Proposed Improvements to US 70 and Slocum Road
City of Havelock, Craven County
Federal Aid Project # NHS-0070(154)
WBS # 45492.1.1
STIP # R-5516

CATEGORICAL EXCLUSION

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
N. C. DEPARTMENT OF TRANSPORTATION

Submitted pursuant to 42 U.S.C. 4332(2) (c)

APPROVED:

12/30/13 FOR
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NCDOT Project Development and Environmental Analysis Unit

12/31/13
Date John F. Sullivan III, PE – Division Administrator
Federal Highway Administration

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Documentation Prepared
for the
North Carolina Department of Transportation
by AECOM Technical Services of NC, Inc.

December 2013

NORTH CAROLINA PROFESSIONAL SEAL 024466 ENGINEER LOUIS M. RAYMOND 12/30/13

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PROJECT COMMITMENTS

Proposed Improvements to US 70 and Slocum Road
City of Havelock, Craven County
Federal Aid Project # NHS-0070(154)
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Local Programs Management Unit

A municipal agreement will be executed by NCDOT and the City of Havelock to fund the construction of new sidewalks along the north side of Marsha's Way Connector. Based on NCDOT's Pedestrian Policy, the City of Havelock will fund 30% of the cost of these improvements.

Project Development & Environmental Analysis Unit - Human Environment Section

Pending approval of property owners, a noise wall has been recommended to mitigate noise impacts. The proposed wall is located to the east of the Hickman Hill neighborhood. A Design Noise Report will be prepared prior to construction of this project to verify the need for and refine the height and location of the noise wall, based on the NCDOT Traffic Noise Abatement Policy.

Hydraulics Unit, Project Development & Environmental Analysis Unit - Natural Environment Section

The provisions of the Neuse River Buffer Rules apply to all jurisdictional streams in the study area and must be adhered to during the design and construction of this project. For the purposes of stream mitigation, all jurisdictional streams in the study area have been designated as warm water streams.

Division 2 Construction, Utilities Unit

There will be no impacts to USFS rare species since construction activities, including the placement of staging areas, in close proximity to the NFS lands west of existing US 70 near the intersection with Slocum Road have been avoided. Any encroachment by the project onto any National Forest Service (NFS) lands will require coordination with the USFS and possible further evaluation of USFS rare species for which habitat is present. Impacts to spring-flowering goldenrod on NFS lands will require coordination with USFS; impacts to the species on private lands will not require coordination with USFS.

Any utility relocations that occur on USFS property must be processed as a separate permit action and coordinated with the USFS.

TABLES

FIGURES

APPENDICES

SUMMARY

A. Type of Action

This Categorical Exclusion has been prepared to evaluate the potential impacts of this proposed transportation improvement project. Based on this evaluation, the North Carolina Department of Transportation (NCDOT) and Federal Highway Administration (FHWA) do not anticipate that significant impacts to the environment will occur due to this proposed project; therefore, the proposed project is classified as a Federal "Categorical Exclusion".

B. Project Description

The NCDOT, in consultation with the FHWA, proposes to enhance access to Marine Corps Air Station (MCAS) Cherry Point from US 70 to Slocum Road. The proposed project includes improvements to the US 70 intersections with Slocum Road and SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road), and construction of Marsha's Way Connector between the MacDonald Downs subdivision and SR 1772 (Pine Grove Road) (see **Figure 1** for project location). At Slocum Road, a flyover ramp would be constructed to serve traffic moving from eastbound US 70 onto Slocum Road. Free-flow ramps would also be provided from westbound US 70 onto Slocum Road and from Slocum Road onto westbound US 70. Left-turn movements out of Slocum Road onto eastbound US 70 would be accommodated and controlled by a two-phase traffic signal. The intersection of US 70 and SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road) would be converted to a "left-out" superstreet, which is a type of intersection in which minor cross-street traffic is prohibited from going straight through at a divided highway intersection (see **Figure 5**).

The total length of the proposed project is 1.7 miles.

This project is included in the approved 2012-2020 North Carolina State Transportation Improvement Program (STIP). The total cost in the STIP is $20,510,000, which includes $5,000,000 for right of way acquisition and $15,510,000 for construction. The current estimated total cost is $25,609,530. Right of way acquisition is currently scheduled for Federal Fiscal Year (FY) 2014, while construction is scheduled to begin in FY 2015.

C. Summary of Purpose and Need

The purpose of the proposed project is to improve traffic operations at the existing at-grade intersection of US 70 and Slocum Road by addressing capacity deficiencies and queuing issues associated with access to Marine Corps Air Station (MCAS) Cherry Point Gate along Slocum Road.

D. Alternatives Considered

The alternatives considered for this project consist of the No Build alternative, and two Build alternatives (Alternatives A and B) that have different options for the Marsha's Way Connector.

E. NCDOT Recommended Alternative

The NCDOT recommended Build alternative is Alternative A. The recommended alternative includes the addition of a flyover ramp over US 70 to Slocum Road, the provision of free-flow ramps from westbound US 70 onto Slocum Road and from Slocum Road onto westbound US 70, the installation of a two-phase traffic signal to control traffic from Slocum Road turning onto eastbound US 70, the construction of the new two-lane Marsha's Way Connector between the MacDonald Downs subdivision and Sermons Boulevard, and improvements to SR 1772 (Pine Grove Road) and the conversion of its intersection with US 70 into a "left-out" superstreet. The recommended alternative is shown in **Figures 2A and 2C**.

F. Summary of Environmental Effects

Adverse impacts to the human and natural environment were minimized where possible during the planning and design phases. No adverse effect on the air quality of the surrounding area is anticipated as a result of the project. The proposed project will not impact any properties on or eligible for the National Register of Historic Places. The proposed project will not encroach upon any known archaeological site eligible for listing in the National Register. The project will not require lands from any public recreational areas or National Forest Service lands. Seven federally protected species are listed for Craven County; the biological conclusion for all species was "No Effect", with the exception of the American alligator, which did not require a biological conclusion since it is considered "Threatened due to Similarity of Appearance."

No relocations are anticipated as a result of the proposed improvements. Four noise receptors will be impacted in the Hickman Hill neighborhood. Two potential Underground Storage Tanks (USTs), as well as two other sites having recognized environmental conditions, were identified within the project limits; low monetary and scheduling impacts are anticipated to result from these sites.

Table S-1 gives a summary of the resources and impacts due to the recommended alternative. **Figures 2A and 2C** show the recommended alternative.

Table S-1: Summary of Resources and Impacts

Resource		Alternative A	Alternative B
Project Length (miles)		1.7	1.7
Schools		0	0
Churches		0	0
Cemeteries		0	0
Relocations*	Residential	0	0
	Businesses	0	0
Traffic Noise Impacts	Residential	4	4
	Churches	0	0
	Businesses	0	0
Historic Properties (Listed on or Eligible for the National Register)		0	0
Section 4(f) Properties		0	0
Prime Farmland Impacts (acres)		15.0	15.6
Forested Acres		8.1	8.3
Wetland Impacts (acres)		1.2	1.2
Stream Impacts (linear feet)		1,088	1,088
Riparian Buffer Impacts (acres)	Zone 1	1.5	1.5
	Zone 2	1.0	1.0
	Total Buffer Impacts	2.5	2.5
Floodplain (acres)		0	0
Water Supply Watershed Protected Areas		No	No
Federally Protected Species within Corridor		0	0
Hazardous Material Sites		4	4
Adverse/Disproportionate Impacts to Minority/Low Income Populations		No	No
Right of Way Cost		$7,825,000	$7,825,000
Utility Relocation Cost		$184,530	$184,530
Construction Cost		$17,600,000	$17,200,000
Total Cost		**$25,609,530**	**$25,209,530**

* NCDOT's Relocation Policy and Relocation Report is included in **Appendix B**

G. Permits Required

It is anticipated that the proposed action will be permitted under the United States Army Corps of Engineers (USACE) Nationwide Permit (NWP) 23 for an approved Categorical

Exclusion and NWP 33 permitting temporary construction, access and dewatering. The USACE holds the final discretion regarding the permit required to authorize project construction.

In addition to the 404 permit, other required authorizations include the corresponding Section 401 Water Quality Certification (WQC) from the North Carolina Division of Water Resources (NCDWR). A NCDWR Section 401 Water Quality General certification for an approved Categorical Exclusion (GC 3891) may be required prior to the issuance of a Section 404 Permit. Other required 401 certifications may include a GC 3893 for temporary construction access and dewatering.

The Division of Coastal Management (DCM) has determined that there are no CAMA areas of environmental concern (AECs) within the project boundaries; therefore, no CAMA permit will be required. However, should the USACE require an Individual Permit, a consistency determination will be required by DCM.

H. Coordination

Federal, state, and local agencies were consulted during the preparation of this Categorical Exclusion. Written comments were received and considered from agencies noted with an asterisk (*) during the preparation of this assessment.

U.S. Army Corps of Engineers
* U.S. Environmental Protection Agency
* U.S. Fish and Wildlife Service
U.S. Marine Corps Air Station – Cherry Point
Department of the Navy – Naval Facilities Engineering Command, Mid-Atlantic
U.S. Forest Service – Croatan National Forest
N.C. Department of Agriculture and Consumer Services
N.C. Department of Crime Control and Public Safety
N.C. Department of Cultural Resources
N.C. DENR - Division of Environmental Health
N.C. DENR - Division of Forest Resources
N.C. DENR - Division of Parks and Recreation
N.C. DENR - Division of Soils and Water Conservation
N.C. DENR - Division of Water Resources
N.C. DENR - Natural Heritage Program
N.C. Department of Public Instruction
* N.C. Division of Marine Fisheries
N.C. Division of Coastal Management
N.C. Wildlife Resources Commission
Eastern Council of Governments
* City of Havelock
Craven County Schools

I. Contact Information

Additional information concerning the proposal and assessment can be obtained by contacting the following:

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I. DESCRIPTION OF PROPOSED ACTION

A. General Description

The NCDOT, in consultation with the FHWA, proposes to enhance access to Marine Corps Air Station (MCAS) Cherry Point from US 70 to Slocum Road. The proposed project includes improvements to the US 70 intersections with Slocum Road and SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road), and construction of Marsha's Way Connector between the MacDonald Downs subdivision and SR 1772 (Pine Grove Road) (see **Figure 1** for project location). At Slocum Road, a flyover ramp would be constructed to serve traffic moving from eastbound US 70 onto Slocum Road. The flyover will include a 250-foot bridge over US 70 that will have 44-feet of clear roadway width and will accommodate two 12-foot lanes, with an 8-foot shoulder on the right, and a 12-foot shoulder on the left. Free-flow ramps would also be provided from westbound US 70 onto Slocum Road and from Slocum Road onto westbound US 70. Left-turn movements out of Slocum Road onto eastbound US 70 would be accommodated and controlled by a two-phase traffic signal. Slocum Road will be widened up to the gate to MCAS Cherry Point.

The intersection of US 70 and SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road) will be converted to a "left-out" superstreet (see **Figure 5**) in order to reduce traffic congestion and queuing at the signalized intersection, better accommodate traffic movements, and provide improved access to the MacDonald Downs and Tucker Creek subdivisions. As part of the superstreet design, a new signal is proposed for a U-turn that would be located east of SR 1772 (Pine Grove Road). Modifications will be made to the traffic signal phasing (conversion from a multi-phase signal to a two-phase signal), and the service road adjacent to the US 70 and SR 1772 (Pine Grove Road) intersection will be removed in order to improve traffic flow and operations.

In addition, because the MacDonald Boulevard access to US 70 will be removed, the Marsha's Way Connector is proposed between the MacDonald Downs subdivision and Sermons Boulevard to provide a new access point to the subdivision. The closure of the MacDonald Boulevard access onto US 70 will allow for the free-flow movement of traffic from Slocum Road to westbound US 70 and eliminate weaving-related safety issues.

The total length of the proposed project is 1.7 miles.

B. Cost Estimates

This project is included in the approved 2012-2020 North Carolina State Transportation Improvement Program (STIP). The total cost in the STIP is $20,510,000, which includes $5,000,000 for right of way acquisition and $15,510,000 for construction. The current estimated total cost is $25,609,530. Right of way acquisition is currently scheduled for Federal Fiscal Year (FY) 2014, while construction is slated to begin in FY 2015.

II. PURPOSE AND NEED FOR PROJECT

A. Purpose of Project

The purpose of the proposed project is to improve operations at the intersection of US 70 and Slocum Road by addressing capacity deficiencies and queuing issues associated with access to Marine Corps Air Station (MCAS) Cherry Point Gate along Slocum Road.

B. Need for Project

US 70 is a four-lane, median divided highway with partial access control for a majority of the project's limits. Slocum Road is currently a two-lane roadway and is one of three primary entrances to MCAS Cherry Point. According to the MCAS Cherry Point Transportation Demand Management Plan, the Slocum Road Gate receives most of its traffic from users north of Havelock and experiences heaviest congestion in the morning, resulting in left-turn traffic queue backups on US 70. These backups sometimes spill into the US 70 through lanes. Between March 2009 and February 2012, 34 crashes occurred at the intersection. The majority of these crashes (53%) were rear-end collisions.

Based on existing federal guidelines and traffic projections, the Slocum Road should be widened to two lanes and the entrance control facility (gate) should have at least two or three lanes, depending on whether dual or single processing is to be performed by marines at the gate. In addition, a pull-off lane to inspect commercial vehicles is needed. A four-lane Slocum Road and expansion by MCAS Cherry Point of their entrance control facility to three lanes will accommodate expected demand.

Without improvements, as traffic volumes increase as a result of the future basing of the F-35B Joint Strike Fighter at Cherry Point and the potential relocation of commercial, contractor, and visitor trips to this gate, existing capacity and queuing issues are anticipated to worsen.

The *Master Plan for MCAS Cherry Point*, completed in September 2008, includes the widening and realignment of Slocum Road to the east of its existing location. Though this project is not currently fully funded, the design for STIP Project R-5516 incorporates the shift of Slocum Road up to the gate facility in order to accommodate the base's future plans. An updated master plan is nearing completion. That updated plan is anticipated to include improvements to Slocum Road.

In addition, the July 2005 *US 70 Access Management Study*, commissioned by NCDOT, included recommendations to remove the full directional traffic signal at SR 1772 (Pine Grove Road) and the median opening at MacDonald Boulevard. Ultimately, STIP Project R-5516 will help comply with these previous recommendations and improve the overall traffic operations on US 70.

C. Description of Existing Conditions

1. Functional Classification

US 70 is designated as a Principal Arterial on the North Carolina Statewide Functional Classification System. Slocum Road is owned and maintained by the U.S. Department of Defense, and as such, is not included in the North Carolina Statewide Functional Classification System.

2. Physical Description of Existing Facility

a) Roadway Cross Section

US 70 is an east-west, four-lane median divided highway with partial access control for a majority of the project study area. The facility has two 12-foot lanes with 6-foot inside shoulders (4-foot paved), ten foot outside shoulders (4-foot paved), and a 30-foot grass median. There is a parallel service road along westbound US 70 from just south of SR 1772 (Pine Grove Road) that connects to Sermons Boulevard and extends to the north.

Slocum Road is a federally maintained access road to MCAS Cherry Point that has two 12-foot through lanes and a dedicated right turn lane for vehicles leaving the base. Slocum Road also provides access to a few residences and undeveloped parcels not incorporated by the City of Havelock, and not part of the base property, on the north side of Slocum Road.

b) Horizontal and Vertical Alignment

The horizontal and vertical alignment along existing US 70 and Slocum Road is suitable for the posted speed limit.

c) Right of Way and Access Control

The existing right of way is 260-feet along US 70 and 60-feet on Slocum Road. While US 70 has partial control of access, Slocum Road has no control of access currently.

d) Speed Limit

The posted speed limit along US 70 through the project study area is 55 miles per hour (mph), while the posted speed limit on Slocum Road is 35 mph.

e) Intersections/Interchanges

There are four intersections along the project length:

- US 70 and SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road) - *signalized*
- US 70 and MacDonald Boulevard – *stop sign controlled*
- US 70 and Slocum Road – *signalized*

f) Railroad Crossings

There is one railroad crossing within the project study area. The North Carolina Railroad Company's line, which is currently leased by Norfolk Southern, crosses Hickman Hill Loop Road approximately 50-feet to the south of the US 70 intersection with SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road).

g) Hydraulic Structures

There are two existing major hydraulic structures in the project area: a 6-foot x 5-foot Reinforced Concrete Box Culvert (RCBC) that crosses Sandy Run at US 70 (Site #1), and a 48-inch Reinforced Concrete Pipe (RCP) and 42-inch RCP located at an unnamed tributary to Sandy Run at Slocum Road (Site #2) (see **Figure 2C**).

h) Bicycle and Pedestrian Facilities

There are no existing bicycle or pedestrian facilities within the project study area.

i) Utilities

The following utilities are located within the project corridor: overhead power transmission and distribution lines, water and sewer, overhead cable/telephone communication lines, and gas.

j) School Bus Usage

Currently, there are 14 busses that travel along the project corridor on a daily basis to area schools, making a total of 34 trips through the project area.

3. Traffic Carrying Capacity

a) Existing Traffic Volumes

A traffic forecast for this project was completed for the years 2012 and 2040. According to the 2012 traffic counts, the existing Average Annual Daily Traffic (AADT) ranged between 28,100 and 31,700 vehicles per day (vpd) on US 70, within the project limits. The existing AADT for Slocum Road in this same time period was 11,000 vpd (see **Figure 4)**.

b) Existing Levels of Service

The highway capacity analysis was conducted in accordance with the latest NCDOT Congestion Management Unit's *Capacity Analysis Guidelines for TIP Projects*, dated January 2012. They also were performed based on methodologies from the *Highway Capacity Manual (HCM 2000), Special Report 209*. Traffic modeling software used in the capacity analysis included *Synchro 7.0* and *SimTraffic 7.0, Version 7 (Build 773, Rev 8)*.

Simulations were performed for the base year (2012) during the AM and PM peak periods for all intersections analyzed. Levels of service and delay by intersection along US 70 for the 2012 existing condition scenario are summarized in Table 1.

Table 1: 2012 Existing Scenario LOS and Delay by Approach

Intersection	AM Peak		PM Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
US 70 at SR 1772/1759 (Pine Grove Rd./Hickman Hill Loop Rd.) (Signalized)	B	17.4	B	16.2
US 70 at MacDonald Blvd. (Unsignalized)	F	521	F	900+
US 70 at Slocum Rd. (Signalized)	D	37.4	F	87.2
Sermons Blvd. at US 70 service road (Unsignalized)	B	11.8	B	11.3

As shown in Table 1, under the existing condition, the US 70 intersections with Slocum Road and with MacDonald Boulevard currently experience failing levels of service, with unacceptable delays occurring at the latter.

c) Future Traffic Volumes

According to the 2040 traffic forecast, the design year AADT is projected to range between 33,700 and 38,100 vpd on US 70, within the project limits. The AADT for Slocum Road during this same time period is predicted to be 13,200 vpd (see **Figure 4)**. It should be noted that the 2040 traffic forecast assumes that TIP Project R-1015 (Havelock Bypass) is complete and open to traffic.

d) Future Levels of Service

Traffic simulations were performed for the design year (2040) during the AM and PM peak periods for all intersections analyzed. Levels of service and delay by intersection along US 70 for the 2040 No Build and Build scenarios are summarized in Tables 2 and 3.

Table 2: 2040 No Build Scenario LOS and Delay by Approach

Intersection	AM Peak		PM Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
US 70 at SR 1759 (Pine Grove Rd./Hickman Hill Loop Rd.) (Signalized)	C	34.7	F	112
US 70 at MacDonald Blvd. (Unsignalized)	F	900+	F	900+
US 70 at Slocum Rd. (Signalized)	E	72.5	F	149
Sermons Blvd. at US 70 service road (Unsignalized)	C	16.8	B	15.0

Table 3: 2040 Build Scenario LOS and Delay by Approach

Intersection	AM Peak		PM Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
US 70 at Slocum Rd (Signalized)	C	23.8	A	9.2
SR 1772 (Pine Grove Rd.) at MacDonald Blvd. (Unsignalized)	B	13.3	B	12.4
MacDonald Blvd. at Sermons Blvd. (Unsignalized)	B	14.6	B	14.3
ALTERNATIVE A				
US 70 at SR 1772/1759 (Pine Grove Rd./Hickman Hill Loop Rd.) (Signalized)	B	14.6	B	11.2
US 70 at SR 1772/1759 (Pine Grove Rd./Hickman Hill Loop Rd.) (Unsignalized U-turn with one lane) – North	F	66.1	C	15.4
US 70 at SR 1772/1759 (Pine Grove Rd./Hickman Hill Loop Rd.) (Signalized U-turn with dual lanes) - South	B	12.9	B	16.3
ALTERNATIVE B				
US 70 at SR 1772/1759 (Pine Grove Rd./Hickman Hill Loop Rd.) (Signalized)	B	12.2	C	34.5
US 70 at SR 1772/1759 (Pine Grove Rd./Hickman Hill Loop Rd.) (Signalized U-turn with one lane) - North	D	36.5	A	7.1
US 70 at SR 1772/1759 (Pine Grove Rd./Hickman Hill Loop Rd.) (Unsignalized U-turn with dual lanes) - South	B	13.3	E	36.5

For this project, the implementation of a superstreet concept along US 70 at the intersection of SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road) and a grade separation (flyover ramp) at Slocum Road, reducing the number of movements controlled by the traffic signal, are recommended to improve existing traffic operations by reducing delays and associated queues. As noted in Table 3 above, under the Build condition, operations along US 70 are predicted to improve.

e) Crash Data

A Traffic Safety Analysis was conducted for the time period from March 1, 2009 to February 29, 2012 for US 70 from 0.2 miles north of Sermons Boulevard to 0.2 miles south of Slocum Road in Craven County. A total of 102 crashes were reported along this segment of US 70 during the analysis period, leading to a total crash rate of 298.29 crashes per 100 million vehicle miles (100MVM), which exceeds the statewide average crash rate of 172.49 crashes per 100MVM, as well as the critical crash rate (210.89 crashes per 100MVM). One fatal crash was reported, resulting in a fatal crash rate of 2.92 crashes per 100MVM, also exceeding the statewide average fatal crash rate (0.86 crashes per 100MVM), but not the critical crash rate (4.93 crashes per 100MVM). Current crash rates also exceed the statewide and critical crash

rates for non-fatal, night, and wet crashes. Table 4 shows the comparison for the subject portion of US 70 versus the 2009-2011 statewide crash rates for urban US routes in NC.

