STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

October 30, 2013

MEMORANDUM TO: Mr. Jerry Jennings, P.E.
Division 1 Engineer

FROM: Philip S. Harris, III, P.E., Section Head
Natural Environment Section
Project Development and Environmental Analysis Unit

SUBJECT: Dare County, Replacement of the Temporary Bridge over New Inlet and long term improvements to NC 12; WBS Element 32635.1.1; **TIP B-2500A**

Attached are the U.S. Army Corps of Engineers Section 404 Nationwide Permit, N.C. Division of Water Quality Section 401 Water Quality Certification, N.C. Division of Coastal Management CAMA Permit Modification, U.S. Fish and Wildlife Service Special Use Permit, and the U.S. Coast Guard Advance Approval for the above-referenced project. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:
http://www.ncdot.gov/doh/preconstruct/pe/neu/permit.html

cc:
Mr. Randy Garris, P.E. State Contract Officer
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Jay Bennett, P.E., Roadway Design Unit
Mr. Dewayne Sykes, P.E. Utilities Unit
Mr. Art McMillan, P.E., Hydraulics Unit
Mr. Greg Perfetti, P.E., Structure Design Unit
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Mike Robinson, P.E., State Bridge Construction Engineer
Mr. Rob Hanson, P.E., PDEA Project Development Unit
Mr. Clay Willis, Division Environmental Officer
Mr. Clarence Coleman, P.E., FHWA
Ms. Leilani Paugh, NES
Mr. Randy Griffin, P.E., NES

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PROJECT COMMITMENTS

T.I.P. Number B-2500 Phase I
Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) on NC 12 over Oregon Inlet
Dare County
Federal-Aid No. BRS-2358(15)
WBS Element 32635.1.3

and

T.I.P. Number B-2500 A (Phase IIa):
NC 12 – Pea Island Long-Term Improvements
Bonner Bridge Replacement Project Phase IIa
Dare County
Federal Aid Project No. BRNHF-0012(56)
WBS Element 32635.1.6

If a commitment only applies to one phase, the appropriate phase precedes the commitment.

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

The following text lists the Project Commitments for the Bonner Bridge Replacement Project:

Commitments 7, 20, 25, and 26 were revised in association with Phase IIa studies.
Commitments 25 and 26, as the result of the revision of the 2008 BO resulting from a re-initiation of Formal Section 7 Consultation with USFWS.
Commitment 29 was added as a result of agreements made at Concurrence Point 4A.
Commitments 30 and 31 were added to mitigate Pea Island National Wildlife Refuge facility impacts.

All other commitments developed during the project development and design process are the same as presented in the 2010 ROD.

Highway Design Branch and Technical Services Division

1. **(Phase 1)** Navigation Span Location. One navigation zone would be built to serve boats passing through Oregon Inlet. The location of the zone would be determined in coordination with the US Army Corps of Engineers (USACE).

2. Bicycle Accommodations. The Cape Hatteras National Seashore (Seashore) management plan supports the use of bicycles along NC 12. All bridges associated with the detailed study alternatives (including the Selected Alternative[s]) would have 8-foot (2.4-meter) wide shoulders that would be safer for bicycle and pedestrian traffic than Bonner Bridge's 2-foot (0.6-meter) wide shoulders. In addition, a bicycle- safe bridge rail on the bridges also would provide increased safety for bicyclists. New roadway would have 4-foot (1.2-meter) paved shoulders, which would be safer for use by bicycle and pedestrian traffic than the existing NC 12's unpaved shoulders.

Highway Design Branch and Division 1

3. Use of Work Bridges. During construction of the project, steps taken to minimize turbidity (when possible and practicable) would include the use of work bridges (rather than barges, which would require dredging) for movement of construction equipment in shallow areas where submerged aquatic vegetation (SAV) is present. If SAV is in waters deep enough to float a barge without dredging, the use of a work bridge would not be necessary. Work bridges also would be used to carry construction equipment over intertidal marsh areas (black needlerush and smooth cordgrass). Dredging generally would only be used in depths less than 6 feet (1.8 meters) where SAV is not present. Work bridges will be used to cross SAVs. Neither dredging nor haul roads would be used in SAVs.

4. Sedimentation and Erosion Control. All waters in the project area are classified as SA waters (Class A salt waters) with a supplemental classification of High Quality Waters (HQW). The most stringent application of the Best Management Practices (BMPs) is expected where highway projects affect receiving waters of special designation, such as HQW. Also, impacts to adjacent areas of SAV and/or wetlands should be minimized. Therefore, sedimentation and erosion control measures shall adhere to the Design Standards in Sensitive Watersheds [15A NCAC 04B.0124 (b)- (e)]. Prior to construction, the design-build contractor will submit the proposed sediment and erosion control plans for each stage of construction to the North Carolina Department of Transportation (NCDOT) and permitting agencies for review.

5. Pile Placement. Bridge piles in open water would be jetted to the tip elevation (depth of the tip of the pile). Bridge piles over land would be jetted or driven. Potential damage to wetlands, SAV, and Oregon Inlet from jetting spoils will be minimized to the extent practicable.

6. **(Phase I)** Use of Bridge Demolition Debris for an Artificial Reef. NCDOT would work with the North Carolina Department of Environment and Natural Resources, Division of Marine Fisheries (NCDENR-DMF) to accommodate this desire during demolition planning. Coordination also would be conducted with the National Marine Fisheries Service (NMFS) in association with their regulation of several protected species.

7. **(Phase I)** Oregon Inlet Fishing Access (revised). This commitment was revised as a result of ongoing Section 7 coordination with NMFS. NCDOT will install “no fishing” signs to not allow fishing on the catwalks during construction to satisfy NMFS concerns, and for safety reasons. If and when a decision is made to allow fishing on the remnant of the existing Bonner Bridge, FHWA will initiate Section 7 consultation with NMFS prior to the “no fishing” signs being removed.

Highway Design Branch, Project Development and Environmental Analysis Unit, and Division 1

8. Design Coordination. NCDOT would invite NPS and USFWS, as well as the other agencies represented on the project’s National Environmental Policy Act/Section 404 of the Clean Water Act (NEPA/Section 404) Merger Team (a full list of agencies on the Merger Team is shown on page 8-6 of the 2008 FEIS), to participate in the development of project design and mitigation strategies as a part of the permit application process for each phase of the project.

9. **(Phase I)** Dredging. To avoid construction impacts to protected turtles, NCDOT's contractor would use pipeline or clamshell dredging. A hopper dredge would not be used for bridge construction or Bonner Bridge demolition.

10. **(Phase I)** Disposal of Dredged Material. Prior to construction, during the permit preparation process, FHWA and NCDOT would work with appropriate environmental resource and regulatory agencies to identify the characteristics of dredged material from bridge construction in open water and develop a disposal plan that would minimize harm to natural resources. The appropriate location for dredged material disposal would be determined based on the character of the materials dredged, the availability of disposal sites, and coastal conditions near the time of construction. In addition, as noted in Commitment 25c, the terms and conditions outlined in the Biological and Conference Opinions (USFWS, 2008) related to piping plovers specify that "all dredge spoil excavated for construction barge access must be used to augment either existing dredge-material islands or to create new dredge-material islands for use by foraging plovers. This must be accomplished as per the specifications of the North Carolina Wildlife Resources Commission."

11. Night-time Construction. Because construction activities could occur 24-hours-a- day, construction areas could be lit to daylight conditions at night. NCDOT would work with NCDENR-DMF, NMFS, NPS, and USFWS to determine other areas near project construction where night lighting would need to be avoided or limited. Night lighting also would not be used close to areas where people sleep, including the campground at the northern end of the project area and the Rodanthe area at the southern end. Night lighting also will meet the requirements specified to protect sea turtles contained within Commitment 26.a.

12. Manatee Protection. Construction contracts would require compliance with USFWS's Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters (June 2003).

13. Sea Turtle and Smalltooth Sawfish Protection. NCDOT will comply with NMFS's March 23, 2006, Sea Turtle and Smalltooth Sawfish Construction Conditions (NMFS, 2006) that restrict in-water construction-related activities when these protected species are observed in the project area. However, NMFS and NCDOT agree that bridge construction or demolition activities do not need to stop when a protected species is sighted in the proximity of construction if the construction activities are not in the water. The in-water moratorium prohibits pile installation and removal and activities associated with bridge construction and demolition when listed species are present in the water, but does not restrict terrestrial activity.

14. **(Phase I)** Terminal Groin Removal. NCDOT would apply for a permit to retain the groin to protect the south end of the Oregon Inlet bridge. Construction will not be authorized by FHWA prior to issuance of the terminal groin permit.

    The permit to retain the terminal groin was received from USFWS on August 9, 2012.

15. Archaeological Resources Discovered During Construction. If any historic archaeological resources (e.g., historic watercraft) are encountered in the area west of Bodie Island during construction, construction work affecting the resource will cease immediately until the resource can be identified and assessed for National Register of Historic Places eligibility.

16. Construction of Future Phases. In phasing the construction of the Parallel Bridge Corridor alternatives (including the Selected Alternative[s]), it is NCDOT′s intent to place a high priority on the monitoring and need for implementation of improvements in the three potential hot spot areas. This intent recognizes the need to build in the Rodanthe 'S' Curves, Sandbag Area, and Canal Zone hot spots. Final phasing decisions will be developed through interagency collaboration and under the requirements of NEPA as project area conditions warrant.

17. Monitoring Program. NCDOT considers the 2060 high erosion shoreline a reasonable assumption for current planning purposes, but also recognizes that decisions related to implementation of future phases and the specific location of future phases would likely need to evolve with actual geomorphological change relative to the NC 12 easement. With this in mind, NCDOT would implement a monitoring and vulnerability forecasting program on Hatteras Island in the project area, as described in Section 3.3.2 of the 2010 ROD.

18. Breach Response-Related Data Gathering Program. Recognizing the possibility that a breach could occur at the southern part of the Refuge prior to completion of Phase II and that four other locations exist in the project area that are geologically susceptible to a breach, NCDOT would conduct a breach response-related data gathering program focusing on the southern end of the Refuge.

19. Reduce the Potential Impacts from NC 12 Maintenance Prior to the Completion of Each Phase. Recognizing that storm-related NC 12 maintenance will occur before completion of future phases, particularly before the implementation of improvements in the three hot spot areas, NCDOT would continue to work with the Refuge to reduce potential impacts to the Refuge and NC 12 resulting from NC 12 storm-related maintenance.

20. Atlantic and Shortnose Sturgeon (revised). Conservation measures to protect shortnose sturgeon would include no hopper dredging and measures to minimize habitat degradation. Such measures would include Best Management Practices (BMPs) involving use, storage, and disposal of construction/demolition materials to minimize short-term turbidity or water quality degradation during over-water construction in Oregon Inlet and during periodic maintenance. Construction and demolition activities associated with Phase I of the project would be completed as quickly as possible in order to minimize deterring spawning sturgeon from entering Oregon Inlet. In addition, the project would incorporate BMPs to reduce habitat degradation from stormwater runoff pollution. The same conservation measures will be applied to the Atlantic sturgeon.

Highway Design Branch, Project Development and Environmental Analysis Unit, Division 1, Right-of-Way Branch, and Technical Services Division

21. Utilities. Project development and construction activities would be coordinated with utility providers in the project area in order to prevent interruption of local utility services. The following utility providers currently serve the project area: Dare County (water service); Sprint Communications (telephone service); Charter Communications (cable television service); and Cape Hatteras Electric Membership Association (electric power service).

Highway Design Branch, Project Development and Environmental Analysis Unit, Division 1, and Geotechnical Unit

22. Use of Explosives During Construction. The use of explosives during construction is not anticipated. If explosives were needed to remove Bonner Bridge's piles, NCDOT would coordinate with the appropriate environmental resource and regulatory agencies to develop a blasting program that would minimize adverse effects to the natural environment.

Project Development and Environmental Analysis Unit

23. Programmatic Agreement. As per the requirements of Section 106 of the National Historic Preservation Act of 1966, FHWA, the North Carolina State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP), and NCDOT, along with the consulting parties (Dare County, the North Carolina Aquarium Society, USFWS, NPS, and the Chicamacomico Historical Association), developed a Programmatic Agreement (PA) stipulating measures that FHWA will ensure are carried out during the design and construction of the Selected Alternative to mitigate adverse impacts to the historic cultural resources. The final PA (see Appendix D of the Phase IIa EA) was signed by the signatory agencies on November 15, 2010 and amended in August 2013 (see Appendix E of the B-2500 A ROD). NCDOT would carry out the stipulations in this agreement.

24. Seabeach Amaranth. Since the favored habitat of the seabeach amaranth is highly ephemeral, a survey of the project area would be conducted for the habitat of this species at least one year prior to initiating bridge construction activities. It would occur as needed for each construction phase.

Highway Design Branch, Project Development and Environmental Analysis Unit, Division 1, and Bridge Management Unit

25. Piping Plover (revised). NCDOT will implement the following nondiscretionary measures that include the terms and conditions outlined in the Biological and Conference Opinions (USFWS, 2008):

    a. All construction equipment and personnel must avoid all bird closure areas within the Seashore and Refuge.

       All future routine maintenance activities of bridge structures that would occur within or adjacent to current or future plover nesting areas must occur outside the nesting season (April 1 to July 15).

       All future repair work on bridge structures that would occur within or adjacent to current or future plover nesting areas must occur outside the nesting season (April 1 to July 15) unless emergency or human safety considerations require otherwise. In this event, the area must be surveyed for nesting plovers and avoided to the extent possible.

b. During the construction of Phases II, III and IV of the Phased Approach/Rodanthe Bridge Alternative (if it is implemented under the NC 12 Transportation Management Plan [Selected Alternative]), keep all construction equipment and activity within the existing right-of-way unless granted approval by the US Fish and Wildlife Service through a revised protected species Biological Opinion. Do not moor any construction barges within 300 feet (91.4 meters) of the following islands: Green Island, Wells Island, Parnell Island, Island MN, Island C, the small unnamed island immediately east of Island C, Island D, and Island G (see Figure 1 in the Biological and Conference Opinions in Appendix E of the 2008 FEIS).

c. All dredge spoil excavated for construction barge access must be used to augment either existing dredge-material islands or to create new dredge-material islands for use by foraging plovers. This must be accomplished as per the specifications of the North Carolina Wildlife Resources Commission. If the dredge material is used outside the current defined action area, the action area is assumed to be expanded to cover the beneficial placement of the material.

d. To the maximum extent practical, while ensuring the safety of the traveling public, limit or avoid the use of road signs or other potential predator perches adjacent to plover nesting or foraging areas. Where signs or other structures are necessary, determine if alternative designs would be less conducive for perching on by avian predators (gulls, crows, grackles, hawks, etc.). For example, minimize or avoid the use of large cantilever signs in favor of smaller and shorter designs.

26. Sea Turtles (green sea turtle, leatherback sea turtle, and loggerhead sea turtle) (revised). NCDOT will implement the following nondiscretionary measures that include the terms and conditions outlined in the Biological and Conference Opinions (USFWS, 2008):

a. All construction equipment and personnel must avoid all marked sea turtle nests. Construction material and equipment staging areas must not be located seaward of the artificial dune. All future routine maintenance activities of bridge structures that would occur within or adjacent to current or future sea turtle nesting habitat, and which would require vehicles or equipment on the beach or the use of night lighting (excluding navigation lights required by the US Coast Guard), must occur outside the nesting season (May 1 to November 15).

All future repair work of bridge structures that would occur within or adjacent to current or future sea turtle nesting habitat, and which would require vehicles or equipment on the beach or the use of night lighting (excluding navigation lights required by the US Coast Guard) must occur outside the nesting season (May 1 to November 15) unless emergency or human safety considerations require otherwise. In this event, the area must be surveyed for sea turtle nests and avoided to the extent possible.

b. Provide an opportunity for USFWS or a USFWS designee to educate construction contractor managers, supervisors, foremen and other key personnel and resident NCDOT personnel with oversight duties (division engineer, resident engineer, division environmental officer, etc.) as to adverse effects of artificial lighting on nesting sea turtles and hatchlings, and to the importance of minimizing those effects.

c. During turtle nesting season (May 1 to November 15), use the minimum number and the lowest wattage lights that are necessary for construction. During turtle nesting season, portable construction lighting must be amber- colored LED lights with a predominant wavelength of approximately 650 nanometers (preferred) or low pressure sodium-vapor type (with USFWS approval). During turtle nesting season, utilize directional shields on all portable construction lights, and avoid directly illuminating the turtle nesting beach at night. During turtle nesting season, all portable construction lights must be mounted as low to the ground as possible. During turtle nesting season, turn off all lights when not needed.

d. For Phases II, III, and IV if developed as defined by the Phased Approach/ Rodanthe Bridge Alternative (if it is implemented under the NC 12 Transportation Management Plan [Selected]), on the ocean side, design the bridge structure in a manner which will shield the beach on the east side from direct light emanating from passenger vehicle headlights. For the small portion of Phase I over land on Hatteras Island, retrofit the bridge structure at the time that Phase II connects with Phase I. The specific design of the bridge will be developed in consultation with USFWS prior to re-evaluation of the environmental document for Phase II.

e. Avoid retrofitting the bridges and approach roads with permanent light fixtures in the future (excluding navigation lights required by the US Coast Guard). In addition, NCDOT does not anticipate the use of explosives during construction or demolition of the existing bridge. NCDOT's contractor will use pipeline or clamshell dredging, rather than a hopper dredge to minimize effects to sea turtles. No permanent light fixtures will be installed on the bridge or the approaches (with the exception of navigation lights as required by the US Coast Guard).

Photogrammetry Unit and Project Development and Environmental Analysis Unit

27. Submerged Aquatic Vegetation (SAV) Survey. The dynamic nature of the area around Oregon Inlet and the new Pea Island inlet (closed as of May 2013) results in ephemeral habitats, particularly in shallow water and shoreline areas. Consequently, NCDOT would obtain new SAV information for use by the contractor in construction access planning. All surveys for SAV in the vicinity of Oregon Inlet will follow protocols endorsed by the National Oceanic and Atmospheric Administration (NOAA) Fisheries.

Project Development and Environmental Analysis Unit

28. Section 4(f). If a later phase of the Parallel Bridge Corridor with NC 12 Transportation Management Plan Alternative (Selected) requires the use of a Section 4(f) property, then FHWA would complete an additional Section 4(f) analysis prior to FHWA's approval of the later phase. The 2009 Revised Final Section 4(f) Evaluation would be reviewed to verify the status of Section 4(f) resources, the effects(s) from the proposed response strategies on the Section 4(f) resource, "use" determinations, and, if necessary, a revised least overall harm analysis.

Project Development and Environmental Analysis Unit and Division 1

29. Storage Shed Use During Construction (new). As agreed at Concurrence Point 4A, NCDOT commits to maintaining the ability of Refuge staff to access and use all Refuge facilities during construction of Phase IIa, including the small storage shed located near the planned intake for the third jetting water source.

30. Replacement of Public Parking Lot near Pea Island Inlet (new). Upon completion of construction, the parking lot on the east side of NC 12 will be removed by NCDOT, along with all construction materials, including concrete, asphalt, contaminated soils, and any other material not naturally belonging on the site. NCDOT will construct a replacement parking lot at a new site near the northern terminus of the Phase IIb project per the direction of the USFWS. The site would be selected by the Refuge manager with input from NCDOT upon completion of the Phase IIb project. Upon project completion, the maintenance of the parking lot would be the responsibility of the Refuge.

31. Boat Ramp, Associated Parking, and Access to Them (new). The existing parking lot (New Inlet Parking Lot) and primitive boat access point on the west side of NC 12 would be fully restored upon completion of construction and an access road similar to the one for the parking lot at the Bonner Bridge would be constructed from the southern terminus of the Phase II~~b~~ a bridge to the New Inlet Parking Lot within the existing easement to the greatest extent possible. In order to minimize wetland impacts while providing safe ingress and egress from the boat access drive, NCDOT would construct a turnaround on the east side of the existing easement, as well as a small area outside the easement on the west side of the existing easement. Upon project completion, the maintenance of the driveway and turnaround would be the responsibility of USFWS.

COMMITMENTS FROM PERMITTING

B-2500A

Conditions from 404 Permit issued October 24, 2013:

PDEA Natural Environment Section

The Permittee shall fully implement the compensatory mitigation plan, entitled Final Wetland Mitigation Plan NC 12 Replacement of Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet, dated January 30, 2013 for the unavoidable impacts to 0.22 acres of wetlands. Activities prescribed by this plan shall be initiated prior to, or concurrently with, commencement of any construction activities within jurisdictional areas authorized by this permit. The permittee shall rehabilitate 50 acres of wetlands in accordance with the plan with the following conditions:

The permittee, North Carolina Department of Transportation, is the party responsible for the implementation, performance and long term management of the compensatory mitigation project.

Any changes or modifications to the mitigation plan shall be approved by the Corps.

The permittee shall maintain the entire mitigation site in its natural condition, as altered by the work in the mitigation plan, in perpetuity. Prohibited activities within the mitigation site specifically include, but are not limited to: Filling; grading; excavating; earth movement of any kind; construction of roads, walkways, buildings, signs, or any other structure; any activity that may alter the drainage patterns on the property; the construction, cutting, removal, mowing, or other alteration of vegetation on the property; disposal or storage of any garbage, trash, debris or other waste material; graze or water animals, or use for any agricultural or horticultural purpose; or any other activity which would result in the property being adversely impacted or destroyed, except as specifically authorized by this permit.

In accordance with the mitigation plan, the permittee will identify the proposed preservation mechanism to be used to maintain the entire mitigation site in perpetuity, subject to the approval of the Wilmington District. The District considers preservation of property for compensatory mitigation purposes to consist of maintaining the property in its natural condition, or, if restoration, creation, or enhancement work has been performed on the property, in its mitigated condition. There are several preservation mechanisms that may be used to preserve mitigation property, including, conservation easements, restrictive covenants, and conservation declaration of restrictions. Fee conveyance to an acceptable conservation organization may also be acceptable. The permittee shall not sell or otherwise convey any interest in the mitigation property used to satisfy the mitigation requirements for this permit to any third party, without prior written approval from the Wilmington District Corps of Engineers.

All mitigation areas shall be monitored for a minimum of 5 years or until deemed successful by the Corps in accordance with the monitoring requirements included in the mitigation plan.

Conditions from 401 Permit issued September 9, 2013:

Division 1 Construction Unit

The use of jetting to install bridge bents, remove the temporary bridge, and any other activity shall be kept to a minimum.

Pipes and hoses used for jetting intake placed in wetland and other jurisdictional areas shall be placed by hand.

All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water.

Conditions from CAMA Permit issued October 17, 2013:

PDEA Natural Environment Section

Due to the possibility that compaction due to temporary roadway fill, jetting intake pumps and pipes, hand clearing, and/or other site alterations might prevent the temporary Coastal Wetland impact areas from re-attaining pre-project functions, the permittee shall provide an annual update on the Coastal Wetland areas temporarily impacted by this project. This annual update shall consist of photographs and a brief written report on the progress of these temporarily impacted areas in re-attaining their pre-project functions. Within three years after project completion, the permittee shall hold an agency field meeting with NCDCM to determine if the Coastal Wetland areas temporarily impacted by this project have re-attained pre-project functions. If at the end of three years NCDCM determines that the Coastal Wetland areas temporarily impacted by the project have not re-attained pre-project functions, NCDCM will determine whether compensatory mitigation shall be required.

Division 1 Construction Unit

The installation and removal of the piles for the new bridge, existing bridge, temporary work bridges. and temporary steel sheet piling, shall be accomplished by jetting, pile driving and/or the use of a vibratory hammer, as specified in the permit application. Should the permittee and/or its contractor desire to utilize another type of pile installation, such as drilled shaft construction, additional authorization from NCDCM shall be required. The jetting operation will require the use of pumping and water intake stations at three designated locations as depicted on the permit drawings.

The permittee shall coordinate with NCDMF and the National Marine Fisheries Service (NMFS) to identify and implement practicable methods to minimize impacts to fish species from the water intakes during jetting. In accordance with commitments made by the permittee in the permit application, all jetting that occurs within the Pea Island Breach Site will occur at ebb tide.

In accordance with commitments made by the permittee in the permit application, jetting spoil shall be confined to the existing transportation easement, and/or used by the U.S. Fish and Wildlife Service (USFWS) on PINWR, and/or disposed of at an approved upland disposal site. Pilings from the existing temporary bridge and the temporary work bridges shall be removed in their entirety, except that in the

event that a bridge piling breaks during removal and cannot be removed in its entirety, NCDCM shall be notified to determine an appropriate course of action.

The permittee shall include the NC. Wildlife Resources Commission (WRC) when it works with the NCDMF, NMFS, National Park Service (NPS) and USFWS to determine other areas near project construction where night lighting would need to be avoided or limited, as committed to by the permittee in Project Commitment #11 of the Environmental Assessment dated February 12, 2013.

In accordance with commitments made by the permittee, all conditions outlined in the USFWS Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters shall be implemented.

Prior to the initiation of construction within the Ocean Hazard Area of Environmental Concern (AEC), a representative of the N.C. Division of Coastal Management (DCM) shall approve the first line of stable, natural vegetation and the corresponding setbacks. All development authorized by this Major Modification shall be located landward of the appropriate setback lines. These setback determinations shall replace those done at the time the permit application was processed and approved. Construction shall begin within sixty days of this determination or the measurement is void and shall be re-established. In the case of a major shoreline change within that period, a new setback determination shall be required before construction begins.

In accordance with 15A NCAC 07H .0306(k), the authorized structures shall be relocated or dismantled when they become imminently threatened by changes in shoreline configuration. The structure(s) shall be relocated or dismantled within two years of the time when it becomes imminently threatened, and in any case upon its collapse or subsidence. However, if natural shoreline recovery or beach re-nourishment takes place within two years of the time the structure becomes imminently threatened, so that the structure is no longer imminently threatened, then it need not be relocated or dismantled at that time. This condition shall not affect the permit holder's right to seek authorization of temporary protective measures allowed under Rule 15A NCAC 07H.0308(a)(2).

Division 1 Construction Unit and PDEA Natural Environment Section

In accordance with commitments made by the permittee, the discretionary measures for the piping plover and three species of sea turtles that include the terms and conditions outlined in the July 10, 2008 USFWS Biological and Conference Opinions shall be implemented. Those conditions are listed below:

Avoid disturbing nesting piping plovers.

To the extent possible, avoid disturbing foraging and roosting plovers.

To minimize the effect of harassment on foraging plovers, provide alternative foraging areas. Avoid or minimize opportunities for avian predator perches.

Avoid disturbing nesting sea turtles, nests and hatchlings.

Educate construction contractors and pertinent NCDOT staff as to the adverse effects of artificial lighting on sea turtles.

Minimize the effects of construction lighting on nesting sea turtles and hatchlings.

Minimize the effects of vehicle headlights from the completed bridge.

Avoid permanent light fixtures.

All construction equipment and personnel must avoid all marked sea turtle nests.

PDEA Natural Environment Section

This Major Modification shall be attached to the original of Permit No. 106-12, which was issued on 9/19/12, as well as the Major Modification which was issued on 4/26/13, and copies of all documents shall be readily available on site when a Division representative inspects the project for compliance.

Conditions from Pea Island National Wildlife Refuge Special Use Permit accepted September 27, 2013:

Division 1 Construction Unit

The Refuge Manager should be contacted immediately at (252) 473-1131 upon discovery of any wildfire, or any leak, spill, or break in a pipeline, power line, canal, or dike, or any other accident or incident that has the potential to have an adverse impact on the soil, wildlife, or plants in the area. Any unusual wildlife sightings or suspected illegal activities should be reported to the Refuge Manager.

The effective dates of this permit include the period from September 16, 2013 through December 31, 2017. If it should become necessary to extend the effective period, a request for extension should be submitted no less than 5 days in advance. The Refuge Manager or designee shall be notified no less than 3 days prior to commencement of activities on the Refuge.

Activities authorized through this permit include reasonable and prudent work within the existing North Carolina Department of Transportation (NCDOT) ROW for the existing NC Highway 12 and those areas identified in pre-construction drawings as temporary easement areas for the purpose of maintaining safe traffic flow while preparing for and construction of a concrete replacement bridge to replace the temporary steel bridge.

Care shall be taken so as to avoid harm to wildlife and fisheries resources, including their habitats.

Temporary work outside of the existing NC 12 ROW as described in project plans reviewed by the Refuge Manager is authorized to the extent necessary to complete construction of the replacement bridge and restoration of NC 12 in a safe and effective manner. This authorization is conditional upon full restoration of affected areas is completed to the satisfaction of the Refuge Manager or designee. Prior consultation with the Refuge Manager or designee is required for any additional temporary work outside of the existing ROW and not shown on the pre-construction drawings.

Special Use Permit 2013-003 is limited to the specific request for sufficient temporary easement for bridge construction at the "Pea Island Inlet" site

The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and

There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

Special Use Permit 2013-003 shall be invalidated in the event of failure by NCDOT or FHWA to satisfactorily complete the environmental administrative record for compliance with full disclosure and permitting requirements.

In the event of bird or turtle nesting activity within or adjacent to the project area as determined by the Refuge Manager NCDOT shall work with the contractor and incorporate remedial measures as recommended by USFWS to minimize or eliminate lighting, noise, or construction and associated activities. NCDOT shall be responsible for monitoring nesting activity as determined necessary by the Refuge Manager. Any and all temporary easement, staging, or other work areas on the Refuge shall be sloped, contoured, and re-vegetated to pre-work conditions or to the satisfaction of the Refuge Manager.

Upon completion of construction, NCDOT shall address the issue of public access in the vicinity of New Inlet through the following measures:

The existing parking lot on the east side of the NC Highway 12 and closest to Pea Island (New) Inlet shall be fully removed along with all construction materials, including concrete, asphalt, contaminated soils, and any other material not naturally belonging on the site. A replacement parking lot shall be constructed and the kiosk shall be relocated/ reconstructed at a new site near the northern terminus of the Phase IIb bridge. The site will be selected by the Refuge Manager with input from NCDOT upon completion of the Phase IIb bridge.

The existing parking lot (New Inlet Parking Lot) and primitive boat access point on the west side of NC Highway 12 shall be fully restored upon completion of construction and an access drive similar to the one for the parking lot at the Bonner Bridge shall be constructed from the southern terminus of the new bridge to the New Inlet Parking Lot within the existing easement to the greatest extent possible. In order to minimize wetland impacts while providing safe ingress and egress from the boat access drive, NCDOT will be allowed to construct a turnaround on the east side of the existing easement, as well as a small area outside the easement on the west side of the existing easement, as depicted on Exhibit 1. Upon project completion, the maintenance of the driveway and turnaround will be the responsibility of USFWS.

Permittee is responsible for removing any and all construction debris, materials, and equipment from the Refuge to the satisfaction of the Refuge Manager.

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. **SAW-2013-01039** County: **Dare** U.S.G.S. Quad: **Pea Island, NC**

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Property Owner: **Richard Hancock**
Environmental Management Director, PDEA
Address: **N.C. Department of Transportation**
1598 Mail Service Center
Raleigh, North Carolina
27699-1598

Agent: _____
_____
Address: _____
_____
_____
_____

Size and location of property (water body, road name/number, town, etc.): **The project area is located within the existing NCDOT NC Highway 12 easement and will also include generally a 5 foot wide temporary construction easement obtained from the Pea Island National Wildlife Refuge. The project starts approximately 5.5 miles south of the southern terminus of the Bonner Bridge (at the southern end of the of the Refuge's south pond) and continues approximately 2.7 miles to the south. The project is adjacent to the Pamlico Sound. This portion of the project is considered Phase IIA of the overall TIP project B-2500 Latitude: Start 35.691655 End 35.651892 Longitude: Start -75.485098, End -75.477053**

Description of projects area and activity: **Applicant proposes to permanently impact 0.22 acres of jurisdictional wetlands and temporarily impact 0.90 acres of wetlands and 0.28 acres of open waters associated with the replacement of an existing three span temporary bridge over "New Inlet" with a permanent 2.1 mile long bridge. A temporary detour road is being constructed so two way traffic may be maintained on the highway system while NC Highway 12 is being modified. Approximately 1.75 miles of the detour road will remain following bridge construction to provide access to to an existing parking lot and boat access area located on PINWR property. The project is also authorized to temporarily impact (hand clear) 0.42 acres of wetlands for road and bridge construction purposes (typically the installation and maintenance of soil and erosion measures). NOTE - This permit is only authorizing section 404 discharges associated with the construction of the temporary soundbound detour road. Any bridge construction activities occuring completely on high ground is not associated with this authorization. NOTE - SEE ADDITIONAL SPECIAL CONDITIONS**

Applicable Law: ☒ Section 404 (Clean Water Act, 33 USC 1344)
☐ Section 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Regional General Permit Number or Nationwide Permit Number: **NWP 14**

SEE ATTACHED NATIONWIDE AND SPECIAL CONDITIONS.

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted application and attached information dated August 27, 2013. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority bas been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Quality (telephone (919) 733-1786) to determine Section 401 requirements.

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management .

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact **Tracey Wheeler** at **(910) 251-4627**.

Corps Regulatory Official Tracey L Wheeler Date: **October 24, 2013**

Expiration Date of Verification: **March 18, 2017**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the attached customer Satisfaction Survey or visit http://per2.nwp.usace.army.mil/survey.html to complete the survey online.

Copy Furnished:

Determination of Jurisdiction:

A. ☐ Based on preliminary information, there appear to be waters of the US including wetlands within the above described project area. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).

B. ☐ There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

C. ☐ There are waters of the US and/or wetlands within the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

D. ☒ The jurisdictional areas within the above described project area have been identified under a previous action. Please reference jurisdictional determination issued **January 22, 2013**. Action ID **SAW-2013-00107**.

Basis For Determination

The site exhibits wetland criteria as defined in the 1987 Corps Wetland Delineation Manual and appropriate Regional Supplement.

Remarks. *See above referenced file.*

Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

F. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B and C above).

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

US Army Corps of Engineers
South Atlantic Division
Attn: Jason Steele, Review Officer
60 Forsyth Street SW, Room 10M15

ADDITIONAL SPECIAL CONDITIONS

Action I.D. # SAW-2013-01039 – NCDOT, NC Highway 12, TIP # B-2500, Phase II A, Dare County, NC

a) All work authorized by this permit must be performed in strict compliance with the attached plans dated/submitted August 27, 2013, which is a part of this permit. Any modification to these plans must be approved by the US Army Corps of Engineers (USACE) prior to implementation.

b) The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each or its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit, and any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.

c) Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.

d) The Permittee shall schedule an onsite preconstruction meeting between its representatives, the contractor's representatives and the appropriate Corps of Engineers Project Manager prior to undertaking any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all terms and conditions contained within the Department of the Army permit. The Permittee shall notify the Corps of Engineers Project Manager a minimum of thirty (30) days in advance of the scheduled meeting in order to provide that individual with ample opportunity to schedule and participate in the required meeting.

e) The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

f) Violation of these conditions or violation of Section 404 of the Clean Water Act of Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permitee's discovery of the violation.

g) A representative of the Corps of Engineers will periodically and randomly inspect the work for compliance with these conditions. Deviations from these procedures may result in an administrative financial penalty and/or directive to cease work until the problem is

resolved to the satisfaction of the Corps.

h) This permit only authorizes work on Phase II A of TIP B-2500. Construction on subsequent phases of TIP B-2500 shall not commence until approval has been obtained by the US Army Corps of Engineers (the Corps) in accordance with this permit authorization through an approved modification or a separate permit authorization.

i) The Permittee shall fully implement the Programmatic Agreement between the Permittee, the North Carolina State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Federal Highway Administration, signed in November 2010, which is incorporated herein by reference.

j) Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, or shall any activities take place that cause the degradation of waters or wetlands. There shall be no excavation from, waste disposal into, or degradation of, jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit, including appropriate compensatory mitigation. This prohibition applies to all borrow and fill activities connected with this project. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.

k). The Permittee shall fully implement the compensatory mitigation plan, entitled Final Wetland Mitigation Plan NC 12 Replacement of Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet, dated January 30, 2013 for the unavoidable impacts to 0.22 acres of wetlands. Activities prescribed by this plan shall be initiated prior to, or concurrently with, commencement of any construction activities within jurisdictional areas authorized by this permit. The permittee shall rehabilitate 50 acres of wetlands in accordance with the plan with the following conditions:

1) The permittee, North Carolina Department of Transportation, is the party responsible for the implementation, performance and long term management of the compensatory mitigation project.

2) Any changes or modifications to your mitigation plan shall be approved by the Corps.

3) The permittee shall maintain the entire mitigation site in its natural condition, as altered by the work in the mitigation plan, in perpetuity. Prohibited activities within the mitigation site specifically include, but are not limited to: Filling; grading; excavating; earth movement of any kind; construction of roads, walkways, buildings, signs, or any other structure; any activity that may alter the drainage patterns on the property; the destruction, cutting, removal, mowing, or other alteration of vegetation

on the property; disposal or storage of any garbage, trash, debris or other waste material; graze or water animals, or use for any agricultural or horticultural purpose; or any other activity which would result in the property being adversely impacted or destroyed, except as specifically authorized by this permit.

4) In accordance with the mitigation plan, the permittee will identify the proposed preservation mechanism to be used to maintain the entire mitigation site in perpetuity, subject to the approval of the Wilmington District. The District considers preservation of property for compensatory mitigation purposes to consist of maintaining the property in its natural condition, or, if restoration, creation, or enhancement work has been performed on the property, in its mitigated condition. There are several preservation mechanisms that may be used to preserve mitigation property, including, conservation easements, restrictive covenants, and conservation declaration of restrictions. Fee conveyance to an acceptable conservation organization may also be acceptable. The permittee shall not sell or otherwise convey any interest in the mitigation property used to satisfy the mitigation requirements for this permit to any third party, without prior written approval from the Wilmington District Corps of Engineers.

5) All mitigation areas shall be monitored for a minimum of 5 years or until deemed successful by the Corps in accordance with the monitoring requirements included in the mitigation plan.

