



US Army Corps  
Of Engineers  
Wilmington District

# PUBLIC NOTICE

Issue Date: November 8, 2017  
Comment Deadline: December 8, 2017  
Corps Action ID #: SAW-2016-00546

The Wilmington District, Corps of Engineers (Corps) received an application from Mr. Greg Miller and Mrs. Emily Miller seeking an After-the-Fact Department of the Army authorization for the discharge of fill material and excavation activity in over 5.0 acres of jurisdictional Waters of the United States on their approximately 111-acre property located in the Town of Atlantic, in the northeast part of Carteret County, North Carolina.

Specific plans and location information are described below and shown on the attached plans. This Public Notice and all attached plans are also available on the Wilmington District Web Site at:

<http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx>

**Property Owners:** Mr. Greg Miller and Mrs. Emily Miller  
7628 James River Close  
New Albany, Ohio 43054

**Agent:** Brooks, Pierce, McLendon, Humphrey & Leonard, LLP  
c/o: Mr. Alex Elkan  
230 N. Elm Street, Suite 2000  
Greensboro, North Carolina 27401

## Authority

The Corps evaluates this application and decides whether to issue, conditionally issue, or deny the proposed work pursuant to applicable procedures of the following Statutory Authorities:

- ☒ Section 404 of the Clean Water Act (33 U.S.C. 1344)
- ☐ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)
- ☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413)

## Location

Location Description: The project site is located on the north side of the road at #470 Seashore Drive, adjacent to Nelson Bay, in Atlantic, Carteret County, North Carolina.

Project Area (acres): ~111	Nearest Town: Atlantic
Nearest Waterway: Nelson Bay	River Basin: White Oak
Latitude and Longitude: 34.88084 N, -76.35941W	

## Existing Site Conditions

Activities on the property were initiated sometime mid-2015 and the proposed access roads, taxiway, utility line, and the two ponds have been constructed and are in place. There is an existing airstrip, or runway, aligned in a north to south direction, and bisects the 111 acre property. This airstrip was constructed several decades ago and its footprint has recently been built-up with material from the two ponds.

The majority of the surrounding area consists of a typical upland and low terrace of wet Pocosin with upland long leaf pine ridges. Predominate hydric soil types are listed as Murville mucky sand, a very poorly drained soil, and Leon sand, a poorly drained soil. The majority of the drainage flows southward and empties into the tidal waters of Nelson Bay. Vegetation is typical of Pocosin wet communities with canopy trees of *Pinus serotina* (pond pine), *Magnolia virginiana* (sweet bay), *Persea palustris* (red bay), and *Nyssa sylvatica* (black gum); subcanopy of *Cyrilla racemiflora* (titi); and ground cover of *Lyonia lucida* (fetterbush), *Ilex glabra* (ink berry), and *Smilax laurifolia* (laurel leaf greenbrier). Upland ridges consist of *Pinus palustris* (long-leaf pine) canopy with *Myrica cerifera* (wax myrtle) understory and ground cover of *Ilex glabra* (ink berry) and *Aristida stricta* (wire grass).

## Applicant's Stated Purpose

Basic: The basic purpose is to utilize the property for recreational aviation and to provide "fly-in" aviation access to the property for the owners and for future periodic charitable use by military veterans and their families.

Overall: The goal of the project improvements is to: (1) maintain and improve safety associated with the use of the existing grass airstrip for aircraft take-off, taxi, and landing purposes; (2) construct infrastructure to access and use upland areas of their property; (3) provide infrastructure fire protection; (4) maintain the pond, which was excavated for material use to build up the pre-existing runway, for irrigational and recreational purposes; and (5) develop the property as a "fly-in/fly-out" residential and recreational property for personal and periodic charitable use by military veterans and their families.

## **Project Description**

The applicant proposes to retain the perimeter roads, taxiway, hangar access road, and both ponds for the purposes above and plans to restore impacted wetlands at various locations. It should be noted that there are some discrepancies between the Corps' initial findings and information in the application regarding the exact amount of existing wetland impacts and acreage being proposed. In 2016, the applicant employed a wetland consultant to delineate the Waters of the U.S. on the entire 111-acre property; however, our office has not verified the accuracy of this jurisdictional boundary.

Perimeter Roads: The applicant proposes to retain the perimeter roads that traverse the southwestern, western, and northern property boundaries and that currently impact approximately 1.57 acres of wetlands. These roads vary in width from 20 to 33 feet and are to have dual purposes: provide access to future cabin sites for wounded/disabled veterans and storage facilities and provide fire and life safety protection throughout the property. Plans are to reduce the road footprint to a 12-13 foot top width with a 2:1 side slope and to restore the remaining wetlands by removing the additional fill material to original elevations.

Taxiway: Plans include retaining the existing taxiway, which will provide airplane access from the runway to the proposed hangar site. This access runs north and south from the proposed hangar site to the northern end of the runway. The connection access is approximately 20 feet wide and currently has impacted approximately 0.23 acre of jurisdictional wetlands. The applicant proposes to reduce the footprint of impacted wetlands to 0.12 acre, which is a minimum design in order to conform to "Design Standards Based on TDG" contained in FAA Advisory Circular 150/5300-13A, and the remaining wetlands will be restored back to original grade via the removal of existing fill material.

Hangar Access Road: The purpose of this existing road is to provide safe access in the most direct and shortest route from the hangar to the airstrip without interference with the safe airplane access of the Taxiway. The access would also allow a fire- and life-safety requirement for access to the hangar and irrigation pond in the event of an aircraft failure on the taxiway that would otherwise block access. The current road has impacted approximately 0.16 acre of wetlands and plans are to narrow the road surface to 12-13 feet wide with a 2:1 slope to reduce the impacts to approximately 0.04 acre of wetlands.

Recreational/Irrigational Pond: The initial use of the ponds was to provide material to improve the existing onsite runway by elevating its footprint several feet high and to irrigate the ground cover for stabilization. The footprint of the Upper Pond has impacted over 2.0 acres, including perimeter fill, and the total impacts associated with the Lower Pond has yet to be determined due to current conditions. It should be noted that the majority of the Lower Pond was excavated in uplands.

Over 0.5 acre of stockpile material, mostly overburden from the ponds, was placed in jurisdictional wetlands in a location adjacent to the Upper Pond. The applicant proposes

to restore the wetlands in this area by removing the material back to the original wetland contours.

### **Avoidance and Minimization**

The applicant provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment: With the configuration and amount of wetlands on the property, access to the upland cabin sites are unable to be constructed in a practicable manner to avoid wetland impacts and there are no available high ground options to practicably connect the hangar site with the taxiway and hangar access roads without impacting wetlands. The perimeter roads, taxiway, and hangar access road are being proposed to the minimum width in order to reduce wetland impacts while providing safe passageways. The applicant states that the reduction of the length, number, and/or connectivity or configuration of the proposed roadways would greatly diminish the ability to use the various upland areas of the property for guest cabins and maintenance, storage, and recreational buildings and facilities. In investigating an alternative for fire protection/irrigation, a groundwater well was determined to be susceptible to depletion (aka dry well) by fire pump trucks in the event of emergency fire protection calls.

### **Compensatory Mitigation**

The applicant offers to create approximately 2.4 acres of wetlands onsite as compensatory mitigation to offset unavoidable functional loss to the aquatic environment. Several areas have been identified as potential onsite wetland creation sites. Plans are to convert uplands to wetlands via the introduction of ditches through Leon/Murville soil “uplands” located near jurisdictional wetlands. Two specific locations of these wetland creation opportunities have the characteristics of 1) being directly adjacent fire plow lines, 2) having topographic relief of less than 12 inches, and 3) being completely surrounded by wetlands. In addition to this creation approach, the applicant is offering to create approximately 1.08 acres of littoral shelf emergent wetland within the southern half of the Upper Pond. Material for this proposed creation would originate from the stockpile material area that is planned for removal in order to restore the over 0.5 acre area adjacent to the pond.