Table 4: Crash Rate Comparison

Crash Type	Crashes	Crashes per 100MVM	Statewide Rate[1]	Critical Rate[2]
Total	102	298.29	172.49	210.89
Fatal	1	2.92	0.86	4.93
Non-Fatal	31	90.66	52.31	74.11
Night	20	58.49	38.77	57.75
Wet	24	70.19	31.30	48.50

1 – 2009-2011 statewide crash rate for urban 4-lane divided US route with partial control of access in NC

2- Based on the statewide crash rate (95% level of confidence)

Of the 102 reported crashes along US 70, 49 were rear-end collisions (approximately 50% of the overall number of collisions), while 29 of the crashes occurred at the intersection of US 70 and Slocum Road (approximately 28% of the overall number of collisions). In this case, the high number of rear-end crashes is an indicator of congested conditions conflicting with the high volume of left turn movements along existing US 70. A time of week pattern is evident given that 94% of the crashes occurred on weekdays when MCAS is most active.

f) Airports

In addition to the multiple military air strips located at MCAS Cherry Point, there is also a private airport adjacent to the project study area. The Dogwood Farm Airport is located 3 miles northwest of Havelock and has two operation runways (Runways 1 and 19).

g) Other Highway Projects in the Area

There is one STIP project located near the project study area. STIP Project R-1015, the proposed Havelock Bypass, is a four-lane, controlled access freeway on new location that will tie into existing US 70 north of SR 1772 (Pine Grove Road) and south of McCotter Boulevard on the south side of Havelock. This project is currently schedule to begin right of way acquisition in FY 2014.

4. Transportation and Land Use Plans

a) North Carolina Transportation Improvement Program

This project is included in the approved 2012-2020 STIP. Right of way acquisition is currently scheduled for Federal Fiscal Year (FY) 2014, while construction is slated to begin in FY 2015.

b) Local Transportation Plans

The latest long range transportation plan was the October 1992 *Craven County Thoroughfare Plan*. Although the US 70/ Slocum Road project was not part of that plan, the 1992 Thoroughfare Plan does mention a West Base Access improvement project proposed for MCAS Cherry Point. Therefore, it should be noted that the US 70/Slocum Road project is consistent with this 1992 Thoroughfare Plan since base access is being improved.

c) Land Use Plans

Both the *2009 Craven County CAMA Core Land Use Plan* and the *City of Havelock 2030 Comprehensive Plans* were certified by the North Carolina Coastal Resources Commission in October 2009.

The *City of Havelock 2030 Comprehensive Plan* was adopted in June 2009 and serves as the official adopted statement of the Board of Commissioners and provides a blueprint for long-term, sustainable growth in the community. The planning jurisdiction included in the plan includes the areas within Havelock city limits, areas within the existing extraterritorial jurisdiction (ETJ), areas within a larger proposed ETJ, and areas within a designated future urban service area. The proposed ETJ represents the boundary generally proposed in the Eastern Carolina Joint Land Use Study, for which the City of Havelock was a participant in 2002. According to the *2030 Comprehensive Plan*, almost all development in the short-term planning horizon (2013) is expected to infill vacant, unprotected areas generally bounded by MCAS Cherry Point on the north and east and by the NCRR on the south and west. In the long-term planning horizon (2030), new development is anticipated to move west along Lake Road, Greenfield Heights Boulevard and Hickman Hill Road in conjunction with construction of the proposed Havelock Bypass. The plan also notes that, after the construction of the Havelock Bypass, future retail uses are anticipated to remain concentrated along the US 70 Corridor through the long-term planning horizon (2030); however, the design and character of the commercial uses along the US 70 Corridor should evolve from a series of strip centers to more of a "Main Street" concept incorporating multi-modal design and complete streets.

Information on this area was not included in the *Craven County Coastal Area Management Act (CAMA) Land Use Plan* (dated October 30, 2009) since the Havelock area is a non-participating planning jurisdiction. Census tract and block group boundaries for the study area changed between 2000 and 2010. Between 2000 and 2010, the Demographic Study Area (DSA) experienced a 1.8% population decline (0.2% annual decline). During the same time period, the population of Craven County increased from 91,436 people to 103,505 people (1.3 % annually). According to the NC Office of State Budget and Management, the population of Craven County is expected to grow to 121,076 in July 2030 (0.8 % annually). The *City of Havelock's Comprehensive Transportation Plan* states that by 2030, Havelock's population would be near 33,000. This equates to an increase in population of approximately 2.3% annually for the next 20 years.

d) Other Plans

The *Eastern Carolina Joint Land Use Study (ECJLUS)* was completed by the Eastern Carolina Council of Governments in November 2002 and represents the Cherry Point military base, Craven and Carteret Counties, the City of Havelock, and the Towns of Emerald Isle, Bogue, and Atlantic The ECJLUS recommends that compatibility between air installations and neighboring civilian communities be achieved through compatible land use planning and through the examination of local land use and development patterns near potential accident zones and noise contours related to military operations.

(1) US 70 Access Management Study

The *US 70 Access Management Study* (dated July 2005) was commissioned by NCDOT. The plan included recommendations to remove the full directional traffic signal at SR 1772 (Pine Grove Road) and the median opening at MacDonald Boulevard. Ultimately, the improvements as recommended in R-5516 will help comply with the recommendations from the US 70 Access Management Study and will improve operations on US 70.

(2) MCAS Cherry Point Master Plan

The *Master Plan for MCAS Cherry Point*, completed in September 2008, proposed the widening and realignment of Slocum Road to the east of its existing location on the base. Though this project is not currently fully funded, the design for STIP Project R-5516 incorporates the shift of Slocum Road up to the gate facility in order to accommodate the base's future plans. The master plan is currently being updated. The update is anticipated to include improvements to Slocum Road from the gate into the air station.

5. System Linkage/Travel Time/Access Needs

The proposed flyover will provide an improved access point to MCAS Cherry Point that will allow for a more direct connection for the personnel and visitors that travel to the base on a daily basis. By separating traffic traveling to the base from local and through traffic on US 70, travel times will be reduced, particularly as long queuing delays are minimized.

In addition, the improvements to the US 70 intersection with SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road), the US 70 service road closure, the extension of SR 1772 (Pine Grove Road), and the removal of the MacDonald Downs access point will improve the flow of the US 70 operations, thereby increasing its efficiency.

6. Safety

Safety concerns exist along existing US 70, particularly at the intersection with Slocum Road. Current crash rates exceed the statewide crash rates in the total, fatal, and wet categories, and exceed the critical crash rate for the wet category as well. It has been recommended that the

most beneficial mitigation for the existing crash pattern would be to grade separate the intersection of US 70 and Slocum Road, as is currently proposed with the flyover. This improvement would remove the left turn conflicts and is expected to reduce the rear end collisions by removing phases from the traffic signal.

D. Benefits of Proposed Project

The proposed improvements to US 70 and Slocum Road will improve operations at the intersection of US 70 and Slocum Road by addressing capacity deficiencies and queuing issues associated with access to MCAS Cherry Point Gate along Slocum Road. These proposed improvements will also help to reduce crashes, particularly rear-end crashes associated with long turning queues of personnel and visitors traveling to MCAS Cherry Point.

III. ALTERNATIVES

A. Preliminary Study Alternatives

1. No Build Alternative

The No Build Alternative offers no improvements to the project area. This alternative assumes that all other projects currently planned or programmed in the STIP will be constructed in the area as proposed.

This alternative will not provide the necessary separation of traffic that is required to effectively service the access needs and improve the operations of the Slocum Road Gate at MCAS Cherry Point, nor will it provide improved safety conditions along US 70. Additionally, this alternative will not reduce congestion for through and local travelers on US 70.

The most beneficial mitigation for the existing crash pattern (rear-end collisions indicator of congested conditions conflicting with the high volume of left turn movements) would be to grade separate the intersection of US 70 and Slocum Road. A proposed grade separated flyover from eastbound US 70 to Slocum Road would remove the left turn conflicts and is expected to reduce the rear-end collisions by reducing phases in the traffic signal. Less costly mitigation strategies include protected left-turn phasing, but operations would be negatively impacted. An advanced dilemma zone detection system on US 70 could also be utilized to reduce rear end crashes, but would increase maintenance costs.

Levels of service in the project study area will continue to worsen unless improvements are made, as shown in Table 2.

Since the No Build Alternative does not address the purpose and need of the proposed action, it is not recommended. However, it is used as a basis for comparison to other alternatives.

2. Alternative Modes of Transportation

There are limited transit options currently available in this section of Craven County. While the inclusion of transit options, as well as bicycle and pedestrian accommodations, could aid in reducing congestion in the project area, these options alone do not meet the purpose and need of this project since they do not improve the operation of the US 70 intersection with Slocum Road.

3. Transportation Systems Management

The Transportation Systems Management (TSM) alternative includes those types of limited construction activities designed to maximize the utilization and energy efficiency of an existing roadway. TSM improvement options considered under this alternative include traffic signal optimization or improvements to existing roadways in the vicinity of the proposed project. The existing traffic signal at US 70 and Slocum Road was modified in the last two years to include a permitted left turn (flashing yellow arrow). Although some TSM measures are being

included in this project, including signal optimization and the implementation of a superstreet at the SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road) intersection with US 70, these signal and intersection improvements alone are not sufficient to adequately satisfy the purpose and need of this project. The need is driven by the fact that the Slocum Road Gate receives most of its traffic from users north of Havelock and experiences heaviest congestion in the morning, resulting in left-turn traffic queue backups on US 70 that sometimes spill into the US 70 eastbound through lanes. Congestion and queuing are the likely causes of most of the crashes that have occurred at the US 70 and Slocum Road intersection.

4. Flyover Alternative (Alt A,B)

The flyover alternatives (Alternative A and B) includes the addition of a flyover ramp over US 70 to Slocum Road, the provision of free-flow ramps from westbound US 70 onto Slocum Road and from Slocum Road onto westbound US 70, the installation of a two-phase traffic signal to control traffic from Slocum Road turning onto eastbound US 70, the construction of a new two-lane connector between the MacDonald Downs subdivision and Sermons Boulevard, and improvements to SR 1772/1759 (Pine Grove Road) and the conversion of its intersection with US 70 into a "left-out" superstreet.

Alternative A and Alternative B differ only in the connection of SR 1772 (Pine Grove Road) and Sermons Boulevard to the MacDonald Downs subdivision. In order to provide access to US 70 for the residents and visitors of the MacDonald Downs subdivision, NCDOT proposes to build the Marsha's Way Connector between the neighborhood and Pine Grove Road. Under Alternative A, the Marsha's Way Connector will tie into SR 1772 (Pine Grove Road) as a three-way T-intersection, with SR 1772 (Pine Grove Road) as the main through movement (**Figures 2A and 2C**). Alternative B would allow for the continuous connection of the Marsha's Way Connector all the way to Sermons Boulevard **(Figures 2B and 2C**). Under this alternative, both SR 1772 (Pine Grove Road) and Sermons Boulevard would be stop controlled at their respective intersections with the Marsha's Way Connector. Based on public comments indicating a need to favor movements from the large Tucker Creek neighborhood, the dominant traffic pattern, and negligible environmental impacts between Alternative A and B, Alternative A for Marsha's Way Connector was chosen as the preferred alternative.

The widening of Slocum Road to four lanes from its intersection with US 70 to the security gate at MCAS Cherry Point is also recommended as part of the preferred alternative to help mitigate traffic queuing.

B. Detailed Study Alternative

The Flyover Alternative A was the only alternative carried forward for detailed environmental studies. The impacts associated with this alternative are noted in Table 5.

Table 5: Summary of Resources and Impacts

Resource		Alternative A	Alternative B
Project Length (miles)		1.7	1.7
Schools		0	0
Churches		0	0
Cemeteries		0	0
Relocations*	Residential	0	0
	Businesses	0	0
Traffic Noise Impacts	Residential	4	4
	Churches	0	0
	Businesses	0	0
Historic Properties (Listed on or Eligible for the National Register)		0	0
Section 4(f) Properties		0	0
Prime Farmland Impacts (acres)		15.0	15.6
Forested Acres		8.1	8.3
Wetland Impacts (acres)		1.2	1.2
Stream Impacts (linear feet)		1,088	1,088
Riparian Buffer Impacts (acres)	Zone 1	1.5	1.5
	Zone 2	1.0	1.0
	Total Buffer Impacts	2.5	2.5
Floodplain (acres)		0	0
Water Supply Watershed Protected Areas		No	No
Federally Protected Species within Corridor		0	0
Hazardous Material Sites		4	4
Adverse/Disproportionate Impacts to Minority/Low Income Populations		No	No
Right of Way Cost		$7,825,000	$7,825,000
Utility Relocation Cost		$184,530	$184,530
Construction Cost		$17,600,000	$17,200,000
Total Cost		**$25,609,530**	**$25,209,530**

* NCDOT's Relocation Policy and Relocation Report is included in **Appendix B**

C. NCDOT Recommended Alternative

NCDOT recommends the Flyover Alternative A as the preferred alternative. This alternative best meets the purpose of the project and minimizes impacts to both the human and natural environments.

IV. PROPOSED IMPROVEMENTS

A. Roadway Cross Section and Alignment

The proposed typical section for US 70 varies from a four to six-lane, median-divided facility with 12-foot lanes, 6-foot inside shoulders (2-foot paved), 10-foot outside shoulders without guardrail (15-foot if guardrail is required), 4-foot of which will be paved, and a 30-foot grassed median (see **Figures 3A and 3B**). Between Slocum Road and Pine Grove Road, US 70 eastbound is proposed as two lanes and westbound US 70 is proposed as three lanes. From Pine Grove Road to approximately Sermons Boulevard, US 70 is proposed as a six-lane facility with three lanes in each direction.

The proposed typical section for Slocum Road is a 4-lane, median-divided facility with 12-foot lanes, 6-foot inside shoulders (2-foot paved), 8-foot outside shoulders without guardrail (11-foot if guardrail is required), 4-foot of which will be paved, and a variable grass median.

The proposed typical section for Marsha's Way Connector Road is a 2-lane, undivided facility with 11-foot lanes, 6-foot inside shoulders, 6-foot outside shoulders without guardrail (9-foot if guardrail is required), plus an 18-foot wide ditch section and a 10-foot wide sidewalk on the inside or north side.

The proposed typical section for Pine Grove Road is a 2-lane, undivided facility with 12-foot lanes, 8-foot inside shoulders, 8-foot outside shoulders without guardrail (11-foot if guardrail is required), plus an 18-foot wide ditch section and a 10-foot wide sidewalk on the inside side.

B. Right of Way and Access Control

The proposed right of way will vary between 260 and 440 feet along US 70, widening out in the vicinity of the proposed flyover, and between 150 and 200 feet along Slocum Road. Although US 70 will have partial control of access, Slocum Road will not have any access control. The proposed right of way along Marsha's Way Connector varies up to 100 feet and up to 100 feet along Pine Grove Road.

C. Speed Limit and Design Speed

The design speed for US 70 through the project study area will be 60 mph, with a posted speed limit of 55 mph. The design speed for Slocum Road will be 40 mph, with a posted speed limit of 35 mph.

D. Anticipated Design Exceptions

No design exceptions are anticipated on this project.

E. Intersections/Interchanges

For this project, a flyover at Slocum Road, along with a "left-out" superstreet concept (see **Figure 5**) on US 70 at the intersection of SR 1772/1759 (Hickman Hill Loop Road/Pine Grove Road) are recommended. These improvements will reduce traffic congestion and queuing at the signalized intersections (by converting multi-phase signals to two-phase signals), better accommodate traffic movements, and provide improved access. In order to incorporate the proposed design (see **Figures 2A and 2C**), the existing service road that runs parallel to US 70 will dead-end in front of Wells Wayside Furniture and SR 1772 (Pine Grove Road) will be extended to the east to become the predominant traffic movement. The intersection of US 70 and SR 1772 (Pine Grove Road) will also be realigned. The MacDonald Boulevard connection with US 70 will also be removed, and the Marsha's Way Connector will extend west on new location from the MacDonald Downs subdivision to a T-intersection with SR 1772 (Pine Grove Road), which will ultimately extend northward to intersect with Sermons Boulevard. Proposed intersection controls are outlined in Table 6 below.

Table 6: Proposed Intersection Control

Intersection	Proposed Control
SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road) (eastbound U-turn)	Dual eastbound U-turns on US 70 with approximately 500-feet of storage. Signal warranted.
SR 1772/1759 (Pine Grove Road/Hickman Hill Loop Road) (westbound U-turn)	Construct single westbound U-turn on US 70 with approximately 250-feet of storage. Stop control on U-turn.
US 70 at MacDonald Boulevard	Closure
US 70 at Slocum Road	Interchange incorporating a dual lane flyover ramp, on ramp, off ramp, and dual westbound turn lane on Slocum Road with 500-feet of storage and two-phase signal control.
SR 1772 (Pine Grove Road) at Sermons Boulevard	Pine Grove Road will extend northward to intersect with Sermons Boulevard (direct traffic flow to/from US 70). Both approaches of existing Sermons Boulevard would operate under stop control.
Marsha's Way Connector at SR 1772 (Pine Grove Road)	Marsha's Way Connector forms a T-intersection with the extension of Pine Grove Road. Marsha's Way Connector is under stop control.

F. Service Roads

The service road adjacent to US 70 will dead-end in front of Wells Wayside Furniture in order to improve traffic operations at the SR 1772 (Pine Grove Road) intersection with US 70.

G. Railroad Crossings

No change is proposed at the existing at-grade rail crossing at Hickman Hill Loop Road.

H. Hydraulic Structures

There are three proposed hydraulic structures on this project. The locations of these structures are shown on **Figures 2A and 2C**. Table 7 below shows the proposed hydraulic structure recommendations for this project.

Table 7: Proposed Hydraulic Structures

Site	Stream	Structure
1	Sandy Run	Retain & extend existing 6-foot x 5-foot RCBC
2	UT to Sandy Run	11-foot x 7-foot RCBC buried 1-foot
3	Sandy Run	6-foot x 6-foot RCBC buried 1-foot

RCBC – Reinforced Concrete Box Culvert

I. Bicycle and Pedestrian Facilities

At the request of the City of Havelock, NCDOT will enter into a municipal agreement with the city to fund construction of 5-foot sidewalks on the north side of the Marsha's Way Connector. Under this municipal costshare agreement, the City of Havelock will be responsible for 30% of the total cost of these improvements. No additional bicycle facilities are planned.

J. Utilities

The project does not propose improvements to existing utilities in the project study area; however, utilities will be relocated as needed for construction.

K. Noise Barriers

A noise barrier is preliminarily recommended east of the Hickman Hill neighborhood to mitigate impacts to four residential receptors in that area. The proposed barrier is described in further detail within *Section V – ENVIRONMENTAL EFFECTS OF PROPOSED ACTION, Subsection I – Traffic Noise Analysis* of this document. Further design studies and public involvement will determine whether these noise barriers will be constructed.

L. Work Zone Traffic Control and Construction Phasing

Construction phasing will be utilized to maintain traffic along US 70 and Slocum Road during construction. All traffic control devices used during the construction of this project will conform to the most current FHWA Manual of Uniform Traffic Control Devices (MUTCD).

V. ENVIRONMENTAL EFFECTS OF PROPOSED ACTION

A. Natural Resources

1. Biotic Resources

a) Terrestrial Communities

Four (4) terrestrial communities were identified in the study area: maintained/disturbed, pine flatwoods (mesic and wet), pine plantation, and coastal plain small stream swamp (blackwater subtype). A brief description of each community type follows.

(1) Maintained/Disturbed

The maintained/disturbed land within the study area includes places where vegetation is frequently mowed, such as roadside shoulders, power line rights-of-way, and commercial areas. These areas occupy a large percentage of land adjacent to existing US 70, secondary roads, and residential and commercial developments within the study area. Dominant species within this community include a range of early successional, fast-growing species that readily colonize disturbed soils and cleared areas and tolerate management practices associated with power line rights-of-way. Native and non-native species favored in landscaping dominate areas surrounding residential and commercial areas that experience frequent management. Small areas dominated by a dense regrowth of young loblolly pine intermixed with sweetgum, red bay, and eastern red cedar are included in this community. Other areas include trees in narrow strips along roadsides or occurring in lawn settings. Trees in these areas include loblolly pine, eastern red cedar, sweetgum, Bradford pear, persimmon, willow oak, and mimosa. Shrubs observed in this community include blackberry, wax myrtle, Japanese privet, shrub lespedeza, Chinese lespedeza, Chinese privet, giant cane, and winged sumac. The vine and herbaceous layers include species such as centipede grass, bahia grass, kudzu, Virginia creeper, Japanese honeysuckle, greenbriers, poison ivy, dogfennel, and wild grape. The maintained/disturbed community type inside the study area contains Headwater Forest and Riverine Swamp Forest NCWAM wetland types.

(2) Pine Flatwoods (Mesic and Wet)

This community is characterized by relatively natural woodland with a predominance (greater than 80 percent cover) of pines. The dominant pine observed within the study area is loblolly pine, with pond pine becoming more prevalent in wetter areas. Pine flatwoods within the study area are present in relatively small, discontinuous patches separated by roads, railroad, and developed properties from larger areas outside the study area. The pine flatwoods within the study area do not exhibit evidence of recent fires. One larger area along US 70 is characterized by mowing or bush-hogging that appears to be for maintaining an open understory free of shrub and sapling growth. Species composition within pine flatwoods varies with age and hydrological conditions of the stand. Pine flatwoods may have scattered hardwoods in the canopy that include sweetgum, sourwood, and tulip poplar in mesic areas and red maple, red bay, and swamp tupelo in wet areas. Shrubs observed included giant cane, wax myrtle, Chinese privet, sweet pepper bush, large gallberry, and inkberry. The vine and herbaceous layers include species such as Japanese honeysuckle, greenbriers, poison ivy, blackberry, cinnamon fern, and bracken fern. The pine flatwood community includes the NCWAM wetland types Wet Pine Flat.

(3) Pine Plantation

This community is characterized by predominance (greater than 80 percent cover) of planted pine species. These stands have a canopy that is almost exclusively composed of loblolly pine. These silvicultural stands generally have low diversity with scattered saplings of sweetgum, red bay, and red maple present. Wax myrtle was also found in these stands along with infrequent herbaceous species including bracken fern, cinnamon fern, and yellow jessamine. No NCWAM wetland types are located in the pine plantation community located in the study area.

