LARSON ENVIRONMENTAL, LLC

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December 9, 2016

Ms. Wendy Robinson; Environmental Specialist
Syncom Space Services, LLC
NASA - John C. Stennis Space Center
Building 1100, Room 201 F
Stennis Space Center, Mississippi 39529

Re: Wetland Delineation Report
Area of Investigation - (+/-) 1,160-Acre Tract of Land
Northern Portion of Stennis Space Center Property
Hancock County, Mississippi
LE, LLC Project No. 2016-119

Dear Ms. Robinson:

Larson Environmental, LLC (LE, LLC) has completed a wetland delineation of the above referenced (+/-) 1,160 acre Area of Investigation (AOI) located within the northern portion of the NASA - Stennis Space Center property in Hancock County, Mississippi, per the scope of work outlined in Task Order No. - S 525 and the Subcontract Agreement No. S3 - 0006271 between LE,LLC and Sycom Space Services (S3) dated September 30, 2016. LE, LLC performed this wetland delineation at S3's request in order to assess the amount of acreage within the subject AOI that the United States Army Corps of Engineers (USACE) would potentially consider to be jurisdictional wetlands. The attached report and supporting documentation presents the findings of our field assessment and wetland delineation activities conducted between October 6, 2016 and October 31, 2016.

Should you have any questions concerning this information, please contact me at (228) 219-2992.

Sincerely,

Lars Larson, R.P.G.
Managing Principal/Professional Geologist

WETLAND DELINEATION REPORT
(+/-) 1,160-ACRE TRACT
NORTHERN PORTION OF NASA PROPERTY

SYNCOM SPACE SERVICES, LLC
NASA - JOHN C. STENNIS SPACE CENTER
BUILDING 1100
STENNIS SPACE CENTER, MISSISSIPPI

SUBCONTRACT NO. S-3 - 0006271
TASK ORDER NO. 525

PREPARED FOR:

MS. WENDY ROBINSON
SYNCOM SPACE SERVICES, LLC
BUILDING 1100, ROOM 201-F
STENNIS SPACE CENTER, MISSISSIPPI 39529

PREPARED BY:

LARSON ENVIRONMENTAL, LLC

2 SCHOONER LANE

OCEAN SPRINGS, MISSISSIPPI 39564

(228) 219-2992

DATE: DECEMBER 9, 2016

Certification:

Wetland Delineation Report

Syncom Space Services, LLC

(+/-) 1,160-Acre Wetland Delineation
Northern Portion of NASA Property
John C. Stennis Space Center, Mississippi

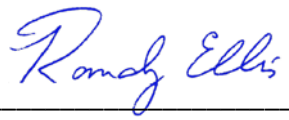
Subcontract No. S-3 - 0006271
Task Order No. 525

Prepared for:

Ms. Wendy Robinson
Syncom Space Center, LLC
Stennis Space Center, Mississippi 39529

Larson Environmental, LLC hereby certifies the aforementioned report constitutes an accurate presentation of the investigation, research, and findings developed during the completion of this Wetland Delineation prepared for, and submitted to, the client as their approved Consultant of Record.

Signed:



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Randy J. Ellis - Managing Principal
Ecological Asset Management, LLC

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Lars Larson, R.P.G.
Managing Principal - Professional Geologist

(Seal)
Registration No. 0448
State of Mississippi
December 9, 2016

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APPENDICES

1.0 INTRODUCTION

Larson Environmental, LLC (LE, LLC) completed a wetland delineation of the 1,160-acre (more or less) area of investigation (AOI) located within the northern portion of the NASA - John C. Stennis Space Center (SSC) property located in Hancock County, Mississippi, per the Subcontract No. S3-0006271 and Task Order No. 525 executed on September 30, 2016. LE, LLC performed this wetland delineation in order to assess the amount of acreage within the subject AOI the United States Army Corps of Engineers (USACE) - Vicksburg, MS District would potentially consider being jurisdictional wetlands. Jurisdictional wetlands have been defined as areas that are inundated or saturated at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. This definition and further clarification of wetland characteristics can be found in 40 CFR 230.3.

The primary criteria that are required for determining the existence of a wetland are wetlands hydrology, hydrophytic vegetation and hydric soils. Wetlands hydrology consists of surface inundation, subsurface soil saturation within the upper 12-inches of the soil profile and/or observations of geochemical changes or alterations within the soil (i.e. oxidized root channels on living root systems) due to extended periods of water saturation. Other surface observations indicative of wetlands hydrology include evidence of surface water drainage or ponding that produce physical and mechanical changes to vegetation or the ground surface (i.e. drainage patterns, water stained leaves, drift deposits, moss trim lines, etc.) that support contact with water over an extended period of time within a given area. Hydrophytic vegetation is defined as the total amount of macrophytic plant life that is able to grow in water or on a substrate that is at least periodically deficient of oxygen as a result of excessive water content. A hydric soil has been determined to be one that is saturated, flooded or upon which ponding for a sufficient duration of time during a "growing season" develops anaerobic conditions that favor the growth of hydrophytic vegetation. Hydric soils are typically characterized by low chroma (i.e. darker color) soils and/or redoximorphic (Redox) features or evidence of other geochemical processes that occur due to the exchange iron and other metals along with the addition and removal of oxygen within the soil matrix caused by fluctuations in the shallow water table.

LE, LLC has performed the requested wetland delineation in accordance with appropriate USACE delineation methods and procedures as outlined in the US Army Corps of Engineers – Wetlands Delineation Manual – January 1987, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region - 2010. The following report presents the findings of our investigation. This delineation does not grant permission to any landowner to impact any wetland habitat. The USACE - Vicksburg District has jurisdiction over wetland habitats within this subject AOI as authorized in Section 404 of the Clean Water Act (CWA).

2.0 SITE DESCRIPTION

The AOI for this project is a tract of land inclusive of approximately 1,160 contiguous acres of land situated within the NASA - SSC property located in the Southwestern portion of Hancock County, Mississippi. The overall area is inclusive of land within Sections 20, 21, 28, 29, 31, 32, 33 and 37 of Township 7 South, Range 16 West. The AOI includes mostly undeveloped tracts of upland pine flatwoods, mixtures of palustrine forested and palustrine scrub shrub habitats, as well as bottom land hardwoods and riparian buffer areas that adjoin perennial and ephemeral streams. Various other man-made features exist within the AOI including abandoned rail spur and transportation corridors within the northern to northwestern part of the AOI, an inactive landfill within the northeastern part of the AOI, and logging roads that traverse the central and southern portions of the AOI from east to west.

2.1 Area of Investigation - Project Location

The specific AOI within which this wetland delineation was conducted is located in the northern portion of the NASA - Stennis Space Center property. The AOI is bounded on the north by properties owned by the Soterra, LLC entity, to the east by Flat Top Road and Andrew Jackson Road, to the south by Moses Cook Road, and to the west by Highway 607 - Trent Lott Road. Highway 607 represents the main north to south corridor through the NASA-SSC facility. Figure 1 – Area of Investigation Map – is a 100 K United States Geological Survey (USGS) Topographic Map that illustrates the AOI and boundaries within the NASA SSC property and within Hancock County, Mississippi.

2.2 Physiography

The primary physiographic provinces within the AOI that were observed during these field surveys included pine flatwoods, a mixture of palustrine forested and palustrine scrub shrub habitats, and bottom land hardwood habitats within the main streams and drainage ways. Appendix A - Photographic Record of Survey Plot Locations - illustrates the various soil and vegetative community transitions between and within these physiographic regions of the subject AOI.

Bottom Land Hardwoods – these habitats were exclusively observed within the riparian buffer zone along Turtleskin Creek and some of the ephemeral streams and drainage ways that feed Turtleskin Creek, as well as the other bottom land drainage feature within the central and southern portion of the AOI. These areas are dominated by a tree and sapling canopy primarily of swamp tupelo's, sweet bay magnolia's, pond cypress and slash pines, and an understory of swamp cyrilla, wax myrtles, and various species of ferns and other obligate and facultative wet herbaceous species. Topographic slopes of 0% to 1% appeared to exist within the actual drainage ways with an increase to approximately 2% to 3% along the riparian buffer to upland peripheral boundaries. Fairly significant periods of fluvial flow through Turtleskin Creek were observed by evidence of large accumulated drift deposits within the northern portions of AOI, and secondary channel cuts and small natural levy features that appear to have been created during heavy flow events.

Palustrine Forested and Palustrine Scrub Shrub Areas – the majority of the AOI is comprised of this mixture of palustrine forested (Planted Pine) and scrub shrub habitat. These areas form along the transitional zones with the bottom land hardwoods and extend outward toward the broader flat areas that make up the Pine Flatwoods and other upland ridge areas. These areas are characterized by a mixture of tree and sapling dominated over story that consists of planted slash pine, with slightly smaller percentages of loblolly pine, sweet bay magnolia, tupelo, sweet gum and oak species with a fairly well established understory of gallberrry. These forested and scrub shrub habitats appear to transition into broader planted pine flat areas dominated by a heavier shrub layer.

Pine Flatwoods – these areas were observed primarily within the northeastern portion of the AOI, but also within the central portion of the AOI. This zone is similar to the palustrine forested/scrub shrub areas except that the planted slash pine dominated tree and sapling stratum within the flatwoods appears to increase slightly with a corresponding decrease in the amount of other hardwood tree species. A heavy gallberry shrub understory is still prevalent. The transition between these two habitats is rather broad, and the topography in the flatwoods areas is virtually negligible. Historical silvicultural practices in these areas appears to reveal evidence of manmade surface water drainage features from some of these areas. Additionally, the alterations to the natural canopy from those practices could have contributed to a decline in the amount or rate with which evapotranspiration takes place that would normally result from a larger tree root base and water up take, as well as the resultant decline in rain

penetration from the effects of over story shielding. Other man made alterations in these areas from silvicultural practices include the construction of surface water berms and other drainage barriers along the property boundary that appear to have held water in some areas longer that what potentially "normal" hydro-periods would allow. The construction of a landfill within the northeastern portion of the AOI, and logging roads within the central and southern portions of the AOI also appear to have restricted and altered the natural surface water flow in these areas.

3.0 WETLAND DELINEATION METHODOLOGY

The wetland delineation of the subject property is based on research materials that include the Soil Survey of Hancock County, Mississippi – 1975 published by the United States Department of Agriculture, Soil Conservation Service (Soil Survey), the Web Soil Survey Published by the Natural Resource Conservation Service (NRCS), the United States Geological Survey (USGS) topographic maps of Nicholson, Mississippi and Louisiana - 1998 and Dead Tiger Creek, Mississippi - 1996, the National Wetlands Inventory Map published by the United States Fish and Wildlife Service (USFWS), Light Detection and Ranging (LiDAR) Remote Sensing map information available from NOAA CSC and the Mississippi Department of Environmental Quality, infrared aerial imagery available from the National Agricultural Imagery Program (NAIP) and the Mississippi Automated Resources Information System (Maris), historical aerial photography from the NRCS office in Kiln, MS, the Mississippi Gulf Coast Regional Planning Commission and other on-line sources, as well as field site assessments of the subject property conducted between October 6 and 31, 2016. A complete list of available references used during this assessment is included in Section 6.0.

LE, LLC utilized two field assessment methodologies to delineate the wetland-upland boundaries within the subject AOI. The first survey method included the use of a systematic grid/transect system supplemented with the use of LiDAR elevation model and derived contours and aerial photography within the broader pine flatwood and terraced areas located in the northeastern and central portion of the property. In areas of greater topographic relief such the transitional zones along the bottom land hardwood areas and the upland boundaries, a more directed visual confirmation approach was used that included the use of soil survey and topographic map information to ground truth the contacts between the wetland and upland boundaries.