### **Essential Fish Habitat**

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, this Public Notice initiates the Essential Fish Habitat (EFH) consultation requirements. The Corps’ initial determination is that the proposed project would not effect EFH or associated fisheries managed by the South Atlantic or Mid Atlantic Fishery Management Councils or the National Marine Fisheries Service.



## Cultural Resources

Pursuant to Section 106 of the National Historic Preservation Act of 1966, Appendix C of 33 CFR Part 325, and the 2005 Revised Interim Guidance for Implementing Appendix C, the District Engineer consulted district files and records and the latest published version of the National Register of Historic Places and initially determines that:

- ☐ Should historic properties, or properties eligible for inclusion in the National Register, be present within the Corps' permit area; the proposed activity requiring the DA permit (the undertaking) is a type of activity that will have no potential to cause an effect to an historic properties.
- ☒ No historic properties, nor properties eligible for inclusion in the National Register, are present within the Corps' permit area; therefore, there will be no historic properties affected. The Corps subsequently requests concurrence from the SHPO (or THPO).
- ☐ Properties ineligible for inclusion in the National Register are present within the Corps' permit area; there will be no historic properties affected by the proposed work. The Corps subsequently requests concurrence from the SHPO (or THPO).
- ☐ Historic properties, or properties eligible for inclusion in the National Register, are present within the Corps' permit area; however, the undertaking will have no adverse effect on these historic properties. The Corps subsequently requests concurrence from the SHPO (or THPO).
- ☐ Historic properties, or properties eligible for inclusion in the National Register, are present within the Corps' permit area; moreover, the undertaking may have an adverse effect on these historic properties. The Corps subsequently initiates consultation with the SHPO (or THPO).
- ☐ The proposed work takes place in an area known to have the potential for the presence of prehistoric and historic cultural resources; however, the area has not been formally surveyed for the presence of cultural resources. No sites eligible for inclusion in the National Register of Historic Places are known to be present in the vicinity of the proposed work. Additional work may be necessary to identify and assess any historic or prehistoric resources that may be present.

The District Engineer's final eligibility and effect determination will be based upon coordination with the SHPO and/or THPO, as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on historic properties within the Corps-identified permit area.

The applicant provided SHPO with information on this proposal and SHPO's office replied on October 18, 2017 stating that they "are aware of no historic resources which would be affected by the project", adding no further comment.

### **Endangered Species**

Pursuant to the Endangered Species Act of 1973, the Corps reviewed the project area, examined all information provided by the applicant and consulted the latest North Carolina Natural Heritage Database. Based on available information:

- ☐ The Corps determines that the proposed project would not affect federally listed endangered or threatened species or their formally designated critical habitat.
- ☐ The Corps determines that the proposed project may affect federally listed endangered or threatened species or their formally designated critical habitat.
- ☐ The Corps initiates consultation under Section 7 of the ESA and will not make a permit decision until the consultation process is complete.
- ☐ The Corps will consult under Section 7 of the ESA and will not make a permit decision until the consultation process is complete.
- ☐ The Corps has initiated consultation under Section 7 of the ESA and will not make a permit decision until the consultation process is complete.
- ☐ The Corps determines that the proposed project may affect federally listed endangered or threatened species or their formally designated critical habitat. Consultation has been completed for this type of activity and the effects of the proposed activity have been evaluated and/or authorized by the National Marine Fisheries Service (NMFS) in the South Atlantic Regional Biological Opinion or its associated documents, including 7(a)(2) & 7(d) analyses and Critical Habitat assessments. A copy of this public notice will be sent to the NMFS.
- ☒ The Corps is not aware of the presence of species listed as threatened or endangered or their critical habitat formally designated pursuant to the Endangered Species Act of 1973 (ESA) within the project area. The Corps will make a final determination on the effects of the proposed project upon additional review of the project and completion of any necessary biological assessment and/or consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service.

## **Other Required Authorizations**

The Corps forwards this notice and all applicable application materials to the appropriate State agencies for review.

**North Carolina Division of Water Resources (NCDWR):** The Corps will generally not make a final permit decision until the NCDWR issues, denies, or waives the state Certification as required by Section 401 of the Clean Water Act (PL 92-500). The receipt of the application and this public notice, combined with the appropriate application fee, at the NCDWR Central Office in Raleigh constitutes initial receipt of an application for a 401 Certification. A waiver will be deemed to occur if the NCDWR fails to act on this request for certification within sixty days of receipt of a complete application. Additional information regarding the 401 Certification may be reviewed at the NCDWR Central Office, 401 and Buffer Permitting Unit, 512 North Salisbury Street, Raleigh, North Carolina 27604-2260. All persons desiring to make comments regarding the application for a 401 Certification should do so, in writing, by January 08, 2018 to:

NCDWR Central Office  
Attention: Ms. Karen Higgins, 401 and Buffer Permitting Unit  
(USPS mailing address): 1617 Mail Service Center, Raleigh, NC 27699-1617

Or,

(physical address): 512 North Salisbury Street, Raleigh, North Carolina 27604

## **North Carolina Division of Coastal Management (NCCDM):**

- ☒ The application did not include a certification that the proposed work complies with and would be conducted in a manner that is consistent with the approved North Carolina Coastal Zone Management Program. Pursuant to 33 CFR 325.2 (b)(2) the Corps cannot issue a Department of Army (DA) permit for the proposed work until the applicant submits such a certification to the Corps and the NCCDM, and the NCCDM notifies the Corps that it concurs with the applicant's consistency certification. As the application did not include the consistency certification, the Corps will request, upon receipt, concurrence or objection from the NCCDM.
- ☐ Based upon all available information, the Corps determines that this application for a Department of Army (DA) permit does not involve an activity which would affect the coastal zone, which is defined by the Coastal Zone Management (CZM) Act (16 U.S.C. § 1453).

## **Evaluation**

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity on the public interest.

That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values (in accordance with Executive Order 11988), land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving the discharge of dredged or fill materials in waters of the United States, the evaluation of the impact of the activity on the public interest will include application of the Environmental Protection Agency's 404(b)(1) guidelines.

### **Commenting Information**

The Corps of Engineers is soliciting comments from the public; Federal, State and local agencies and officials, including any consolidated State Viewpoint or written position of the Governor; Indian Tribes and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing will be granted, unless the District Engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing. The Corps is soliciting comments from the public; Federal, State and local agencies and officials, including any consolidated State viewpoint or written position of the Governor; Indian Tribes and other interested parties in order to consider and evaluate the applicant's proposal. Any comments received will be considered by the Corps of Engineers in evaluating the approval of this permit request. To make this decision, all factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values (in accordance with Executive Order 11988), land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy

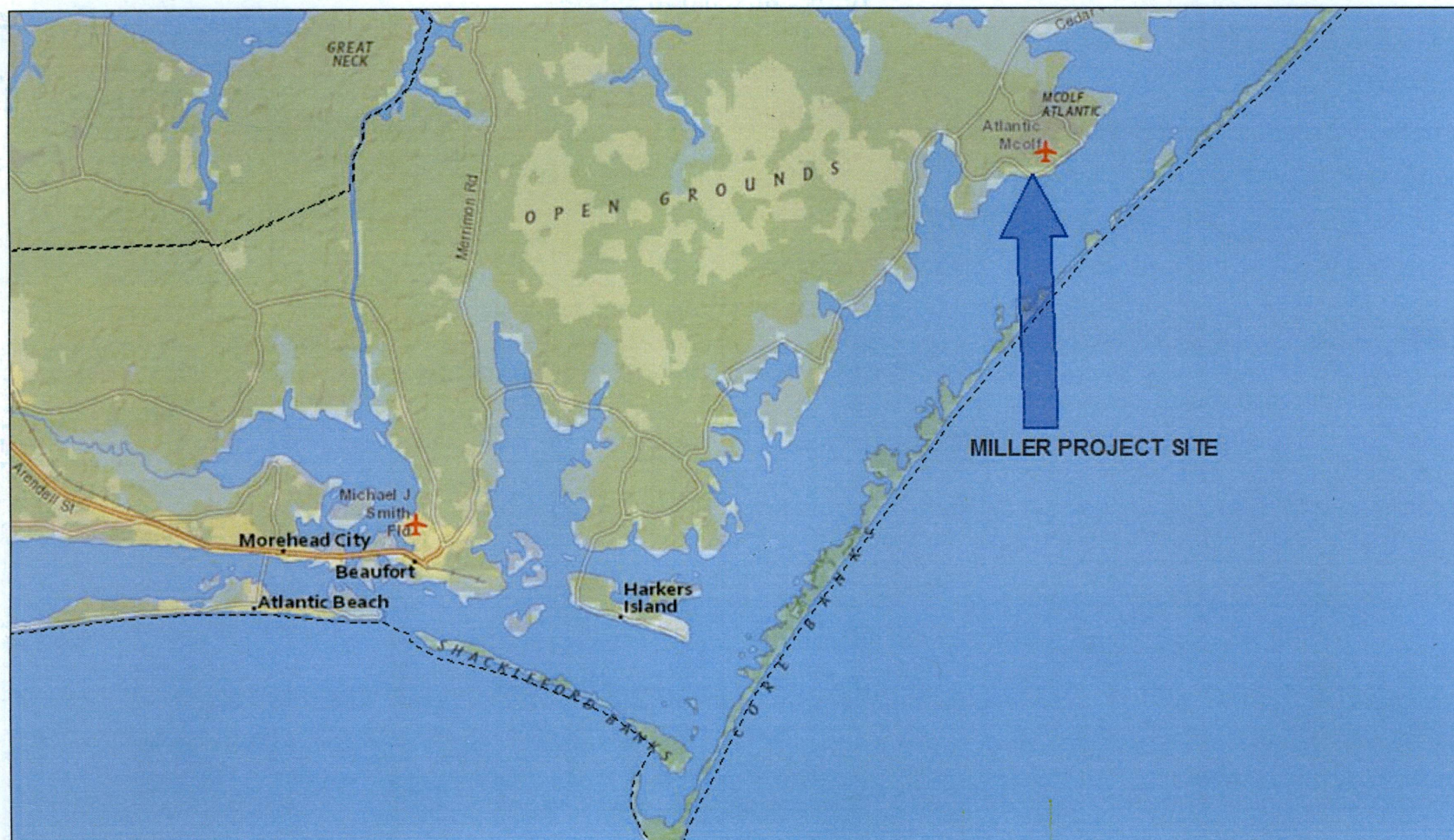
needs, safety, food and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people.

The Corps has reviewed the prospectus and has examined all information provided by the applicant. Our preliminary review indicates the following: 1) An Environmental Impact Statement will not be required; 2) No listed species of fish, wildlife, and/or plant species (or Critical Habitat) under the Endangered Species Act of 1973 is expected to be impacted; 3) There are no potential cultural or historic resources located within the proposed project site; and 4) There are no Essential Fish Habitat (EFH) areas within the subject bank. A “no effect” determination for threatened and endangered species and for cultural and/or historic resources has been made at this time; and it has been determined that no additional EFH evaluation will be conducted. Any additional or new information may change any of these preliminary findings.

Written comments pertinent to the proposed work, as outlined above and as described in the prospectus, will be received by the Corps of Engineers, Wilmington District, until 5pm, December 8, 2017. Comments should be submitted to Mr. Mickey Sugg, 69 Darlington Avenue, Wilmington, North Carolina 28403, or via internet at [mickey.t.sugg@usace.army.mil](mailto:mickey.t.sugg@usace.army.mil). If you have any questions, please contact Mr. Sugg at (910) 251-4811.

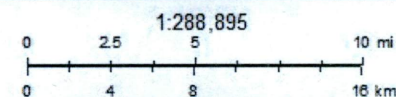


# MILLER PROJECT SITE



November 3, 2017

Counties




Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, Increment P Corp.

US Army Corps of Engineers  
This map was produced using the SimSuite web application on 03 Nov 2017 © 1523-0400





## Legend

 Approximate Property Boundary

### Miller Property

Seashore Drive, Atlantic  
Carteret County, NC  
September 2017



**SPANGLER**  
ENVIRONMENTAL, INC.

4338 Bland Road Raleigh, NC 27609  
919-875-4288

Figure 1 - Vicinity Map

map source:  
Google Earth Maps





### Miller Property

Seashore Drive, Atlantic  
Carteret County, NC  
June 2017



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4338 Bland Road Raleigh, NC 27609  
919-875-4288

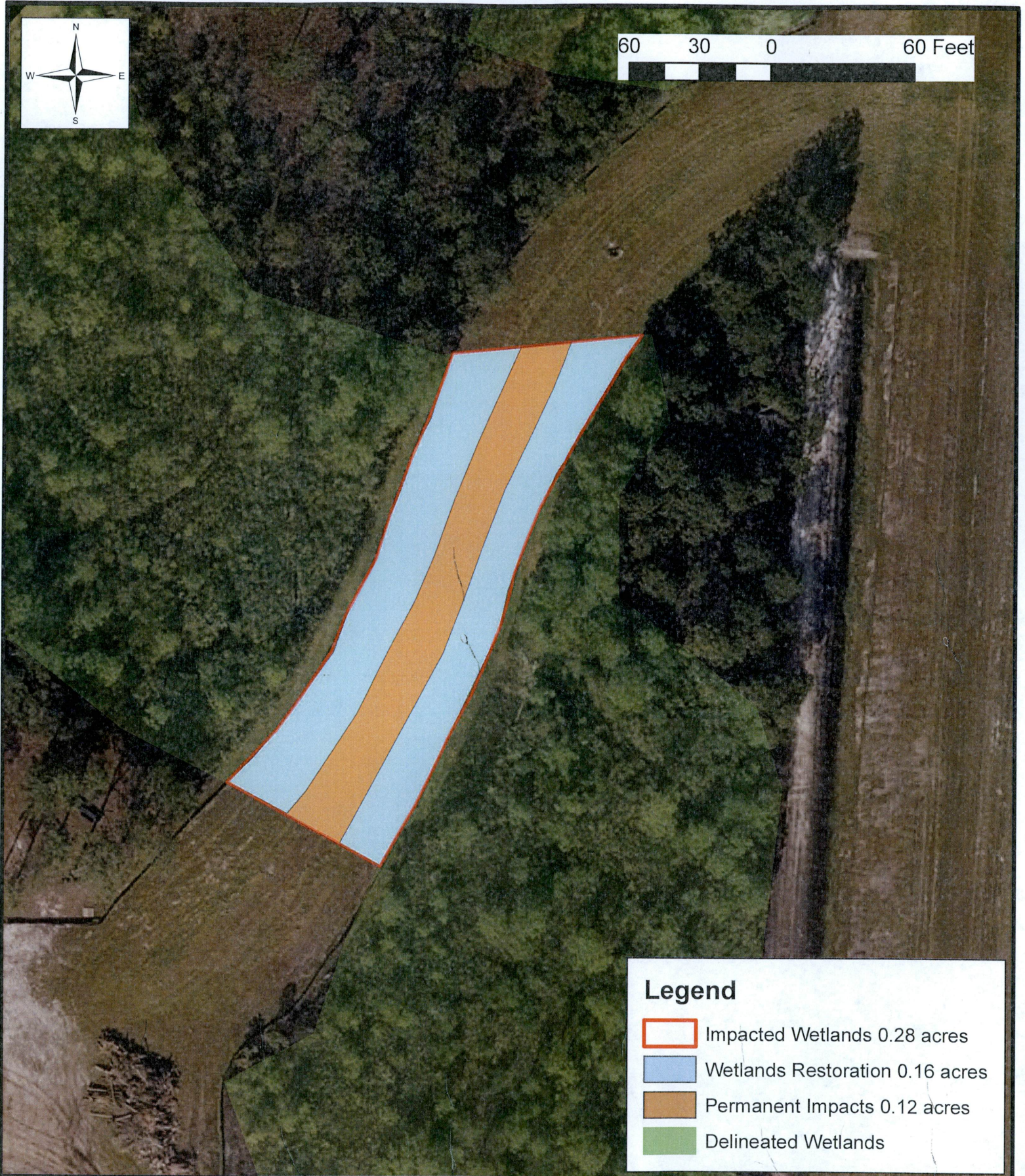
Figure 3 - Project Components

map source:  
NC OneMap






60 30 0 60 Feet



### Legend

-  Impacted Wetlands 0.28 acres
-  Wetlands Restoration 0.16 acres
-  Permanent Impacts 0.12 acres
-  Delineated Wetlands

