 acres of non-jurisdictional wetland impact would be required for this on-site configuration.

- Wetland Function (qualitative): Field review of existing site conditions documented that the historic limits of the wetlands have been impacted by past land management practices including installation of roads, instillation of drainage ditches, and timber harvesting. The vast majority of wetland area

proposed for impact has been timbered within the past 20 years and much of the overstory canopy within the wetlands was harvested within the past 1 to 5 years. The functional value of the wetland areas proposed for impact was assigned a medium value. It should be noted that Black Creek and adjacent wetlands remain intact with a relatively mature overstory with a high function and value. For this reason, the project area developed for the manufacturing facility was designed specifically to avoid these areas.

- Impacts to Other Waters (quantitative): This alternative would require impacts 0.62 acres of man-made ditch.

- Other Waters Functions (qualitative): The functions and values of the ditches are low.

- Federally Listed Threatened or Endangered Species: This alternative would result in the same impacts to threatened and endangered species as the preferred alternative.

- Cultural Resources: All on-site alternatives include tying into the existing rail line. Therefore, all on-site alternatives would result in an adverse effect to cultural resources.

5.4.6 On-Site Alternative 4: This proposal includes construction of the facility adjacent to Highway 280 and Interstate 16. This design includes approximately 200 acres of commercial area footprint and 1,000 acres of manufacturing area footprint with the primary access approximately 1 mile from the Interstate 16/Highway 280 intersection. The layout rotates the facility in a north/south direction. The vertical rather than horizontal layout requires centering the development area, shifting the overall layout east and substantially increasing the impacts to wetlands both west and south.

- Stream Impacts (quantitative): The configuration would require 580 linear feet of stream impact.

- Stream Impacts (qualitative): As noted above, the project site has been managed for intensive timber production for many years. While evidence of historic impacts within these tributaries was observed (historic rutting, installation of road crossings, and channelization) these tributaries remain functional with a relatively intact buffer and canopy. Thus, a medium to high qualitative value was assigned.

- Wetland Impacts (quantitative). 150.44 acres of jurisdictional wetland impact and 17.56 acres of non-jurisdictional wetland impact would be required for on-site configuration 3.

- Wetland Function (qualitative). Field review of existing site conditions documented that the historic limits of the wetlands have, been impacted by past land management practices including installation of roads, installation of drainage ditches, and timber harvesting. The vast majority of wetland area proposed for impact has been timbered within the past 20 years and much of the overstory canopy within the wetlands was harvested within the past 1 to 5 years. The functional value of the wetland areas proposed for impact was assigned a medium value. It should be noted that Black Creek and adjacent wetlands remain intact with a relatively mature overstory with a high function and value. For this reason, the project area developed for the manufacturing facility was designed specifically to avoid these areas.

- Impacts to Other Waters (quantitative): This alternative would require impacts 0.62 acres of man-made ditch.

- Other Waters Functions (qualitative): The functions and values of the ditches are low.

- Federally Listed Threatened or Endangered Species: This alternative would result in the same impacts to threatened and endangered species as the preferred alternative.

- Cultural Resources: All on-site alternatives include tying into the existing rail line. Therefore, all on-site alternatives would result in an adverse effect to cultural resources.

5.4.7 On-Site Alternative 5: This alternative includes construction of the facility adjacent to Highway 280 and Interstate 16. The site design includes approximately 180 acres of commercial development and 1,300 acres of manufacturing development. Unlike all other on-site configurations, this alternative maximizes the footprint of the manufacturing component and provides increased flexibility in overall operations and the only difference is manufacturing footprint orientation. At approximately 8,000 linear feet wide (east/west) by 7,000 linear feet long (north/south), this site plan represents the original design for the project. While this would be the preferred on-site consideration when accounting for overall site design alone, the results of the environmental studies and surveys required evaluation of additional designs. As documented above and summarized below, this alternative was not able to avoid and minimize environmental impacts to the greatest extent practicable.

- Stream Impacts (quantitative): This configuration would require 2,646 linear feet of stream impact.

- Stream Impacts (qualitative): As noted above, the project site has been managed for intensive timber production for many years. While evidence of historic impacts within these tributaries was observed (historic rutting, installation of road crossings, and channelization) these tributaries remain functional with a relatively intact buffer and canopy. Thus a medium to high qualitative value was assigned.

- Wetland Impacts (quantitative): 209.28 acres of jurisdictional wetland impact and 17.56 acres of non-jurisdictional wetland impact would be required for this on-site configuration 4.

- Wetland Function (qualitative): Field review of existing site conditions documented that the historic limits of the wetlands have been impacted by past land management practices including installation of roads, installation of drainage ditches, and timber harvesting. The vast majority of wetland area proposed for impact has been timbered within the past 20 years and much of the overstory canopy within the wetlands was harvested within the past 1 to 5 years. The functional value of the wetland areas proposed for impact was assigned a medium value. It should be noted that Black Creek and adjacent wetlands remain intact with a relatively mature overstory with a high function and value. For this reason, the project area developed for the manufacturing facility was designed specifically to avoid these areas.

- Impacts to Other Waters (quantitative): This alternative would require impacts 0.62 acres of man-made ditch.

- Other Waters Functions (qualitative): The functions and values of the ditches are low.

- Federally Listed Threatened or Endangered Species: This alternative would result in the same impacts to threatened and endangered species as the preferred alternative.

- Cultural Resources: All on-site alternatives include tying into the existing rail line. Therefore, all on-site alternatives would result in an adverse effect to cultural resources.

Table 4. Summary of Practicable Off and On-Site Alternatives

	Off-Site Alternatives		On-Site Alternatives				
Environmental Factors	**1**	**2**	**1 Applicant Preferred**	**2**	**2**	**3**	**4**
Stream Impact (linear feet)	0	2,858	833	833	2,631	580	2,646
Stream Quality	N/A	High	Medium High	Medium High	Medium High	Medium High	Medium High
Wetland Impact (acres)	402	362	80.39	110.16	142.07	168	226.84
Wetland Quality	High	Medium-High	Medium	Medium	Medium	Medium	Medium
Other Waters (acres)	46.8	3	0.62	0.62	0.62	0.62	0.62
Other Waters Quality	Low	Low	Low	Low	Low	Low	Low
ESA Impacts	Yes MANLAA	Yes MANLAA	Yes MANLAA	Yes MANLAA	Yes MANLAA	Yes MANLAA	Yes MANLAA
Cultural Impacts	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LEDPA	No	No	Yes	No	No	No	No

6.0 Evaluation for Compliance with the Section 404(b)(1) Guidelines. The following sequence of evaluation is consistent with 40 CFR 230.5

6.1 Practicable alternatives to the proposed discharge consistent with 40 CFR 230.5(c) are evaluated in Section 5. The statements below summarize the analysis of alternatives.

In summary, based on the analysis in Section 5.0 above, the no-action alternative, which would not involve discharge into waters, is not practicable.

For those projects that would discharge into a special aquatic site and are not water dependent, the applicant has demonstrated there are no practicable alternatives that do not involve special aquatic sites.

It has been determined that there are no alternatives to the proposed discharge that would be less environmentally damaging. (Subpart B, 40 CFR 230.10(a)).

The proposed discharge in this evaluation is the practicable alternative with the least adverse impact on the aquatic ecosystem, and it does not have other significant environmental consequences.

Construction of the applicant's preferred alternative would unavoidably impact 62.83 acres of jurisdictional wetland and 833 linear feet of stream. The two practicable off-site alternatives considered would impact between 300 and 400 acres of wetland. The applicant's preferred on-site development plan avoids aquatic impacts to the maximum extent practicable; with the impacts reduced from approximately 110 acres, as proposed in the original site plan. Therefore, the preferred alternative is the least environmentally damaging practicable alternative that would meet the applicant's stated project need and purpose.

6.2 Candidate disposal site delineation (Subpart B, 40 CFR 230.11(f)). Each disposal site shall be specified through the application of these Guidelines:

Discussion: As proposed, the project would require impacts to 62.83 acres of wetland, 17.56 acres of isolated, non-jurisdictional wetland, 833 linear feet of intermittent stream and 0.62 acre of ditch. The intermittent stream proposed for impact averages approximately three feet in width and twelve inches in depth. The streams lack vegetation and consists of sand and mud bed and banks of varying heights. The wetlands to be impacted are generally saturated to the surface with some wetlands experiencing surface water. The discharge of fill would convert these aquatic resources to upland and thus reduce (and where pervious surfaces are proposed, eliminate) the ability of these areas to undergo ground water recharge (i.e. the ability for water to infiltrate).

6.3 Potential impacts on physical and chemical characteristics of the non-living environmental (Subpart C). See Table 5:

Table 5 – Potential Impacts on Physical and Chemical Characteristics						
Physical and Chemical Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Substrate			X			
Suspended particulates/ turbidity			X			
Water			X			
Current patterns and water circulation			X			
Normal water fluctuations			X			
Salinity gradients		X				

Discussion:

Substrate: Construction of the proposed project would result in the discharge of fill material into 62.83 acres of wetland, 17.56 acres of isolated, non-jurisdictional wetland, 833 linear feet of stream and 0.62 acre of ditch, resulting in the loss of organic soils and displacement of aquatic and benthic organisms. Utilization of best management practices, including erosion control devices would limit the effect on substrate to only the immediate area of aquatic impact. The loss of the on-site aquatic resources and substrate would be offset by the applicant's proposed compensatory mitigation plan. Therefore, the Corps has determined that the proposed project would have a negligible effect on substrate.

Suspended particulates/ turbidity: During project construction there would be a potential for stormwater induced runoff from exposed fills to cause an increase in suspended particulates and turbidity in adjacent aquatic resources that are not proposed for impact; and possibly in downstream waters located off the project site. Any increase in suspended particulates and turbidity in these resources would clear upon project completion and stabilization of exposed soils. The applicant would also be required to comply with both State and local issuing authority requirements for development and implementation of an Erosion and Sedimentation Control Plan, and a Stormwater Management Plan; thus limiting turbidity increases in any wetlands and other downstream aquatic resources.

