

**Proposed SR 1409 (Military Cutoff Road) Extension and
Proposed US 17 Hampstead Bypass
New Hanover and Pender Counties
State Project 40191.1.2
NCDOT STIP Projects U-4751 and R-3300**

ADMINISTRATIVE ACTION

N. C. DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STATE RECORD OF DECISION

In Compliance with the North Carolina Environmental Policy Act



SEPTEMBER 2014

Additional information regarding this action may be obtained by contacting:

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PROJECT COMMITMENTS

Proposed Military Cutoff Road Extension and
Proposed US 17 Hampstead Bypass
New Hanover and Pender Counties
State Project 40191.1.2
STIP Projects U-4751 and R-3300

Project Development and Environmental Analysis Unit

- Additional coordination with the US Fish and Wildlife Service regarding the project's potential effects on endangered species will be conducted prior to submitting the Section 404 permit application to the US Army Corps of Engineers.
- If red-cockaded woodpecker foraging habitat ceases to exist at the northern interchange at the time NCDOT applies for authorization from the US Army Corps of Engineers to construct the project, the Department will revisit the original interchange design, known as Alternative E-H ORIG. As currently described, Alternative E-H ORIG would further minimize wetland impacts compared to Alternative E-H with Option 6TR, which is the selected alternative.
- Memorandums of Agreement will be prepared between the US Army Corps of Engineers, the State Historic Preservation Office, and NCDOT for Mount Ararat AME Church and archaeological site 31PD344**. The US Army Corps of Engineers will serve as the lead federal agency with respect to compliance with Section 106 of the National Historic Preservation Act.
- The preliminary traffic noise analysis conducted for the project found five locations where noise barriers may be feasible and reasonable for the selected alternative. A more detailed review will be completed during project final design to determine whether these or other noise barriers are feasible and reasonable.
- The red knot and the northern long-eared bat are proposed for listing by the USFWS as threatened and/or endangered species. The listings may become effective as soon as October 2014. These species are not included in USFWS's current list of protected species for New Hanover and Pender Counties. NCDOT is working closely with USFWS to understand how these proposed listings may impact NCDOT projects. NCDOT will continue to coordinate appropriately with USFWS to determine if this project will incur potential effects to the red knot and northern long-eared bat, and how to address these potential effects, if necessary.

Project Development and Environmental Analysis Unit and Roadway Design Unit

NCDOT will continue to explore options to avoid and minimize impacts to jurisdictional resources with the proposed US 17 Hampstead Bypass service roads and will seek formal concurrence from the merger team after all service road options have been explored.

Roadway Design Unit, Hydraulics Unit, Roadside Environmental Unit and Division 3

- Howe Creek has been designated an outstanding resource water (ORW) by the North Carolina Division of Water Resources (NCDWR). Tributaries of this stream (BDITCH1) are designated ORW due to the classification of their receiving waters. Design Standards in Sensitive Watersheds will be implemented for BDITCH1 during project construction.
- Old Topsail Creek and Nixons Creek are designated as Commercial Shellfishing, High Quality Waters (SA; HQW) by NCDWR. Tributaries of these streams (NSA, NSF, NDITCH1 and ZTRIB1) are designated SA; HQW due to the classification of their receiving waters. Design Standards in Sensitive Watersheds will be implemented for these streams during project construction.

Roadway Design Unit and Hydraulics Unit

3:1 slopes are proposed in wetland areas and adjacent to streams.

Division 3 Construction

- Areas within 750 feet of Cape Fear Public Utility Authority (CFPUA) wellheads will be treated as environmentally sensitive areas during construction. NCDOT will require the contractor to use orange fencing and post signs to identify these areas as environmentally sensitive. Staging areas and refueling will not be permitted within the environmentally sensitive areas.
- No right-of-way acquisition or construction will occur within a 100-foot radius around the Belvedere Subdivision well and access to the well site will be maintained. The well is located between existing US 17 and North Belvedere Drive in Hampstead.

Roadway Design Unit and Division 3

- The Special Provisions for the Military Cutoff Road Extension (Project U-4751) will include a requirement for the contractor to educate their employees that project construction is occurring within a wellhead protection area.
- NCDOT will require the contractor for Military Cutoff Road Extension to provide a mobile response spill kit on site during construction. At the end of project construction the kit will be transferred to the Cape Fear Public Utility Authority. The CFPUA has agreed to provide a place to store the kit at their water treatment plant located adjacent to the proposed Military Cutoff Road Extension.

Roadway Design Unit and Transportation Program Management

- NCDOT will coordinate with local officials as the project progresses regarding the status of local greenway plans and proposed walking trails.
- The Wilmington Metropolitan Planning Organization (MPO) has requested the inclusion of a multi-use path along proposed Military Cutoff Road Extension. The multi-use path would tie into an existing multi-use path along Military Cutoff Road. The construction of a multi-use path as part of the proposed project will be dependent upon a cost-sharing and maintenance agreement between NCDOT and the Wilmington MPO. NCDOT will continue to coordinate with the Wilmington MPO on the inclusion of the multi-use path along Military Cutoff Road Extension.

Roadway Design Unit and Utilities Section

NCDOT will coordinate with the Pender County School System regarding impacts of the proposed Hampstead Bypass on the Topsail Schools complex's wastewater treatment facility during the project's right-of-way phase.

Roadway Design Unit

- Well locations and a 100-foot buffer around the wells will be depicted on final construction plans for proposed Military Cutoff Road Extension.
- NCDOT will further investigate ways to avoid impacts to the Corbett Tract and the Plantation Road Mitigation sites during detailed project design. If possible, no right-of-way will be acquired from these sites.
- The U-turn bulb-out on Military Cutoff Road Extension just north of the Cape Fear Public Utility Authority Nano Water Treatment Plant will not be placed in the adjacent wetland (Wetland CWA).

Hydraulics Unit

- The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT's Memorandum of Agreement with FMP (dated April 22, 2013), or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).
- NCDOT will review the existing permit requirements for all stormwater ponds impacted by Military Cutoff Road Extension to ensure the permitted treatment requirements are maintained under post-construction conditions.

Roadway Design Unit and Structure Design Unit

- Bicycle safe bridge railing will be provided on the NC 210 bridge over the US 17 Hampstead Bypass. Four-foot paved shoulders will be provided on NC 210 within the project limits.
- A retaining wall will be provided on the west side of proposed Military Cutoff Road Extension south of Putnam Drive to avoid impacts to Wetland PD-01.

- The use of retaining walls will be evaluated at stormwater ponds BPE and BPF, which are located on the east side of Military Cutoff Road Extension between Lendire Road and Torchwood Boulevard.

Division 3

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying the drainage structure(s) and roadway embankment located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

Geotechnical Unit

Military Cutoff Road Extension may impact five properties that either have or formerly had underground storage tanks. US 17 Hampstead Bypass Alternative E-H may impact one property that either has or formerly had underground storage tanks. Preliminary site assessments to identify the nature and extent of any contamination will be performed at any potential hazardous materials sites prior to right-of-way acquisition.