In the areas of greater topographic relief, historical aerial photography, topographic maps and LiDAR elevation data were used to assist in preliminarily identifying the "potential" contacts (i.e. transitional boundaries) between wetland and upland areas. These zones included the contacts between the riparian buffer zones along Turtleskin Creek and the ephemeral drainage ways with those of the distinctly sloped areas that transition up toward the broader upland flats. LiDAR data, aerial photographs and topographic maps were utilized to mark/estimate variations in tree canopy between

growing and non-growing seasons, as well as subtle changes in topography. These lines were then assessed and verified by surveying them in the field and noting corresponding changes in plant communities, hydrology and in particular, changes in soil characteristics. At points where all three of the field indicators revealed that wetland conditions exist (i.e. hydropytic vegetation, hydrology and hydric soils), field personnel surveyed these locations with sub meter precision accuracy. The instrumentation used to conduct the surveys included a Trimble R-1 Navigation Satellite System (GNSS) global positioning satellite (GPS) receiver using a satellite based augmentation system (SBAS) with real time corrections and paired with a Samsung Galaxy tablet operated by Trimble Terra Flex software. The surveyed points were labeled with a unique identifier representing the numerical sequence of each individual surveyed point. Each field survey point along these lines represents a location where a transition from wetland conditions to more upland conditions exists. Field data sheets were completed in areas along this line where more notable changes in overall plant communities, surface or subsurface hydrology, and/or soil characteristics were encountered. Surveyed areas typically, but not always, included a wetland plot and a corresponding upland plot to provide confirmation of soil and hydrology changes within these areas for establishing wetland boundaries. In some instances, survey plots were investigated to determine habitat, soil and hydrological characteristics for that "area".

Within the pine flatwoods of the northeastern and central portions of the AOI, a more systematic grid/transect system was used. Given the overall lack of topographic relief in these areas, transitions between upland and wetland habitats was much broader and aerially more subjective. Survey personnel first established East to West baselines along the property boundary and fence line in the northeastern part of the AOI, and along the east to west trending logging roads within the central and southern portions of the AOI. Generally north-south trending transect lines were then created along the east-west baseline at approximately 500 foot to 1000 foot intervals, and/or at intervals that intercepted zones where mapped changes from hydric to non-hydric soil conditions were documented so that actual field observations of these changes could be recorded. Field survey personnel then proceeded to walk each transect line making observations of hydrology, changes in plant communities, and digging periodic soil test pits to observe variations in soil conditions. Figure 2 - NRCS Soils Map - illustrates the varied hydric and non-hydric soil types within the overall AOI. Appendix A - Photographic Record of Survey Plot Locations - provides a photographic review of a representative number of

surveyed sites within each physiographic region during this wetland delineation project including views of subsurface soil conditions, vegetative plant communities and landform images.

Field surveys to determine the potential presence of jurisdictional wetlands within the AOI were conducted between October 6, 2016 and October 31, 2016. As previously noted, LE, LLC field personnel developed field sample plot "pairs" that represented transitions from wetland to upland conditions within relatively short distances. At each of these sample plots, field personnel recorded observations of surface and subsurface hydrology and soil conditions, as well as vegetation variations. Appendix B - Wetland Delineation Data Forms; Atlantic and Gulf Coastal Plains Region - document the field observations made at each surveyed sample plot.

The soil conditions at each sample plot were made by removing soil material from approximately one-foot to two-feet below surface grade using hand augers and hand shovel (sharpshooter) type digging instruments. Observations of overall soil color, value and chroma were noted, as well as other geochemical alterations such as iron concentrations and matrix depletions caused by prolonged exposure to water, etc.

Observations of vegetation communities included noting changes in the percent of dominant species coverage within a given area and/or the aerial extent of coverage of those species. Estimations of those amounts were recorded on the field data sheets. The subgroups for the dominant species were divided into several different strata that included tree coverage (i.e. individual species or a percent of overall canopy coverage), sapling, shrubs, as well as the herbaceous plant species layer and woody vines.

Hydrology, typically the most subjective of the three wetland criteria, was evaluated based on the application of several different factors. These included observations of subsurface soil properties (i.e. soil saturation or oxidized root channels, etc.), geographical and topographical observations (i.e. geomorphic position or drainage patterns), physical signs of inundation such as moss trim lines, watermarks, drift lines, water stained leaves, buttressed trees, etc., as well as the prevalence and/or dominance of obligate and facultative wet vegetative species.

4.0 SITE DESCRIPTION

The AOI for this project is a tract of land inclusive of approximately 1,160 contiguous acres of land situated within the NASA - SSC property located in the Southwestern portion of Hancock County, Mississippi. The overall area is inclusive of land within Sections 20, 21, 28, 29, 31, 32, 33 and 37 of Township 7 South, Range 16 West. The AOI includes mostly undeveloped tracts of upland pine flatwoods, mixtures of palustrine forested and palustrine scrub shrub habitats, as well as bottom land hardwoods and riparian buffer areas that adjoin perennial and ephemeral streams. Various other man-made features exist within the AOI including abandoned rail spur and transportation corridors within the northern to northwestern part of the AOI, an inactive landfill within the northeastern part of the AOI, and logging roads that traverse the central and southern portions of the AOI from east to west.

4.1 Hydrology

The main features within the AOI that control water movement are Turteskin Creek and the ephemeral streams and drainage features that feed into the creek, as well as topographic fluctuations that feed depressional areas within the elevated pine flat woods and palustrine forested areas. The majority of the areas where the more pronounced hydrology was observed was within the bottom land hardwoods areas and the drainage features within the AOI. In these physiographic zones, soil saturation within the upper 12-inches of the soil test pit was observed at times, as well as the presence of oxidized root channels. Observations of primary hydrology indicators appeared to be more sporadic during this assessment in relation to secondary hydrology indicators. The secondary hydrology indicators that were most prevalent were drainage patterns, geomorphic position, moss trim lines and water marks, crawfish burrows, drift deposits and water stained leaves. Even within the lower bottom land areas, soil saturation was rarely observed within the upper 12-inches of the soil test pits. Hydrology indicators were also observed within limited areas of the upland flats of the northeastern and central portions of the AOI; however, these areas appeared to be within soils that were identified by the Soil Survey as hydric and/or were located within subtle and restricted topographically lower areas and manmade drains that tied into more pronounced surface water conveyance features on side slopes that fed Turtleskin Creek and other ephemeral features.

An analysis of the Flood Elevation Maps produced by the Federal Emergency Management Agency (FEMA) - 2009 was also conducted. Figure 3 - FEMA Flood Hazard Zone Map of the AOI - illustrates the areas of the AOI that FEMA considers to be within zones subject to periodic inundation. As Figure 3 reveals, FEMA considers the riparian zones that border Turtleskin Creek to be the primary zones within the AOI where flooding would most likely occur. These areas have been mapped as Zone A, indicating that FEMA has not established a "Base Flood Elevation" for these areas. The contour that the FEMA Flood Map follows is estimated to be approximately 60 feet MSL. This information appears to generally support and coincide with what field wetland surveys identified as areas of the AOI that would most likely experience inundation events.

Based on the USACE wetlands manual, hydrological evaluations are necessitated by flooding or soil saturation for "at least five percent of the growing season". In the Soil Survey of Hancock County, Mississippi - 1981, a historical table of daily minimum temperatures documented during the growing season is presented. The information included within this table is somewhat dated in that it represents recorded temperature data between 1951 and 1973. However, this data does provide some statistically valid information regarding the number of days within a typical Gulf Coast growing season with established temperature regimes. Utilizing the data from the 28^0 F or higher temperature frequency during a five to 10 year cycle, the estimated number of days within the growing season is calculated to be 319. Accordingly, five percent (5%) of this number would be equivalent to approximately 16 consecutive days that inundation or soil saturation would need to be present. Applying the "8 years in 10" data, the resulting number of days with temperatures higher than 28^0 F is 287, yielding approximately 14.5 consecutive days that inundation or soil would need to exist. Further, applying the "2 years in 10" data, the net number of days with temperatures higher than 28^0 F is 364 would equal 18 consecutive days that flooding or soil saturation conditions would need to be present. Based on these data, it can be assumed that flooding or soil saturation conditions within this AOI would require a two to three week consecutive time period for wetlands hydrology to be present.

4.2 Vegetation

The vegetation observed during this wetland delineation appears to be representative of the vegetative strata common throughout the Mississippi Gulf Coastal Plain region. Most of the AOI is topographically

flat with perennial streams and ephemeral drainage ways that exist within the lower contoured elevations. The majority of the area is covered by slash pines and to a lesser extent by loblolly pines, with deciduous and hardwood/broad leafed trees mixed in the upland flats and dominating the lower riparian and fluvial areas. Historical silvicultural practices such as clear cutting and timber mining following hurricane events was evident within the northeastern and eastern portions of the AOI.

The most interesting observation about the vegetation within the AOI is that given the fairly large area (i.e. +/- 1,160 acres), there did not appear to be much diversity in vegetative species within the tree, sapling and shrub stratum. Herbaceous species appeared to vary considerably between upland flats and bottom land areas as one would expect, with woody vines species also being fairly consistent through the AOI. Appendix A - Photographic Record of Survey Plot Locations - provides a photographic log of representative areas of the AOI and the vegetative changes that were encountered. Appendix B - Wetland Delineation Data Forms - document the dominant plant species within each vegetative stratum. The following vegetation list includes the most dominant species that were encountered within each of the stratum during this wetland delineation.

Trees

▪ Slash Pine and Loblolly Pine	*Pinus ellioti and Pinus taeda*	*FACW and FAC*
▪ Sweet Bay Magnolia	*Magnolia virginiana*	*FACW*
▪ Black Gum and Swamp Tupelo	*Nyssa sylvatica and biflora*	*FAC and OBL*
▪ Sweet Gum	*Liquidambar styraciflua*	*FAC*
▪ Water Oaks and Live Oaks	*Quercus nigra and virginiana*	*FAC and FACU*
▪ Pond Cypress	*Taxodium ascendens*	*OBL*
▪ Southern Magnolia	*Magnolia grandiflora*	*FAC*

Saplings

▪ Slash Pine and Loblolly Pine	*Pinus ellioti and Pinus taeda*	*FACW and FAC*
▪ Sweet Bay Magnolia	*Magnolia virginiana*	*FACW*
▪ Black Gum and Swamp Tupelo	*Nyssa sylvatica and biflora*	*FAC and OBL*
▪ Sweet Gum	*Liquidambar styraciflua*	*FAC*
▪ Water Oak	*Quercus nigra*	*FAC*

Shrub Layer

▪ Large Gallberry	*Ilex coriacea*	*FACW*
▪ Gallberry	*Ilex glabra*	*FACW*
▪ Yaupon Holly	*Ilex vomitoria*	*FAC*
▪ American Holly	*Ilex Opaca*	*FAC*
▪ Elliot's Huckleberry	Vaccinium elliotti	*FAC*

Herbs

▪ Switch Cane	*Arundinaria tecta*	*FACW*
▪ Fox Tail Club Moss	*Lycopodiella alopecuroides*	*OBL*
▪ Japanese Climbing Fern	*Lygodium japonicum*	*FAC*
▪ Climbing Hempvine	*Mikani ascandens*	*FACW*
▪ Yellow Pitcher Plant	*Sarracenia alabamensis*	*OBL*
▪ Netted Chain Fern	Woodwardia areolata	*OBL*
▪ Sawtooth Blackberry	*Rubus argustus*	*FAC*

Woody Vines

▪ Roundleaf Greenbrier	*Smilax rotundafolia*	*FAC*
▪ Laurel Greenbriar	*Smilax laurifolia*	*FACW*
▪ Saw Greenbriar	Smilax bona-nox	*FAC*
▪ Muscandine	Vitis rotundafolia	*FAC*
▪ Poison Ivy	*Taxcondendron radicans*	*FAC*

4.3 Soils

The NRCS Soil Survey lists 16 different soil series/units that exist within the subject AOI. The following chart lists the mapped soil unit symbol and name, the corresponding Hydric Soil Rating, the approximate acreage within the AOI and the percentage that each soil series represents within the AOI.