By letter of February 13, 2019, the Georgia EPD issued a conditioned Water Quality Certification (WQC) for this project pursuant to Section 401 of the Clean Water Act. With issuance of WQC, Georgia EPD has determined that the proposed project meets the applicable requirements of Section 401 of the Clean Water Act. In addition, any draft permit issued for the proposed project would include a special condition requiring compliance with the above State water quality certification as well as the following special conditions:

a. Unless specifically authorized by this permit, borrow pits or sites for stockpiling fill dirt are prohibited within 200 feet of streambanks or within 50 feet of wetlands and open waters to minimize the potential for introduction of sediment into waters of the United States.

b. The permittee shall minimize bank erosion and sedimentation in construction areas by utilizing Best Management Practices for stream corridors, installing and maintaining significant erosion and sediment control measures, and providing daily reviews of construction and stream protection methods. Check dams and riprap placed in streams and wetlands as erosion control measures are considered a fill and not authorized under this permit unless they were specifically authorized by this permit.

c. All work conducted under this permit shall be located, outlined, designed, constructed and operated in accordance with the requirements of the Georgia Erosion and Sedimentation Control Act of 1975 (Georgia ESCA), as amended. Utilization of plans and specifications contained in the "Manual for Erosion and Sediment Control, (Latest Edition)," published by the Georgia Soil and Water Conservation Commission, will aid in achieving compliance with the Georgia ESCA.

d. The permittee shall install and maintain erosion and sediment control measures in upland areas of the project site, in accordance with the Georgia Erosion and Sedimentation Control Act of 1975 to minimize the introduction of sediment into and the erosion of streams, wetlands and other waters of the United States. This permit does not authorize installation of check-dams, weirs, riprap, bulkheads or other erosion control measures in streams, wetlands or other waters of the United States. The permittee shall obtain U.S. Army Corps of Engineers authorization prior to installing any erosion control measures in waters of the United States.

e. The permittee shall install and maintain erosion and sediment control measures in fill material that is authorized to be discharged in streams, wetlands and other waters of the United States, in accordance with the Georgia Erosion and Sedimentation Control Act of 1975; and permanently stabilize fill areas at the earliest practicable date.

f. Once the project site is sufficiently stabilized through re-vegetation, the permittee shall remove all silt fencing and other non-biodegradable erosion control measures from stream banks, riparian areas, wetlands and upland areas immediate adjacent to other waters of the United States.

g. The permittee shall obtain and comply with all applicable Federal, state and local authorizations required for the authorized activity. A stream buffer variance may be required from the Georgia Department of Natural Resources, Environmental Protection Division (Georgia EPD), as defined in the Georgia Erosion and Sedimentation Control Act of 1975. Information concerning variances can be obtained from Georgia EPD on their website at www.gaepd.org, or by calling (404) 463-1463.

The inclusion of the above special conditions would minimize the potential for sediment to migrate into adjacent and downstream aquatic resources we well as ensure that the post development stormwater discharge rates into downstream waters are equivalent to the current discharge rates (i.e. pre-development). Therefore, the Corps has determined that the project would have a short-term negligible effect on this factor.

Water: By letter of February 13, 2019, the Georgia EPD issued a conditioned Water Quality Certification (WQC) for this project pursuant to Section 401 of the Clean Water Act. With issuance of WQC, Georgia EPD has determined that the proposed project meets the applicable requirements of Section 401 of the Clean Water Act. During project construction there would be a potential for a stormwater induced runoff from exposed fills to cause an increase in suspended particulates and turbidity in adjacent wetlands that are not impacted. Any increase in suspended particulates and turbidity in adjacent wetlands would clear upon project completion and stabilization of exposed soils. Any increase in the turbidity of stormwater runoff from the project site could result in an impact to downstream waters, but these impacts would be short term and clear upon project construction. In addition, the Corps would include the special conditions identified above in the suspended particulates/turbidity factor as well as the following special conditions:

a. All dredged or borrowed material used as fill in waters of the United States shall be from clean, uncontaminated sources and free from cultural resources. For the purposes these special permit conditions, the term waters of the United States includes all jurisdictional streams, wetlands, open waters, ditches, swales and other conveyance located on the project site.

b. Construction debris, uncured concrete, demolition debris, or other waste materials shall not be discharged into streams, wetlands, or other open waters; or placed at sites near such areas, where migration into waters of the United States could be anticipated.

c. Equipment staging areas and equipment maintenance areas are prohibited within 200 feet of streambanks or within 50 feet of wetlands and other open waters to minimize the potential for wash water, petroleum products, or other contaminants from construction equipment entering waters of the United States. The inclusion of the above special conditions would minimize the potential for sediment and/or contaminants to migrate into adjacent and downstream aquatic resources we well as ensure that the post development stormwater discharge rates into downstream waters are equivalent to the current discharge rates (i.e. pre-development). Therefore, give all the above, the Corps has determined that the project would have a negligible effect on this factor.

Current patterns and water circulation: Construction of the proposed project would result in the discharge of fill material into 62.83 acres of wetland, 17.56 acres of isolated, non-jurisdictional wetland, 833 linear feet of intermittent stream and 0.62 acre of ditch. As a result, there would be a minor disruption of on-site flow patterns of stormwater runoff post construction. However, the applicant would be required to comply all applicable local and State requirements for development and implementation a Stormwater Management Plan. This plan would ensure that the post development stormwater discharge rates into downstream waters and/or adjacent aquatic resources are equivalent to the current discharge rates (i.e. pre-development).

In addition, the applicant would install culverts under the proposed rail bed. The Corps would include the following culvert special conditions in any permit for this project:

a. The width of the base flow culvert shall be approximately equal to the average width of the stream channel immediately above and below the culvert installation site. Culverts shall not permanently widen or constrict the channel, or reduce or increase stream depth. Multi-pipe culverts may not be used to pass base flows. Culverts shall be sized to maintain the existing bank-full cross-sectional area, and to accommodate bank-full stream flows.

b. The upstream and downstream invert of culverts (except bottomless culverts) shall be buried/embedded to a depth of twenty percent of the culvert height to allow natural substrate to colonize the structures bottom and encourage fish movement.

c. Culvert slope shall be consistent with average slope of the stream in the immediate vicinity of the culvert installation site, but shall not exceed 4 percent.

d. Culverts shall be sized to adequately accommodate anticipated storm events. Where floodplain is adjacent to the stream, an equalizer culvert(s) shall be installed at floodplain elevation to accommodate flood events exceeding bankfull. Sufficient equalizer culverts shall be installed to accommodate normal floodplain sheet flow. Culverts shall be installed in a manner that does not cause flooding of adjacent uplands, with the exception of floodplains, or the disruption of hydrology in aquatic areas located up and downstream of the culvert.

e. Unless specifically stated in this permit, installation of undersized culverts to attain stormwater management or waste water treatment is not authorized.

f. A waiver from the above culvert specifications may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with these specifications would result in more adverse impacts to the aquatic environment or that such design is not practicable.

Inclusion of the above special conditions as well as compliance with both State and local issuing authority requirements for development and implementation of a Stormwater Management Plan would minimize impacts to current patterns and water circulation. Therefore, the Corps has determined that there would be a negligible effect on current patterns and water circulation.

Normal water fluctuations: The wetlands located on the project site are saturated to the surface, with some that exhibit surface water. There is little potential for water levels to fluctuate in these on-site wetlands pre-construction. However, as stated above, there would be a minor disruption of on-site flow patterns of stormwater runoff post construction which could impact the normal water fluctuations within the aquatic resources on-site and subsequently those resources off-site. The applicant would be required to comply with all applicable local and State requirements for development and implementation a Stormwater Management Plan. This would ensure that the post development stormwater discharge rates into downstream waters are equivalent to the current discharge rates (i.e. pre-development). In addition, the installation of the culverts along with the inclusion of the above culvert special conditions would ensure that the current aquatic flows are maintained post construction.

The project would also result in the discharge of fill into 833 linear feet of intermittent stream as well as 0.62 acre of ditch. The stream is a headwater stream that originates within the wetland (near the wetland/upland boundary) and terminates in Black Creek. The proposed fill would result in the normal water fluctuations within the stream and ditch being permanently altered (i.e. converted to upland). However, the applicant's proposed compensatory mitigation plan would help offset this loss. Therefore, given all the above, the Corps has determined that any effect on this factor would be negligible.

Salinity gradient: There are no tidal saltwater or brackish wetlands located on the project site. Therefore, the Corps has determined that the project would have no effect on salinity gradients.

6.4 Potential impacts on the living communities or human uses (Subparts D, E and F):

6.4.1 Potential impacts on biological characteristics of the aquatic ecosystem (Subpart D). See Table 6:

Table 6 – Potential Impacts on Biological Characteristics

Biological characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Threatened and endangered species					X	
Fish, crustaceans, mollusk, and other aquatic organisms					X	
Other wildlife					X	

Discussion:

Threatened and Endangered Species: The following endangered and threatened species may occur within Bryan County, where the project area is located: Frosted flatwoods salamander; Red knot; West Indian manatee; leatherback sea turtle; green sea turtle; loggerhead sea turtle; Red cockaded woodpecker; woodstork; gopher tortoise (candidate species), and the Eastern indigo snake.

The project site would not impact long-leaf pine-wiregrass flatwoods or slash pine flatwoods habitats. Although these pine species exist on-site, they are managed for timber production and therefore would not support the Frosted flatwoods salamander. Therefore, per the Effects Determination Guidance for Endangered and Threatened Species (EDGES), the Corps has determined that the proposed project would have no effect on the Frosted flatwoods salamander.

There is no designated critical habitat for the red knot located within the project site. In addition, the project would not impact a coastal beach. Therefore, per the EDGES, the Corps has determined that the proposed project would have no effect on the red knot.

No habitat suitable for supporting any life stage of the green, leatherback, and/or loggerhead sea turtles occur within the project site. In addition, the site does not contain any listed critical habitat. Therefore, the Corps has determined that the project would have no effect to these species.

The project would not occur in tidal waters accessible to manatees. Therefore, per the EDGES, the Corps has determined that the proposed project would have no effect for West Indian manatee.

Aerial photographs indicate the project area is a part of a pine forest > 100 acres in size and does contain mature pine forest, however the mature pine forest does not have an open understory. Therefore, per the EDGES, the Corps has determined that the proposed project may affect, but is not likely to adversely affect the red cockaded woodpecker. By email dated January 29, 2019, the USFWS concurred with the above effects determination for the red cockaded woodpecker.