1.0 DECISION

The proposed action involves construction of SR 1409 (Military Cutoff Road) Extension in New Hanover County and the US 17 Hampstead Bypass in New Hanover and Pender Counties. The North Carolina Department of Transportation (NCDOT) selects the preferred alternative, Alternative M1+E-H, as the proposed action for this project (see Figure 1).

Military Cutoff Road Extension will be constructed as a six-lane divided roadway on new location from its current terminus at US 17 Business (Market Street) in Wilmington north to an interchange with the US 17 Wilmington Bypass (John Jay Burney Jr. Freeway). Limited and full control of access is proposed. The US 17 Hampstead Bypass will be constructed as a freeway mostly on new location. The US 17 Hampstead Bypass will connect to the proposed Military Cutoff Road Extension at the existing US 17 Wilmington Bypass and extend to existing US 17 north of Hampstead. Full control of access is proposed for the US 17 Hampstead Bypass. The total length of the selected alternative for the two projects is approximately 17.5 miles.

The amended 2012-2020 State Transportation Improvement Program (STIP) identifies Military Cutoff Road Extension as Project U-4751 and the US 17 Hampstead Bypass as Project R-3300. According to the amended STIP, right-of-way acquisition and construction for Project U-4751 are scheduled to begin in State Fiscal Years (SFY) 2015 and 2017, respectively. Right-of-way for Project R-3300 is scheduled to begin in SFY 2017. Construction for Project R-3300 is currently unfunded in the amended STIP.

The purpose of the project is to improve the traffic carrying capacity and safety of the US 17 and Market Street corridor in the study area.

2.0 ALTERNATIVES CONSIDERED

Preliminary study alternatives considered for the project included the following:

- No-Build Alternative
- Transportation Systems Management (TSM) Alternative
- Travel Demand Management (TDM) Alternative
- Mass Transit Alternatives
- Build Alternatives

It was determined the No-Build, TSM, TDM, and Mass Transit alternatives would not meet the purpose of and need for the project; therefore, these alternatives were eliminated from further consideration.

Twenty-three preliminary build alternatives were developed for Hampstead Bypass, including an alternative that would improve the existing facility (Alternative Z). Two preliminary build alternatives were developed for Military Cutoff Road Extension. Figure 2 shows the preliminary build alternatives. Nine preliminary build alternatives were eliminated from further consideration because either they would not meet the purpose and need for the proposed project or they had constructability issues.

The preliminary build alternatives meeting the purpose and need for the proposed project and with the least impacts to the human and natural environments were identified as detailed study alternatives in August 2007. As shown in Figure 3, two new location detailed study alternatives were selected for Military Cutoff Road Extension (U-4751), and ten new location and one improve existing detailed study alternatives were selected for Hampstead Bypass (R-3300). A total of 13 detailed study alternatives for the overall project were created by combining the individual alternatives for the Military Cutoff Road Extension and the Hampstead Bypass sections of the proposed project. Following detailed environmental surveys and preliminary detailed designs, two build alternatives for Military Cutoff Road Extension (M1 and M2) and four build alternatives for Hampstead Bypass (E-H, O, R, and U) were carried forward as detailed study alternatives in the July 2011 Draft Environmental Impact Statement (DEIS). Based on the combinations possible by combining the detailed study alternatives for the Military Cutoff Road Extension and the US 17 Hampstead Bypass portions of the project, five detailed study alternatives were analyzed in the DEIS for the overall project: M1+E-H, M2+O, M1+R, M1+U, and M2+U (see Figure 4). Table 1 presents a comparison of the impacts of NCDOT's preferred alternative and the DEIS detailed study alternatives.

Table 1. Detailed Study Alternatives Comparison

FEATURE ¹	Alternative				
	M1+E-H (Preferred Alternative) ²	M2+O	M1+R	M1+U	M2+U
Length (miles)³	17.5 (22.27)	16.6 (19.23)	17.1 (21.52)	18.0 (21.16)	16.8 (19.51)
Delineated Wetland Impacts (acres)	261.19	384.42	297.24	218.35	283.77
Delineated Stream Impacts (linear feet)	22,552	13,842	24,571	15,450	8,786
Delineated Surface Water Impacts					
• Ponds with a connection to tributary waters (acres)	3.61	1.90	1.76	1.89	1.89
• Ponds with no connection to tributary waters (acres)	1.42	2.42	2.42	1.88	1.88
• Tributary waters determined to be jurisdictional based on the presence of an OHWM (acres) ⁴	0.725	Included in stream impacts in DEIS			
Displacements					
• Residential	60	60	59	93	95
• Business	35	76	76	91	91
• Non-profit	3	5	5	11	11
Red-cockaded Woodpecker Cluster-Level Take	1	1	1	1	1

Table 1. Detailed Study Alternatives Comparison *continued*

FEATURE ¹	Alternative				
	M1+E-H (Preferred Alternative) ²	M2+O	M1+R	M1+U	M2+U
Other Federally-Protected Species Impacts	1	3	3	1	1
Natural Heritage Program SNHA, Managed Areas, and Wetland Mitigation Sites (acres)	4.33	42.94	5.01	3.24	34.40
Prime and Unique Farmland Soils (acres)	501 ⁵	58	58	50	50
Forest (acres)	546.40	506.24	466.45	405.65	454.80
100-Year Floodplain and Floodway Impacts (acres)	33.08	25.48	25.48	22.20	22.20
Historic Properties (no.)	1	1	1	3	3
Noise Receptor Impacts⁶	232	213	220	292	289
Recorded and NRHP-Eligible Archaeological Sites (no.)	1	1	1	1	1
Wildlife Refuge/Game Lands (acres)	0	0	0	0	0
Recreational Areas/Parks (no.)	0	0	0	0	0
High Quality Waters Watershed (HQW, ORW, WS Protected or Critical Areas) (acres)	20.72	9.6	9.6	12.4	12.4
Public Water Supply Wells (100-foot Buffer)	0	0	0	0	0
Cemeteries (no.)	2	2	2	5	5
Potential UST/Hazmat Sites (no.)	6	5	5	5	5
Total Cost (in millions)	\$458.9	\$376.3	\$372.9	\$416.5	\$410.6

¹Impact calculations are based on preliminary design slope stake limits plus an additional 25 feet.

²Impacts for NCDOT's preferred alternative are based on the revised preliminary design presented in the FEIS including the additional northern interchange, the proposed service roads, and the Lendire Road improvements, as well as avoidance and minimization measures incorporated to date.

³Length in parenthesis () includes proposed service roads and proposed Lendire Road improvements.

⁴These waters are classified as 'Waters of the US' (impacts calculated in acres) and will not require compensatory mitigation.

⁵NRCS impact calculation methodology changed in August 2012 (see Section 4.3.3 of the FEIS). A similar increase would be expected for all of the DEIS detailed study alternatives using the new methodology.