### Miller Property

Seashore Drive, Atlantic  
Carteret County, NC  
June 2017



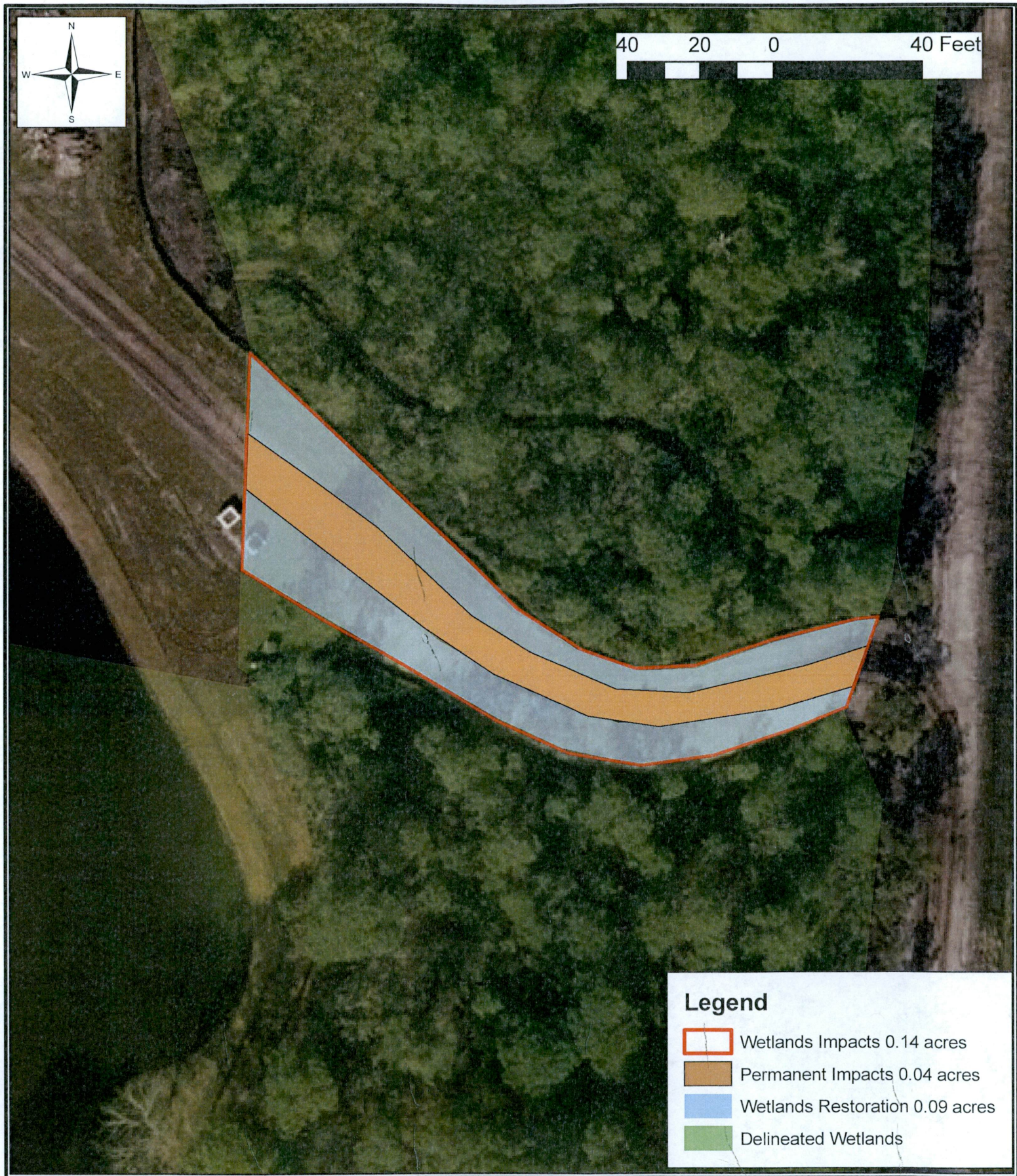
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Figure 4  
Hangar-to-Airstrip Taxiway

map source:  
NC OneMap





### Miller Property

Seashore Drive, Atlantic  
Carteret County, NC  
June 2017



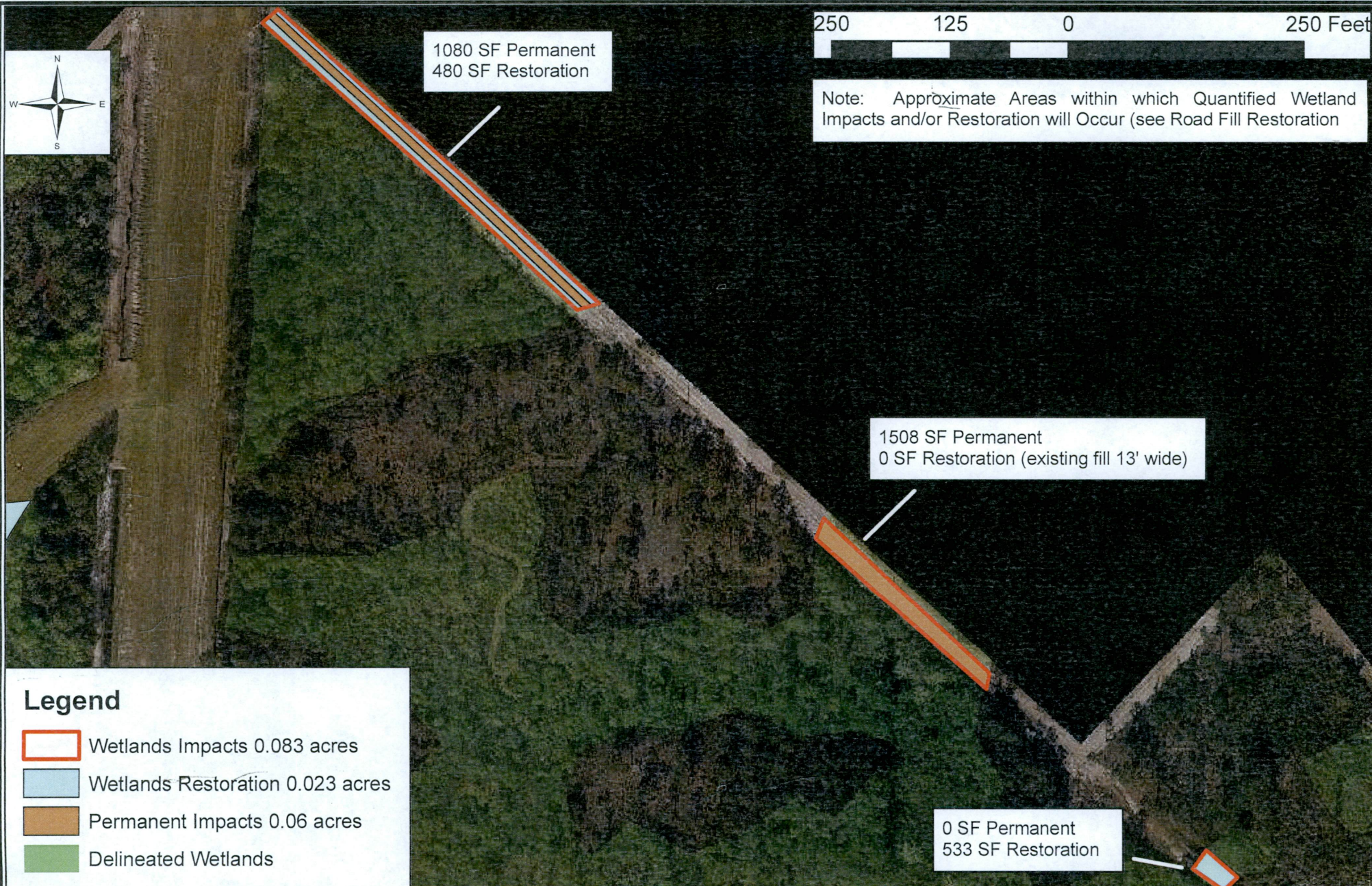
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Figure 5  
Hangar-to-Airstrip Roadway

map source:  
NC OneMap





1080 SF Permanent  
480 SF Restoration





250 125 0 250 Feet

Note: Approximate Areas within which Quantified Wetland Impacts and/or Restoration will Occur (see Road Fill Restoration)