The project site is not located within 2,500 feet from an active wood stork nesting colony. However, the project would result in the discharge of fill in 62.83 acres of wetland, 17.56 acres of isolated, non-jurisdictional wetland, 833 linear feet of intermittent stream and 0.62 acre of ditch, all of which is considered potential foraging habitat for the wood stork. Therefore, per the EDGES, the Corps has determined that the proposed project may affect, but is not likely to adversely affect this species. By email dated January 29, 2019, the USFWS concurred with the above effects determination for the wood stork.

In addition, the project site does contain multiple gopher tortoise burrows in which the Eastern Indigo snake could inhabit. By email dated June 18, 2018, the USFWS stated the following: "I recommend that all gopher tortoises be relocated off the property. This should be done through coordination with John Jensen of the GADNR. The property should be thoroughly surveyed to be sure all gopher tortoise burrows are located for relocation. Relocation should occur in warm

weather months when snakes are less likely to inhabit tortoise burrows. Burrows that tortoises are captured from should be scoped before considering them empty and collapsing them."

The following special conditions would be included in any draft permit issued for the proposed project:

a. Prior to work occurring on the site, the permittee shall survey the project site for gopher tortoise burrows. All borrows shall be scoped to determine if they are active (i.e. occupied by the tortoise) or empty.

b. Should a burrow be determined active, the gopher tortoise shall be relocated off the property. All relocations shall be coordinated with Mr. John Jensen of the Georgia Department of Natural Resources. Relocation shall occur in warm weather months when snakes are less likely to inhabit the tortoise burrows.

c. Once the gopher tortoise has been relocated, the burrow shall be collapsed. Prior to collapsing the burrow, the burrow shall be scoped to ensure it is empty.

Based on the inclusion of the above special conditions, the Corps has determined that the proposed project may effect, but is not likely to adversely affect the Eastern Indigo snake and gopher tortoise. By email dated January 29, 2019, the USFWS concurred with the above effects determination for the Eastern Indigo snake and gopher tortoise.

Fish, crustaceans, mollusks, and other aquatic organisms: The proposed project would fill 62.83 acres of wetland, 17.56 acres of isolated, non-jurisdictional wetland, 833 linear feet of stream and 0.62 acre of ditch, which are habitat for fish, crustaceans, mollusks and other aquatic organisms in the food web. The proposed work will have a long-term minor adverse effect on interstitial aquatic organisms in the footprint of the proposed fill, and any aquatic organisms that occupy these areas will be lost.

While sedentary organisms will not be able to move from the impact area and will be lost, more mobile organisms may move to other wetland areas as fill activities commence. The applicant would avoid 229.89 acres of wetland and 4,212 linear feet of stream within the project site. It is anticipated that mobile species could relocate to these areas. In addition, the applicant's proposed compensatory mitigation plan would also help to offset the loss in aquatic habitat. Therefore, the Corps has determined that the proposed project would have a long term minor effect on fish, mollusks, crustaceans, and other aquatic organisms.

Other Wildlife: The project would result in the loss of 62.83 acres of wetland, 17.56 acres of isolated, non-jurisdictional wetland, 833 linear feet of stream and 0.62 acre of ditch, all of which can provide habitat for wildlife. Since the fill for this project would eliminate the above aquatic resources, wildlife species occupying these areas would be impacted through loss or displacement. While sedentary species would not be able to move from the impact area and would be lost, it is anticipated that larger and more motile wildlife may move to other aquatic and high land areas as fill activities commence. Therefore, the Corps has determined that the project would have a long term minor effect on wildlife.

6.4.2 Potential impacts on special aquatic sites (Subpart E 40 CFR 230.40). See Table 3:

Table 3 – Potential Impacts on Special Aquatic Sites

Special Aquatic Sites	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Sanctuaries and refuges		X				
Wetlands					X	
Mud flats		X				
Vegetated shallows		X				
Coral reefs		X				
Riffle and pool complexes						

Discussion:

a. Sanctuaries and Refuges (40 CFR Section 230.40): The proposed project is located over 16.9 miles west of the Savannah National Wildlife Refuge, which is the closest sanctuary or refuge. Due to the distance to the nearest refuge, the Corps has determined that the proposed project would have no effect on sanctuaries and refuges.

b. Wetlands (40 CFR Section 230.41): Construction of the proposed project would result in the permanent loss of 62.83 acres of wetland and 17.56 acres of isolated, non-jurisdictional wetland. The wetlands on-site consist of pine

plantation wetland, forested wetland, scrub-shrub wetland, isolated forested wetland, and isolated scrub-shrub wetland. A more detailed description of the wetland habitat on-site (including species composition and wetland function), can be found in section 1.4 of this document.

With the loss of these wetlands, there would be an associated loss of the aquatic function. However, compensatory mitigation to offset these impacts would be accomplished through the applicant's approved compensatory mitigation plan. As part of the approved mitigation plan the applicant proposes to purchase 425.6 wetland credits and 5,997.6 stream credits from Corps' approved mitigation banks. Based on a functional assessment of the approved mitigation plan, loss of aquatic resource function would be compensated to achieve no net loss of wetlands. Regarding secondary and cumulative impacts to wetlands, please refer to Section 9.5 below. Therefore, the Corps has determined that the project would have a long term minor adverse effect to wetlands.

c. Mud Flats (40 CFR Section 230.42): There are no mud flats located within the project site. Therefore, the Corps has determined that project would have no effect on this factors.

d. Vegetated Shallows (40 CFR Section 230.43): There are no vegetated shallows located within or near the project site. Therefore, the Corps has determined that project would have no effect on this factor.

e. Coral Reefs (40 CFR Section 230.44): There are no coral reefs located within the project site. Therefore, the Corps has determined that project would have no effect on this factor.

f. Riffle and pool complexes: No riffle and pool complexes are found within or surrounding the project site. Therefore, the Corps has determined that the project would have no effect on riffle and pool complexes.

6.4.3 Potential impacts on human use characteristics (Subpart F 40 CFR 230.50). See Table 4:

Table 4 – Potential Impacts on Human Use Characteristics						
Human Use Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Municipal and private water supplies			X			
Recreational and commercial fisheries		X		X		
Water-related recreation				X		
Aesthetics					X	
Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves		X				

Discussion:

a. Municipal and Private Water Supplies (40 CFR Section 230.50): The aquatic resources proposed to be impacted are not a source of potable water. In addition, this project would not require water withdrawals or a permit from Georgia EPD, Water Resources Management Branch. The applicant has indicated that the development would receive its water supply from Bryan County, an existing municipal water supply. The volume of potable water that would be required by the development is unknown, but it would be reasonable to assume that the Bryan County supply is adequate to meet the need of the proposed project.

During JPN comment period, the Whispering Pines Neighborhood expressed concerns regarding the effect the project would have on water pressure and quality of their community well. In response to the above concerns the applicant stated, "Water service to the proposed facility will be provided by Bryan County and the project will not have an impact on water pressure nor water quality of the community well."

When considering all aspects of the proposed project, the Corps has determined that the proposed project would have a negligible effect to municipal and private water supplies.

b. Recreational and Commercial Fisheries (40 CFR Section 230.51): There are no open water areas on or near the permit area that would support recreational and/or commercial fisheries. However, numerous perennial streams, including Black Creek, are located adjacent and downstream of the site that could (and in some instances do) support recreational fishing. As proposed, there would be no direct impacts to the creek or other perennial streams. During project construction there would be a potential for stormwater induced runoff from exposed fills to cause an increase in suspended particulates and turbidity in these adjacent and/or downstream aquatic resources. Any increase in suspended particulates and turbidity in these resources could result in adverse effects to fish species residing in the water column and subsequently recreational fishing. However, it is anticipated that this would clear upon project completion and stabilization of exposed soils.

In addition, the applicant would be required to comply with local issuing authority requirements for development and implementation of an Erosion and Sedimentation Control Plan, and a Stormwater Management Plan; thus limiting turbidity increases in any wetlands and downstream aquatic resources. Given the above, the Corps has determined that there would be no effect to commercial fisheries, however there would be a short term minor adverse effect to recreational fisheries.

c. Water-related Recreation (40 CFR Section 230.52): No water-related recreation opportunities currently exist within the development area, and none are proposed as part of this project. As stated above, recreational fishing could be impacted during construction as a result of stormwater induced runoff from exposed fill impacting the water quality within adjacent and downstream waters. However, it is anticipated that these impacts would subside upon project completion. In addition, the applicant would be required to comply with the aforementioned BMPs regarding stormwater management and erosion and sedimentation control. Therefore, the Corps has determined that there would be a short term minor effect on water-related recreation.

d. Aesthetics (40 CFR Section 230.53): The majority of the site has been actively managed for timber production. As a result, these areas are clear cut on a rotational basis similar to the site preparation activities proposed as a part of this project. Development of the proposed project would result in the permanent

conversion of wooded lands to manufacturing and industrial facilities. However, most of this development would be screened from view by 292 acres natural forested buffer that would surround the developed area. Therefore, the Corps has determined that project would have a long term minor adverse effect on this factor.

e. Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites and Similar Preserves (40 CFR Section 230.54): There are no Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves on or near the proposed project area. Therefore, there would be no effect on Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites and Similar Preserves.

6.5 Pre-testing evaluation (Subpart G, 40 CFR 230.60):

The following has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. See Table 6:

Table 6 – Possible Contaminants in Dredged/Fill Material	
Physical characteristics	X
Hydrography in relation to known or anticipated sources of contaminants	
Results from previous testing of the material or similar material in the vicinity of the project	
Known, significant sources of persistent pesticides from land runoff or percolation	
Spill records for petroleum products or designated (Section 331 of CWA) hazardous substances	
Other public records or significant introduction of contaminants from industries, municipalities, or other sources	
Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	

Discussion: The subject property is not known to have any contaminant related issues or concerns. In addition, any draft permit issued by this office would contain the following special condition: "All dredged or borrowed material used as fill on this project will be from clean, uncontaminated sources and free from cultural resources."