⁶Impacts are based on the DEIS preliminary design with updates in accordance with the current (July 2011) NCDOT Traffic Noise Abatement Policy (see Table 4-3 in Section 4.3.1.1 of the FEIS). A more detailed review of impacts will be completed during project final design and recommended noise barrier locations will be reviewed.

3.0 SELECTED ALTERNATIVE

Alternative M1+E-H, described in Appendix A and shown on Figure 5 and Figures 6A through 6G, is the selected alternative for the proposed Military Cutoff Road Extension (U-4751) and US 17 Hampstead Bypass (R-3300) projects.

Alternative M1+E-H is the selected alternative for the following reasons:

- Alternative M1+E-H is expected to have the fewest impacts to federally-protected species. Cooley's meadowrue stems were found in very close proximity to the right-of-way for Alternatives M2+O and M1+R. A number of rough-leaved loosestrife stems were found within the right-of-way for Military Cutoff Road Extension Alternative M2, which would affect Alternatives M2+O and M2+U.
- Alternative M2 would impact the Plantation Road Mitigation Site, which was in part set aside as a preservation area for rough-leaved loosestrife as a result of a 2002 USFWS Biological Opinion for the US 17 Wilmington Bypass (R-2405A).
- Alternative M1+E-H would have fewer impacts to the NCDOT mitigation sites within the study area, as well as to Significant Natural Heritage Areas (SNHAs), than Alternatives M2+O, M2+U, and M1+R.
- Alternatives M1+U and M2+U would have more residential and business relocations, greater noise impacts, greater impacts to cultural resources, more impacts to High Quality Waters watersheds than Alternatives M1+E-H, M2+O, and M1+R.
- Alternative M2+O would have more impacts to federally-protected species, existing and proposed future Cape Fear Public Utility Authority (CFPUA) water supply infrastructure, wetlands, and ponds. Alternative M2+O also would have more impacts to the NCDOT mitigation sites within the study area, as well as to SNHAs.
- Alternative M1+E-H would have fewer wetland, pond, and stream impacts than Alternative M1+R.

The NEPA/Section 404 merger team concurred with the selection of Alternative M1+E-H at a merger team meeting held on May 17, 2012. The selection of Alternative M1+E-H for the proposed projects was announced in an August 2012 newsletter sent to area residents.

4.0 MEASURES TO MINIMIZE HARM

During the development of Alternative M1+E-H, the following changes were made to the project design in order to minimize impacts to wetlands and streams:

- 3:1 slopes are proposed in wetland areas and adjacent to streams.
- The project design was modified to incorporate a retaining wall and guardrail to minimize impacts to stormwater ponds in the Food Lion shopping center, located on the west side of existing Military Cutoff Road just south of Market Street.
- Loops and ramps in the Military Cutoff Road Extension interchange at Market Street were tightened, reducing wetland impacts by 0.89 acre. Impacts to a surface water were reduced by 1,911 square feet.

- A retaining wall was added on the west side of the proposed roadway south of Putnam Drive to avoid impacts to wetland PD-01 (-0.07 acre).
- Military Cutoff Road Extension north of Torchwood Boulevard was realigned in the vicinity of the Cape Fear Public Utility Authority's Nano Water Treatment Plant. Wetland impacts were reduced by 0.78 acre and stream impacts were reduced by 677 feet.
- The design was revised at the Military Cutoff Road Extension interchange with the US 17 Wilmington Bypass. The ramp in Quadrant D was pulled in, reducing wetland impacts by 1.16 acres.
- US 17 Hampstead Bypass was realigned in the vicinity of Harrison Creek Road. Wetland impacts were reduced by 4.77 acres. Impacts to streams were reduced by 5.93 linear feet.
- US 17 Hampstead Bypass was realigned in the vicinity of the NC 210 interchange. Wetland impacts were reduced by 0.78 acre and stream impacts were reduced by 258 linear feet.
- US 17 Hampstead Bypass was realigned in the vicinity of Holiday Drive. Wetland impacts were reduced by 7.99 acres. However, the shift results in additional impacts to streams of 332 linear feet.

In addition to the minimization measures listed above, Design Standards for Sensitive Watersheds will be implemented during project construction for all tributaries of streams within the study area designated as HQW or ORW due to the classification of their receiving waters.

The NEPA/Section 404 merger team concurred on avoidance and minimization measures for the proposed Military Cutoff Road Extension on September 25, 2012. A copy of the signed September 2012 Avoidance and Minimization concurrence form for the Military Cutoff Road Extension is included in Appendix C of the July 2014 FEIS. The merger team subsequently concurred on avoidance and minimization measures for the proposed US 17 Hampstead Bypass on June 13, 2013, with USEPA abstaining. A copy of the signed June 2013 Avoidance and Minimization concurrence form for the US 17 Hampstead Bypass is also included in Appendix C of the July 2014 FEIS, along with USEPA's abstention brief.

The merger team discussed avoidance and minimization measures for proposed service roads for the two projects at a merger team meeting on January 22, 2014. The merger team agreed on the locations of, as well as avoidance and minimization measures for, the two proposed service roads for Military Cutoff Road Extension. The revised concurrence form for Military Cutoff Road Extension was signed on April 23, 2014. A copy of the revised April 2014 form is included in Appendix C of the July 2014 FEIS. The merger team also agreed on avoidance and minimization measures for Service Road 6 for the US 17 Hampstead Bypass, but did not agree on the locations of all of the proposed service roads for the Bypass. As documented in the Project Commitments section of this State Record of Decision (SROD), NCDOT will continue to explore options to avoid and minimize impacts to jurisdictional resources with the proposed US 17 Hampstead Bypass service roads and will seek formal concurrence from the merger team after all options have been explored. Although formal concurrence has not been received for avoidance and minimization measures for the US 17 Hampstead Bypass service roads, the impacts identified in this SROD for the selected alternative reflect the incorporation of the agreed upon avoidance and minimization measures for the service roads for both projects. Proposed measures to minimize harm to jurisdictional resources are documented in the Project Commitments section of this SROD. Further minimization measures will also be considered as the project progresses.

5.0 UNRESOLVED ISSUES

There are no major outstanding issues related to this project. Project commitments discussed in the “Project Commitments” section of this SROD will be implemented during the appropriate project phase. Coordination with the public, local officials, and state and federal resource agencies will continue as this project progresses through final design, right-of-way acquisition, and construction.

The following issues will be resolved as the project progresses:

- Memorandums of Agreement will be prepared between the US Army Corps of Engineers, the State Historic Preservation Office, and NCDOT for Mount Ararat AME Church and archaeological site 31PD344**. The US Army Corps of Engineers will serve as the lead federal agency with respect to compliance with Section 106 of the National Historic Preservation Act.
- NCDOT will continue to explore options to avoid and minimize impacts to jurisdictional resources with the proposed US 17 Hampstead Bypass service roads and will seek formal concurrence from the merger team after all service road options have been explored
- Additional coordination with the US Fish and Wildlife Service regarding the project’s potential effects on endangered species will be conducted prior to submitting the Section 404 permit application to the US Army Corps of Engineers.