1508 SF Permanent  
0 SF Restoration (existing fill 13' wide)

0 SF Permanent  
533 SF Restoration

**Legend**

-  Wetlands Impacts 0.083 acres
-  Wetlands Restoration 0.023 acres
-  Permanent Impacts 0.06 acres
-  Delineated Wetlands

**Miller Wetlands**

Seashore Drive, Atlantic  
Carteret County, NC  
June 2017



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Figure 6  
Upland Access Roadways (East)

map source:  
NC OneMap





0 SF Permanent Impact  
1300 SF Restoration

425 212.5 0 425 Feet

Note: Approximate Areas within which Quantified Wetland Impacts and/or Restoration will Occur (see Road Fill Restoration Profile)

540 SF Permanent Impact  
120 SF Restoration

900 SF Permanent Impact  
0 SF Restoration  
(existing fill 18' wide)

1080 SF Permanent Impact  
360 SF Restoration

720 SF Permanent Impact  
40 SF Restoration

990 SF Permanent Impact  
40 SF Restoration

720 SF Permanent Impact  
160 SF Restoration

360 SF Permanent Impact  
40 SF Restoration

0 SF Permanent Impact  
2142 SF Restoration

### Legend

- Wetlands Impacts 0.22 acres
- Wetlands Restoration 0.10 acres
- Permanent Impacts 0.12 acres
- Delineated Wetlands

## Miller Wetlands

Seashore Drive, Atlantic  
Carteret County, NC  
June 2017

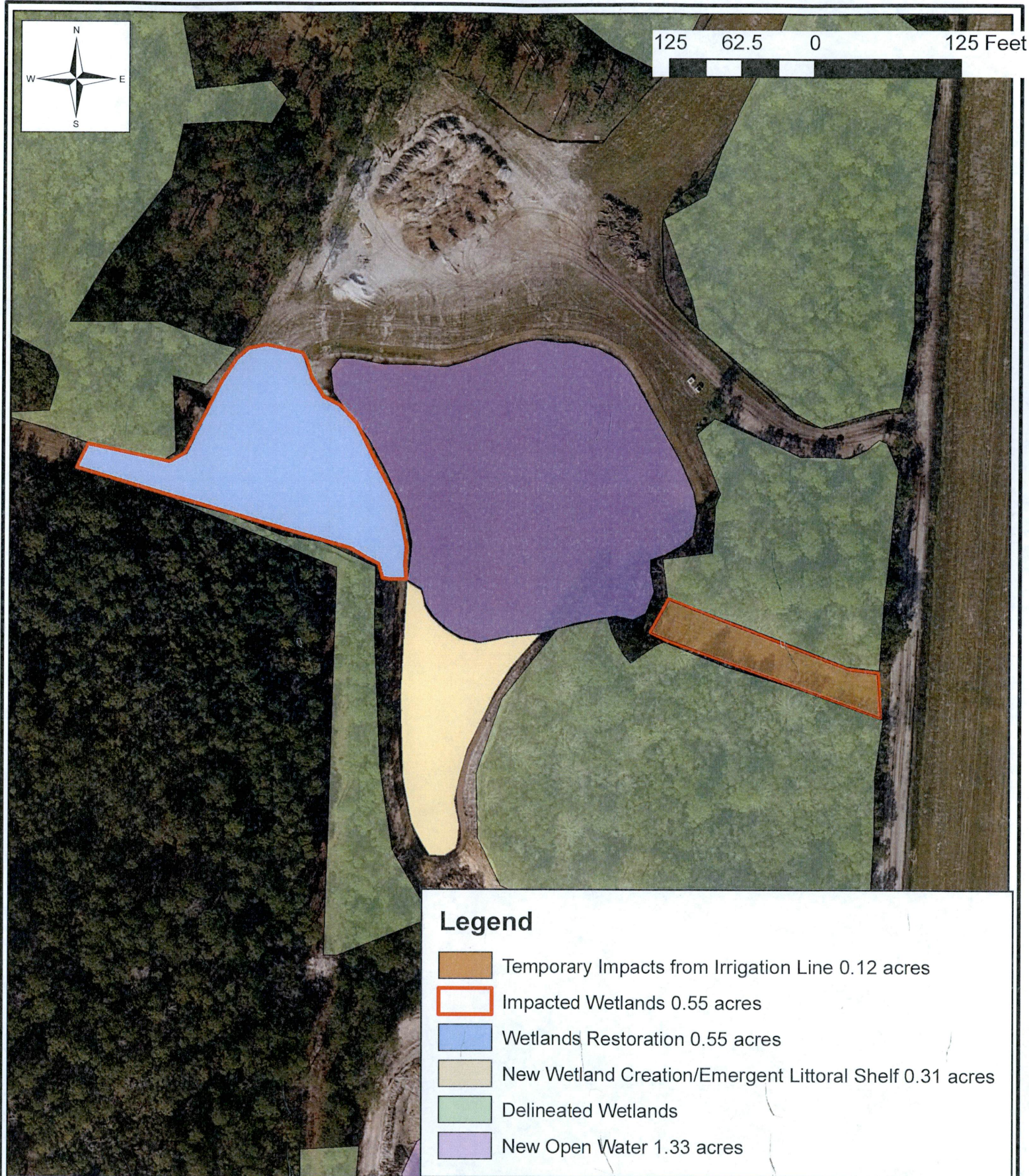


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Figure 7  
Upland Access Roadways (West)