(4) Coastal Plain Small Stream Swamp (Blackwater Subtype)

This community occurs along small streams within the study area. The canopy is characterized by dominance of bald cypress, swamp tupelo, laurel oak, sweetgum, red maple, green ash, and tulip poplar. Understory/shrub species include a combination of titi, tag alder, black willow, possumhaw, and saplings of canopy species. Herbaceous species include giant cane, Virginia iris, lizard's tail, broad-leaf cat-tail, green arrow arum, royal fern, netted chain-fern, and laurel-leaf greenbrier. The coastal plain small stream swamp community type located inside the study area contains the NCWAM wetland types riverine swamp forest and headwater forest.

b) Terrestrial Wildlife

Terrestrial communities in the study area are comprised of mostly disturbed habitat in an urban area that does not support a large diversity of wildlife species (those species actually observed are indicated with *). Mammal species that have wide habitat tolerances in the area include gray squirrel, eastern cottontail, white-tailed deer, raccoon, and Virginia opossum. Birds that commonly use fragmented and disturbed habitats include European starling, blue jay, northern cardinal, American crow*, Carolina chickadee, tufted titmouse, Carolina wren, northern mockingbird*, American robin, mourning dove, and eastern towhee*. Reptile and amphibian species that may use terrestrial communities located in the study area include the eastern box turtle*, five-lined skink, eastern garter snake, black racer, Fowler's toad, southern cricket frog, and spring peeper.

c) Aquatic Communities

Aquatic habitats within the study area consist of intermittent or perennial streams including Tucker Creek, Sandy Run, and their unnamed tributaries. No fish species were observed, but streams in the study area could support: American eel, eastern mudminnow, chain pickerel, redfin pickerel, golden shiner, pirate perch, eastern mosquitofish, bluegill, largemouth bass, and yellow perch, as well as common reptiles and amphibians including bullfrog, pickerel frog, yellowbelly slider, red-bellied water snake, and common snapping turtle.

d) Invasive Species

Eight species from the NCDOT Invasive Exotic Plant List for North Carolina were found to occur in the study area. The species identified were Chinese privet, kudzu, mimosa, shrub lespedeza, Chinese lespedeza, Japanese privet, Japanese honeysuckle, and Bradford pear. Invasive species are categorized into one of three threat levels, Level 1 (Severe Threat), Level 2 (Threat), and Level 3 (Watch List). Threat levels for the observed invasive species are shown in Table 8.

Table 8: Invasive Species within Project Area

Common Name	Scientific Name	Threat Level
Chinese privet	*Ligustrum sinense*	2
Kudzu	*Pueraria lobata*	2
Mimosa	*Albizia julibrissin*	2
Shrub lespedeza	*Lespedeza bicolor*	2
Chinese lespedeza	*Lespedeza cuneata*	2
Japanese privet	*Ligustrum japonicum*	2
Japanese honeysuckle	*Lonicera japonica*	2
Bradford pear	*Pyrus calleryana*	1

NCDOT will follow the Department's Best Management Practices (BMPs) for the management of invasive plant species.

e) Summary of Anticipated Effects

Table 9 describes the acreage of terrestrial communities within the project study area. Impacts to terrestrial communities associated with construction activities include the removal of vegetation, soil compaction, damaging and/or exposing root systems, as well as potential impacts associated with petroleum spills. The estimated impacts are based on the current design right-of-way limits.

Loss of wildlife is an unavoidable aspect of development. Temporary fluctuations in populations of animal species that utilize these communities are anticipated during the course of construction. Slow-moving, burrowing, and/or subterranean organisms will be directly impacted by construction activities, while mobile organisms will be displaced to adjacent communities.

Table 9: Terrestrial Community Impacts

Community	Coverage (acres)*	Alternative A Impacts (acres)	Alternative B Impacts (acres)
Maintained/Disturbed	111.7	37.5	36.8
Pine Flatwoods (Mesic & Wet)	31.4	10.9	10.9
Pine Plantation	5.1	1.5	1.5
Coastal Plain Small Stream Swamp	9.7	4.2	4.2
Total	**157.9**	**54.1**	**53.4**

*Study area includes impervious surfaces (48.10 ac) not included in this terrestrial community assessment.

2. Waters of the United States

a) Water Resources

Water resources in the study area are part of the Neuse River Basin (U.S. Geological Survey [USGS] Hydrologic Unit 03020204). Six jurisdictional streams and two jurisdictional tributaries were identified within the study area (see Table 10). The locations of these water resources are shown on **Figures 2A and 2C**. The physical characteristics of each stream are provided in Table 11.

Table 10: Water Resources within Project Study Area

Stream Name	Map ID	Classification	NCDWR Index #	Best Usage Classification
Sandy Run	SA	Perennial	27-112-6-3	SC; Sw; NSW
UT to Sandy Run	SB	Intermittent & Perennial	27-112-6-3	SC; Sw; NSW
UT to Tucker Creek	SC	Intermittent	27-112-6	SC; Sw; NSW
Tucker Creek	SD	Perennial	27-112-6	SC; Sw; NSW
UT to Sandy Run	SE	Perennial	27-112-6-3	SC; Sw; NSW
UT to Tucker Creek	SF	Intermittent	27-112-6	SC; Sw; NSW
UT to Sandy Run	TB	Man-made ditch	27-112-6-3	SC; Sw; NSW
UT to Sandy Run	TC	Man-made ditch	27-112-6-3	SC; Sw; NSW

Table 11: Physical Characteristics of Water Resources within Project Study Area

Map ID	Bank Height (ft.)	Bankfull Width (ft.)	Water Depth (in.)	Channel Substrate	Velocity	Clarity
SA	2	5-13	12	Sand	Slow	Slightly Turbid
SB(I)a	3	3-12	n/a	Sand, Silt	n/a	n/a
SB(P)a	3	3-6	12	Sand, Silt	Slow	Slightly Turbid
SC	1	2-11	3	Silt, Muck	Slow	Turbid
SD	4+	25-60	36+	Sand, Muck	Slow	Slightly Turbid
SE	6-12	20-30	12+	Sand, Gravel, Cobble	Moderate	Clear
SF	1	2-10	6	Sand	Moderate	Clear
TB	Jurisdictional non-mitigable man-made ditch (tributary)					
TC	Jurisdictional non-mitigable man-made ditch (tributary)					

a – SB is divided into intermittent (I) and perennial (P) segments

There are no designated High Quality Waters (HQW), Outstanding Resource Waters (ORW), or water supply watersheds (WS-I or WS-II) within a 1.0 mile downstream of the study area. The North Carolina 2012 Final 303(d) list of impaired waters identifies no streams within the study area as impaired waters for sedimentation.

No waters in the project study area are designated as North Carolina Natural or Scenic Rivers, or as National Wild and Scenic Rivers. There are no designated anadromous fish waters or Primary Nursery Areas (PNA) present in the study area. No benthic monitoring stations are within 1.0 mile of the study area.

b) Jurisdictional Issues

(1) Streams

As mentioned in the previous section; six jurisdictional streams and two tributaries to Waters of the U.S. were identified in the study area (see Table 12). The provisions of the Neuse River Buffer Rules apply to all jurisdictional streams in the study area and must be adhered to during the design and construction of this project. For the purposes of stream mitigation, all jurisdictional streams in the study area have been designated as warm water streams.

(2) Wetlands

Twelve jurisdictional wetlands were identified in the study area. All wetlands in the study area are located within the Neuse River Basin (USGS Hydrologic Unit 03020204). Wetland classification and quality rating data are presented in Table 13. The locations of these wetlands are shown on **Figures 2A and 2C**.

c) Summary of Anticipated Effects

Stream and wetland impacts have been calculated using preliminary design; therefore, impacts are calculated from slope stake limit to slope stake limit, plus an additional 25-foot buffer offset from the slope stakes. Stream impacts are rounded up to the nearest foot; wetland impacts are rounded up to the nearest tenth of an acre. The anticipated impacts for streams and wetlands are given in Tables 12 and 13, respectively.

Table 12: Jurisdictional Characteristics and Impacts of Water Resources

Map ID*	Length (ft.)	Classification	Compensatory Mitigation Required?	River Basin Buffer	Alt. A Impacts (linear ft.)	Alt. B Impacts (linear ft.)
SA	1,157	Perennial	Yes	Subject	606	606
SB(I)**	360	Intermittent	Yes	Subject	0	0
SB(P)**	598	Perennial	Yes	Subject	362	362
SC	62	Intermittent	Yes	Not Subject	0	0
SD	139	Perennial	Yes	Subject	0	0
SE	141	Perennial	Yes	Subject	76	76
SF	141	Intermittent	Yes	Not Subject	0	0
TB***	126	n/a	No	Not Subject	44	44
TC***	73	n/a	No	Not Subject	0	0
Total	**2,797**	**n/a**	**n/a**	**n/a**	**1,088**	**1,088**

*TA was determined to be non-jurisdictional by the USACE and NCDWR.

**SB is divided into two segments to account for intermittent and perennial portions of the stream.

***Jurisdictional non-mitigable man-made ditch (USACE/DWR) and are considered tributaries to waters of the U.S.

Table 13: Jurisdictional Characteristics of Wetlands in the Study Area

Map ID	NCWAM Classification	Hydrologic Classification	NCDWR Rating	Alt. A Impact Area (ac.)	Alt. B Impact Area (ac.)
WA	Wet Pine Flat	Non-Riparian	15	0	0
WB	Riverine Swamp Forest	Riparian	46	0.3	0.3
WC	Riverine Swamp Forest	Riparian	23	0.2	0.2
WD	Riverine Swamp Forest	Riparian	60	0	0
WE	Riverine Swamp Forest	Riparian	57	0.2	0.2
WF	Headwater Forest	Riparian	16	0	0
WG	Headwater Forest	Riparian	42	0.3	0.3
WH	Riverine Swamp Forest	Riparian	35	0	0
WI	Headwater Forest	Riparian	23	0	0
WJ	Riverine Swamp Forest	Riparian	70	0	0
WK	Riverine Swamp Forest	Riparian	27	0.2	0.2
WL	Riverine Swamp Forest	Riparian	20	0	0
			Total	**1.2**	**1.2**

d) Avoidance, Minimization, and Mitigation

NCDOT has utilized an alignment which attempts to avoid and minimize impacts to streams and wetlands to the greatest extent practicable. NCDOT will investigate potential onsite stream and wetland mitigation opportunities once a final decision has been rendered with regard to the location of the final alignment. If onsite mitigation is not feasible, mitigation will be provided by North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP). In accordance with the "Memorandum of Agreement among the North Carolina Department of Transportation, and the U.S. Army Corps of Engineers, Wilmington District" (MOA), July 22, 2003, the EEP will be requested to provide off-site mitigation to satisfy the federal Clean Water Act compensatory mitigation requirements for this project.

e) Anticipated Permit Requirements

It is anticipated that the proposed action will be permitted under the United States Army Corps of Engineers (USACE) Nationwide Permit (NWP) 23 for an approved Categorical Exclusion and NWP 33 permitting temporary construction, access and dewatering. The USACE holds the final discretion regarding the permit required to authorize project construction.

In addition to the 404 permit, other required authorizations include the corresponding Section 401 Water Quality Certification (WQC) from the North Carolina Division of Water Resources (NCDWR). A NCDWR Section 401 Water Quality General certification for a

Categorical Exclusion (GC 3891) may be required prior to the issuance of a Section 404 Permit. Other required 401 certifications may include a GC 3893 for temporary construction access and dewatering.

The Division of Coastal Management (DCM) has determined that there are no CAMA areas of environmental concern (AEC's) within the project boundaries; therefore, no CAMA permit will be required. However, should the USACE require an Individual Permit, a consistency determination will be required by DCM.

3. Rare and Protected Species

a) Federally Protected Species

As of December 6, 2012, the U.S. Fish and Wildlife Service (USFWS) lists seven (7) federally protected species for Craven County (Table 14).

Table 14: Federally Protected Species Listed for Craven County

Common Name	Scientific Name	Federal Status	Habitat Present	Biological Conclusion
American alligator	*Alligator mississippiensis*	T(S/A)	Yes	Not Required
Atlantic sturgeon	*Acipenser oxyrinchus oxyrinchus*	E	No	No Effect
Leatherback sea turtle	*Dermochelys coriacea*	E	No	No Effect
Red-cockaded woodpecker	*Picoides borealis*	E	No	No Effect
West Indian manatee	*Trichechus manatus*	E	No	No Effect
Rough-leaved loosestrife	*Lysimachia sperulaefolia*	E	No	No Effect
Sensitive joint-vetch	*Aeschynomene virginica*	T*	No	No Effect

E – Endangered; T – Threatened ; T (S/A) – Threatened due to similarity of appearance

*Historic – the species was last observed in the county more than 50 years ago

American alligator

USFWS Recommended Survey Window: Year round (only on warm days in winter)

Habitat Description: In North Carolina, alligators have been recorded in nearly every coastal county, and many inland counties to the fall line. The alligator is found in rivers, streams, canals, lakes, swamps, and coastal marshes. Adult animals are highly tolerant of salt water, but the young are apparently more sensitive, with salinities greater than 5 parts per thousand considered harmful. The American alligator remains on the protected species list due to its similarity in appearance to the Endangered American crocodile.

Biological Conclusion: Not Required

Species listed as threatened due to similarity of appearance do not require Section 7 consultation with the USFWS. The majority of the streams within the study area are too small to provide suitable habitat for this species. Tucker Creek (SD) is a large perennial stream of sufficient depth to provide suitable habitat for this species. However, this project is not expected to affect the American alligator because any individuals present will likely relocate out of the study area during construction and return once construction is completed. A review of N.C. Natural Heritage Program (NCNHP) records, updated August 2012, indicates no known occurrences within 1.0 miles of the study area.

Atlantic sturgeon

USFWS/National Marine Fisheries Service (NMFS) Recommended Survey Window: Surveys not required; assume presence in appropriate waters

Habitat Description: Atlantic sturgeon are large fish that can reach 14 feet in length that occur in major river systems along the eastern seaboard of the United States. The species prefers the near shore marine, estuarine, and riverine habitat of large river systems. It is an anadromous species that migrates to moderately-moving freshwater areas to spawn in the spring, but spends most of its life within close proximity of the river's mouth. Large freshwater rivers that are unobstructed by dams or pollutants are imperative to successful reproduction. Spawning occurs in areas with hard substrate (e.g., cobble).

Biological Conclusion: No Effect

Suitable habitat for the Atlantic sturgeon does not exist within the study area. The study area lacks near shore marine and estuarine habitat associated with this species. The streams within the study area lack the cobble substrate needed to support spawning habitat. A review of NCNHP records, updated August 2012, indicates no known occurrences of Atlantic sturgeon within 1.0 mile of the study area.

Leatherback sea turtle

USFWS/NMFS Recommended Survey Window: April-August

Habitat Description: The leatherback sea turtle is distributed worldwide in tropical waters of the Atlantic, Pacific, and Indian oceans. They are generally open ocean species, and may be common off the North Carolina coast during certain times of the year. However, in northern waters leatherback sea turtles are reported to enter into bays, estuaries, and other inland bodies of water. Major nesting areas occur mainly in tropical regions. In the United States, primary nesting areas are in Florida, however, nests are known from Georgia, South Carolina, and North Carolina as well. Nesting occurs from April to August. Leatherback sea turtles need sandy beaches backed with vegetation in the proximity of deep water and generally with rough seas. Beaches with a relatively steep slope are usually preferred.

Biological Conclusion: No Effect

Suitable habitat for the leatherback sea turtle does not exist within the study area. The study area lacks ocean/beach habitat associated with this species. A review of NCNHP records, updated August 2012, indicates no known occurrences of leatherback sea turtle within 1.0 mile of the study area.

Red-cockaded woodpecker

USFWS Recommended Survey Window: Year-round; November-early March (optimal)

Habitat Description: The red-cockaded woodpecker (RCW) typically occupies open, mature stands of southern pines, particularly longleaf pine, for foraging and nesting/roosting habitat. The RCW excavates cavities for nesting and roosting in living pine trees, aged 60 years or older, which are contiguous with pine stands at least 30 years of age to provide foraging habitat. The foraging range of the RCW is normally no more than 0.5 mile.

Biological Conclusion: No Effect

Suitable nesting habitat for the RCW does not exist within the study area. No RCW cavity trees were identified within the study area. The study area contains pine-dominated habitat with pines greater than 30 years old, which is old enough to be considered potential foraging habitat for this species. A review of NCNHP records, updated August 2012, indicates two RCW occurrences within 1.0 mile of the study area, one recruitment cluster north of the study area and one cluster approximately 1.0 mile south of the study area. Based on information provided by Cherry Point MCAS, there are no active clusters on the military base. In 2005, extensive surveys for RCW were

conducted on Cherry Point properties; no RCWs or RCW cavity trees were identified. Based on information provided by NCDOT, for a 2012 update for the Croatan National Forest, there are four RCW clusters within 1.0 mile of the study area, but not within 0.5 mile. Two clusters are inactive recruitment clusters (Clusters CNF144 and CNF12-44R). There is one inactive natural cluster (Cluster 58) and one future recruitment cluster (Cluster CNF11-15R) that does not contain any RCW cavities at this time. The potentially suitable foraging habitat within the study area is not associated with a known RCW cluster and available information indicates that there are no RCWs within 0.5 mile of the proposed project. Therefore, the proposed project will have no effect on RCW populations.

West Indian manatee

USFWS Recommended Survey Window: Year-round

Habitat Description: West Indian manatees have been observed in all of the North Carolina coastal counties. West Indian manatees are found in canals, sluggish rivers, estuarine habitats, saltwater bays, and as far offshore as 3.7 miles. They utilize freshwater and marine habitats at shallow depths of 5 to 20 feet. In the winter, between October and April, manatees concentrate in areas with warm water. During the other time of the year, habitats for the manatee are those with sufficient water depth, and adequate food supply, and in proximity to freshwater. West Indian manatees require a source of freshwater to drink. West Indian manatees are primarily herbivores, feeding on any aquatic vegetation present, but they may occasionally feed on fish.

Biological Conclusion: No Effect

Suitable habitat for the West Indian manatee does not exist within the study area. The streams in the study area are too small in size to be accessible to this species. A review of NCNHP records, updated August 2012, indicate one (1) documented occurrence of West Indian manatee within 1.0 mile of the study area in the lower reaches of Tucker Creek.

Rough-leaved loosestrife

USFWS Optimal Survey Window: Mid-May to June

Habitat Description: Rough-leaved loosestrife, endemic to the Coastal Plain and Sandhills of North and South Carolina, generally occurs in the ecotones or edges between longleaf pine uplands and pond pine pocosins in dense shrub and pine growth on moist to seasonally saturated sands and on shallow organic soils overlaying sand (spodosolic soils). Occurrences are found in such disturbed habitats as roadside depressions, maintained power and utility line rights-of-way, firebreaks, and trails. The species prefers full sunlight, is shade intolerant, and requires areas of disturbance (e.g., clearing, mowing, and periodic burning) where the overstory is minimal. It can, however, persist

vegetatively for many years in overgrown, fire-suppressed areas. Blaney, Gilead, Johnston, Kalmia, Leon, Mandarin, Murville, Torhunta, and Vaucluse are some of the soil series that the plan occurs on.

Biological Conclusion: No Effect

Suitable habitat for rough-leaved loosestrife is not present within the study area. Wetland areas within the study area include forested hardwood swamps and pine flatwoods that do not support the ecotonal or pocosin edge habitat along which this species typically occurs. A review of NCNHP data, updated August 2012, indicates no known occurrences within 1.0 mile of the study area.

Sensitive joint-vetch

USFWS Optimal Survey Window: Mid-July to October

Habitat Description: Sensitive joint-vetch grows in the mildly brackish intertidal zone where plants are flooded twice-daily. This annual legume prefers the marsh edge at an elevation near the upper limit of tidal fluctuation, but can also be found in swamps and on river banks. Sensitive joint-vetch normally occurs in areas with high plant diversity where annual species predominate, and can grow in sand, mud, gravel, or peat substrates. Bare to sparsely vegetated substrates appear to be a microhabitat feature of critical importance to this plant. Such microhabitats may include accreting point bars that have not yet been colonized by perennial species, areas scoured out by ice, low swales within marshes, muskrat "eat outs" where this rodent removes all of the vegetation within a small portion of the marsh, storm damaged areas, and the saturated organic sediments of some interior marshes that have local nutrient deficiencies. In North Carolina, stable occurrences have been found in the estuarine meander zone of tidal rivers where sediments transported from upriver settle out and extensive marshes are formed. Additional North Carolina occurrences are also found in moist to wet roadside ditches and moist fields, but these are not considered stable populations.

Biological Conclusion: No Effect

Suitable habitat for sensitive joint-vetch is not present in the study area. No tidal wetlands or streams are present in the study area that would provide suitable habitat for this species. A review of NCNHP data, updated August 2012, indicates no known occurrences within 1.0 mile of the study area.

b) Bald and Golden Eagle Protection Act

Habitat for the bald eagle consists of mature forest in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

Water bodies large enough to be considered potential feeding sources were identified within the study area and within a 1.0-mile radius of the study area. A review of the NCNHP records, updated August 2012, indicates one known occurrence approximately 1.0 mile east of the study area. The project study area and areas within 660-feet were surveyed from public right-of-ways, and no bald eagle nests were observed. Due to the lack of no known occurrences within the study area and minimal impact anticipated for this project, it has been determined that this project will not affect this species.

c) Federal Species of Concern

There are no Federal Species of Concern or State Protected Species that would be affected by the construction of this project.

d) U.S. Forest Service Rare Species

The project study area includes portions of National Forest System (NFS) lands within the Croatan National Forest (CNF) adjacent to the existing highway. Based on the presence of NFS lands within the study area, additional consideration is required for assessing whether species on rare species lists maintained by the United State Forest Service (USFS) are present on these NFS lands. Before granting a special use permit for NFS lands to be converted to highway use, the USFS must determine whether the project would threaten the continued viability of any of these species on NFS lands in the CNF.

Potentially suitable habitat was identified in the project study area for 17 USFS rare plant species and 16 USFS rare animal species. A review of records available from the NCNHP indicates occurrences of two USFWS rare species within the project study area. One occurrence of spring-flowering goldenrod (*Solidago verna*) has been reported along the western boundary of the project study area and an historic occurrence of Leconte's thistle (*Cirsium lecontei*) has been reported for a large portion of the study area.

There will be no impacts to USFS rare species since construction activities, including the placement of staging areas, in close proximity to the NFS lands west of existing US 70 near the intersection with Slocum Road have been avoided. Any encroachment by the project onto any NFS lands will require coordination with the USFS and possible further evaluation of USFS rare species for which habitat is present. Impacts to spring-flowering goldenrod on private lands will not require coordination with USFS.