It has been determined that testing is not required because the likelihood of contamination by contaminants is acceptably low and the material may be excluded from evaluation procedures.

6.6 Evaluation and testing (Subpart G, 40 CFR 230-61):

Discussion: As stated above, any draft permit issued of for the project would be condition to so that all fill material would be from a clean, uncontaminated source.

6.7 Actions to minimize adverse impacts (Subpart H). The following actions, as appropriate, have been taken through application of 40 CFR 230.70-230.77 to ensure minimal adverse effects of the proposed discharge. See Table 6:

Table 6 – Actions to Ensure Adverse Effects are Minimized	
Actions concerning the location of the discharge	X
Actions concerning the material to be discharged	X
Actions controlling the material after discharge	X
Actions affecting the method of dispersion	
Actions affecting plant and animal populations	
Actions affecting human use	

Discussion: The following special conditions would be included in any permit issued for this project to minimize unavoidable impacts to aquatic resources and thereby, reduce potential project related losses in aquatic function:

a. All dredged or borrowed material used as fill in waters of the U.S. would be from clean, uncontaminated sources and free from cultural resources. For the purposes these special permit conditions, the term waters of the U.S. includes all jurisdictional streams, wetlands, open waters, ditches, swales and other conveyance located on the project site.

b. Construction debris, uncured concrete, demolition debris, or other waste materials would not be discharged into streams, wetlands, or other open waters; or placed at sites near such areas, where migration into waters of the U.S. could be anticipated.

c. All work conducted under this permit would be located, outlined, designed, constructed and operated in accordance with the requirements of the Georgia ESCA, as amended. Utilization of plans and specifications contained in the "Manual for Erosion and Sediment Control, (Latest Edition)," published by the Georgia Soil and Water Conservation Commission, would aid in achieving compliance with the Georgia ESCA.

d. The permittee would install and maintain erosion and sediment control measures in upland areas of the project site, in accordance with the Georgia ESCA to minimize the introduction of sediment into and the erosion of streams, wetlands and other waters of the U.S. This permit does not authorize installation of check-dams, weirs, riprap, bulkheads o other erosion control measures in streams, wetlands or other waters of the U.S. The permittee would obtain Corps authorization prior to installing any erosion control measures in waters of the U.S.

e. The permittee would install and maintain erosion and sediment control measures in fill material that is authorized to be discharged in streams, wetlands and other waters of the U.S., in accordance with the Georgia ESCA; and permanently stabilize fill areas at the earliest practicable date.

6.8 Factual Determinations (Subpart B, 40 CFR 230.11). The following determinations are made based on the applicable information above, including actions to minimize effects and consideration for contaminants. See Table 8:

Table 8 – Factual Determinations of Potential Impacts						
Site	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Physical substrate			X			
Water circulation, fluctuation and salinity			X			
Suspended particulates/turbidity			X			
Contaminants		X				
Aquatic ecosystem and organisms					X	
Proposed disposal site		X				
Cumulative effects on the aquatic ecosystem			X			
Secondary effects on the aquatic ecosystem			X			

Discussion: Physical substrate: See discussion above at 6.3.

Water circulation, fluctuation and salinity: See discussion above at 6.3.

Suspended particles/turbidity: See discussion above at 6.3.

Contaminants: See discussion above at 6.5.

Aquatic ecosystem and organisms: See discussion above at 6.4.

Proposed disposal site: No dredging or dredged material disposal is proposed.

Cumulative effects on aquatic ecosystem: See discussion below at 8.0.

Secondary effects on aquatic ecosystem: See discussion below at 8.0.

6.9 Findings of compliance or non-compliance with the restrictions on discharges (40 CFR 230.10(a-d) and 230.12). Based on the information above, including the factual determinations, the proposed discharge has been evaluated to determine whether any of the restrictions on discharge would occur. See Table 9:

Table 9 – Compliance with Restrictions on Discharge		
Subject	Yes	No
1. Is there a practicable alternative to the proposed discharge that would be less damaging to the environment (any alternative with less aquatic resource effects, or an alternative with more aquatic resource effects that avoids other significant adverse environmental consequences?)		X
2. Will the discharge cause or contribute to violations of any applicable water quality standards?		X
3. Will the discharge violate any toxic effluent standards (under Section 307 of the Act)?		X
4. Will the discharge jeopardize the continued existence of endangered or threatened species or their critical habitat?		X
5. Will the discharge violate standards set by the Department of Commerce to protect marine sanctuaries?		X
6. Will the discharge cause or contribute to significant degradation of waters of the U.S.?		X
7. Have all appropriate and practicable steps (Subpart H, 40 CFR 230.70) been taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?	X	

7.0 General Public Interest Review (33 CFR 320.4 and RGL 84-09)

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest as stated at 33 CFR 320.4(a). To the extent appropriate, the public interest review below also includes consideration of additional policies as described in 33 CFR 320.4(b) through (r). The benefits which reasonably may be expected to accrue from the proposal are balanced against its reasonably foreseeable detriments.

7.1 All public interest factors have been reviewed and those that are relevant to the proposal are considered and discussed in additional detail. See Table 9 and any discussion that follows.

Table 9: Public Interest Factors	Effects					
	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
1. Conservation: Discussion below.			X			
2. Economics: Discussion below.					X	
3. Aesthetics: See Section 6.4.3 for discussion		X				
4. General Environmental Concerns: Discussion below.				X		
5. Wetlands: See Section 6.4.2 for discussion		X				
6. Historic Properties: Discussion below.			X			
7. Fish and Wildlife Values: See Section 6.4.1 for discussion		X				
8. Flood Hazards: Discussion below.	X					
9. Floodplain Values: Discussion below.				X		
10. Land Use: Discussion below.				X		
11. Navigation: Discussion below.	X					
12. Shoreline Erosion and Accretion: Discussion below.	X					
13. Recreation: Discussion below.						
14. Water Supply and Conservation: See Section 6.4.3 for discussion				X		
15. Water Quality: See Section 6.4.1 for discussion				X		
16. Energy Needs: Discussion below.				X		
17. Safety: Discussion below.		X				
18. Food and Fiber Production: Discussion below.				X		
19. Mineral Needs: Discussion below.				X		
20. Consideration of Property Ownership: See below for discussion.	X					
21. Needs and Welfare of the People: Discussion below.						

Additional discussion of effects on factors above:

1) Conservation: The proposed project would be constructed to avoid unnecessary adverse impacts to the natural environment, during and after construction. Specifically, the applicant would avoid 229.89 acres of wetland and 4,212 linear feet of stream. Any draft permit issued for this office would include a special condition concerning avoidance of the remaining 229.89 acres of on-site wetlands and 4,212 linear feet of stream. These natural wetland and stream areas were avoided as part of the permit application review process and therefore will not be disturbed by any dredging, filling, mechanized land clearing, agricultural activities, or other construction work whatsoever. The U.S. Army Corps of Engineers reserves the right to deny review of any requests for future impacts to these natural wetland and/or stream areas."

Some activities that require Department of the Army permits result in beneficial effects to the quality of the environment. The district engineer will weigh these benefits as well as environmental detriments along with other factors of the public interest." The proposed project does not include any design elements that would result in beneficial effects to the quality of the environment. There are no proposed impacts to conservation lands. Therefore, the Corps has determined that project construction would have no effect on conservation values.

2) Economics/Social: During construction of the proposed project, there would be a short term economic benefit to employed construction workers, equipment operators, contractors and others in the construction industry. Once the manufacturing facility is operational, there would be a long term economic benefit as well. The construction of the manufacturing and assembly facility is projected to involve over $1 billion in private investment and generate a total of 4,000 new jobs following completion of both Phases 1 and Phase 2.

Furthermore, in addition to creating new jobs, the project is expected to attract a chain of suppliers and vendors, each adding new jobs and income to the local and state economy. There would also be an associated property tax benefit to the local government, through increase in property values. Therefore, the Corps has determined that the proposed project would have an overall long term beneficial effect on economic factors.

4) General Environmental Concerns: The environmental concerns for this project focus on impacts to aquatic resources (i.e. 62.83 acres of wetland, 833 linear feet of intermittent stream, and 0.62 acre of ditch), water quality, fish, wildlife, threatened and endangered species and historic properties. No more than minimal adverse environmental impacts are anticipated. Therefore, the Corps has determined that the proposed project would have a negligible effect on general environmental concerns

6) Historic Properties: By letter dated January 15, 2019, the Corps requested that the Georgia State Historic Preservation Officer (Georgia SHPO) provide concurrence on the determination that the project would result in an adverse effect to the Central of Georgia Rail Line (an eligible site). By letter dated March 4, 2019, Georgia HPD concurred with the Corps' determination provided the following special conditions were added to any draft permit issued for the proposed project:

a. Within 60 days of the date of permit issuance, the permittee shall submit a draft Mitigation Plan to the Corps for review and approval. The Plan shall include development of a Photographic Permanent Archival Record (PAR) and historic narrative documentation to resolve adverse effects to portions of the Central of Georgia Rail Line Corridor, identified in Figure XX. The historic narrative shall highlight the Central of Georgia Rail line, discussing its role in the development of railroad towns in early 20th century, connection to regional history of transportation, and early 20th century engineering. These documents shall follow the "Guidelines for Establishing a Photographic Permanent Archival Record," revised June 2014. The Corps will submit the draft plan to the Georgia State Historic Preservation Office (GASHPO) for review. The GASHPO shall have 30 days to provide comments to the Corps on the draft plan.

b. Within 180 days of receipt of written approval from the Corps of the above referenced Mitigation Plan, the permittee shall prepare and submit the draft PAR and historic narrative document to the Corps and GASHPO for review and comment. A final copy of the PAR document and narrative will be provided to SHPO and Georgia Railroad Museum for retention.

Any draft permit issued by the Corps for the proposed project would include the above special permit conditions. Therefore, the Corps has determined that the proposed project would have a mitigated neutral effect on historic properties.

8) Flood Hazards and 9) Flood Plain: The site is not located within the 100-year floodplain; nor should the project restrict flow of a 100-year flood. The proposed project does not include construction of any impoundments, therefore there is no flood hazard risk. The applicant would be responsible for ensuring that the project complies with all rules, regulations and/or requirements of the Federal Emergency Management Agency (FEMA) with regard to flood plains and flood ways. As there is no fill proposed in floodplains and stormwater runoff would be managed to maintain runoff rates, there should be no effect to floodplain values. A special condition requiring compliance with applicable FEMA regulations would be included in any issued permit.