6.0 CONCLUSION

This final statement is in conformance with applicable provisions of the North Carolina Environmental Policy Act and satisfactorily describes the anticipated environmental impacts, including physiographic and cultural effects. Comments on the FEIS have been reviewed, and no new substantive issues or impacts were identified; therefore, the FEIS remains valid. All avoidance and minimization measures identified in the FEIS will be incorporated into the project.

Based on the analysis and evaluation contained in this project’s FEIS and after careful consideration of all social, economic, and environmental factors and input from the public involvement process, NCDOT selects the preferred alternative, Alternative M1+E-H, as the proposed action for this project.

9/30/2014 | 1:58 PM ET

Date

FOR

DocuSigned by:

Robert P Hanson

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Richard W. Hancock, P.E.

Manager

Project Development and Environmental Analysis Unit
North Carolina Department of Transportation

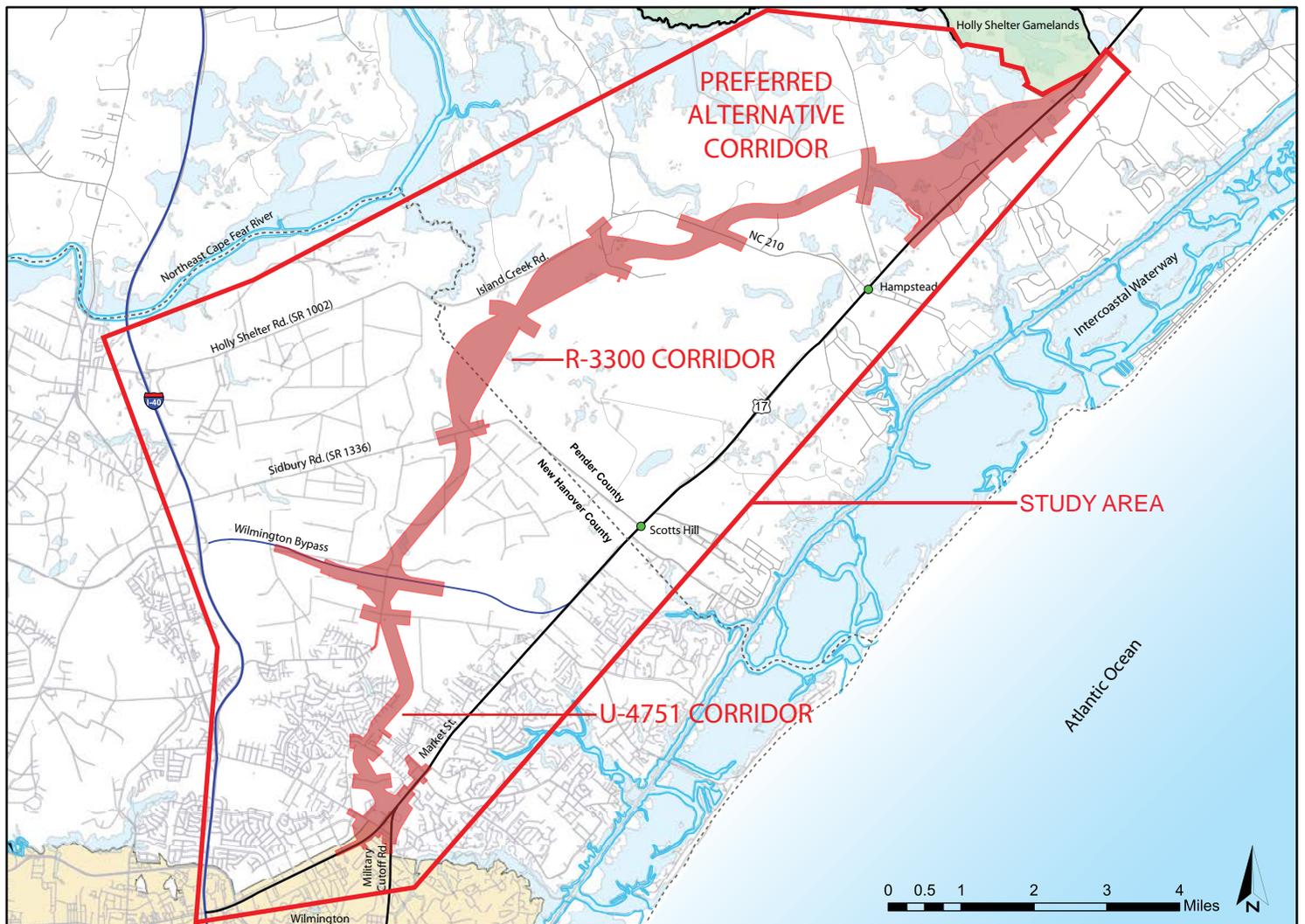
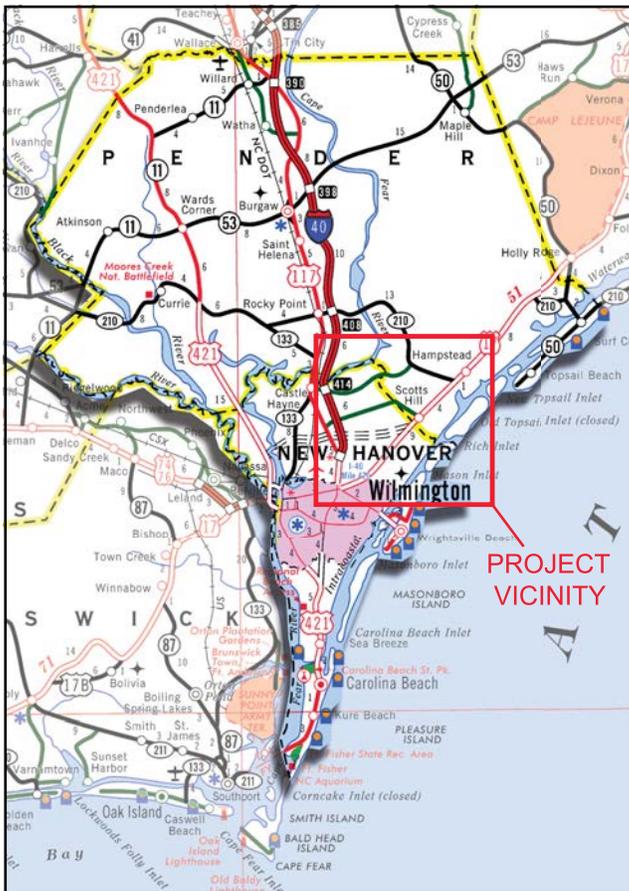
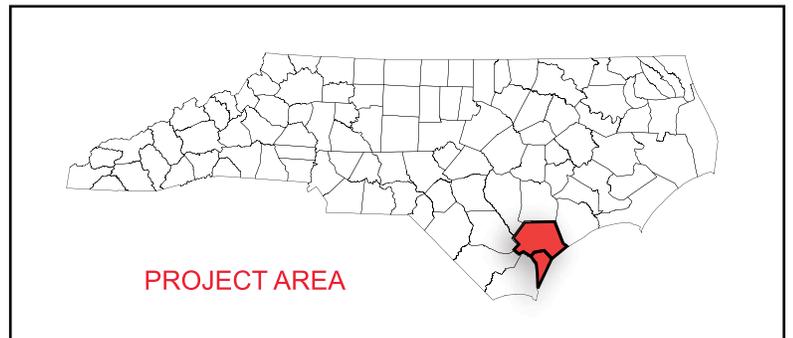
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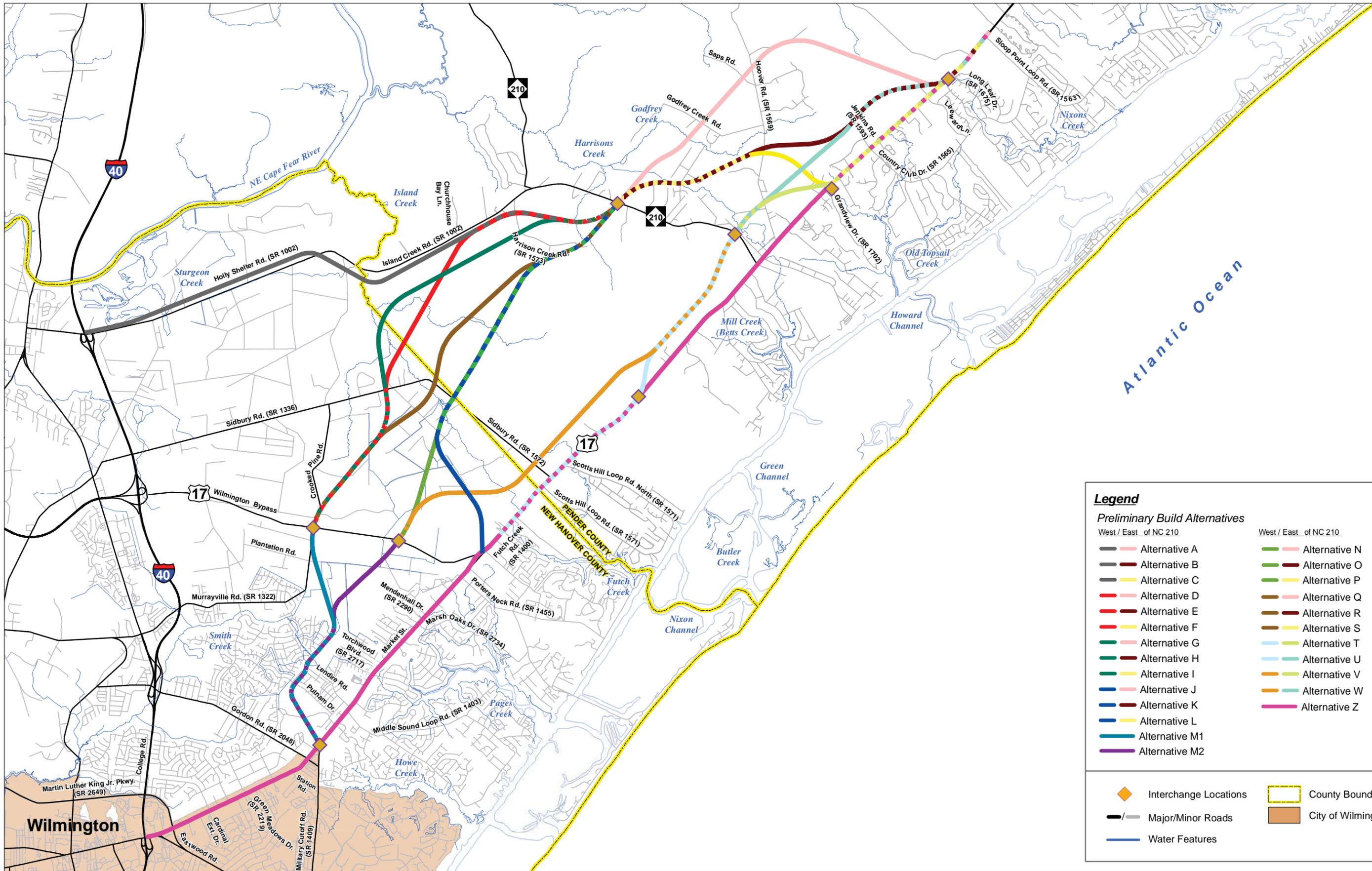
PROJECT VICINITY