NRCS SOIL SURVEY - SUMMARY OF MAPPED SOIL UNITS WITHIN AOI				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**% of AOI**
AR	Arkabutla-Rosebloom assoc., frequently flooded	95	0.9	0.1%
At	Atmore silt loam, 0 to 2 percent slopes	85	278.6	23.4%
EsA	Escambia loam, 0 to 2 percent slopes	6	117.7	9.9%
EsB	Escambia loam, 2 to 5 percent slopes	6	37.4	3.1%
EuB	Eustis loamy fine sand, 2 to 5 percent	0	82.2	6.9%
Gu	Guyton silt loam, 0 to 1 percent slopes, rarely flooded	94	9.0	0.8%
HlA	Harleston fine sandy loam, 0 to 2 percent slopes	11	8.6	0.7%
HlB	Harleston fine sandy loam, 2 to 5 percent slopes	11	248.5	20.8%
Pe	Plummer loamy sand	91	1.5	0.1%
PoA	Poarch fine sandy loam, 0 to 2 percent slopes	5	16.7	1.4%
PoB	Poarch fine sandy loam, 2 to 5 percent slopes	0	106.4	8.9%
PoC	Poarch fine sandy loam, 5 to 8 percent slopes	4	0.4	0.0%
SaC	Saucier fine sandy loam, 5 to 8 percent slopes	2	49.2	4.1%
ScB	Saucier-Susquehanna complex, 2 to 5 percent slopes	5	21.1	1.8%
ScD	Saucier-Susquehanna complex, 5 to 12 percent slopes	3	6.5	0.5%
Su	Smithton fine sandy loam, frequently flooded	97	208.3	17.5%
Totals for Area of Interest			**1,193.0**	**100.0%**

As the preceding table illustrates, there are 16 mapped soil types/series within the AOI. However, seven of these soil units out of the total 16 make up approximately 1,193 acres, or roughly 91% of the total acreage within the AOI. The 1,193 acre total presented in the table is an "estimate" based on the preparation of an approximate AOI polygon made with the NRCS Web Soil Survey mapping tool. The actual amount of total acreage is +/- 1,160 acres. The seven primary soil mapped units include the Atmore (At) Silt Loam, the Escambia (EsA) loam, Eustis (EuB) fine sandy loam, the Harleston (HIB) fine sandy Loam (2 to 5% slopes), the Poarch (PoB) fine sandy laom (2 to 5% slopes), the Saucier fine sandy loam and the Smithton (Su) fine sandy loam. Survey personnel observed that most of the mapped soil units presented by the NRCS were generally consistent with observations made in the field.

The corresponding hydric soil rating that is listed is an indication of the percentage of the mapped soil unit that meets the criteria for hydric soils. The mapped units are often composed of one or more soil types, each of which is rated as a hydric soil or not hydric. The mapped units that are made up primarily of a hydric soil may also have small areas of minor non hydric components possibly within slightly more elevated areas within that landform. Conversely, more elevated areas within that same landform that are made up primarily of non hydric soils may also have small areas of minor hydric inclusions within lower portions of that landform. Accordingly, each mapped soil unit is rated based on its respective components and the percentage of each component within the mapped unit. Given these criteria, the two mapped hydric soil units with the greatest percentage of area coverage within the overall AOI are the Atmore silt loam (23.4%) and the Smithton fine sandy loam (17.5%). The descriptions the seven main soil types that make up the bulk of the overall acreage are described below.

Atmore Silt Loam(At) - the Atmore soil unit comprises approximately 279 acres (+/- 23.4%) of the total AOI. It is found mostly within the Pine Flatwoods within the northeastern and northern areas of the AOI, and within the lower relief palustrine forested and scrub shrub habitats within the central and southern areas of the AOI. The Atmore has a hydric soil rating of 85 and is described as a poorly drained soil found on upland flats and slopes ranging from 0 to 2%. It is also characterized as a silt loam with generally low chromas of less than 2 within the upper 16 inches on the Munsell Soil Color Chart.

Escambia Loam (EsA) - the Escambia Loam soils (0 to 2% slopes) comprises approximately 118 acres (+/- 10 %) of the total AOI. The Escambia B unit (2% to 5% slopes) is also found within the AOI, but makes up only 3% of the total area. The Escambia A units is a somewhat poorly drained soil found on the upland flats of the northeastern and northern areas of the AOI in close proximity to Atmore soils, as well as within transitional areas in the central, southern and southeastern portions of the AOI. The Escambia unit has a hydric rating of 6.

Eustis Loamy Fine Sand (EuB) - the Eustis loamy fine sand unit (2 to 5% slopes) comprises approximately 82 acres (+/- 7 %) of the total AOI. The Eustis B unit is described as a somewhat excessively drained soil found typically along upland slopes, and has a hydric rating of 0. Within the AOI, the Eustis is found mostly along upland slopes on the sides of the riparian buffer zones above Turtleskin Creek in the central and northern portions of the AOI, and in isolated areas in the southern portion of the AOI. The Escambia soils typically have dark (low chroma) characteristics in the upper 4 to 5 inches of the sampled soil column, and transition to brighter chroma colors (4 to 6) below this.

Harleston Fine Sandy Loam (HIB) - the Harleston Fine Sandy Loam (B Unit - 2 to 5 % slopes) makes up approximately 249 acres (+/- 21 %) of the total AOI. The Harleston B Unit is described as a moderately well drained soil found along ridge tops and upland slopes. The Harleston is also known to have "hydric" soil inclusions within it in certain areas and has a hydric rating of 11. In this AOI, the Harleston is found mostly within upland flatwoods and palustrine scurb shrub area in the eastern portion of the AOI, in upland ridges and side slopes above Turtleskin Creek in the north, and along isolated upland flats and ridges in the western and southern portions of the AOI. The Harleston soils have generally dark (<2) soil chroma within the upper 4-5 inches of the soil column and then lighten appreciably to chromas of 4 to 6 between 6-inches and 20-inches below surface grade.

Poarch Fine Sandy Loam (PoB) - the Poarch Fine Sandy Loam (2 to 5% slopes) makes up approximately 106 acres (+/- 9 %) of the total AOI. There also small areas of the Poarch A unit (0 to 2% slopes), but it makes up only 1.5% of the total area. The Poarch B soil is a well drained soil found in uplands, and within this AOI was encountered typically along upland slopes outside of the Turtelskin Creek riparian

zone in the northern and northeastern portions of the AOI, and above the bottom land drainage ways in the southern portion of the AOI. The Poarch unit is a classic upland soil characterized by a dark surface organic layer in the upper 5-inches of the soil column, that transitions quickly to a bright yellowish brown sandy loam with chromas of generally greater than 5 or 6 below the 6-inch interval of the soil column. The Poarch B hydric soil rating is 0.

Saucier Fine Sandy Loam (SaC) - the Saucier fine sandy loam (5 to 8% slopes) makes up approximately 49 acres (+/- 4 %) of the total AOI. The Saucier fine sandy loam is described as a moderately well drained upland soil with a hydric rating of 2. It is found almost exclusively on upland slopes and within pine flat wood areas of the northwestern and western areas of the AOI. The Saucier unit is generally mapped in close proximity to other upland soils like the Poarch and Harleston with a dark the upper soil layer of 5 to 6 inches (soil chroma of 2) and lower intervals with a soil chroma that lightens from 3 to 6.

Smithton Fine Sandy Loam (Su) - the Smithton fine sandy loam unit makes up approximately 208 acres (+/- 18 %) of the total AOI. The Smithton fine sandy loam is characterized as poorly drained soil within wet flats, drainage ways and along riparian stream terraces. The Smithton is a classic hydric soil within Hancock County, Mississippi with a hydric rating of 97. Within the subject AOI, it is found principally within the lower bottom land drainage and riparian areas of Turtleskin Creek and along some of the ephemeral drainage areas that feed into Turtleskin Creek. It is also found in concert with much of the bottom land drainage area within the southern and southeastern portion of the AOI. Smithton soils are typically dark grayish brown with chromas of 2 or less within the upper two to three feet of the soil column.

5.0 CONCLUSIONS

Based on the information presented in this report, LE, LLC believes that out of the total +/- 1,160 acre AOI, approximately 283 acres represent jurisdictional wetlands. This wetland acreage is equivalent to approximately 24% of the total AOI. Figure 4 - Wetland Delineation Map of the Overall AOI - illustrates the portions of the subject AOI where jurisdictional wetlands were identified during this assessment. Figure 5 - Wetland Delineation Sheet Index Map - displays the various "enhanced view" subsections of the property that provide a more detailed view of each portion of the overall AOI. Figure 6 A - Wetland Delineation Map; Sheet Index 1 - is an aerial photograph that illustrates wetland/upland boundaries and field survey plots within the respective portion of the AOI. Figure 6 B - Wetland Delineation Map; Sheet Index 1 - is a topographic map that illustrates wetland/upland boundaries and field survey plots within the same subsection of the AOI as Figure 6 A. The subsequent figures (Figures 7 A and 7 B through Figures 11 A and 11 B) represent the aerial photographs and topographic maps illustrating the wetland/upland boundaries within the corresponding subsections of the AOI.

The interpretation the wetland/upland boundary with this AOI is based on visual observations that were made during the field assessment activities conducted between October 6, 2016 and October 31, 2016, and based on information derived from historical aerial photography, NRCS soil maps, the Hancock County, Mississippi Soil Survey, USGS topographic maps, LiDAR and Infrared map data, and other historical information sources. It should be noted that weather conditions, such as variations in seasonal rainfall amounts, can also influence the interpretation of a wetland delineation by effectively altering the hydro period within the areas of a site that have minimal relief. LE,LLC field personnel found the climatological conditions to be normal, and consistent for this time of the year.