Atlanta, Georgia 30303-8801
Phone: (404) 562-5137

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **N/A**.
It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: _____

Date: _____ Expiration Date: _____

Copy furnished: _____

Action ID Number: SAW-2013-01039 **County:** Dare

Permittee: N.C. Department of Transportation

Date Permit Issued: October 24, 2013

Project Manager: Tracey Wheeler

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT
Attn: Tracey Wheeler
Washington Regulatory Field Office
2407 West 5th Street
Washington, North Carolina 27889

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

_____ _____

Signature of Permittee **Date**

NATIONWIDE PERMIT 14
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
FINAL NOTICE OF ISSUANCE AND MODIFICATION OF NATIONWIDE PERMITS
FEDERAL REGISTER
AUTHORIZED MARCH 19, 2012

Linear Transportation Projects. Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 31.) (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

NATIONWIDE PERMIT CONDITIONS

The following General Conditions must be followed in order for any authorization by a NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. No activity may occur 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 while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.noaa.gov/fisheries.html respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA

section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of

the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

31. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

D. District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. For a linear project, this determination will include an evaluation of the individual crossings to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to intermittent or ephemeral streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51 or 52, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in minimal adverse effects. When making minimal effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the

vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

2. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

3. If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (a) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (c) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period, with activity-specific

conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

FURTHER INFORMATION

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project.

DEFINITIONS

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence

of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or

flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through

which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent

mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a jurisdictional wetland is adjacent – meaning bordering, contiguous, or neighboring – to a waterbody determined to be a water of the United States under 33 CFR 328.3(a)(1)-(6), that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

NOTICE ABOUT WEB LINKS IN THIS DOCUMENT:
The web links (both internal to our District and any external links to collaborating agencies) in this document are valid at the time of publication. However, the Wilmington District Regulatory Program web page addresses, as with other agency web sites, may change over the timeframe of the five-year Nationwide Permit renewal cycle, in response to policy mandates or technology advances. While we will make every effort to check on the integrity of our web links and provide re-direct pages whenever possible, we ask that you report any broken links to us so we can keep the page information current and usable. We apologize in advanced for any broken links that you may encounter, and we ask that you navigate from the regulatory home page (wetlands and stream permits) of the Wilmington District Corps of Engineers, to the "Permits" section of our web site to find links for pages that cannot be found by clicking directly on the listed web link in this document.

Final 2012 Regional Conditions for Nationwide Permits (NWP) in the Wilmington District

1.0 Excluded Waters

The Corps has identified waters that will be excluded from the use of all NWP's during certain timeframes. These waters are:

1.1 Anadromous Fish Spawning Areas

Waters of the United States identified by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning areas are excluded during the period between February 15 and June 30, without prior written approval from NCDMF or NCWRC and the Corps.

1.2 Trout Waters Moratorium

Waters of the United States in the twenty-five designated trout counties of North Carolina are excluded during the period between October 15 and April 15 without prior written approval from the NCWRC. (See Section 2.7 for a list of the twenty-five trout counties).

1.3 Sturgeon Spawning Areas as Designated by the National Marine Fisheries Service (NMFS)

Waters of the United States designated as sturgeon spawning areas are excluded during the period between February 1 and June 30, without prior written approval from the NMFS.

2.0 Waters Requiring Additional Notification

The Corps has identified waters that will be subject to additional notification requirements for activities authorized by all NWP's. These waters are:

2.1 Western NC Counties that Drain to Designated Critical Habitat

For proposed activities within Waters of the U.S. that require a Pre-Construction Notification pursuant to General Condition 31 (PCN) and are located in the sixteen counties listed below, applicants must provide a copy of the PCN to the US Fish and Wildlife Service, 160 Zillicoa Street, Asheville, North Carolina 28801. This PCN must be sent concurrently to the US Fish and Wildlife Service and the Corps Asheville Regulatory Field Office. Please see General Condition 18 for specific notification requirements related to Federally Endangered Species and the following website for information on the location of designated critical habitat.

Counties with tributaries that drain to designated critical habitat that require notification to the Asheville US Fish and Wildlife Service: Avery, Cherokee, Forsyth, Graham, Haywood, Henderson, Jackson, Macon Mecklenburg, Mitchell, Stokes, Surry, Swain, Transylvania, Union and Yancey.

Website and office addresses for Endangered Species Act Information:

The Wilmington District has developed the following website for applicants which provides guidelines on how to review linked websites and maps in order to fulfill NWP general condition 18 requirements: http://www.saw.usace.army.mil/wetlands/ESA

Applicants who do not have internet access may contact the appropriate US Fish and Wildlife Service offices listed below or the US Army Corps of Engineers at (910) 251- 4633:

US Fish and Wildlife Service
Asheville Field Office
160 Zillicoa Street
Asheville, NC 28801
Telephone: (828) 258-3939

Asheville US Fish and Wildlife Service Office counties: All
counties west of and including Anson, Stanly, Davidson, Forsyth and Stokes Counties

US Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Telephone: (919) 856-4520

Raleigh US Fish and Wildlife Service Office counties: all counties east of and including Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

2.2 Special Designation Waters

Prior to the use of any NWP in any of the following identified waters and contiguous wetlands in North Carolina, applicants must comply with Nationwide Permit General Condition 31 (PCN). The North Carolina waters and contiguous wetlands that require additional notification requirements are:

"Outstanding Resource Waters" (ORW) or "High Quality Waters" (HQW) as designated by the North Carolina Environmental Management Commission; "Inland Primary Nursery Areas" (IPNA) as designated by the NCWRC; "Contiguous Wetlands" as defined by the North Carolina Environmental Management Commission; or "Primary Nursery Areas" (PNA) as designated by the North Carolina Marine Fisheries Commission.

2.3 Coastal Area Management Act (CAMA) Areas of Environmental Concern

Non-federal applicants for any NWP in a designated "Area of Environmental Concern" (AEC) in the twenty (20) counties of Eastern North Carolina covered by the North Carolina Coastal Area Management Act (CAMA) must also obtain the required CAMA permit. Development activities for non-federal projects may not commence until a copy of the approved CAMA permit is furnished to the appropriate Wilmington District Regulatory Field Office (Wilmington Field Office – 69 Darlington Avenue, Wilmington, NC 28403 or Washington Field Office – 2407 West 5th Street, Washington, NC 27889).

2.4 Barrier Islands

Prior to the use of any NWP on a barrier island of North Carolina, applicants must comply with Nationwide Permit General Condition 31 (PCN).

2.5 Mountain or Piedmont Bogs

Prior to the use of any NWP in a Bog classified by the North Carolina Wetland Assessment Methodology (NCWAM), applicants shall comply with Nationwide Permit General Condition 31 (PCN). The latest version of NCWAM is located on the NC DWQ web site at: http://portal.ncdenr.org/web/wq/swp/ws/pdu/ncwam .

2.6 Animal Waste Facilities

Prior to use of any NWP for construction of animal waste facilities in waters of the US, including wetlands, applicants shall comply with Nationwide Permit General Condition 31 (PCN).

2.7 Trout Waters

Prior to any discharge of dredge or fill material into streams or waterbodies within the twenty-five (25) designated trout counties of North Carolina, the applicant shall comply with Nationwide Permit General Condition 31 (PCN). The applicant shall also provide a copy of the notification to the appropriate NCWRC office to facilitate the determination of any potential

impacts to designated Trout Waters. Notification to the Corps of Engineers will include a statement with the name of the NCWRC biologist contacted, the date of the notification, the location of work, a delineation of wetlands, a discussion of alternatives to working in the mountain trout waters, why alternatives were not selected, and a plan to provide compensatory mitigation for all unavoidable adverse impacts to mountain trout waters.

NCWRC and NC Trout Counties

Western Piedmont Region Coordinator	Alleghany	Caldwell	Watauga
20830 Great Smoky Mtn. Expressway	Ashe	Mitchell	Wilkes
Waynesville, NC 28786	Avery	Stokes	
Telephone: (828) 452-2546	Burke	Surry	

Mountain Region Coordinator	Buncombe	Henderson	Polk
20830 Great Smoky Mtn. Expressway	Cherokee	Jackson	Rutherford
Waynesville, NC 28786	Clay	Macon	Swain
Telephone: (828) 452-2546	Graham	Madison	Transylvania
Fax: (828) 452-7772	Haywood	McDowell	Yancey

3.0 List of Corps Regional Conditions for All Nationwide Permits

The following conditions apply to all Nationwide Permits in the Wilmington District:

3.1 Limitation of Loss of Perennial Stream Bed

NWPs may not be used for activities that may result in the loss or degradation of greater than 300 total linear feet of perennial, intermittent or ephemeral stream, unless the District Commander has waived the 300 linear foot limit for ephemeral and intermittent streams on a case-by-case basis and he determines that the proposed activity will result in minimal individual and cumulative adverse impacts to the aquatic environment. Loss of stream includes the linear feet of stream bed that is filled, excavated, or flooded by the proposed activity. Waivers for the loss of ephemeral and intermittent streams must be in writing and documented by appropriate/accepted stream quality assessments*. This waiver only applies to the 300 linear feet threshold for NWPs.

*NOTE: Applicants should utilize the most current methodology prescribed by Wilmington District to assess stream function and quality. Information can be found at:

http://www.saw.usace.army.mil/wetlands/permits/nwp/nwp2012 (see “Quick Links”)

3.2 Mitigation for Loss of Stream Bed

For any NWP that results in a loss of more than 150 linear feet of perennial and/or ephemeral/intermittent stream, the applicant shall provide a mitigation proposal to compensate for more than minimal individual and cumulative adverse impacts to the aquatic environment. For stream losses less than 150 linear feet, that require a PCN, the District Commander may determine, on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effect on the aquatic environment.

3.3 Pre-construction Notification for Loss of Streambed Exceeding 150 Feet.

Prior to use of any NWP for any activity which impacts more than 150 total linear feet of perennial stream or ephemeral/ intermittent stream, the applicant must comply with Nationwide Permit General Condition 31 (PCN). This applies to NWPs that do not have specific notification requirements. If a NWP has specific notification requirements, the requirements of the NWP should be followed.

3.4 Restriction on Use of Live Concrete

For all NWPs which allow the use of concrete as a building material, live or fresh concrete, including bags of uncured concrete, may not come into contact with the water in or entering into waters of the US. Water inside coffer dams or casings that has been in contact with wet concrete shall only be returned to waters of the US when it is no longer poses a threat to aquatic organisms.

3.5 Requirements for Using Riprap for Bank Stabilization

For all NWPs that allow for the use of riprap material for bank stabilization, the following measures shall be applied:

3.5.1. Filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters.

3.5.2. The placement of riprap shall be limited to the areas depicted on submitted work plan drawings.

3.5.3. The riprap material shall be clean and free from loose dirt or any pollutant except in trace quantities that would not have an adverse environmental effect.

3.5.4. It shall be of a size sufficient to prevent its movement from the authorized alignment by natural forces under normal conditions.

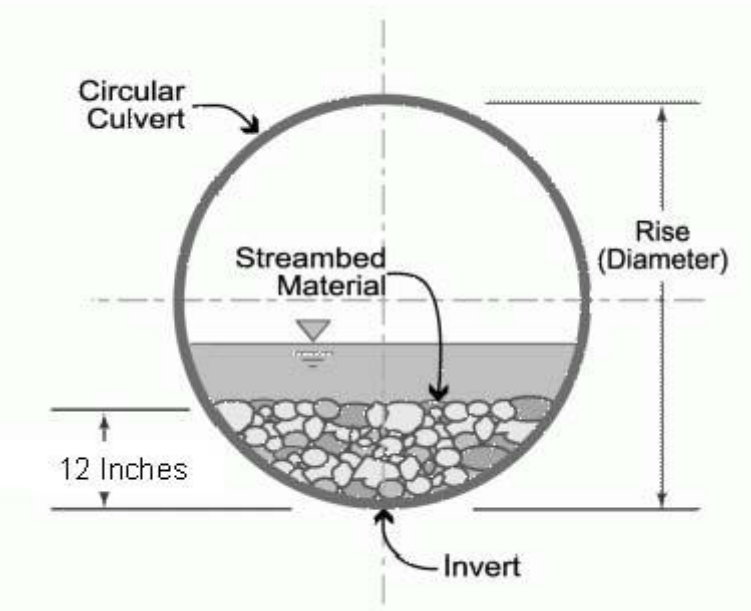
3.5.5. The riprap material shall consist of clean rock or masonry material such as, but not limited to, granite, marl, or broken concrete.

3.5.6. A waiver from the specifications in this Regional Condition may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with this Regional condition would result in greater adverse impacts to the aquatic environment.

3.6 Safe Passage Requirements for Culvert Placement

For all NWPs that involve the construction/installation of culverts, measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert should be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gage data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

In the twenty (20) counties of North Carolina designated as coastal counties by the Coastal Area Management Act (CAMA): All pipes/culverts must be sufficiently sized to allow for the burial of the bottom of the pipe/culvert at least one foot below normal bed elevation when they are placed within the Public Trust Area of Environmental Concern (AEC) and/or the Estuarine Waters AEC as designated by CAMA, and/or all streams appearing as blue lines on United States Geological Survey (USGS) 7.5-minute quadrangle maps.



In all other counties: Culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter or less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain the existing channel slope. The bottom of the culvert must be placed at a

depth below the natural stream bottom to provide for passage during drought or low flow conditions.

Culverts are to be designed and constructed in a manner that minimizes destabilization and head cutting. Destabilizing the channel and head cutting upstream should be considered and appropriate actions incorporated in the design and placement of the culvert.

A waiver from the depth specifications in this condition may be requested in writing. The waiver will be issued if it can be demonstrated that the proposal would result in the least impacts to the aquatic environment.

All counties: Culverts placed within riparian and/or riverine wetlands must be installed in a manner that does not restrict the flow and circulation patterns of waters of the United States. Culverts placed across wetland fills purely for the purposes of equalizing surface water do not have to be buried.

3.7 Notification to NCDENR Shellfish Sanitation Section

Applicants shall notify the NCDENR Shellfish Sanitation Section prior to dredging in or removing sediment from an area closed to shell fishing where the effluent may be released to an area open for shell fishing or swimming in order to avoid contamination from the disposal area and cause a temporary shellfish closure to be made. Such notification shall also be provided to the appropriate Corps of Engineers Regulatory Field Office. Any disposal of sand to the ocean beach should occur between November 1 and April 30 when recreational usage is low. Only clean sand should be used and no dredged sand from closed shell fishing areas may be used. If beach disposal were to occur at times other than stated above or if sand from a closed shell fishing area is to be used, a swimming advisory shall be posted, and a press release shall be issued by the permittee.

3.8 Preservation of Submerged Aquatic Vegetation

Adverse impacts to Submerged Aquatic Vegetation (SAV) are not authorized by any NWP within any of the twenty coastal counties defined by North Carolina's Coastal Area Management Act of 1974 (CAMA).

3.9 Sedimentation and Erosion Control Structures and Measures

3.9.1. All PCNs will identify and describe sedimentation and erosion control structures and measures proposed for placement in waters of the US. The structures and measures should be depicted on maps, surveys or drawings showing location and impacts to jurisdictional wetlands and streams.

4.0 Additional Regional Conditions for Specific Nationwide Permits

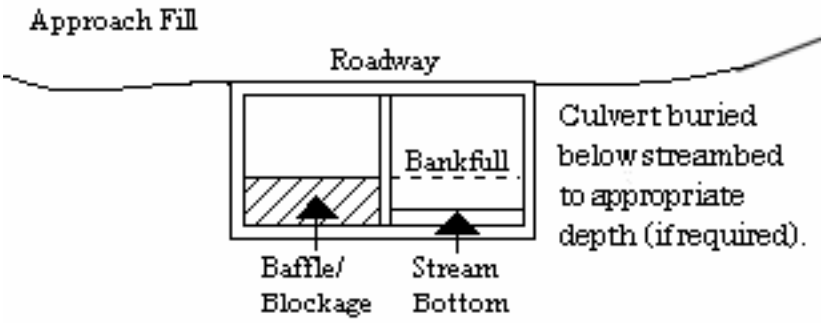
4.1 NWP #14 - Linear Transportation Crossings

4.1.1. If appropriate, applicants shall employ natural channel design (see definition below and NOTE below) to the maximum extent practicable for stream relocations. In the event it is not appropriate to employ natural channel design, any stream relocation shall be considered a permanent impact and the applicant shall provide a mitigation plan to compensate for the loss of aquatic function associated with the proposed activity.

Natural Channel Design: A geomorphologic approach to stream restoration based on an understanding of valley type, general watershed conditions, dimension, pattern, profile, hydrology and sediment transport of natural, stable channels (reference condition) and applying this understanding to the reconstruction of a stable channel.
NOTE: For projects located within the Coastal Plain ecoregion of North Carolina and within headwater areas across the state, applicants should reference the following links for more information regarding appropriate stream design:

http://www.saw.usace.army.mil/wetlands/permits/nwp

4.1.2. Bank-full flows (or less) shall be accommodated through maintenance of the existing bank-full channel cross sectional area. Additional culverts at such crossings shall be allowed only to receive flows exceeding bank-full.



4.1.3. Where adjacent floodplain is available, flows exceeding bank-full should be accommodated by installing culverts at the floodplain elevation.

4.1.4. This NWP authorizes only upland to upland crossings and cannot be used in combination with Nationwide Permit 18 to create an upland within waters of the United States, including wetlands.

4.1.5. This NWP cannot be used for private projects located in tidal waters or tidal wetlands.

4.1.6. Excavation of existing stream channels shall be limited to the minimum necessary to construct or install the proposed culvert. The final width of the impacted streams at the culvert inlet and outlet should be no greater than the original stream width. A waiver from this condition may be requested in writing. The waiver will be issued if it can be demonstrated that it is not

practicable to limit the final width of the culvert to that of the impacted stream at the culvert inlet and outlet and the proposed design would result in less impacts to the aquatic environment.

North Carolina Department of Environment and Natural Resources
Division of Water Resources
Water Quality Programs

Pat McCrory
Governor

Thomas A. Reeder
Director

John E. Skvarla, III
Secretary

September 9, 2013
Dare County
NCDWR Project No. 20130144v.3
Bridge Over New Inlet on NC 12
TIP/State Project No. B-2500A

APPROVAL of 401 WATER QUALITY CERTIFICATION with ADDITIONAL CONDITIONS

Dr. Greg Thorpe, PhD., Manager
Planning and Environmental Branch
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Dear Dr. Thorpe:

This approval is issued in response to your recent request for modification of B-2500A, the replacement of the temporary bridge over the New Inlet on NC 12 with a permanent bridge dated received August 30, 2013. This approval addresses updated impacts and a change from General Permit 198200031(GP 31) to a Nationwide 14 (NW14) issued by the USACE. **Please note that this certification replaces the previous 401 Water Quality Certification issued on April 15, 2013 (DWR No. 20130144v.1).**

You have our approval, in accordance with the conditions listed below, for the following impacts for the purpose of replacing the existing temporary bridge over the New Inlet on NC 12 with a permanent bridge in Dare County:

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492
Internet: www.ncwaterquality.org

Wetland Impacts in the Pasquotank River Basin

Site	Location	Permanent Fill (ac)	Temporary Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)	Impacts Requiring Mitigation (ac)
1	-L- 3078+90 to 3082+59	--	0.10	--	--	0.02	0.12	0.00
2	-L-3088+86 to 3092+69	0.02	0.07	--	--	0.03	0.12	0.02
3	-L- 3107+55 to 3115+62	0.18	0.15	--	--	0.06	0.39	0.18
4	-L- 3128+60 to 3123+06	0.01	0.03	--	--	0.02	0.06	0.01
5	-L- 3143+54 to 3136+31	<0.01	0.02	--	--	0.01	0.03	0.01
6	-L- 3139+49 to 3140+49	--	0.03	--	--	<0.01	0.03	0.00
7	-L- 3159+81 to 3163+48	--	0.02	--	--	<0.01	0.02	0.00
8	-L- 3163+62 to 3167+76	--	--	--	--	--	0.00	0.00
9	-L- 3166+66 to 3166+94	<0.01	--	--	--	<0.01	0.00	0.00
10	-L- 3170+97 to 3173+74	--	--	--	--	--	0.00	0.00
11	-L- 3177+49 to 3181+18	--	<0.01	--	--	<0.01	0.00	0.00
12	-L- 3191+04 to 3197+22	--	0.23	--	--	0.04	0.27	0.00
13	-L-3200+13 to 3205+63	--	0.22	--	--	0.04	0.26	0.00
14	-L- 3206+52 to 3210+71	--	0.02	--	--	0.02	0.04	0.00
15	-L- 3097+22 to 3097+32	--	--	--	--	0.14	0.14	0.00
16	-L- 3136+15 to 3136+48	--	--	--	--	--	0.00	0.00
Total		**0.22**	**0.90**	**0.00**	**0.00**	**0.40**	**1.52**	**0.22***

Total Wetland Impact for Project: 1.55 acres

* Total impacts requiring mitigation are below the threshold; no mitigation required

Open Water Impacts in the Pasquotank River Basin

Site	Location	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
1	-L- 3078+90 to 3082+59	--	0.01	0.01
7	-L- 3159+81 to 3163+48	--	0.03	0.03
8	-L- 3163+62 to 3167+76	--	0.10	0.10
10	-L- 3170+97 to 3173+74	0.04	0.04	0.08
11	-L- 3177+49 to 3181+18	--	0.05	0.05
15	-L- 3097+22 to 3097+32	--	0.02	0.02
16	-L- 3136+15 to 3136+48	--	0.03	0.03
TOTAL		**0.04**	**0.28**	**0.32**

Total Open Water Impact for Project: 0.28 acres.

The project shall be constructed in accordance with your application dated received February 13, 2013, additional information received April 2, 2013, and the request for modification received August 30, 2013. After reviewing your application, we have decided that these impacts are covered by General Water Quality Certification Number 3886. This certification corresponds to Nationwide 14 issued by the Corps of Engineers. In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit.

This approval is valid solely for the purpose and design described in your application and all subsequent information provided (unless modified below). Should your project change, you must notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you must adhere to the conditions listed in the attached certification(s) and any additional conditions listed below.

Conditions of Certification:

Project Specific Conditions

1. No construction or other land disturbing activities shall begin until after the final environmental document, at this time believed to be a Record of Decision (ROD), has been published in the North Carolina Department of Administration's Environmental Bulletin and adopted by the NCDWR.

2. Mitigation

    a. Currently, as proposed, total permanent impacts do not require in-kind or in-lieu fee mitigation as they are below the threshold requiring mitigation. However, should future impacts for this project meet or exceed one acre of jurisdictional wetlands or 150 linear feet of jurisdictional stream, mitigation may be required.
    b. Once the temporary road is removed, areas of temporary impact shall be restored to pre-impact conditions as close as possible. Elevations shall be determined based on adjacent wetland areas, and appropriate vegetation shall be established.
    c. Visual vegetation monitoring of the temporary roadbed will be required for survival and aerial coverage of vegetation. Visual monitoring shall be for a minimum of one year after completion of restoration. Vegetation monitoring will not cease prior to approval from the NCDWR. Since the restoration will occur on federally owned lands, the NCDWR will not agree to cease monitoring until the Pea Island National Wildlife Refuge representative(s) agrees that the restoration is satisfactory.

3. Jetting

    a. The use of jetting to install bridge bents, remove the temporary bridge, and any other activity shall be kept to a minimum.
    b. All jetting occurring within the New Inlet shall take place at ebb tide.
    c. All jetting spoils shall be confined to the 100 foot transportation easement within the Pea Island National Wildlife Refuge unless otherwise allowed by the Refuge. Spoils shall not be deposited within wetlands or other jurisdictional areas.
    d. Pipes and hoses used for jetting intake placed in wetland and other jurisdictional areas shall be placed by hand.
    e. In order to prevent the intake of larval fish species into jetting intake hoses and pipes, a screen of sufficient size shall be placed on intake hoses. The size of the screen necessary shall be coordinated with the NCDMF.

4. No impacts from utility relocations are authorized with this certification. If impacts from utility relocations are found to be necessary, the NCDWR shall be notified as a modification may be required.

5. Strict adherence to the most recent version of NCDOT's Best Management Practices For Bridge Demolition and Removal approved by the US Army Corps of Engineers is a condition of the 401 Water Quality Certification.

6. All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water.

7. NCDOT shall be in compliance with the NCS00250 issued to the NCDOT, including the applicable requirements of the NCGO1000. Please note the extra protections for the special or threatened waters.

8. Adherence to *The Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters* will be required throughout construction.

General Conditions

9. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

10. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S.

11. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval.

12. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.

13. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.

14. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification.

15. The outside wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.

16. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.

17. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction.

18. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.

19. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards:

    a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual.*
    b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual.* The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
    c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual.*
    d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

20. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.

21. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.

22. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery.

23. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify NCDWR when all work included in the 401 Certification has been completed.

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission.
The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919)-431-3000, Facsimile: (919)-431-3100

A copy of the petition must also be served on DENR as follows:

Mr. Lacy Presnell, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center

This letter completes the review of the Division of Water Resources under Section 401 of the Clean Water Act. If you have any questions, please contact David Wainwright at (919)807-6405or David.Wainwright@ncdenr.gov.

Sincerely,

Thomas A. Reeder
Director

cc: Clay Willis, Division 1 Environmental Officer
Tracey Wheeler, US Army Corps of Engineers, Washington Field Office (electronic copy only)
Mike Bryant, Pea Island National Wildlife Refuge Manager
Dennis Stewart, Pea Island National Wildlife Refuge Biologist
Chris Militscher, Environmental Protection Agency (electronic copy only)
Gary Jordan, US Fish and Wildlife Service (electronic copy only)
Travis Wilson, NC Wildlife Resources Commission (electronic copy only)
Cathy Brittingham, Division of Coastal Management (electronic copy only)
Garcy Ward, NCDWR Washington Regional Office (electronic copy only)
File Copy

North Carolina Department of Environment and Natural Resources
Division of Water Resources
Water Quality Programs

Pat McCrory
Governor

Thomas A. Reeder
Director

John E. Skvarla, III
Secretary

NCDWR Project No.: _____ **County:** _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion
Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, **or** the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date:_____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____

Date _____

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492
Internet: www.ncwaterquality.org

Water Quality Certification No. 3886

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 14 (LINEAR TRANSPORTATION PROJECTS) AND REGIONAL GENERAL PERMIT 198200031 (WORK ASSOCIATED WITH BRIDGE CONSTRUCTION, MAINTENANCE OR REPAIR CONDUCTED BY NCDOT OR OTHER GOVERNMENT AGENCIES) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

Water Quality Certification Number 3886 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15A NCAC 02H .0500 and 15A NCAC 02B .0200 for the discharge of fill material to waters and adjacent wetland areas or to wetland areas that are not a part of the surface tributary system to interstate waters or navigable waters of the United States (as described in 33 CFR 330 Appendix A (B) (14) of the Corps of Engineers regulations (Nationwide Permit No. 14 and Regional General Permit 198200031) and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 02B .0200.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Any proposed fill or modification of wetlands and/or waters, including streams, under this General Certification requires application to, and written approval from the Division of Water Quality except for the single family lot exemption described below.

Activities meeting any one (1) of the following thresholds or circumstances require *written approval* for a 401 Water Quality Certification from the Division of Water Quality (the "Division"):

a) Any temporary or permanent impacts to wetlands, open waters and/or streams, including stream relocations, except for construction of a driveway to a single family lot as long as the driveway involves *less than 25 feet* of temporary and/or permanent stream channel impacts, including any in-stream stabilization needed for the crossing; or
b) Any impact associated with a high density project (as defined in Item (A)(iv) of the ***401 Stormwater Requirements***) that is not subject to either a state stormwater program (such as, but not limited to, Coastal Counties, HQW, ORW or state-implemented Phase II NPDES) or a certified community's stormwater program; or
c) Any impact associated with a Notice of Violation or an enforcement action for violation(s) of DWQ Wetland Rules (15A NCAC 02H .0500), Isolated Wetland Rules (15A NCAC 02H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 02B .0200); or
d) Any impacts to streams and/or buffers in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman, Jordan or Goose Creek Watersheds (or any other basin or watershed with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) *unless* the activities are listed as "EXEMPT" from these rules or a Buffer Authorization Certificate is issued through N.C. Division of Coastal Management (DCM) delegation for "ALLOWABLE" activities.

In accordance with North Carolina General Statute 143-215.3D(e), written approval for a 401 Water Quality General Certification must include the appropriate fee. If a project also requires a CAMA Permit, then one payment to both agencies shall be submitted and will be the higher of the two fees.

Activities included in this General Certification that do not meet one of the thresholds listed above do not require written approval from the Division as long as they comply with

the Conditions of Certification listed below. If any of these Conditions cannot be met, then written approval from the Division is required.

Conditions of Certification:

1. No Impacts Beyond those Authorized in the Written Approval or Beyond the Threshold of Use of this Certification

   No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas beyond the footprint of the impacts depicted in the Pre-Construction Notification, as authorized in the written approval from the Division or beyond the thresholds established for use of this Certification without written authorization, including incidental impacts. All construction activities, including the design, installation, operation, and maintenance of sediment and erosion control Best Management Practices shall be performed so that no violations of state water quality standards, statutes, or rules occur. Approved plans and specifications for this project are incorporated by reference and are enforceable parts of this permit.

2. Standard Erosion and Sediment Control Practices

   Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices and if applicable, comply with the specific conditions and requirements of the NPDES Construction Stormwater Permit issued to the site:

   a. Design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.

   b. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.

   c. Reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

   d. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

   e. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality (HQW), or Outstanding Resource (ORW) waters, then the sedimentation and erosion control designs must comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watersheds*.

3. No Sediment and Erosion Control Measures in Wetlands or Waters

   Sediment and erosion control measures shall not be placed in wetlands or waters. Exceptions to this condition require application submittal to and written approval by the Division. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, then design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands, stream beds, or banks, adjacent to or upstream and downstream of the above structures. All sediment and erosion control devices shall be removed and the natural grade restored within two (2) months of the date that the Division of Land Resources (DLR) or locally delegated program has released the specific area within the project.

4. Construction Stormwater Permit NCG010000

   An NPDES Construction Stormwater Permit is required for construction projects that disturb one (1) or more acres of land. This Permit allows stormwater to be discharged during land disturbing construction activities as stipulated in the conditions of the permit. If your project is covered by this permit, full compliance with permit conditions including the erosion & sedimentation control plan, inspections and maintenance, self-monitoring, record keeping and reporting requirements is required. A copy of the general permit (NCG010000), inspection log sheets, and other information may be found at http://portal.ncdenr.org/web/wq/ws/su/npdessw#tab-w .

   The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit.

5. Construction Moratoriums and Coordination

   If activities must occur during periods of high biological activity (i.e. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities.

   All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) to lessen impacts on trout, anadromous fish, larval/post-larval fishes and crustaceans, or other aquatic species of concern shall be implemented. Exceptions to this condition require written approval by the resource agency responsible for the given moratorium.

   Work within the twenty-five (25) designated trout counties or identified state or federal endangered or threatened species habitat shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

6. Work in the Dry

   All work in or adjacent to stream waters shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the most current version of the NC Sediment and Erosion Control Manual, or the NC DOT Construction and Maintenance Activities Manual, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Exceptions to this condition require application submittal to and written approval by the Division.

7. Riparian Area Protection (Buffer) Rules

   Activities located in the protected riparian areas (whether jurisdictional wetlands or not), within the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman, Jordan, or Goose Creek Watersheds (or any other basin or watershed with buffer rules) shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 02B .0233, .0259, .0243, .0250, .0267 and .0605, and shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices. All buffer rule requirements, including diffuse flow requirements, must be met.

8. If concrete is used during the construction, then all necessary measures shall be taken to prevent direct contact between uncured or curing concrete and waters of the state. Water that inadvertently contacts uncured concrete shall not be discharged to waters of the state due to the potential for elevated pH and possible aquatic life/ fish kills.

9. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of *Stormwater Best Management Practices*. Exceptions to this condition require written approval by the Division.

10. Compensatory Mitigation

    In accordance with 15A NCAC 02H .0506 (h), compensatory mitigation may be required for losses of equal to or greater than 150 linear feet of streams (intermittent and perennial) and/or equal to or greater than one (1) acre of wetlands. For linear public transportation projects, impacts equal to or exceeding 150 linear feet per stream shall require mitigation.

    Buffer mitigation may be required for any project with Buffer Rules in effect at the time of application for activities classified as "Allowable with Mitigation" or "Prohibited" within the Table of Uses.

    A determination of buffer, wetland, and stream mitigation requirements shall be made for any General Water Quality Certification for this Nationwide and/or Regional General Permit. Design and monitoring protocols shall follow the US Army Corps of Engineers Wilmington District *Stream Mitigation Guidelines* (April 2003) or its subsequent updates. Compensatory mitigation plans shall be submitted to the Division for written approval as required in those protocols. The mitigation plan must be implemented and/or constructed before any impacts occur on site. Alternatively, the Division will accept payment into an in-lieu fee program or a mitigation bank. In these cases, proof of payment shall be provided to the Division before any impacts occur on site.

11. Relocated stream designs should include the same dimensions, patterns, and profiles as the existing channel (or a stable reference reach if the existing channel is unstable), to the maximum extent practical. The new channel should be constructed in the dry and water shall not be turned into the new channel until the banks are stabilized. Vegetation used for bank stabilization shall be limited to native woody species, and should include establishment of a 30-foot wide wooded and an adjacent 20-foot wide vegetated buffer on both sides of the relocated channel to the maximum extent practical. A transitional phase incorporating appropriate erosion control matting materials and seedling establishment is allowable, however matting that incorporates plastic mesh and/or plastic twine shall not be used in wetlands, riparian buffers or floodplains as recommended by the North Carolina Sediment and Erosion Control Manual. Rip-rap, A-Jacks, concrete, gabions or other hard structures may be allowed if it is necessary to maintain the physical integrity of the stream; however, the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage. Please note that if the stream relocation is conducted as a stream restoration as defined in the US Army Corps of Engineers Wilmington District, April 2003 *Stream Mitigation Guidelines* (or its subsequent updates), the restored length may be used as compensatory mitigation for the impacts resulting from the relocation.

12. Stormwater Management Plan Requirements

    All applications shall address stormwater management throughout the entire project area per the 401 Stormwater Requirements, referenced herein as "**Attachment A**" at the end of this Certification.

13. Placement of Culverts and Other Structures in Waters and Wetlands

    Culverts required for this project shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. Existing stream dimensions (including the cross section dimensions, pattern, and longitudinal profile) must be maintained above and below locations of each culvert.

    Placement of culverts and other structures in waters and streams must be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than or equal to 48 inches, to allow low flow passage of water and aquatic life.

    When topographic constraints indicate culvert slopes of greater than 5%, culvert burial is not required, provided that all alternative options for flattening the slope have been investigated and aquatic life movement/ connectivity has been provided when possible (rock ladders, crossvanes, etc). Notification to the Division including supporting documentation to include a location map of the culvert, culvert profile drawings, and slope calculations shall be provided to the Division 60 days prior to the installation of the culvert.

    When bedrock is present in culvert locations, culvert burial is not required provided that there is sufficient documentation of the presence of bedrock. Notification to the Division including supporting documentation such as, but not limited to, a location map of the culvert, geotechnical reports, photographs, etc shall be provided to the Division a minimum of 60 days prior to the installation of the culvert. If bedrock is discovered during construction, then the Division shall be notified by phone or email within 24 hours of discovery.

    If other site-specific topographic constraints preclude the ability to bury the culverts as described above and/or it can be demonstrated that burying the culvert would result in destabilization of the channel, then exceptions to this condition require application submittal to, and written approval by, the Division of Water Quality, regardless of the total impacts to streams or wetlands from the project.

Installation of culverts in wetlands must ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. Additionally, when roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges must be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

The establishment of native, woody vegetation and other soft stream bank stabilization techniques must be used where practicable instead of riprap or other bank hardening methods.

14. All temporary fill and culverts shall be removed and the impacted area returned to natural conditions within 60 days of the determination that the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross sectional dimensions, plan form pattern, and longitudinal bed and bed profile, and the various sites shall be stabilized with natural woody vegetation (except for the approved maintenance areas) and restored to prevent erosion.

15. All temporary pipes/ culverts/ riprap pads etc, shall be installed in all streams as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* so as not to restrict stream flow or cause dis-equilibrium during use of this General Certification.

16. Any riprap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall buried and/or "keyed in" such that the original stream elevation and streambank contours are restored and maintained. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area.

17. Any rip-rap used for stream stabilization shall be of a size and density so as not to be able to be carried off by wave, current action, or stream flows and consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures.

18. A one-time application of fertilizer to re-establish vegetation is allowed in disturbed areas including riparian buffers, but is restricted to no closer than 10 feet from top of bank of streams. Any fertilizer application must comply with all other Federal, State and Local regulations.

19. If this Water Quality Certification is used to access building sites, then all lots owned by the applicant must be buildable without additional impacts to streams or wetlands. The applicant is required to provide evidence that the lots are buildable without requiring additional impacts to wetlands, waters, or buffers if required to do so in writing by the Division. For road construction purposes, this Certification shall only be utilized from natural high ground to natural high ground.

20. Deed notifications or similar mechanisms shall be placed on all retained jurisdictional wetlands, waters, and protective buffers within the project boundaries in order to assure compliance for future wetland, water, and buffer impact. These mechanisms shall be put in place at the time of recording of the property or of individual lots, whichever is appropriate. A sample deed notification can be downloaded from the 401/Wetlands Unit web site at http://portal.ncdenr.org/web/wq/swp/ws/401/certsandpermits/apply/forms. The text of the sample deed notification may be modified as appropriate to suit to a specific project. Documentation of deed notifications shall be provided to the Division upon request.

21. If an environmental document is required under the National or State Environmental Policy Act (NEPA or SEPA), then this General Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse.

22. In the twenty (20) coastal counties, the appropriate DWQ Regional Office must be contacted to determine if Coastal Stormwater Regulations will be required.

23. This General Certification does not relieve the applicant of the responsibility to obtain all other required Federal, State, or Local approvals.

24. The applicant/permittee and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If the Division determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then the Division may reevaluate and modify this General Water Quality Certification.

25. When written authorization is required for use of this certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return the certificate of completion attached to the approval. One copy of the certificate shall be sent to the DWQ Central Office in Raleigh at 1650 Mail Service Center, Raleigh, NC, 27699-1650.

26. Additional site-specific conditions, including monitoring and/or modeling requirements, may be added to the written approval letter for projects proposed under this Water Quality Certification in order to ensure compliance with all applicable water quality and effluent standards.

27. This certification grants permission to the director, an authorized representative of the Director, or DENR staff, upon the presentation of proper credentials, to enter the property during normal business hours.

This General Certification shall expire on the same day as the expiration date of the corresponding Nationwide and/or Regional General Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification.

Non-compliance with or violation of the conditions herein set forth by a specific project may result in revocation of this General Certification for the project and may also result in criminal and/or civil penalties.