10) Land use: The 1,944-acre project site has been under the same private ownership for many years, and has been used for pine timber production. In addition, the property is currently zoned properly to be converted to the proposed industrial use. There is no information available to the Corps concerning any conflict with the proposed use of this tract. Therefore, the Corps has determined that the proposed project would have a negligible impact on land use.

11) Navigation: There are no tributaries or navigable waterways located on the proposed project site that are utilized by boat traffic. Therefore, the project would have no effect on navigation.

12) Shoreline Erosion and Accretion: There are no open water areas located on the project site. Therefore, the Corps has determined that the proposed project would have no effect on shoreline erosion and accretion.

16) Energy Needs: Construction and use of facilities on this project site would require the consumption of electricity and petroleum. However, these sources of energy are readily available and there is ample supply. Therefore, the Corps has determined that the proposed project would have a negligible effect on energy needs.

17) Safety: During project construction, minor interruptions to traffic flow along Highway 280 may occur due to dump truck and heavy equipment usage, which could cause a short-term safety issue. However, traffic interruptions would subside upon project completion. Once the project is constructed and operational, there would be a resulting long term increase in automobile and truck traffic in the vicinity of the project area. The applicant would be responsible for ensuring that all appropriate Federal, State and local traffic safety protocols are followed during construction and after. Therefore, the Corps has determined that the project may have a minor, long-term detrimental effect on traffic safety in the vicinity of the project. The Corps is not aware of other safety concerns inherent to the construction and operation of the proposed project.

18) Food and Fiber Production: The 1,944-acre project site is currently being used for timber production (wood fiber). Construction of the project would remove this area from future timber production. However, much of the undeveloped lands in Coastal Georgia are producing timber; therefore, the loss of timber production on the project site would represent a very small overall loss to wood fiber production in the vicinity of the project site. In addition, due to the site's utilization for timber production, there is very little opportunity for food production (i.e. agriculture). Therefore, the Corps has determined that the proposed project would have a negligible effect on food and fiber production.

19) Mineral Resources and Needs: The project site has not been used for mining of mineral resources, and the proposed project would not enhance or decrease any potential mineral needs in the area. Minor amounts of earthen fill material, concrete, rock, and other mineral resources would be consumed for construction of the proposed project. However, these resources are in ample supply. Therefore, the Corps has determined that construction of the proposed project would have a negligible effect on mineral needs.

20) Consideration of Property Ownership: According to the applicant, they are currently under contract to purchase the property, with the contingency that the automotive manufacturer selects the site. There is no information available to the Corps concerning any conflict with the proposed use of this tract or with property ownership. Therefore, the Corps has determined that the proposed project would have no effect on property ownership.

21) Needs and Welfare of the People: According to the applicant, the proposed project would provide approximately 4,000 new jobs as full-time employees at the advanced manufacturing and assembly facility, and would likely attract a chain of supplier and vendor businesses to the area that would represent additional jobs and economic growth to the local area and the state. In addition, the project would result in an increase in local, state, and federal tax revenue. Therefore, provided the permittee complies with environmental commitments and permit conditions issued to ensure the short and long term protection of the environment, the project would have a beneficial long term effect on the needs and welfare of the people.

7.1.1 Climate Change. The proposed activities within the Corps federal control and responsibility likely will result in a negligible release of greenhouse gases into the atmosphere when compared to global greenhouse gas emissions. Greenhouse gas emissions have been shown to contribute to climate change. Aquatic resources can be sources and/or sinks of greenhouse gases. For instance, some aquatic resources sequester carbon dioxide whereas others release methane; therefore, authorized impacts to aquatic resources can result in either an increase or decrease in atmospheric greenhouse gas. These impacts are considered de minimis. Greenhouse gas emissions associated with the Corps federal action may also occur from the combustion of fossil fuels associated with the operation of construction equipment, increases in traffic, etc. The Corps has no authority to regulate emissions that result from the combustion of fossil fuels. These are subject to federal regulations under the Clean Air Act and/or the Corporate Average Fuel Economy (CAFE) Program. Greenhouse gas emissions from the Corps action have been weighed against national goals of energy independence, national security, and economic development and determined not contrary to the public interest.

7.2 The relative extent of the public and private need for the proposed structure or work: The applicant's stated purpose and need for the project is "to obtain a 404 permit to facilitate development of a site suitable to support an OEM auto manufacturing facility." As result, construction of this project would provide local public benefits such as employment opportunities at the facility and a potential increase in the local, State and Federal tax bases.

7.3 If there are unresolved conflicts as to resource use, explain how the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work was considered.

Discussion: There were no unresolved conflicts identified as to resource use.

7.4 The extent and permanence of the beneficial and/or detrimental effects that the proposed work is likely to have on the public and private use to which the area is suited:

Detrimental effects are expected to be minimal and permanent.

Beneficial effects are expected to be minimal and permanent.

8.0 Mitigation (33 CFR 320.4(r), 33 CFR Part 332, 40 CFR 230.70-77, 40 CFR 1508.20 and 40 CFR 1502.14):

8.1 Avoidance and Minimization: When evaluating a proposal including regulated activities in waters of the United States, consideration must be given to avoiding and minimizing effects to those waters. Avoidance and minimization measures are described above in Sections 1 and 3. Were any other mitigative actions including project modifications discussed with the applicant implemented to minimize adverse project impacts? (see 33 CFR 320.4(r)(1)(i)) No

8.2 Is compensatory mitigation required to offset environmental losses resulting from proposed unavoidable impacts to waters of the United States? Yes

Provide rationale: Savannah District's current standard operation procedure for compensatory mitigation requires that impacts greater than 0.10 acre of wetland be offset with appropriate mitigation. The Corps has reviewed the proposed compensatory mitigation plan and determined that it is in compliance with the Savannah District's most recent guidance on compensatory mitigation requirements; and the 2008 Final Compensatory Mitigation Rule (33 CFR Parts 325 and 332)

8.3 Type and location of compensatory mitigation

8.3.1 Is the impact in the service area of an approved mitigation bank? Yes

If yes, does the mitigation bank have appropriate number and resource type of credits available? Yes

8.3.2 Is the impact in the service area of an approved in-lieu fee program? No

If yes, does the in-lieu fee program have the appropriate number and resource type of credits available? No

8.3.3 Selected compensatory mitigation type/location(s). See Table 10:

Table 10 – Mitigation Type and Location	
Mitigation bank credits	X
In-lieu fee program credits	
Permittee-responsible mitigation under a watershed approach	
Permittee-responsible mitigation, on-site and in-kind	
Permittee-responsible mitigation, off-site and/or out of kind	

8.3.4 Does the selected compensatory mitigation option deviate from the order of the options presented in §332.3(b)(2)-(6)? No

8.4 Amount of compensatory mitigation: The Corps has approved the applicant's compensatory mitigation plan for this project, which is the purchase of 425.6 wetland credits and 5,997.6 stream credits from Corps' approved mitigation banks with a primary geographic service area that covers the Permit Area. If sufficient credits are not available within the primary service area, the applicant would be required to consult with the Corps regarding purchase of credits from a secondary service area bank or from ILF consistent with the 2008 Mitigation Rule.

Rationale for required compensatory mitigation amount: The applicant used the Savannah District's 2018 SOP for calculating compensatory mitigation to arrive at the required wetland and stream mitigation credits.

9.0 Consideration of Cumulative Impacts

(40 CFR 230.11(g) and 40 CFR 1508.7, RGL 84-9) Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative

impacts can result from individually minor direct and indirect but collectively significant actions taking place over a period of time. A cumulative effects assessment should consider how the direct and indirect environmental effects caused by the proposed activity requiring DA authorization (i.e., the incremental impact of the action) contribute to cumulative effects, and whether that incremental contribution is significant or not. .

9.1 Identify/describe the direct and indirect effects caused by the proposed activity:

Direct effects of the project include the filling of 62.83 acres of wetland, 17.56 acres of isolated, non-jurisdictional wetland, 833 linear feet of stream and 0.62 acre of ditch (i.e. converting these resources to upland). Filling of these resources would result in a loss in aquatic functions they provide such as ground water recharge, storm water retention and habitat for wildlife and aquatic organisms.

The project has also been reviewed for potential secondary/indirect impacts. Based on information provided by the applicant, construction of the manufacturing and assembly facility is anticipated to generate a total of 4,000 new jobs. The project is also expected to attract a chain of suppliers and vendors to serve the project, each adding additional new jobs. These new jobs would attract employees to the four-county region, creating a need for additional housing, restaurants, services, etc.; which would result in additional development. The environmental impacts that may be associated with this potential secondary development would be difficult to predict. However, any resulting secondary construction related impacts to aquatic resources would require prior Corps' authorization, including compensatory mitigation. There may also be a project related, indirect impact to water quality associated with increased stormwater runoff from the project site, into downstream waters in Black Creek and the Ogeechee River.

9.2 The geographic scope for the cumulative effects assessment is: The National Environmental Policy Act (NEPA) requires that the impacts of each proposed project be considered within the appropriate geographical area/region of influence (ROI). The geographic area/ROI for purposes of consideration of the proposed project is the Lower Ogeechee River Basin and United States Geological Service, Georgia Hydrologic Unit Code (HUC) 03060202. The area includes portions of Bryan, Bulloch, Chatham, Effingham, Emanuel, Jenkins, and Screven Counties. This area also includes the majority of the area where Savannah Harbor related commercial and industrial development occurs. The Corps has determined that actions taken in the Lower Ogeechee River Basin and HUC 03060202 would be sufficiently similar in location, topography, watershed impacts, habitat types, etc., to be considered in a cumulative impacts assessment.

The proposed action, in addition to other projects in the geographic area of consideration/ROI (i.e., HUC 03060202), have the possibility to result in either negative or positive impacts in a cumulative manner. Cumulative impacts are most likely to occur when a relationship exists between a proposed action, or alternative, and other actions expected to occur in a similar location, time period, and/or involving similar actions, i.e. past, present, and reasonably foreseeable future actions.