4. Soils

The Craven County Soil Survey identifies ten soil series within the project study area (see Table 15).

Table 15: Soils within Project Study Area

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Bayboro mucky loam	Ba	Very Poorly Drained	Hydric
Craven silt loam (1 to 4%)	CrB	Moderately Well Drained	Nonhydric
Leaf silt loam	La	Poorly Drained	Hydric
Lenoir silt loam	Le	Somewhat Poorly Drained	Hydric*
Masontown mucky fine sandy loam and Muckalee sandy loam, frequently flooded	MM	Very Poorly Drained and Poorly Drained	Hydric
Norfolk loamy fine sand (2 to 6%)	NoB	Well Drained	Nonhydric
Onslow loamy sand	On	Moderately Well Drained	Nonhydric
Rains fine sandy loam	Ra	Poorly Drained	Hydric
Rains-Urban land complex	Rc	Poorly Drained	Hydric
Suffolk loamy sand (10 to 30%)	SuD	Well Drained	Nonhydric

* Soils which are primarily nonhydric, but which may contain hydric inclusions

B. Cultural Resources

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified as 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally-funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and to afford the Advisory Council a reasonable opportunity to comment on such undertakings.

Under a Programmatic Agreement, effective November 5, 2007, the authority for cultural resource reviews for minor transportation projects has been transferred from the North Carolina State Historic Preservation Office (HPO) to the North Carolina Department of Transportation's (NCDOT) cultural resource groups: Archaeology and Historic Architecture and Landscapes in the Human Environment Section (HES).

1. Historic Architectural Resources

As required in the Programmatic Agreement, a historic architectural resources review was completed on September 7, 2012. The finding of the review was that no survey would be required for historic architecture. A copy of the completed "No Survey Required" form is included in **Appendix C**.

2. Archaeological Resources

As required in the Programmatic Agreement, an archaeological resources review was completed on September 14, 2012. The finding of the review was no surveys would be required for archaeological resources. A copy of the completed "No Survey Required" form is included in **Appendix C**.

C. Section 4(f)/6(f) Resources

Section 4(f) of the USDOT Act of 1966 protects the use of publicly owned parks, recreation areas, wildlife/waterfowl refuges, and historic properties.

The Croatan National Forest is located northwest of the US 70 and Slocum Road intersection. A small portion of the national forest also extends to the east side of US 70 and abuts the MacDonald Downs neighborhood. It has been determined that while national forests are considered general recreation areas under the multiple use concept of National Forest Lands, this does not qualify these areas for consideration under Section 4(f). Given that the area of the Croatan National Forest within the project vicinity is not managed primarily for recreation and is instead managed as multiple-use public land holdings, it does not qualify as a Section 4(f) resource for the purposes of this project. In addition, it should be noted that the project has been designed so that no land will be required from the Croatan National Forest. Therefore, no Section 4(f) protected properties will be impacted by this project.

Section 6(f) of the Land and Water Conservation Act applies to the conversion of certain recreation lands to non-recreational purposes. The act applies to recreation lands that have received Land and Water Conservation Fund (LWCF) money. Any land conversions on property that has received LWCF money must be approved by the National Park Service. Section 6(f) also requires that any applicable land converted to non-recreational uses must be replaced with land of equal or greater value, location, and usefulness. No Section 6(f) protected properties will be impacted by this project.

D. Farmland

The project occurs at the edge of a transition from rural activity to suburban growth and development. Farmland soils are present within the project study area, namely in the vicinity of the proposed MacDonald Boulevard and SR 1772 (Pine Grove Road) intersection and north of Slocum Road near the MacDonald Downs subdivision. However, according to the City of Havelock's Comprehensive Plan, these areas are located within the existing City of Havelock's extraterritorial jurisdiction (ETJ), and will not require a Farmland Impact Assessment. Lands not subject to provisions of the Farmland Protection Policy Act (FPPA) include, lands identified as "urbanized area" (UA) on Census Bureau maps and lands that are used for national defense purposes. The proposed project is located within the Havelock, NC UA.

An NRCS form was completed for this project and it received 10 out of 60 points for Part IV. The FPPA does not apply to lands which are already in or committed to development projects such as water impoundment, transportation, and urban development.

There are no Voluntary Agricultural Districts in the project vicinity. It is not anticipated that any agricultural land will be acquired and converted to transportation use. There are no properties in active farmland use directly adjacent to US 70 and Slocum Road within the project study area.

E. Social Effects

1. Demographics

The Demographic Study Area is the smallest statistical area of the 2010 Census, at block group level, that includes and is derived from the Direct Community Impact Area. The Demographic Study Area is used to provide approximate demographic characteristics for the community inside the Direct Community Impact Area. The Demographic Study Area for this project consists of Census Tract 9611, Block Group 1; Census Tract 9611, Block Group 2; Census Tract 9611, Block Group 3; Census Tract 9612.01, Block Group 1; Census Tract 9612.01, Block Group 2; Census Tract 9612.02, Block Group 1; and Census Tract 9612.02, Block Group 2. These study area boundaries are shown in the Community Impact Assessment (December 2012).

a) Population

The population in the Demographic Study area declined by approximately 0.2% per year between 2000 and 2010 (see Table 16). This decline in population is similar to the decline in population experienced by the City of Havelock. During the 2010 Census, the population of Havelock was just under 21,000 people, a 7.6% decrease in population since the 2000 Census.

Table 16: Population Growth Rates

Area	Population			
	2000	2010	Difference	% Change
Demographic Study Area	17,131	16,822	309	-1.8%
Craven County	91,436	103,505	12,069	13.2%
North Carolina	8,049,313	9,535,483	1,486,170	18.50%

b) Ethnicity

Race and ethnicity in the Demographic Study Area is consistent with Craven County. The Demographic Study Area is 77% white and 23% non-white, with 11% of the overall population identifying themselves of Hispanic or Latino Origin (see Table 17). The US Census considers Hispanic or Latino Origin not a race, but an ethnic background. Hispanic or Latino Origin is asked separately from race on US Census forms.

Table 17: Population by Race

Race and Ethnicity	Demographic Study Area		Craven County	
	Pop.	%	Pop.	%
White	12,980	77.2%	72,441	70.0%
Black or African American	2,014	12.0%	23,193	22.4%
American Indian and Alaska Native	118	0.7%	504	0.5%
Asian	402	2.4%	2,099	2.0%
Native Hawaiian and Other Pacific Islander	49	0.3%	135	0.1%
Some other race	589	3.5%	2,361	2.3%
Two or more races	670	4.0%	2,772	2.7%
Total Population	**16,822**	**100%**	**103,505**	**100%**
Hispanic or Latino Origin	1,837	10.9%	6,272	6.1%

c) Income

According to the North Carolina Department of Commerce – Division of Employment Security, Craven County experienced an 11% unemployment rate in 2011 and 2010, slightly higher than the 10.5% unemployment rate in 2009. The outlook for employment growth within the Eastern Carolina Workforce Development Board (WDB) region from 2008 to 2018 is 4.93% (0.48% annualized growth rate). The poverty rate of the Demographic Study Area is slightly lower than that of Craven County, 10.6% and 16.0%, respectively (see Table 18).

Table 18: Poverty Rates

Area	Below Poverty Level		Below 50% of Poverty Level	
	#	%	#	%
Demographic Study Area	1,319	10.6%	494	4.0%
Craven County	15,224	16.0%	6,746	7.1%

2. Communities

The proposed project is located in a heavily developed area of Craven County, with the majority of the project falling within the municipal boundaries of the City of Havelock. The project is located within close proximity to the Marine Corps Air Station (MCAS) Cherry Point.

3. Community Impacts

At Slocum Road, a flyover ramp would be constructed to serve traffic moving from eastbound US 70 onto Slocum Road. Free-flow ramps would also be provided from westbound US 70 onto Slocum Road and from Slocum Road onto westbound US 70. Left-turn movements out of Slocum Road onto eastbound US 70 would be accommodated and controlled by a two-phase traffic signal. The intersection of US 70 and SR 1772 (Pine Grove Road/Hickman Hill Loop Road) would be converted to a "left-out" superstreet which is also controlled by a two-phase traffic signal. These improvements are anticipated to expedite travel movement along US 70 in the vicinity of Slocum Road.

The recommended alternative will permanently impact/change access to the MacDonald Downs neighborhood, the Hickman Hill neighborhood, the Tucker Creek neighborhood, Tucker Creek Middle School, and the West End Fire Department; however, any access impacts are expected to be minor.

If the connection between MacDonald Boulevard and Pine Grove Road is constructed as currently shown, a sidewalk along that facility would help connect the MacDonald Downs neighborhood with Tucker Creek Middle School. This connection would facilitate pedestrian travel to the middle school and be an engineering enhancement in line with the *Safe Routes to School* program at NCDOT. *Safe Routes to School* is a national and international program / movement to create safe, convenient, and fun opportunities for children to bicycle and walk to and from school.

Based on the Traffic Noise Analysis, a noise wall barrier has been recommended east of the Hickman Hill neighborhood (Hickman Wall). However, it should be noted that the proposed noise wall partially obstructs a newly constructed gas station. Since the barrier may limit visibility for this property, a wall in this location may be regarded unfavorably by the property owner. While this receptor is not benefited by the noise wall, NCDOT may consider the viewpoint of this property owner, within NCDOT Noise Abatement criteria, for reasonableness viewpoints and owner balloting.

4. Relocation of Residences and Businesses

There are no relocations anticipated under the preferred alternative.

5. Recreational Facilities

No recreational facilities are located along the project corridor; therefore, this project will not impact any recreational facilities.

6. Environmental Justice

Title VI of the Civil Rights Act of 1964, protects individuals from discrimination on the grounds of race, age, color, religion, disability, sex, and national origin. Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" provides that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects on minority and low-income populations. Special populations may include the elderly, children, the disabled, low-income areas, American Indians and other minority groups.

Executive Order 12898 requires that Environmental Justice principles be incorporated into all transportation studies, programs, policies, and activities. The three environmental principals are: 1) to ensure the full and fair participation of all potentially affected communities in the transportation decision-making process, 2) to avoid, minimize or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority or low income populations, and 3) to fully evaluate the benefits and burdens of transportation programs, policies, and activities upon low-income and minority populations.

The Census block groups do not indicate the presence of Environmental Justice or Limited English Proficient (LEP) populations. However, information gathered during the Citizens Informational Workshop suggests that minority and low-income populations may be present in the general vicinity, particularly in the Hickman Hill neighborhood. The project has been designed to avoid any adverse or disproportionate effects on low income or minority populations. Public involvement efforts have not indicated any concerns related to Environmental Justice Communities. Benefits and burdens resulting from the project are anticipated to be equitably distributed throughout the community.

F. Land Use

1. Existing Land Use

The proposed project is located within the City of Havelock planning and extraterritorial jurisdiction. The US 70 corridor within the project boundaries is comprised of commercial, high to low density residential, and institutional land uses.

2. Future Land Use

The *City of Havelock 2030 Comprehensive Plan* was adopted in June 2009 and serves as the official adopted statement of the Board of Commissioners and provides a blueprint for long-term, sustainable growth in the community. The planning jurisdiction included in the plan

includes the areas within Havelock city limits, areas within the existing extraterritorial jurisdiction (ETJ), areas within a larger proposed ETJ, and areas within a designated future urban service area. The proposed ETJ represents the boundary generally proposed in the Eastern Carolina Joint Land Use Study, for which the City of Havelock was a participant in 2002. According to the *2030 Comprehensive Plan*, almost all development in the short-term planning horizon (2013) is expected to infill vacant, unprotected areas generally bounded by MCAS Cherry Point on the north and east and by the NCRR on the south and west. In the long-term planning horizon (2030), new development is anticipated to move west along Lake Road, Greenfield Heights Boulevard and Hickman Hill Road in conjunction with construction of the proposed Havelock Bypass. The plan also notes that, after the construction of the Havelock Bypass, future retail uses are anticipated to remain concentrated along the US 70 Corridor through the long-term planning horizon (2030); however, the design and character of the commercial uses along the US 70 Corridor should evolve from a series of strip centers to more of a "Main Street" concept incorporating multi-modal design and complete streets.

3. Project Compatibility with Local Plans

The proposed project is consistent with local and regional development goals and plans.

G. Indirect and Cumulative Effects

The potential for indirect and cumulative effects with this project is moderately-low because US 70 already exists in the project area and much of the ongoing development has been incorporated into local plans for the area. Because minimal indirect impacts are anticipated, the cumulative effect of this project, when considered in the context of other past, present and future actions, and the resulting impact on notable human and natural features, should be minimal. Therefore, any contribution of the project to cumulative impacts resulting from current and planned development patterns is expected to be minimal. In addition, analysis of state and local development regulations suggest that those regulations currently in place will mitigate any potential impacts of new development related to the project.

H. Flood Hazard Evaluation

Craven County is currently participating in the National Flood Insurance Regular Program. The proposed project will not involve construction activities on or adjacent to FEMA regulated streams. NCDOT's Hydraulics Unit will coordinate with the Federal Emergency Management agency and local authorities to ensure compliance with applicable floodplain ordinances. The project does not involve any construction within a designated 100-year floodplain.

I. Traffic Noise Analysis

1. Introduction

In accordance with Title 23 Code of Federal Regulations Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise (Title 23 CFR 772) and the North Carolina Department of Transportation Traffic Noise Abatement Policy, each Type I highway project must be analyzed for predicted traffic noise impacts. In general, Type I projects are proposed Federal or Federal-aid highway projects for construction of a highway or interchange on new location, improvements of an existing highway which significantly changes the horizontal or vertical alignment or increases the vehicle capacity, or projects that involve new construction or substantial alteration of transportation facilities such as weigh stations, rest stops, ride-share lots or toll plazas.

Traffic noise impacts are determined through implementing the current Traffic Noise Model (TNM) approved by the Federal Highway Administration and following procedures detailed in Title 23 CFR 772 and the NCDOT Traffic Noise Analysis and Abatement Manual. When traffic noise impacts are predicted, examination and evaluation of alternative noise abatement measures must be considered for reducing or eliminating these impacts. Temporary and localized noise impacts will likely occur as a result of project construction activities. Construction noise control measures will be incorporated into the project plans and specifications.

A copy of the unabridged version of the full technical report, entitled *TECHNICAL MEMORANDUM TRAFFIC NOISE ANALYSIS – Proposed Improvements to US 70 & Slocum Road, November 2013*, can be viewed in the Project Development & Environmental Analysis Branch, Century Center Building A, 1010 Birch Ridge Drive, Raleigh.

2. Traffic Noise Impacts and Noise Contours

The maximum number of receptors in each project alternative predicted to become impacted by future traffic noise is shown in the table below. The table includes those receptors expected to experience traffic noise impacts by either approaching or exceeding the FHWA Noise Abatement Criteria or by a substantial increase in exterior noise levels.

The maximum extent of the 71- and 66- dB(A) noise level contours measured from the center of the proposed roadway is 175 feet and 134 feet, respectively.

Table 19: Predicted Traffic Noise Impacts by Alternative*

Alternatives	Traffic Noise Impacts			
	Residential (NAC B)	Churches/Schools, etc. (NAC C&D)	Businesses (NAC E)	Total Impacts
Alternative A	4	0	0	4
Alternative B	4	0	0	4

*Per TNM®2.5 and in accordance with 23 CFR Part 772

3. No Build Alternative

The Traffic Noise Analysis also considered traffic noise impacts for the "no-build" alternative. If the proposed project does not occur, four receptors are predicted to experience traffic noise impacts and the future traffic noise levels will increase by approximately one dBA or less. Based upon research, humans barely detect noise level changes of 2-3 dBA. A 5-dBA change is more readily noticeable. Therefore, most people working and living near the roadway will not notice this predicted increase.

4. Traffic Noise Abatement Measures

Measures for reducing or eliminating the traffic noise impacts were considered for all impacted receptors in each alternative. The primary noise abatement measures evaluated for highway projects include highway alignment changes, traffic system management measures, establishment of buffer zones, noise barriers and noise insulation (NAC D only). For each of these measures, benefits versus costs (reasonableness), engineering feasibility, effectiveness and practicability and other factors were included in the noise abatement considerations.

Substantially changing the highway alignment to minimize noise impacts is not considered to be a viable option for this project due to engineering and/or environmental factors. Traffic system management measures are not considered viable for noise abatement due to the negative impact they would have on the capacity and level of service of the proposed roadway. Costs to acquire buffer zones for impacted receptors will exceed the NCDOT base dollar value of $37,500 plus an incremental increase of $525 (as defined in the NCDOT Policy) per benefited receptor, causing this abatement measure to be unreasonable.

5. Noise Barriers

Noise barriers include two basic types: earthen berms and noise walls. These structures act to diffract, absorb and reflect highway traffic noise. For this project, earthen berms are not found to be a viable abatement measure because the additional right of way, materials and construction costs are estimated to exceed the NCDOT maximum allowable base quantity of 7,000 cubic yards, plus an incremental increase of 100 yd^3 per benefited receptor, as defined in the NCDOT Policy.

A noise barrier evaluation was conducted for this project utilizing the Traffic Noise Model (TNM 2.5) software developed by the FHWA. The first potential barrier location evaluated with TNM is located at Sta. 71+24 RT 60.3' to Sta. 77+96 RT 61.0'. The preliminary design of an optimized concrete wall at this location is approximately 675 feet long with an exposed height ranging from 11 to 16 feet and an exposed area of 9,675 square feet. The proposed barrier will benefit four receptors at an average of 2,419 square feet per benefited receptor. This quantity of noise wall is below the maximum allowable quantity of 2,561 square feet. Based upon reasonableness criteria defined in the NCDOT Traffic Noise Abatement Policy, this barrier is cost-effective and, therefore, is recommended for construction, contingent upon completion of the project design and the public involvement process.

6. Summary

Based on this preliminary study, traffic noise abatement is recommended and noise abatement measures are proposed. This evaluation completes the highway traffic noise requirements of Title 23 CFR Part 772. An additional noise analysis will be performed during final design of this project to develop more detailed locations and dimensions of the recommended noise barrier.

In accordance with NCDOT Traffic Noise Abatement Policy, the Federal/State governments are not responsible for providing noise abatement measures for new development for which building permits are issued after the Date of Public Knowledge. The Date of Public Knowledge of the proposed highway project will be the approval date of the Categorical Exclusion (CE). For development occurring after this date, local governing bodies are responsible to insure that noise compatible designs are utilized along the proposed facility.

J. Air Quality Analysis

Air pollution originates from various sources. Emissions from industry and internal combustion engines are the most prevalent sources. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving ambient air quality.

A project-level qualitative air quality analysis report was prepared for this document. A copy of the unabridged version of the full technical report entitled *TECHNICAL MEMORANDUM AIR QUALITY ASSESSMENT*, dated October 10, 2013, can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1010 Birch Ridge Drive, Raleigh.

1. Project Air Quality Effects

The project is located in Craven County, which complies with the National Ambient Air Quality Standards (NAAQS). Craven County is within an attainment area identified as the

Southern Coastal Plain Intrastate Air Quality Control Region (as defined in section 302(f) of the Clean Air Act, 42 U.S.C. 1857h(f)).

a) Ozone

The project is within an attainment area for ozone (O_3), as defined by the EPA. The USDOT only makes conformity determinations for nonattainment or maintenance areas. Craven County has never been a maintenance area or in nonattainment, therefore no conformity determination is needed.

b) Carbon Monoxide

The proposed project lies within an attainment area for Carbon Monoxide (CO). Air quality impacts are not anticipated since proposed project developments will improve traffic operations. Therefore, a CO hot-spot analysis is not required according to FHWA guidelines.

c) Fine Particulate Matter

The proposed project lies within an attainment area for $PM_{2.5}$. Therefore, a $PM_{2.5}$ hot-spot analysis is not required according to FHWA guidelines.

This project will not add substantial new capacity or create any adverse effects on the air quality of this attainment are, and therefore, 40 CFR Parts 51 and 94 are not applicable.

2. Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. Most air toxics originate from man-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

The FHWA developed a tiered approach with three categories for analyzing Mobile Source Air Toxics (MSAT) in NEPA documents, depending on specific project circumstances:

- No analysis for projects with no potential for meaningful MSAT effects;
- Qualitative analysis for projects with low potential MSAT effects; or
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Since this project is anticipated to have low potential MSAT effects, a qualitative analysis was performed.

Because the proposed improvements have the potential to move traffic closer to nearby homes and businesses, there may be areas where ambient concentrations of MSAT could be

higher that the No Build alternative. Localized increases in MSAT concentrations would likely occur. However, the magnitude and the duration of these potential increases compared to the No Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. Generally, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

In sum, under the preferred Build alternative, it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No Build Alternative, due to the reduced congestion and delay associated with more direct routing and the EPA's MSAT reduction programs.

3. Construction Air Quality Effects

Construction activities will cause minor short-term air quality impacts in the form of dust from earthwork and unpaved roads, and smoke from open burning. These impacts will be minimized by adherence to all state and local regulations. Construction equipment and associated work practices and procedures will have to meet the NCDOT Standard Specifications and the Division of Air Quality’s emissions standards that govern activities such as open burning.

K. Hazardous Material

Two sites presently or formerly containing underground storage tanks (USTs) were identified within the project limits, along with two other sites having recognized environmental conditions. The sites are described in Table 20.

Table 20: Known and Potential GeoEnvironmental Impact Sites

Property Location	Property Owner	UST Owner	Facility ID #
249 US Highway 70 West, Havelock, NC 28532	Cieszko Construction Company	Cieszko Construction Company	0-021396
The Cieszko Construction Company is an active construction business located southwest of the intersection of Slocum Road with US 70. This site contains one 12,000-gallon diesel, diesel mixture UST currently in use. **This site will present low geoenvironmental impact to the project**.			
Property Location	**Property Owner**	**UST Owner**	**Facility ID #**
248 US Highway 70 West, Havelock, NC 28532	Michael A. Gray DBA G&H Tire	G & H Tire and Auto	0-032527
G & H Tire and Auto is an active automotive business located southwest of the intersection of Slocum Road with US 70. This site contains one 4,000 gallon gasoline, gasoline mixture tank currently in use. **This site will present low geoenvironmental impact to the project**.			
Property Location	**Property Owner**	**UST Owner**	**Facility ID #**
899 US 70 West, Havelock, NC	Rob Coleman, C/O 7310 Rockridge School Road, Kenly, NC 27542	N/A	N/A
The Phoenix Recycling site is located on SR 1772 (Pine Grove Road) east of US 70 in Havelock. Phoenix Recycling began operations in the early 1990s and was permitted by NCDENR as a material recycling center and a construction and demolition debris waste management facility from the early 1990s until November 2000. Electrical capacitors with potential PCB contamination were removed in 2010. The City of Havelock has considered developing the site as a park. **This site will present low geoenvironmental impact to the project**.			
Property Location	**Property Owner**	**UST Owner**	**Facility ID #**
Havelock, NC	MCAS Cherry Point	N/A	N/A
Marine Corps Air Station Cherry Point (MCAS Cherry Point) is located east of the project study area. MCAS Cherry Point is an active military reservation that is home to the 2nd Marine Aircraft wing and has storage of a variety of petroleum based products that service aircraft and wheeled vehicles. **This site will present low geoenvironmental impact to the project**.			