The Director of the North Carolina Division of Water Quality may require submission of a formal application for Individual Certification for any project in this category of activity if it is determined that the project is likely to have a significant adverse effect upon water quality, including state or federally listed endangered or threatened aquatic species, or degrade the waters so that existing uses of the wetland or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a Certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date: March 19, 2012

DIVISION OF WATER QUALITY

By

Charles Wakild, P.E.

Director

History Note: Water Quality Certification (WQC) Number 3886 issued March 12, 2012 replaces WQC Number 3820 issued April 6, 2010; WQC Number 3627 issued March 2007; WQC Number 3404 issued March 2003; WQC Number 3375 issued March 18, 2002; WQC Number 3289 issued June 1, 2000; WQC Number 3103 issued February 11, 1997; WQC Number 2732 issued May 1, 1992; WQC Number 2666 issued January 21, 1992; WQC Number 2177 issued November 5, 1987. This WQC is rescinded when the Corps of Engineers reauthorizes any of the corresponding Nationwide and/or Regional General Permits or when deemed appropriate by the Director of the Division of Water Quality.

Water Quality Certification No. 3886

Attachment A: 401 Stormwater Requirements

The requirements listed below shall be implemented in order to comply with Condition 12 of this General Certification. For the North Carolina Department of Transportation, compliance with NCDOT's Individual NPDES permit NCS000250 shall serve to satisfy the 401 and Isolated Wetland Stormwater Requirements.[1]

A. **Design and Implementation Requirements.** All projects, regardless of project area, amount of built-upon area or amount of jurisdictional impact, shall meet the following stormwater design requirements:

i. **Non-Erosive Discharge to Streams and Wetlands.** Stormwater conveyances that discharge to streams and wetlands must discharge at a non-erosive velocity prior to entering the stream or wetland during the peak flow from the ten-year storm.[2]

ii. **Vegetated Setbacks.** A 30-foot wide vegetated setback must be maintained adjacent to streams, rivers and tidal waters in areas that are not subject to a state Riparian Area Protection Rule or other more stringent vegetated setback requirements. The width of the setback shall be measured horizontally from the normal pool elevation of impounded structures, the top-of-bank of streams and rivers, and the mean high waterline of tidal waters, perpendicular to shoreline. Vegetated setback and filters required by state rules or local governments may be met concurrently with this requirement and may contain coastal, isolated or 404 jurisdictional wetlands. Non-jurisdictional portions of the vegetated setback may be cleared and graded, but must be planted with and maintained in grass or other vegetative or plant material.[3]

iii. **Construction and Operation.** The stormwater management plan must be constructed and operational before any permanent building or other structure is occupied or utilized at the site. The stormwater management plan, including drainage patterns, must be maintained in perpetuity.[4]

iv. **Coordination with Other Stormwater Programs.** Projects that are subject to another Division of Water Quality (DWQ) stormwater program, including (but not limited to) the 20 Coastal Counties, HQW, ORW or state-implemented Phase II NPDES, or a Certified Community's stormwater management program, must be constructed and maintained in compliance with the approved stormwater management plan.[5]

v. **Stormwater Design Requirements for Projects Not Covered Under Item (iv).** Projects that are not subject to another DWQ stormwater program or a Certified Community's stormwater program shall meet all of the following requirements:

a. **Low Density.** A site is low density if all the following requirements are met:

1. The development has a built upon area of twenty-four percent (24%) or less, considering both current and future development. When determining the amount of built upon area, coastal wetlands shall be included; however, ponds, lakes and rivers as specified in North Carolina's Schedule of Classifications shall be excluded. If a portion of project has a density greater than 24%, the higher density area must be located in an upland area and away from surface waters and drainageways to the maximum extent practicable.[6]

2. All stormwater runoff from the built upon areas is transported primarily via vegetated conveyances designed in accordance with the most recent version of the *NC DWQ Stormwater Best Management Practices Manual.* Alternative designs may be approved if the applicant can show that the design provides

equal or better water quality protection than the practices specified in the manual. The project must not include a stormwater collection system (such as piped conveyances) as defined in 15A NCAC 02B .0202(60).[7]

b. **High Density.** Projects that do not meet the Low Density requirements shall meet the following requirements:

1. Stormwater runoff from the entire site must be treated by structural stormwater controls (BMPs) that are designed to remove eighty-five percent (85%) of the average annual amount of Total Suspended Solids (TSS). Stormwater runoff that drains directly to Nutrient Sensitive Waters (NSW) must also be treated to remove thirty percent (30%) of Total Nitrogen (TN) and Total Phosphorus (TP).[8]

2. All BMPs must be designed in accordance with the version of the *NC DWQ Stormwater Best Management Practices Manual* that is in place on the date of stormwater management plan submittal. Alternative designs may be approved if the applicant can show that the design provides equal or better water quality protection than the practices specified in the manual.[9]

3. DWQ may add specific stormwater management requirements on a case-by-case basis in order to ensure that a proposed activity will not violate water quality standards.[10]

4. DWQ may approve Low Impact Developments (LIDs) that meet the guidance set forth in the *Low Impact Development: A Guidebook for North Carolina.*[11]

5. Proposed new development undertaken by a local government solely as a public road project shall follow the requirements of the NC DOT BMP Toolbox rather than Items (1)-(4) above.[12]

B. **Submittal Requirements.** The submittal requirements listed below apply only to projects that require written authorization as indicated in the applicable General Certification as well as projects that require an Isolated Wetlands Permit. **Any required documentation shall be sent to the Wetlands, Buffers and Stormwater Compliance and Permitting Unit at 1650 Mail Service Center, Raleigh, NC 27699-1650.**

i. **Projects that are Subject to Another DWQ Stormwater Program:** If the project is subject to another DWQ stormwater program, such as the 20 Coastal Counties, HQW, ORW or state-implemented Phase II NPDES, then the applicant shall submit a copy of the stormwater approval letter before any impacts occur on site.[13]

ii. **Projects that are Subject to a Certified Community's Stormwater Program.** If the project is subject to a certified local government's stormwater program, then the applicant shall submit one set of approved stormwater management plan details and calculations with documentation of the local government's approval before any impacts occur on site.[5]

iii. **Projects Not Covered Under Items (i) or (ii).** If the project is not subject to another DWQ Stormwater Program or a Certified Community's stormwater program, then it shall be reviewed and approved by the DWQ through the Water Quality Certification authorization process.

a. **Low Density.** For low density projects, the applicant shall submit two copies of the DWQ Low Density Supplement Form with all required items.[13]

b. **High Density.** For high density projects, the applicant shall submit two copies of a DWQ BMP Supplement Form and all required items at the specified scales for each BMP that is proposed.[13]

iv. **Phasing.** Stormwater management plans may be phased on a case-by-case basis, with the submittal of a final stormwater management plan per Items (i)-(iii) above required for the current phase and a conceptual stormwater management plan for the future phase(s). The stormwater management plan for each future phase must be approved by the appropriate entity before construction of that phase is commenced. The approved stormwater management plan for each future phase must be constructed and operational before any permanent building or other structure associated with that phase is occupied.[14]

v. **Stormwater Management Plan Modifications.** The stormwater management plan may not be modified without prior written authorization from the entity that approved the plan. If the project is within a Certified Community, then the applicant shall submit one set of approved stormwater management plan details and calculations with documentation of the local government's approval for record-keeping purposes. If the project is subject to DWQ review, then the applicant shall submit two copies of the appropriate Supplement Forms per Item (iii) above for any BMPs that have been modified for DWQ's review and approval.[15]

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1 The stormwater requirement for 401 applications is codified in 15A NCAC 02H .0506(b)(5) and (c)(5).

2 Non erosive discharge rates are required in SL 2008-211§2(b)(1). The 10-year design storm standard is codified in 15A NCAC 02H .1008(f)(2) and .1008(g)(1).

3 30-foot vegetated setbacks are required in SL 2006-246§9(d), SL 2008-211§2(b), 15A NCAC 02H .1006(2)(c) and .1007(1)(a).

4 Construction and maintenance of the stormwater plan is necessary to satisfy 15A NCAC 02H .0506(b)(5).

5 Conveys application procedure to streamline the permitting process and reduce any unnecessary duplication in the review of stormwater management plans.

6 Low density built upon area thresholds are set in SL 2006-246§9(c) and SL 2008-211§2(b).

7 The requirement for low density development to use vegetated conveyances is codified in SL 2006-246§9(c), SL 2008-211§2(b), 15A NCAC 02H .1006(2)(b) and .1007(1)(a). The Stormwater BMP Manual is also referenced in 15A NCAC 02B .0265(3)(a) and .0277(4)(e).

8 85% TSS removal is required in SL 2006-246§9(d), SL 2008-211§2(b), 15A NCAC 02H .1006(2)(c), 15A NCAC 02H .1007(1)(a). The 30% TN and TP removal requirements for NSW waters are set forth in 15A NCAC 02B .0232, 15A NCAC 02B .0257(a)(1), 15A NCAC 02B .0265(3)(a) and 15A NCAC 02B .0277(4).

9 The Stormwater BMP Manual is also referenced in 15A NCAC 02B .0265(3)(a) and .0277(4)(e).

10 The requirement for DWQ to ensure that water quality standards are protected before issuing a 401 certification is codified in 15A NCAC 02H .0506.

11 The LID Toolbox is also referenced in 15A NCAC 02B .0277(4)(g).

12 The term "public road project" is defined in15A NCAC 02B .0265(3)(a).

13 Conveys application procedure to streamline the permitting process.

14 Phased development is addressed as a "common plan of development" in 15A NCAC 02H .1003(3).

15 Procedures for modifying stormwater plans are set forth in 15A NCAC 02H .1011.

Permit Class
NEW

Permit Number
106-12

STATE OF NORTH CAROLINA
Department of Environment and Natural Resources
and
Coastal Resources Commission

Permit

for

__X__ Major Development in an Area of Environmental Concern pursuant to NCGS 113A-118

__X__ Excavation and/or filling pursuant to NCGS 113-229

Issued to **N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598**

Authorizing development in Dare County at Oregon Inlet, Herbert C. Bonner Bridge on NC Highway 12, as requested in the permittee's application dated 6/21/12, including the attached AEC Hazard Notice dated received on 7/17/12, and the attached workplan drawings (81) as described in Condition No. 1 below.

This permit, issued on **September 19, 2012**, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

TIP No. B-2500, Phase I, Bridge Replacement

1) All work authorized by this permit shall be carried out in accordance with the following attached workplan drawings, except as modified herein:

Wetlands and Streams Impacts Drawings (41): 25 dated 5/23/12; 8 dated 5/24/12; 2 dated 6/13/12; 2 dated 6/5/12; 2 dated 5/31/12; 1 dated 7/11/12; and 1 dated 6/4/12.

Roadway Design Drawings (40): 29 dated 6/1/12; 4 dated 6/5/12; 4 dated 6/13/12; 2 dated 11/5/09; and 1 dated 9/27/06.

(See attached sheets for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. An appeal requires resolution prior to work initiation or continuance as the case may be.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

No expiration date, pursuant to GS 136-44.7B

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.

Braxton C. Davis, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.

E. L. Lusk for Gregory J. Thorpe, PhD
Signature of Permittee

ADDITIONAL CONDITIONS

NOTE: The North Carolina Department of Transportation (NCDOT) project TIP No. B-2500 authorized by this permit extends for approximately 15 miles from the southern end of Bodie Island to the community of Rodanthe. This permit only authorizes construction of Phase I of the TIP No. B-2500 project. Prior to initiating any construction on the remaining phases of this project, the permittee must receive additional authorization from the N.C. Division of Coastal Management (DCM).

2) In accordance with T15A:07H.0306(k), the authorized structures shall be relocated or dismantled when they become imminently threatened by changes in shoreline configuration. The structures shall be relocated or dismantled within two years of the time when they become imminently threatened, and in any case upon their collapse or subsidence. However, if natural shoreline recovery or beach re-nourishment takes place within two years of the time the structures become imminently threatened, so that the structures are no longer imminently threatened, then they need not be relocated or dismantled at that time. This condition shall not affect the permit holder's right to seek authorization of temporary protective measures allowed under Rule T15A:07H.0308(a)(2).

3) Unless specifically altered herein, any mitigative measures or environmental commitments specifically made by the permittee in the CAMA permit application, the NEPA/404 Merger Process, and/or the Record of Decision document dated December 20, 2010 shall be implemented, regardless of whether or not such commitments are addressed by individual conditions of this permit.

4) The temporary placement and double handling of any excavated or fill material within waters or vegetated wetlands is not authorized, with the exception of that fill necessary for the jetting operation and the construction of the temporary work trestle. This condition also applies to the materials stored on work platforms and removal of the existing bridge, culvert, roadway asphalt, and associated materials.

5) No excavation or filling shall take place at any time in any vegetated wetlands or surrounding waters outside of the alignment of the areas indicated on the attached workplan drawings, without permit modification.

6) Material excavated from the project site may be used in fill areas associated with the project once properly dewatered. Otherwise, the material shall be removed from the site and taken to a high ground location.

7) All excavated materials shall be confined above normal high water and landward of regularly or irregularly flooded wetlands behind adequate dikes or other retaining structures to prevent spillover of solids into any wetlands or surrounding waters.

8) All fill material shall be clean and free of any pollutants except in trace quantities.

9) Live concrete shall not be allowed to contact waters of the State or water that will enter waters of the State.

10) Construction staging areas shall be located only in upland areas, and not in wetlands or waters of the State.

ADDITIONAL CONDITIONS

11) All construction access shall be through the use of the existing bridge, authorized temporary work trestles and platforms, the partially constructed new bridge, existing high ground areas, and/or barges.

12) Barges used for construction and demolition access shall be removed immediately when they are no longer needed for construction and demolition.

13) Dredging in any manner, including "kicking" with boat propellers is not authorized, without permit modification.

14) All reasonable efforts shall be made to contain all debris and excess materials associated with the removal of the existing and construction of the new bridge, temporary work trestle, and other existing structures, with the intent that materials/debris do not enter wetlands or Waters of the State, even temporarily, with the exception of any materials that may be utilized by the N.C. Division of Marine Fisheries (DMF) for artificial reef construction.

15) The temporary work trestle and the temporary extension and reconstruction of the existing roadway that leads to the emergency ferry landing on the south side of Oregon Inlet for barge access, including the work trestle/dock, shall be removed in their entirety and disposed of at an approved high ground location within 90 days after the structure(s) is no longer needed.

16) The placement of riprap shall be limited to the areas indicated on the attached workplan drawings. The riprap material shall be free from loose dirt or any pollutant except in trace quantities.

Installation and Removal of Piles

17) The installation and removal of the piles for the new bridge, existing bridge, temporary work trestles and platforms, and pipe piles at the casting yard, shall be accomplished by jetting, pile driving and/or the use of a vibratory hammer, as specified in the permit application. Should the permittee and/or its contractor desire to utilize another type of pile installation, such as drilled shaft construction, additional authorization from DCM shall be required.

18) In accordance with commitments made by the permittee in the permit application, a primary and secondary containment system shall be used to capture as much of the jetting water as possible and allow for re-use of the water within the jetting operation for bridge bents 47 through 78. Excess spoil shall be disposed of according to the NCDOT borrow/waste procedures at an approved off-site location.

19) All reasonable efforts shall be made to contain jetting spoils and keep them from entering wetlands or areas containing submerged aquatic vegetation.

20) Pilings in open water from the existing bridge and the temporary work trestles shall be removed in their entirety, except that in the event that a bridge piling breaks during removal and cannot be removed in its entirety, DCM shall be notified to determine an appropriate course of action. Existing bridge pilings in SAV areas and wetlands shall be cut off at the mudline.

ADDITIONAL CONDITIONS

Demolition of Existing Bridge and Associated Structures

21) As proposed in the permit application package for the proposed project, the permittee shall coordinate with and provide the N.C. Division of Marine Fisheries with suitable bridge demolition material that will be placed at four existing artificial reef sites in the Atlantic Ocean.

22) The permittee shall remove any scour protection devices (gabion mats, sand bags, A-jacks, etc.) that are exposed on the bed of Oregon Inlet at the time of construction, with the exception of those protecting the substructure of the existing bridge that will remain in place as a fishing pier. If the permittee desires to leave any exposed scour protection devices in place other than those associated with the approved fishing pier, then additional coordination with DCM shall be required. In addition, if any scour protection devices or other remnant structures become exposed in the future, the permittee shall coordinate with DCM and other appropriate resource agencies to determine if removal is necessary.

Retaining Walls for Abutment Fill Slope and Side Slope Protection

23) The retaining walls for abutment fill slope and side slope protection shall be structurally tight so as to prevent seepage of fill materials through the structure.

24) The retaining walls for abutment fill slope and side slope protection shall be in place prior to any backfilling activities.

25) All backfill material shall be obtained from a high ground source. No unconfined backfill shall be discharged into Waters of the State.

Utility Impacts

NOTE: The construction of the new bridge will also require the relocation of electric, telephone, and water utility lines with associated hand and mechanized clearing, including the relocation of an electric riser pole. Wetland and stream impacts resulting from the utility relocations have been included in the total wetland and stream impacts for this project.

26) Any relocation of utility lines that is not already depicted on the attached work plan drawings shall require approval by DCM, either under the authority of this permit, or by the utility company obtaining separate authorization.

NOTE: Plans and specifications for the relocation and/or replacement of potable water supply lines must be submitted to the Division of Environmental Health, Public Water Supply Plan Review Section for approval prior to construction.

ADDITIONAL CONDITIONS

Historical and Cultural Resource Protection

NOTE: A Programmatic Agreement dated 11/15/10 exists between the Federal Highway Administration, the Advisory Council on Historic Preservation, NCDOT, and the N.C. State Historic Preservation Office (SHPO) for the project and is included as Appendix D in the Record of Decision dated December 20, 2010.

Compensatory Mitigation for Impacts to Wetlands, Submerged Aquatic Vegetation and Waters of the State

NOTE: This project will permanently impact approximately 0.48 acres of 404 wetlands (0.38 acres due to fill, 0.02 acres due to excavation, and 0.08 acres due to mechanized clearing) and approximately 0.03 acres of CAMA Coastal Wetlands (0.02 acres due to fill and 0.01 acres due to mechanized clearing). This project will temporarily impact approximately 0.31 acres of 404 wetlands (0.05 acres due to fill and 0.26 acres due to hand clearing) and approximately 1.04 acres of CAMA Coastal Wetlands due to fill. This project will permanently impact approximately 1 acre of surface waters and will temporarily impact approximately 3.43 acres of surface waters. This project will permanently impact approximately 2.66 acres of SAV areas due to shading and will temporarily impact approximately 2.42 acres of SAV areas due to shading. The casting yard for this project will temporarily impact approximately 0.01 acres of surface waters.

27) Except as specified by conditions of this permit, wetland mitigation shall be carried out as described in the document titled "Revised Draft Wetland Mitigation Plan NC 12 Replacement of Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet" dated May 17, 2012.

NOTE: The permittee is strongly encouraged to coordinate with the N.C. Natural Heritage Program and the National Park Service (NPS) throughout implementation of the compensatory wetland mitigation within the Bodie Island Lighthouse Pond Significant Natural Heritage Area. The permittee should adhere to any recommendations regarding protection of state and federally listed species within the Bodie Island Lighthouse Pond Significant Natural Heritage Area.

28) DCM does not consider the SAV mitigation plan submitted with the permit application to be a final mitigation plan. Therefore, prior to initiating construction within any area containing SAV's, the permittee shall submit a final SAV mitigation plan to DCM, as well as other appropriate resource agencies. Approval of this plan shall be obtained from DCM prior to initiating construction activities in these SAV areas. The plan shall identify the location for the SAV mitigation site and the location of any SAV donor beds.

ADDITIONAL CONDITIONS

NOTE: The permittee is encouraged to incorporate the following considerations into the final SAV mitigation plan: a) utilize multiple locations to allow more chance for success; b) include openings of at least 5 feet for every 100 feet of structure length if breakwaters are utilized to allow fish to continue to use these areas; c) determine if any breakwaters or other structures will need to be removed after success criteria are met; d) develop a monitoring plan for the SAV mitigation site after any breakwaters or other structures are removed to determine long-term success; and e) define success criteria to include a higher percentage of SAV coverage 5 years after any breakwaters or other structures are removed

29) Any subsequent changes to the wetland and submerged aquatic vegetation mitigation plans authorized by this permit may require additional authorization from DCM.

30) An as-built report for the SAV mitigation site shall be submitted to DCM within 90 days after the mitigation site has been constructed.

31) Annual monitoring reports for the submerged aquatic vegetation mitigation site shall be provided to DCM for a minimum of five years after mitigation site construction, and for 5 years after the removal of any breakwaters or other structures. Annual monitoring reports shall include an evaluation of data, and an assessment of whether success criteria are being met. Progress reports shall also be provided upon request.

NOTE: This permit does not convey or imply approval of the suitability of any excess submerged aquatic vegetation mitigation credits generated by this project as compensatory mitigation for any particular future projects. The use of any portion of excess submerged aquatic vegetation mitigation credits generated by this project as compensatory mitigation for future projects shall be approved on a case-by-case basis during the permit review and/or consistency process.

32) Due to the possibility that compaction from jetting containment structures, shading under the work trestle, trenching of electric lines, mechanized clearing, and/or other site alterations might prevent the temporary Coastal Wetland and SAV impact areas from re-attaining pre-project functions, the permittee shall provide an annual update on the Coastal Wetland and SAV areas temporarily impacted by this project. This annual update shall consist of photographs and a brief written report on the progress of these temporarily impacted areas in re-attaining their pre-project functions. Within three years after project completion, the permittee shall hold an agency field meeting with DCM to determine if the Coastal Wetland and SAV areas temporarily impacted by this project have re-attained pre-project functions. If at the end of three years DCM determines that the Coastal Wetland and SAV areas temporarily impacted by the project have not re-attained pre-project functions, DCM will determine whether compensatory mitigation shall be required.

33) There shall be no clearing or grubbing of wetlands outside of the areas indicated on the attached workplan drawings without prior approval from DCM.

34) Construction mats shall be utilized to support equipment within wetland areas to minimize temporary wetland impacts during utility relocations as specified on the attached workplan drawings. These mats shall be removed immediately following project completion.

ADDITIONAL CONDITIONS

Threatened and Endangered Species Protection

35) In accordance with commitments made by the permittee, the discretionary measures for the piping plover and three species of sea turtles that are described in the permit application that include the terms and conditions outlined in the July 10, 2008 United States Fish and Wildlife Service (USFWS) Biological and Conference Opinions shall be implemented.

36) In accordance with commitments made by the permittee, all conditions outlined in the USFWS Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters shall be implemented.

Sedimentation and Erosion Control

37) Appropriate sedimentation and erosion control devices, measures, or structures shall be implemented to ensure that eroded materials do not enter adjacent wetlands, watercourses, and property (e.g. silt fence, diversion swales or berms, etc.).

38) This project shall conform to all requirements of the N.C. Sedimentation Pollution Control Act and NCDOT's Memorandum of Agreement with the Division of Land Resources.

Stormwater Management

NOTE: The N.C. Division of Water Quality (DWQ) confirmed in a letter dated 7/19/12 (SW7120514) that the subject project is excluded from State Stormwater permitting requirements as set forth in Section 2(d)(1) of Session Law 2008-211, effective October 1, 2008, and the stormwater rules under Title 15A NCAC 2H .1000, as amended.

General

39) The permittee shall exercise all available precautions in the day-to-day operations of the facility to prevent waste from entering the adjacent waters and wetlands.

40) If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached workplan drawings or described in the authorized permit application, a permit modification and/or additional authorization from DCM shall be required. In addition, any changes in the approved plan may also require a permit modification and/or additional authorization from DCM. The permittee shall contact a representative of DCM prior to commencement of any such activity for this determination and any permit modification.

ADDITIONAL CONDITIONS

41) In accordance with the commitments made by the permittee, no permanent lighting shall be installed on the portion of the existing bridge to be retained as a fishing pier.

42) The permittee and/or his contractor shall meet on site with a DCM representative prior to project initiation.

43) Development authorized by this permit shall only be conducted on lands owned by the NCDOT and/or its Right-of-Ways and/or easements.

44) Nothing in this permit authorizes any activity that has not received approval from NPS and USFWS for work within the Cape Hatteras National Seashore and Pea Island National Wildlife Refuge. The proposed work shall not commence until the permittee has been issued Special Use Permits from the NPS and the USFWS, and a copy of the Special Use Permits are received by DCM.

45) The N.C. Division of Water Quality (DWQ) authorized the proposed project on 9/7/12 (DWQ Project No. 20120629) under Individual Water Quality Certification No. 003939. Any violation of the Certification approved by DWQ shall be considered a violation of this CAMA permit.

NOTE: The U.S. Army Corps of Engineers is reviewing this project as an Individual Permit (Action ID No. SAW-1993-03077).

NOTE: This permit does not eliminate the need to obtain any additional state, federal or local permits, approvals or authorizations that may be required, including any necessary for the casting yard, aerial spraying of herbicides at the approved wetland mitigation site, and/or disposal of suitable material on artificial reefs.

Permit Class
MODIFICATION/MAJOR

Permit Number
106-12

STATE OF NORTH CAROLINA
Department of Environment and Natural Resources
and
Coastal Resources Commission

Permit

for

X Major Development in an Area of Environmental Concern pursuant to NCGS 113A-118

X Excavation and/or filling pursuant to NCGS 113-229

Issued to **N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598**

Authorizing development in Dare County at Pea Island Breach Site on NC Highway 12, as requested in the permittee's application dated 2/13/13, including the attached AEC Hazard Notice dated 2/13/13, and the attached workplan drawings (124) as described in Condition No. 1 below.

This permit, issued on **April 26, 2013**, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

1) Unless specifically altered herein, all work authorized by this Major Modification shall be carried out in accordance with the following attached workplan drawings:

CAMA Coastal Wetland and Oceanfront Setback Drawings (17): 7 dated 12/11/12; 1 dated 2/11/12; and 9 dated as received on 3/25/13.

Wetland Impacts Drawings (55): 54 dated 2/11/13; and 1 dated 2/12/13.

Roadway Design Drawings (31): 18 dated 10/16/12; 9 dated 11/20/12; and 4 dated 11/8/12.

Utility Impact Drawings (21): 11 dated as received on 3/25/13; and 10 dated 5/14/12.

(See attached sheets for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. An appeal requires resolution prior to work initiation or continuance as the case may be.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

No expiration date, pursuant to GS 136-44.7B

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.

Doug V. Huggett
for Braxton C. Davis, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.

E. L. Luck for Gregory J. Thorpe, Ph
Signature of Permittee

ADDITIONAL CONDITIONS

NOTE: This Major Modification authorizes construction of TIP No. B-2500A, construction of a new bridge approximately 2.1 miles in length and related approaches over the Pea Island Breach Site.

2) As proposed, the authorized project would result in the loss of motor vehicle access to a public boat ramp and public parking lot near the Pea Island Breach Site. The permittee shall continue to discuss opportunities for replacing these lost public access facilities with the Pea Island National Wildlife Refuge (PINWR), the N.C. Division of Coastal Management (DCM), and the N.C. Division of Marine Fisheries (DMF). The construction of any new public access facility shall require additional authorization from DCM.

3) Unless specifically altered herein, any mitigative measures or environmental commitments specifically made by the permittee in the CAMA permit application, the signed Section 404/NEPA Merger Project Agreements, the Record of Decision document dated December 20, 2010, and/or the final environmental document, shall be implemented, regardless of whether or not such commitments are addressed by individual conditions of this Major Modification.

4) No vegetated wetlands or Waters of the State shall be excavated, without permit modification.

5) No fill material shall be placed at any time in any vegetated wetlands or surrounding waters outside of the alignment of the areas indicated on the attached workplan drawings, without permit modification.

6) All fill material shall be clean and free of any pollutants except in trace quantities.

7) Live concrete shall not be allowed to contact waters of the State or water that will enter waters of the State.

8) Construction staging areas shall be located only in upland areas, and not in wetlands or waters of the State.

9) All construction access shall be through the use of the existing bridge, authorized temporary work bridges, temporary detour roadway, the partially constructed new bridge, and/or existing high ground areas.

10) The temporary placement and double handling of any fill material within waters or vegetated wetlands is not authorized, with the exception of that fill necessary for the construction of the temporary work bridges, temporary detour roadway, and associated materials. This condition also applies to the removal of the existing temporary bridge, roadway asphalt, sheet piling, riprap, sandbags and associated fabric, and associated materials.

11) All temporary fill shall be placed on geo-textile fabric to facilitate the total removal upon completion of the project.

12) All temporary structures and all remnant existing structures shall be removed in their entirety and disposed of at an approved high ground location as soon as practicable. This condition applies to the temporary work bridges, temporary detour roadway, temporary culverts and associated riprap, and temporary sheet piling. This condition also applies to the remnant existing temporary bridge, roadway asphalt, sandbags and associated fabric, sheet piling, riprap, and associated materials.

ADDITIONAL CONDITIONS

13) After the fill material associated with the temporary detour roadway is removed, disturbed areas associated with the temporary detour roadway shall be restored to their pre-existing contours and elevations.

14) The placement of riprap shall be limited to the areas indicated on the attached workplan drawings. The riprap material shall be free from loose dirt or any pollutant except in trace quantities.

Installation and Removal of Bridge Piles and Steel Sheet Piling

15) The installation and removal of the piles for the new bridge, existing bridge, temporary work bridges, and temporary steel sheet piling, shall be accomplished by jetting, pile driving and/or the use of a vibratory hammer, as specified in the permit application. Should the permittee and/or its contractor desire to utilize another type of pile installation, such as drilled shaft construction, additional authorization from DCM shall be required.

NOTE: The jetting operation will require the use of pumping and water intake stations at three designated locations as depicted on the attached workplan drawings: (1) Wetland Site 10, between Station 3170 and Station 3173, in the permanent easement at the Pea Island Inlet; (2) Wetland Site 15, Station 3097; and (3) Wetland Site 16, Station 3136, at the Refuge boat ramp temporary easement.

16) The permittee shall coordinate with DMF and the National Marine Fisheries Service (NMFS) to identify and implement practicable methods to minimize impacts to fish species from the water intakes during jetting.

17) In accordance with commitments made by the permittee in the permit application, all jetting that occurs within the Pea Island Breach Site will occur at ebb tide.

18) In accordance with commitments made by the permittee in the permit application, jetting spoil shall be confined to the existing transportation easement, and/or used by the U.S. Fish and Wildlife Service (USFWS) on PINWR, and/or disposed of at an approved upland disposal site.

19) All reasonable efforts shall be made to contain jetting spoils and keep them from entering wetlands or areas containing submerged aquatic vegetation.

20) Pilings from the existing temporary bridge and the temporary work bridges shall be removed in their entirety, except that in the event that a bridge piling breaks during removal and cannot be removed in its entirety, DCM shall be notified to determine an appropriate course of action.

ADDITIONAL CONDITIONS

Retaining Walls for Abutment Fill Slope and Side Slope Protection

21) The retaining walls for abutment fill slope and side slope protection shall be structurally tight so as to prevent seepage of fill materials through the structure.

22) The retaining walls for abutment fill slope and side slope protection shall be in place prior to any backfilling activities.

23) All backfill material shall be obtained from a high ground source. No unconfined backfill shall be discharged into Waters of the State.

Utility Impacts

NOTE: The authorized project also includes the abandonment of existing underground telephone cables inside the project construction limits, and the installation of new underground telephone fiber optic and copper cables inside the Cape Hatteras Electric Membership Corporation (EMC) power easement.

24) Telephone utility lines shall be installed using a horizontal directional bore drilling method. Entry and exit points of this activity, including disposal of material from the drilling activity, shall be outside of all wetlands and Waters of the State.

25) The relocation of telephone utility lines shall not result in any permanent or temporary impacts to wetlands or Waters of the State, without permit modification.

26) Any relocation of utility lines that is not already depicted on the attached work plan drawings shall require approval by DCM, either under the authority of this Major Modification, or by the utility company obtaining separate authorization.

Historical and Cultural Resource Protection

NOTE: A Programmatic Agreement dated 11/15/10 exists between the Federal Highway Administration, the Advisory Council on Historic Preservation, the N.C. Department of Transportation (NCDOT), and the N.C. State Historic Preservation Office (SHPO) for the project and is included as Appendix D in the Record of Decision dated December 20, 2010.

ADDITIONAL CONDITIONS

Impacts to Wetlands and Waters of the State

NOTE: This project will permanently impact approximately 0.01 acres of CAMA Coastal Wetlands due to fill. This project will temporarily impact approximately 1.04 acres of 404 wetlands (0.79 acres due to fill, and 0.25 acres due to hand clearing) and will temporarily impact approximately 0.50 acres of CAMA Coastal Wetlands (0.33 acres due to fill and 0.17 acres due to hand clearing). This project will permanently impact approximately 0.04 acres of surface waters, and will temporarily impact approximately 0.28 acres of surface waters.

27) There shall be no clearing of wetlands outside of the areas indicated on the attached workplan drawings without prior approval from DCM.

28) Wetland areas to be temporarily impacted by clearing shall not be grubbed, without additional authorization from the Division.

29) Construction mats shall be utilized to support equipment within wetland areas to minimize temporary wetland impacts as specified on the workplan drawings. These mats shall be removed immediately following project completion.

30) The permittee shall minimize the need to cross wetlands to the maximum extent practicable.

31) Due to the possibility that compaction due to temporary roadway fill, jetting intake pumps and pipes, hand clearing, and/or other site alterations might prevent the temporary Coastal Wetland impact areas from re-attaining pre-project functions, the permittee shall provide an annual update on the Coastal Wetland areas temporarily impacted by this project. This annual update shall consist of photographs and a brief written report on the progress of these temporarily impacted areas in re-attaining their pre-project functions. Within three years after project completion, the permittee shall hold an agency field meeting with DCM to determine if the Coastal Wetland areas temporarily impacted by this project have re-attained pre-project functions. If at the end of three years DCM determines that the Coastal Wetland areas temporarily impacted by the project have not re-attained pre-project functions, DCM will determine whether compensatory mitigation shall be required.

Threatened and Endangered Species Protection

32) The permittee shall include the N.C. Wildlife Resources Commission (WRC) when it works with the DMF, NMFS, National Park Service (NPS) and USFWS to determine other areas near project construction where night lighting would need to be avoided or limited, as committed to by the permittee in Project Commitment #11of the Environmental Assessment dated February 12, 2013.

33) In accordance with commitments made by the permittee, the discretionary measures for the piping plover and three species of sea turtles that include the terms and conditions outlined in the July 10, 2008 USFWS Biological and Conference Opinions shall be implemented.

ADDITIONAL CONDITIONS

34) In accordance with commitments made by the permittee, all conditions outlined in the USFWS Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters shall be implemented.

Sedimentation and Erosion Control

35) Appropriate sedimentation and erosion control devices, measures, or structures shall be implemented to ensure that eroded materials do not enter adjacent wetlands, watercourses and properties (e.g. silt fence, diversion swales or berms, etc.).

36) This project shall conform to all requirements of the N.C. Sedimentation Pollution Control Act and NCDOT's Memorandum of Agreement with the N.C. Division of Energy, Minerals, and Land Resources.

37) In order to protect water quality, runoff from construction shall not visibly increase the amount of suspended sediments in adjacent waters.

Stormwater Management

NOTE: The N.C. Division of Water Quality (DWQ) confirmed in a letter dated 4/17/13 (SW7130210) that the subject project is excluded from State Stormwater permitting requirements as set forth in Section 2(d)(1) of Session Law 2008-211, effective October 1, 2008, and the stormwater rules under Title 15A NCAC 2H .1000, as amended.

General

38) If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached workplan drawings or described in the authorized permit application, a permit modification and/or additional authorization from DCM shall be required. In addition, any changes in the approved plan may also require a permit modification and/or additional authorization from DCM. The permittee shall contact a representative of DCM prior to commencement of any such activity for this determination and any permit modification.

39) The permittee shall exercise all available precautions in the day-to-day operations of the facility to prevent waste from entering the adjacent waters and wetlands.

40) The permittee and/or his contractor shall contact the DCM Transportation Project Field Representative in Elizabeth City at (252) 264-3901 to request a pre-construction conference prior to project initiation.

41) Nothing in this Major Modification authorizes any activity that has not received approval from NPS and/or the USFWS for work within the Cape Hatteras National Seashore and/or PINWR. The proposed work shall not commence until the permittee has been issued Special Use Permit(s) from the NPS and the USFWS, if required, and a copy of the Special Use Permit(s) are received by DCM.

ADDITIONAL CONDITIONS

42) The permittee shall install and maintain at his expense any signal lights or signals prescribed by the U.S. Coast Guard, through regulation or otherwise, on the authorized facilities.

43) The permittee shall undertake measures to ensure that the jetting intake structures and associated equipment do not pose a hazard to navigation.

44) Development authorized by this Major Modification shall only be conducted on lands owned by the NCDOT and/or its right-of-ways and/or easements.

45) DWQ authorized the proposed project on 4/15/13 (DWQ Project No. 20130144 v.1) under General Water Quality Certification No. 3886. Any violation of the Certification approved by DWQ shall be considered a violation of this Major Modification.

NOTE: This Major Modification does not eliminate the need to obtain any additional state, federal or local permits, approvals or authorizations that may be required.

46) This Major Modification shall be attached to the original of Permit No. 106-12, which was issued on 9/19/12, and copies of both documents shall be readily available on site when a Division representative inspects the project for compliance.

47) All conditions and stipulations of the active permit remain in force under this Major Modification unless altered herein.

Permit Class
MODIFICATION/MAJOR

Permit Number
106-12

STATE OF NORTH CAROLINA
Department of Environment and Natural Resources
and
Coastal Resources Commission

Permit

for

_X_ Major Development in an Area of Environmental Concern pursuant to NCGS 113A-118

_X_ Excavation and/or filling pursuant to NCGS 113-229

Issued to **N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598**

Authorizing development in Dare County at Pea Island Breach Site on NC Highway 12, as requested in the permittee's application dated 8/27/13, including the attached AEC Hazard Notice dated 8/27/13, and the attached workplan drawings (105): 96 dated 8/11/13, and 9 dated as received on 9/5/13.

This permit, issued on **10/17/13**, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

1) Unless specifically altered herein, this Major Modification authorizes the following: retention of approximately 1.2 miles of a previously authorized temporary detour road as a permanent paved public boating access to the Pamlico Sound on Pea Island National Wildlife Refuge; construction of traffic lanes for southbound and northbound traffic to connect with the public boating access; and updated workplan drawings for the entire project.