6.0 REFERENCES

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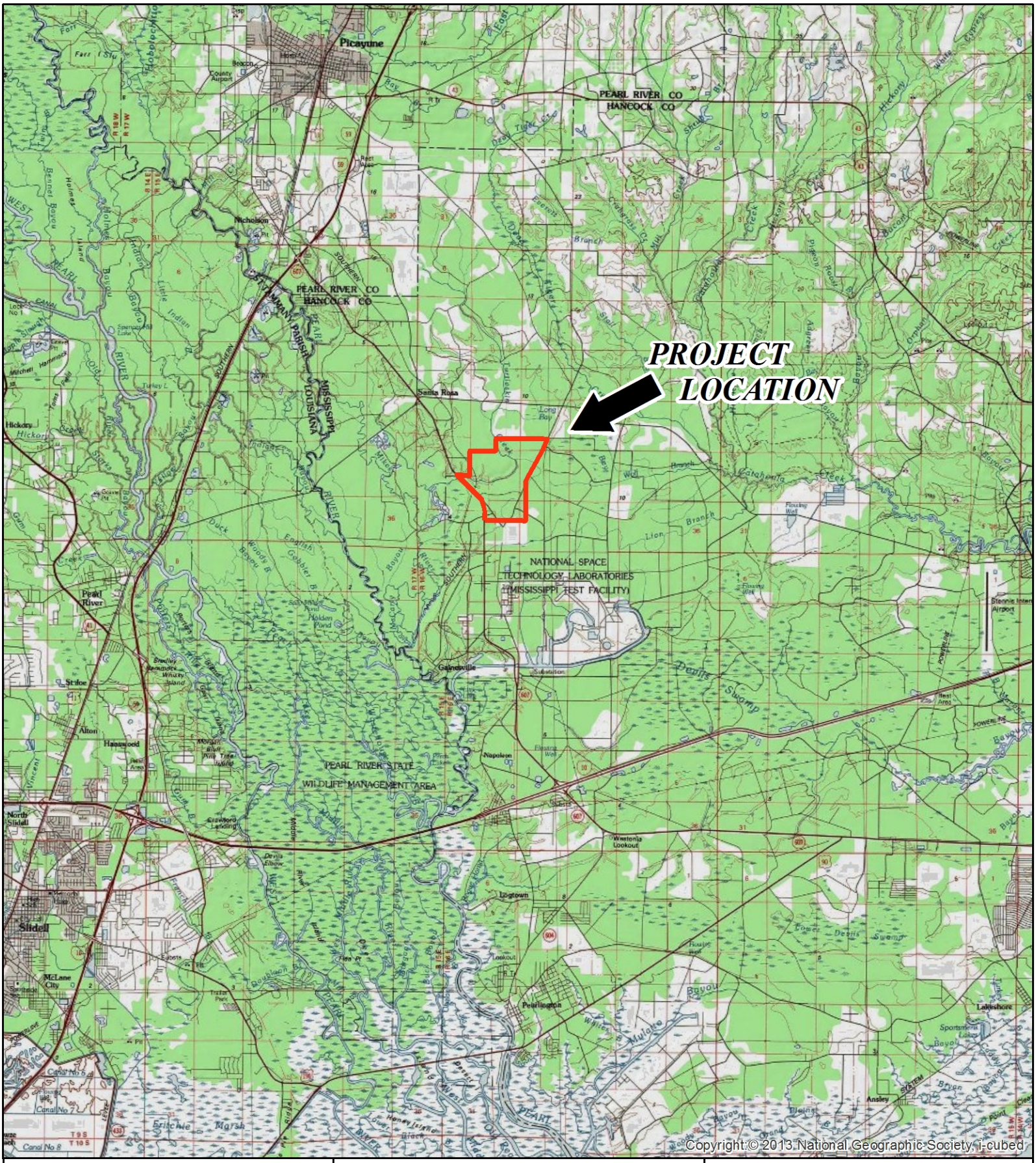
LIST OF FIGURES

Figure 1

Area of Investigation Map
USGS 100 K Topographic Map



Base Map: ESRI USA Topographic Quads
Source: USGS, NGS & i-cubed
Map Date: November 2016

0 1.25 2.5 5
Miles

AREA OF INVESTIGATION MAP

LARSON ENVIRONMENTAL, LLC

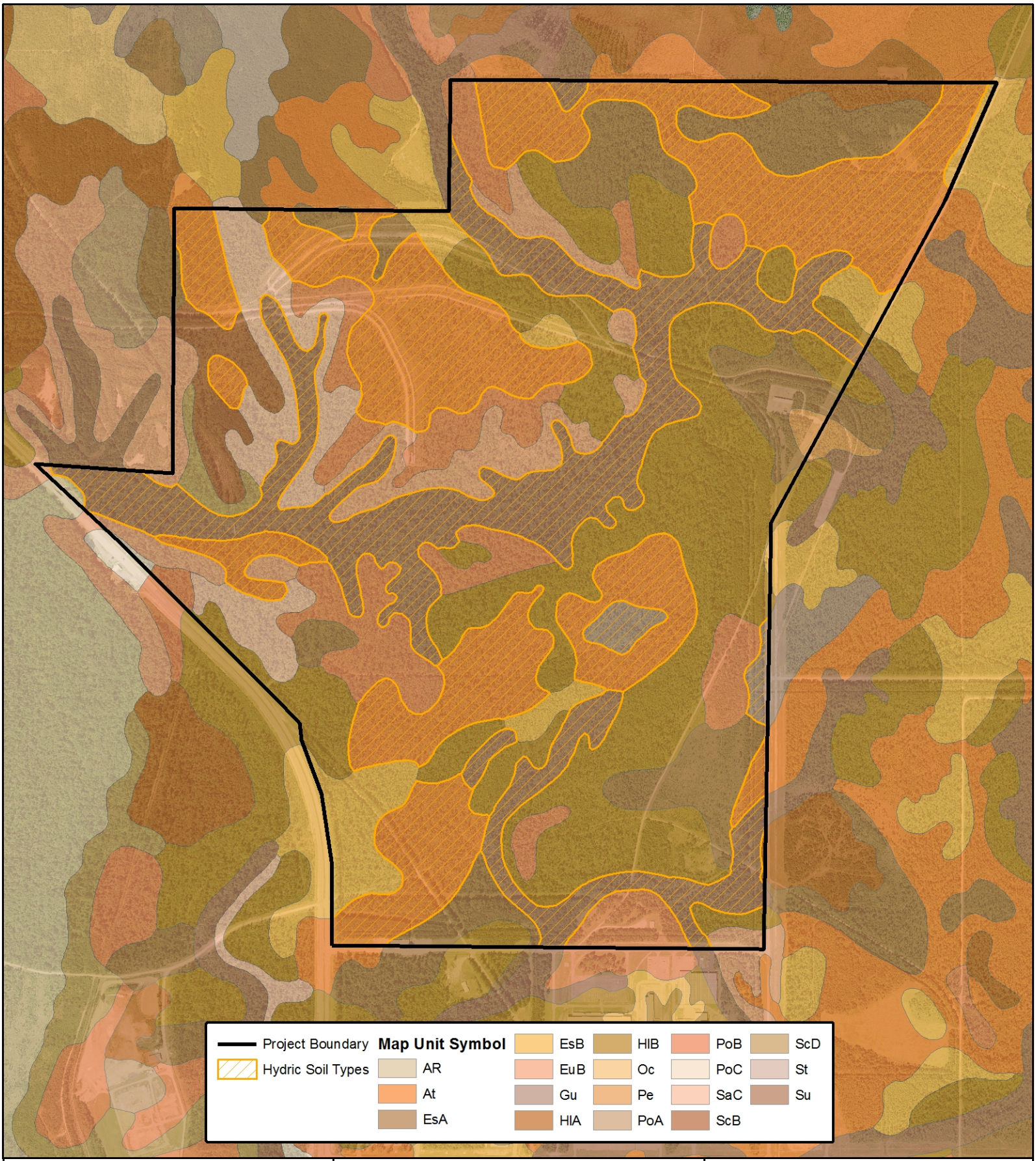
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 1

Figure 2

Natural Resource Conservation Service
Soils Map of AOI



Base Map: 2014 NAIP Natural Color Digital Ortho-Imagery & NRCS SSURGO Data
Source: USDA NRCS
Map Date: November 2016

0 700 1,400 2,800
Feet

NATURAL RESOURCE CONSERVATION SERVICE (NRCS) SOILS MAP OF AOI

LARSON ENVIRONMENTAL, LLC

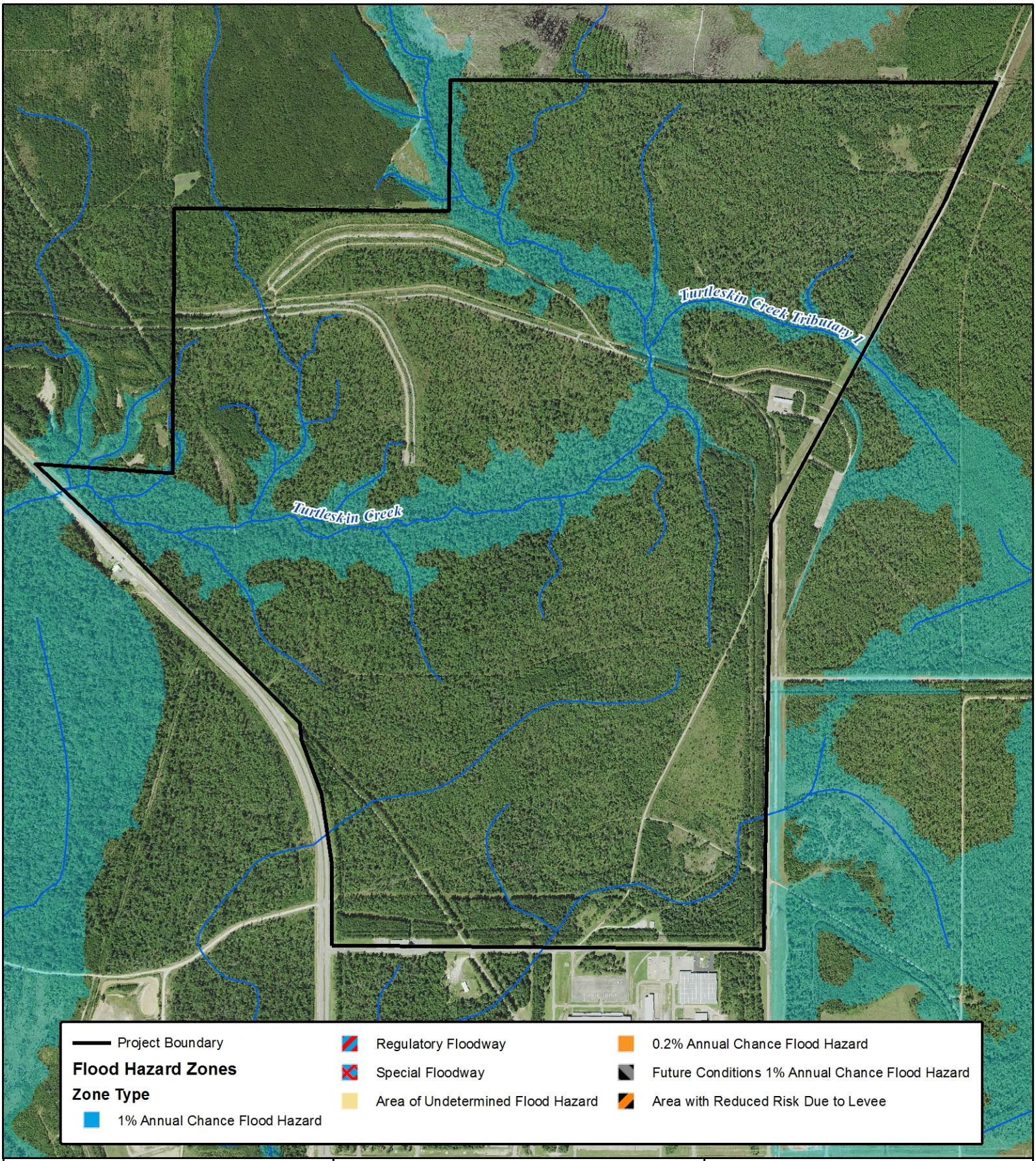
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 2

Figure 3

FEMA Flood Hazard Zone Map of AOI



Base Map: 2014 NAIP Natural Color Digital Ortho-Imagery & FEMA Flood Hazard Zones
Source: USGS - FSA Field Office & FEMA
Map Date: November 2016