VI. COMMENTS AND COORDINATION

A. Citizens Informational Workshops (CIWs)

1. CIW # 1

A Citizens Informational Workshop was held on June 26, 2012 at the Havelock Tourist and Event Center in Havelock, NC. The purpose of the workshop was to introduce the project to the community, present preliminary designs from the feasibility study, inform stakeholders of the planning process, gather public feedback, and answer questions. The meeting was advertised through local media announcements and a newsletter mailed to citizen households. There were approximately 71 attendees.

Comments, both verbal and written, were received at the workshop. The comment period was open until July 20th, 2012, although any comment sheets received after that date were collected and included in the workshop summary. Comments included concerns regarding access, superstreets, school bus safety, emergency response, sidewalks and pedestrian facilities, the effect of project improvements to adjacent property values, the cost and funding of project improvements, and the general effectiveness of proposed improvements. Representatives for the study were available to help answer questions and to explain improvements in detail.

2. CIW # 2

A second Citizens Informational Workshop was held on June 25, 2013 at the Havelock Tourist and Event Center in Havelock, NC. The purpose of the workshop was to present up-to-date preliminary designs, and collect additional public feedback. The meeting was advertised through local media announcements and a newsletter mailed to citizen households. There were approximately 68 attendees.

Two short video visualizations were presented at the meeting to demonstrate how the existing and proposed intersection configurations at the US 70 & Pine Grove Road intersection would operate. A background of aerial imagery was included in the visualizations for reference. The two video visualizations were as follows:

1. Future 2035 No Build
2. Future Build 2035 Left-out Superstreet

Comments, both verbal and written, were received at the workshop. The comment period was open until July 19th, 2013 and any comment sheets received after that date were collected and included in the workshop summary. Comments varied to include concerns regarding access, superstreets, school bus safety, emergency response, the flyover, speed limits, purpose and need, signals, signal timing and turn lanes, sidewalks and pedestrian facilities, the cost and funding of project improvements, and the general effectiveness of proposed improvements. Also, various amenities such as sidewalks and bicycle paths were suggested for the project. Representatives for the study were available to help answer questions and to explain improvements in detail.

B. Local Officials Meetings

Several project meetings were held with the City of Havelock and Marine Corps Air Station Cherry Point throughout project development. There were three local officials meetings (June 26, 2012, March 26, 2013, and June 25, 2013) and a meeting with the Havelock Planning Board (June 4, 2013). Elected officials and staff from the City of Havelock and staff from Cherry Point attended the local officials meetings.

Through the course of these meetings, the City had comments, questions, and concerns and NCDOT implemented changes when possible, and provided reasons for why some requests were not implemented. Some of the major concerns included the following:

- Elimination of direct access to US 70 from the MacDonald Downs subdivision
- Support for the flyover, but not the superstreet concept
- Access for customers to Wayside Furniture

MacDonald Downs Access:

As outlined in their letters in Appendix A, the City noted that their foremost concern was the elimination of the existing direct access from the MacDonald Downs neighborhood to US 70 and wanted to know why they can't have two access points here (i.e., the proposed one at Pine Grove Road or Sermons Boulevard and one onto US 70). The existing access point to MacDonald Downs is through an unsignalized intersection at US 70 near Slocum Road and the proposed free-flow right turn lane from Slocum Road to US 70 westbound would be in direct conflict with this intersection so alternate access needed to be accommodated. MacDonald Downs currently only has one access point as it is, and that the location of the Croatan National Forest property prevents the existing driveway to this subdivision from being extended further away from Slocum Road. Also, the consolidation of access points helps to reduce congestion rather than having two access points.

Flyover vs. Superstreet:

For the proposed superstreet concept shown in Figure 5, part of NCDOT's plan is to minimize the queuing issue along Pine Grove Road during school hours by reducing the number of signal phases from 6 down to 2. This change in phasing will increase the capacity of the intersection and reduce average delay times. There is more green time available for the two remaining phases, which allows more traffic to move onto and off of US 70. In conjunction with the proposed two-phase signal at US 70 and Slocum Road, traffic flow along US 70 would improve.

Wayside Furniture Access:

The City of Havelock asked if access would be provided to the Wells Wayside Furniture store. NCDOT responded that the plans do not show a specific access point to this store because they would like to get comments from the property owner about the best way to provide access here. This consultation will be done prior to construction. It is NCDOT's responsibility to protect the integrity of the signalized intersection as much as possible, so

as part of the preliminary design the existing US 70 Service Road is shown as a dead-end in front of Wells Wayside Furniture and does not intersect with Pine Grove Road. This eliminates several conflicts that would occur with that intersection being in close proximity to the US 70 / Pine Grove Road intersection.

NCDOT officials met with the City of Havelock Planning Board on June 4, 2013. The project was explained in detail including a description of the purpose and need, the preliminary design, and presentation of a traffic visualization/simulation of the proposed superstreet signalized intersection of US 70 and Pine Grove Road/Hickman Hill Loop Road. The Planning Board was pleased with the preliminary design and proposed improvements, and was in favor of the project as a whole.

C. Presentation to Craven County School Board

A presentation was made to the Craven County School Board on May 14, 2013 to discuss the proposed superstreet design at SR 1772 (Pine Grove Road) and potential effects. A simulation showing the traffic operations for the existing intersection configuration compared to the proposed superstreet design was shown for discussion and explanation purposes. The school board expressed concern about busses having to use the unsignalized U-turn; however, it was proposed that the bus route could be modified to avoid this U-turn by picking up and dropping off the students in the Hickman Hill neighborhood last. Overall, the school board was supportive of the proposed improvements.

D. NEPA/404 Merger Process

The Merger Process is a process to streamline the project development and permitting processes, agreed to by the USACE, NCDENR (DWR, DCM), FHWA and NCDOT and supported by other stakeholder agencies and local units of government. To this effect, the Merger Process provides a forum for appropriate agency representatives to discuss and reach consensus on ways to facilitate meeting the regulatory requirements of Section 404 of the Clean Water Act during the NEPA/SEPA decision-making phase of transportation projects. Agency representatives meet to discuss and build consensus on purpose and need, alternatives for study, selection of the Least Environmentally Damaging Practicable Alternative (LEDPA) and minimization of impacts.

Based on anticipated impacts, the screening criteria contained in the Merger Process Guidelines, and coordination with the USACE, NCDOT, NCDENR, and FHWA, it was determined that the proposed project should not go into the Merger process. The signed correspondence letter is attached in **Appendix A**.

E. Other Agency Coordination

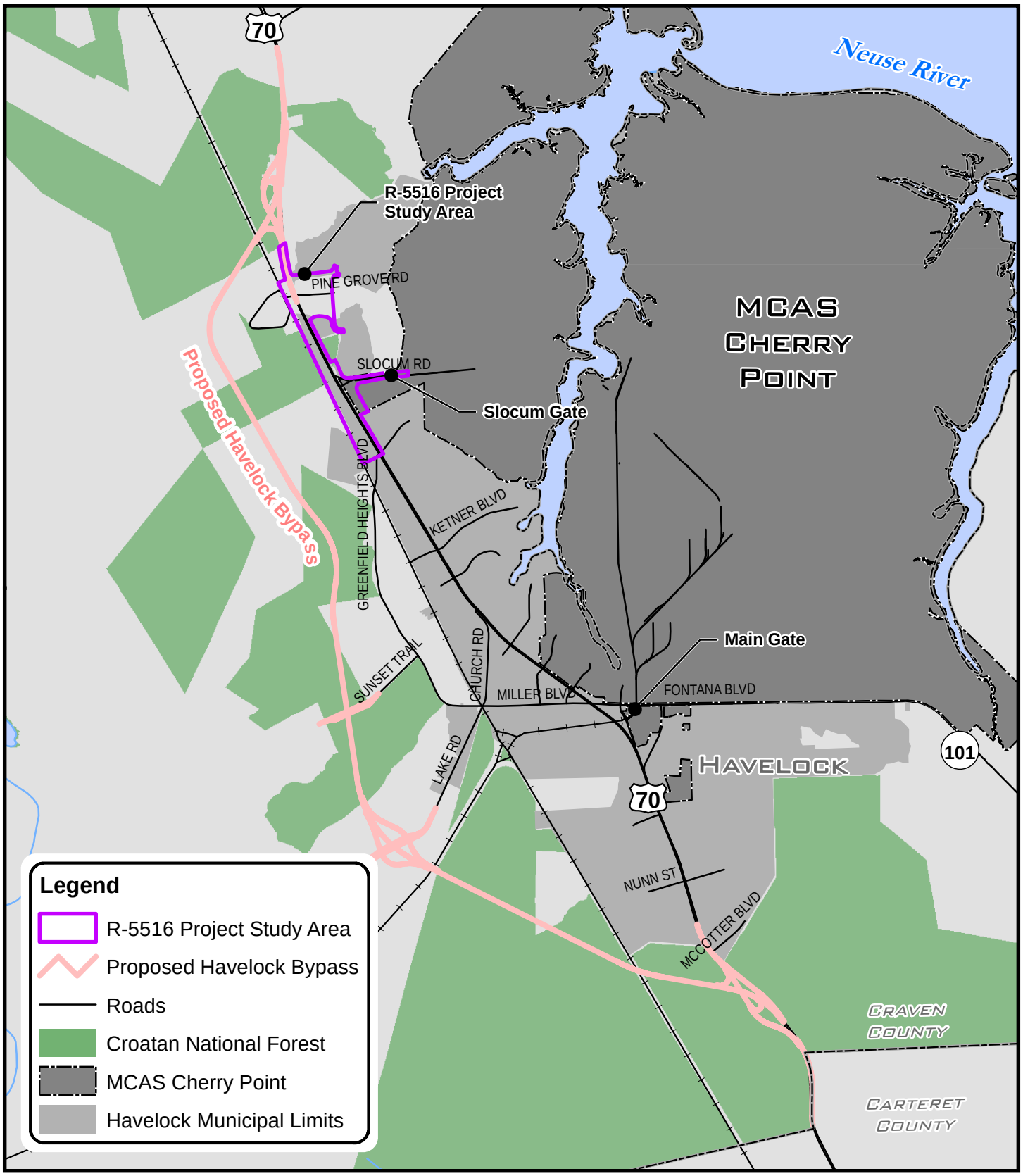
Federal, state, and local agencies were consulted during the preparation of this Categorical Exclusion. Written comments were received and considered from agencies noted with an asterisk (*) during the preparation of this assessment, although no significant issues were raised.

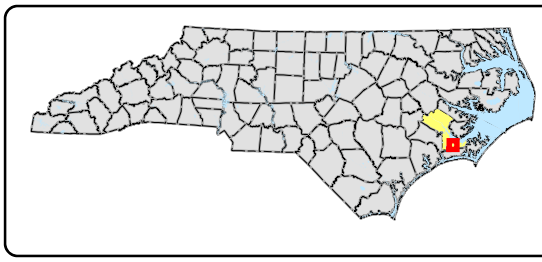
U.S. Army Corps of Engineers
* U.S. Environmental Protection Agency
* U.S. Fish and Wildlife Service
U.S. Marine Corps Air Station – Cherry Point
Department of the Navy – Naval Facilities Engineering Command, Mid-Atlantic
U.S. Forest Service – Croatan National Forest
N.C. Department of Agriculture and Consumer Services
N.C. Department of Crime Control and Public Safety
N.C. Department of Cultural Resources
N.C. NCDENR - Division of Environmental Health
N.C. DENR - Division of Forest Resources
N.C. DENR - Division of Parks and Recreation
N.C. DENR - Division of Soils and Water Conservation
N.C. DENR - Division of Water Resources
N.C. DENR - Natural Heritage Program
N.C. Department of Public Instruction
* N.C. Division of Marine Fisheries
N.C. Division of Coastal Management
N.C. Wildlife Resources Commission
Eastern Council of Governments
* City of Havelock
Craven County Schools

These comments and related issues, included in **Appendix A**, have been addressed in this document.

VII. CONCLUSION

Based on the studies performed for the proposed project, it is concluded that the project will not result in significant social, economic, or environmental impacts. Therefore, the project is considered to be a Federal Categorical Exclusion, as defined in 40 CFR 1508.4 and 23 CFR 771.117, due to its limited scope and lack of substantial environmental consequences.





N

0 0.5 1

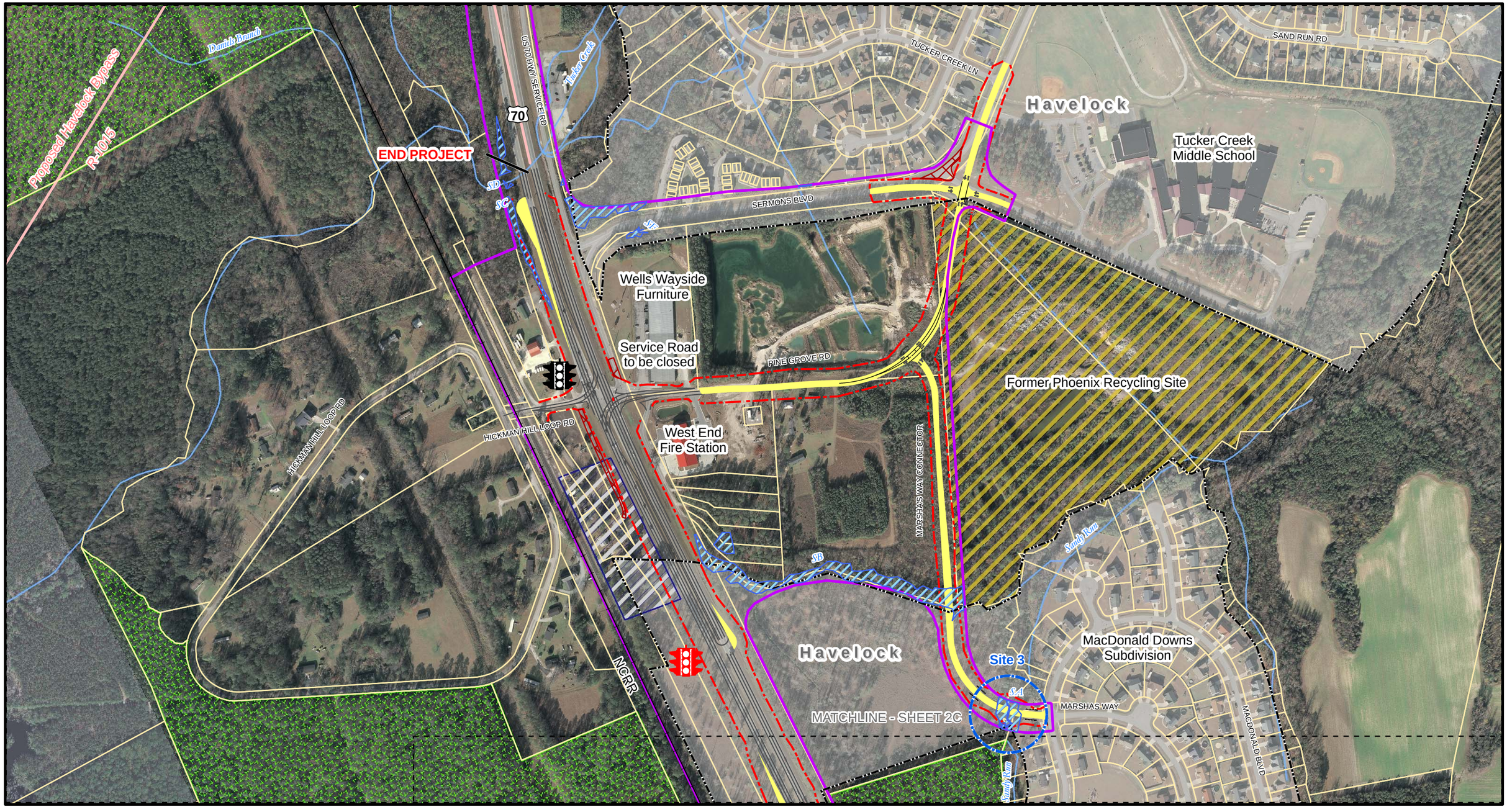
Miles

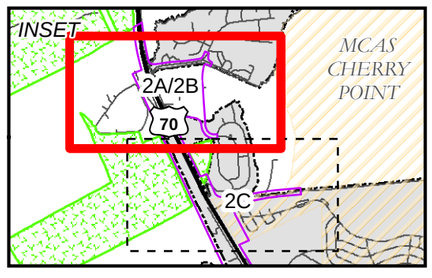
Vicinity Map

Proposed Improvements
to US 70 and Slocum Road
TIP Project R-5516

City of Havelock
Craven County, NC

Figure
1





LEGEND

- Study Area
- Parcels
- Havelock City Limits
- Former Phoenix Recycling Site
- Croatan National Forest
- Delineated Wetlands
- MCAS Cherry Point
- Proposed Havelock Bypass
- Streams
- Hydraulic Structure
- Existing Traffic Signal
- Proposed Traffic Signal
- Proposed Roadway
- Proposed Bridge
- Proposed Construction Limits
- Proposed Retaining Wall
- Pavement to be removed
- Noise Study Area

N

0 400 800

Feet

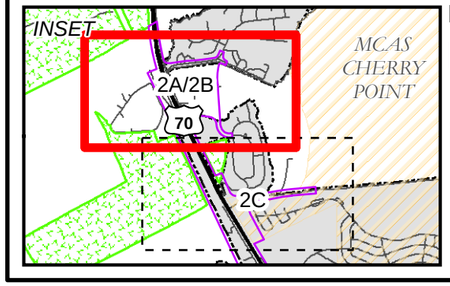
Alternative A

Proposed Improvements
to US 70 and Slocum Road
TIP Project R-5516

City of Havelock
Craven County, NC

Figure
2A

Proposed Havelock Bypass
R-1015
Daniels Branch
US 70 HWY SERVICE RD
70
Tucker Creek
END PROJECT
SD
SC
SA
TUCKER CREEK LN
SAND RUN RD
Havelock
Tucker Creek
Middle School
SERMONS BLVD
Wells Wayside
Furniture
Service Road
to be closed
PINE GROVE RD
Former Phoenix Recycling Site
HICKMAN HILL LOOP RD
HICKMAN HILL LOOP RD
West End
Fire Station
MARSHAS WAY CONNECTOR
Sandy Run
SB
NCRR
Havelock
Site 3
SA1
MARSHAS WAY
MacDonald Downs
Subdivision
MACDONALD BLVD
MATCHLINE - SHEET 2C



LEGEND

- Study Area
- Parcels
- Havelock City Limits
- Former Phoenix Recycling Site
- Croatan National Forest
- Delineated Wetlands
- MCAS Cherry Point
- Proposed Havelock Bypass
- Streams
- Hydraulic Structure
- Existing Traffic Signal
- Proposed Traffic Signal
- Proposed Roadway
- Proposed Bridge
- Proposed Construction Limits
- Proposed Retaining Wall
- Pavement to be removed
- Noise Study Area

N

0 400 800

Feet

Alternative B

Proposed Improvements
to US 70 and Slocum Road
TIP Project R-5516

City of Havelock
Craven County, NC

Figure
2B

MATCHLINE - SHEET 2A/2B

MacDonald Downs Subdivision

MARSHAS WAY

MACDONALD BLVD

Sandy Run

S1

Closed access

Site 1

NCRR

Site 2

S2

SLOCUM RD

Slocum Gate

MCAS CHERRY POINT

ALEXANDER RD

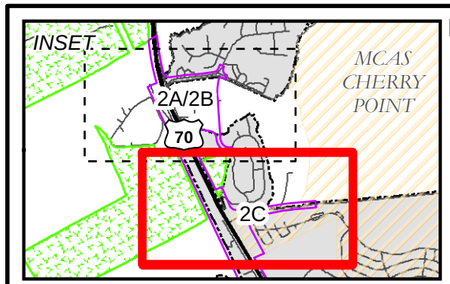
70

BEGIN PROJECT

WAL-MART

Havelock

HOKE RD



LEGEND

- Study Area
- Parcels
- Havelock City Limits
- Former Phoenix Recycling Site
- Croatan National Forest
- Delineated Wetlands
- MCAS Cherry Point
- Proposed Havelock Bypass
- Streams
- Hydraulic Structure
- Existing Traffic Signal
- Proposed Traffic Signal
- Proposed Roadway
- Proposed Bridge
- Proposed Construction Limits
- Proposed Retaining Wall
- Pavement to be removed
- Noise Study Area