9.3 The temporal scope of this assessment covers: The data available to the Corps concerning past actions resulting in loss of wetlands, dates back to the early 1990's. This assessment also covers current known actions, and reasonably foreseeable future actions.

9.4 Describe the affected environment: The 1,944 acre project site is located in a rural area of Bryan County, Georgia (Latitude 32.1584, Longitude -81.4533). The dominant on-site habitats are upland pine plantation, forested wetlands, scrub-shrub wetlands, perennial and intermittent streams, and man-made ditches. Black Creek, the largest nearby tributary, is located immediately to the south and east of the project site, and flows into the Ogeechee River (see Section 1.4 above for a more detailed description).

9.5 Determine the environmental consequences: The Corps identified the following target resources because of their scarcity and/or importance in HUC 03060202: (1) wetlands; (2) streams; (3) water quality; and (4) aquatic species. Target resources are important resources that could be cumulatively affected by activities in HUC 03060202. The following is an assessment of the potential impacts of the proposed project on these target resources.

(1) Wetlands: The U.S. Fish and Wildlife Service, National Wetland Inventory (NWI) map that covers HUC 03060202 was produced in the early 1990's, and indicates that this HUC contained approximately 445,876 acres of freshwater wetlands at that time. The Corps has authorized approximately 780 acres of wetland impacts in HUC 03060202 since approximately 1990, according to the Corps' regulatory database. Therefore, since 1990, the data suggests an approximate 0.17 percent loss of wetlands in this HUC.

The project would result in the loss of approximately 62.83 acres of wetland, 833 linear feet of intermittent stream, and 0.62 acre of ditch, which would be a proportionally small impact to wetlands, when compared to the total acreage of wetland located within HUC 03060202. To offset the unavoidable loss to aquatic resource function that would result from these impacts, the applicant proposes

the purchase of 425.6 wetland credits and 5,997.6 stream credits from Corps' approved mitigation banks with a primary geographic service area that covers the Permit Area. With implementation of the proposed compensatory mitigation, the project would have long-term minor adverse impact on wetlands in HUC 03060202, when considered alone or in concert with the other past, present and reasonably foreseeable future projects in the basin that also impact wetlands or other aquatic resources.

Just as mitigation is currently required for impacts to wetlands that exceed 0.10 acre after avoidance and minimization, future projects such as potential related commercial and residential development would also require avoidance and minimization of impacts to aquatic resources and mitigation for impacts that exceed whatever mitigation threshold is in place. For this reason (off-setting mitigation) and the insignificant loss (0.17%) of wetlands in this HUC, the potential cumulative effects associated with this project are considered minimal.

(2) Streams: The project would result in the loss of 833 linear feet of intermittent stream. Corps' permitted projects do not often result in impacts to streams within HUC 03060202. Therefore, there is limited data is available regarding historical stream impacts associated with Corps' permitted projects. To offset the unavoidable loss in aquatic function that would result from these impacts, the applicant proposed the purchase of 425.6 wetland credits and 5,997.6 stream credits from Corps' approved mitigation banks with a primary service area that covers the Permit Area. With implementation of the proposed mitigation, the project would have a minimal impact on streams located in HUC 03060202, when considered alone or in concert with the other past, present and reasonably foreseeable future projects in the basin that also impact streams or other aquatic resources.

(3) Water Quality: Water quality is affected by changes to the environment (referred to as stressors) that adversely affect aquatic life or impair human uses of a water body. Point sources are municipal and industrial wastewater discharges. Non-point sources consist of sediment, litter, bacteria, pesticides, fertilizers, metals, oils, grease, and a variety of other pollutants that are washed from rural and urban lands by stormwater. Expected growth in population and employment in HUC 03060202 would result in more stress from stormwater runoff as well as non-point source loading. Impacts from municipal wastewater, agricultural, and industrial discharges were greater prior to the 1970's. Due to increased regulation, these discharges have been reduced but continue to

introduce pollutants into the system, which lower water quality when considered cumulatively. Georgia's "Draft 2016 Integrated 305(b)/303(d) List" for the Lower Ogeechee watershed (i.e., HUC 03060202) has several waterways listed as not supporting their designated use for various reasons.

Residential, commercial and industrial development results in an increase in impervious surfaces (foundations, paved roads, parking lots, etc.), which affects stormwater discharges. Development results in an increase in non-point source contaminant loading through associated increases in urban landscaping (pesticides and fertilizers), increased traffic (oil, grease and metals), and other associated activities. There would be an anticipated incremental increase in adverse impacts to water quality as impervious surfaces increase in HUC 03060202. The amount of impervious surface coverage is increasingly recognized as a valuable predictor of overall water quality within a watershed. In general, as population increases, so does impervious surface. As impervious surface area increases, water quality decreases. This effect is mitigated by the fact that each county is responsible for regulating non-point source stormwater discharges pursuant to Section 402 of the Clean Water Act.
The impacts to wetlands discussed above would be expected to have a negligible effect on water quality due to the loss of associated aquatic functions (flood water retention, filtration, contaminant removal, sediment retention, etc.). The mitigation for these impacts (including the purchase of wetland and stream mitigation credits) would help to offset these impacts to water quality.

(4) Aquatic Species: Construction of the proposed project would result in the loss of approximately 80 acres of wetland, and 833 linear feet of intermittent stream, which would displace habitat and substrate that supports aquatic species. A method to measure or predict potential future impacts on aquatic species in HUC 03060202 is not available; however, there would likely be a minor impact to aquatic species from the above discussed impacts to water quality. Therefore, the Corps determined that the proposed project, with proposed compensatory stream and wetland mitigation, would have no more than minimal impact on aquatic species when considered alone or in concert with the other past, present and reasonably foreseeable future projects in the basin.

9.6 Discuss any mitigation to avoid, minimize or compensate for cumulative effects:

The applicant avoided impacting 229.89 acres of wetland and 4,212 linear feet of stream, located on the project site. Regarding minimization measures, the applicant has proposed to install culverts under the rail bed, so that stream flow is maintained. Any draft permit issued for the project would include special conditions requiring the culverts to be installed to maintain the existing aquatic flows as well as accommodate anticipated storm events.

Any draft permit issued for the project would include special conditions requiring compliance with the State 401 WQ certification, the applicant would also be required to follow Best Management Practices (BMPs) to ensure that the proposed fill does not migrate into adjacent and downstream waters. The Corps would also include special conditions requiring compensatory mitigation for all fill impacts

9.7 Conclusions regarding cumulative impacts:

When considering the overall impacts that will result from the proposed activity, in relation to the overall impacts from past, present, and reasonably foreseeable future activities, the incremental contribution of the proposed activity to cumulative impacts in the area described in section 9.2, are not considered to be significant . Compensatory mitigation will be required to help offset the impacts to eliminate or minimize the proposed activity's incremental contribution to cumulative effects within the geographic area described in Section 9.2. Mitigation required for the proposed activity is discussed in Section 8.0.

10.0 Compliance with Other Laws, Policies, and Requirements

10.1 **Section 7(a)(2) of the Endangered Species Act (ESA):** Refer to Section 2.2 for description of the Corps action area for Section 7.

10.1.1 Has another federal agency been identified as the lead agency for complying with Section 7 of the ESA with the Corps designated as a cooperating agency and has that consultation been completed? No

10.1.2 Are there listed species or designated critical habitat present or in the vicinity of the Corps' action area? Yes

Effect determination(s), including no effect, for all known species/habitat, and basis for determination(s): Refer to 6.4.1.

10.1.3 Consultation with either the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service was initiated and completed as required, for any determinations other than "no effect" (see the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation). Based on a review of the above information, the Corps has determined that it has fulfilled its responsibilities under Section 7(a)(2) of the ESA. The documentation of the consultation is incorporated by reference.

10.2 **Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), Essential Fish Habitat (EFH).**

10.2.1 Has another federal agency been identified as the lead agency for complying with the EFH provisions of the Magnuson-Stevens Act with the Corps designated as a cooperating agency and has that consultation been completed? No

10.2.2 Did the proposed project require review under the Magnuson-Stevens Act? No. The project site is not tidally influenced, nor would it affect EFH of federally managed fisheries. In addition, by letter dated July 16, 2018, NMFS, HPD stated "Based on the information in the public notices, the proposed projects would not occur in the vicinity of essential fish habitat (EFH) designated by the South Atlantic Fishery Management Council, Mid-Atlantic Fishery Management Council, or the NMFS. Present staffing levels preclude further analysis of the proposed work and no further action is planned."

10.2.3 Consultation with the National Marine Fisheries Service was initiated and completed as required (see the attached ORM2 Summary sheet for consultation type, begin date, end date and closure method of the consultation). Based on a review of the above information, the Corps has determined that it has fulfilled its responsibilities under EFH provisions of the Magnuson-Stevens Act.

10.3 **Section 106 of the National Historic Preservation Act (Section 106):** Refer to Section 2.3 for permit area determination.

10.3.1 Has another federal agency been identified as the lead federal agency for complying with Section 106 of the National Historic Preservation Act with the Corps designated as a cooperating agency and has that consultation been completed? No

10.3.2 Known historic properties present? Yes. Additional consultation is necessary to ensure compliance of the regulated activity with Section 106 of the NHPA.

Effect determination and basis for that determination: By letter dated January 15, 2019, the Corps requested that the Georgia State Historic Preservation Officer (Georgia SHPO) provide concurrence on the determination that the project would result in an adverse effect to the Central of Georgia Rail Line (an eligible site). By letter dated May 31, 2017, Georgia HPD concurred with the Corps' determination provided the following special conditions were added to any draft permit issued for the proposed project:

(1) Within 60 days of the date of permit issuance, the permittee shall submit a draft Mitigation Plan to the Corps for review and approval. The Plan shall include development of a Photographic Permanent Archival Record (PAR) and historic narrative documentation to resolve adverse effects to portions of the Central of Georgia Rail Line Corridor, identified in Figure XX. The historic narrative shall highlight the Central of Georgia Rail line, discussing its role in the development of railroad towns in early 20th century, connection to regional history of transportation, and early 20th century engineering. These documents shall follow the "Guidelines for Establishing a Photographic Permanent Archival Record," revised June 2014. The Corps will submit the draft plan to the Georgia State Historic Preservation Office (GASHPO) for review. The GASHPO shall have 30 days to provide comments to the Corps on the draft plan.