0 700 1,400 2,800
Feet

FEMA FLOOD HAZARD ZONE MAP

LARSON ENVIRONMENTAL, LLC

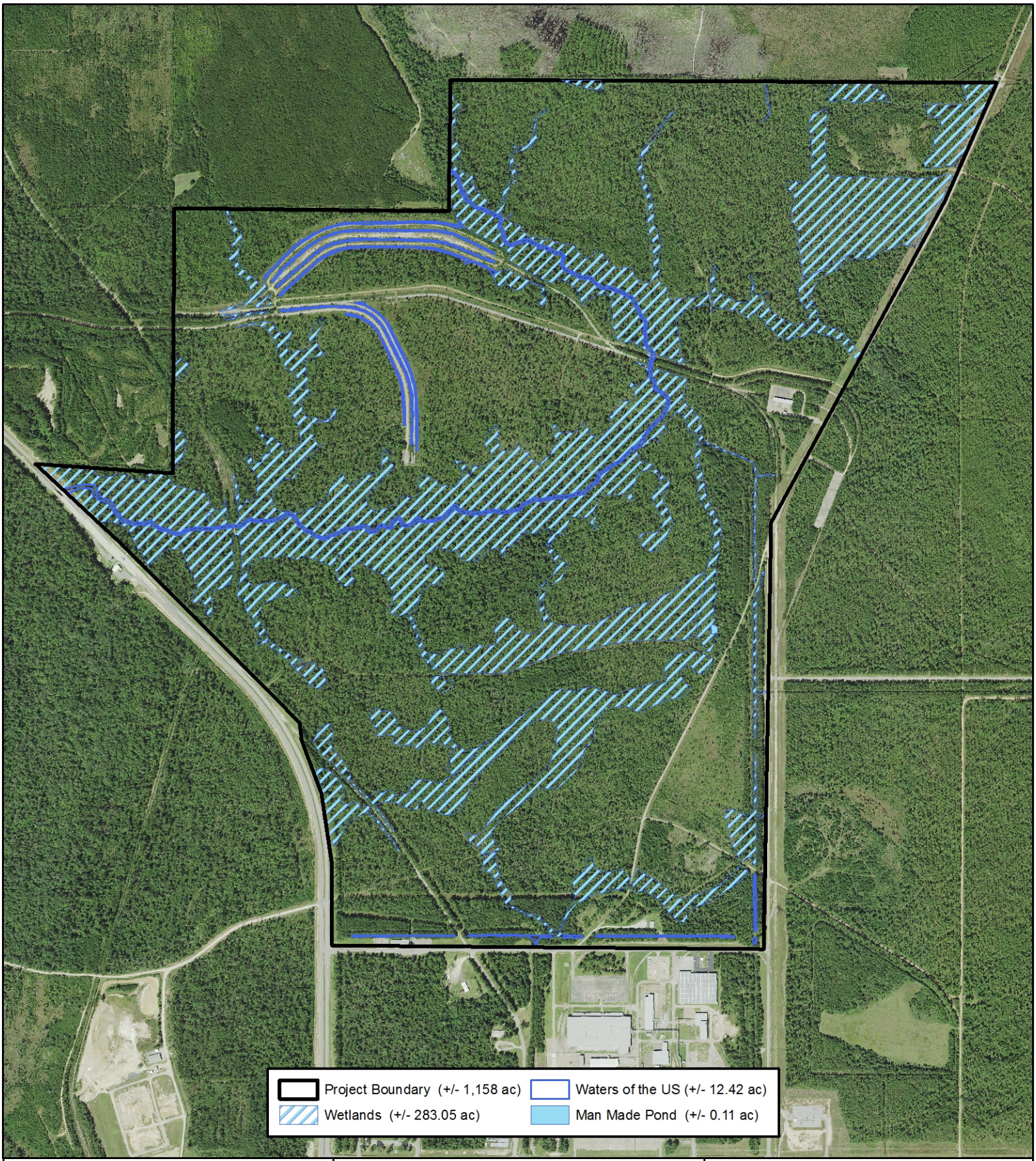
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 3

Figure 4

Wetland Delineation Map - Overall AOI; November 2016



Base Map: 2014 NAIP Natural Color Digital Ortho-Imagery & LE, LLC Wetland Area
Source: USDA-FSA-APFO
Map Date: November 2016

0 700 1,400 2,800
Feet

WETLAND DELINEATION MAP
OVERALL AOI

LARSON ENVIRONMENTAL, LLC

Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 4

Figure 5

Wetland Delineation Map Sheet Index Maps

Base Map: 2014 NAIP Natural Color Digital Ortho-Imagery
Source: USGS - FSA Field Office
Map Date: November 2016

0 850 1,700 3,400
Feet

WETLAND DELINEATION SHEET INDEX MAPS

LARSON ENVIRONMENTAL, LLC

Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 5

Figure 6 A

Wetland Delineation Map - Aerial Photograph
Sheet Index Map 1

Base Map: 2014 NAIP Natural Color Digital Ortho-Imagery
Source: USGS - FSA Field Office
Map Date: November 2016

0 300 600 1,200
Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 6A

Figure 6 B

Wetland Delineation Map - Topographic Map
Sheet Index Map 1

Base Map: ESRI USA Topographic Quads
Source: USGS, NGS & i-cubed
Map Date: November 2016

0 300 600 1,200
Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

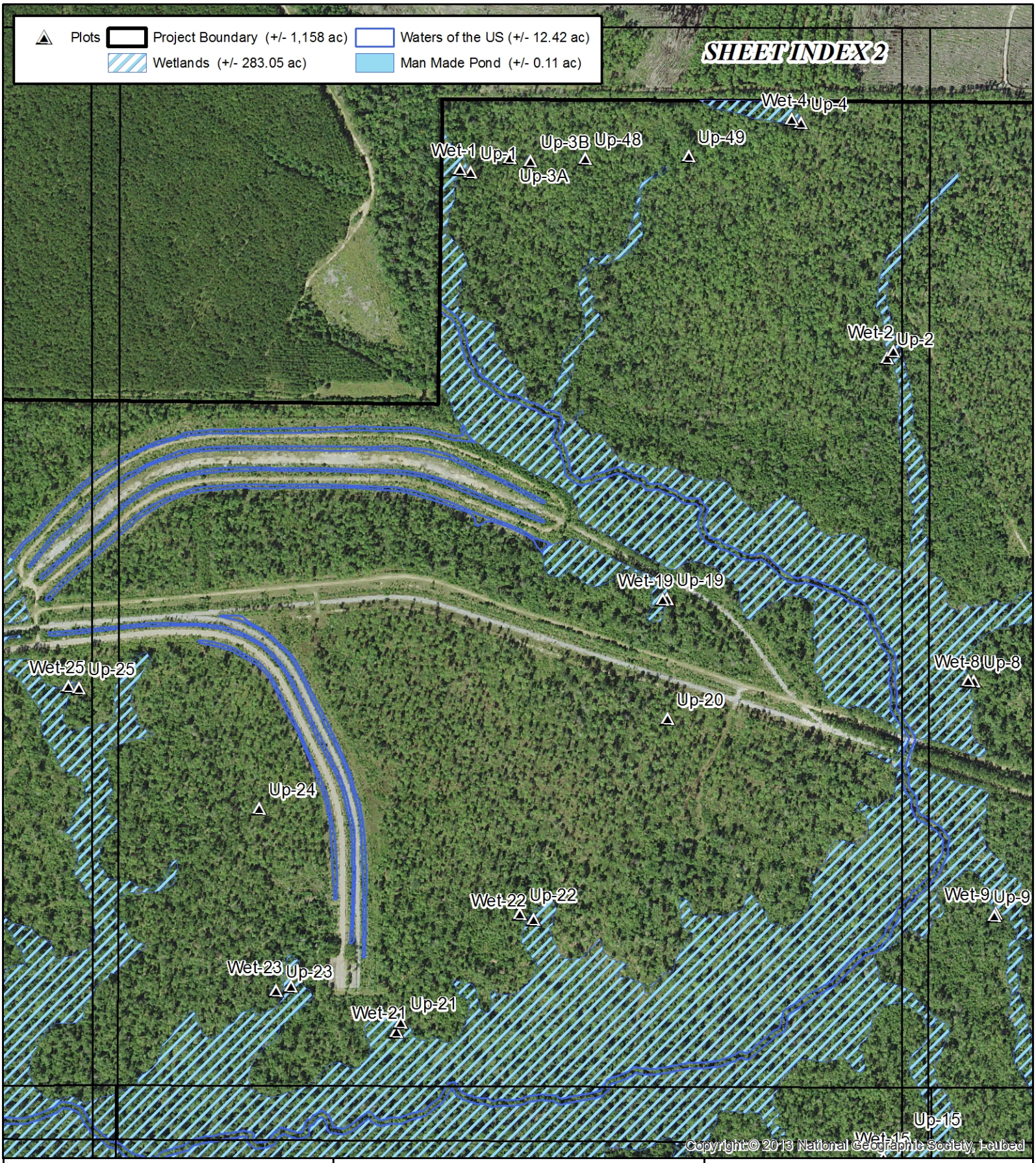
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 6B

Figure 7 A

Wetland Delineation Map - Aerial Photograph
Sheet Index Map 2



Base Map: 2014 NAIP Natural Color Digital Ortho-Imagery
Source: USGS - FSA Field Office
Map Date: November 2016

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Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

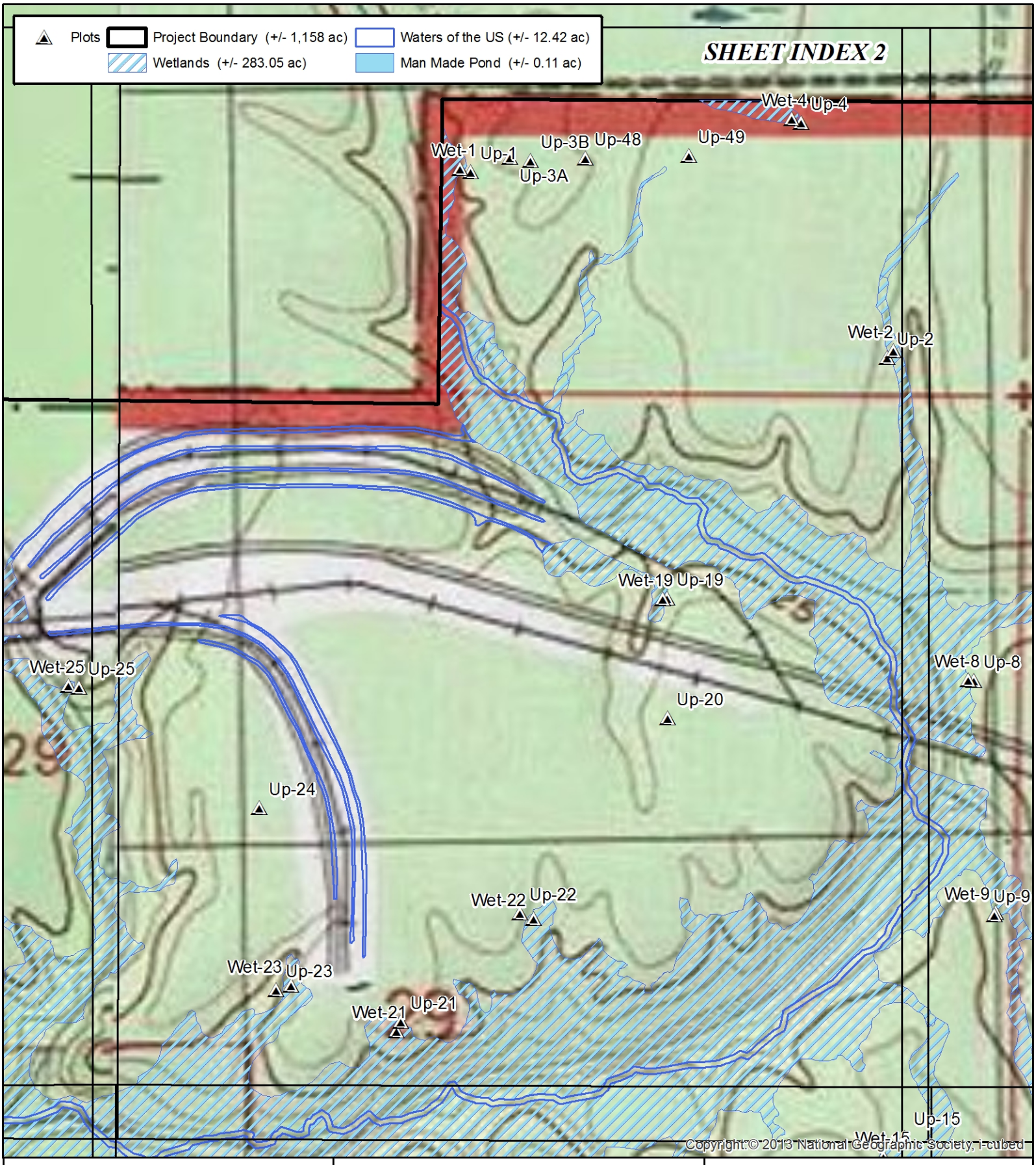
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 7A