N

0 400 800

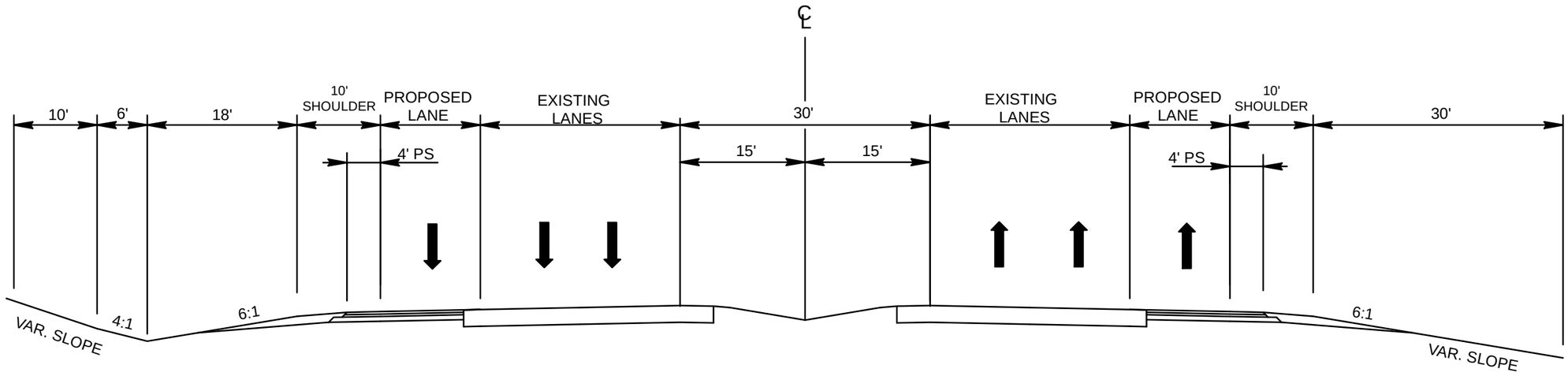
Feet

Alternative A and Alternative B

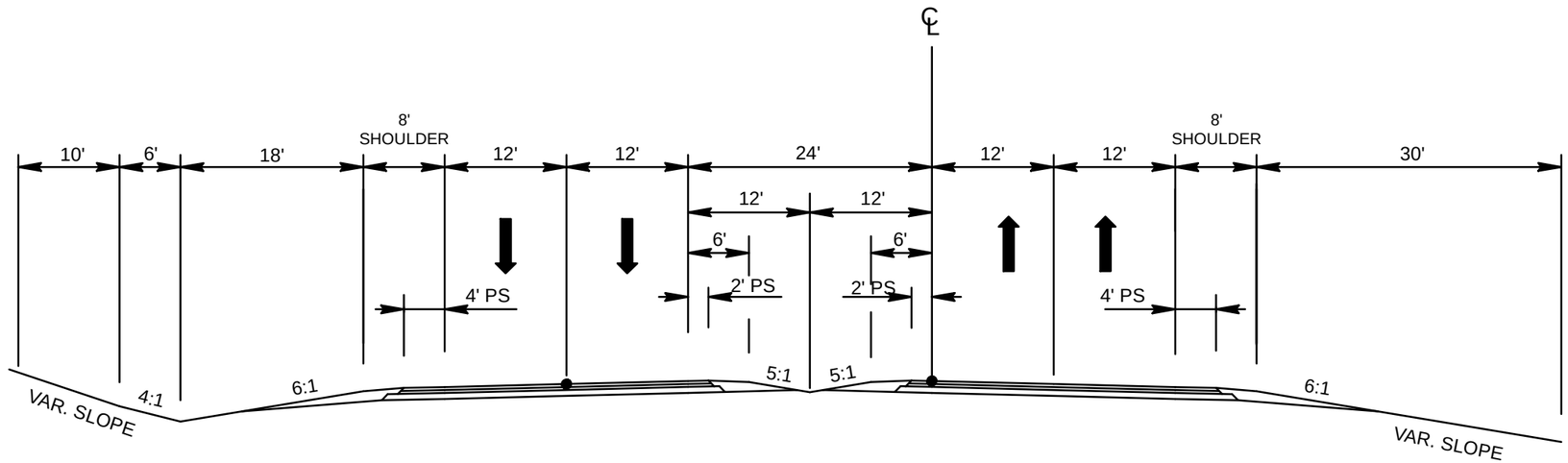
Proposed Improvements
to US 70 and Slocum Road
TIP Project R-5516

City of Havelock
Craven County, NC

Figure
2C



US 70 TYPICAL SECTION



SLOCUM ROAD TYPICAL SECTION

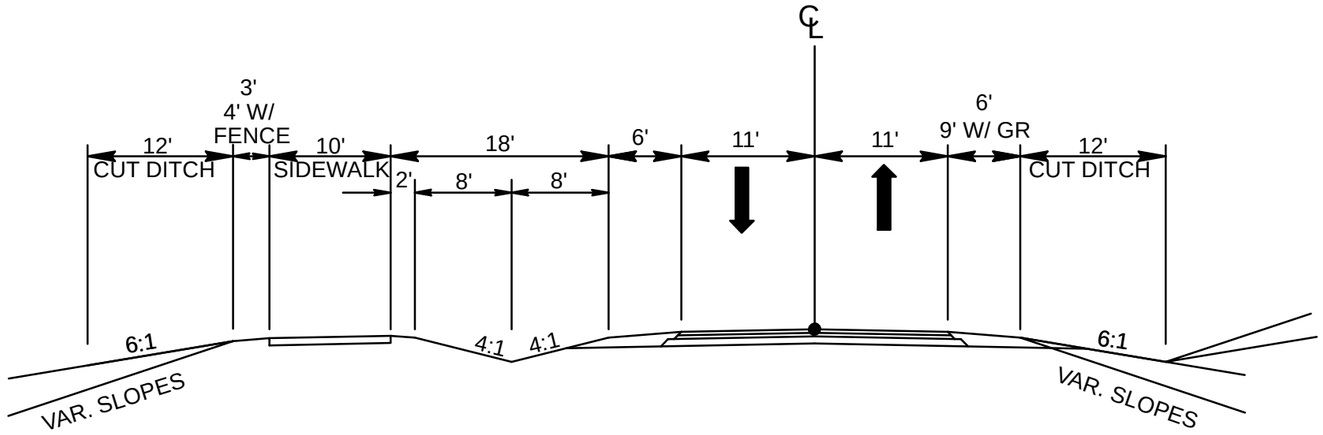
GR = GUARD RAIL
PS = PAVED SHOULDER

Typical Sections

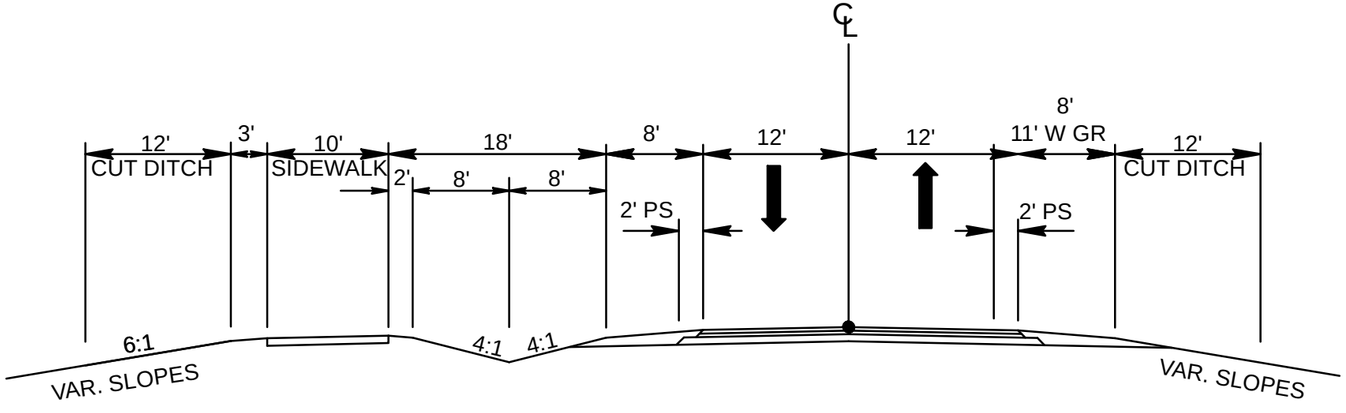
Proposed Improvements
to US 70 and Slocum Road
TIP Project R-5516

City of Havelock
Craven County, NC

Figure
3A



MARSHA'S WAY CONNECTOR



PINE GROVE ROAD TYPICAL SECTION

GR = GUARD RAIL
PS = PAVED SHOULDER

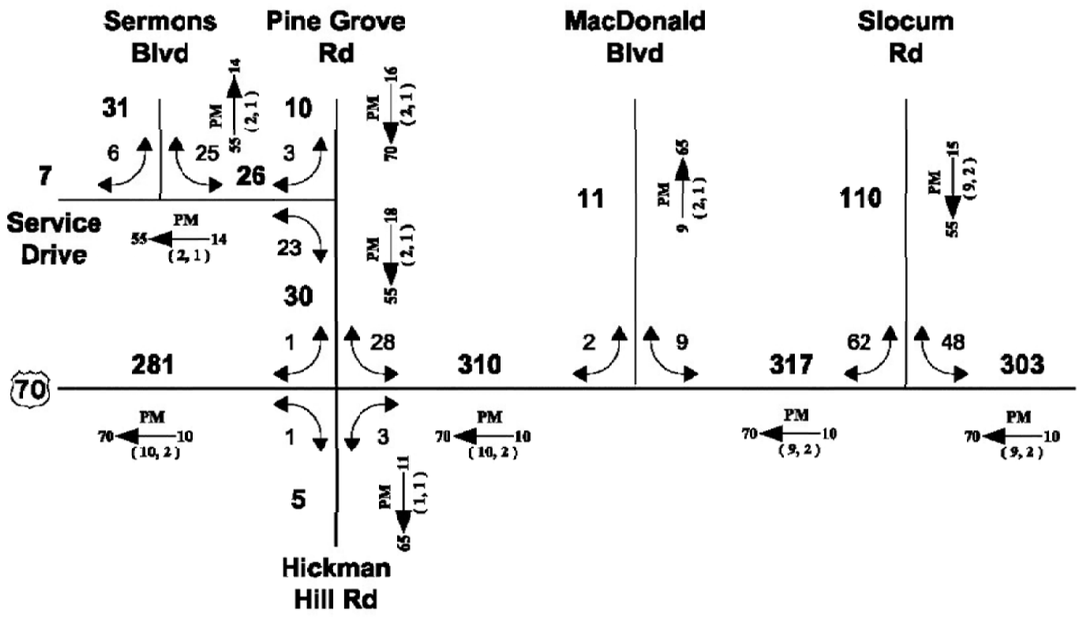
Typical Sections

Proposed Improvements
to US 70 and Slocum Road
TIP Project R-5516

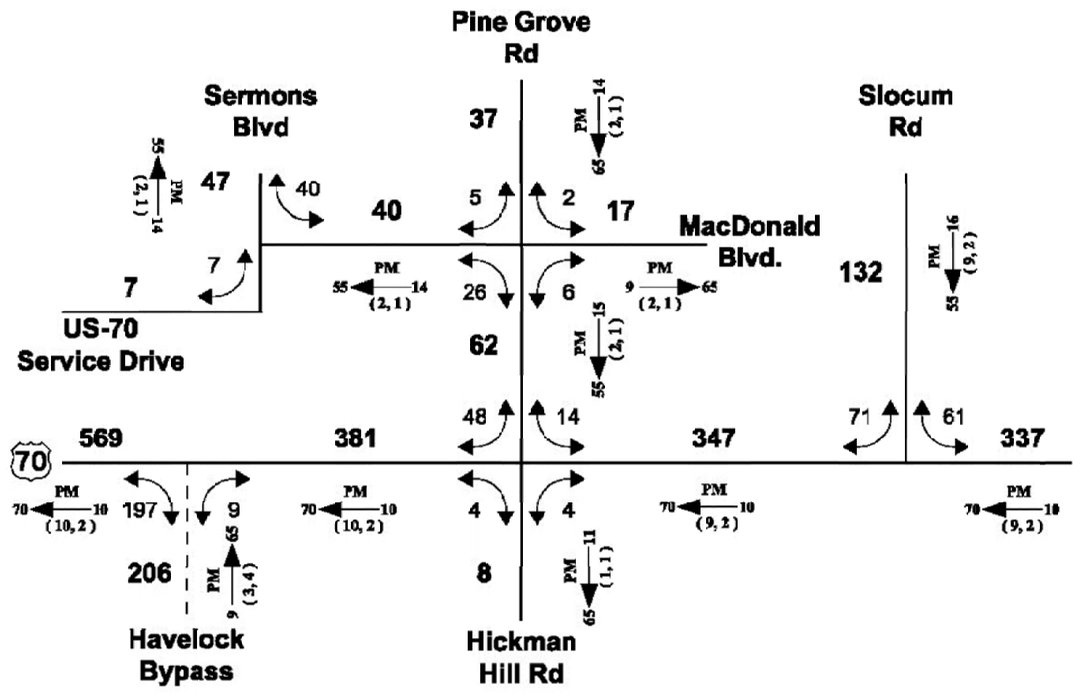
City of Havelock
Craven County, NC

Figure
3B

2012 Base Year
No-Build



2040 Future Year
Build



LEGEND

###	No. of Vehicles Per Day in 100s
1-	Less than 50 vpd
X	Movement Prohibited
K PM (d, t) D	

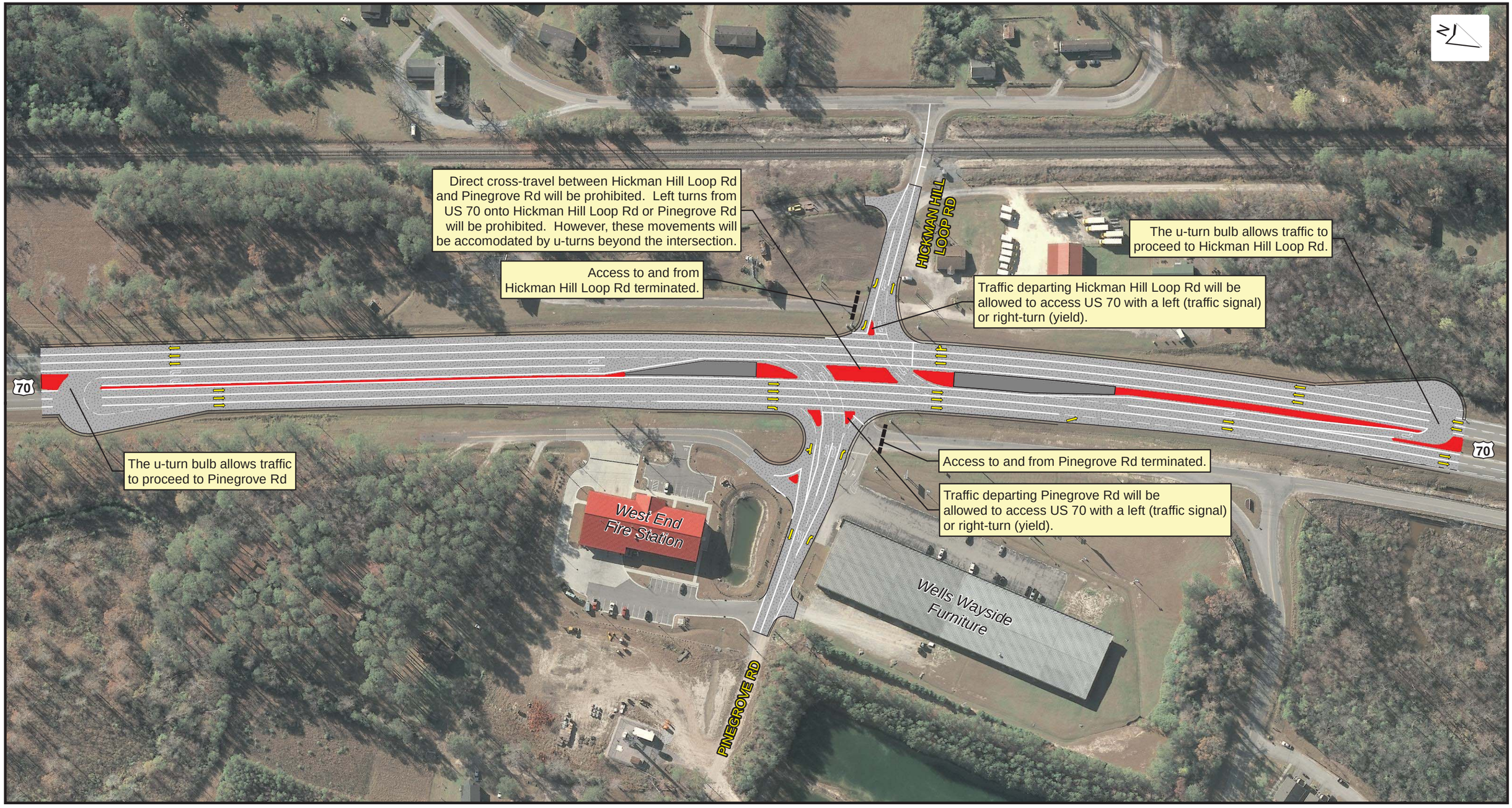
K	Design Hour Factor (%)
PM	PM Peak Period
D	Peak Hour Directional Split (%)
→	Indicates Direction of D
(d, t)	Duals, TT-STs (%)

Traffic Volumes

Proposed Improvements
to US 70 and Slocum Road
TIP Project R-5516

City of Havelock
Craven County, NC

Figure
4



"Left-Out" Superstreet

This "left-out" superstreet is a type of intersection in which minor cross-street traffic is prohibited from going straight through the divided highway intersection. Further, traffic traveling along US 70 is prohibited from taking direct left-turns onto Hickman Hill Loop Rd or Pinegrove Rd. Instead, to accomodate this move, traffic must proceed past the intersection, access a u-turn, and proceed to the desired location by turning right. However, traffic departing from Hickman Hill Loop Road or Pine Grove Road will be able to travel with a left-turn or a right-turn when accessing US 70.

Left-Out Diagram
Proposed Intersection of US 70 and Pinegrove Rd/Hickman Hill Loop Rd

Proposed Improvements
to US 70 and Slocum Road
TIP Project R-5516

City of Havelock
Craven County, NC

Figure
5

APPENDIX A

AGENCY COMMENTS

United States Department of the Interior

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

February 22, 2012

Gregory J. Thorpe, Ph.D.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

This letter is in response to your request for comments from the U.S. Fish and Wildlife Service (Service) on the potential environmental effects of the proposed MCAS Cherry Point Improved Highway Intersection (US 70 at Slocum Road) in Havelock, Craven County, North Carolina (TIP No. R-5516). These comments provide information in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).

Given the previously disturbed nature of the project area and the limited scope of the project, the Service believes that impacts to fish and wildlife resources should be minimal. Therefore, we have no specific concerns or comments. We appreciate the opportunity to comment on this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520, ext. 32.

Sincerely,

for Gary Jordan
Pete Benjamin
Field Supervisor

FILE COPY

Potter, Matthew W

From: Baker, Jessi E
Sent: Friday, February 17, 2012 3:15 PM
To: Potter, Matthew W
Subject: FW: Scoping Meeting TIP Project R-5516
Attachments: PDEA Century Center B Conference Room.pdf; R5516_SCPPacket_02102012.pdf

Mr. Potter,

I have reviewed the data sheets and maps for this project and do not believe that DMF resources will be affected by this project. Please update me if the footprint of the project changes greatly.

Thanks,

Jessi Baker

Jessi O'Neal Baker
Biologist, Habitat Section
NC Division of Marine Fisheries
5285 Hwy. 70 West
Morehead City, NC 28557
Morehead City - (252) 808-8064
Wilmington - (910) 796-7311
jessi.baker@ncdenr.gov

-----Original Message-----
From: Deaton, Anne
Sent: Friday, February 10, 2012 12:59 PM
To: Baker, Jessi E
Subject: FW: Scoping Meeting TIP Project R-5516

Heres the attachments

-----Original Message-----
From: Potter, Matthew W
Sent: Friday, February 10, 2012 12:30 PM
To: militscher.chris@epamail.epa.gov; ron.lucas@fhwa.dot.gov; Ron.Sechler@noaa.gov; kcompton@fs.fed.us; Gary_Jordan@fws.gov; thomas.a.steffens@usace.army.mil; Sollod, Steve; Deaton, Anne; Wainwright, David; Wilson, Travis W.
Subject: Scoping Meeting TIP Project R-5516

Potter, Matthew W

From: Chris Militscher <Militscher.Chris@epamail.epa.gov>
Sent: Friday, February 10, 2012 1:44 PM
To: Potter, Matthew W
Cc: Deaton, Anne; Wainwright, David; Gary_Jordan@fws.gov; kcompton@fs.fed.us; ron.lucas@fhwa.dot.gov; Ron.Sechler@noaa.gov; Sollod, Steve; thomas.a.steffens@usace.army.mil; Wilson, Travis W.
Subject: Re: Scoping Meeting TIP Project R-5516

Matthew: 2/23 is not a Merger concurrence day and I will be unable to attend. I understood from past discussions with merger team agencies that formal scoping meetings would be scheduled for Merger concurrence days. If held, please provide EPA a copy of the meeting minutes. Thank you.

-----"Potter, Matthew W" <mwpotter@ncdot.gov> wrote: -----
To: Chris Militscher/R4/USEPA/US@EPA, "ron.lucas@fhwa.dot.gov" <ron.lucas@fhwa.dot.gov>, "Ron.Sechler@noaa.gov" <Ron.Sechler@noaa.gov>, "kcompton@fs.fed.us" <kcompton@fs.fed.us>, "Gary_Jordan@fws.gov" <Gary_Jordan@fws.gov>, "thomas.a.steffens@usace.army.mil" <thomas.a.steffens@usace.army.mil>, "Sollod, Steve" <steve.sollod@ncdenr.gov>, "Deaton, Anne" <anne.deaton@ncdenr.gov>, "Wainwright, David" <david.wainwright@ncdenr.gov>, "Wilson, Travis W." <travis.wilson@ncwildlife.org>
From: "Potter, Matthew W" <mwpotter@ncdot.gov>
Date: 02/10/2012 12:31PM
Subject: Scoping Meeting TIP Project R-5516

The NCDOT's Project Development and Environmental Analysis Unit has started the project development, environmental and engineering studies for TIP Project R-5516, Proposed Marine Corps Air Station (MCAS) Cherry Point Improved Highway Intersection (US 70 at Slocum Road) in Havelock, Craven County.

I would like to invite you to attend the formal Scoping Meeting which will be held on February 23, 2012 at 10 AM in the Project Development and Environmental Analysis large Conference room located in NCDOT Century Center Building B (see attached map for location). Teleconferencing accommodations can be made upon request.

I apologize for the short notice for this meeting, but we have a very tight schedule for this project and through coordination with the military and our consultant this date was the best I could do.

Attached for your review is the Project Data Sheets and mapping for the subject project. We would appreciate any information you might have that would be helpful in evaluating the potential environmental impacts of the project. Please review the packet and be prepared to discuss any additional known information regarding your resource and comments or questions about the project at the Scoping Meeting. If you are unable to attend the meeting please feel free to contact me with any comments or questions that you might have.

Please note that I will be sending each of you, paper copies of the Data Sheets early next week. If you need any additional copies please let me know.

Thank you for your assistance in the project development process.

Matthew Potter, PE
Project Development Engineer
Project Development and Environmental Analysis Unit
NC Dept of Transportation
1548 Mail Service Center

STATE OF NORTH CAROLINA
COUNTY OF CRAVEN

CITY OF HAVELOCK
RESOLUTION #12-R-09

A RESOLUTION TO AMEND RESOLUTION #12-R-08 WHICH SUPPORTED NCDOT IMPROVEMENTS TO THE INTERSECTION OF SLOCUM ROAD AND US 70

WHEREAS, on July 23, 2012, the Board of Commissioners of the City of Havelock adopted Resolution #12-R-08, "A Resolution in support of NCDOT improvements to the intersection of Slocum Road and US 70;" and

WHEREAS, on August 13, 2012, the Board of Commissioners of the City of Havelock approved the following revisions to Section 2 and Section 9:

"2. Service roads should be extended north and west to Carolina Pines and south and east to the Slocum Road/Hwy 70 intersection."