map source:  
NC OneMap





### Miller Property

Seashore Drive, Atlantic  
Carteret County, NC  
June 2017



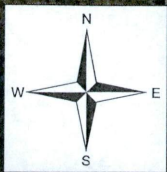
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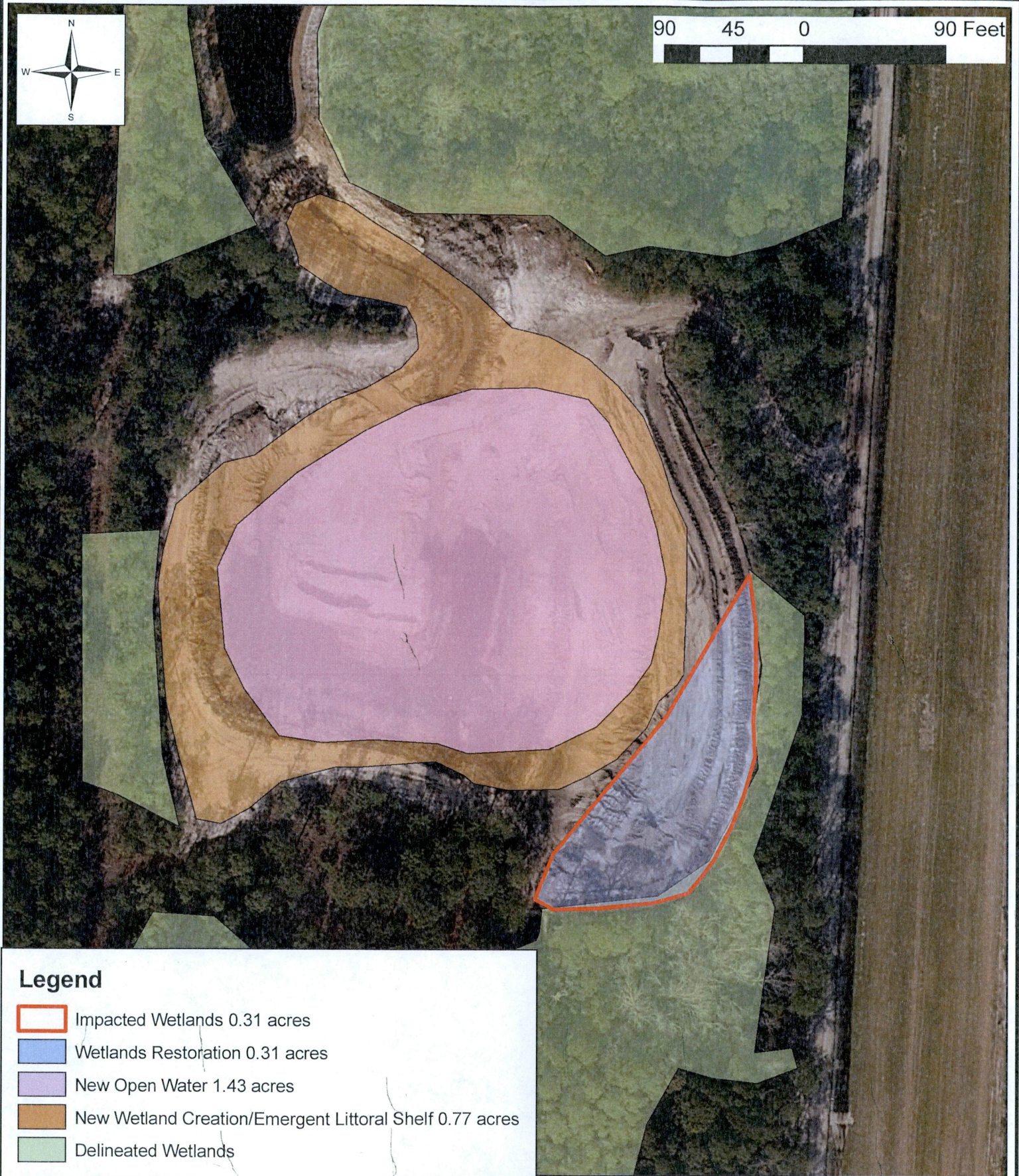
Figure 8 - Irrigation Pond

map source:  
NC OneMap





90 45 0 90 Feet



### Legend

-  Impacted Wetlands 0.31 acres
-  Wetlands Restoration 0.31 acres
-  New Open Water 1.43 acres
-  New Wetland Creation/Emergent Littoral Shelf 0.77 acres
-  Delineated Wetlands

### Miller Property

Seashore Drive, Atlantic  
Carteret County, NC  
June 2017



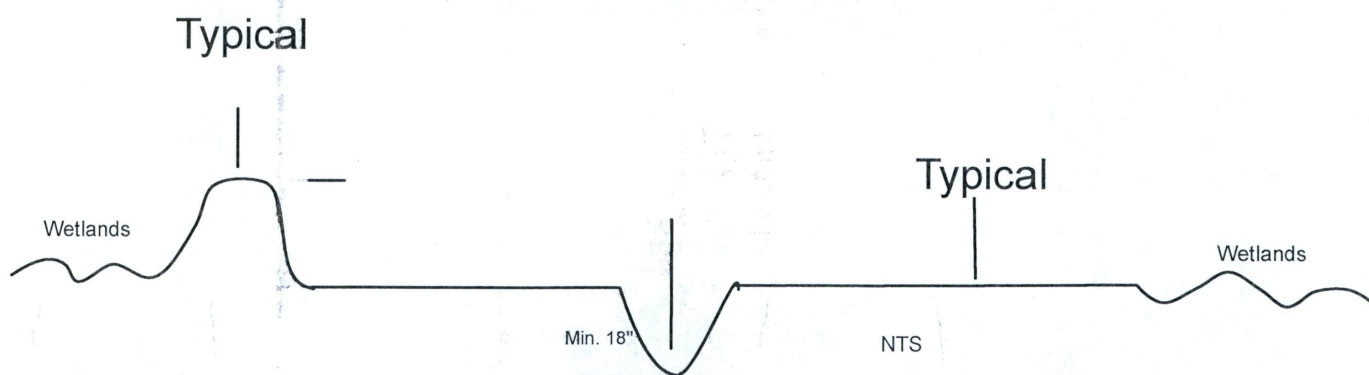
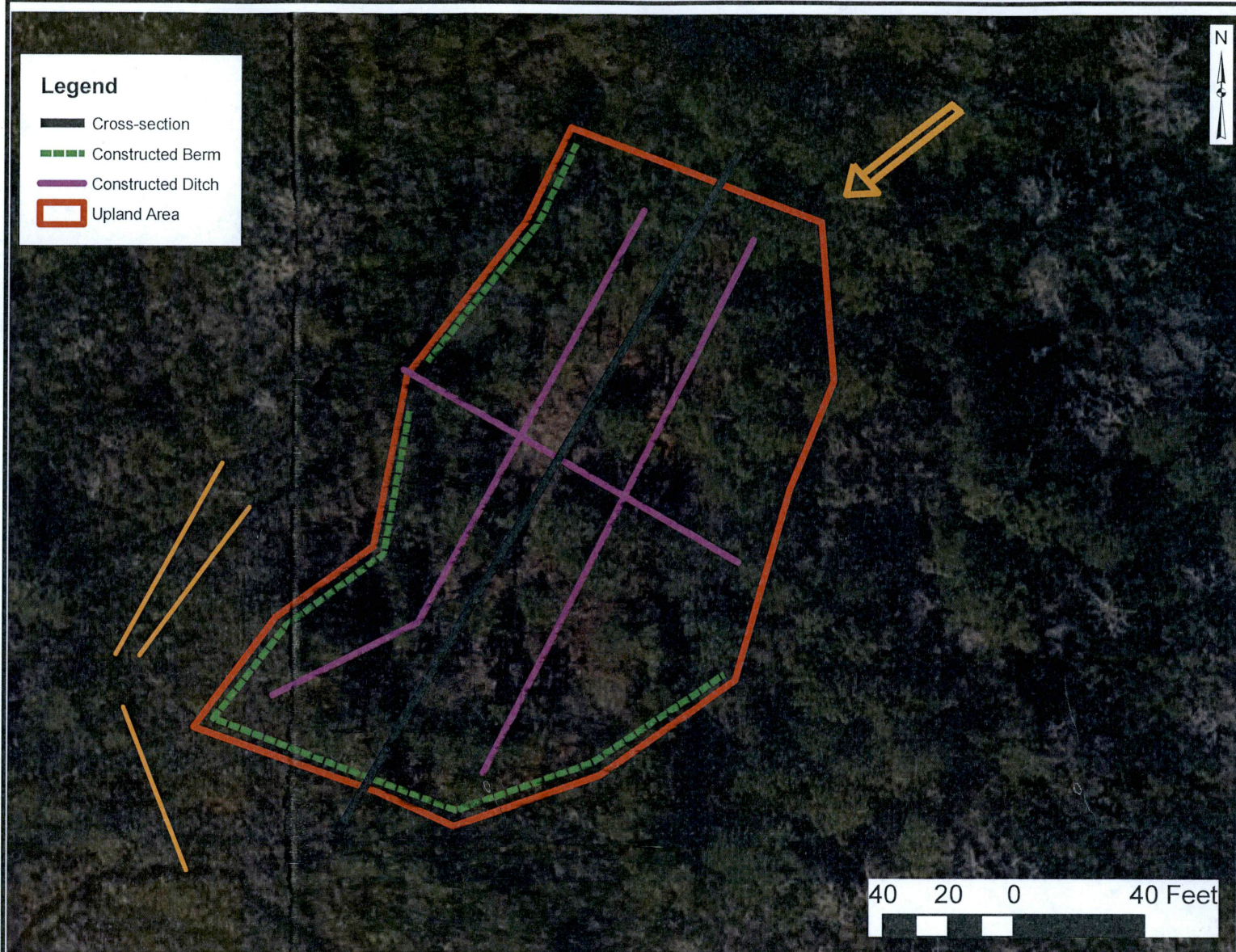
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Figure 9 - Sand Mining