(2) Within 180 days of receipt of written approval from the Corps of the above referenced Mitigation Plan, the permittee shall prepare and submit the draft PAR and historic narrative document to the Corps and GASHPO for review and comment. A final copy of the PAR document and narrative will be provided to SHPO and Georgia Railroad Museum for retention.
Any draft permit issued by the Corps for the proposed project would include the above special permit conditions. Therefore, the Corps has determined that the proposed project would have a mitigated neutral effect on historic properties.

10.3.3 Consultation was initiated and completed with the appropriate agencies, tribes and/or other parties for any determinations other than "no potential to cause effects" (see the attached ORM2 Summary sheet for consultation type, begin date, end date and closure method of the consultation). Based on a review of the information above, the Corps has determined that it has fulfilled its responsibilities under Section 106 of the NHPA. Compliance documentation incorporated by reference.

10.4 **Tribal Trust Responsibilities**

10.4.1 Was government-to-government consultation conducted with Federally-recognized Tribe(s)?Yes

By letter dated, September 7, 2018, the Corps consulted with the following tribes: Shawnee Tribe; Alabama-Quassarte Tribal Town; Thlopthlocco Tribal Town; Coushatta Tribe of Louisiana; Muscogee (Creek) Nation; Poarch Band of Creek Indians; Absentee-Shawnee Tribe of Oklahoma; Seminole Nation of Oklahoma; Seminole Tribe of Florida; Kialegee Tribal Town; and Eastern Shawnee Tribe of Oklahoma. To date the Corps has received comments from the Seminole Tribe of Florida, the Shawnee Tribe and the Muscogee (Creek) Nation. Their comments and the Corps' responses are below.

Seminole Tribe of Florida: By email dated October 8, 2018, the Seminole Tribe of Florida stated they had reviewed the above survey and had no objections to the project.

Corps' response: N/A

Shawnee Tribe: By email dated September 10, 2018, the Shawnee Tribe stated "we have no issues or concerns at this time, but in the event that archeological materials are encountered during construction, use, or maintenance of this location, please re-notify us at that time as we would like to resume immediate consultation under such a circumstance."

Corps' response: The following special condition would be included in the permit: "In the event that archeological materials are encountered during construction, use, or maintenance of this location, the Permittee shall cease work and notify the Corps. The Corps shall then notify all parties, including the Georgia State Historic Preservation Officer and appropriate Tribal Historic Preservation Officers to reinitiate Section 106 of the NHPA consultation."

Muscogee (Creek) Nation: By email dated October 5, 2018, the Muscogee (Creek) Nation stated they did not concur with the ineligibility determinations of sites 9BN1611 and 9BN1613 and requested that the sites be avoided. Should the applicant be unable to avoid the sites, the Muscogee (Creek) Nation requested that the applicant perform additional fieldwork on the two sites to determine eligibility.

Corps response: By letter dated October 29, 2018, the applicant's cultural resource consultant provided a memorandum that included additional rationale as to why the sites were ineligible and that further investigations of these sites was not warranted. By email dated November 1, 2018, the Corps forwarded the memorandum on to the Muscogee (Creek) Nation stating, "Regarding site 9BN1611, due to the absence of temporal and cultural diagnostic indicators, the low density of artifacts, and low assemblage diversity, this site is highly unlikely to contain significant, yet unretrieved data that would substantially contribute to our understanding of pre-contact cultures in the region. Therefore, this site lacks data potential and is not eligible for the NRHP under Criterion D. The significance

of 9BN1611, an ephemeral, short term occupation(s) or temporary procurement camp, is derived from its initial recording and location, which has been achieved with our Phase I Investigations. No further management considerations of this site are warranted.

Regarding site 9BN1613, Due to the very low density of artifacts, low quantities of diagnostic artifacts, and the absence of temporally and culturally diagnostic materials from the intact E horizon, this site is also highly unlikely to contain significant, yet unretrieved data that would substantially contribute to our understanding of pre-contact cultures in the region. Therefore, this site lacks data potential and is not eligible for the NRHP under Criterion D. The significance of 9BN1613, an ephemeral, short term occupation(s) or temporary procurement camp(s), is derived from its initial recording and location, which has been achieved during our Phase I Investigation. No further management considerations of this site are warranted."

By email dated February 22, 2019, the Muscogee (Creek) Nation concurred with the Corps eligibility recommendations and effects determinations provided the following special condition was included in any draft permit issued for the project:

"If, during excavation or other construction activities previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, temporarily suspend activities that may damage or alter such resources. Resources covered by this paragraph include but are not limited to: human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, and other cultural deposits. Upon such discovery or find, immediately notify the Contracting Officer so that the Muscogee (Creek) Nation and other appropriate authorities may be notified and a determination made as to their significance and disposition. Cease activities that may result in the impact to or destruction of these resources. Secure the area and prevent people from trespassing on, removing, or otherwise disturbing such resources."

Based on the above, and with incorporation of the above as permit conditions, the Corps has fulfilled its Tribal trust responsibilities.

10.4.2 Other Tribal including any discussion of Tribal Treaty rights? N/A

10.5 **Section 401 of the Clean Water Act – Water Quality Certification (WQC)**

10.5.1 Is a Section 401 WQC required, and if so, has the certification been issued, waived or presumed? An individual water quality certification is required and has been issued by the certifying agency.

10.6 **Coastal Zone Management Act (CZMA)**

10.6.1 Is a CZMA consistency concurrence required, and if so, has the concurrence been issued, waived or presumed? N/A, a CZMA consistency concurrence is not required.

10.7 **Wild and Scenic Rivers Act**

10.7.1 Is the project located in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system? No

10.8 **Effects on Corps Civil Works Projects (33 USC 408)**

10.8.1 Does the applicant also require permission under Section 14 of the Rivers and Harbors Act (33 USC 408) because the activity, in whole or in part, would alter, occupy or use a Corps Civil Works project? No, there are no federal projects in or near the vicinity of the proposal.

10.9 **Corps Wetland Policy (33 CFR 320.4(b))**

10.9.1 Does the project propose to impact wetlands? Yes

10.9.2 Based on the public interest review herein, the beneficial effects of the project outweigh the detrimental impacts of the project.

11.0 Special Conditions

11.1 Are special conditions required to protect the public interest, ensure effects are not significant and/or ensure compliance of the activity with any of the laws above? Yes

11.2 Required special condition(s)

(1) The Project Area shall only be developed by an automobile manufacturing company. Prior to initiating any authorized work within Phase 1 of the Permit Area, the Permittee shall notify the Corps in writing that a contract has been signed with an automotive manufacturing company, which will develop the Project Area in accordance with the terms, conditions, and development plans of this permit.

(2) Prior to the commencement of construction, you shall purchase 425.6 wetland credits and 5,997.6 stream credits from Corps' approved mitigation banks with a primary service area that covers the Permit Area. During the term of this permit, should there not be primary service area wetland or stream credits available for purchase at the time of planned development, the permittee may purchase required credits from Corps' approved mitigation banks with a secondary service area that services the Permit Area, of purchased in-lieu-fee credits, if available. The permittee shall notify the Corps in writing prior to the purchase of any compensatory mitigation credits.

(3) All dredged or borrowed material used as fill in waters of the United States shall be from clean, uncontaminated sources and free from cultural resources. For the purposes these special permit conditions, the term waters of the United States includes all jurisdictional streams, wetlands, open waters, ditches, swales and other conveyance located on the project site.

(4) Unless specifically authorized by this permit, no construction, discharge of fill material, excavation, mechanized land clearing, tree or other vegetation removal, stockpiling of fill material or other work/activity shall occur in waters of the United States.

(5) Prior to any land disturbing activity on the project site, the permittee shall clearly mark all waters of the United States that are authorized to be impacted (impact-waters). Acceptable forms of marking include high visibility orange construction fencing or flagging at eye level, at intervals of 25 feet or less along the entire jurisdictional boundary. Pin flags or other ground level marking is not acceptable. In addition, the permittee shall clearly mark waters of the United States that are not to be impacted (no-impact-waters), if they are located within 50 feet of any construction activities. The boundaries of impact-waters and no-impact-waters shall be marked differently, to ensure that these areas are clearly identifiable to equipment operators. All no-impact-waters marking shall be maintained until the entire project has been completed.

(6) Unless specifically authorized by this permit, borrow pits or sites for stockpiling fill dirt are prohibited within 200 feet of streambanks or within 50 feet of wetlands and open waters to minimize the potential for introduction of sediment into waters of the United States.

(7) Construction debris, uncured concrete, demolition debris, or other waste materials shall not be discharged into streams, wetlands, or other open waters; or placed at sites near such areas, where migration into waters of the United States could be anticipated.

(8) Equipment staging areas and equipment maintenance areas are prohibited within 200 feet of streambanks or within 50 feet of wetlands and other open waters to minimize the potential for wash water, petroleum products, or other contaminants from construction equipment entering waters of the United States.

(9) The permittee shall ensure that all features of the project's master drainage plan, such as drainage ditches, road-side ditches, swales and other storm-water conveyances, are designed and constructed to avoid: drainage of wetlands; diversion of storm-water away from wetlands; and other hydrologic alterations of natural drainage patterns that would adversely impact wetlands. The permittee shall be responsible for any inadvertent and/or unforeseen hydrologic impacts to waters of the United States resulting from alteration of natural drainage patterns. The permittee shall also ensure that secondary road ditches and/or small after-project drainage ditches do not inadvertently impact wetlands or waters of the United States.

(10) The permittee shall minimize bank erosion and sedimentation in construction areas by utilizing Best Management Practices for stream corridors, installing and maintaining significant erosion and sediment control measures, and providing daily reviews of construction and stream protection methods. Check dams and riprap placed in streams and wetlands as erosion control measures are considered a fill and not authorized under this permit unless they were specifically authorized by this permit.