2) Nothing in this Major Modification authorizes any activity that has not received approval from the National Park Service (NPS) and/or the United States Fish and Wildlife Service (USFWS) for work within the Cape Hatteras National Seashore and/or Pea Island National Wildlife Refuge (PINWR). The proposed work shall not commence until the permittee has been issued Special Use Permit(s) from the NPS and the USFWS, if required, and a copy of the Special Use Permit(s) are received by the N.C. Division of Coastal Management (DCM).

(See attached sheets for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. An appeal requires resolution prior to work initiation or continuance as the case may be.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

No expiration date, pursuant to GS 136-44.7B

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.

Douglas V Huggett for

Braxton C. Davis, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.

E. L. Lusk for Richard W. Hancock PE

Signature of Permittee

ADDITIONAL CONDITIONS

3) Development authorized by this Major Modification shall only be conducted on lands owned by the NCDOT and/or its right-of-ways and/or easements.

4) Prior to the initiation of construction within the Ocean Hazard Area of Environmental Concern (AEC), a representative of the N.C. Division of Coastal Management (DCM) shall approve the first line of stable, natural vegetation and the corresponding setbacks. All development authorized by this Major Modification shall be located landward of the appropriate setback lines. These setback determinations shall replace those done at the time the permit application was processed and approved. Construction shall begin within sixty days of this determination or the measurement is void and shall be re-established. In the case of a major shoreline change within that period, a new setback determination shall be required before construction begins.

5) In accordance with 15A NCAC 07H .0306(k), the authorized structures shall be relocated or dismantled when they become imminently threatened by changes in shoreline configuration. The structure(s) shall be relocated or dismantled within two years of the time when it becomes imminently threatened, and in any case upon its collapse or subsidence. However, if natural shoreline recovery or beach re-nourishment takes place within two years of the time the structure becomes imminently threatened, so that the structure is no longer imminently threatened, then it need not be relocated or dismantled at that time. This condition shall not affect the permit holder's right to seek authorization of temporary protective measures allowed under Rule 15A NCAC 07H.0308(a)(2).

Impacts to Wetlands and Waters of the State and Compensatory Mitigation

NOTE: This project will permanently impact approximately 0.15 acres of CAMA Coastal Wetlands and approximately 0.07 acres of 404 wetlands due to fill. This project will temporarily impact approximately 0.87 acres of 404 wetlands (0.68 acres due to fill, and 0.19 acres due to hand clearing) and will temporarily impact approximately 0.43 acres of CAMA Coastal Wetlands (0.22 acres due to fill and 0.21 acres due to hand clearing). This project will permanently impact approximately 0.04 acres of surface waters, and will temporarily impact approximately 0.28 acres of surface waters.

6) Wetland mitigation shall be carried out as described in the document titled "Final Wetland Mitigation Plan NC 12 Replacement of Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet" dated January 30, 2013.

General

7) If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached workplan drawings or described in the authorized permit application, a permit modification and/or additional authorization from DCM shall be required. In addition, any changes in the approved plan may also require a permit modification and/or additional authorization from DCM. The permittee shall contact a representative of DCM prior to commencement of any such activity for this determination and any permit modification.

ADDITIONAL CONDITIONS

8) Due to the possibility that compaction due to temporary roadway fill, jetting intake pumps and pipes, hand clearing, and/or other site alterations might prevent the temporary Coastal Wetland impact areas from re-attaining pre-project functions, the permittee shall provide an annual update on the Coastal Wetland areas temporarily impacted by this project. This annual update shall consist of photographs and a brief written report on the progress of these temporarily impacted areas in re-attaining their pre-project functions. Within three years after project completion, the permittee shall hold an agency field meeting with DCM to determine if the Coastal Wetland areas temporarily impacted by this project have re-attained pre-project functions. If at the end of three years DCM determines that the Coastal Wetland areas temporarily impacted by the project have not re-attained pre-project functions, DCM will determine whether compensatory mitigation shall be required.

9) DWR authorized the proposed project on 9/9/13 (DWR Project No. 20130144 v.3). Any violation of the Certification approved by DWR shall be considered a violation of this Major Modification.

NOTE: This Major Modification does not eliminate the need to obtain any additional state, federal or local permits, approvals or authorizations that may be required.

10) This Major Modification shall be attached to the original of Permit No. 106-12, which was issued on 9/19/12, as well as the Major Modification which was issued on 4/26/13, and copies of all documents shall be readily available on site when a Division representative inspects the project for compliance.

11) All conditions and stipulations of the active permit remain in force under this Major Modification unless altered herein.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

GUIDELINES FOR AVOIDING IMPACTS TO THE WEST INDIAN MANATEE
Precautionary Measures for Construction Activities in North Carolina Waters

The West Indian manatee (*Trichechus manatus*), also known as the Florida manatee, is a Federally-listed endangered aquatic mammal protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act of 1972, as amended (16 U.S.C 1461 *et seq.*). The manatee is also listed as endangered under the North Carolina Endangered Species Act of 1987 (Article 25 of Chapter 113 of the General Statutes). The U.S. Fish and Wildlife Service (Service) is the lead Federal agency responsible for the protection and recovery of the West Indian manatee under the provisions of the Endangered Species Act.

Adult manatees average 10 feet long and weigh about 2,200 pounds, although some individuals have been recorded at lengths greater than 13 feet and weighing as much as 3,500 pounds. Manatees are commonly found in fresh, brackish, or marine water habitats, including shallow coastal bays, lagoons, estuaries, and inland rivers of varying salinity extremes. Manatees spend much of their time underwater or partly submerged, making them difficult to detect even in shallow water. While the manatee's principal stronghold in the United States is Florida, the species is considered a seasonal inhabitant of North Carolina with most occurrences reported from June through October.

To protect manatees in North Carolina, the Service's Raleigh Field Office has prepared precautionary measures for general construction activities in waters used by the species. Implementation of these measure will allow in-water projects which do not require blasting to proceed without adverse impacts to manatees. In addition, inclusion of these guidelines as conservation measures in a Biological Assessment or Biological Evaluation, or as part of the determination of impacts on the manatee in an environmental document prepared pursuant to the National Environmental Policy Act, will expedite the Service's review of the document for the fulfillment of requirements under Section 7 of the Endangered Species Act. These measures include:

1. The project manager and/or contractor will inform all personnel associated with the project that manatees may be present in the project area, and the need to avoid any harm to these endangered mammals. The project manager will ensure that all construction personnel know the general appearance of the species and their habit of moving about completely or partially submerged in shallow water. All construction personnel will be informed that they are responsible for observing water-related activities for the presence of manatees.

2. The project manager and/or the contractor will advise all construction personnel that

there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act and the Endangered Species Act.

3. If a manatee is seen within 100 yards of the active construction and/or dredging operation or vessel movement, all appropriate precautions will be implemented to ensure protection of the manatee. These precautions will include the immediate shutdown of moving equipment if a manatee comes within 50 feet of the operational area of the equipment. Activities will not resume until the manatee has departed the project area on its own volition (i.e., it may not be herded or harassed from the area).

4. Any collision with and/or injury to a manatee will be reported immediately. The report must be made to the U.S. Fish and Wildlife Service (ph. 919.856.4520 ext. 16), the National Marine Fisheries Service (ph. 252.728.8762), and the North Carolina Wildlife Resources Commission (ph. 252.448.1546).

5. A sign will be posted in all vessels associated with the project where it is clearly visible to the vessel operator. The sign should state:

> CAUTION: The endangered manatee may occur in these waters during the warmer months, primarily from June through October. Idle speed is required if operating this vessel in shallow water during these months. All equipment must be shut down if a manatee comes within 50 feet of the vessel or operating equipment. A collision with and/or injury to the manatee must be reported immediately to the U.S. Fish and Wildlife Service (919-856-4520 ext. 16), the National Marine Fisheries Service (252.728.8762), and the North Carolina Wildlife Resources Commission (252.448.1546).

6. The contractor will maintain a log detailing sightings, collisions, and/or injuries to manatees during project activities. Upon completion of the action, the project manager will prepare a report which summarizes all information on manatees encountered and submit the report to the Service's Raleigh Field Office.

7. All vessels associated with the construction project will operate at "no wake/idle" speeds at all times while in water where the draft of the vessel provides less than a four foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

8. If siltation barriers must be placed in shallow water, these barriers will be: (a) made of material in which manatees cannot become entangled; (b) secured in a manner that they cannot break free and entangle manatees; and, (c) regularly monitored to ensure that manatees have not become entangled. Barriers will be placed in a manner to allow manatees entry to or exit from essential habitat.

Prepared by (rev. 06/2003):
U.S. Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726
919/856-4520

Figure 1. The whole body of the West Indian manatee may be visible in clear water; but in the dark and muddy waters of coastal North Carolina, one normally sees only a small part of the head when the manatee raises its nose to breathe.

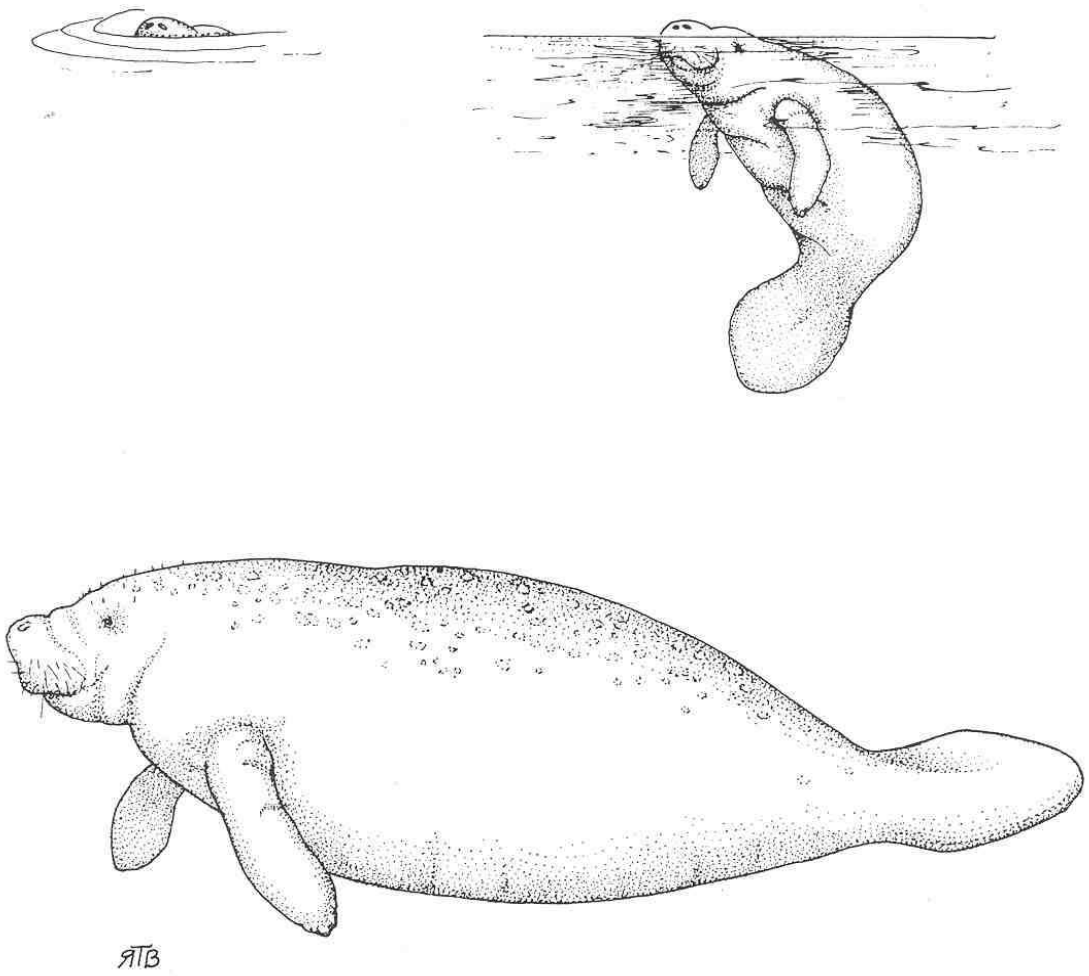


Illustration used with the permission of the North Carolina State Museum of Natural Sciences. Source: Clark, M. K. 1987. Endangered, Threatened, and Rare Fauna of North Carolina: Part I. A re-evaluation of the mammals. Occasional Papers of the North Carolina Biological Survey 1987-3. North Carolina State Museum of Natural Sciences. Raleigh, NC. pp. 52.

United States Department of the Interior

UNITED STATES FISH AND WILDLIFE SERVICE
Alligator River National Wildlife Refuge
100 Conservation Way
Post Office Box 1969
Manteo, NC 27954
Phone: (252) 473.1132 FAX: (252) 473.1668

September 16, 2013

Richard W. Hancock, PE
N. C. Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Mr. Hancock:

The attached Special Use Permit is in reference to the B2500 Phase IIa bridge replacement project at New Inlet on Pea Island National Wildlife Refuge. This permit has been closely coordinated with Mr. Victor Barbour. Until today the plan was to issue the permit with Mr. Jerry Jennings name on it, but I was advised this morning that you would be the project contact.

Please sign at the two places indicated and return a signed copy to me as soon as possible. If you have questions, please contact Dennis Stewart, Refuge Biologist at (252) 473-1131 xt 231 or dennis_stewart@fws.gov.

Sincerely,

Mike Bryant

Mike Bryant
Project Leader
Coastal North Carolina National Wildlife Refuges Complex

United States Department of the Interior
U.S. Fish and Wildlife Service

National Wildlife Refuge System General Special Use Application and Permit

OMB Control Number 1018-0102
Expiration Date: 06/30/2014

Name of Refuge: Pea Island

Address: P. O. Box 1969 Manteo, NC 27954

Attn: (Refuge Official): Mike Bryant

Phone #: (252) 473-1131 E-mail: mike_bryant@fws.gov

Application

(To be filled out by applicant. Note: Not all information is required for each use. See instructions at the end of the notice.)

1) (●) New ( ) Renewal ( ) Modification ( ) Other _____

Applicant Information

2) Full Name: Richard W. Hancock, PE

3) Organization: NC Department of Transportation

4) Address: 1548 Mail Service Center

5) City/State/Zip: Raleigh, NC 27699-1548

6) Phone #: 919-707-6000

7) Fax #:

8) E-mail: rwhancock@ncdot.gov

9) Assistants/Subcontractors/Subpermittees: (List full names, addresses and phone #'s and specifically describe services provided if subcontractors are used.)

All work will be done under the provisions of a general private contractor. The general contractor will award subcontracts as specified in the general document or as needed to fulfill the terms and conditions of the contract/permits.

Activity Information

10) Activity type: ( ) Event ( ) Wood Cutting ( ) Group Visit ( ) Cabin/Subsistence Cabin ( ) Educational Activity
(●) Other B2500 Phase IIa Bridge construction for NC 12 at the Pea Island (New) Inlet

11) Describe Activity: (Specifically identify timing, frequency, and how the event is expected to proceed.)

NCDOT has planned construction of a new 2.1 mile long bridge on NC 12 at the "Pea Island Inlet" site. No new right-of-way is proposed but temporary construction easements are required. Total project length is 2.7 miles. The new bridge will be a two–lane section and will have 98 spans. Drainage systems will include open scuppers on bridge spans, grate inlets and pipe systems for ramps/end spans, and roadside ditches for approach pavement. Temporary easements will be necessary for NC 12 safety, construction, and erosion/sediment control. Total amount of Refuge land temporarily impacted is about 3.84 acres. This includes temporary easements at existing parking areas for staging, slope stabilization, and access for pumping stations to provide water for jetting activities. Work at night and use of welders/torches may be necessary during construction. The Permittee and Refuge Manager shall meet as needed to establish procedures for approval other activities that may arise.

12) Activity/site occupancy timeline: (Specifically identify beginning and ending dates, site occupation timeline, hours, clean-up and other major events.)

The project time line calls for a contract award date during the fall of 2013 with contractor mobilization and construction beginning soon thereafter. The project will take 3-4 years to complete.

(Depending on the activity for which you are requesting a permit, we may ask you for the following activity information. Please contact the specific refuge where the activity is being conducted to determine what activity information is required.)

13) Expected number of participants:

Children 0 Adults _____ Total _____

14) Grade level of educational group:

Grade _____ ◉ N/A

15) Will staff time/assistance be required?

◉ Yes ○ No ○ N/A

16a) Plan of Operation required? ○ Yes ○ No ◉ N/A

16b) Plan of Operation attached? ○ Yes ◉ No

17) Location: (Specifically identify location; GPS location preferred.)

Pea Island National Wildlife Refuge, Dare County, North Carolina; "Pea Island (New) Inlet" 35.684120 -75.484016

18a) Is map of location(s) required?

○ Yes ○ No ◉ N/A

18b) Is map of location(s) attached?

○ Yes ◉ No

Insurance Coverage/Certifications/Permits

19a) Is insurance required?

○ Yes ○ No ◉ N/A

19b) Insurance: (Provided carrier, type and policy number)

_____

20) Other licenses/certifications/permits required: (Specifically identify licenses, certifications, and permits.)

Clean Water Act Section 404; NC Coastal Area Management Act, Endangered Species Act compliance; Section 106 Historic Resources compliance.

Logistics and Transportation

21) Does activity require personnel to stay overnight onsite? ◉ Yes ○ No

22) Personnel involved:

Contractor will have people working day and night in crew shifts.

23) Specifically describe **all** equipment/gear and materials used:

Any and all equipment normally associated with bridge construction over water and land, including welders and cutting torches.

24) Transportation description(s) and license number(s) to access refuge(s): [Provide description of and specific auto license/boat/plane registration number(s).]

Standard NCDOT and contractor vehicles including transport trucks for supplies and materials.

25) Specifically describe onsite work and/or living accommodations:

Construction crews will likely be working 24 hours per day and 7 days per week.

26) Specifically describe onsite hazardous material storage or other onsite material storage space:

The NCDOT contract will require strict compliance with all OSHA as well as all other health and safety standards.

27) Signature of Applicant J. Vicky Barbour Date of Application: September 16, 2013

Sign, date, and print this form and return it to the refuge for processing.
Do not fill out information below this page.

PRINT FORM

OMB Control Number 1018-0102
Expiration Date: 06/30/2014

For Official Use Only (This section to be filled out by refuge personnel only.)

Special Use Permit

Permit #: 2013-003

1) Date: September 16, 2013

2) (●) Permit Approved ( ) Permit Denied

3) Station #: 41630

4) Additional special conditions required: (Special conditions may include activity reports, before and after photographs, and other conditions.)
(●) Yes ( ) No ( ) N/A

Additional sheets attached:
(●) Yes ( ) No

5) Other licenses/permits required:
(●) Yes ( ) No ( ) N/A

Verification of other licenses/permits, type:
Corps of Engineers, NC Division of Coastal Management, NC Division of Water Quality

6) Insurance/certifications required:
( ) Yes ( ) No (●) N/A

Verification of insurance/certification, type:

7) Record of Payments: (●) Exempt ( ) Partial ( ) Full

Amount of payment: N/A

Record of partial payment: N/A

8) Bond posted: ( ) Yes (●) No

This permit is issued by the U.S. Fish and Wildlife Service and accepted by the applicant signed below, subject to the terms, covenants, obligations, and reservations, expressed or implied herein, and to the notice, conditions, and requirements included or attached. A copy of this permit should be kept on hand so that it may be shown at any time to any refuge staff.

Permit approved and issued by (Signature and title):

Michael R. Bryant Date: September 16, 2013

Permit accepted by (Signature of applicant):

J. Vick Barlow Date: 9/27/13

Notice

In accordance with the Privacy Act (5 U.S. C. 552a) and the Paperwork Reduction Act (44 U.S. C. 3501), please note the following information:

1. The issuance of a permit and collection of fees on lands of the National Wildlife Refuge System are authorized by the National Wildlife Refuge System Administration Act (16 U.S. C. 668dd-ee) as amended, and the Refuge Recreation Act (16 U.S. C. 460k-460k-4).

2. The information that you provide is voluntary; however submission of requested information is required to evaluate the qualifications, determine eligibility, and document permit applicants under the above Acts. It is our policy not to use your name for any other purpose. The information is maintained in accordance with the Privacy Act. All information you provide will be considered in reviewing this application. False, fictitious, or fraudulent statements or representations made in the application may be grounds for revocation of the Special Use Permit and may be punishable by fine or imprisonment (18 U.S.C. 1001). Failure to provide all required information is sufficient cause for the U.S. Fish and Wildlife Service to deny a permit.

3. No Members of Congress or Resident Commissioner shall participate in any part of this contract or to any benefit that may arise from it, but this provision shall not pertain to this contract if made with a corporation for its general benefit.

4. The Permittee agrees to be bound by the equal opportunity "nondiscrimination in employment" clause of Executive Order 11246.

5. Routine use disclosures may also be made: (a) to the U.S. Department of Justice when related to litigation or anticipated litigation; (b) of information indicating a violation or potential violation of a statute, rule, order, or license to appropriate Federal, State, local or foreign agencies responsible for investigating or prosecuting the violation or for enforcing or implementing the statute, rule, regulations, order, or license; (c) from the record of the individual in response to an inquiry from a Congressional office made at the request of the individual (42 FR 19083; April 11,1977); and (d) to provide addresses obtained from the Internal Revenue Service to debt collection agencies for purposes of locating a debtor to collect or compromise a Federal Claim against the debtor, or to consumer reporting agencies to prepare a commercial credit report for use by the Department (48 FR 54716; December 6, 1983).

6. An agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. This information collection has been approved by OMB and assigned control number 1018-0102. The public reporting burden for this information collection varies based on the specific refuge use being requested. The relevant public reporting burden for the General Use Special Use Permit Application form is estimated to average 30 minutes per response, including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Comments on this form should be mailed to the Information Collection Clearance Officer, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042-PDM, Arlington, Virginia, 22203.

General Conditions and Requirements

1. Responsibility of Permittee: The permittee, by operating on the premises, shall be considered to have accepted these premises with all facilities, fixtures, or improvements in their existing condition as of the date of this permit. At the end of the period specified or upon earlier termination, the permittee shall give up the premises in as good order and condition as when received except for reasonable wear, tear, or damage occurring without fault or negligence. The permittee will fully repay the Service for any and all damage directly or indirectly resulting from negligence or failure on his/her part, and/or the part of anyone of his/her associates, to use reasonable care.

2. Operating Rules and Laws: The permittee shall keep the premises in a neat and orderly condition at all times, and shall comply with all municipal, county, and State laws applicable to the operations under the permit as well as all Federal laws, rules, and regulations governing national wildlife refuges and the area described in this permit. The permittee shall comply with all instructions applicable to this permit issued by the refuge official in

charge. The permittee shall take all reasonable precautions to prevent the escape of fires and to suppress fires and shall render all reasonable assistance in the suppression of refuge fires.

3. Use Limitations: The permittee's use of the described premises is limited to the purposes herein specified and does not, unless provided for in this permit, allow him/her to restrict other authorized entry onto his/her area; and permits the Service to carry on whatever activities are necessary for: (1) protection and maintenance of the premises and adjacent lands administered by the Service; and (2) the management of wildlife and fish using the premises and other Service lands.

4. Transfer of Privileges: This permit is not transferable, and no privileges herein mentioned may be sublet or made available to any person or interest not mentioned in this permit. No interest hereunder may accrue through lien or be transferred to a third party without the approval of the Regional Director of the Service and the permit shall not be used for speculative purposes.

5. Compliance: The Service's failure to require strict compliance with any of this permit's terms, conditions, and requirements shall not constitute a waiver or be considered as a giving up of the Service's right to thereafter enforce any of the permit's terms or conditions.

6. Conditions of Permit not Fulfilled: If the permittee fails to fulfill any of the conditions and requirements set forth herein, all money paid under this permit shall be retained by the Government to be used to satisfy as much of the permittee's obligation as possible.

7. Payments: All payment shall be made on or before the due date to the local representative of the Service by a postal money order or check made payable to the U.S. Fish and Wildlife Service.

8. Termination Policy: At the termination of this permit the permittee shall immediately give up possession to the Service representative, reserving, however, the rights specified in paragraph 11. If he/she fails to do so, he/she will pay the government, as liquidated damages, an amount double the rate specified in this permit for the entire time possession is withheld. Upon yielding possession, the permittee will still be allowed to reenter as needed to remove his/her property as stated in paragraph 11. The acceptance of any fee for the liquidated damages or any other act of administration relating to the continued tenancy is not to be considered as an affirmation of the permittee's action nor shall it operate as a waiver of the Government's right to terminate or cancel the permit for the breach of any specified condition or requirement.

9. Revocation Policy: This permit may be revoked by the Regional Director of the Service without notice for noncompliance with the terms hereof or for violation of general and/or specific laws or regulations governing national wildlife refuges or for nonuse. It is at all times subject to discretionary revocation by the Director of the Service. Upon such revocation the Service, by and through any authorized representative, may take possession of the said premises for its own and sole use, and/or may enter and possess the premises as the agent of the permittee and for his/her account.

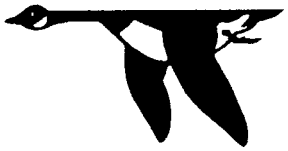
10. Damages: The United States shall not be responsible for any loss or damage to property including, but not limited to, growing crops, animals, and machinery or injury to the permittee or his/her relatives, or to the officers, agents, employees, or any other who are on the premises from instructions or by the sufferance of wildlife or employees or representatives of the Government carrying out their official responsibilities. The permittee agrees to save the United States or any of its agencies harmless from any and all claims for damages or losses that may arise to be incident to the flooding of the premises resulting from any associated Government river and harbor, flood control, reclamation, or Tennessee Valley Authority activity.

NS 9/27/13

MRB 10-17-13

11. Removal of Permittee's Property: Upon the expiration or termination of this permit, if all rental charges and/or damage claims due to the Government have been paid, the permittee may, within a reasonable period as stated in the permit or as determined by the refuge official in charge, but not to exceed 60 days, remove all structures, machinery, and/or equipment, etc. from the premises for which he/she is responsible. Within this period the permittee must also remove any other of his/her property including his/her acknowledged share of products or crops grown, cut, harvested, stored, or stacked on the premises. Upon failure to remove any of the above items within the aforesaid period, they shall become the property of the United States.

Alligator River National Wildlife Refuge
Pea Island National Wildlife Refuge



CONDITIONS FOR SPECIAL USE PERMITS & AUTHORIZED ACTIVITIES
SUP 2013-003

1. The Permittee or authorized person, and all officers, agents, employees, representatives, and clients of the Permittee or authorized person, shall comply with all Refuge, Federal, State, and local regulations and conditions that apply to the special use activity. Failure to comply with any applicable regulation or condition, and all Federal laws, rules, and regulations governing National Wildlife Refuges and the area described in the Special Use Permit (Permit) or authorizing documents may result in revocation of the Permit or authorized activity and/or criminal prosecution.

2. While engaged in a special use activity on the Refuge, the Permittee or authorized person, and his/her officers, agents, employees, or representatives, shall be in possession of a **copy** of the Permit or authorizing documents (including all attachments that contain conditions) and shall, upon request by an authorized Refuge official or by any authorized local, state, or federal law enforcement officer, display the **copy** authorizing their presence and activity on the Refuge and shall furnish any other licenses and identification documents as may be requested.

3. Entry on the Refuge during nighttime hours (i.e., ½-hour after sunset to ½-hour before sunrise) is prohibited, **unless authorized in writing by the Refuge Manager**.

4. It is unlawful to disturb, destroy, injure, collect, or take any wildlife, plant, natural object, mineral, cultural or historical feature, or public property on the Refuge, **unless authorized in writing by the Refuge Manager**.

5. Wildlife shall not be harmed or harassed and disturbance shall be kept to a minimum, this includes all snakes (poisonous and non-poisonous snakes), **unless authorized in writing by the Refuge Manager**.

6. The Refuge Manager should be contacted **immediately** at ***(252) 473-1131*** upon discovery of any **wildfire**, or any leak, spill, or break in a pipeline, power line, canal, or dike, or any other accident or incident that has the potential to have an adverse impact on the soil, wildlife, or plants in the area. Any unusual wildlife sightings or suspected illegal activities should be reported to the Refuge Manager.

7. Any accident that results in a personal injury **(i.e., an accident that requires professional medical treatment)** shall be reported to the Refuge Manager within 24 hours of the accident.

8. All **locked** Refuge gates shall be closed and locked upon entering and leaving Refuge property. Refuge gates should be left the way they are found (i.e., open, closed, either locked or unlocked as the case may be).

9. Vehicle travel shall only be on designated roads or routes of travel, **unless authorized in writing by the Refuge Manager**. Vehicles, boats, trailers, and other equipment shall be parked in such a manner that **roads and trails, including canoe trails and navigable waters, are not to be blocked**. Roads and trails need to be accessible to other Refuge visitors and to Refuge staff, cooperative farmers, fire trucks, emergency vehicles, maintenance equipment, and law enforcement patrols.

10. Vehicles with catalytic converters shall be restricted to paved roads, recently maintained gravel or dirt roads, or bare soil areas because of the high fire potential. Vehicles with catalytic converters shall not be parked over high vegetation or other fire hazardous materials.

11. Refuge gate or building keys **shall not be loaned** to other agencies, companies, or persons. If there is a need for access by other persons, please have them contact the Refuge Manager. All Refuge keys shall be returned to the Refuge Manager, or a designated staff member, within 10 calendar days, after expiration or termination of the Permit or authorized activity.

12. All dogs (or any other pet) must be confined or on a leash while on the Refuge, **unless authorized in writing by the Refuge Manager**. Leashed pets must be under the immediate control of the Permittee or authorized person, or the leash must be secured to a stationary object. The leash shall not be in excess of 10 feet in length.

13. Possession or use of firearms, air guns, bows and arrows, cross bows, spears, or gigs; or illegal knives, weapons, or devices; or explosives of any type is prohibited on the Refuge when engaged in a special use activity, **unless authorized in writing by the Refuge Manager**.

14. Littering is prohibited. **All** materials brought into the Refuge shall be removed and properly disposed. Drink cans, bottles, candy wrappers, toilet paper, and other garbage and refuse shall not be left on the Refuge.

15. The Refuge Manager shall be contacted **before** any surface work is done. This includes mowing, road or trail improvements, digging, clearing or trimming of brush or vegetation, installation of structures, etc.

16. The use of herbicides and pesticides on Refuge property is prohibited, **unless authorized in writing by the Refuge Manager**. Unrestricted, over-the-counter-type, insect repellents may be used on or near the body and clothing to repel biting or stinging insects.

17. No permanent or semi-permanent markings shall be made on any Refuge building, structure, gate, post, sign, fence, tree, vegetation, or soil by either marking, painting, cutting, scratching, blazing, mowing, digging, or other destructive method, **unless authorized in writing by the Refuge Manager**. When needed, only temporary, removable markers (e.g., flagging tape, survey stakes, metal/paper/plastic tags, etc.) shall be used to mark site locations, plots, etc. Safety signs, informational signs, and any other signs required by law or regulation for the special use activity being

conducted, shall be posted as required, **but only with prior authorization by the Refuge Manager**. All markers and signs shall be removed upon conclusion of the special use activity or upon expiration or termination of the Permit.

18. The use or possession of traps, snares, or other passive (i.e., unattended) collection devices, which are used to collect wildlife, is prohibited, **unless authorized in writing by the Refuge Manager**. Each individual trap, snare, or passive collection device shall have a weather-resistant, permanent tag attached with the Permittee's, authorized person's, and/or organization's name legibly marked on the tag **or** shall have the Permittee's, authorized person's, and/or organization's name legibly marked, imprinted, or engraved on the trap, snare, or device.

19. No permanent or semi-permanent fences, buildings, shelters, docks, piers, or other structures or facilities may be erected, built, or placed on the Refuge, **unless authorized in writing by the Refuge Manager**. No machinery, equipment, supplies, or materials may be placed or stored on the refuge, **unless authorized in writing by the Refuge Manager**.

20. All open fires are prohibited, **unless authorized in writing by the Refuge Manager**. Leaving an **authorized** open fire unattended or not completely extinguished is prohibited. Setting on fire or causing to be set on fire any timber, brush, grass, or other inflammable material, including camp or cooking fires, is prohibited, **unless authorized in writing by the Refuge Manager**. The use of cutting torches, arc welders, or any other open flame/sparking devices (which are required to conduct the special use activity) shall be exercised with caution and **only with prior authorization from the Refuge Manager or Refuge Fire Management Officer**. When use of these devices is necessary, the operator(s) shall have **immediate access to appropriate fire control equipment** (e.g., fire extinguishers, shovels, etc.) and **immediate communication access to local emergency services** (e.g., cellular telephone, two-way radio, etc.). Tobacco smokers shall practice caution when smoking; shall completely extinguish all matches, cigars, cigarettes, and pipes; and shall dispose of same in a proper container (e.g., a vehicle ash tray).

SPECIAL CONDITIONS FOR BRIDGE CONSTRUCTION OVER PEA ISLAND (NEW) INLET
PROJECT B-2500 PHASE IIa
N. C. HIGHWAY 12TRANSPORTATION MAMANGEMENT PLAN
Pea Island National Wildlife Refuge
Attachment to Special Use Permit 2013-003

1. Special Use Permit # 2013-003 is issued for the expressed and sole purpose of establishing temporary easements adjacent to the existing N. C. Highway 12 (NC 12) right-of-way (ROW) as a temporary measure to facilitate construction of a new bridge to replace the existing temporary bridge over the Pea Island Inlet in the vicinity of the historic New Inlet.

2. This permit does not authorize any activity other than the use of refuge lands for the expressed purposes stated in SUP# 2013-003. It is the permittee's responsibility to obtain any and all other necessary local, state, or federal approvals prior to commencing work activities. All other permits, approvals, or agreements, written or verbal, whether from individuals or local, state, or federal agencies or other entities shall be coordinated by NCDOT so as to not in any way interfere with implementation of the terms and provisions of SUP # 2013-003.

3. The effective dates of this permit include the period from September 16, 2013 through December 31, 2017. If it should become necessary to extend the effective period, a request for extension should be submitted no less than 5 days in advance. The Refuge Manager or designee shall be notified no less than 3 days prior to commencement of activities on the Refuge.

4. Activities authorized through this permit include reasonable and prudent work within the existing North Carolina Department of Transportation (NCDOT) ROW for the existing NC Highway 12 and those areas identified in pre-construction drawings as temporary easement areas for the purpose of maintaining safe traffic flow while preparing for and construction of a concrete replacement bridge to replace the temporary steel bridge. Care shall be taken so as to avoid harm to wildlife and fisheries resources, including their habitats.

5. Temporary work outside of the existing NC 12 ROW as described in project plans reviewed by the Refuge Manager is authorized to the extent necessary to complete construction of the replacement bridge and restoration of NC 12 in a safe and effective manner. This authorization is conditional upon full restoration of affected areas is completed to the satisfaction of the Refuge Manager or designee. Prior consultation with the Refuge Manager or designee is required for any additional temporary work outside of the existing ROW and not shown on the pre-construction drawings.

6. Special Use Permit 2013-003 is limited to the specific request for sufficient temporary easement for bridge construction at the "Pea Island Inlet" site

7. FHWA and NCDOT are asking for a temporary easement to perform such tasks related to overall construction such as erecting erosion control structures, placing temporary shoring, staging areas, and pipe placement. These actions would all be temporary in nature. FHWA asserts that this "easement" would be a temporary occupancy and thus not a "use" of the Refuge requiring approval under Section 4(f) of the Department of Transportation Act of 1966. FHWA cites the 4(f) implementing regulations at 23 C.F.R. 774.13(d), which set forth the criteria for a temporary occupancy.

a. Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in the ownership of the land;

b. Scope of the work must be minor, i.e., both the nature and magnitude of the changes to the Section 4(f) property are minimal;

c. There are no anticipated permanent adverse physical impacts except as shown in Exhibit 1 attached to this permit, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;

d. The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and

e. There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

8. Special Use Permit 2013-003 does not convey any kind of recordable property interest.

9. Special Use Permit 2013-003 shall be invalidated in the event of failure by NCDOT or FHWA to satisfactorily complete the environmental administrative record for compliance with full disclosure and permitting requirements.

10. In the event of bird or turtle nesting activity within or adjacent to the project area as determined by the Refuge Manager NCDOT shall work with the contractor and incorporate remedial measures as recommended by USFWS to minimize or eliminate lighting, noise, or construction and associated activities. NCDOT shall be responsible for monitoring nesting activity as determined necessary by the Refuge Manager.

11. Any and all temporary easement, staging, or other work areas on the Refuge shall be sloped, contoured, and re-vegetated to pre-work conditions or to the satisfaction of the Refuge Manager.

12. Upon completion of construction, NCDOT shall address the issue of public access in the vicinity of New Inlet through the following measures:
    a. The existing parking lot on the east side of the NC Highway 12 and closest to Pea Island (New) Inlet shall be fully removed along with all construction materials, including concrete, asphalt, contaminated soils, and any other material not naturally belonging on the site. A replacement parking lot shall be constructed and the kiosk shall be relocated/reconstructed at a new site near the northern terminus of the Phase IIb bridge. The site will be selected by the Refuge Manager with input from NCDOT upon completion of the Phase IIb Bridge.

    b. The existing parking lot (New Inlet Parking Lot) and primitive boat access point on the west side of NC Highway 12 shall be fully restored upon completion of construction and an access drive similar to the one for the parking lot at the Bonner Bridge shall be constructed from the southern terminus of the new bridge to the New Inlet Parking Lot within the existing easement to the greatest extent possible. In order to minimize wetland impacts while providing safe ingress and egress from the boat access drive, NCDOT will be allowed to construct a turnaround on the east side of the existing easement, as well as a small area outside the easement on the west side of the existing easement, as depicted

on Exhibit 1. Upon project completion, the maintenance of the driveway and turnaround will be the responsibility of USFWS.

13. Permittee is responsible for removing any and all construction debris, materials, and equipment from the Refuge to the satisfaction of the Refuge Manager.