"9. Consider relocation of the exit opening at MacDonald Downs Subdivision to a more central Hwy 70 location between Slocum Road and Tucker Creek intersection and to allow for additional entrance/exit to MacDonald Downs Subdivision."

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE CITY OF HAVELOCK THAT RESOLUTION #12-R-08 IS HEREBY AMENDED TO READ AS FOLLOWS:

WHEREAS, the Board of Commissioners, the Marine Corps Air Station (MCAS) Cherry Point and the Staff of the City of Havelock are committed to the safety and well being of all citizens who travel City and State maintained roads; and

WHEREAS, Slocum Road is a primary access point for MCAS Cherry Point off US Highway 70, particularly for active duty and civilian personnel commuting to work from New Bern and other points northwest of the study area; and

WHEREAS, a feasibility study has been performed proposing traffic improvements to the intersection of Slocum Road and US Highway 70, in an effort to improve safety at the intersection of Slocum Road and US Highway 70 entering into the Marine Corps Air Station Cherry Point Slocum Gate; and

WHEREAS, the feasibility study provides for four (4) alternative improvements developed to address existing and future capacity deficiencies; and

WHEREAS, an Environmental Impact Study (EIS) is now underway and a public meeting called a citizen's information workshop was held on June 26, 2012 at the Havelock Tourist and Event Center to receive comments concerning the project; and

CITY OF HAVELOCK
Post Office Box 368
Havelock, N.C. 28532

April 16, 2013

Mr. Neil Lassiter, P.E.
Highway Division 2
NC Department of Transportation
P.O. Box 1587
Greenville, North Carolina 27835

Re: US 70/Slocum Interchange

Dear Neil,

In reference to the above subject matter and follow up from our last NCDOT March 26th briefing regarding the two (2) alternatives (Alternate A and Alternate B) for the proposed improvements to the intersection of US 70 and Slocum Road, city staff did meet with the full Havelock Governing Body to review the updated plans.

While Havelock officials are supportive of the idea of an interchange as a way to reduce traffic accidents and provide for the safe movement of vehicle traffic through that area, it appears that portions of the proposals could negatively affect the residents in Tucker Creek and MacDonald Downs Subdivisions.

It is understood that both alternatives are preliminary and could change before a proposed June 2013 public meeting. However, the City of Havelock would like to note the following concerns and/or suggestions:

1. Is "Alternate A" a legitimate alternative being considered? If not, can NCDOT officials provide another alternative/design as an option for consideration?
2. Tucker Creek Concern: A left-turn into the Tucker Creek Subdivision and associated access to Tucker Creek Middle School will not be permitted if traveling eastbound on US 70, forcing residents and their guests, along with other motorists to continue past the traffic signal to make a U-turn at a new crossing controlled by a traffic light.
3. MacDonald Downs Concern: MacDonald Downs residents would have to utilize a new access road at Marsha's Way, linking at Pine Grove Road and proceeding between Wells Wayside Furniture and Havelock's West

4-22-13
TO: Matthew Potter From: JD
Please have your staff review this request and provide an appropriate draft for my review by 5-3-13.

Phone (252) 444-6400 www.HavelockNC.us Fax (252) 447-0126

CITY OF HAVELOCK
Post Office Box 368
Havelock, N.C. 28532

June 25, 2013

Mr. Lou Raymond, P.E., AICP
AECOM
6021 Fairview Road, Suite 400
Charlotte, NC 28210

Re: US 70/Slocum Road Improvements

Dear Mr. Raymond,

In reference to the Citizens Informational Workshop #2 to be held on June 25, 2013 for TIP Project No. R-5516 Slocum Interchange, the City of Havelock would like to offer the following:

I. As part of the Environmental Impact Study process, the City of Havelock provided for the record to the NC Department of Transportation, a July 23, 2012 Resolution of Support #12-R-08. As specifically stated in the resolution, *the following general issues and concerns were to be addressed for the City of Havelock and its citizens' support for the proposed improvements and subsequent funding for the intersection of Slocum Road and US Highway 70:*

1. Operation of light at Hickman Hills and Pine Grove must remain a signalized and full movement intersection.
2. Service roads should be extended north and west to Carolina Pines and south and east to Wal-Mart intersection.
3. Intersection of service road and Sermons Boulevard should remain open and not closed by proposed cul-de-sac.
4. Completion of jug-handle at service road at Wells Wayside/Pine Grove Road to connect with required portion of jug-handle at the City of Havelock West End Fire Station.
5. Completion of all planned roads for connectivity in and around subject project site.
6. Project should be designed for complete streets that serve transit, bicycle and pedestrian modes.
7. Design should consider local planning efforts as presented in "conceptual plan" for a park and ride facility and off-site security check point for MCAS Cherry Point and Heavy Industry Park that includes rail service.

8. Overpass concept is preferred that would assist in removing light at Slocum and allow for free flow of traffic on east/west bound US 70 in keeping with the promotion of a "freeway" US 70 as recommended in the US Highway 70 Access Management Plan.
9. Leave exit open at MacDonald Downs subdivision.
10. Drop speed limit at the entrance of the City of Havelock.
11. Deceleration lane into Slocum Road from West bound US 70 and acceleration lane from Slocum Road to West US 70.

II. Concerns for access to and from the MacDonald Down's subdivision have not been appropriately addressed. In a letter dated May 8, 2013 from the NCDOT, "a potential traffic weaving safety problem where vehicles slowing to turn into MacDonald Downs conflict with traffic exiting Slocum Road and margining onto westbound US 70." A) The entrance and exit into MacDonald Downs is existing and should be maintained for present and future use. Removal of the entrance would be inconsistent with the City's CAMA Land Use Plan, Comprehensive Transportation Plan and Unified Development Ordinance. B) The removal of the existing ingress/egress into MacDonald Downs Subdivision is not consistent with the City's and Citizens Resolution of Support for maintaining existing access to said subdivision. C) NCDOT states that the reason for removal is based on "potential" traffic weaving safety problem. The issue should be validated before removing the existing access. By permitting a second ingress/egress connectivity, safety is improved. The NCDOT May 8, 2013 letter also states, "safety will be improved even though the travel distance is longer." D) Allowing ingress and egress from the subdivision to only occur via Pine Grove Road and Marsha's Way will create greater issues at the intersection of Pine Grove Road and US 70. All residents exiting from the (2) two subdivisions (Tucker Creek and MacDonald Downs) will queue up at Pine Grove Road and US 70. Currently, the intersection is at max capacity with residents leaving Tucker Creek subdivision alone. Combine this with a potential emergency call that requires the City's fire department to answer a call from the West End Fire Station could spell disaster.

III. With impending US 70 Bypass construction, a simulation should be performed by NCDOT that takes into consideration a lesser impact of vehicles on US Highway 70 from Sermons Boulevard to Slocum Road. The proposed superstreet concept as noted by the May 8, 2013 NCDOT letter "has been considered for the design year 2040." The demographic profile that was used for consideration of the potential traffic impact in this vicinity was based partially on the City's 2008 CAMA Land Use Plan. Since the plan's adoption, certain socio-economic conditions have changed. A reassessment or new demographic profile should be performed that provides for a real outlook and subsequent traffic impact for study area that eliminates the need for the superstreet concept.

IV. As with the MacDonald Down's subdivision, sending all exiting traffic from Tucker Creek subdivision to Pine Grove Road would create an unnecessary traffic conflict. Providing for an additional ingress/egress for both subdivisions would eliminate queuing issues at Pine Grove Road and US 70.

V. Additional traffic measures were taken with the construction of the City of Havelock's West End Fire station. A required "jug-handle was installed in lieu of future extension of the service roads. It was anticipated that extension of the service road would occur south of the fire station thus the jug-handle would service the additional traffic impact. With the proposed alternatives, the required "jug-handle" would not be utilized as traffic would queue on Pine Grove Road from both subdivisions.

VI. According to the NCDOT letter dated May 8, 2013, "The left-out superstreet better serves the existing traffic pattern at the intersection today and better accommodates traffic existing Tucker Creek Subdivision and Middle School." A) Currently, students that attend the Middle School are not all residents of the City of Havelock. Eliminating the additional egress from Sermons Boulevard would unnecessarily send all school traffic to the entrance of Pine Grove Road furthering creating a queuing issue and directing all traffic to Pine Grove Road.

The superstreet concept as proposed in both alternatives should be further studied for its validity. The additional connectivity that was recommended by the City of Havelock should remain as part of the project, however sending all subdivision and school traffic and the potential conflict with the City's West End Fire Station would create severe traffic congestion at the intersection of Pine Grove Road and US 70. The City of Havelock hopes that these provided comments and feedback will be used to help refine the proposed designed.

Sincerely,

Jimmy A. Sanders
Mayor

cc: Havelock Governing Body
Jim Freeman, Havelock City Manager

CITY OF HAVELOCK
Post Office Box 368
Havelock, N.C. 28532

July 15, 2013

Lou Raymond, P.E., AICP
AECOM
6021 Fairview Road, Suite 400
Charlotte, North Carolina 28210

Re: HWY 70/Slocum Intersection Improvements
STIP Number R-5516

Dear Mr. Raymond,

In reference to the above subject matter and follow up to the June 25, 2013 Local Officials meeting discussions, in addition to the enclosed June 25, 2013 submitted letter, the City of Havelock does hereby submit supplemental requests to its earlier delivered meeting inquires. These are briefly identified as follows:

1. Wells Wayside HWY 70 Business Access – Located at the Tucker Creek/Hwy 70 Signal Intersection Area, proposed project improvement options appear to cut off Wells Wayside business access from Hwy 70. The City opposes such NCDOT action and respectfully requests a design modification addressing such concern.

2. Pedestrian Improvements – The City of Havelock requests that the project includes pedestrian improvements (sidewalk & bike) along the proposed Marsha's Way street connector between the MacDonald Downs and Tucker Creek Subdivisions. It is understood that these said improvements may be a shared cost. In addition, the City recommends NCDOT consider pedestrian access extending from the MacDonald Downs Subdivision, crossing Slocum Road to the Wal-Mart Shopping area.

3. MacDonald Downs Subdivision HWY 70 Access – As first suggested in our June 25th correspondence, the City requests NCDOT to reconsider and provide a Hwy 70 right-in and right-out road access into the MacDonald Downs subdivision. This could be accomplished by eliminating a proposed acceleration lane out from Slocum Road and construct access from the MacDonald Blvd/Marsha Way proposed intersection vicinity to Hwy 70. *Please note: It is understood that the City has changed its position regarding item #11 noted in the enclosed June 25, 2013 letter.*

4. Controlled Hazard Light: Pine Grove Road – A new street configuration for Pine Grove Road will queue and stack cars from the intersection of Hwy 70 back past the fire station and prevent emergency vehicles from having access out to Hwy 70. The City would like to request a

controlled hazard light on Pine Grove Road that works in conjunction with the controller we currently have on the Hwy 70 light. This would allow for traffic to be blocked on Pine Grove Road and allow access for emergency vehicles onto Hwy 70.

5. Hickman Hill Area Concerns – The U-turn to service Hickman Hill will be controlled by a stop light and traffic will be required to make a U-turn on Hwy 70 in the eastbound lane in order to get back to Hickman Hill. There is no light at this location, which would likely create a very dangerous situation since cars heading east on Hwy 70 will be traveling at a high rate of speed and the Hickman Hill traffic will be doing a U-turn from a complete stop.

Again, the above considerations are supplemental to our earlier submitted requests and concerns. We look forward to your response.

Thank you.

Sincerely,

Jim Freeman
Interim City Manager

Enclosure

cc: Havelock Governing Body
Senator Norman Sanderson
Representative George Graham
Representative Michael Speciale

AGREEMENT BETWEEN
THE FEDERAL HIGHWAY ADMINISTRATION,
UNITED STATES ARMY CORPS OF ENGINEERS,
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, AND
THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

FOR

PROPOSED IMPROVEMENTS TO US 70 AND SLOCUM ROAD
CITY OF HAVELOCK, CRAVEN COUNTY
STIP PROJECT R-5516
FEDERAL AID PROJECT # NHS-0070(154)
(WBS-45492.1.1)

NOVEMBER 21, 2013

The following Merger Team members agreed to sign this agreement to concur that the Proposed Improvements to US 70 and Slocum Road should not go into the Merger process after using the screening criteria guidelines contained in the Merger Process Guidelines based on discussions of estimated impacts and the latest project information as of this dated agreement. Should the aquatic impacts increase in association with the proposed project, the Merger Team may revisit placing STIP Project R-5516 into the Merger Process. Appropriate Avoidance and Minimization Measures will be taken in order to reduce impacts to the aquatic environment to the maximum extent practicable.

SIGNATORIES:

By: _____ Date: 11/21/13
Tom Steffens
United States Army Corps of Engineers

By: _____ Date: 11/21/13
David Wainwright
North Carolina Department of Environment and Natural Resources
Division of Water Resources

By: _____ Date: 11-21-13
Ron Lucas
Federal Highway Administration

By: _____ Date: 11-21-13
Matthew Potter
North Carolina Department of Transportation

APPENDIX B

NCDOT RELOCATION ASSISTANCE PROGRAM/ RELOCATION REPORTS

DIVISION OF HIGHWAYS RELOCATION PROGRAMS

It is the policy of NCDOT to ensure comparable replacement housing will be available prior to construction of state and federally-assisted projects. Furthermore, the North Carolina Board of Transportation has the following three programs to minimize the inconvenience of relocation:

- Relocation Assistance
- Relocation Moving Payments
- Relocation Replacement Housing Payments or Rent Supplement

As part of the Relocation Assistance Program, experienced NCDOT staff will be available to assist displacees with information such as availability and prices of homes, apartments, or businesses for sale or rent and financing or other housing programs. The Relocation Moving Payments Program provides for payment of actual moving expenses encountered in relocation. Where displacement will force an owner or tenant to purchase or rent property of higher cost or to lose a favorable financing arrangement (in case of ownership), the Relocation Replacement Housing Payments or Rent Supplement Program will compensate up to $22,500 to owners who are eligible and qualify and up to $5,250 to tenants who are eligible and qualify.

The relocation program for the proposed action will be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), and/or the North Carolina Relocation Assistance Act (GS-133-5 through 133-18). The program is designed to provide assistance to displaced persons in relocating to a replacement site in which to live or do business. At least one relocation officer is assigned to each highway project for this purpose.

The relocation officer will determine the needs of displaced families, individuals, businesses, non-profit organizations and farm operations for relocation assistance advisory services without regard to race, color, religion, sex, or national origin. The NCDOT will schedule its work to allow ample time, prior to displacement, for negotiations and possession of replacement housing which meets decent, safe and sanitary standards. The displacees are given at least a 90-day written notice after NCDOT purchases the property. Relocation of displaced persons will be offered in areas not generally less desirable in regard to public utilities and commercial facilities. Rent and sale prices of replacement property will be within the financial means of the families and individuals displaced and will be reasonably accessible to their places of employment. The relocation officer will also assist owners of displaced businesses, non-profit organizations and farm operations in searching for and moving to replacement property.

All tenant and owner residential occupants who may be displaced will receive an explanation regarding all available options, such as (1) purchase of replacement housing, (2) rental of replacement housing, either private or public, or (3) moving existing owner-occupant

housing to another site (if possible). The relocation officer will also supply information concerning other state and federal programs offering assistance to displaced persons and will provide other advisory services as needed in order to minimize hardships to displaced persons in adjusting to a new location.

The Moving Expense Payments Program is designed to compensate the displacee for the costs of moving personal property from homes, businesses, non-profit organizations and farm operations acquired for a highway project. Under the Replacement Program for Owners, NCDOT will participate in reasonable incidental purchase payments for replacement dwellings such as attorney's fees, surveys, appraisals, and other closing costs and, if applicable, make a payment for any increased interest expenses for replacement dwellings. Reimbursement to owner-occupants for replacement housing payments, increased interest payments and incidental purchase expenses may not exceed $22,500 (combined total), except under the Last Resort Housing provision.

A displaced tenant may be eligible to receive a payment, not to exceed $5,250, to rent a replacement dwelling or to make a down payment, including incidental expenses, on the purchase of a replacement dwelling. The down payment is based upon what the state determines is required when the rent supplement exceeds $5,250.

It is a policy of the State that no person will be displaced by NCDOT's state or federally-assisted construction projects unless and until comparable replacement housing has been offered or provided for each displacee within a reasonable period of time prior to displacement. No relocation payment received will be considered as income for the purposes of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law.

Last Resort Housing is a program used when comparable replacement housing is not available, or when it is unavailable within the displacee's financial means, and the replacement payment exceeds the federal/state legal limitation. The purpose of the program is to allow broad latitude in methods of implementation by the state so that decent, safe and sanitary replacement housing can be provided. It is not believed this program will be necessary on the project, since there appear to be adequate opportunities for relocation within the area.

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

☒ E.I.S. ☐ CORRIDOR ☐ DESIGN

WBS ELEMENT:	45492.1.1	COUNTY	Craven	Alternate A of A Alternate
T.I.P. NO.:	R-5516			
DESCRIPTION OF PROJECT:	US 70 and Slocum Rd. Improvements			

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	0	0	0	0
Businesses	0	0	0	0
Farms	0	0	0	0
Non-Profit	0	0	0	0

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
0	0	0	0	0

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M	0	$ 0-150	0	0-20M	0	$ 0-150	0
20-40M	0	150-250	0	20-40M	0	150-250	0
40-70M	0	250-400	0	40-70M	0	250-400	0
70-100M	0	400-600	0	70-100M	0	400-600	0
100 UP	0	600 UP	0	100 UP	0	600 UP	0
TOTAL	0		0		0		0

ANSWER ALL QUESTIONS

Yes	No		*Explain all "YES" answers.*
	X	1.	Will special relocation services be necessary?
	X	2.	Will schools or churches be affected by displacement?
X		3.	Will business services still be available after project?
	X	4.	Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5.	Will relocation cause a housing shortage?
		6.	Source for available housing (list).
	X	7.	Will additional housing programs be needed?
	X	8.	Should Last Resort Housing be considered?
	X	9.	Are there large, disabled, elderly, etc. families?
	X	10.	Will public housing be needed for project?
X		11.	Is public housing available?
X		12.	Is it felt there will be adequate DSS housing housing available during relocation period?
	X	13.	Will there be a problem of housing within financial means?
X		14.	Are suitable business sites available (list source).
		15.	Number months estimated to complete RELOCATION? N/A

REMARKS (Respond by Number)

There will be no displacees, of any kind, created by this project.

NEGATIVE REPORT

Note: The HTR located on Pine Grove Rd. appears to be vacant and uninhabitable at this time. If the property was to gain occupancy it would not affect the ability of the agent to find ample amounts of DSS comparables.

Note: Computer Steals and Deals, located at the end of the service road, would lose a significant amount of their parking lot. It appears that the property would have an ample amount of room left to recreate the parking lot for their needs.

11/09/2013		11/19/13	
Chris J. Coughlin Right of Way Agent	Date	Relocation Coordinator	Date

FRM15-E

APPENDIX C

CULTURAL RESOURCES REVIEW

Project Tracking No. (Internal Use)

12-08-0111

NO SURVEY REQUIRED FORM

PROJECT INFORMATION

Project No:	R-5516	*County:*	Craven
WBS No:	45492.1.1	*Document:*	CE
F.A. No:	NHS-0070(154)	*Funding:*	☐ State ☒ Federal

Federal (USACE) Permit Required? ☒ Yes ☐ No *Permit Type:*

Project Description:
The proposed project will consider improvements to the intersection of US 70 and Slocum Road in Havelock, Craven County. As a part of the intersection improvements, access to neighboring development (MacDonald Blvd) is likely to be relocated to the north and tied into Pine Grove Road. This relocation would require approximately .5 miles of new location roadway. The project length is approximately 2 miles. The purpose and need of the project is to improve operations at US 70 and Slocum Road by addressing capacity deficiencies and queuing issues associated with access to Marine Corps Air Station (MCAS) Cherry Point via Slocum Road. The APE consists of the study area shown on the project map (see attached).

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions:
Review of HPO quad maps, HPOweb GIS mapping, historic designations roster, and indexes was conducted on 9/6/12. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects (APE). The CRS also reviewed Craven County GIS and tax records which revealed a few mid-century houses and one ca. 1942 cottage within the project APE. The mid-century houses located along US 70 are not architecturally significant enough individually to warrant consideration for eligibility to the NRHP. The 1942 cottage, according to tax records, is a one-story, frame house with metal hipped roof and partially enclosed, partially open porch. Because it is sighted off the military installation and far from any other type of Marine Corps-related construction, it is unlikely that it would possess historical significance connected to the military enough to merit consideration for the NRHP under Criterion A. Neither is it architecturally significant enough to merit consideration under Criterion C, and its context appears to have been compromised with the surrounding new development. Additionally, all other construction within the project APE has not reached the age of fifty years old. Thus, a survey is not required for this project.

Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:
HPO quad maps, HPOweb GIS mapping, Craven County tax/property records, Google maps and Google Street View are considered valid tools for the purposes of determining the likelihood of historic resources being present. A survey is not required for this project.

SUPPORT DOCUMENTATION

See attached: Map(s), Google Street View images, Craven County property records, project plans.