(11) All work conducted under this permit shall be located, outlined, designed, constructed and operated in accordance with the requirements of the Georgia Erosion and Sedimentation Control Act of 1975 (Georgia ESCA), as amended. Utilization of plans and specifications contained in the "Manual for Erosion and Sediment Control, (Latest Edition)," published by the Georgia Soil and Water Conservation Commission, will aid in achieving compliance with the Georgia ESCA.

(12) The permittee shall install and maintain erosion and sediment control measures in upland areas of the project site, in accordance with the Georgia Erosion and Sedimentation Control Act of 1975 to minimize the introduction of sediment into and the erosion of streams, wetlands and other waters of the United States. This permit does not authorize installation of check-dams, weirs, riprap, bulkheads or other erosion control measures in streams, wetlands or other waters of the United States. The permittee shall obtain U.S. Army Corps of Engineers authorization prior to installing any erosion control measures in waters of the United States.

(13) The permittee shall install and maintain erosion and sediment control measures in fill material that is authorized to be discharged in streams, wetlands and other waters of the United States, in accordance with the Georgia Erosion and Sedimentation Control Act of 1975; and permanently stabilize fill areas at the earliest practicable date.

(14) Once the project site is sufficiently stabilized through re-vegetation, the permittee shall remove all silt fencing and other non-biodegradable erosion control measures from stream banks, riparian areas, wetlands and upland areas immediate adjacent to other waters of the United States.

(15) The permittee shall obtain and comply with all applicable Federal, state and local authorizations required for the authorized activity. A stream buffer variance may be required from the Georgia Department of Natural Resources, Environmental Protection Division (Georgia EPD), as defined in the Georgia Erosion and Sedimentation Control Act of 1975. Information concerning variances can be obtained from Georgia EPD on their website at www.gaepd.org, or by calling (404) 463-1463.

(16) If you or your contractors discover any federally listed threatened or endangered species and/or their habitat while accomplishing the activities authorized by this permit, you must immediately STOP work and notify the U.S. Army Corps of Engineers within 24 hours. The U.S. Army Corps of Engineers will contact with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service to determine if the species and/or habitat warrant further consultation.

(17) Regarding the future protection of the Eastern Indigo snake (*Drymarchon couperi*) that has the potential to be within the vicinity of the project, the permittee shall comply with the following special conditions:

(a) Prior to work occurring on the site, the permittee shall survey the project site for gopher tortoise burrows. All borrows shall be scoped to determine if they are active (i.e. occupied by the tortoise) or empty.

(b) Should a burrow be determined active, the gopher tortoise shall be relocated off the property. All relocations shall be coordinated with Mr. John Jensen of the Georgia Department of Natural Resources. Relocation shall occur in warm weather months when snakes are less likely to inhabit the tortoise burrows.

(c) Once the gopher tortoise has been relocated, the burrow shall be collapsed. Prior to collapsing the burrow, the burrow shall be scoped to ensure it is empty.

(18) The permittee shall ensure that culverts installed in perennial streams and wetland, including replacement culverts, are constructed in accordance with the following conditions:

(a) The width of the base flow culvert shall be approximately equal to the average width of the stream channel immediately above and below the culvert installation site. Culverts shall not permanently widen or constrict the channel, or reduce or increase stream depth. Multi-pipe culverts may not be used to pass base flows. Culverts shall be sized to maintain the existing bank-full cross-sectional area, and to accommodate bank-full stream flows.

(b) The upstream and downstream invert of culverts (except bottomless culverts) shall be buried/embedded to a depth of twenty percent of the culvert height to allow natural substrate to colonize the structures bottom and encourage fish movement.

(c) Culvert slope shall be consistent with average slope of the stream in the immediate vicinity of the culvert installation site, but shall not exceed 4 percent.

(d) Culverts shall be sized to adequately accommodate anticipated storm events. Where floodplain is adjacent to the stream, an equalizer culvert(s) shall be installed at floodplain elevation to accommodate flood events exceeding bankfull. Sufficient equalizer culverts shall be installed to accommodate normal floodplain sheet flow. Culverts shall be installed in a manner that does not cause flooding of adjacent uplands, with the exception of floodplains, or the disruption of hydrology in aquatic areas located up and downstream of the culvert.

(e) Unless specifically stated in this permit, installation of undersized culverts to attain stormwater management or waste water treatment is not authorized.

(f) A waiver from the above culvert specifications may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with these specifications would result in more adverse impacts to the aquatic environment or that such design is not practicable.

(19) Regarding mitigation for the adverse effect to Historic Property Central of Georgia Rail Line, and pursuant to Section 106 of the National Historic Preservation Act, the Permittee shall comply with the following special conditions:

(a) Within 60 days of the date of permit issuance, the permittee shall submit a draft Mitigation Plan to the Corps for review and approval. The Plan shall include development of a Photographic Permanent Archival Record (PAR) and historic narrative documentation to resolve adverse effects to portions of the

Central of Georgia Rail Line Corridor, identified in Figure XX. The historic narrative shall highlight the Central of Georgia Rail line, discussing its role in the development of railroad towns in early 20th century, connection to regional history of transportation, and early 20th century engineering. These documents shall follow the "Guidelines for Establishing a Photographic Permanent Archival Record," revised June 2014. The Corps will submit the draft plan to the Georgia State Historic Preservation Office (GASHPO) for review. The GASHPO shall have 30 days to provide comments to the Corps on the draft plan.

(b) Within 180 days of receipt of written approval from the Corps of the above referenced Mitigation Plan, the permittee shall prepare and submit the draft PAR and historic narrative document to the Corps and GASHPO for review and comment. A final copy of the PAR document and narrative will be provided to SHPO and Georgia Railroad Museum for retention.

(20) Prior to the commencement of any permitted construction activity in designated floodplains and/or floodways on the project site, the permittee shall ensure that the activity complies with the applicable rules, requirements and regulations of the regulatory programs administered by the Federal Emergency Management Agency and/or the Georgia Floodplain Management Office; including revision of the National Flood Insurance Program map, if required.

(21) This permit does not authorize the interference with any existing or proposed Federal Project and the permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein, which may be caused by or result from existing or future operations undertaken by the United States in the public interest.

(22) A copy of this permit, including the approved drawings and plans; special conditions; and any amendments shall be maintained at the work site whenever work is being performed. The permittee(s) shall assure that all contractors, subcontractors, and other personnel performing the permitted work are fully aware of the permit's terms and conditions.

(23) The permittee shall notify the issuing office, in writing (electronic facsimile is acceptable), at least 10 days in advance of their intent to commence work in waters of the United States for the permitted activity. The permittee shall also notify this office, in writing, 30 days after this project is completed using the enclosed Certification of Compliance Form.

(24) All work will be performed in accordance with the following attached plans and drawings which are incorporated in and made part of the permit:

(a) Bryan County OEM Site, Location Map, Savannah Harbor-Interstate 16 Corridor Joint Development Authprity, Bryan County, Georgia (Sheet 1 of 11), dated June 27, 2019.

(b) Bryan County OEM Site, Legend, Savannah Harbor-Interstate 16 Corridor Joint Development Authprity, Bryan County, Georgia (Sheet 2 of 11), dated June 27, 2019.

(c) Bryan County OEM Site, Sheet Index, Savannah Harbor-Interstate 16 Corridor Joint Development Authprity, Bryan County, Georgia (Sheet 3 of 1), dated June 27, 2019.

(d) Bryan County OEM Site, Wetland Permit, Savannah Harbor-Interstate 16 Corridor Joint Development Authprity, Bryan County, Georgia (Sheets 4 through 11), dated June 27, 2019.

(25) Wetland and/or Stream Avoidance/Minimization Areas: The Permittee shall avoid the remaining 229.89 acres of on-site wetland and 4,212 linear feet of stream, as detailed on Drawings 1 through 11 of (enclosed). These natural wetland and stream areas were avoided as part of the permit application review process and therefore will not be disturbed by any dredging, filling, mechanized land clearing, agricultural activities, or other construction work whatsoever. The U.S. Army Corps of Engineers reserves the right to deny review of any requests for future impacts to these natural wetland and/or stream areas.

(26) In the event that archeological and/or cultural remains materials are encountered during construction, use, or maintenance of this location, the Permittee shall cease work immediately and notify the Corps. The Corps shall then notify the Georgia State Historic Preservation Officer and the appropriate Tribal Historic Preservation Officers to reinitiate Section 106, NHPA, consultation.

Rationale: The above special conditions would be included in any draft permit issued for this project to: (1) minimize unavoidable impacts to aquatic resources and thereby, reduce potential project related losses in aquatic function and (2) to minimize impacts to threatened and endangered species as well as eligible and potentially eligible historic resources.

12.0 Findings and Determinations

12.1 Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed deminimis levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

12.2 Presidential Executive Orders (EO):

12.2.1 EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians: This action has no substantial effect on one or more Indian tribes, Alaska or Hawaiian natives.

12.2.2 EO 11988, Floodplain Management: This action is not located in a floodplain.

12.2.3 EO 12898, Environmental Justice: The Corps has determined that the proposed project would not use methods or practices that discriminate on the basis of race, color or national origin nor would it have a disproportionate effect on minority or low-income communities.

12.2.4 EO 13112, Invasive Species: There are no invasive species issues involved in this proposed project.

12.2.5 EO 13212 and EO 13302, Energy Supply and Availability: The proposal is not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety.

12.3 Findings of No Significant Impact: Having reviewed the information provided by the applicant and all interested parties and an assessment of the environmental impacts, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an environmental impact statement will not be required.

12.4 Compliance with the Section 404(b)(1) Guidelines: Having completed the evaluation above, I have determined that the proposed discharge complies with the Guidelines, with the inclusion of the appropriate and practicable special conditions to minimize pollution or adverse effects to the affected ecosystem.

12.5 Public interest determination: Having reviewed and considered the information above, I find that the proposed project is not contrary to the public interest.

PREPARED BY:

Sarah E. Wise
Team Lead, Coastal Section

Date: 6/27/19

REVIEWED BY:

Dale E. Beter
Chief, Regulatory Branch

Date: 6/27/2019

REVIEWED BY:

John Ballard
Assistant District Counsel

Date: 27 JUN 19

APPROVED BY:

Daniel H. Hibner, P.M.P.
Colonel, U.S. Army
Commanding

Date: 01 Jul 19