Figure 7 B

Wetland Delineation Map - Topographic Map
Sheet Index Map 2



Base Map: ESRI USA Topographic Quads
Source: USGS, NGS & i-cubed
Map Date: November 2016

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Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

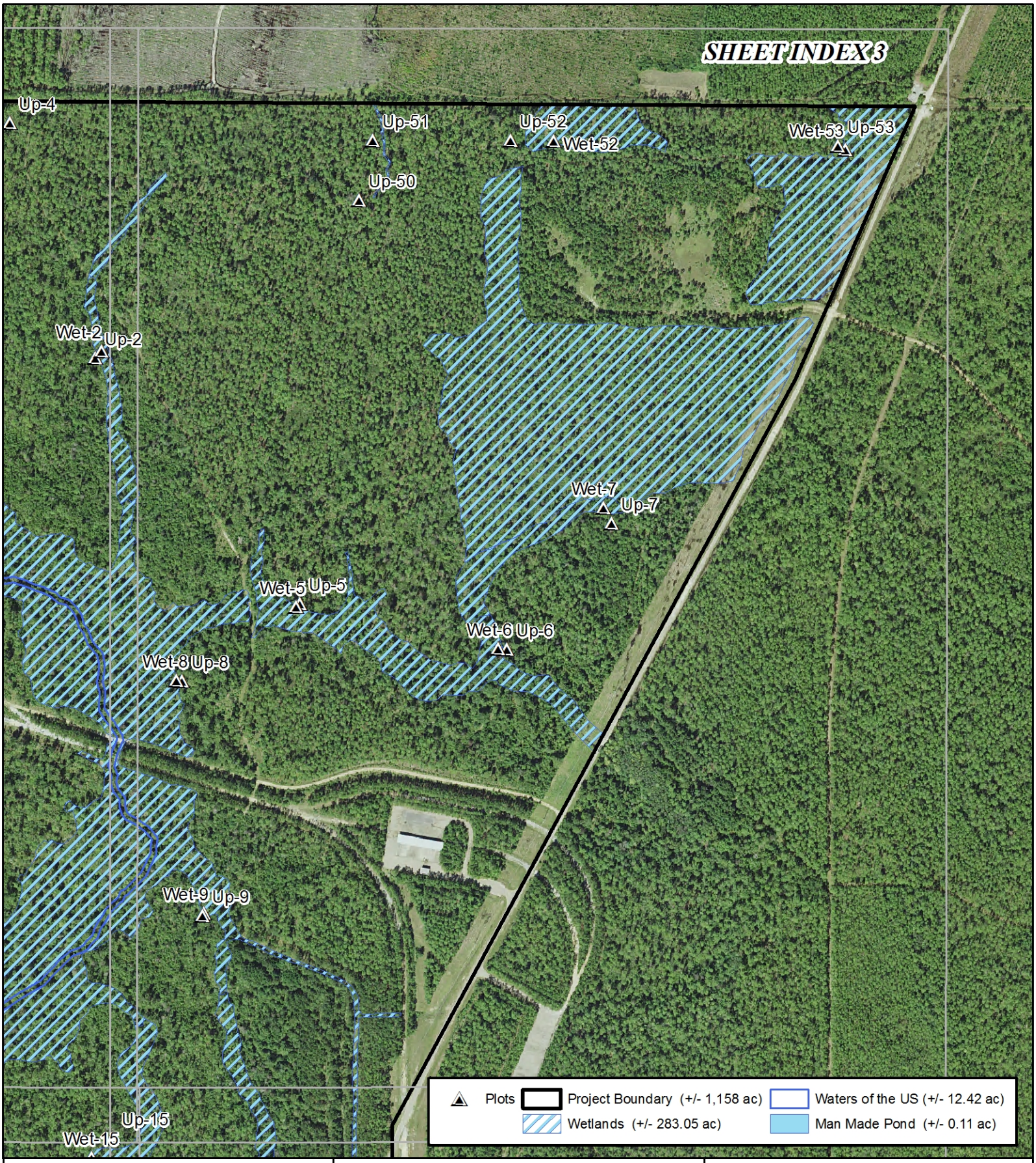
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 7B

Figure 8 A

Wetland Delineation Map - Aerial Photograph
Sheet Index Map 3



Base Map: 2014 NAIP Natural Color Digital Ortho-Imagery
Source: USGS - FSA Field Office
Map Date: November 2016

0 300 600 1,200
Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

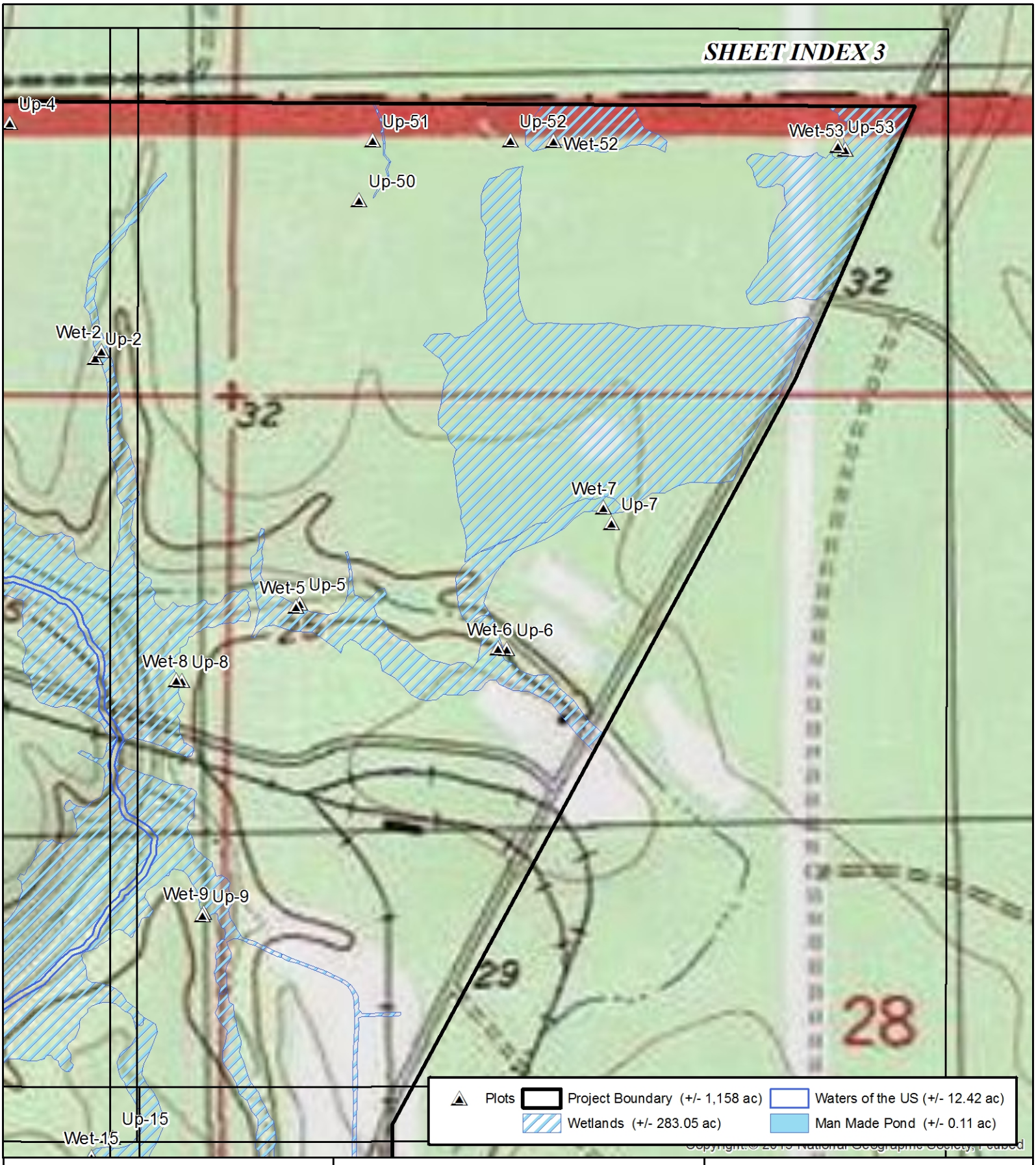
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 8A

Figure 8 B

Wetland Delineation Map - Topographic Map
Sheet Index Map 3



Base Map: ESRI USA Topographic Quads
Source: USGS, NGS & i-cubed
Map Date: November 2016

0 300 600 1,200
Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 8B

Figure 9 A

Wetland Delineation Map - Aerial Photograph
Sheet Index Map 4

Base Map: 2014 NAIP Natural Color Digital Ortho-Imagery
Source: USGS - FSA Field Office
Map Date: November 2016

0 300 600 1,200
Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 9A

Figure 9 B

Wetland Delineation Map - Topographic Map
Sheet Index Map 4

Base Map: ESRI USA Topographic Quads
Source: USGS, NGS & i-cubed
Map Date: November 2016