US 17 Corridor Study
NCDOT TIP Nos. U-4751 and R-3300
New Hanover and Pender Counties



North Carolina
Department of Transportation





Legend

Preliminary Build Alternatives

<u>West / East of NC 210</u>		<u>West / East of NC 210</u>	
— Alternative A	— Alternative B	— Alternative C	— Alternative D
— Alternative E	— Alternative F	— Alternative G	— Alternative H
— Alternative I	— Alternative J	— Alternative K	— Alternative L
— Alternative M1	— Alternative M2	— Alternative N	— Alternative O
— Alternative P	— Alternative Q	— Alternative R	— Alternative S
— Alternative T	— Alternative U	— Alternative V	— Alternative W
— Alternative X	— Alternative Y	— Alternative Z	

◆ Interchange Locations	▭ County Boundary
— Major/Minor Roads	▭ City of Wilmington
— Water Features	

Prepared by: MULKEY
 Prepared for:

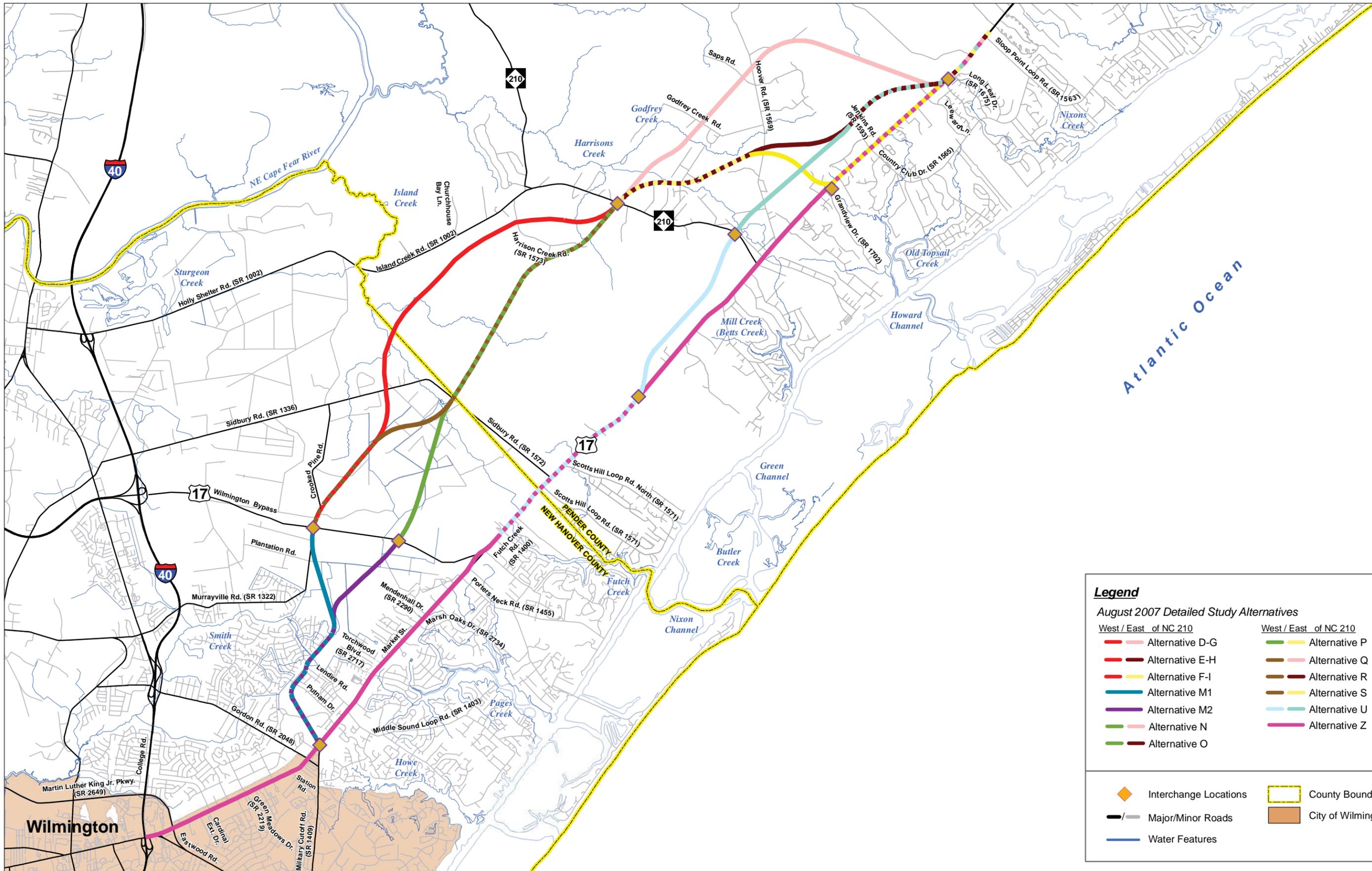


Preliminary Build Alternatives
 US 17 Corridor Study
 NCDOT TIP Project Numbers U-4751 & R-3300
 New Hanover & Pender Counties, NC

0 3,500 7,000 14,000 Feet

Data Sources: NCDOT and Mulkey GIS
 Figure Prepared: 10/21/10

Figure No.
 2



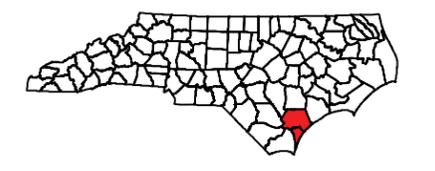
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 August 2007 Detailed Study Alternatives

West / East of NC 210		West / East of NC 210	
	Alternative D-G		Alternative P
	Alternative E-H		Alternative Q
	Alternative F-I		Alternative R
	Alternative M1		Alternative S
	Alternative M2		Alternative U
	Alternative N		Alternative Z
	Alternative O		

	Interchange Locations		County Boundary
	Major/Minor Roads		City of Wilmington
	Water Features		

Prepared by: **MULKEY**
 ENGINEERS & CONSULTANTS

Prepared for:



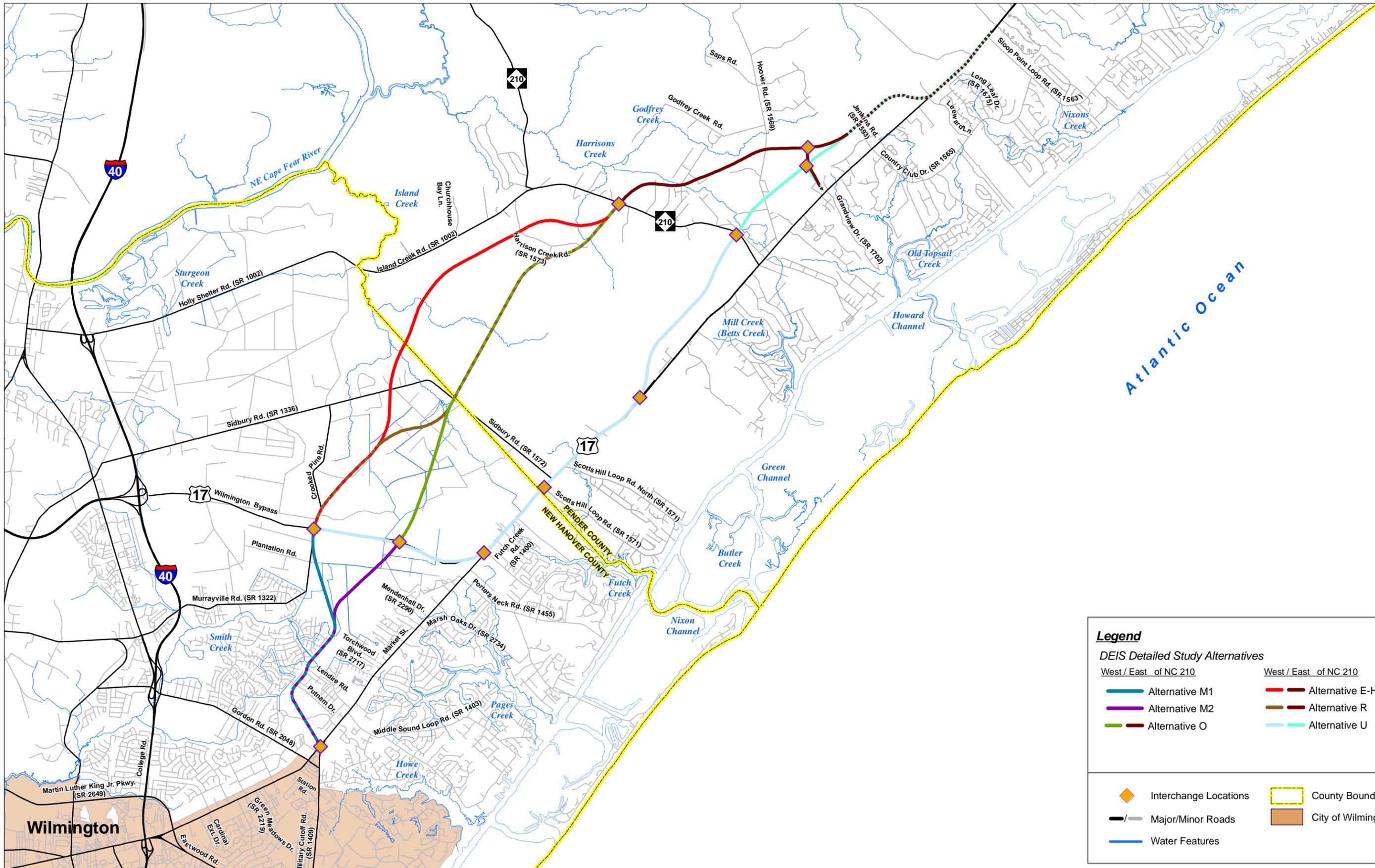
August 2007 Detailed Study Alternatives
 US 17 Corridor Study
 NCDOT TIP Project Numbers U-4751 & R-3300
 New Hanover & Pender Counties, NC