map source:  
NC OneMap





## Miller Wetland NOV

Seashore Drive, Atlantic  
Carteret County, NC  
June 2017



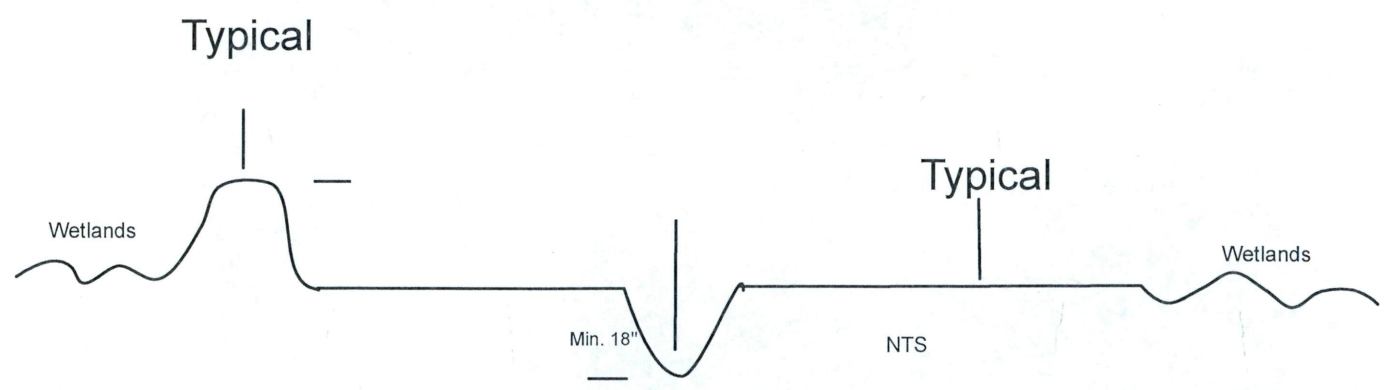
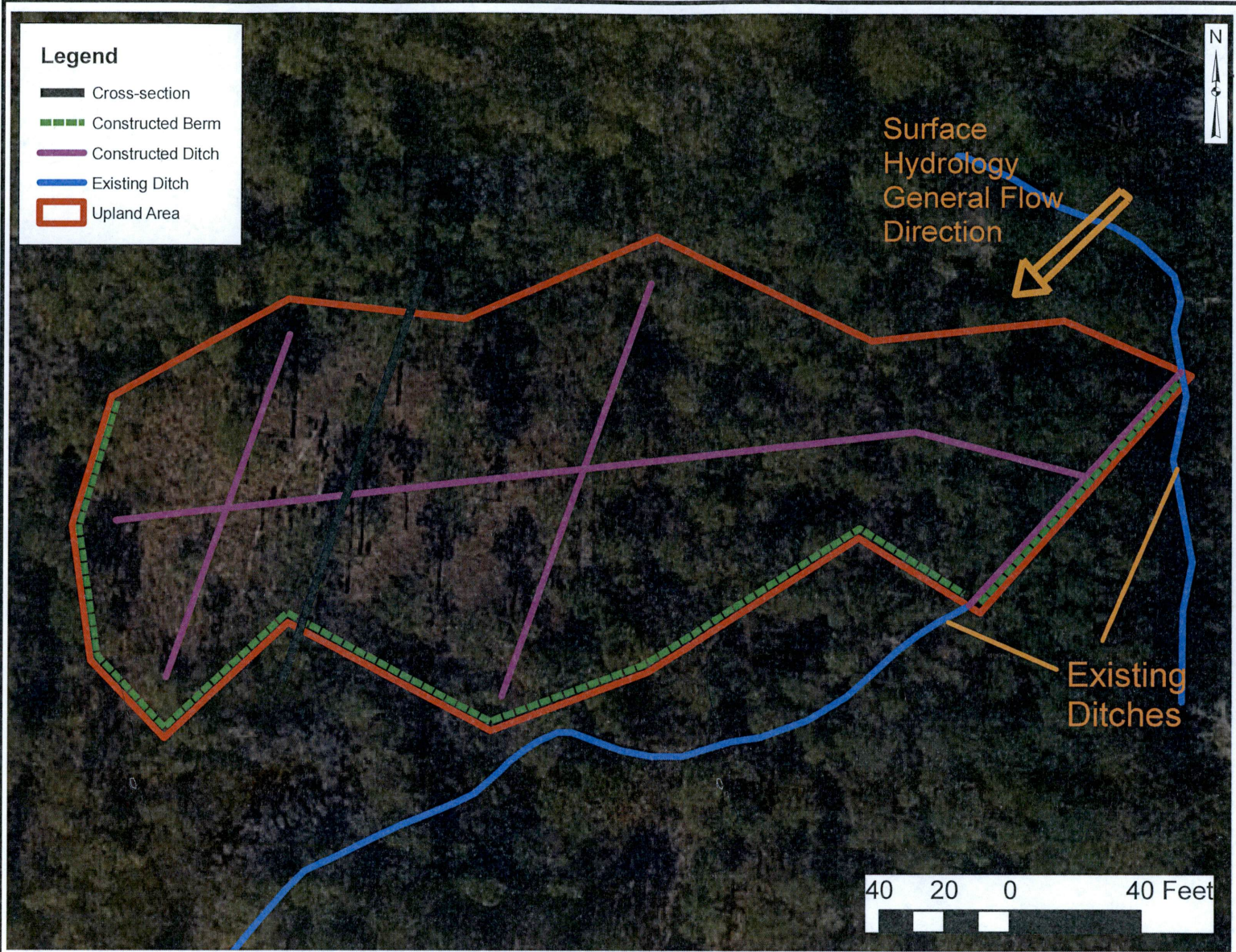
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Figure 10 - Mitigation Area 1  
(0.55 Acres)

map source:  
NC OneMap





# Miller Property

Seashore Drive, Atlantic  
Carteret County, NC  
June 2017



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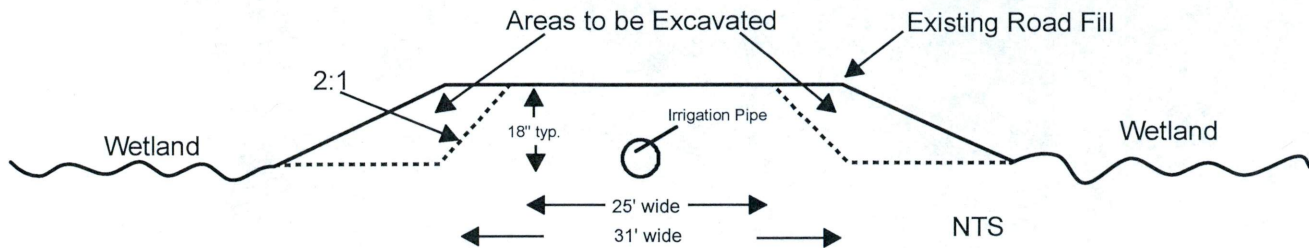
Figure 11 - Mitigation Area 2  
(0.75 Acres)

map source:  
NC OneMap



# Restoration of Taxiway

## With Some Permanent Impact Remaining



### Notes:

1. Area to be excavated to original soil surface as determined visually. No over-excavation is required.
2. Natural recruitment shall be preferred method of vegetation restoration. To be supplemented with wetland seed mix listed below as needed.
3. Existing 12" CPP to remain to allow continuing surface hydrology connections.