0 300 600 1,200
Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

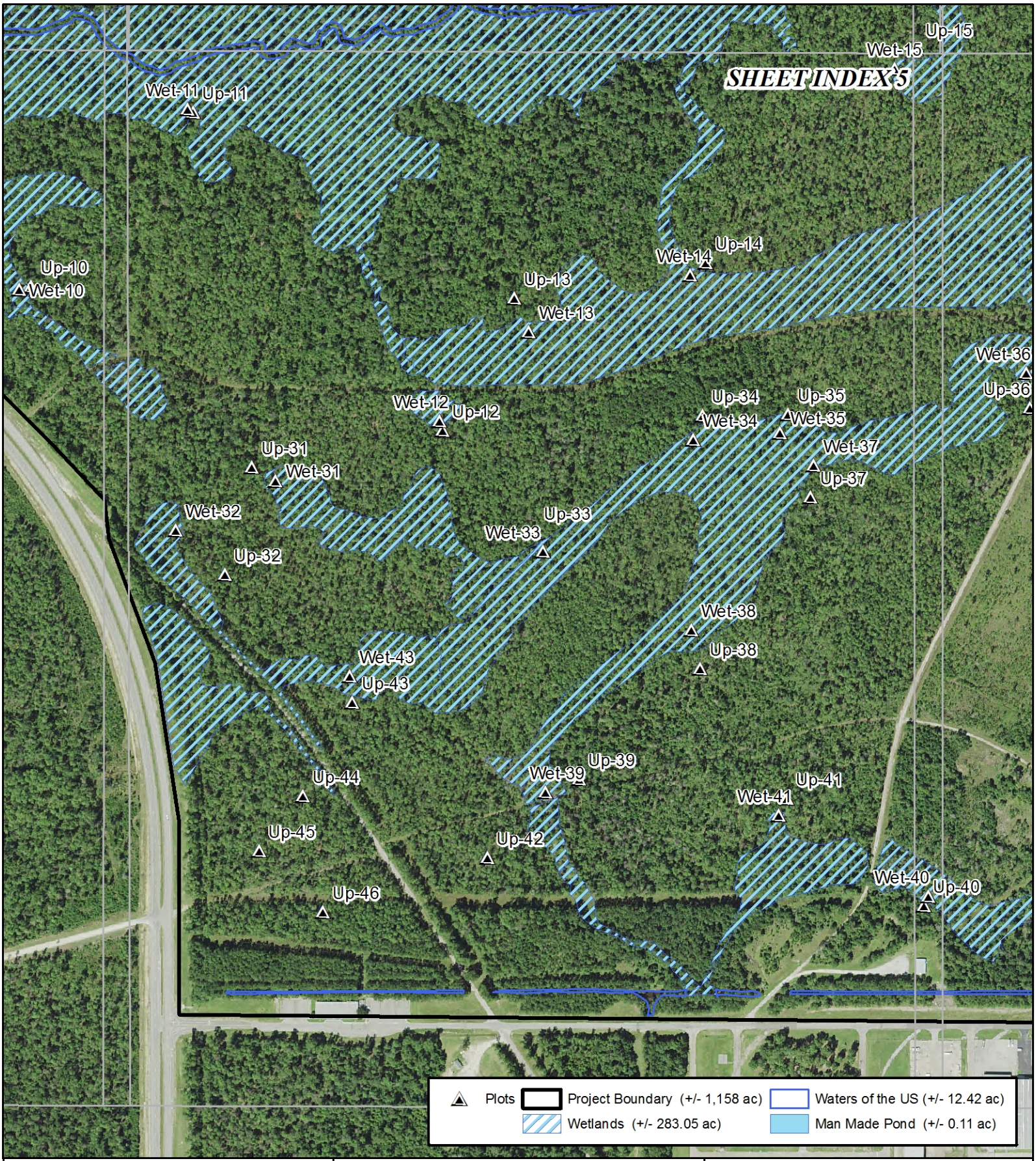
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 9B

Figure 10 A

Wetland Delineation Map - Aerial Photograph
Sheet Index Map 5



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Source: USGS - FSA Field Office
Map Date: November 2016

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Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

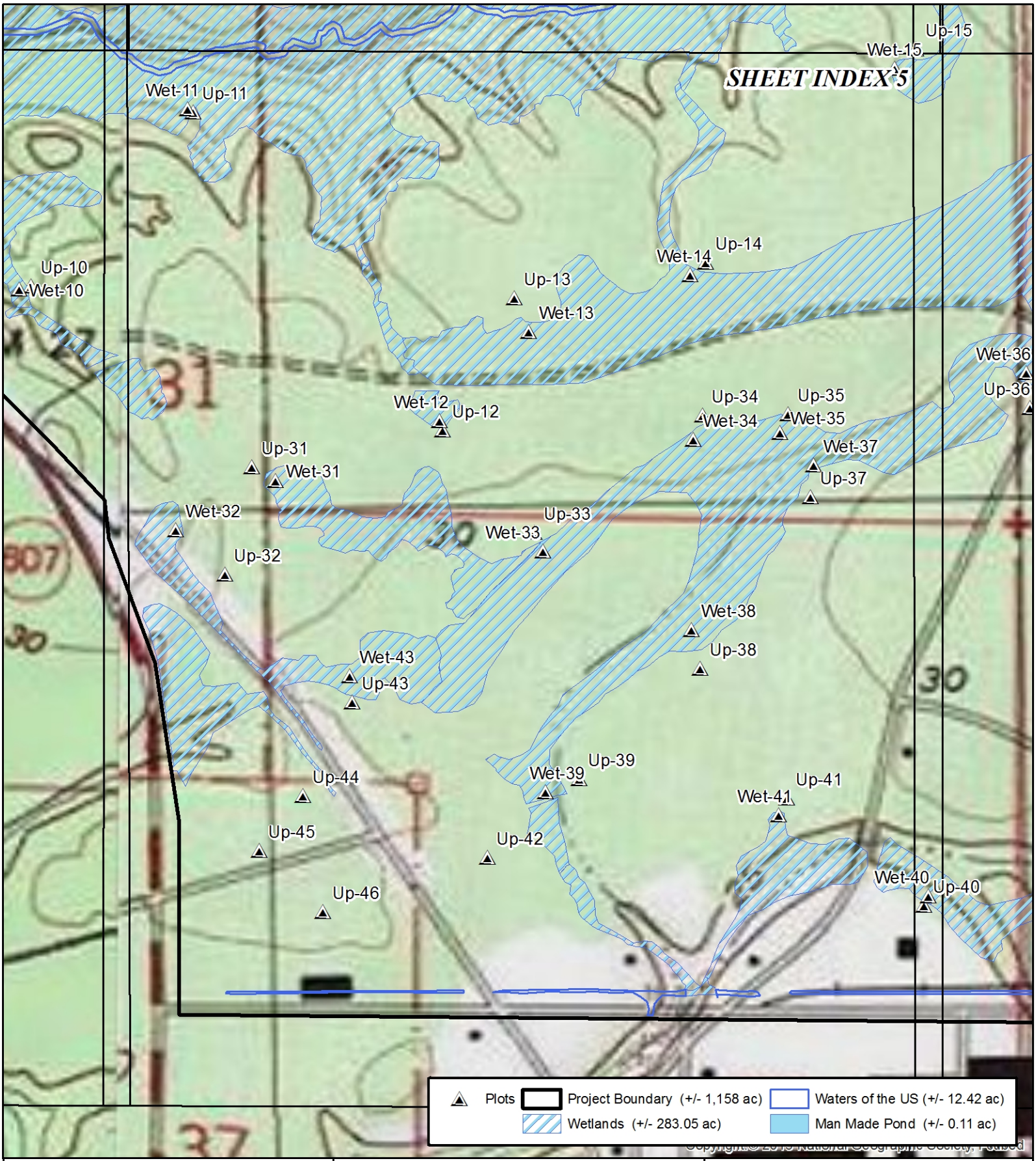
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 10A

Figure 10 B

Wetland Delineation Map - Topographic Map
Sheet Index Map 5



Base Map: ESRI USA Topographic Quads
Source: USGS, NGS & i-cubed
Map Date: November 2016

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Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

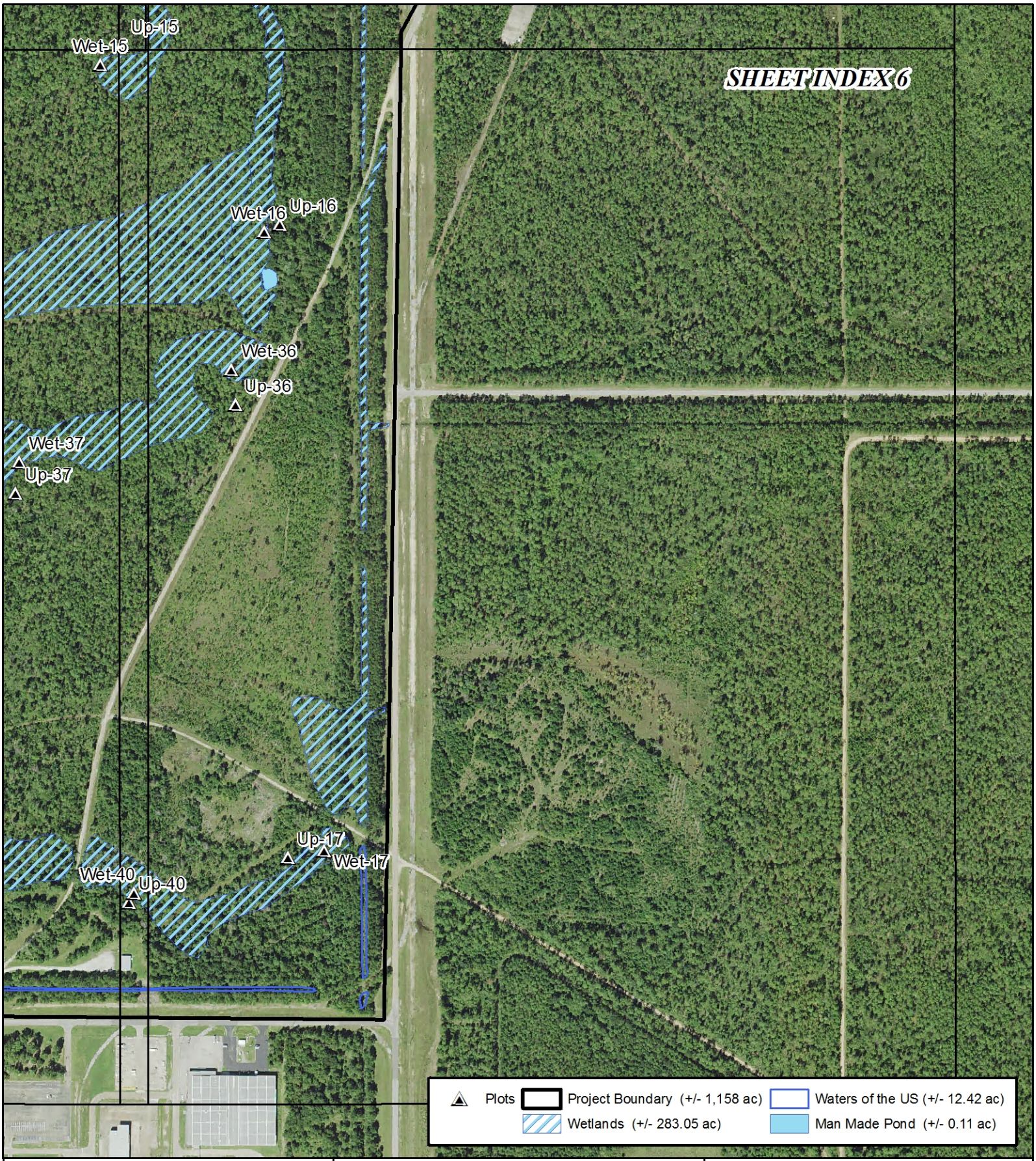
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 10B

Figure 11 A

Wetland Delineation Map - Aerial Photograph
Sheet Index Map 6



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Source: USGS - FSA Field Office
Map Date: November 2016