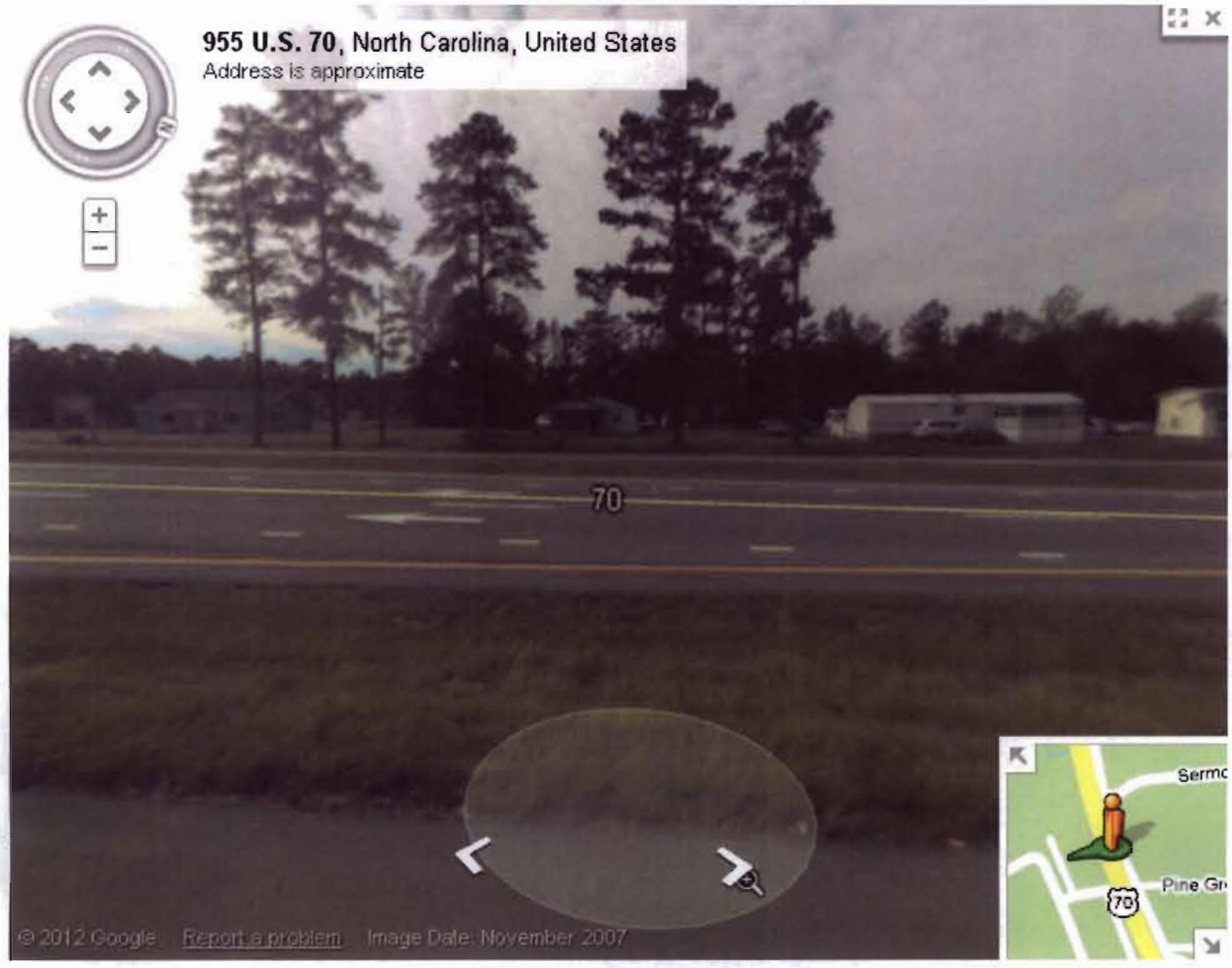
12-08-0111

FINDING BY NCDOT CULTURAL RESOURCES PROFESSIONAL NO SURVEY REQUIRED

ARCHAEOLOGY HISTORIC ARCHITECTURE (CIRCLE ONE)

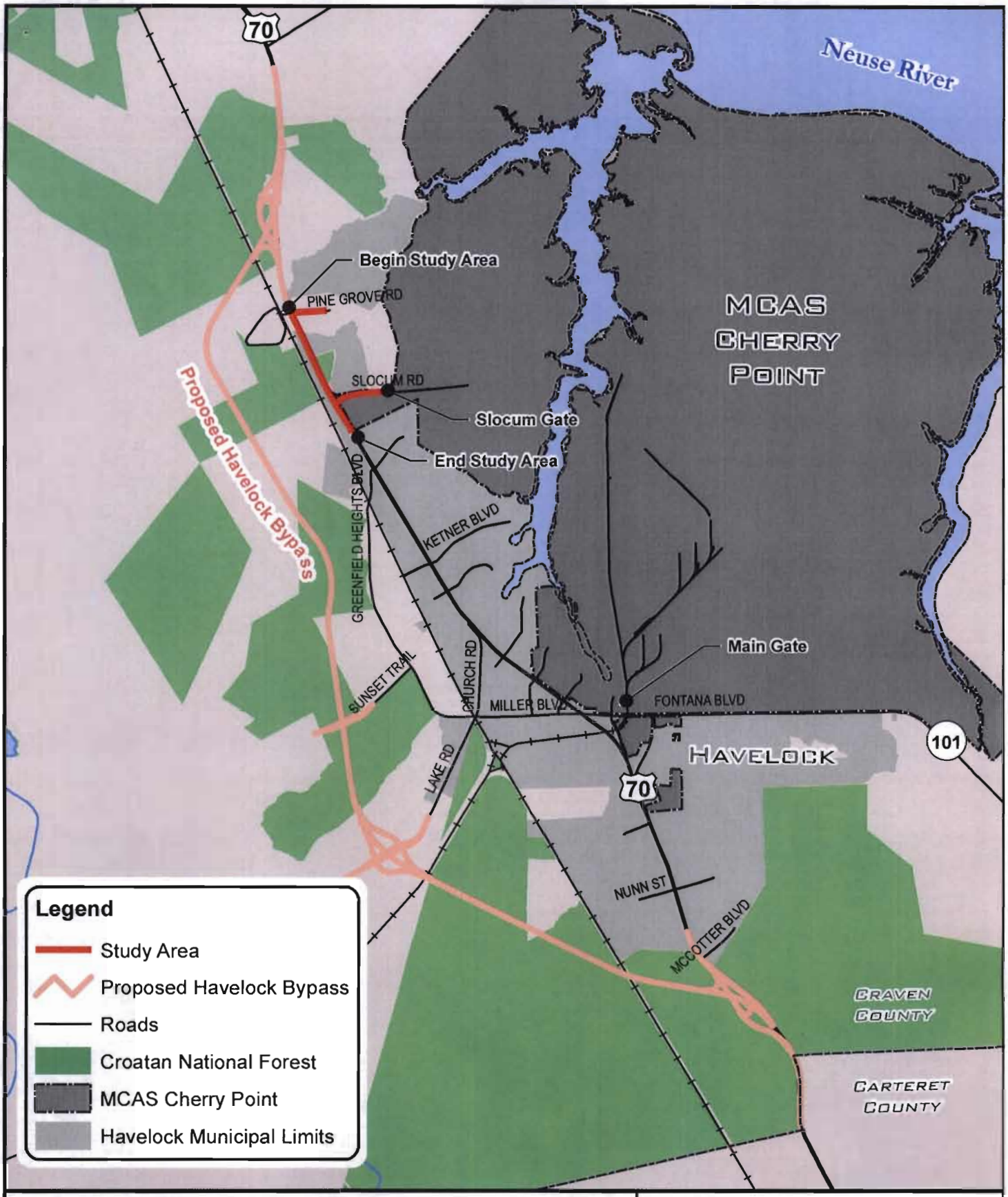
Megan Pruitt 9/7/12

NCDOT Cultural Resources Specialist Date



MID-CENTURY HOUSES ON US 70, FACING WEST, CRAVEN COUNTY. COURTESY OF GOOGLE STREET VIEW.

US 70, FACING NORTHWEST, CRAVEN COUNTY. COURTESY OF GOOGLE STREET VIEW.



Vicinity Map

Improved Highway Intersection
(US Highway 70 and Slocum Road)
Havelock, North Carolina

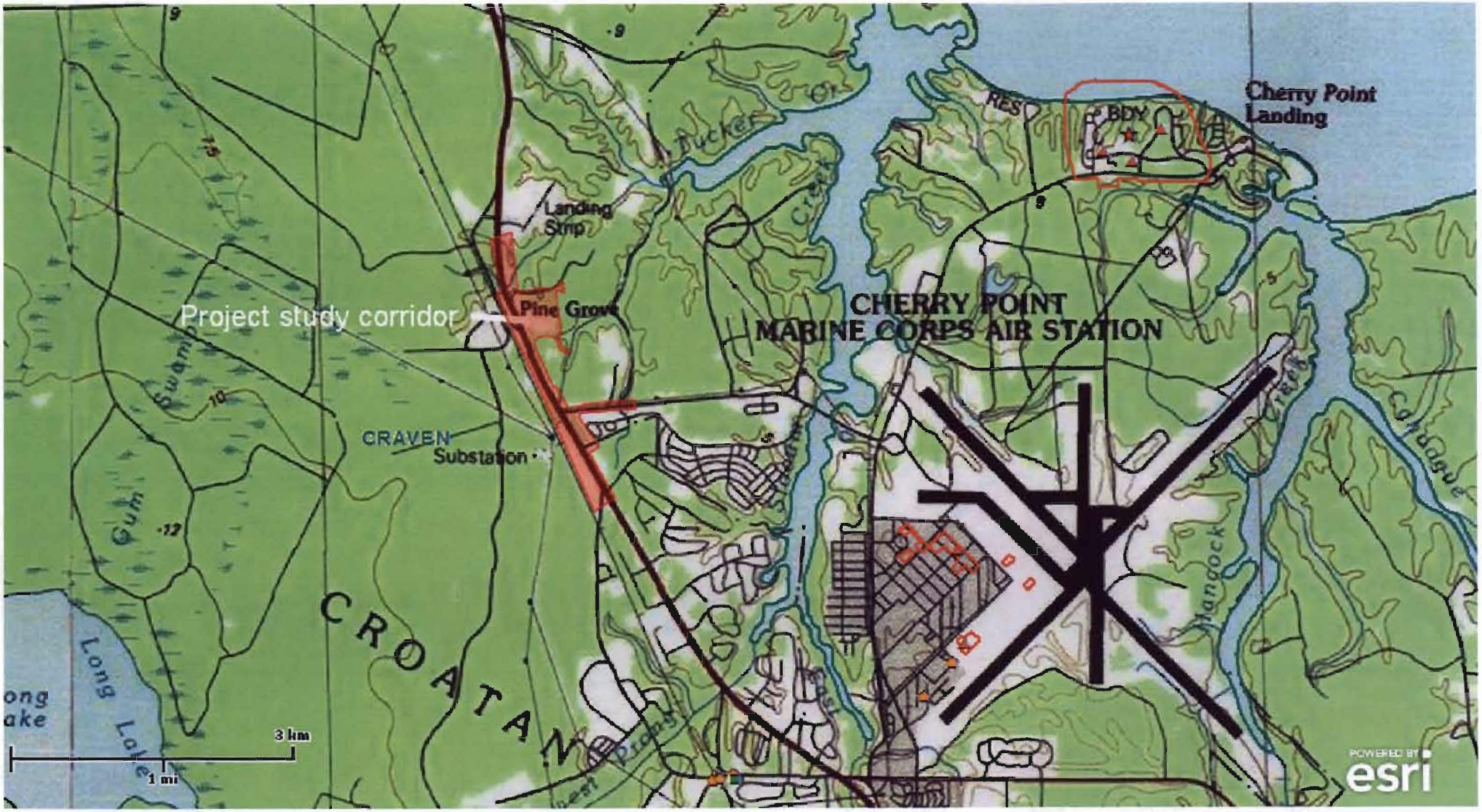
Date: 02-12

MCAS Cherry Point, North Carolina

Figure 1

NC HPO GIS

Craven County



NC HPO GIS

Craven County

Craven County Geographic Information System

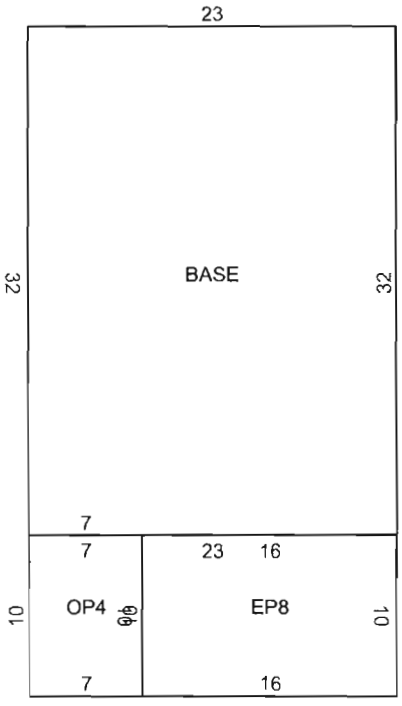
Craven County does NOT warrant the information shown on this page and should be used ONLY for tax assessment purposes.

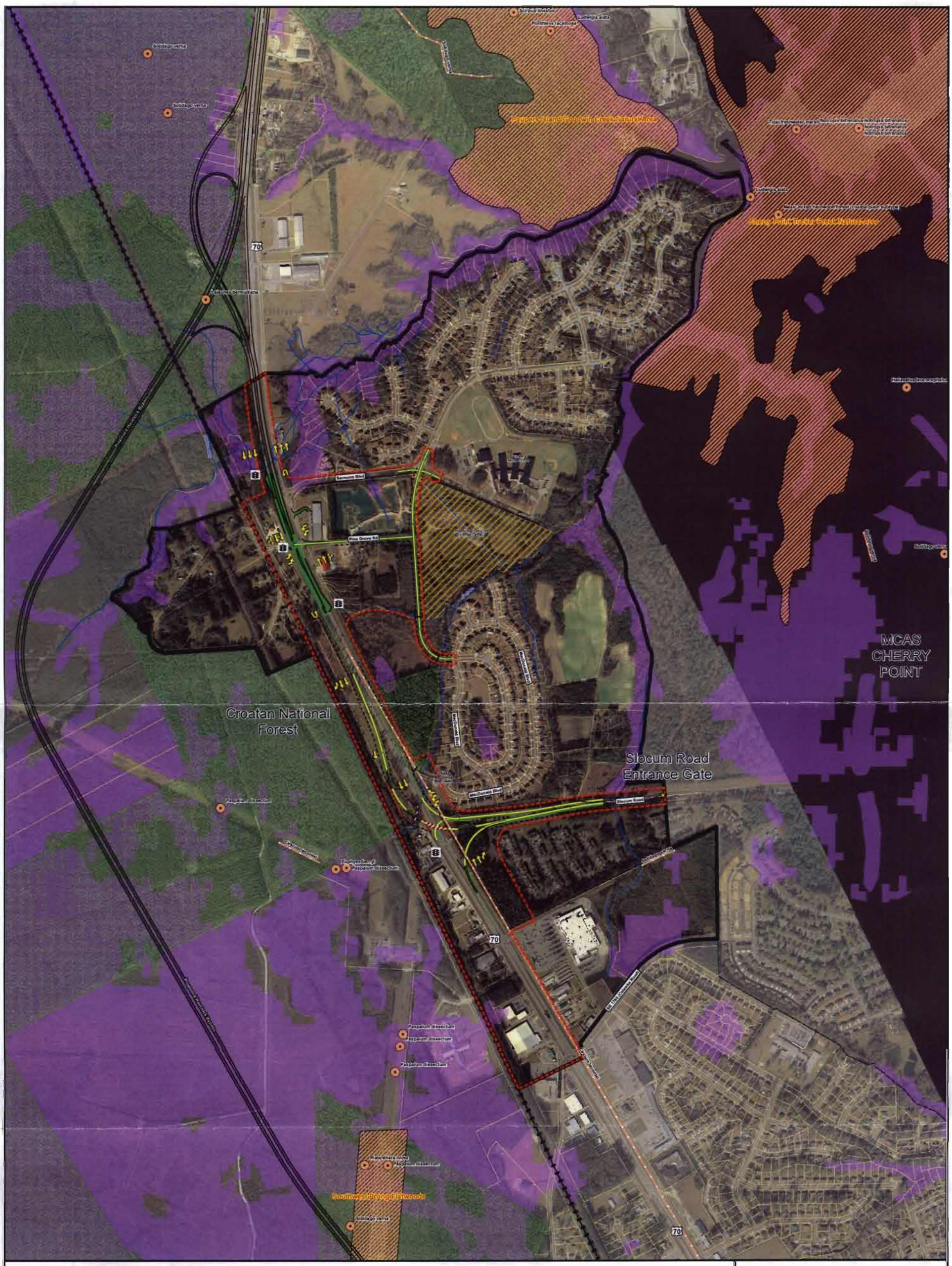
Parcel ID: 6-034 -001 Building Number: 1 - 1

Type:	RESIDENTIAL CONSTRUCTION	**Value:**	$17,760
Base Area:	736	**Year Built:**	1942
Rooms:	6	**Bedrooms:**	3
Bathrooms (Full.Half):	1	**Heating:**	FLOOR-WALL-GRAVITY FURNACE
Electric:	AVERAGE SERVICE	**Plumbing:**	COMPLETE AVERAGE
Foundation:	SLAB AT/NEAR GRADE	**Exterior Walls:**	WOOD FRAME-ECONOMY SIDING
Roof Type:	HIP	**Roof Material:**	METAL-ECONOMY
Floors:	FINISHED WOOD FLOOR-AVERAGE	**Interior Finish:**	FINISHED DW/PLASTER-AVERAGE
Attached Garage:	No	**Basement:**	No

Number of Stories: 1

Click here for a description of sketch appendage codes.
The sketch below ONLY shows the primary floor or level of the structure.



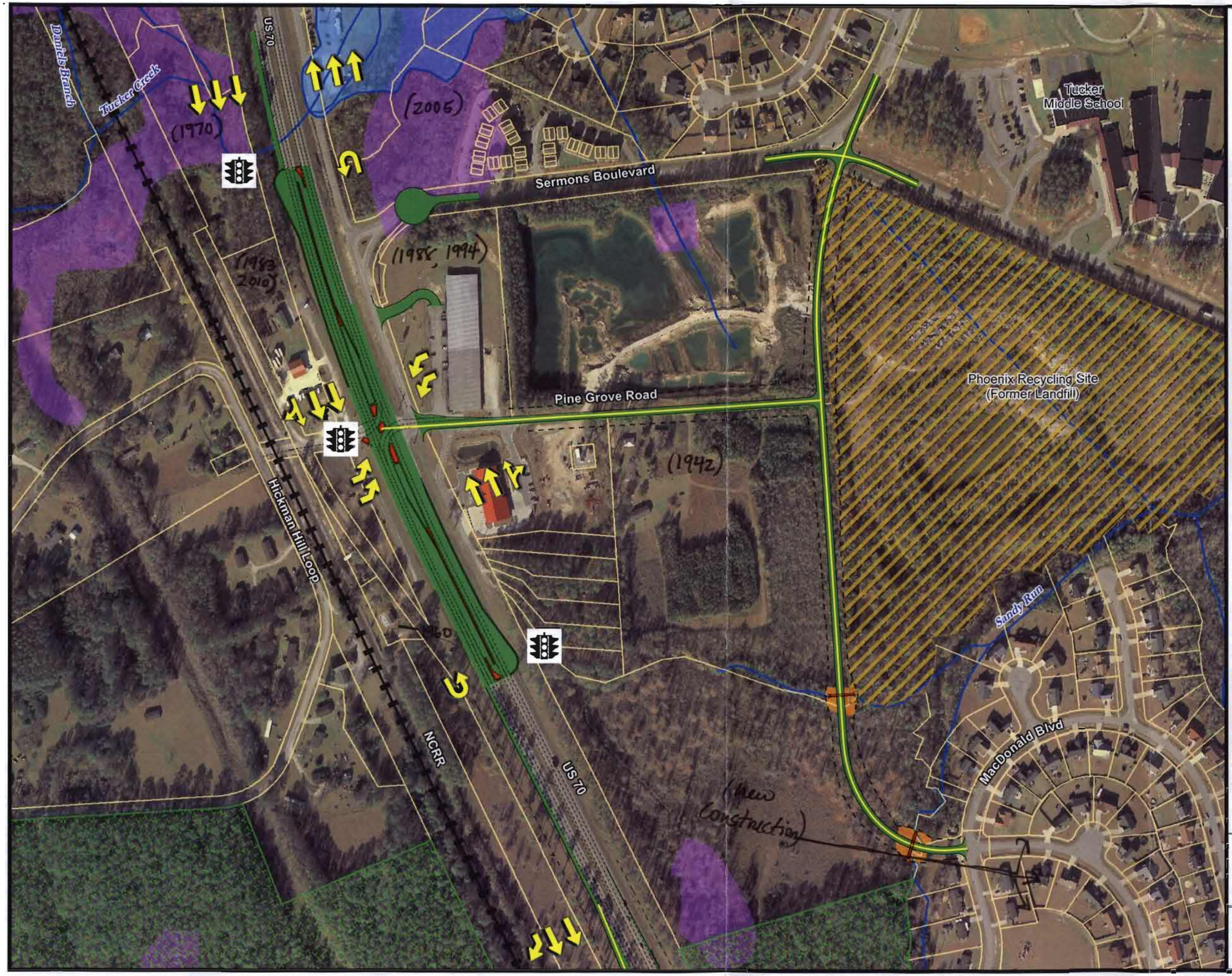


Environmental Input Request

US Highway 70 and Slocum Road
TIP Project Number R-5516

Havelock, North Carolina

Date:
08-2012



N

0 150 300

Feet

LEGEND

- Streams
- Parcels
- Delineated Wetlands
- CREWS Wetland
- Croatan National Forest
- Proposed Travel Surface
- Proposed Monolithic Island
- Proposed Structure
- Proposed Retaining Wall
- Construction Limits
- Proposed Two-Phase Signal
- Potential Hazardous Materials Site
- MCAS AST
- MCAS UST
- Traffic Movement

Feasibility Study Concept

Flyover Design
(US Highway 70 and Slocum Road)

Date: 02-12	MCAS Cherry Point, North Carolina	Figure 2a

N

0 150 300

Feet

LEGEND

- Streams
- Parcels
- Delineated Wetlands
- CREWS Wetland
- Croatan National Forest
- Proposed Travel Surface
- Proposed Monolithic Island
- Proposed Structure
- Proposed Retaining Wall
- Construction Limits
- Proposed Two-Phase Signal
- Potential Hazardous Materials Site
- MCAS AST
- MCAS UST
- Traffic Movement

Feasibility Study Concept

Flyover Design
(US Highway 70 and Slocum Road)

Date: 02-12	MCAS Cherry Point, North Carolina	Figure 2b

NoB – Norfolk loamy fine sand, 2 to 6% slopes; well-drained on low ridges. cropland

~~MM – Meggsfown mucky fine sandy loam & Muckalee sandy loam, frequently~~ Flooded; poorly drained & very poorly drained soils

CrB – Craven silt loam, 1 to 4% slopes; moderately well-drained on low ridges & side slopes; cropland.

Le – Lenoir silt loam - nearly level & somewhat poorly drained; mainly as woodland.

On – Onslow loamy sand - nearly level & moderately well-drained; mainly woodland