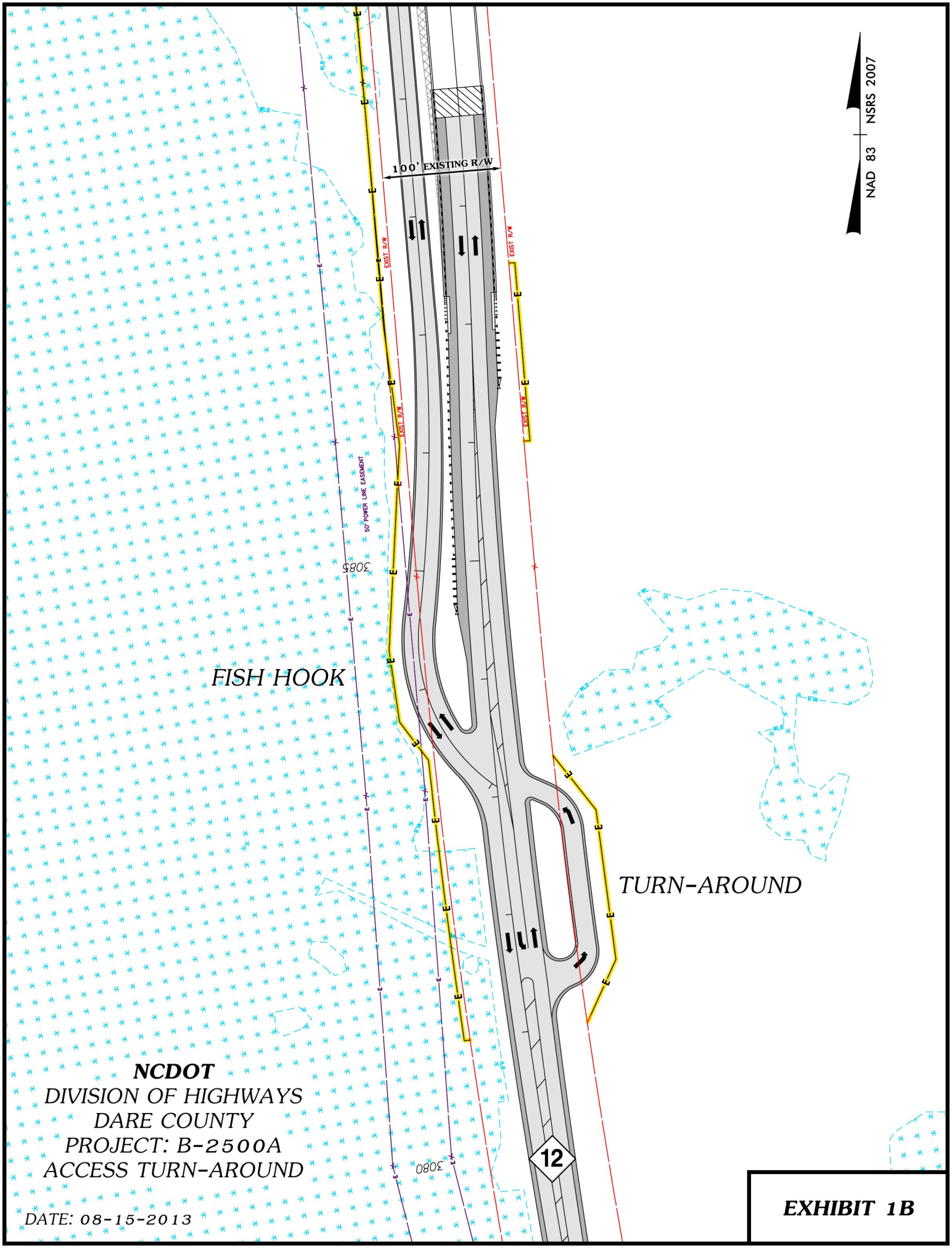
14. At the discretion of the Refuge Manager, a determination of failure to comply with all terms and provisions of SUP # 2013-003 shall result in revocation of the permit and removal of all fill and complete restoration of areas covered by temporary construction easements. Upon revocation or expiration of SUP # 2013-003, all debris, materials, vehicles, equipment, or other construction related items deemed by the Refuge Manager to be an un-natural addition to the refuge shall be removed within 30 days from receipt of notice of revocation or expiration of the permit.

15. Upon discovery of new ecological or biological information regarding fish, wildlife, or their habitats that could be affected by this project, the Refuge Manager retains the authority to amend this permit to protect natural resources in the interests of achieving the refuge system mission or the purpose for establishing the refuge.

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A
ACCESS TURN-AROUND

DATE: 08-15-2013

EXHIBIT 1A



NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A
ACCESS TURN-AROUND

DATE: 08-15-2013

EXHIBIT 1B

U.S. Department of Homeland Security

United States Coast Guard

Commander
United States Coast Guard
Fifth Coast Guard District

431 Crawford Street
Portsmouth, Va. 23704-5004
Staff Symbol: dpb
Phone: (757) 398-6557
Fax: (757) 398-6334
Email: James.L.Rousseau2@uscg.mil

16593
1 MAY 2013

Mr. Gregory J. Thorpe, Ph.D.
Manager, Project D & E Analysis Unit
State of North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, NC 27699-1598

Dear Dr. Thorpe:

Review of your proposed bridge project is complete. Based on the documentation provided and that four comments were received and resolved to Public Notice 5-1292 from the NC State Clearing House and the NC Division of Coastal Management it is determined that a formal Coast Guard bridge permit will not be required for the proposed replacement of the temporary bridge with a new bridge over the New Inlet or Pea Island Breach between Whalebone and Rodanthe near Oregon Inlet, Dare County, NC.

The project will be placed in our Advance Approval category as per Title 33 Code of Federal Regulations Part 115.70. This Advance Approval determination is for the location and proposed replacement of the temporary bridge with a new bridge across the New Inlet or Pea Island Breach and **is valid for five years from the date of this letter**. If the replacement does not commence within this time period, you must contact this office for reaffirmation of this authorization.

Future bridge projects along the same waterway will have to be independently evaluated before they may be considered for Advance Approval. The fact that a Coast Guard bridge permit is not required does not relieve you of the responsibility for compliance with the requirements of any other Federal, State, or local agency who may have jurisdiction over any aspect of the project. Although the project will not require a bridge permit, other areas of Coast Guard jurisdiction apply. The following must be met:

a. At no time during the bridgework will the waterway be closed to navigation without the prior notification and approval of the Coast Guard.

b. This office should be notified as soon as possible to commencement and completion of bridgework so that appropriate announcements may be prepared for our Local Notice to Mariners publication.

c. The lowest portion of the superstructure of the bridge across the waterway should clear the l00-year flood height elevation, if feasible.

The National Ocean Service (NOS) of the National Oceanic and Atmosphere Administration (NOAA) is responsible for maintaining the charts of U.S. waters; therefore, they must be notified of this proposed work. You must notify our office and the NOS upon completion of the activity approved in this letter. Your notification of completion must include as-built drawings, which

certifies the location and clearance of the bridge that was constructed. This information will be sent to the following address:

Ms. Allison Wittrock
National Ocean Service
N/CS26, Room 7317
1315 East-West Highway
Silver Spring, MD 20910-3282

If you have any further questions, please contact Jim Rousseau at the above-listed address or telephone number.

Sincerely,

WAVERLY W. GREGORY, JR.
Bridge Program Manager
By direction of the Commander
Fifth Coast Guard District

Copy: Sector North Carolina, Waterways Management
Ms. Allison Wittrock, NOS

Final Wetland Mitigation Plan
NC 12 Replacement of Herbert C. Bonner Bridge
(Bridge No. 11) over Oregon Inlet

Federal-Aid No. BRS-2358(15)
NCDOT Project Definition: 32635
TIP Project No. B-2500
Dare County, North Carolina
Prepared by
United States National Park Service
North Carolina Department of Transportation
January 30, 2013

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BASELINE INFORMATION

This Wetland Mitigation Plan details the proposed mitigation to be performed by the North Carolina Department of Transportation (NCDOT) for wetland impacts associated with the NC 12 Replacement of the Herbert C. Bonner Bridge over Oregon Inlet. Impacts to Section 404 jurisdictional wetlands on Federally owned lands managed by the National Park Service (NPS) and by the United States Fish and Wildlife Service (USFWS), within the Cape Hatteras National Seashore (the Seashore), will occur during Phase I of the bridge replacement. The proposed mitigation will be used to offset impacts for Phase I and for future phases as appropriate. Section 404 jurisdictional wetland impacts associated with Phase I of the Selected Alternative will be approximately 0.50 acres, of which 0.02 acres are considered CAMA jurisdictional wetlands.

The NPS worked with NCDOT to identify potential compensatory mitigation sites for the anticipated impacts to Section 404 jurisdictional wetlands. Several mitigation options were explored and prioritized. These options are discussed in detail in the Final Environmental Impact Statement (FEIS) dated September 17, 2008.

The NPS identified restoration of high-quality wetland communities designated as Significant Natural Heritage Areas (SNHAs) within the NPS property as the highest priority mitigation option. Many sites with high-quality or rare natural communities, rare species, and special animal habitats have been identified by the NPS and North Carolina Heritage Program (NCNHP) as being important for conservation of the State's biodiversity. The ecological significance of these areas has been documented through a 1987 Registry agreement, as amended, for the protection and management of Significant Natural Heritage Areas (SNHAs).

The NPS has identified the Bodie Island Lighthouse Pond SNHA as one such area (vicinity of 35°49'7.07"N, 75°33'48.60"W). NCDOT field surveys and mapping efforts estimated that approximately 50 acres of formerly Spartina-dominated marsh habitat has been displaced by the invasion of the exotic plant Phragmites in an area surrounding the Bodie

Island Lighthouse. This *Wetland Mitigation Plan* identifies the proposed work plan and performance measures to guide the restoration of the former marsh habitat through exotic plant control measures in this area of high management priority within the Seashore.

MITIGATION GOALS AND OBJECTIVES

The goal of this proposed mitigation plan is to compensate for unavoidable wetland impacts by developing a single proposal that (a) meets the compensation requirements of both the Executive Order 11990: Protection of Wetlands and the USACE Section 404 permit procedures (33 CFR 320-330); and (b) meets the NPS goal of "no net loss of wetlands" on NPS property. As explained in E.O. 11990, a Wetland Statement of Findings (SOF) must be prepared if an NPS action has the potential to have adverse impacts on wetlands unless the action is "excepted". A Wetland SOF is being prepared under separate cover for the B-2500 bridge replacement project. This mitigation plan is excepted from the requirement of a Wetland SOF under Section 4.2.1 (h): **Actions designed to restore degraded (or completely lost) wetland, stream, riparian, or other aquatic habitats or ecological processes**.

Compensatory mitigation means the restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved. Restoration should generally be the first option considered because the likelihood of success is greater and the impacts to potentially ecologically important uplands are reduced compared to establishment, and the potential gains in terms of aquatic resource functions are greater, compared to enhancement and preservation.

Mitigation options are defined below according to **COMPENSATORY MITIGATION FOR LOSSES OF AQUATIC RESOURCES**, **33 CFR PART 332:**

1. ***Restoration*** means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or

degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

   a. ***Re-establishment*** means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.
   b. ***Rehabilitation*** means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

2. ***Establishment*** (creation) means the manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area and functions.
3. ***Enhancement*** means the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.
4. ***Preservation*** means the removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

MITIGATION OBJECTIVES

The proposed on-site mitigation, defined as restoration above, provides for the rehabilitation of the integrity of natural resources, native vegetation mosaic, and habitat values at the Bodie Island Lighthouse Pond. In a December 2010 meeting with NCDOT, the NPS identified this site as a high management priority within the Seashore.

Examples of high management priority areas are areas that have been jointly identified by NPS and the North Carolina Natural Heritage Program (NCNHP) and are Registered Significant Natural Heritage Areas (SNHAs). Registration of SNHAs means that the NPS and NCNHP have signed a Registry agreement that documents their joint interest and commitment to protect the integrity of natural resources within a particular area. The 1987 Registry agreement states that the NPS will:

> ….refrain from making or permitting changes that negatively affect the natural values for which [these areas were] registered….Specifically, the National Park Service agrees to manage and maintain the designated natural areas for the perpetuation and protection of their primary biological resources. In some cases, manipulation—by burning, mowing, cutting, control of exotic species, managed water levels, or placement of dredged materials—may be appropriate to control natural vegetational succession and maintain habitats for rare or special-interest species…A monitoring program will be maintained for endangered and threatened species of animals and plants.

Each SNHA profile includes specific management action recommendations. The following management goals in this plan are based on those identified in national invasive species guidance, including the *National Invasive Species Management Plan* (National Invasive Species Council, 2008). Each goal has a set of related management objectives, which are statements of purpose that describe what must be accomplished for the plan to be considered a success in the Seashore. Adaptive management, an integral part of this plan, is a process that allows for decision making in spite of uncertainty, with an aim to reduce uncertainty over time via system monitoring. This process allows resource objectives to be met while information is gathered and lessons are learned, in hopes of continually improving future management.

Independent of the specific project location, the following goals and management objectives are applicable to exotic plant control efforts within the Seashore:

Goal 1: Inventory – Initiate a comprehensive and systematic exotic plant inventory to establish a baseline from which to measure progress.

Management Objectives:

- Document the abundance and distribution of exotic plants in the target areas
- Provide a foundation for prioritizing threats and for carrying out management planning efforts
- Provide a foundation for the development of short- and long-term programmatic plans

Goal 2: Treatment – Treat exotic plant populations that pose the greatest threat to park resources.

Management Objectives:

- Use the most effective and appropriate tool, or combination of tools, to eradicate or reduce the impact of exotic plants
- Reduce the impact of exotic plants on sites of cultural, scenic, and high ecological value, including habitat for special status species
- Restore ecosystems and key ecological processes that have been affected by invasive species to meet desired future conditions
- Integrate ecological restoration practices in exotic plant control treatments to guard against reinfestation
- Minimize secondary impacts from control efforts
- Protect human health and safety of persons potentially affected by the exotic plant control treatments

Goal 3: Monitoring – Ensure that the exotic plant control program is regularly monitored and improved, environmentally safe, and supported by science and research.

Management Objectives:

- Monitor and evaluate the overall program effectiveness to inform management regarding whether the program is of sufficient scope to meet program goals

- Monitor and evaluate the effectiveness of control techniques by species and adapt as necessary, based on results
- Monitor effects on native plant communities, based on results, adapt control techniques
- Identify vectors of spread to determine ways of preventing new species and populations from becoming established in targeted areas
- Promote research in the park upon which to base future management decisions

Goal 4: Educate, Outreach, and Research – Educate, inform, consult, and collaborate with stakeholders (e.g., NPS and other government agencies, organizations, concessioners, visitors, partners, private property owners, and gateway communities) to share information and address exotic plant issues.

Management Objectives:

- Continue developing partnerships to encourage participation in the management of exotic plants throughout the Outer Banks region
- Expand collaborative efforts among park neighbors, park partners, gateway communities, and the public to share methods of preventing and controlling the spread of exotic plants
- Ensure that interested parties are well-informed about the timing and locations of upcoming exotic plant control treatments
- Educate and inform park visitors on exotic plants
- Provide stewardship opportunities for the public
- Continue to support and develop exotic plant research

AFFECTED WETLANDS AND MITIGATION

INTENDED COMPENSATION CONTRIBUTION

The proposed construction of B-2500 will permanently impact 0.50 acre of jurisdictional wetlands, which includes 0.01 acre CAMA jurisdictional wetlands.

Individual impact sites and acres are summarized in the wetland impact sheet included in the permit application. Specific community descriptions and wetland types are described in detail in the Final Environmental Impact Statement dated September 2008.

ONSITE MITIGATION

To date, the NPS has identified the rehabilitation of approximately 50 acres of wetland within the Bodie Island Lighthouse Pond SNHA as the highest priority site for the proposed on-site mitigation for wetland impacts. The NPS and NCNHP identified control of exotic plant species is essential to prevent the degradation or loss of function of this SNHA.

Bodie Island Ligthouse Pond SNHA (Site Id #1134)

The Bodie Island Lighthouse Pond is located on the Oregon Inlet 7.5 USGS topographic quad map, approximately 3 miles north of Oregon Inlet. It is the largest pond in the Seashore, measuring nearly one mile long and 0.4 mile wide. This fresh to slightly brackish pond is likely not a natural body of water. It was probably created by a waterfowl hunt club by placing a dam on a small outlet stream to the Pamlico Sound. However, the history of the pond is poorly known, and it predates the designation of the Cape Hatteras National Seashore.

Today, the Lighthouse Pond is primarily used for nature study. Large numbers of birdwatchers and sightseers visit the pond each year, accessing the Pond area on a recently upgraded (now handicap-accessible) wildlife viewing platform. Hunting and fishing are prohibited.

The site was described by the NCNHP as having significance due to its outstanding collection of water birds, with several rare plant and animal species. Historically, the pond was bordered by a diverse, though somewhat narrow, border of fresh-brackish marsh. Several rare plants occurred in the marsh. The Lighthouse Pond is habitat for very large numbers of waterbirds, making it one of the best bird watching sites in North Carolina

(Buchanan 2009). For most of the year, thousands of waterbirds forage in the mud and shallow water at the pond. Several species of waterfowl nest in the vegetation at the edge of the pond, including black duck, gadwall, and blue-winged teal. During the warmer months a large variety of shorebirds, herons, egrets, and ibises forage at the pond. Several uncommon shorebird species occur annually, including Hudsonian godwit and Wilson's phalarope. From early autumn into spring, the pond is often covered with waterfowl including tundra swans, Canada geese, and snow geese. Peregrine falcons pass through the area in fall migration, and one or two individuals are often present in the vicinity of the pond in fall or winter.

The following lists the special status species of plants and animals known to occur in the vicinity of the pond:

- Black-necked stilt (*Himantopus mexicanus*), State Significantly Rare
- Peregrine falcon (*Falco peregrinus*), State Endangered
- Black rail (*Laterallus jamaicensis*), State Species of Concern
- Saltmarsh spikerush (*Eleocharis halophila*), State Threatened
- Beaked spikerush (*Eleocharis rostellata*), State Threatened
- Olney's three-square (*Schoenoplectus americanus*), State Watch List

The 1987 Registry agreement includes specific management and protection recommendations for the Bodie Island Lighthouse Pond SNHA. The site will continue to be a visitor destination within the Seashore, for birdwatchers and lighthouse tourists alike. However, the NPS is presently neither managing the water level for the benefit of the bird populations nor is the NPS presently monitoring or managing infestations of exotic plant species, with a specific emphasis on *Phragmites australis*.

The European genotype of the common reed (*P. australis*) occurs in large bands around the edge of the pond; this is an exotic species which is now abundant in habitats once occupied by the genotype native to the United States. Population decline and local extinctions of the native genotypes may be a result of competitive displacement by the exotic genotype

and/or anthropogenic disturbance. Approximately 900 acres of marsh are infested by the exotic *P. australis* throughout the entire Seashore. In 2008, the NPS originally estimated and mapped approximately 35 acres of marsh infested by the exotic *P. australis* within the Bodie Island Lighthouse Pond SNHA. In 2011, NCDOT in coordination with NPS mapped 51.73 acres of phragmites within the marsh at Bodie Island Lighthouse pond.

EFFECTS OF PHRAGMITES INVASION OF COASTAL MARSHES

Phragmites australis is a tall perennial grass which can attain heights of up to 4.5 m (USACE 2005), significantly greater than that of native marsh species, such as *Spartina alterniflora*, *Spartina patens*, *Juncus roemarianus*, and *Typha latifolia*. Although it is a prolific seed producer, *Phragmites* most often spreads locally through vigorous growth of rhizomes and stolons, which can grow up to 2 m per year (Batterson and Hall 1984). *Phragmites* can eventually sustain stem densities of up to 300 culms per square meter through development of a dense root mat (Hara et al. 1993). In addition to vigorous biomass growth, *Phragmites* is also reported to release the allelopathic chemical gallic acid into the soil, which inhibits the establishment and growth of other marsh species (Rudrappa et al. 2007). As a result of these physiological characteristics, *Phragmites*, once established, frequently develops dense, monospecific colonies over extensive areas and can exclude shorter native marsh species (USACE 2005). The Virginia Department of Conservation and Recreation (2009) reported that aggressive *Phragmites* colonies threatened the habitat of 29 rare plant species in Virginia.

The effect of *Phragmites* invasion on communities of associated wildlife has been most pronounced with respect to birds. While the observed effect on populations of native fish, benthic infauna, aquatic invertebrates, and decapod crustaceans has been variable (Posey et al. 2003, Hanson et al. 2002, Able and Hagan 2000, Fell et al. 1998), the shift in habitat from native low marsh vegetation to monotypic stands of *Phragmites* has demonstrated a more consistent effect on bird populations. In a study of marsh birds in Connecticut, it was demonstrated that there were fewer species present in *Phragmites*-dominated stands than in native short-grass marshes, particularly among rare bird species (Benoit and Askins 1999).

The authors concluded that the dense, montypic stands of *Phragmites* reduce the structural habitat heterogeneity and plant diversity needed by many species. In addition, the height and density of the thick *Phragmites* stems may physically exclude waterfowl and wading birds from the marsh interior, or substantially reduce hunting efficiency, rendering these sites unproductive. Similarly, Bontje (1987) found increased bird richness in restored cordgrass marshes compared with reference *Phragmites*, and Paxton (2007) reported that avian marsh species in Virginia rarely utilized stands of *Phragmites*. *Phragmites* has been reported to negatively affect the habitat of 22 rare animal species including 13 birds in the state of Virginia (VDCR 2009).

Some researchers have suggested that changes in vegetation growth form and structure between native marsh grasses and invasive *Phragmites* may affect soil and hydrology characteristics of wetland sites. *Phragmites* colonies typically have fewer but significantly larger stems than native species, which may affect water flow through the marsh, sediment deposition rates and processes, detrital production and accumulation rates, sediment organic content, and nutrient cycling (Meyerson et al. 2000, Talley and Levin 2001, Rooth and Stevenson 2000, Windham 2001, Leonard et al. 2002). Windham and Lathrop (1999) stated that *Phragmites* stands may increase detritus accumulation over time, and thus, may elevate the substrate surface and smooth surface microtopography. Such gradual aggredation of the substrate surface may ultimately eliminate surface hydrology features relevant to aquatic species. *Phragmites* stands have demonstrated significantly greater rates of internal nitrogen cycling (both immobilization and mineralization) as compared to stands of native *Spartina patens* (Windham and Ehrenfeld 2003). *Phragmites* sequestered more nitrogen in live biomass and detritus compared to *Spartina patens*, but simultaneously stimulated microbial nitrogen mineralization at an equivalent rate, potentially affecting total nitrogen pools within the wetland along with pathways of nitrogen export. Similarly, Findlay et al. (2003) demonstrated that the ability of wetlands to serve as a nitrogen sink was reduced when former *Phragmites* stands were restored to a more diverse plant community.

TREATMENT OPTIONS

Throughout the United States and Europe, a full suite and combination of physical and chemical techniques have been tested experimentally in laboratory and field conditions to gain insight into the control and eradication of exotic *P. australis*. Experimental control efforts have varying degrees of success, and no singular effective technique has been identified as the best approach to managing *P. australis* infestations. Physical controls tested include manual and mechanical means of inducing stress (e.g., shading, drowning, mowing, burning), alteration of site hydrology (e.g., filling ditches, creating ditches, creating ponds), and excavation of root systems.

Minchinton and Bertness (2003) demonstrated that alteration of vegetation adjacent to *P. australis* plots and nutrient pulses each resulted in increased density, height, and biomass of *P. australis* shoots. The combination of these treatments also resulted in an increase in the distance that shoots expanded and their reproductive output. Thus, limiting disturbance of native vegetation and reducing nutrient loading are critical to preventing the spread of existing *P. australis* infestations.

Chemical controls include herbicide application, typically in combination with some form of physical control for well-established infestations in large areas. Chemical control of *P. australis* has been achieved most frequently with a foliar application of imazapyr or glyphosate, a non-selective herbicide, applied in July to mid-September. (Mozdzer et al, 2008) Herbicide application followed by burning has shown to be relatively effective and may stimulate the native plant community recovery (Boone et al, 1987)

The NPS has completed an Environmental Assessment for the Outer Banks Group Fire Management Plan (2001) and a Finding of No Significant Impact (FONSI) was received (2002) to allow the Seashore to use prescribed burning to manage hazardous fuel loads. The Seashore conducted a prescribed burn in early 2012.

PROPOSED MITIGATION

The NCDOT proposes to restore of approximately 50 acres of phragmites dominated wetland within the Bodie Island Lighthouse Pond SNHA by rehabilitation to its former function as a brackish marsh. NCDOT proposes a 5:1 ratio for this onsite wetland restoration to offset wetland impacts associated with Phase I of B-2500. Remaining assets on the site must have regulatory agency approval prior to use as mitigation on other projects.

WORK PLAN

Goal 1: Inventory

The NPS identified that control of exotic plant infestation in the Bodie Island SNHAs is the highest priority site for the proposed mitigation for wetland impacts resulting from the bridge replacement project.. In 2008, the NPS preliminarily estimated and mapped approximately 35 acres infested by the exotic *P. australis* within this SNHA. In 2011, NCDOT mapped 51.73 acres based on field surveys and photogrammetric analysis as shown in Figure 1 below.

Prior to site treatment, fixed photo points and vegetation survey plots and will be established within the marsh area. Photo points will be established near the edges of phragmites stands. Fourteen (14) 1 square-meter plots will be randomly located within the surveyed phragmites stands outlined in yellow on Figure 1 below. Additional plots will be located outside the phragmites stands as control plots. Vegetation plots will be inventoried for % aerial coverage of phragmites within each plot. Native vegetation will also be recorded.

Figure 1

Goal 2: Treatment

The use of herbicide treatment(s) (initial and spot treatments) is recommended as the primary control method and the first step toward effective control. After the initial herbicide treatment, one or more follow-up methods at each site will be required.

NCDOT and NPS treatment plan follows procedures established in *A Guide to the Control and Management of Invasive Phragmites,2nd Edition* published by the Michigan Department of Natural Resources in cooperation with several other state and federal agencies. The guide presents a compilation of techniques, based on four years of research and more than ten years of land managers' on-the-ground experience, to control the nonnative variety of phragmites.

NCDOT will follow the Guide's specific recommendations of Approach 2 management strategy for large, dense stands of phragmites on a wet site:

1. Treat phragmites stands with Imazapyr and Glyphosate herbicides in mid-summer or late summer. Wait at least two weeks to allow plant exposure.
2. If prescribed burning is recommended, conduct in the year following herbicide treatment either in winter (January until prior to spring green-up) or during the summer.
3. Check site the following growing season for phragmites regrowth and spot-treat with herbicide if needed.

ADAPTIVE MANAGEMENT

Controlling *Phragmites* infestations has proven to be a challenging and unpredictable undertaking for resource managers and landowners across the country. Therefore, adaptive management is crucial for this wetland restoration project to be successful. Adaptive management is a process that allows for decision making in spite of uncertainty, with an aim to reduce uncertainty over time via system monitoring. Our goal is that NCDOT and NPS Resource Management (RM) staff at CAHA keeps open communication throughout the duration of the mitigation project in order to achieve success. The following outline is proposed for the duration of the monitoring period to allow for annual adjustment in the treatment plan based on success criteria.

- January-March, annually
    - Prepare and submit NPS Pesticide Use Proposal (PUP) must be submitted by NPS on annual basis, requesting authorization to apply specific herbicide.
    - NPS will notify NCDOT of authorization to apply herbicides via PUP approval from the NPS Southeast Regional Office.
    - NPS authorizes herbicides on individual basis; therefore, there shall be no substitution of herbicide without written authorization via PUP approval.
    - Submit copy of current NC Certified Applicator License(s) must be submitted to NPS annually and prior to application of herbicide

- March-June, annually
    - Identify areas aerial treatment proposed to occur
        - Initial aerial treatment area includes the entire band of marsh around the Lighthouse pond (except where spot treatment preferred)
        - Subsequent aerial treatment areas will be determined by annual evaluation
    - Identify areas spot treatment proposed to occur
        - Initial spot treatment areas include areas in close proximity of listed species as identified by field surveys and areas in close proximity to visitor use as identified by NPS
        - Subsequent spot treatment areas will be determined by annual evaluation
    - Evaluate recover of target species
        - Identify areas not on target to meet success criteria for recover of target species (bare areas)
        - Determine if supplemental planting is appropriate

- Mid Summer through mid-November, annually
    - Conduct aerial or spot application of aquatic herbicide in identified areas
    - Herbicide must be stored, handled, applied, and disposed of by a NC Certified Applicator in accordance with the label and MSDS
    - NC Certified Applicator must be on-site when herbicides are being applied
    - NC Certified Applicator is accountable for any and all individuals working under Applicator's License
    - Daily Pesticide Use Log must be maintained by applicator

- By December 31, annually
    - Pesticide Use Log must be submitted to NPS
    - Monitoring report must be submitted to NPS and agencies

AVOIDANCE MEASURES

In order to minimize adverse impacts to the resources at Bodie Island Lighthouse Pond, several mitigation measures must be put in place for proposed activities. These include, but are not limited to:

- Avoid impacts of herbicides to rare plants:
  - Physical cover for individual stems
  - Establish buffer zones around sizeable populations of rare plants
  - Minimize drift by applying herbicides with proper technique and under proper conditions through contract specifications. Table 1 below relates droplet size and expected drift.

Accuflow nozzles allow the user to customize the orifice size to accommodate different spray jobs. Each nozzle has an array of 32 needle outlets in a circular configuration. The system operates with 20 psi boom pressure and under 5 psi nozzle pressure. This boom/nozzle combination produces droplet sizes of 1000 - 1500 microns, depending on which orifice used.

Table 1: Influence of droplet size on distance of drift. (Klingman, Potts, Akesson, Yates)

Droplet diameter (microns)	Type of Droplet	Time Required to fall 10 feet	Lateral distance droplets travel in a 3 mph wind
5	Fog	66 minutes	3 miles
20	Very fine spray	4.2 minutes	1,100 feet
100	Fine spray	10 seconds	44 feet
240	Medium spray	6 seconds	28 feet
400	Coarse spray	2 seconds	8.5 feet
1,000	Fine rain	1 second	4.7 feet

- Avoid impacts to wetland soils/hydrology:
  - Use aerial application for initial treatments
  - Convert to backpack application after control established

- Avoid impacts to water quality:
  - Use herbicides that are safe for application in standing water
  - Prevent spills of contaminants from entering water bodies or wetlands

- Avoid impacts to visitor experience:
  - Perform herbicide application and prescribed burns when visitor use in the area is as minimal as possible (CAHA staff will provide preferred timeline)
  - Inform public of activities through posting signs, press releases, etc.

- Actions must be consistent with NC Coastal Area Management Act

- Prescribed burn actions must be consistent with Minimum Impact Suppression Tactics (MIST) practices and follow an approved burn plan

Goal 3: Monitoring

Monitoring the results of *Phragmites* control treatments provides critical information that will allow NPS and NCDOT to assess the efficacy of their actions at the site. NCDOT will be responsible for all monitoring activities, including coordination with NPS and NHP.

- Fixed photo points will be established across the site at edges or boundaries of phragmites stands.
- Fourteen (14) 1 square-meter plots will be randomly located within the surveyed phragmites stands as shown on Figure 1. This density is less than recommended in the NMFS guidelines but data will be supplemented by aerial photo interpretation. Three (3) additional plots will be located outside the phragmites stands as control plots.

- The vegetation component of the wetland site will be deemed successful if the following criteria are met:
    - After the first year treatment, the total aerial coverage of dense phragmites stands decreases from the current 50 acres mapped as shown on Figure 1. This will be reported in the Spring of the following year.
    - This trend of decreased aerial coverage of mapped phragmites will continue each treatment year.
    - At the end of the final monitoring year, the total aerial coverage of dense phragmites stands will be 10 acres or less with stems less than three feet tall.
- Annual reports will be prepared and distributed at the end of each treatment year.
- Subsequent year treatment areas and type of treatment (aerial or spot herbicide, prescribed burn) will be mapped and reported in the Spring of each year.

Goal 4: Educate, Outreach, and Research

The project will provide an educational opportunity for NPS by incorporating invasive species issues into the interpretive programs provided to visitors. According to NPS, the goal of these programs "is to provide memorable and meaningful learning and recreational experiences, foster development of a personal stewardship ethic, and broaden public support for preserving park resources. Such programs will be successful when they forge emotional and intellectual connections among park resources, visitors, the community, and park management". Visitors may learn how to identify phragmites, the cause and effects of invasive species in our state's natural communities and how they can help to prevent the spread of invasive species. NCDOT will continue to coordinate with NPS to notify all stakeholders and potential visitors when treatment will take place. Additionally, as large stands of phragmites die-off, it will be important to provide the visitors an explanation of what may temporarily appear as destructive, is actually crucial to restoring the natural community. To this end, NCDOT will explore installing interpretive signage with NPS near the lighthouse illustrating the needs and goals of the restoration process.

An adaptive management plan will provide a valuable site specific opportunity for the NCDOT, NPS and other stakeholders to learn and understand the best methods of treatment and how the natural community responds. This information will help provide an effective method of treatment to ensure the long-term success of phragmites control that may also be applied to other areas of the Seashore and surrounding coastal areas. Specific details regarding methods, rates and timing of pesticide application, prescribed burns and effectiveness will be recorded and available to the public and stakeholders.

SITE PROTECTION AND MAINTENANCE

The site is located completely on National Park Service land and is afforded long-term protection under federal laws and maintained under NPS regulations.

FINANCIAL ASSURANCES

NCDOT is held by permit conditions associated with B-2500 to complete the mitigation and monitoring plan for this site. NCDOT has established funds for each project and within each Division to monitor the mitigation site.

PROJECT COMMITMENTS

NCDOT will work with NPS to solicit grant funding for long term management of the site by NPS. NCDOT has coordinated with the Division and utility personnel to minimize encroachment of phragmites from outside the site along the eastern boundary. Dominion Power and NCDOT Division Roadside Environmental Unit have agreed to discontinue mowing of phragmites stands within the utility easement and along the roadway adjacent to the Bodie Island Lighthouse pond. Vegetation management in these areas will be achieved through herbicide treatment.

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Appendix A: Material Safety Data Sheets

Habitat – Imazapyr

Rodeo – Glyphosate

BASF
The Chemical Company

Safety Data Sheet
HABITAT HERBICIDE

1. Product and Company Identification

Company
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Substance number:	000000063383
Molecular formula:	C(13) H(15) N(3) O(3). C(3) H(9) N
Chemical family:	imidazole derivative
Synonyms:	Isopropylamine salt of imazapyr

2. Hazards Identification

Emergency overview

CAUTION:
KEEP OUT OF REACH OF CHILDREN.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of mists/vapours.

See Product Label for additional precautionary statements.

State of matter: liquid
Colour: blue, clear
Odour: ammonia-like, faint odour

Potential health effects

Primary routes of exposure:
Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:
Relatively nontoxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Irritation / corrosion:
May cause slight but temporary irritation to the eyes. May cause slight irritation to the skin.

Sensitization:
Skin sensitizing effects were not observed in animal studies.

Potential environmental effects

Aquatic toxicity:
There is a high probability that the product is not acutely harmful to fish. There is a high probability that the product is not acutely harmful to aquatic invertebrates. Acutely harmful for aquatic plants.

Terrestrial toxicity:
With high probability not acutely harmful to terrestrial organisms.

3. Composition / Information on Ingredients

CAS Number	Content (W/W)	Chemical name
81510-83-0	>= 27.77 - <= 27.8 %	Isopropylamine salt of imazapyr
	72.2 %	Proprietary ingredients

4. First-Aid Measures

General advice:
First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

If on skin:
Rinse skin immediately with plenty of water for 15 - 20 minutes.

If in eyes:
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

If swallowed:
Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Flash point: Non-flammable.
Self-ignition temperature: not self-igniting

Suitable extinguishing media:
foam, dry powder, carbon dioxide, water spray

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrocarbons,
If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released if the product is involved in a fire.

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions:
Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions:
Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Cleanup:
Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Handling

General advice:
RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:
The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Storage

General advice:
Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

Storage incompatibility:
General advice: Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

Temperature tolerance
Protect from temperatures below: 0 °C
Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.

Protect from temperatures above: 40 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls and Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Advice on system design:
Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:
Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:
Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:
Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	liquid		
Odour:	ammonia-like, faint odour		
Colour:	blue, clear		
pH value:	6.6 - 7.2		
Freezing point:	approx. 0 °C	(1,013.3 hPa)	Information applies to the solvent.
Boiling point:	approx. 100 °C	(1,013.3 hPa)	Information applies to the solvent.
Vapour pressure:	approx. 23.3 hPa	(20 °C)	Information applies to the solvent.
	< 100 hPa	(50 °C)	Information applies to the solvent.

Density:	1.04 - 1.09 g/ml	
	1.0956 g/cm3	(15 °C)
	1.0755 g/cm3	(50 °C)
Vapour density:		not determined
Viscosity, dynamic:	approx. > 1 mPa.s	(20 °C)
Solubility in water:		miscible
Molar mass:	320.4 g/mol	

10. Stability and Reactivity

Conditions to avoid:
Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged storage. Avoid electro-static discharge. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures.

Substances to avoid:
oxidizing agents, reducing agents

Hazardous reactions:
The product is chemically stable.

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged thermal loading can result in products of degradation being given off.

Thermal decomposition:
Possible thermal decomposition products:
carbon monoxide, carbon dioxide, nitrogen oxide
Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.

Corrosion to metals:
Corrosive effect on: mild steel brass

Oxidizing properties:
not fire-propagating
Not an oxidizer.

11. Toxicological information

Acute toxicity

Oral:
Type of value: LD50
Species: rat (male/female)
Value: > 5,000 mg/kg

Inhalation:
Type of value: LC50
Species: rat (male/female)
Value: > 5.3 mg/l (OECD Guideline 403)
Exposure time: 4 h
An aerosol was tested.

Dermal:
Type of value: LD50
Species: rabbit (male/female)
Value: > 2,000 mg/kg

Irritation / corrosion

Skin:
Species: rabbit
Result: mildly irritating
Method: Primary skin irritation test

Eye:
Species: rabbit
Result: non-irritant

Sensitization:
Skin sensitization test
Species: guinea pig
Result: Skin sensitizing effects were not observed in animal studies.

Genetic toxicity

Information on: imazapyr
No mutagenic effect was found in various tests with microorganisms and mammals.

Carcinogenicity

Information on: imazapyr
In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Information on: imazapyr
The results of animal studies gave no indication of a fertility impairing effect.

Development:

Information on: imazapyr
No indications of a developmental toxic / teratogenic effect were seen in animal studies.
---

12. Ecological Information

Fish

Information on: imazapyr
Acute:
Oncorhynchus mykiss/LC50 (96 h): > 100 mg/l

Aquatic invertebrates

Information on: imazapyr
Acute:
Daphnia magna/EC50 (48 h): > 100 mg/l

Aquatic plants

Toxicity to aquatic plants:
other swollen duckweed/EC50 (14 d): 0.0228 mg/l
The product has not been tested. The statement has been derived from products of a similar structure or composition.