### Wetland Seed Mix

Recommended application rate: 20-25 lbs. per acre

Species	Common Name	Percent
Elymus riparius	Riverbank wild rye	20
Panicum rigidulum	Redtop Panicgrass	8
Panicum dichotomiflorum	Smooth Panicgrass	14
Carex vulpinoidea	Fox sedge	12
Panicum virgatum	Switchgrass	23
Dichanthelium clandestinum	Deer tongue	8
Bidens aristosa	Showy Tickseed Sunflower	7
Juncus effusus, NC Ecotype	Soft rush	4
Polygonum pensylvanicum	PA Smartweed	2
Sparganium amricanum	Eastern bur reed	2

### Miller Property

470 Seashore Road  
Atlantic, NC  
June 2017



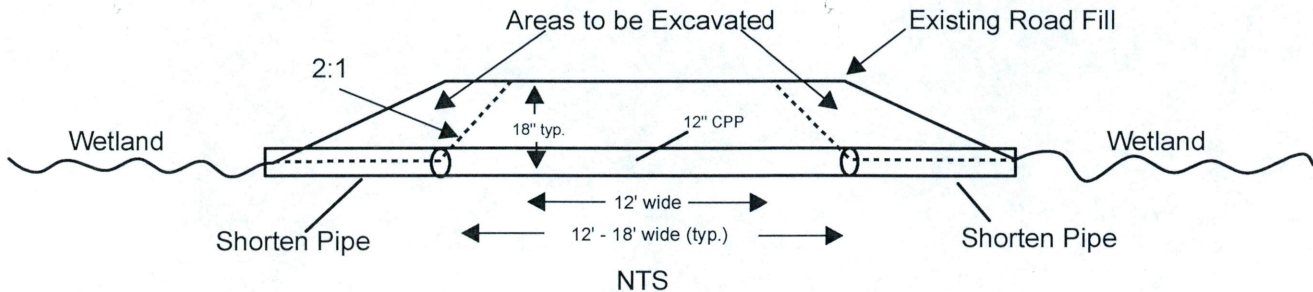
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ENVIRONMENTAL, INC.

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919-875-4288

Exhibit 1 - Restoration of Taxiway

# Typical Road Fill Restoration

## With Some Permanent Impact Remaining



### Notes:

1. Area to be excavated to original soil surface as determined visually. No over-excavation is required.
2. Natural recruitment shall be preferred method of vegetation restoration. To be supplemented with wetland seed mix listed below as needed.
3. Existing 12" CPP to remain to allow continuing surface hydrology connections.
4. Road to be maintained as dirt or grassed, with no clearing beyond toe of slope.

### Wetland Seed Mix

Recommended application rate: 20-25 lbs. per acre

Species	Common Name	Percent
Elymus riparius	Riverbank wild rye	20
Panicum rigidulum	Redtop Panicgrass	8
Panicum dichotomiflorum	Smooth Panicgrass	14
Carex vulpinoidea	Fox sedge	12
Panicum virgatum	Switchgrass	23
Dichanthelium clandestinum	Deer tongue	8
Bidens aristosa	Showy Tickseed Sunflower	7
Juncus effusus, NC Ecotype	Soft rush	4
Polygonum pensylvanicum	PA Smartweed	2
Sparganium amricanum	Eastern bur reed	2

### Miller Property

470 Seashore Road  
Atlantic, NC  
June 2017



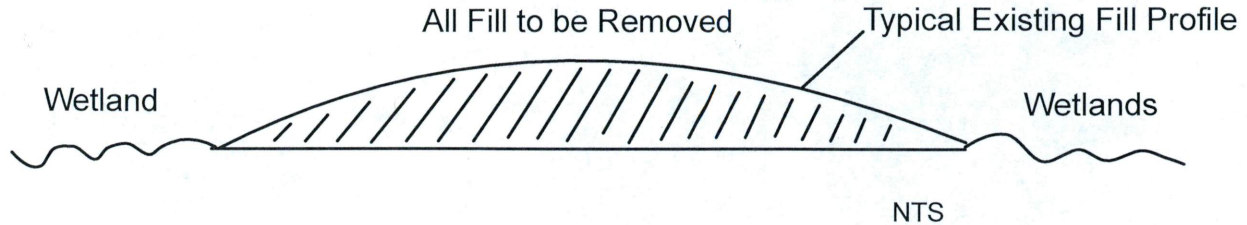
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Exhibit 2  
Typical Road Fill Restoration



# Restoration of Fill



## Notes:

1. Remove all fill to original ground surface as determined visually, based on soil profile of adjacent wetlands.
2. Natural recruitment to be preferred method of re-vegetation. To be supplemented with wetland seed mix listed below as needed.

### Wetland Seed Mix

Recommended application rate: 20-25 lbs. per acre

Species	Common Name	Percent
Elymus riparius	Riverbank wild rye	20
Panicum rigidulum	Redtop Panicgrass	8
Panicum dichotomiflorum	Smooth Panicgrass	14
Carex vulpinoidea	Fox sedge	12
Panicum virgatum	Switchgrass	23
Dichanthelium clandestinum	Deer tongue	8
Bidens aristosa	Showy Tickseed Sunflower	7
Juncus effusus, NC Ecotype	Soft rush	4
Polygonum pensylvanicum	PA Smartweed	2
Sparganium americanum	Eastern bur reed	2

### Miller Property

470 Seashore Road  
Atlantic, NC  
June 2017

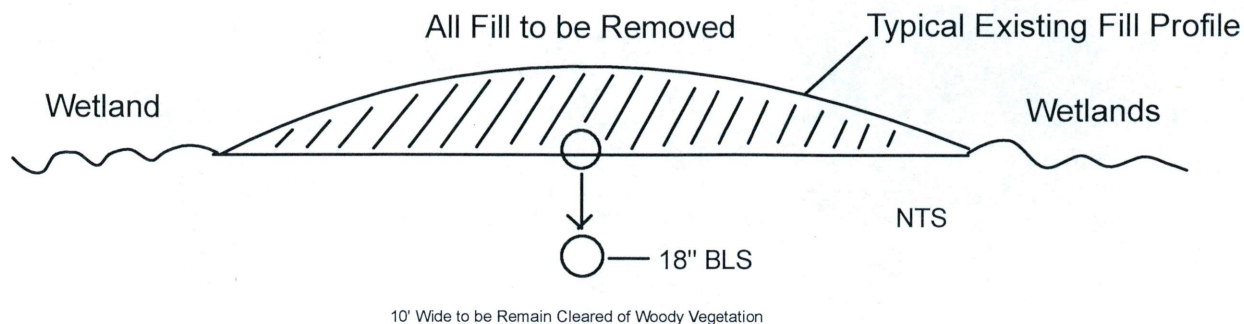


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Exhibit 3 - Restoration of Fill

# Restoration of Water Line Impact and New Temporary Utility Impact



## Notes:

1. Remove all fill to original ground surface as determined visually, based on soil profile of adjacent wetlands.
2. Temporary impact to lower water line to minimum 18" BLS.
3. Natural recruitment to be preferred method of re-vegetation. To be supplemented with wetland seed mix listed below as needed.
4. 10' wide cleared of woody vegetation (no fill) to be maintained.

## Wetland Seed Mix

Recommended application rate: 20-25 lbs. per acre

Species	Common Name	Percent
Elymus riparius	Riverbank wild rye	20
Panicum rigidulum	Redtop Panicgrass	8
Panicum dichotomiflorum	Smooth Panicgrass	14
Carex vulpinoidea	Fox sedge	12
Panicum virgatum	Switchgrass	23
Dichanthelium clandestinum	Deer tongue	8
Bidens aristosa	Showy Tickseed Sunflower	7
Juncus effusus, NC Ecotype	Soft rush	4
Polygonum pensylvanicum	PA Smartweed	2
Sparganium amricanum	Eastern bur reed	2

## Miller Property

470 Seashore Road  
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Exhibit 4

Restoration of Water Line Impact