0 300 600 1,200
Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

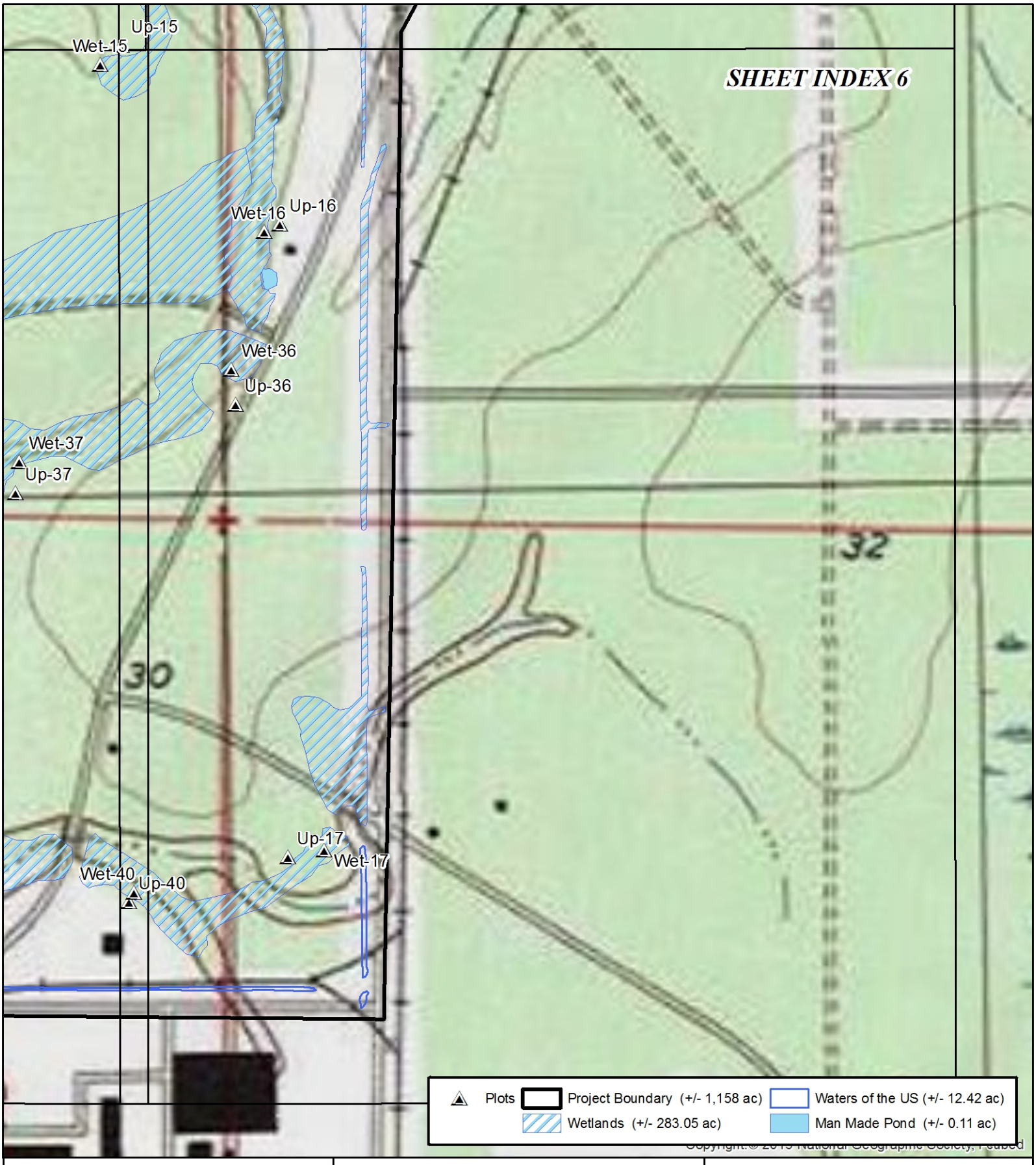
Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 11A

Figure 11 B

Wetland Delineation Map - Topographic Map
Sheet Index Map 6



Base Map: ESRI USA Topographic Quads
Source: USGS, NGS & i-cubed
Map Date: November 2016

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Feet

WETLAND DELINEATION MAP

LARSON ENVIRONMENTAL, LLC

Wetland Delineation of +/- 1,160 ac Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W
County: Hancock, MS

FIGURE 11B

APPENDICES

Appendix A

Photographic Record of Survey Plot Locations

Plot Up - 1 - Northeast AOI; soil core from 6 to 12 inches.

Plot Up-1 - Side slope area with heavy gallberry understory.

Plot Wet - 1 - Northeast AOI; soil core from 6 to 12 inches.

Plot Wet 1 - Lower drainage area within bottom flood plain down slope of Up-1.

Plot Up - 6 - East-Northeast AOI; soil core from 5 to 11 inches.

Plot Up - 6 - Slightly sloped area with moderately heavy gallbery understory within NE AOI.

Plot Wet - 6 - View of low chroma, slightly depleted soil matrix in Northeast AOI.

Plot Wet - 6 - Low drainage bottom land area just downslope of plot Up - 6.

Plot Up - 9 - View of slightly higher chroma soil in upland within Eastern AOI.

Plot Up - 9 - Landform view of pine tree and gallberry understory at plot Up - 9.

Plot Wet - 9 - View of soil sample with depleted matrix in upland within Eastern AOI.

Plot Wet - 9 - Landform view of gallberry, ferns, switch cane and other herbaceous species along wetland and upland boundary at plot Up - 9.

Plot Up - 11 - View of soil transitioning to brighter chroma in upland within Western AOI.

Plot Up - 11 - Landform view of gallberry and yaupon understory along slight side slope above bottom land drainage area near Turtleskin Creek.

Plot Wet - 11 - Depleted matrix and sandy redox (hydric indicators) in wetland plot.

Plot Wet - 11 - View of tupelo trees, sweet bay magnolia's and titi within the riparian buffer-bottom land drainage area on the south side of Turtleskin Creek; west central AOI.

Plot Up - 14 - Soil profile at Up-14 showing low to medium soil chroma 2 and 3.

Plot Up - 14 - Heavy pine layer on ground at this upland plot (very little herbaceous layer) with thick understory of gallberry.

Plot Wet - 14 - Soil profile illustrating increase in Redox concentrations with depletions.

Plot Wet - 14 - Slash pine overstory with gallberry and wax myrtle understory.

Plot Up - 15 Soil profile demonstrating generally lighter chroma (3 to 4).

Plot Up - 15 - Scrub-shrub habitat on upland terrace on south side of Turtleskin Creek.

Plot Wet - 15 Soil profile illustrating mostly matrix depletions and low chroma conditions.

Plot Wet - 15 - Landform view of wetland within slight depressional area near Up-15.

Plot Up -16 Soil profile illustrating high soil chroma and no hydric indicators in Upland plot near historical settlement site within eastern portion of AOI.

Plot Up - 16 - Landform view of upland area and gradual sideslope downward toward wet area.

Plot Wet -16 Saturated soil with low chroma color and wet mucky hydric soil indicators.

Plot Wet - 16 - Landform view of area showing surface inundation, buttressed trees and various types of hydrophytic plant species.

Plot Up - 19 Soil profile on raised side slope above bottom land drainage area.

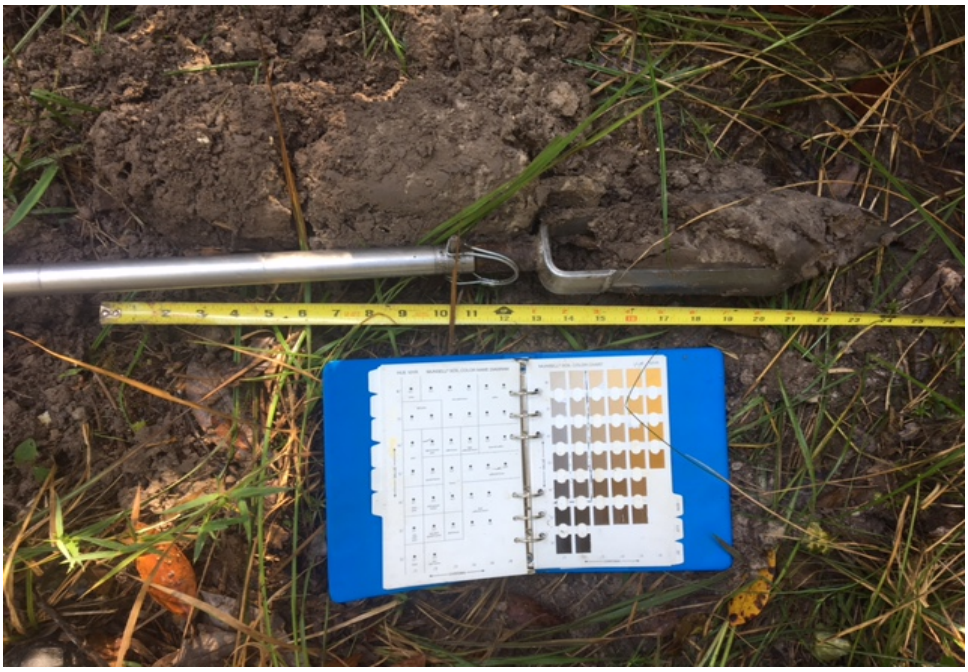
Plot Up - 19 - Landform view of sideslope area with thick understory of gallberry and yaupon holly shrubs.

Plot Wet - 19 Soil profile illustrating low chroma sandy loam in bottom drainage area near the railroad spur and Turtleskin Creek in the Northwestern part of the AOI.

Plot Wet - 19- View of Virginia Chain Ferns and other hydrophytes within bottom land drainage area near railroad spur.

Plot Up - 23 Soil profile illustrating generally bright soil chroma with no hydric indicators.

Plot Up - 23 Landform view from upland ridge in Northwestern portion of AOI.



Plot Wet -23 Low chroma soil with depleted matrix within low drainage area.

Plot Wet - 23 Landform view of lower elevation drainage area downslope of Up - 23.

Plot Up - 27 View of soil profile on Upland ridge within western part of AOI.

Plot Up - 27 View of Japanese Climbing Fern, Wax Myrtle and heavy pine cover within Upland ridge plot area.

Plot Wet - 27 Soil profile showing slightly lower soil chroma and slight evidence of matrix depletions within lower drainage area down gradient of Up - 27.

Plot Wet - 27 Landform view of plot showing geomorphic position and buttressed trees.

Plot Up - 33 Soil profile light chroma and no hydric soil indicators.

Plot Up - 33 Landform view illustrating pine dominated overstory and gallberry understory.

Plot Wet - 33 Low chroma soils with evidence of Redox concentrations.

Plot Wet - 33 Landform view of plot illustrating buttressed trees, moss trim lines and geomorphic position.

Plot Up - 37 Bright soil chroma within upland plot in eastern portion of AOI.

Plot Up - 37 View illustrating pine and heavy gallberry understory above bottom land drainage area.

Plot Wet - 37 Soil profile showing moist sandy loam with very low chroma.

Plot Wet - 37 Landform view of area showing buttressed tupelos, drainage patterns, and dominant hydrophytic vegetation.

Plot Up - 39 Soil profile showing bright soil chroma with no hydric indicators.

Plot Up - 39 Landform view illustrating pine and gallberry dominated habitat within the southern portion of the AOI.

Plot Wet - 39 Soil profile illustrating wet, low chroma soil within bottom land drainage area near Keller Road.

Plot Wet - 39 Landform view illustrating buttressed trees, water marks, water stained leaves and drainage patterns.

Plot Up - 40 Soil profile showing slightly brighter soil chroma (3-4) on sideslope of bottom land drainage way in southeastern portion of AOI near Flat Top Road.

Plot Up - 40 Landform view sideslope dominated by water oak saplings and shrubs as well as Yaupon Holly.

Plot Wet - 40 Lower chroma soils showing evidence of depleted matrix within bottom land drainage area near the Upland plot.

Plot Wet - 40 Landform view of the bottom drainage area showing evidence of drainage patterns, moss trim lines, buttressed trees and geomorphic position.

Plot Up - 52 Soil profile illustrating higher chroma, loamy silt/sand within Upland area near the northeast corner of the AOI.

Plot Up - 52 Landform view of this plot showing pine dominated overstory and galleberry dominated shrub understory.

Plot Wet - 52 Soil profile illustrating slightly lower chroma soil material with small signs of Redox concentrations.

Plot Wet - 52 Landform view of this plot showing an increase in hydrophytes in the herbaceous strata (i.e. pitcher plants, button tops, panic grass and club moss).

Appendix B

Wetland Delineation Data Forms