Non-Mammals

Information on: imazapyr
Other terrestrial non-mammals:
mallard duck/LC50: > 5,000 ppm
With high probability not acutely harmful to terrestrial organisms.
Honey bee/LD50: > 100 ug/bee
With high probability not acutely harmful to terrestrial organisms.

Degradability / Persistence
Biological / Abiological Degradation

Evaluation: Not readily biodegradable (by OECD criteria).

Other adverse effects:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:
Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:
Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA:
This product is not regulated by RCRA.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Marine pollutant:	YES
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains IMAZAPYR 23%)

Air transport
IATA/ICAO

Hazard class:	9

Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains IMAZAPYR 23%)

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection	TSCA, US	released / exempt
Chemical	TSCA, US	blocked / not listed

OSHA hazard category: Chronic target organ effects reported; ACGIH TLV established

EPCRA 311/312 (Hazard categories): Acute; Chronic

State regulations

CA Prop. 65:
There are no listed chemicals in this product.

16. Other Information

Refer to product label for EPA registration number.

Recommended use: herbicide

NFPA Hazard codes:
Health : 1 Fire: 1 Reactivity: 1 Special:

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

MSDS Prepared by:
BASF NA Product Regulations
msds@basf.com

MSDS Prepared on: 2012/03/08

INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET

MATERIAL SAFETY DATA SHEET

Dow AgroSciences

Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

RODEO* HERBICIDE

Effective Date: 3/23/04
Product Code: 84825
MSDS: 006694

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Rodeo* Herbicide

COMPANY IDENTIFICATION:
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268-1189

2. COMPOSITION/INFORMATION ON INGREDIENTS:

Glyphosate IPA: N-(phosphono-methyl) glycine, Isopropylamine Salt	CAS # 038641-94-0	53.8%
Balance, Total		46.2%

3. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW
Clear, pale yellow liquid. May cause eye irritation. Slightly toxic to aquatic organisms.
EMERGENCY PHONE NUMBER: 800-992-5994

4. FIRST AID:

EYE: Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

SKIN: Wash skin with plenty of water.

INGESTION: No emergency medical treatment necessary.

INHALATION: Remove person to fresh air; if effects occur, consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: >214°F (>101°C)
METHOD USED: Setaflash

FLAMMABLE LIMITS:
LFL: Not applicable
UFL: Not applicable

EXTINGUISHING MEDIA: Foam, CO_2, Dry Chemical

FIRE AND EXPLOSION HAZARDS: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions.

FIRE-FIGHTING EQUIPMENT: Use positive-pressure, self-contained breathing apparatus and full protective equipment.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Absorb small spills with an inert absorbent material such as Hazorb, Zorball, sand, or dirt. Report large spills to Dow AgroSciences on 800-992-5994.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle concentrate in ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco, using the toilet or smoking. Keep away from food, feedstuffs, and water supplies. Store in original container with the lid tightly closed. Store above 10°F (-12°C) to keep from crystallizing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES: None established

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use safety glasses.

SKIN PROTECTION: No precautions other than clean body-covering clothing should be needed.

RESPIRATORY PROTECTION: For most conditions, no respiratory protection should be needed; however, if discomfort is experienced, use a NIOSH approved air-purifying respirator.

APPLICATIONS AND ALL OTHER HANDLERS: Please refer to the product label for personal protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Clear, pale yellow liquid
DENSITY: 10.0 - 10.5 lbs/gal
pH: 4.8 – 5.0
ODOR: None
SOLUBILITY IN WATER: Miscible
SPECIFIC GRAVITY: 1.21 gm/L
FREEZING POINT: -7°F - -10°F (-21°C - -25°C)

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Stable under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Galvanized or unlined steel (except stainless steel) containers or spray tanks may produce hydrogen gas which may form a highly combustible gas mixture.

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

EYE: May cause slight temporary eye irritation. Corneal injury is unlikely.

SKIN: Essentially non-irritating to skin. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The LD_{50} for skin absorption in rabbits is >5000 mg/kg. Did not cause allergic skin reactions when tested in guinea pigs.

INGESTION: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. The oral LD_{50} for rats is >5000 mg/kg.

INHALATION: Brief exposure (minutes) is not likely to cause adverse effects. The aerosol LC_{50} for rats is >6.37 mg/L for 4 hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: For a similar material, glyphosate, in animals, effects have been reported on the following organ: liver.

CANCER INFORMATION: A similar material, glyphosate, did not cause cancer in laboratory animals.

TERATOLOGY (BIRTH DEFECTS): For glyphosate IPA, available data are inadequate for evaluation of potential to cause birth defects.

REPRODUCTIVE EFFECTS: For glyphosate IPA, available data are inadequate to determine effects on reproduction.

MUTAGENICITY: For a similar material, glyphosate, in-vitro and animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL DATA:

ECOTOXICOLOGY:
Material is practically non-toxic to aquatic organisms on an acute basis (LC_{50} or EC_{50} is >100 mg/L in most sensitive species tested).
Acute LC_{50} for rainbow trout *(Oncorhynchus mykiss)* is >2500 mg/L.
Acute immobilization EC_{50} in water flea *(Daphnia magna)* is 918 mg/L.
Material is practically non-toxic to birds on an acute basis (LD_{50} is >2000 mg/kg).
Acute oral LD_{50} in bobwhite *(Colinus virginianus)* is >2000 mg/kg.
The LC_{50} in earthworm Eisenia foetida is >1000 mg/kg.
Acute contact LD_{50} in honey bee *(Apis mellifera)* is >100 µg/bee.
Acute oral LD_{50} in honey bee *(Apis mellifera)* is >100 µg/bee.
Growth inhibition EC_{50} in green alga *(Selenastrum capricornutum)* is 127 mg/L.
Growth inhibition EC_{50} in duckweed *(Lemna sp.)* is 24.4 mg/L.

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities.

MATERIAL SAFETY DATA SHEET

Dow AgroSciences

Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

RODEO* HERBICIDE

Effective Date: 3/23/04
Product Code: 84825
MSDS: 006694

This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

For all package sizes and modes of transportation:
This material is not regulated for transport.

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of

New Jersey
Pennsylvania

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

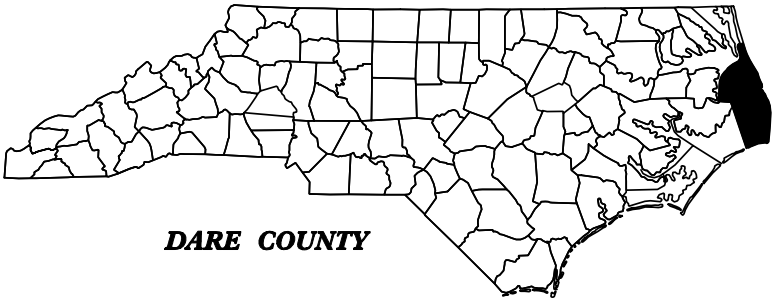
CATEGORY	RATING
Health	1
Flammability	1
Reactivity	0

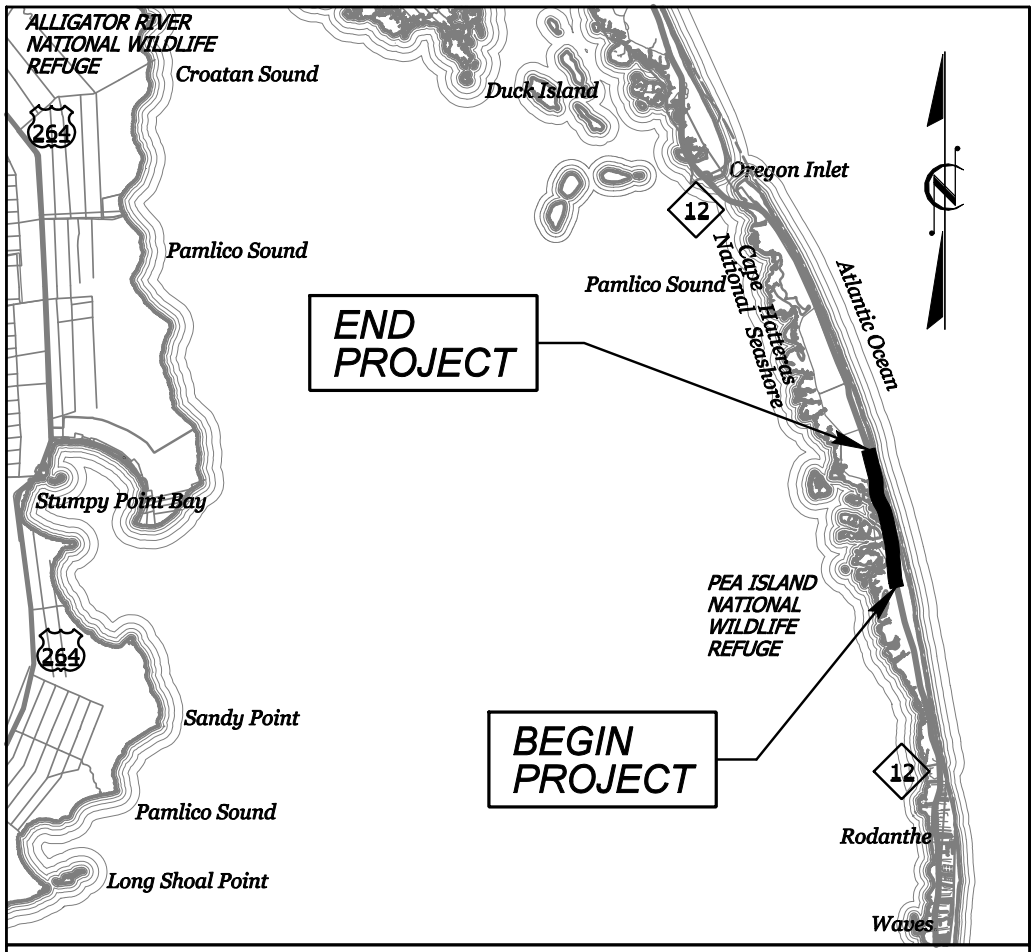
16. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 3,4,11,12,13,14 & 15
Reference: DR-0361-8028
Replaces MSDS Dated: 1/12/00
Document Code: D03-148-002
Replaces Document Code: D03-148-001

The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult Dow AgroSciences For Further Information.

NORTH CAROLINA





VICINITY MAP

VICINITY MAP

NCDOT

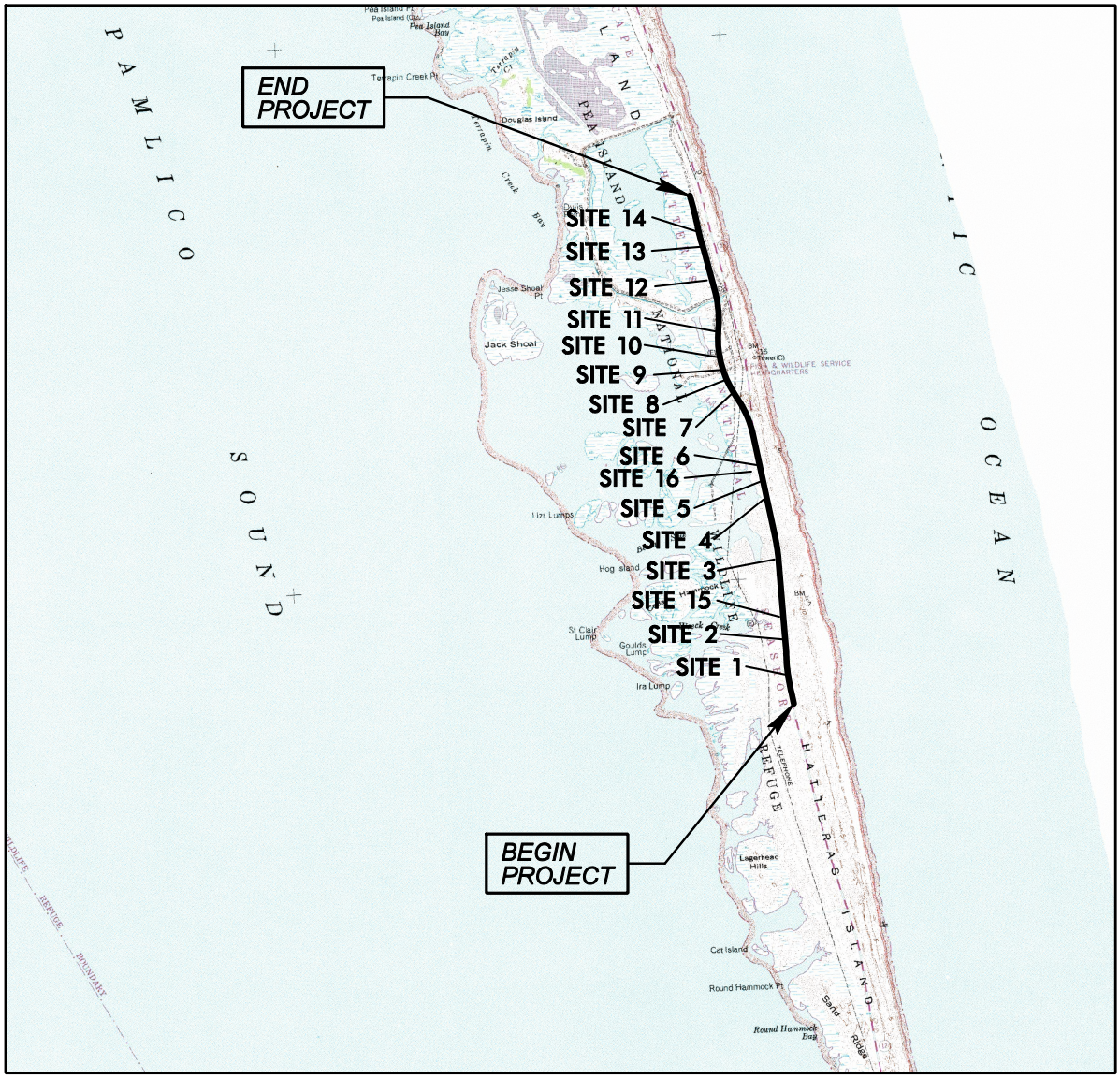
DIVISION OF HIGHWAYS

DARE COUNTY

PROJECT: B-2500A

NC HWY 12 OVER PEA ISLAND BREACH

SHEET 1 OF 59 2/11/2013



PEA ISLAND, NC QUAD MAP

LOCATION MAP

NCDOT

DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A
NC HWY 12 OVER
PEA ISLAND BREACH

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation in Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac)	WETLAND IMPACTS: Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	SURFACE WATER IMPACTS: Temp. SW impacts (ac)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
1	-L- 3078+90 to 3082+59			0.10			0.02		0.01	
2	-L- 3088+86 to 3092+69		0.02	0.07			0.03			
3	-L- 3107+55 to 3115+62		0.18	0.15			0.06			
4	-L- 3128+60 to 3132+06		0.01	0.03			0.02			
5	-L- 3134+54 to 3136+31		<0.01	0.02			0.01			
6	-L- 3139+49 to 3140+49			0.03			<0.01			
7	-L- 3159+81 to 3163+48			0.02			<0.01		0.03	
8	-L- 3163+62 to 3167+76								0.10	
9	-L- 3166+66 to 3166+94	Bent #67	<0.01				<0.01			
10	-L- 3170+97 to 3173+74	Bent #71, #72, & #73						0.04	0.04	
		* Temp. Work Bridge 1								
		** Temp. Work Bridge 2								
		*** Remove Exist Bridge								
		Jetting Intake Pipe								
11	-L- 3177+49 to 3181+18			<0.01			<0.01		0.05	
		**** Temp. Work Bridge 2								
12	-L- 3191+04 to 3197+22			0.23			0.04			
13	-L- 3200+13 to 3205+63			0.22			0.04			
14	-L- 3206+52 to 3210+71			0.02			0.02			
15	-L- 3097+22 to 3097+32	Jetting Intake Pipe					0.14		0.02	
16	-L- 3136+15 to 3136+48	Jetting Intake Pipe							0.03	
TOTALS:			0.22	0.90			0.40	0.04	0.28	

Notes:

* Temp. Work Bridge #1 (16 Bents @ 40 SF = 640 SF Total Impact)
** Temp. Work Bridge #2 (25 Bents @ 40 SF = 1,000 SF Total Impact)
*** Remove Exist. Bridge (6 Footings @ 130 SF = 780 SF Total Impact)
**** Site 11 Temp. Work Bridge #2 (2 Bents @ 20 SF = 40 SF Total Impact)

CAMA Wetland Impacts by Site:

Site 1: 0.04 ac Temporary Fill, <0.01 ac Hand Clearing
Site 3: 0.13 Permanent Fill, 0.11 ac Temporary Fill, 0.05 ac Hand Clearing
Site 4: 0.01 Permanent Fill, 0.03 ac Temporary Fill, 0.02 ac Hand Clearing
Site 5: <0.01 Permanent Fill, 0.02 ac Temporary Fill, 0.01 ac Hand Clearing
Site 7: 0.02 ac Temporary Fill, <0.01 ac Hand Clearing
Site 9: (bridge bent) <0.01 ac Permanent Fill, 0.01 ac Hand Clearing
Site 15: 0.11 ac Hand Clearing

Total CAMA Impacts:

Permanent Fill in Wetlands: 0.15 ac
Temporary Fill in Wetlands: 0.22 ac
Hand Clearing in Wetlands: 0.21 ac

Erosion Control Measures Impacts:

0.08 acre of Temporary Fill in Wetlands in the Hand Clearing areas for erosion control measures.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2500A	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
32635.1.6		P.E.
32635.2.2	BRNHF-0012(55)	UTIL.
32635.3.6	BRNHF-0012(55)	CONST.

PROJECT: B-2500A

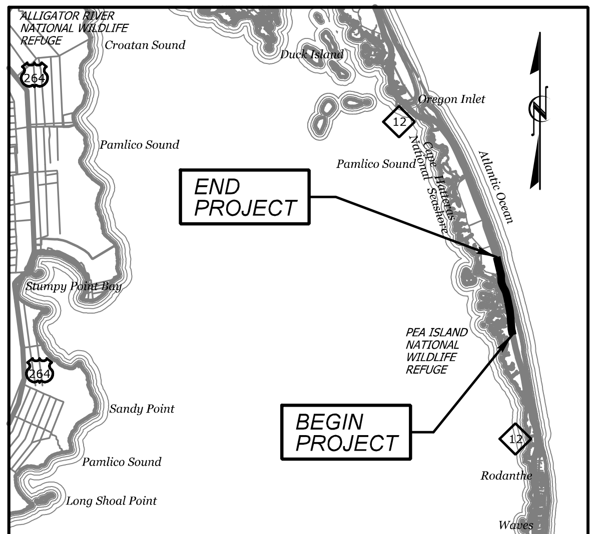
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Standard Symbology Sheet

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

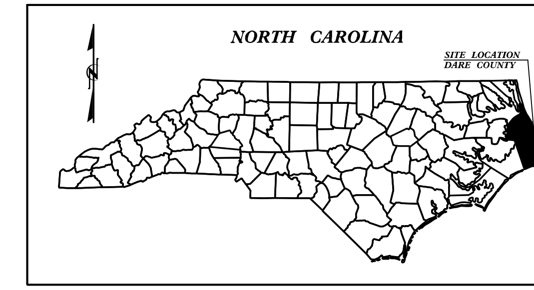
DARE COUNTY

LOCATION: PHASE II, NC 12 LONG-TERM IMPROVEMENTS AT PEA ISLAND
TYPE OF WORK: GRADING, PAVING, DRAINAGE & STRUCTURE

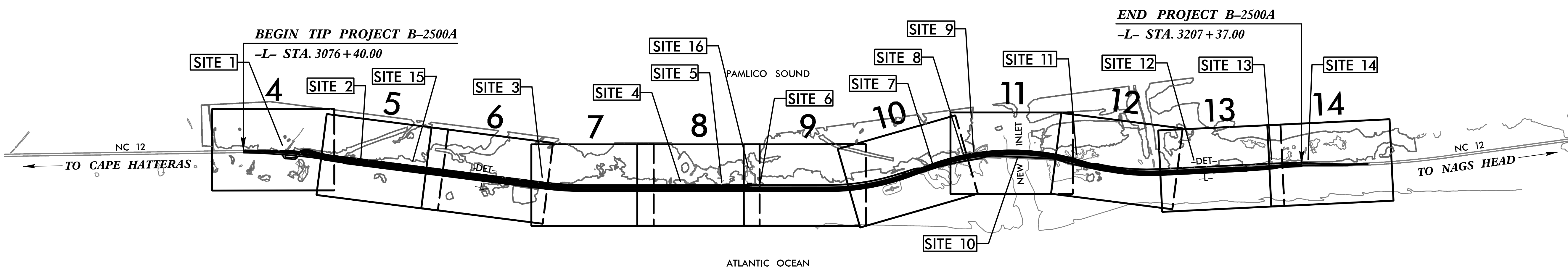
WETLAND & SURFACE WATER IMPACTS



VICINITY MAP
N.T.S.



NAD 83
NSRS 2007



Permit Drawing
Sheet 4 of 59

CONTRACT:

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2012 = 7,300
ADT 2032 = 10,900
DHV = N/A
D = N/A
T = 6%
V = 60 MPH
FUNC. CLASSIFICATION: COLLECTOR
T = 1% TTST+5% DUALS
REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-2500A = 0.366 MILES
LENGTH OF STRUCTURE TIP PROJECT B-2500A = 2.114 MILES
TOTAL LENGTH OF TIP PROJECT B-2500A = 2.480 MILES

NCDOT CONTACT: GARY LOVERING, PE
Project Engineer, Roadway Design

PLANS PREPARED FOR THE NCDOT BY:
STV/RALPH WHITEHEAD ASSOCIATES, INC.
1000 West Morehead St., Ste. 200, Charlotte NC, 28208
NC License Number F-0991

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: SEPTEMBER 17, 2013

JOHN N. JOHNSON, PE
PROJECT ENGINEER

SEAN C. STEPHENS, EI
PROJECT DESIGNER

HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	4
R/W SHEET NO.	

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036825 KIT A. PERSIANI	NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036825 ALVIN C. MORRISON

COMPLETE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83 / NSRS 2007

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

UNITED STATES OF AMERICA

SITE 1

SEE FIGURE SITE 1

3075

3080

3085

50' POWER LINE EASEMENT

EXIST R/W

30' BST

18" CMP

T FO

CONT. ON PSH 05

MATCHLINE -L- STA 3087+00 (SHEET 5)

100' 0' 100'

GRAPHIC SCALE

Permit Drawing
Sheet 5 of 59

-L-

BEGIN TIP PROJECT B-2500A
-L- STA. 3076+40.00
ELEV = 2.83'

PI = 3077+30.00
EL = 2.64'
VC = 180'
K = 335

PI = 3079+20.00
EL = 3.26'
VC = 200'
K = 614

PI = 3084+31.00
EL = 3.26'
VC = 70'
K = 137

PI = 3086+70.00
EL = 4.48'
VC = 408'
K = 131

PROPOSED GRADE

EXISTING GROUND

(−)0.2111%

(+)0.3259%

(+)0.0000%

(+)0.5108%

50
40
30
20
10
0

3074 3075 3076 3077 3078 3079 3080 3081 3082 3083 3084 3085 3086 3087

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\WCI2PEA_Hyd_Prm_pshl04.dgn

8/11/2013

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 / NSRS 2007

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

UNITED STATES OF AMERICA

SITE 1

SEE FIGURE SITE 1

50' POWER LINE EASEMENT

EXIST R/W

30' BST

18" CMP

T FO

3075

3080

3085

CONT. ON PSH 05

MATCHLINE -L- STA 3087+00 (SHEET 5)

100' 0' 100'
GRAPHIC SCALE

Permit Drawing
Sheet 6 of 59

-L-

BEGIN TIP PROJECT B-2500A
-L- STA. 3076+40.00
ELEV = 2.83'

PI = 3077+30.00
EL = 2.64'
VC = 180'
K = 335

PI = 3079+20.00
EL = 3.26'
VC = 200'
K = 614

PI = 3084+31.00
EL = 3.26'
VC = 70'
K = 137

PI = 3086+70.00
EL = 4.48'
VC = 408'
K = 131

(−)0.2111%
(+)0.3259%
(+)0.0000%
(+)0.5108%

PROPOSED GRADE
EXISTING GROUND

50 40 30 20 10 0

3074 3075 3076 3077 3078 3079 3080 3081 3082 3083 3084 3085 3086 3087

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8/11/2013

SITE 1

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
SEAL NOT USE FOR CONSTRUCTION

NAD 83 NSRS 2007

3080

TEMPORARY IMPACTS IN SURFACE WATER

HAND CLEARING

TEMPORARY SLOPE STAKES

HAND CLEARING

TEMPORARY FILL IN WETLAND

PERMANENT SLOPE STAKES

TEMPORARY FILL IN WETLAND

PERMANENT SLOPE STAKES

LEGEND	
IS / IS	DENOTES IMPACTS IN SURFACE WATER
TS / TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
TF / TF	DENOTES TEMPORARY FILL IN WETLAND
HC / HC	DENOTES HAND CLEARING

40′ 0′ 40′
GRAPHIC SCALE

Permit Drawing
Sheet 7 of 59

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

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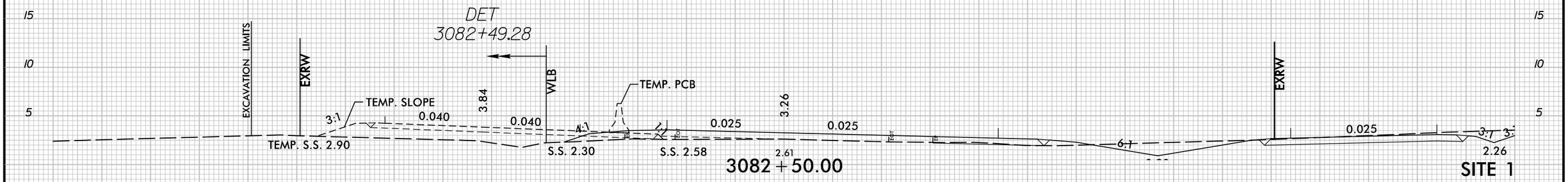
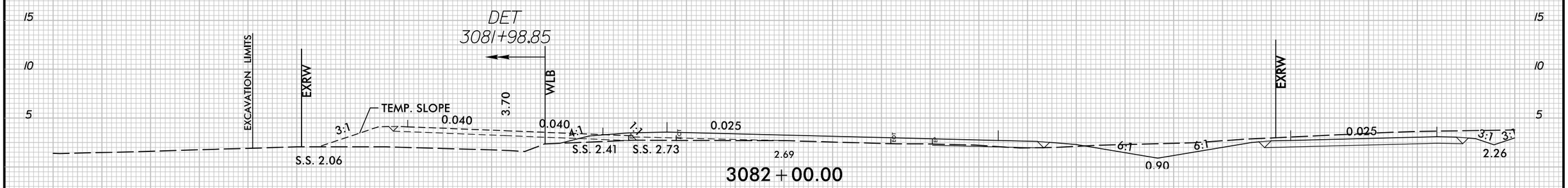
8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-1

Permit Drawing
Sheet 8 of 59





8/11/2013
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stephesc

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PROJECT REFERENCE NO.	SHEET NO.
B-2500A	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

UNITED STATES OF AMERICA

NAD 83 CORS96

MATCHLINE THIS SHEET

SITE 2

SEE FIGURE SITE 2

SITE 15

NOTE: JETTING INTAKE PIPE LOCATION

50' POWER LINE EASEMENT

EXIST R/W

30' BST

MATCHLINE -L- STA 3087+00 (SHEET 4)

MATCHLINE -L- STA 3100+00 (SHEET 6)

100' 0' 100'
GRAPHIC SCALE

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES PERMANENT FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

Permit Drawing
Sheet 9 of 59

-L-

PI = 3092+48.00
EL = 24.70'
VC = 530'
K = 152

BEGIN BRIDGE
-L- STA. 3089+00.00

PI = 3086+70.00
EL = 4.48'
VC = 408'
K = 137

(+)3.4983%

14.28

(+)3.4983%

(+)0.0000%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50 40 30 20 10 0

3087 3088 3089 3090 3091 3092 3093 3094 3095 3096 3097 3098 3099 3100

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PROJECT REFERENCE NO.	SHEET NO.
B-2500A	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

UNITED STATES OF AMERICA

NAD 83 CORS96

MATCHLINE THIS SHEET

SITE 2

SEE FIGURE SITE 2

3090

3095

SITE 15

50' POWER LINE EASEMENT

NOTE: JETTING INTAKE PIPE LOCATION

EXIST R/W

30' BST

MATCHLINE -L- STA 3087+00 (SHEET 4)

MATCHLINE -L- STA 3100+00 (SHEET 6)

100' 0' 100'
GRAPHIC SCALE

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES PERMANENT FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

Permit Drawing
Sheet 10 of 59

-L-

PI = 3092+48.00
EL = 24.70'
VC = 530'
K = 152

BEGIN BRIDGE
-L- STA. 3089+00.00

PI = 3086+70.00
EL = 4.48'
VC = 408'
K = 137

(+)3.4983%

14.28

(+)3.4983%

(+)0.0000%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50 40 30 20 10 0

3087 3088 3089 3090 3091 3092 3093 3094 3095 3096 3097 3098 3099 3100

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_pshl05Adgn

8/11/2013

SITE 2

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NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVIN C. MORRISON

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES PERMANENT FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

NAD 83 NSRS 2007

WLB

WL

3090

E

50' POWER LINE EASEMENT

HAND CLEARING

TEMPORARY SLOPE STAKES

HAND CLEARING

TEMPORARY FILL IN WETLAND

PERMANENT SLOPE STAKES

PERMANENT FILL IN WETLAND

TEMPORARY FILL IN WETLAND

T

F

FO

30' 0' 30'

GRAPHIC SCALE

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

Permit Drawing
Sheet 11 of 59

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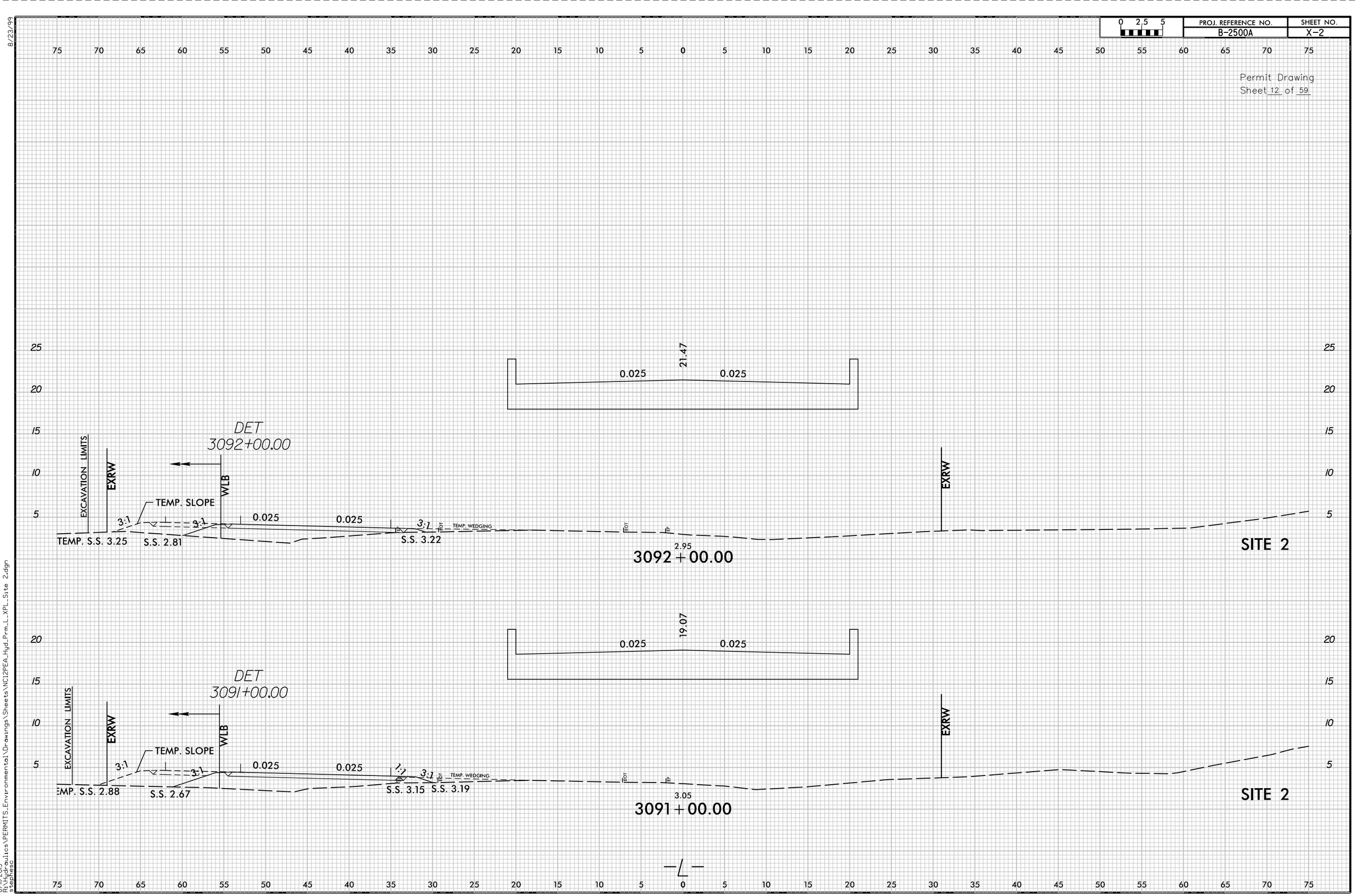
8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-2

Permit Drawing
Sheet 12 of 59



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stephesc

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 NSRS 2007

UNITED STATES OF AMERICA

MATCHLINE -L- STA 3100+00 (SHEET 5)

MATCHLINE -L- STA 3113+00 (SHEET 7)

SITE 3

SEE FIGURE SITE 3

3105

3110

50' POWER LINE EASEMENT

CONT. ON PSH 07

EXIST R/W

30' BST

LEGEND

SI/SI	DENOTES IMPACTS IN SURFACE WATER
TS/TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
F/F	DENOTES PERMANENT FILL IN WETLAND
T/T	DENOTES TEMPORARY FILL IN WETLAND
HC/HC	DENOTES HAND CLEARING

100' 0' 100'

GRAPHIC SCALE

Permit Drawing
Sheet 13 of 59

-L-

PROPOSED GRADE

BRIDGE

PI = 3111+34.00
EL = 24.70'
VC = 180'
K = 600

(+)0.0000% (+)0.3002%

EXISTING GROUND

50 40 30 20 10 0

3100 3101 3102 3103 3104 3105 3106 3107 3108 3109 3110 3111 3112 3113

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8/19/2013

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 NSRS 2007

MATCHLINE -L- STA 3100+00 (SHEET 5)

MATCHLINE -L- STA 3113+00 (SHEET 7)

UNITED STATES OF AMERICA

SITE 3

SEE FIGURE SITE 3

50' POWER LINE EASEMENT

CONT. ON PSH 07

EXIST R/W

30' BST

3105

3110

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES PERMANENT FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

100' 0' 100'

GRAPHIC SCALE

Permit Drawing
Sheet 14 of 59

-L-

PROPOSED GRADE

BRIDGE

EXISTING GROUND

PI = 3111+34.00
EL = 24.70'
VC = 180'
K = 600

(+)0.0000% (+)10.3002%

50 40 30 20 10 0

3100 3101 3102 3103 3104 3105 3106 3107 3108 3109 3110 3111 3112 3113

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_psh06A.dgn

8/11/2013

SITE 3
(SHEET 1 OF 2)

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PROJECT REFERENCE NO.	SHEET NO.
B-2500A	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVIN C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

LEGEND	
S/S	DENOTES IMPACTS IN SURFACE WATER
TS/TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
F/F	DENOTES PERMANENT FILL IN WETLAND
T/T	DENOTES TEMPORARY FILL IN WETLAND
HC/HC	DENOTES HAND CLEARING

NAD 83 NSRS 2007

3110

E

WLB

TEMPORARY SLOPE STAKES

HAND CLEARING

HC

T

F

PERMANENT SLOPE STAKES

TEMPORARY FILL IN WETLAND

T FO T

TEMPORARY SLOPE STAKES

PERMANENT FILL IN WETLAND

PERMANENT SLOPE STAKES

MATCHLINE -L- STA 3111+50 (SHEET 6)

WL

LB

-B-

30′ 0′ 30′

GRAPHIC SCALE

Permit Drawing
Sheet 15 of 59

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

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8/11/2013

SITE 3
(SHEET 2 OF 2)

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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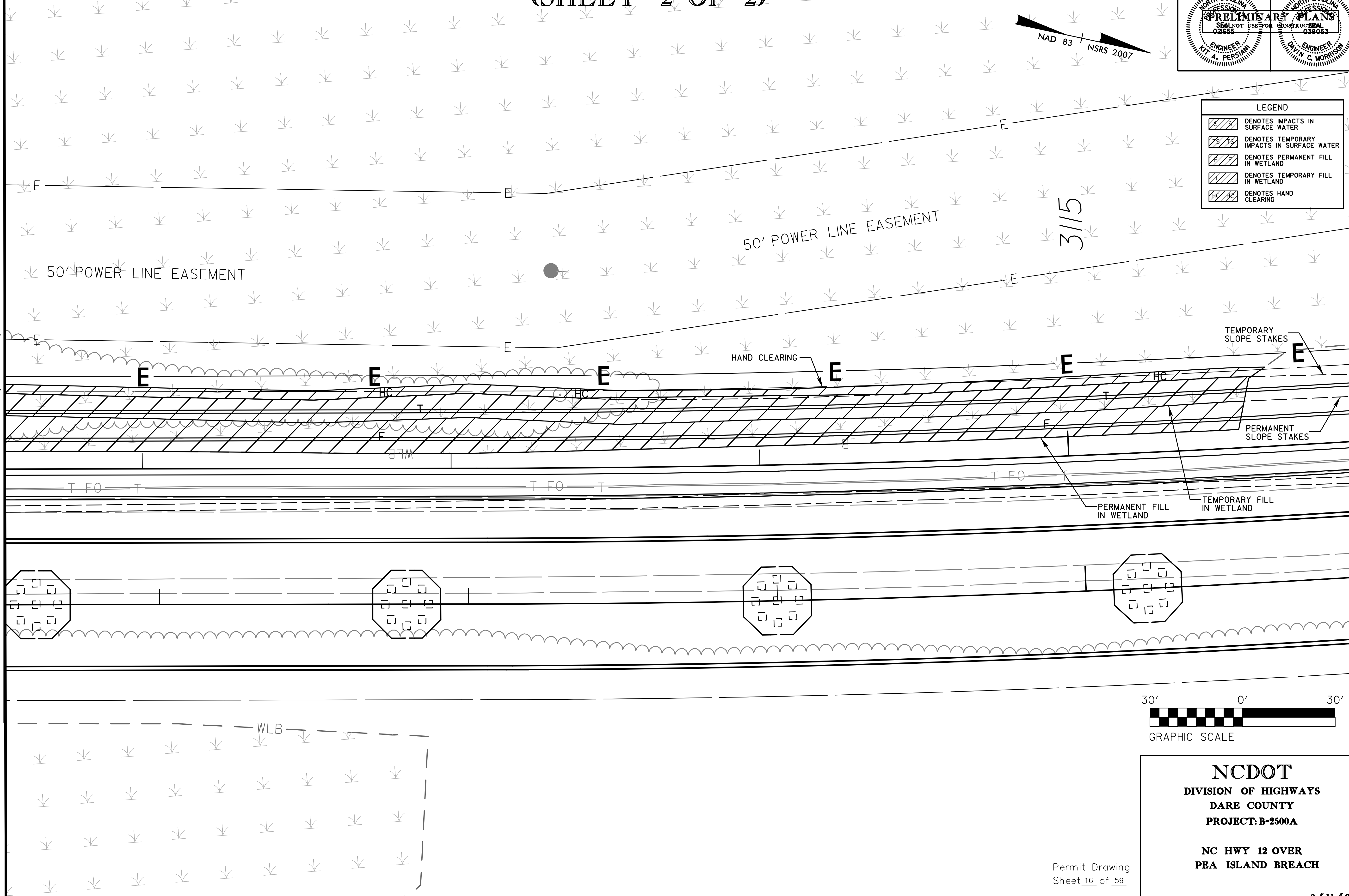
Charlotte, NC 28208
NC License Number F-0991

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NAD 83 / NSRS 2007
LEGEND
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES PERMANENT FILL IN WETLAND
DENOTES TEMPORARY FILL IN WETLAND
DENOTES HAND CLEARING
50' POWER LINE EASEMENT
50' POWER LINE EASEMENT
3115
HAND CLEARING
TEMPORARY SLOPE STAKES
PERMANENT SLOPE STAKES
PERMANENT FILL IN WETLAND
TEMPORARY FILL IN WETLAND
HC
T FO
WLB
MATCHLINE -L- STA 3111+50 (SHEET 6)
30' 0' 30'
GRAPHIC SCALE

Permit Drawing
Sheet 16 of 59

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_psh06_Site 3B.dgn
8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-3

Permit Drawing
Sheet 17 of 59

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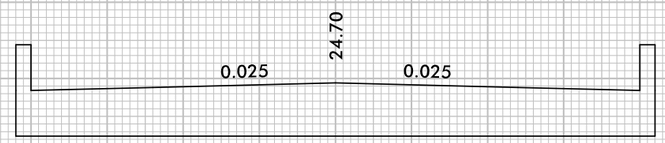
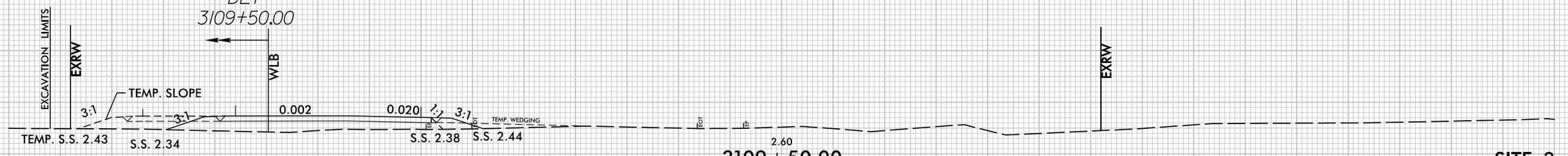
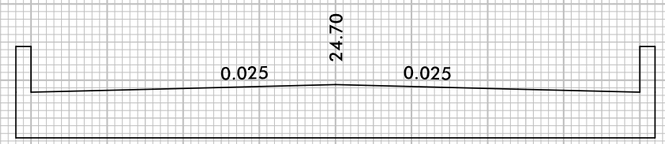
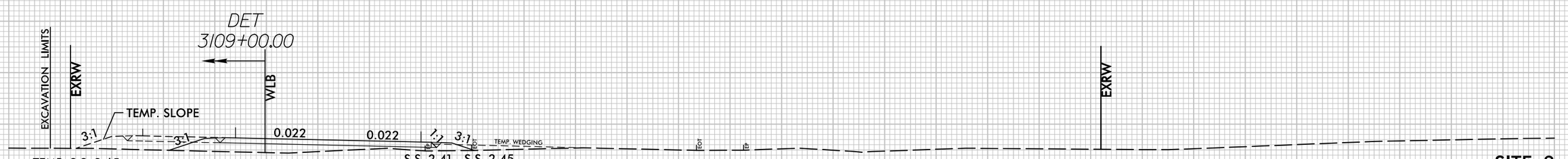




3109 + 50.00

SITE 3





3109 + 00.00

SITE 3

8/11/2013
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stephesc

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NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	7
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
SEAL NOT USE FOR CONSTRUCTION

NAD 83 NSRS 2007

MATCHLINE -L- STA 3113+00 (SHEET 6)

MATCHLINE -L- STA 3126+00 (SHEET 8)

SEE FIGURE SITE 3

SITE 3

CONT. ON PSH 06

50' POWER LINE EASEMENT

EXIST R/W

30' BST

UNITED STATES OF AMERICA

3115 3120 3125

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES PERMANENT FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

100' 0' 100'

GRAPHIC SCALE

Permit Drawing
Sheet 18 of 59

-L-

PI = 3121+00.00
EL = 27.60'
VC = 180'
K = 225

(+)0.3002% (-)0.4991%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50 40 30 20 10 0

3113 3114 3115 3116 3117 3118 3119 3120 3121 3122 3123 3124 3125 3126

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NCI2PEA_Hyd_Prm_pshO7.dgn

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PROJECT REFERENCE NO.	SHEET NO.
B-2500A	7
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

MATCHLINE -L- STA 3113+00 (SHEET 6)

MATCHLINE -L- STA 3126+00 (SHEET 8)

NAD 83 NSRS 2007

SEE FIGURE SITE 3

SITE 3

CONT. ON PSH 06

50' POWER LINE EASEMENT

EXIST R/W

30' BST

UNITED STATES OF AMERICA

3115 3120 3125

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES PERMANENT FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

100' 0' 100'
GRAPHIC SCALE

Permit Drawing
Sheet 19 of 59

-L-

PI = 3121+00.00
EL = 27.60'
VC = 180'
K = 225

(+)0.3002% (-)0.4991%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50 40 30 20 10 0

3113 3114 3115 3116 3117 3118 3119 3120 3121 3122 3123 3124 3125 3126

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_psh07A.dgn

8/11/2013

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NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 | NSRS 2007

MATCHLINE -L- STA 3126+00 (SHEET 7)

MATCHLINE -L- STA 3139+00 (SHEET 9)

UNITED STATES OF AMERICA

50' POWER LINE EASEMENT

SEE FIGURE SITE 4

SITE 4

3130

SEE FIGURE SITE 5

SITE 5

3135

50' POWER LINE EASEMENT

BST

EXIST R/W

30' BST

REMOVE

EXIST R/W

EXIST R/W

UNITED STATES OF AMERICA

100' 0' 100'

GRAPHIC SCALE

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES PERMANENT FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

Permit Drawing
Sheet 20 of 59

-L-

PI = 3126+81.00
EL = 24.70'
VC = 180'
K = 361

(-)0.4991%

(+)0.0000%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50 40 30 20 10 0

3126 3127 3128 3129 3130 3131 3132 3133 3134 3135 3136 3137 3138 3139

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NCI2PEA_Hyd_Prm_psh08.dgn

8/11/2013

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PROJECT REFERENCE NO.	SHEET NO.
B-2500A	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 | NSRS 2007

MATCHLINE -L- STA 3126+00 (SHEET 7)

MATCHLINE -L- STA 3139+00 (SHEET 9)

UNITED STATES OF AMERICA

50' POWER LINE EASEMENT

SEE FIGURE SITE 4

SITE 4

3130

SEE FIGURE SITE 5

SITE 5

3135

50' POWER LINE EASEMENT

BST

EXIST R/W

30' BST

REMOVE

EXIST R/W

EXIST R/W

UNITED STATES OF AMERICA

100' 0' 100'

GRAPHIC SCALE

LEGEND

- SS — DENOTES IMPACTS IN SURFACE WATER
- TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- F — DENOTES PERMANENT FILL IN WETLAND
- TF — DENOTES TEMPORARY FILL IN WETLAND
- HC — DENOTES HAND CLEARING

Permit Drawing
Sheet 21 of 59

-L-

PI = 3126+81.00
EL = 24.70'
VC = 180'
K = 361

(-)0.4991%

(+)0.0000%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50
40
30
20
10
0

3124 3125 3126 3127 3128 3129 3130 3131 3132 3133 3134 3135 3136 3137 3138 3139 3140

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8/9/2013

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SITE 4

NAD 83 NSRS 2007

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES PERMANENT FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

E

3130

WLB

HAND CLEARING

HC

T

F

TEMPORARY SLOPE STAKES

PERMANENT FILL IN WETLAND

TEMPORARY FILL IN WETLAND

TEMPORARY SLOPE STAKES

PERMANENT SLOPE STAKES

T FO T

PERMANENT SLOPE STAKES

30' BST

30' 0' 30'

GRAPHIC SCALE

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

Permit Drawing
Sheet 22 of 59

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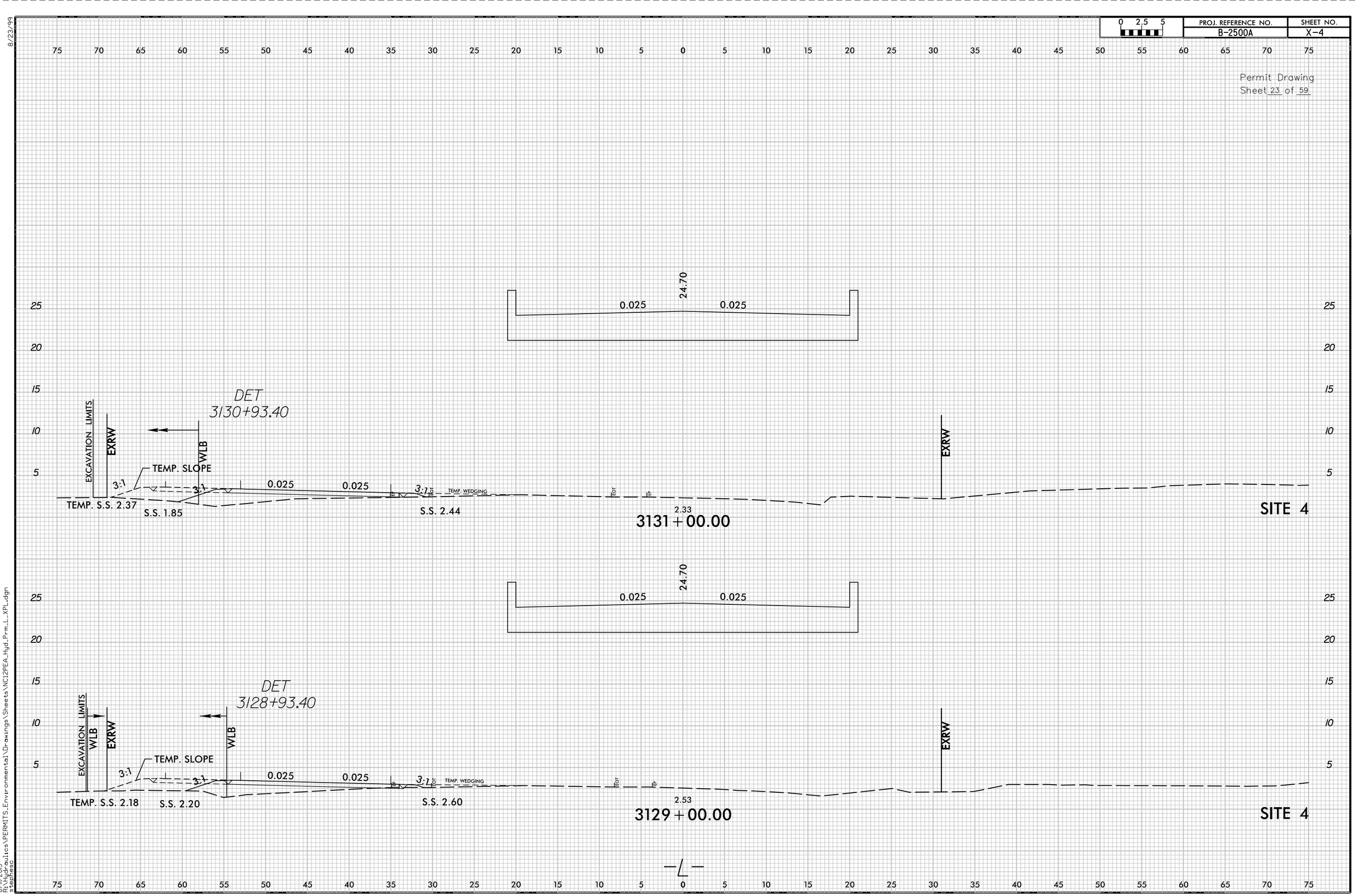
8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-4

Permit Drawing
Sheet 23 of 59



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stephesc

SITE 5

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVIN C. MORRISON

PRELIMINARY PLANS
NOT TO BE USED FOR CONSTRUCTION

NAD 83 / NSRS 2007

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES PERMANENT FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

3/35

HAND CLEARING

HC

T

F

PERMANENT FILL IN WETLAND

TEMPORARY FILL IN WETLAND

REMOVE

24" CMP

E

T FO

WLB

30′ 0′ 30′
GRAPHIC SCALE

Permit Drawing
Sheet 24 of 59

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_psht08_Site 5.dgn

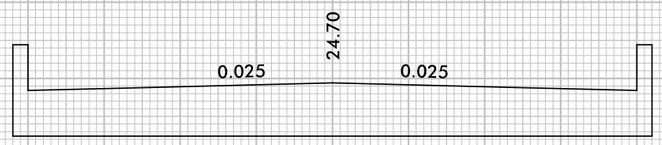
8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

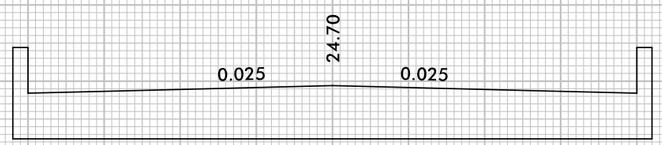
Permit Drawing
Sheet 25 of 59



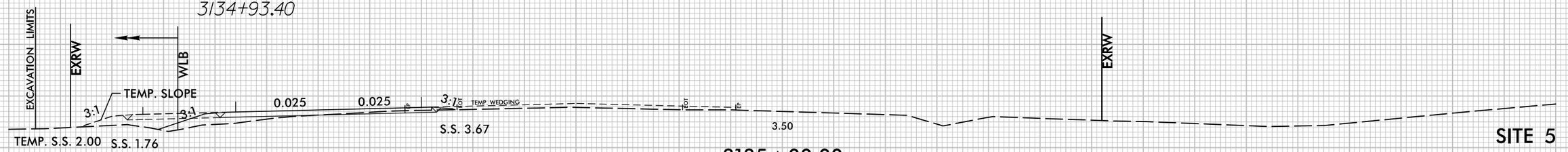
DET
3135+43.40

3135+50.00

SITE 5



DET
3134+93.40



3135+00.00

SITE 5

—L—

8/11/2013
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stephesc

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

MATCHLINE -L- STA 3139+00 (SHEET 8)

MATCHLINE -L- STA 3152+00 (SHEET 10)

SEE FIGURE SITE 5

SITE 6

50' POWER LINE EASEMENT

UNITED STATES OF AMERICA

3140 3145 3150

EXIST R/W

30' BST

T FO

LEGEND

- SS — DENOTES IMPACTS IN SURFACE WATER
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- T — DENOTES TEMPORARY FILL IN WETLAND
- HC HC — DENOTES HAND CLEARING

100' 0' 100'
GRAPHIC SCALE

Permit Drawing
Sheet 26 of 59

-L-

PI = 3146+39.00
EL = 24.70'
VC = 180'
K = 600

(+)0.0000% (+)0.3001%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50 40 30 20 10 0

3139 3140 3141 3142 3143 3144 3145 3146 3147 3148 3149 3150 3151 3152

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8/11/2013

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PROJECT REFERENCE NO.	SHEET NO.
B-2500A	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

MATCHLINE -L- STA 3139+00 (SHEET 8)

MATCHLINE -L- STA 3152+00 (SHEET 10)

SEE FIGURE SITE 5

SITE 6

50' POWER LINE EASEMENT

UNITED STATES OF AMERICA

3140

3145

3150

EXIST R/W

30' BST

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

100' 0' 100'
GRAPHIC SCALE

Permit Drawing
Sheet 27 of 59

-L-

PI = 3146+39.00
EL = 24.70'
VC = 180'
K = 600

PROPOSED GRADE

(+)0.0000%

(+)0.3001%

BRIDGE

EXISTING GROUND

50
40
30
20
10
0

3139 3140 3141 3142 3143 3144 3145 3146 3147 3148 3149 3150 3151 3152

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_psht09A.dgn

8/11/2013

SITE 6

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NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

POWER LINE EASEMENT

50' POWER LINE EASEMENT

NAD 83/NSRS 2007

BST

3140

SITE 6

HAND CLEARING

EXIST R/W

EXIST R/W

TEMPORARY FILL IN WETLAND

TEMPORARY SLOPE STAKES

PERMANENT SLOPE STAKES

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

30' 0' 30'
GRAPHIC SCALE

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

Permit Drawing
Sheet 28 of 59

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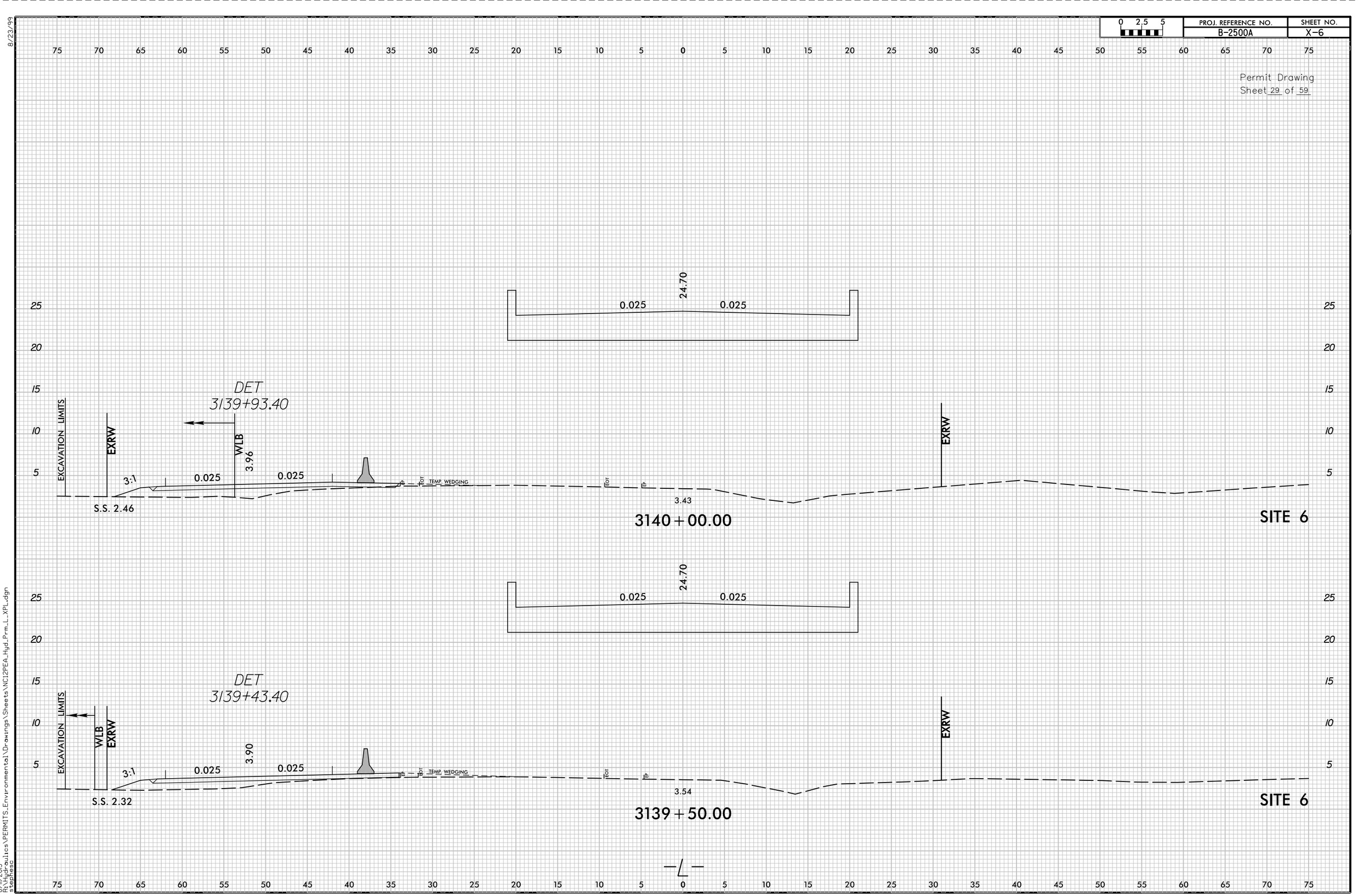
8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-6

Permit Drawing
Sheet 29 of 59



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stephesc

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 / NSRS 2007

MATCHLINE -L- STA 3152+00 (SHEET 9)

MATCHLINE -L- STA 3165+00 (SHEET 11)

UNITED STATES OF AMERICA

50' POWER LINE EASEMENT

3155

3160

SITE 7

SITE 8

SEE FIGURE SITE 8

SEE FIGURE SITE 7

EXIST R/W

FIBER OPTICS SPLICE BOX

30' BST

2 ROWS OF SANDBAGS

CONT. ON PSH 11

BST

CURB

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

100' 0' 100'
GRAPHIC SCALE

Permit Drawing
Sheet 30 of 59

-L-

PI = 3161+55.00
EL = 29.25'
VC = 180'
K = 904

PROPOSED GRADE

(+)0.3001%

(+)0.4993%

BRIDGE

EXISTING GROUND

50
40
30
20
10
0

3152 3153 3154 3155 3156 3157 3158 3159 3160 3161 3162 3163 3164 3165

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PROJECT REFERENCE NO.	SHEET NO.
B-2500A	10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 / NSRS 2007

MATCHLINE -L- STA 3152+00 (SHEET 9)

MATCHLINE -L- STA 3165+00 (SHEET 11)

UNITED STATES OF AMERICA

50' POWER LINE EASEMENT

3155

3160

SITE 7

SITE 8

SEE FIGURE SITE 8

SEE FIGURE SITE 7

EXIST R/W

FIBER OPTICS SPLICE BOX

30' BST

2 ROWS OF SANDBAGS

CONT. ON PSH 11

BST

CURB

CURB

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

100' 0' 100'

GRAPHIC SCALE

Permit Drawing
Sheet 31 of 59

-L-

PI = 3161+55.00
EL = 29.25'
VC = 180'
K = 904

PROPOSED GRADE

(+)0.3001%

(+)0.4993%

BRIDGE

EXISTING GROUND

50
40
30
20
10
0

3152 3153 3154 3155 3156 3157 3158 3159 3160 3161 3162 3163 3164 3165

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8/11/2013

SITE 7

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NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 NSRS 2007

LEGEND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

3160

HAND CLEARING

TEMPORARY FILL IN WETLAND

TEMPORARY SLOPE STAKES

TEMPORARY SLOPE STAKES

TEMPORARY IMPACTS IN SURFACE WATER

TEMPORARY IMPACTS IN SURFACE WATER

TEMPORARY IMPACTS IN SURFACE WATER

S OF SANDBAGS

30′ 0′ 30′
GRAPHIC SCALE

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

Permit Drawing
Sheet 32 of 59

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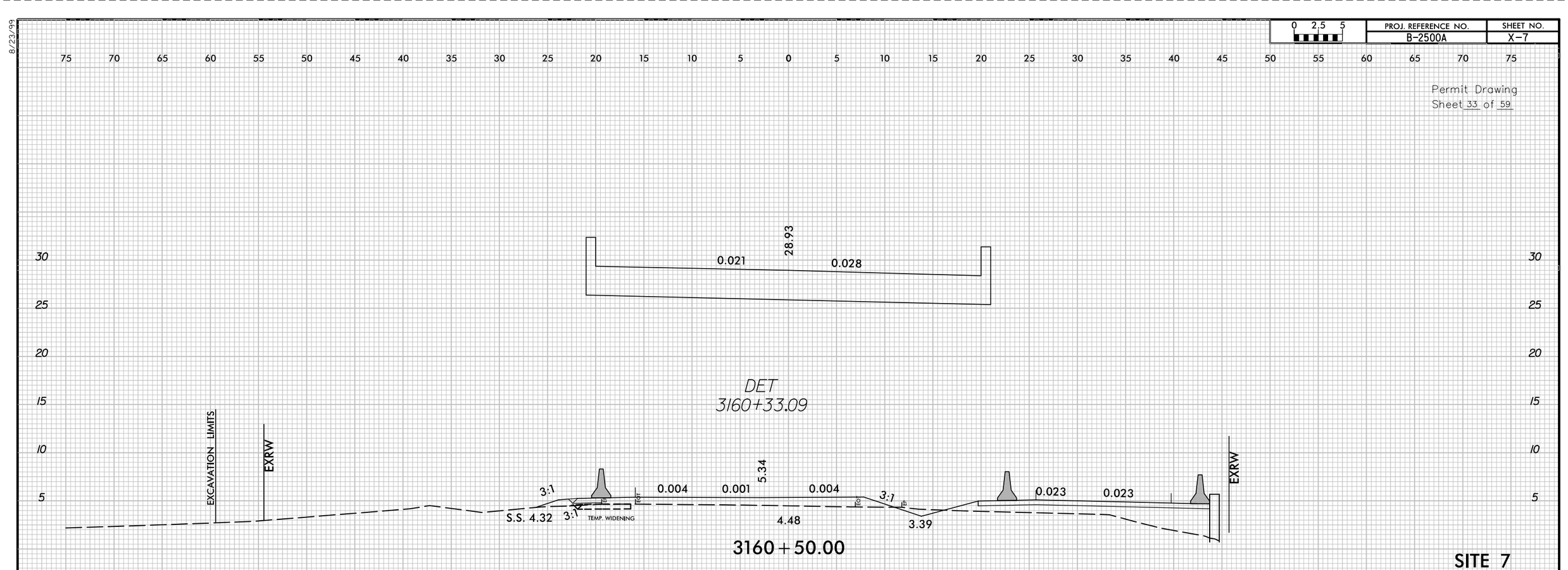
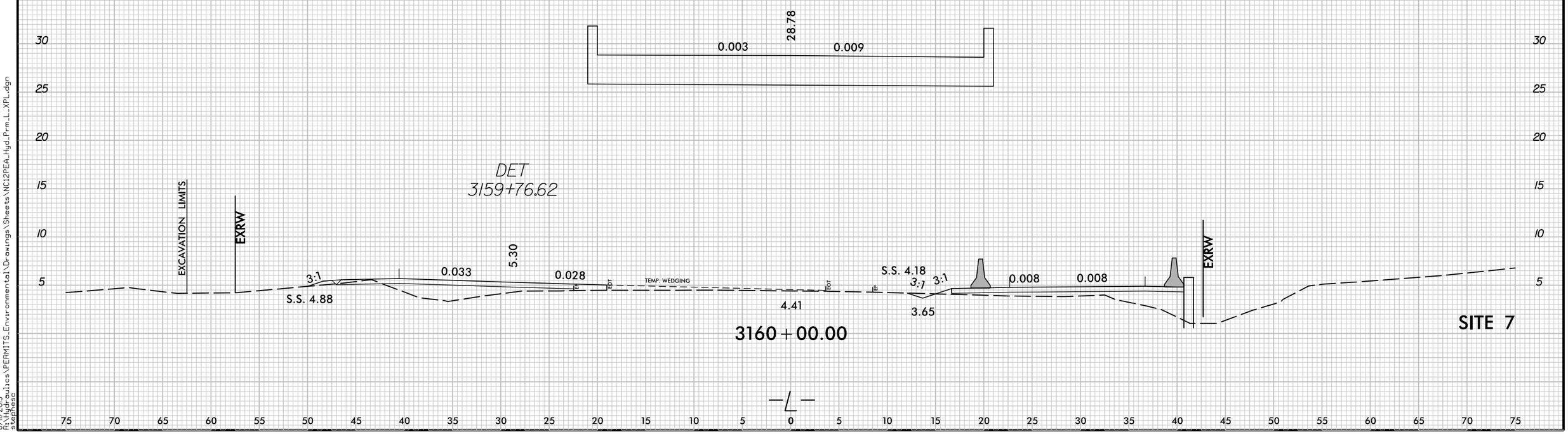
8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-7

Permit Drawing
Sheet 33 of 59





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stephesc

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	11
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026655 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER CALVIN C. MORRISON

PRELIMINARY PLANS
SEAL NOT USE FOR CONSTRUCTION

NAD 83 / NSRS 2007

SITE 8

SITE 9

SITE 10

SITE 11

SEE FIGURE SITE 8

SEE FIGURE SITE 9

SEE FIGURE SITE 10

SEE FIGURE SITE 11

MATCHLINE -L- STA 3165+00 (SHEET 10)

MATCHLINE -L- STA 3178+00 (SHEET 12)

UNITED STATES OF AMERICA

UNITED STATES OF AMERICA

50' POWER LINE EASEMENT

50' POWER LINE EASEMENT

NOTE: JETTING INTAKE PIPE LOCATIONS TO BE DETERMINED WITHIN EXISTING EASEMENT

TEMPORARY WORK BRIDGE #1

TEMPORARY WORK BRIDGE #2

3170

3175

EXIST R/W

2 ROWS OF SANDBAGS

SOIL

STEEL SHEET PILING

RIP RAP

CONC.

CONT. ON PSH 10

CONT. ON PSH 12

50' BST

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- TEMPORARY WORK BRIDGE
- REMOVE TEMPORARY BRIDGE (CURRENTLY CARRYING TRAFFIC)

100' 0' 100'
GRAPHIC SCALE

Permit Drawing
Sheet 34 of 59

-L-

PI = 3168+60.00
EL = 32.77'
VC = 180'
K = 361

PI = 3177+30.00
EL = 32.77'
VC = 180'
K = 231

(+)0.4993%

(+)0.0000%

(+)0.0000%

(−)0.7796%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50
40
30
20
10
0

3165 3166 3167 3168 3169 3170 3171 3172 3173 3174 3175 3176 3177 3178

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_pshII.dgn

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1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	11
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026655 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
SEAL NOT USE FOR CONSTRUCTION

NAD 83 / NSRS 2007

MATCHLINE -L- STA 3165+00 (SHEET 10)

MATCHLINE -L- STA 3178+00 (SHEET 12)

SITE 8

SITE 9

SITE 10

SITE 11

SEE FIGURE SITE 8

SEE FIGURE SITE 9

SEE FIGURE SITE 10

SEE FIGURE SITE 11

UNITED STATES OF AMERICA

NOTE: JETTING INTAKE PIPE LOCATIONS TO BE DETERMINED WITHIN EXISTING EASEMENT

TEMPORARY WORK BRIDGE #1

TEMPORARY WORK BRIDGE #2

50' POWER LINE EASEMENT

2 ROWS OF SANDBAGS

STEEL SHEET PILING

CONC

CONT ON PSH 10

CONT ON PSH 12

EXIST R/W

LEGEND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- TEMPORARY WORK BRIDGE
- REMOVE TEMPORARY BRIDGE (CURRENTLY CARRYING TRAFFIC)

100' 0' 100'
GRAPHIC SCALE

Permit Drawing
Sheet 35 of 59

-L-

PI = 3168+60.00
EL = 32.77'
VC = 180'
K = 361

PI = 3177+30.00
EL = 32.77'
VC = 180'
K = 231

(+)0.4993%

(+)0.0000%

(+)0.0000%

(−)0.7796%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50
40
30
20
10
0

3165 3166 3167 3168 3169 3170 3171 3172 3173 3174 3175 3176 3177 3178

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8/11/2013

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	11
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SITE 8 & 9

SITE 9

SITE 8

NAD 83 / NSRS 2007

50' POWER LINE EASEMENT

INE EASEMENT

30' 0' 30'
GRAPHIC SCALE

EXIST R/W

FIBER OPTICS SPLICE BOX

2 ROWS OF SANDBAGS

TEMPORARY SLOPE STAKES

HAND CLEARING

FILL IN WETLAND

30' BST

SOIL

TEMPORARY IMPACTS IN SURFACE WATER

TEMPORARY WORK BRIDGE #2

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING
- TEMPORARY WORK BRIDGE

Permit Drawing
Sheet 36 of 59

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

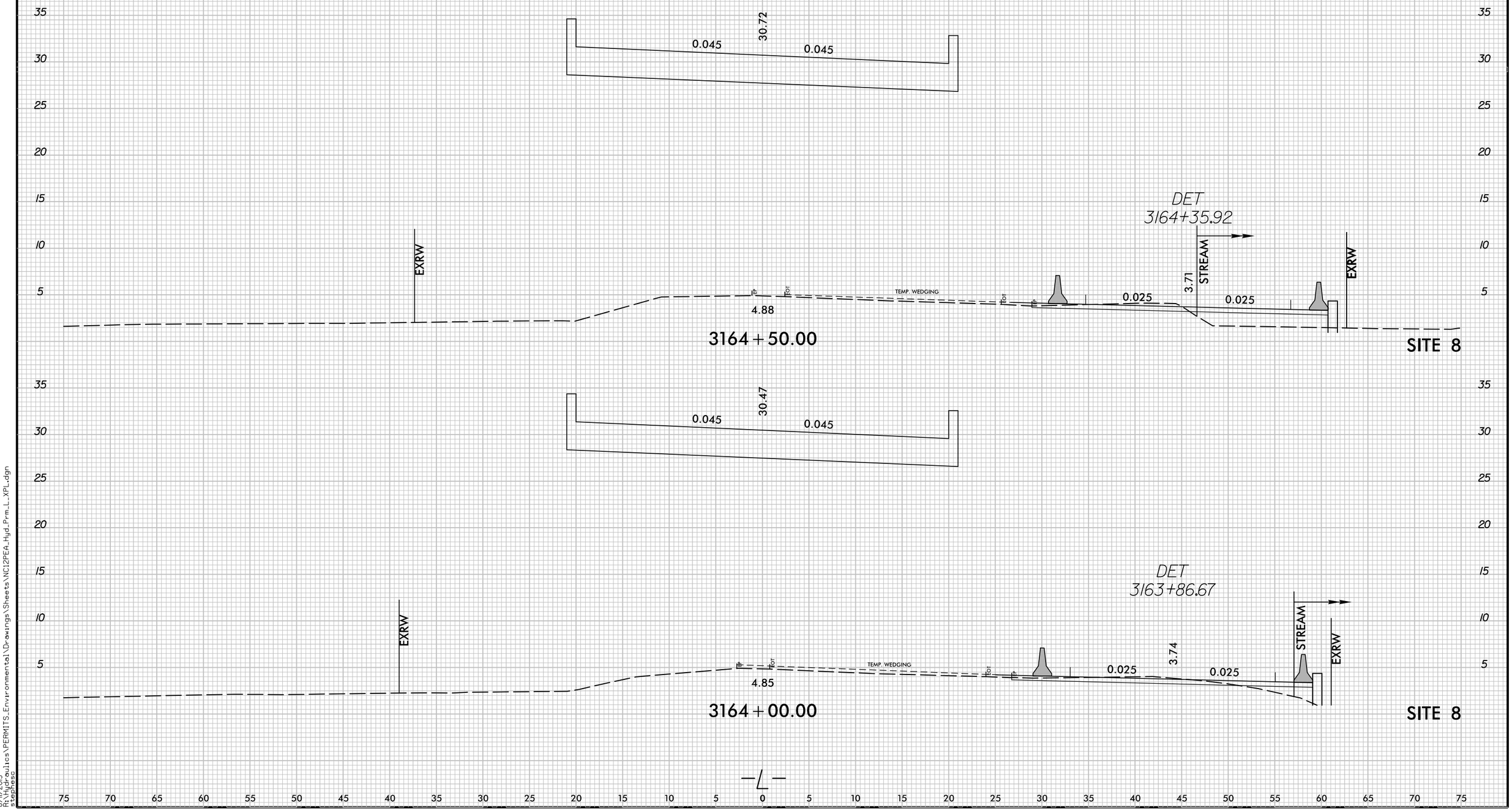
R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_pshl_Site 8&9.dgn

8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-8

Permit Drawing
Sheet 37 of 59



8/11/2013
R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_L_XPL.dgn
stephesc

SITE 10

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NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	11
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVIN C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 / NSRS 2007

LEGEND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- TEMPORARY WORK BRIDGE
- REMOVE TEMPORARY WORK BRIDGE (CARRYING TRAFFIC)

TEMPORARY IMPACTS IN SURFACE WATER

TEMPORARY WORK BRIDGE #1

TEMPORARY IMPACTS IN SURFACE WATER

IMPACTS IN SURFACE WATER

IMPACTS IN SURFACE WATER

CONC

NOTE:
JETTING INTAKE PIPE LOCATIONS TO BE DETERMINED WITHIN EXISTING EASEMENT

TEMPORARY WORK BRIDGE #2

UNITED STATES OF AMERICA

30′ 0′ 30′
GRAPHIC SCALE

Permit Drawing
Sheet 38 of 59

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_pshII_Site 10.dgn

8/11/2013

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NC License Number F-0991

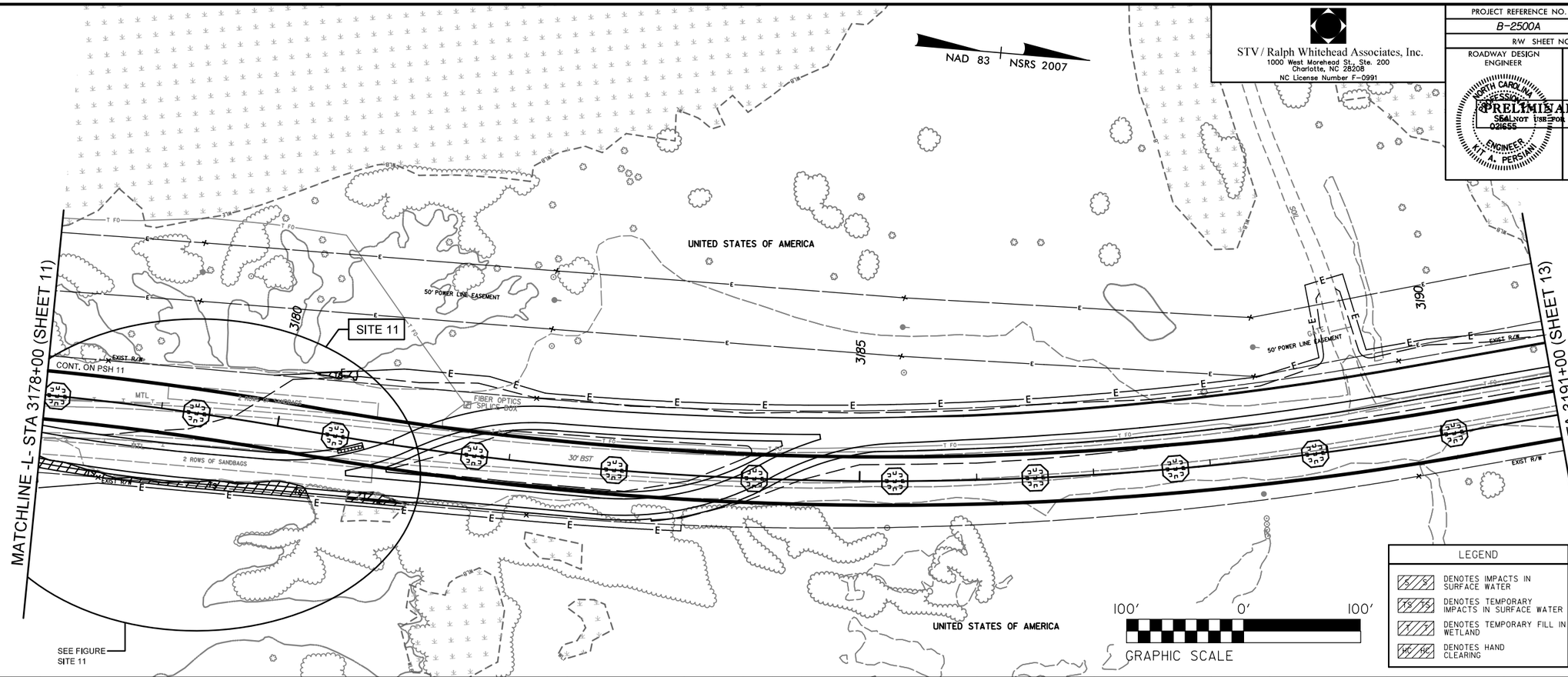
PROJECT REFERENCE NO.	SHEET NO.
B-2500A	12
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER CALVIN C. MORRISON

PRELIMINARY PLANS
SEAL NOT USE FOR CONSTRUCTION

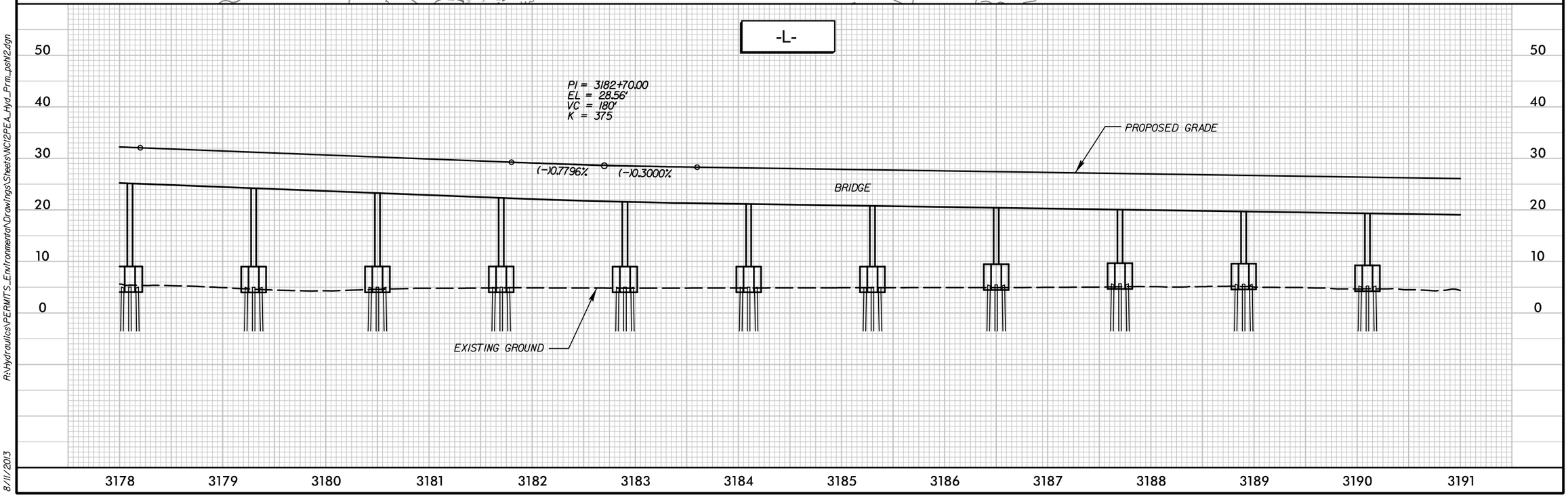
NAD 83 NSRS 2007



LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

Permit Drawing
Sheet 39 of 59



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8/11/2013

STV / Ralph Whitehead Associates, Inc.
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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	12
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 NSRS 2007

MATCHLINE -L- STA 3178+00 (SHEET 11)

MATCHLINE -L- STA 3191+00 (SHEET 13)

SITE 11

SEE FIGURE SITE 11

CONT. ON PSH 11

UNITED STATES OF AMERICA

50' POWER LINE EASEMENT

EXIST R/W

2 ROWS OF SANDBAGS

30' BST

FIBER OPTICS OR TELECOM BOX

3180

3185

3190

100' 0' 100'

GRAPHIC SCALE

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

Permit Drawing
Sheet 40 of 59

-L-

PI = 3182+70.00
EL = 28.56'
VC = 180'
K = 375

(-)0.7796%

(-)0.3000%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50 40 30 20 10 0

3178 3179 3180 3181 3182 3183 3184 3185 3186 3187 3188 3189 3190 3191

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SITE 11

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NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	12
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 | NSRS 2007

ER LINE EASEMENT

E

EXIST R/W

EXIST R/W

MTL

MTL

MTL

2 ROWS OF SANDBAGS

TEMPORARY IMPACTS IN SURFACE WATER

TEMPORARY SLOPE STAKES

TEMPORARY FILL IN WETLAND

HAND CLEARING

TEMPORARY IMPACTS IN SURFACE WATER

TEMPORARY WORK BRIDGE #2

TS

T

HC

30′ 0′ 30′

GRAPHIC SCALE

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING
- TEMPORARY WORK BRIDGE

Permit Drawing
Sheet 41 of 59

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

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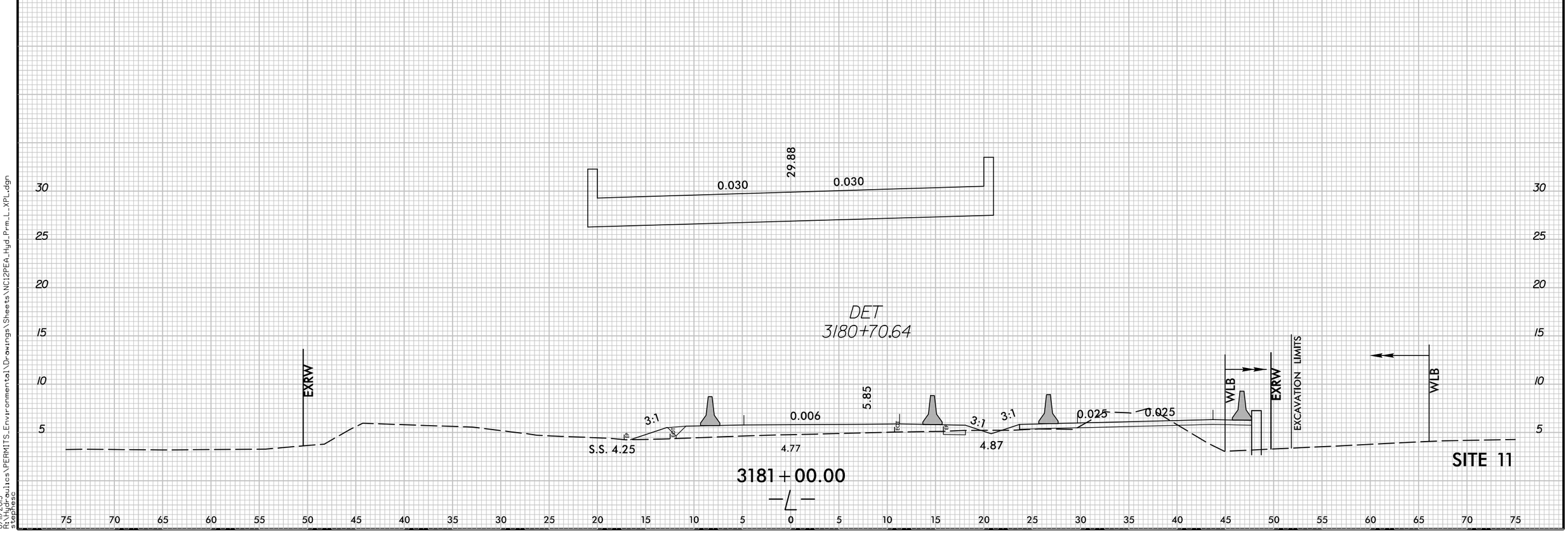
8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-9

Permit Drawing
Sheet 42 of 59



8/11/2013
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stephesc

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NC License Number F-0991

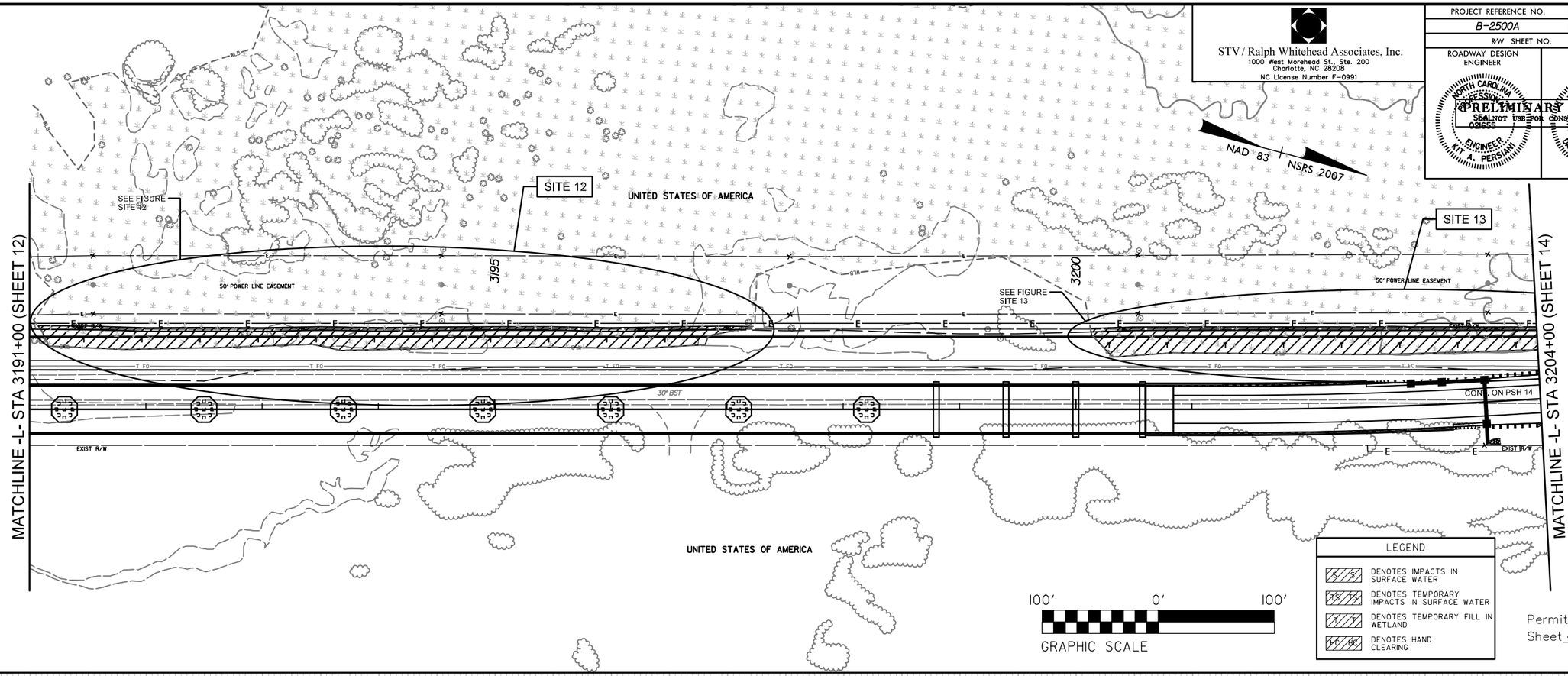
PROJECT REFERENCE NO.	SHEET NO.
B-2500A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
SEAL NOT USE FOR CONSTRUCTION

NAD 83 | NSRS 2007

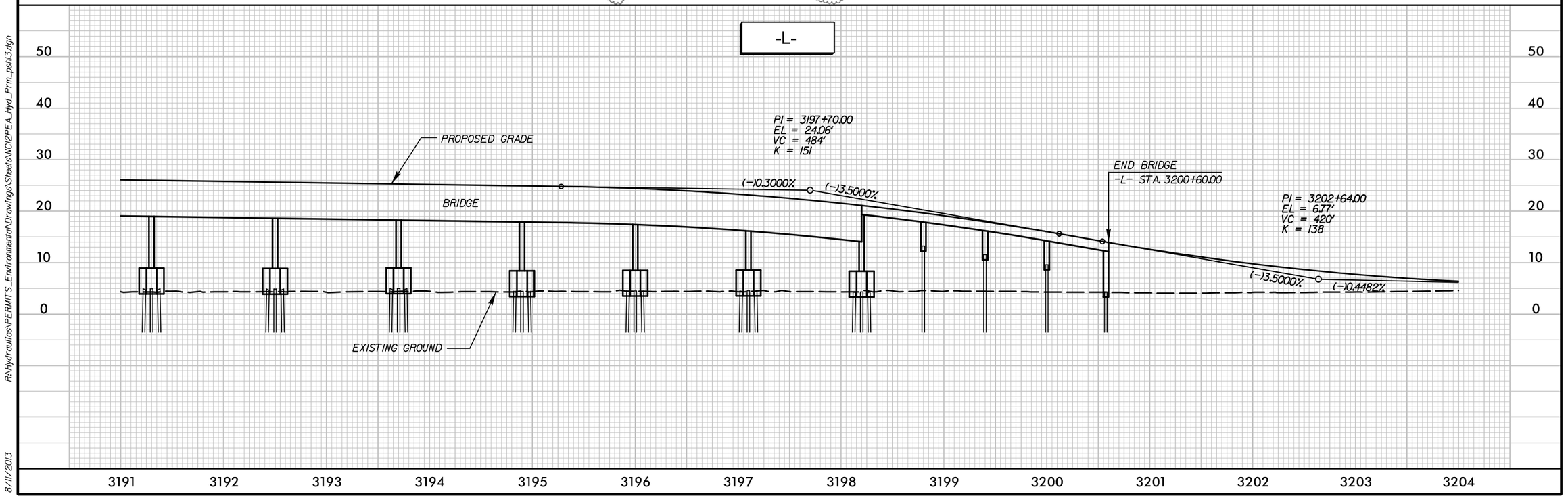


LEGEND

SF/SF	DENOTES IMPACTS IN SURFACE WATER
TS/TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
TF/TF	DENOTES TEMPORARY FILL IN WETLAND
HC/HC	DENOTES HAND CLEARING

100' 0' 100'
GRAPHIC SCALE

Permit Drawing
Sheet 43 of 59



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8/11/2013

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	13
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 NSRS 2007

MATCHLINE -L- STA 3191+00 (SHEET 12)

MATCHLINE -L- STA 3204+00 (SHEET 14)

SITE 12

SITE 13

SEE FIGURE SITE 12

SEE FIGURE SITE 13

UNITED STATES OF AMERICA

UNITED STATES OF AMERICA

3195

3200

50' POWER LINE EASEMENT

50' POWER LINE EASEMENT

30' BST

CONC ON PSH 14

EXIST R/W

EXIST R/W

LEGEND

- SW — DENOTES IMPACTS IN SURFACE WATER
- TSW — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- TF — DENOTES TEMPORARY FILL IN WETLAND
- HC — DENOTES HAND CLEARING

100' 0' 100'

GRAPHIC SCALE

Permit Drawing
Sheet 44 of 59

-L-

PROPOSED GRADE

BRIDGE

EXISTING GROUND

PI = 3197+70.00
EL = 24.06'
VC = 484'
K = 151

(-)10.3000%

(-)13.5000%

END BRIDGE
-L- STA. 3200+60.00

PI = 3202+64.00
EL = 6.77'
VC = 420'
K = 138

(-)13.5000%

(-)10.4482%

50 40 30 20 10 0

3191 3192 3193 3194 3195 3196 3197 3198 3199 3200 3201 3202 3203 3204

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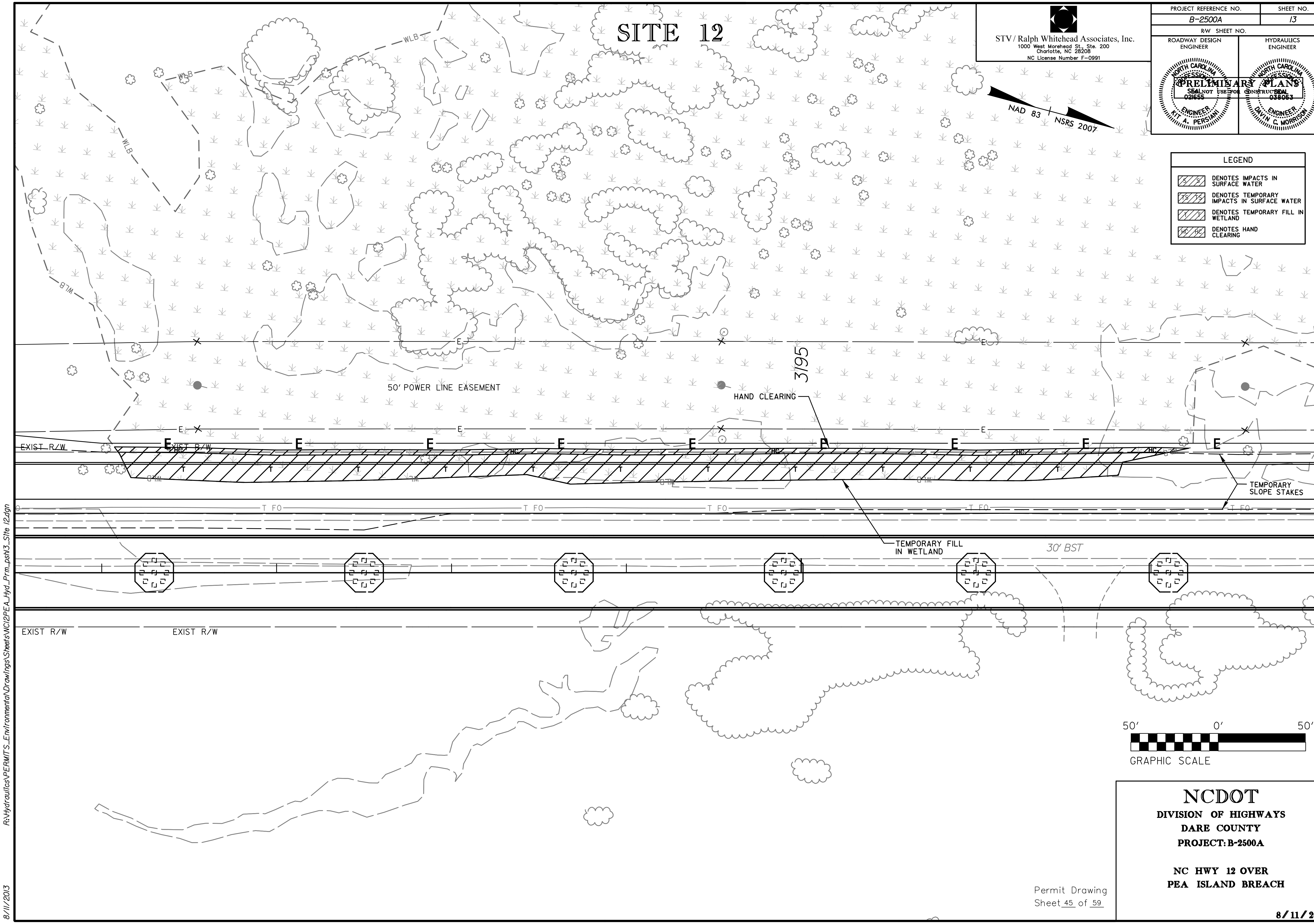
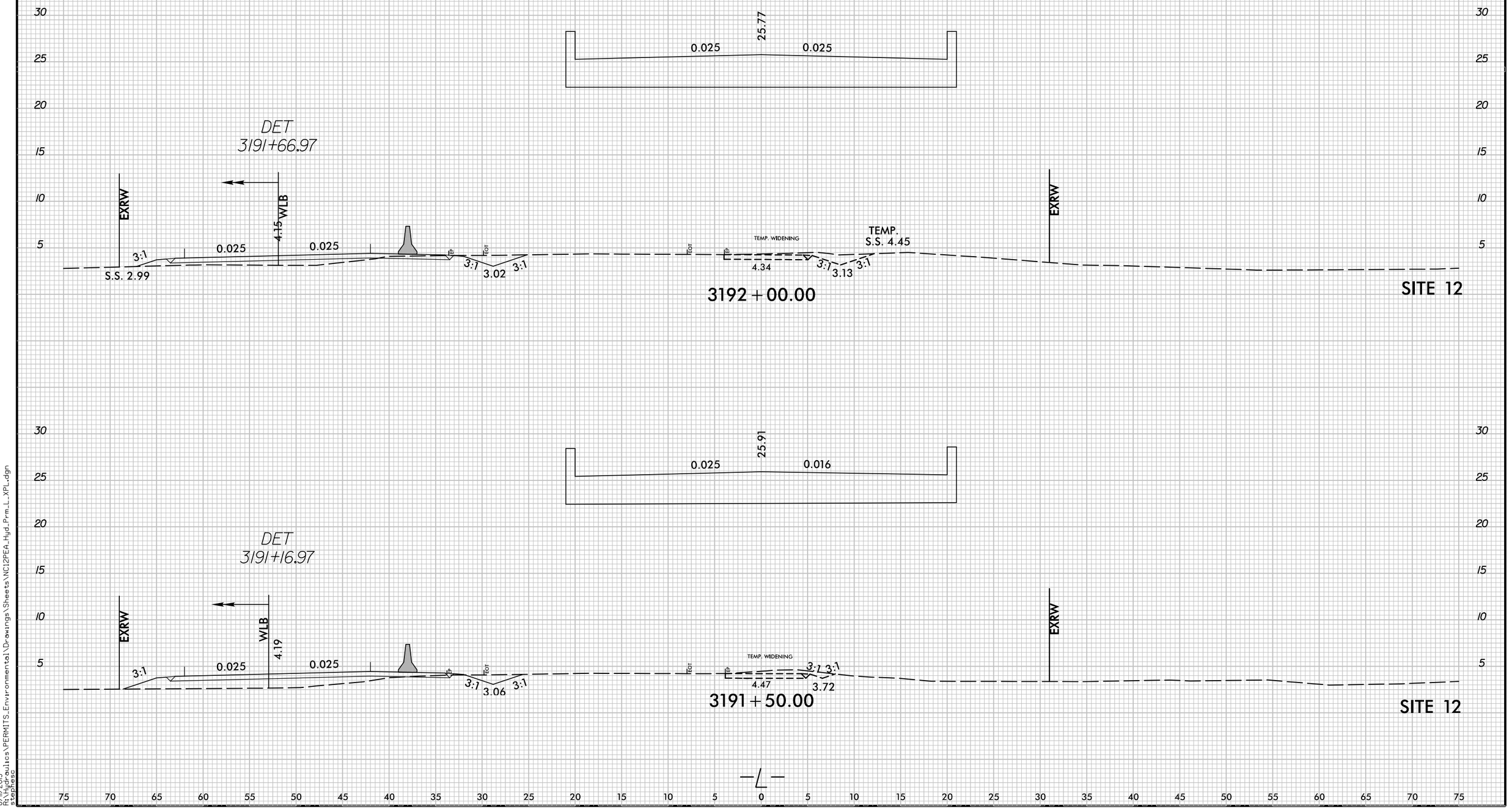
8/11/2013


SITE 12
STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991
PROJECT REFERENCE NO.
B-2500A
SHEET NO.
13
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83 NSRS 2007
LEGEND
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES TEMPORARY FILL IN WETLAND
DENOTES HAND CLEARING
WLB
50' POWER LINE EASEMENT
3/95
HAND CLEARING
EXIST R/W
TEMPORARY SLOPE STAKES
T FO
TEMPORARY FILL IN WETLAND
30' BST
50'
0'
50'
GRAPHIC SCALE
NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A
NC HWY 12 OVER
PEA ISLAND BREACH
Permit Drawing
Sheet 45 of 59
8/11/2013
R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_psh13_Site 12.dgn
8/11/2013

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-10



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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	14
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 / NSRS 2007

MATCHLINE -L- STA 3204+00 (SHEET 13)

SEE FIGURE SITE 13

SITE 13

SITE 14

SEE FIGURE SITE 14

CONT. ON PSH 13

50' POWER LINE EASEMENT

UNITED STATES OF AMERICA

EXIST R/W

30' BST

T FO

WLB

3205

3210

3215

100' 0' 100'
GRAPHIC SCALE

LEGEND

- S S — DENOTES IMPACTS IN SURFACE WATER
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- T T — DENOTES TEMPORARY FILL IN WETLAND
- HC HC — DENOTES HAND CLEARING

Permit Drawing
Sheet 47 of 59

-L-

END TIP PROJECT B-2500A
-L- STA. 3207+37.00
ELEV = 4.65'

PROPOSED GRADE

(-)0.4482%

EXISTING GROUND

50
40
30
20
10
0

3204 3205 3206 3207 3208 3209 3210 3211 3212 3213 3214 3215 3216 3217

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_psh14.dgn
8/11/2013

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NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	14
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 | NSRS 2007

MATCHLINE -L- STA 3204+00 (SHEET 13)

SEE FIGURE SITE 13

SITE 13

SITE 14

SEE FIGURE SITE 14

CONT. ON PSH 13

UNITED STATES OF AMERICA

50' POWER LINE EASEMENT

EXIST R/W

30' BST

T FO

WLB

3205

3210

3215

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

100' 0' 100'
GRAPHIC SCALE

Permit Drawing Sheet 48 of 59

-L-

END TIP PROJECT B-2500A
-L- STA. 3207+37.00
ELEV = 4.65'

PROPOSED GRADE

(-)0.4482%

EXISTING GROUND

50 40 30 20 10 0

3204 3205 3206 3207 3208 3209 3210 3211 3212 3213 3214 3215 3216 3217

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NCI2PEA_Hyd_Prm_psh14.dgn

8/11/2013

SITE 13

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	14
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 / NSRS 2007

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

3200

3205

50' POWER LINE EASEMENT

HAND CLEARING

EXIST R/W

TEMPORARY SLOPE STAKES

TEMPORARY FILL IN WETLAND

50' 0' 50'

GRAPHIC SCALE

Permit Drawing
Sheet 49 of 59

NCDOT

DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

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8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-11

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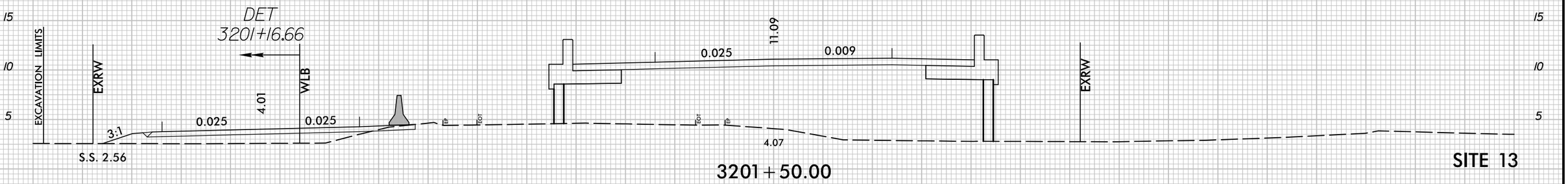
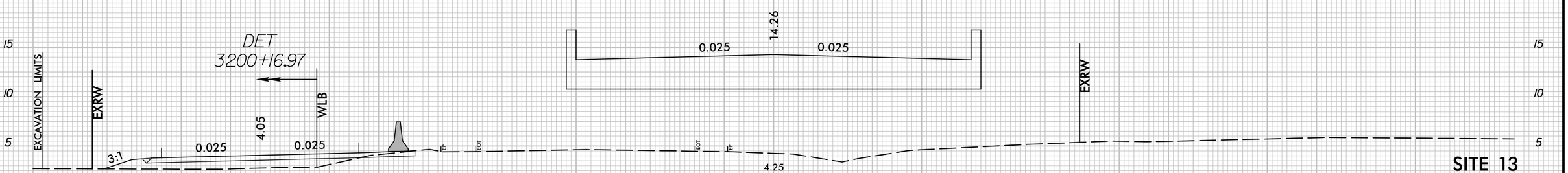
Permit Drawing
Sheet 50 of 59



3201 + 50.00

SITE 13



3200 + 50.00

SITE 13

8/11/2013
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stephesc

SITE 14

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PROJECT REFERENCE NO.	SHEET NO.
B-2500A	14
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 / NSRS 2007

50' POWER LINE EASEMENT

3210

HAND CLEARING

HAND CLEARING

HAND CLEARING

TEMPORARY SLOPE STAKES

TEMPORARY FILL IN WETLAND

TEMPORARY FILL IN WETLAND

E

HC

T

WLB

T FO

30' 0' 30'
GRAPHIC SCALE

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

Permit Drawing
Sheet 51 of 59

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

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8/11/2013

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-2500A	X-12

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

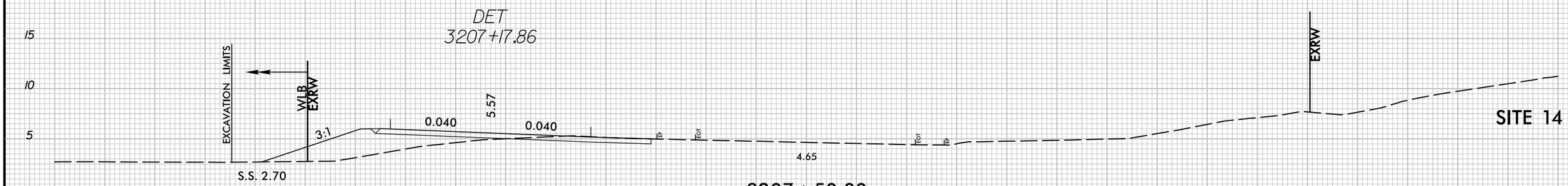
Permit Drawing
Sheet 52 of 59

DET
3208+18.31

3208+50.00

SITE 14

DET
3207+17.86



3207+50.00

SITE 14

—L—

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

8/11/2013
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stephesc

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1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

UNITED STATES OF AMERICA

NAD 83 CORS96

MATCHLINE THIS SHEET

SITE 2

SEE FIGURE SITE 2

SITE 15

NOTE: JETTING INTAKE PIPE LOCATION

50' POWER LINE EASEMENT

EXIST R/W

30' BST

MATCHLINE -L- STA 3087+00 (SHEET 4)

MATCHLINE -L- STA 3100+00 (SHEET 6)

100' 0' 100'
GRAPHIC SCALE

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

Permit Drawing
Sheet 53 of 59

-L-

PI = 3092+48.00
EL = 24.70'
VC = 530'
K = 152

BEGIN BRIDGE
-L- STA. 3089+00.00

PI = 3086+70.00
EL = 4.48'
VC = 408'
K = 137

(+)3.4983%

14.28

(+)3.4983%

(+)0.0000%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50 40 30 20 10 0

3087 3088 3089 3090 3091 3092 3093 3094 3095 3096 3097 3098 3099 3100

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_pshi05X.dgn

8/11/2013

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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

UNITED STATES OF AMERICA

NAD 83 CORS96

MATCHLINE THIS SHEET

SITE 2

SEE FIGURE SITE 2

3090

3095

SITE 15

50' POWER LINE EASEMENT

NOTE: JETTING INTAKE PIPE LOCATION

EXIST R/W

30' BST

MATCHLINE -L- STA 3087+00 (SHEET 4)

MATCHLINE -L- STA 3100+00 (SHEET 6)

100' 0' 100'

GRAPHIC SCALE

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES PERMANENT FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

Permit Drawing
Sheet 54 of 59

-L-

PI = 3092+48.00
EL = 24.70'
VC = 530'
K = 152

BEGIN BRIDGE
-L- STA. 3089+00.00

PI = 3086+70.00
EL = 4.48'
VC = 408'
K = 137

(+)3.4983%

14.28

(+)3.4983%

(+)0.0000%

PROPOSED GRADE

BRIDGE

EXISTING GROUND

50 40 30 20 10 0

3087 3088 3089 3090 3091 3092 3093 3094 3095 3096 3097 3098 3099 3100

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_pshl05XAdgn

8/11/2013

SITE 15
(SHEET 1 OF 2)

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

NAD 83
NSRS 2007

HAND CLEARING

NOTE:
JETTING INTAKE PIPE LOCATION

50' POWER

MATCHLINE

30' 0' 30'
GRAPHIC SCALE

Permit Drawing
Sheet 55 of 59

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_psh05x_Site 15Adgn

8/11/2013

SITE 15
(SHEET 2 OF 2)

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

PRELIMINARY PLANS
SEAL NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 038053 ENGINEER DAVID C. MORRISON

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

NAD 83 / NSRS 2007

FROM AERIAL

HAND CLEARING

NOTE:
JETTING INTAKE
PIPE LOCATION

HAND CLEARING

TEMPORARY IMPACTS
IN SURFACE WATER

MATCHLINE

WLB

FROM AERIAL

30′ 0′ 30′
GRAPHIC SCALE

Permit Drawing
Sheet 56 of 59

NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013

R:\Hydraulics\PERMITS_Environmental\Drawings\Sheets\NC12PEA_Hyd_Prm_psh05X_Site 15B.dgn

8/11/2013

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

NAD 83 / NSRS 2007

SEE FIGURE SITE 16

SITE 16

SITE 5

SITE 6

UNITED STATES OF AMERICA

50' POWER LINE EASEMENT

50' POWER LINE EASEMENT

BST

3135

3140

EXIST R/W

EXIST R/W

EXIST R/W

EXIST R/W

LEGEND

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

100' 0' 100'

GRAPHIC SCALE

Permit Drawing
Sheet 57 of 59

-L-

PROPOSED GRADE

PROPOSED GRADE

BRIDGE

BRI

50 40 30 20 10 0

3132 3133 3134 3135 3136 3137 3138 3139 3140 3141 3142 3143 3144 3145

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8/11/2013

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 026555 ENGINEER KIT A. PERSIANI

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
SEAL NOT USE FOR CONSTRUCTION

SEE FIGURE SITE 16

SITE 16

SITE 6

NAD 83 / NSRS 2007

UNITED STATES OF AMERICA

50' POWER LINE EASEMENT

50' POWER LINE EASEMENT

3135

3140

BST

EXIST R/W

EXIST R/W

EXIST R/W

EXIST R/W

LEGEND

- SS — DENOTES IMPACTS IN SURFACE WATER
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- TF TF — DENOTES TEMPORARY FILL IN WETLAND
- HC HC — DENOTES HAND CLEARING

100' 0' 100'
GRAPHIC SCALE

Permit Drawing
Sheet 58 of 59

"ED STATES OF AMERICA

-L-

PROPOSED GRADE

PROPOSED GRADE

BRIDGE

BRI

50 40 30 20 10 0

3132 3133 3134 3135 3136 3137 3138 3139 3140 3141 3142 3143 3144 3145

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8/11/2013

SITE 16

SITE 16

TS

E

TEMPORARY IMPACTS IN SURFACE WATER

NOTES:
1) JETTING INTAKE PIPE LOCATION
2) EXISTING BOAT ACCESS

WLB

WL

50' POWER LINE EASEMENT

BST

50' POW

3140

SITE 6

EXIST R/W

EXIST R/W

HC

T

TM

T FO T

PERMANENT SLOPE STAKES

PERMANENT SLOPE STAKES

TEMPORARY SLOPE STAKES

LEGEND

- S / S — DENOTES IMPACTS IN SURFACE WATER
- TS / TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- T / T — DENOTES TEMPORARY FILL IN WETLAND
- HC / HC — DENOTES HAND CLEARING

30' 0' 30'

GRAPHIC SCALE

Permit Drawing Sheet 59 of 59

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1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License Number F-0991

NAD 83 NSRS 2007

PROJECT REFERENCE NO.	SHEET NO.
B-2500A	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 021655 ENGINEER KIT A. PERSIAN

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038063 ENGINEER DAVID C. MORRISON

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

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8/11/2013

NCDOT

DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: B-2500A

NC HWY 12 OVER
PEA ISLAND BREACH

8/11/2013