0 3,500 7,000 14,000 Feet

Data Sources: NCDOT and Mulkey GIS
 Figure Prepared: 10/21/10



Figure No.
3



Legend

DEIS Detailed Study Alternatives

<u>West / East of NC 210</u>		<u>West / East of NC 210</u>	
	Alternative M1		Alternative E-H
	Alternative M2		Alternative R
	Alternative O		Alternative U

	Interchange Locations		County Boundary
	Major/Minor Roads		City of Wilmington
	Water Features		

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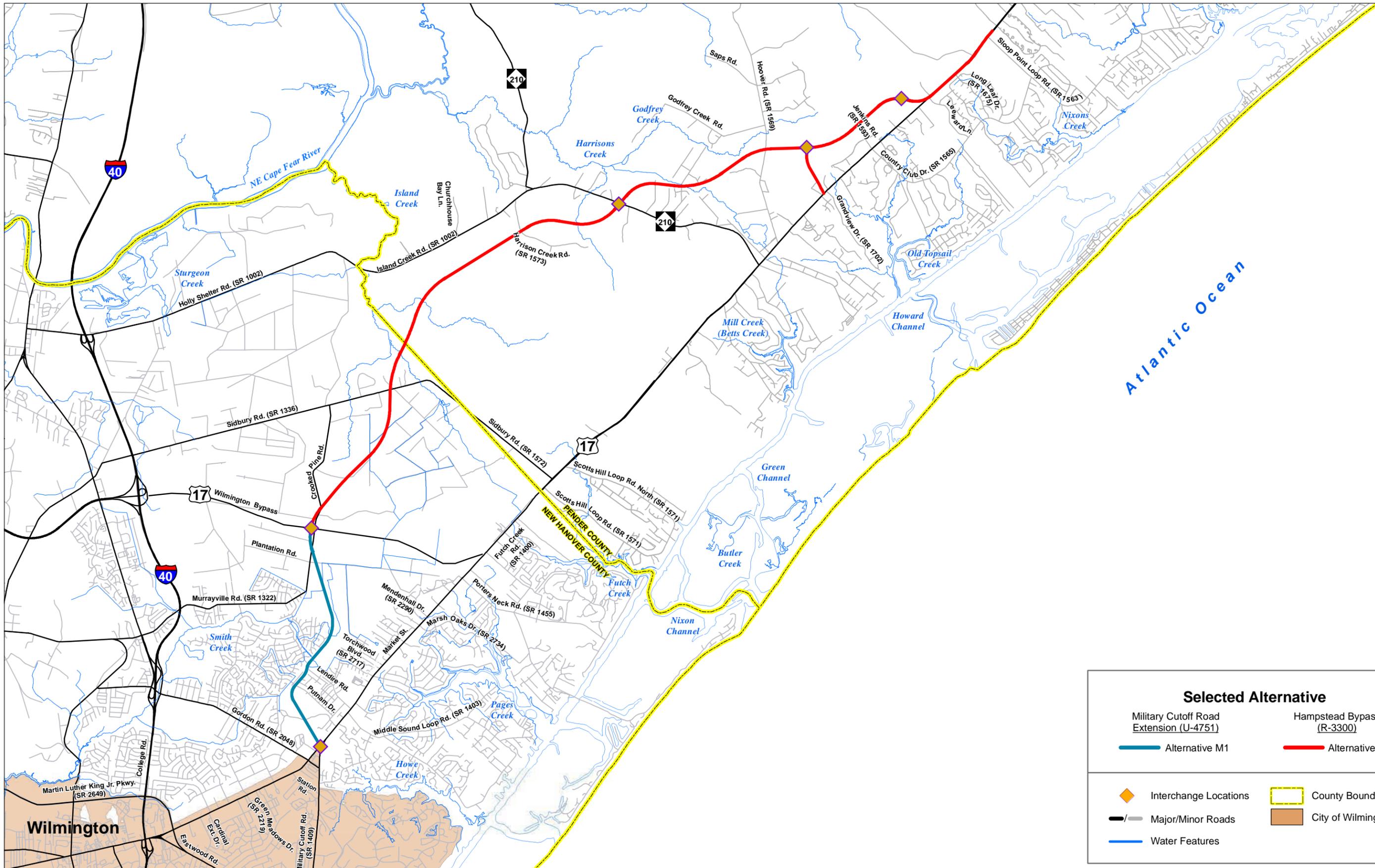
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 New Hanover & Pender Counties, NC



Data Sources: NCDOT and Mulkey GIS
 Figure Prepared: 10/21/10



Figure No.
4



Selected Alternative	
Military Cutoff Road Extension (U-4751)	Hampstead Bypass (R-3300)
Alternative M1	Alternative E-H
Interchange Locations	County Boundary
Major/Minor Roads	City of Wilmington
Water Features	

Prepared by:

Prepared for:



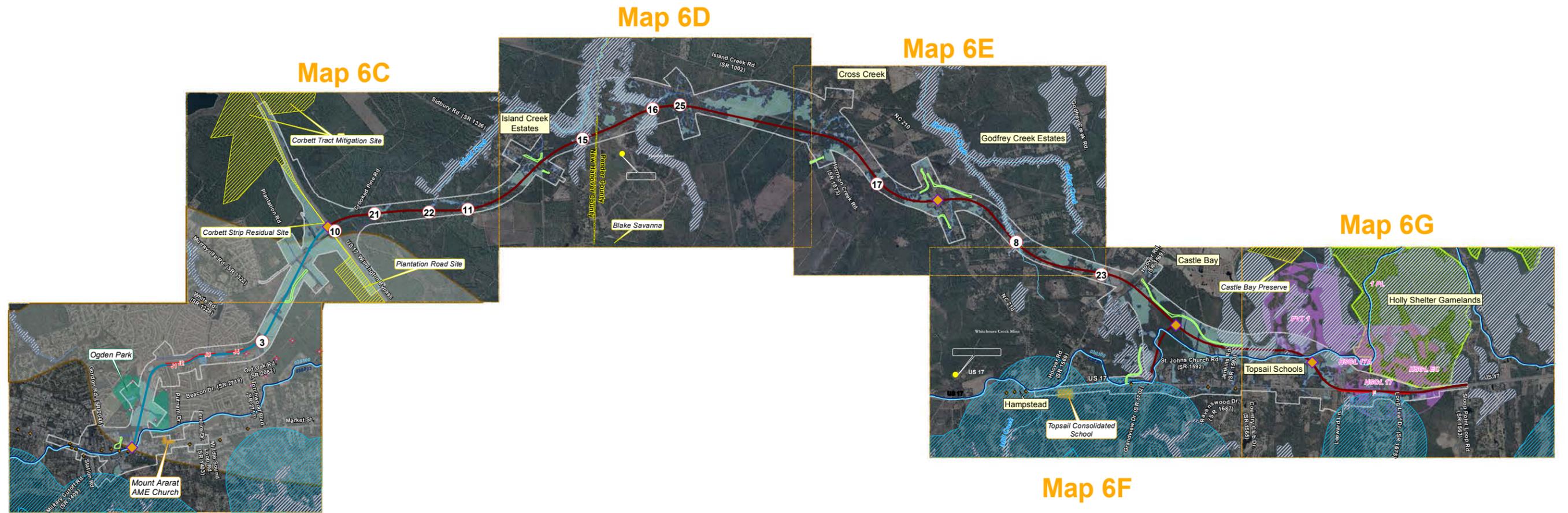
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 NCDOT TIP Project Numbers U-4751 & R-3300
 New Hanover & Pender Counties, NC



Data Sources: NCDOT and Mulkey GIS
 Figure Prepared: 7/30/13



Figure No.
5



Legend					
	Alternative E-H		Holly Shelter Gamelands		Hazmat/UST
	Alternative M1		HQW / ORW Watershed		Permitted Mine/Quarry
	Map Grids		Significant Natural Heritage Area & Managed Area		Hydraulic Site
	Project Study Corridor		Floodplains		Interchange Locations
	County Boundary		Historic Site		RCW Habitat <i>(Includes Potentially Suitable and Suitable Habitat)</i>
	Wetland		Well Head Protection Area		RCW Partitions
	Pond		Proposed Service Roads		River Basin
	Stream		Potential Noise Barriers		
	CFPUA Wells				

Prepared by:

Prepared for:



Selected Alternative - Environmental Features
 US 17 Corridor Study
 NCDOT TIP Project Numbers U-4751 & R-3300
 New Hanover & Pender Counties, NC

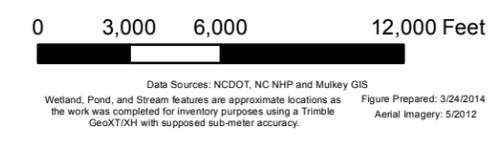
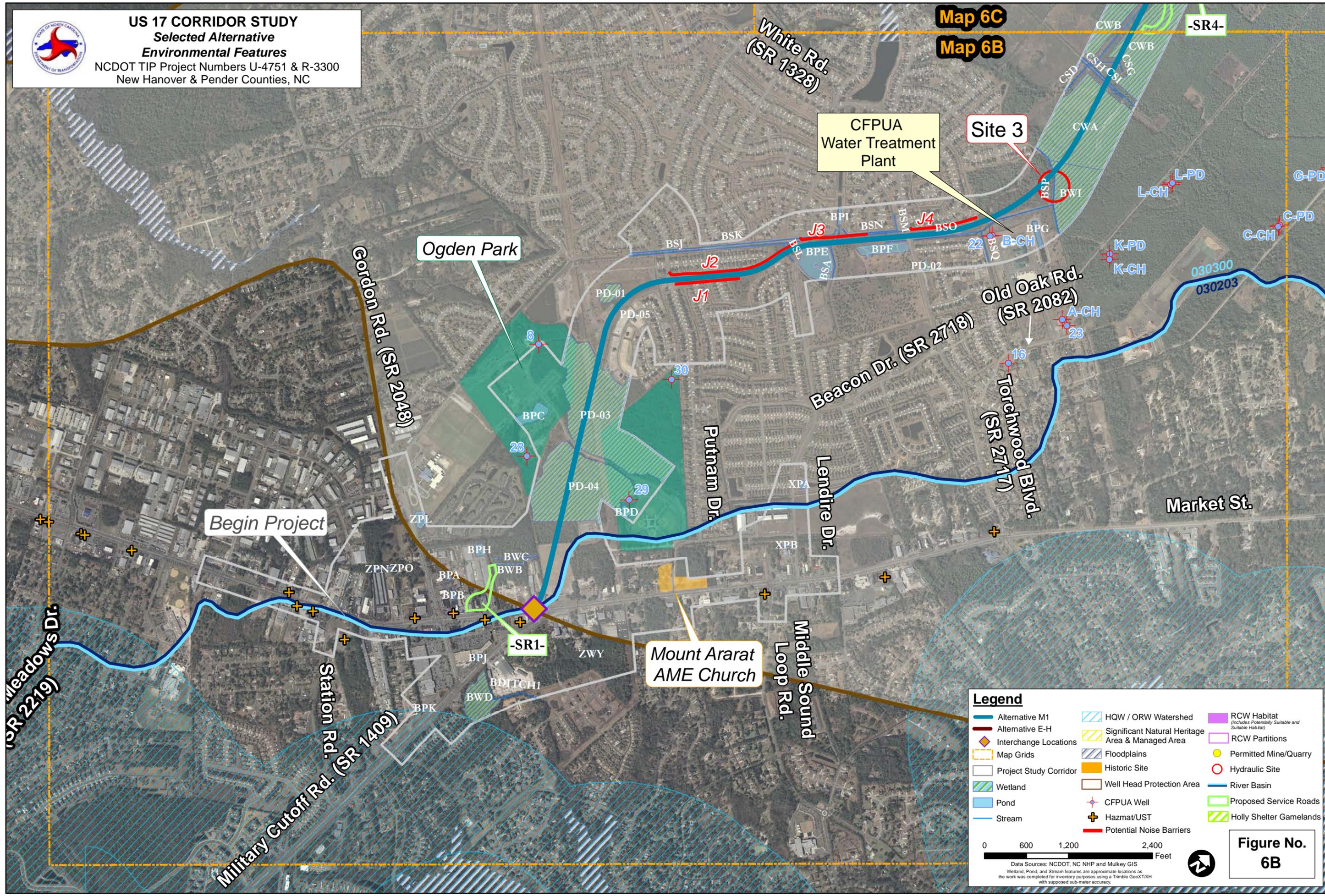


Figure No.
6A



US 17 CORRIDOR STUDY
Selected Alternative
Environmental Features
 NCDOT TIP Project Numbers U-4751 & R-3300
 New Hanover & Pender Counties, NC

Map 6C
Map 6B



Legend

Alternative M1	HQW / ORW Watershed	RCW Habitat (Includes Potentially Suitable and Suitable Habitat)
Alternative E-H	Significant Natural Heritage Area & Managed Area	RCW Partitions
Interchange Locations	Floodplains	Permitted Mine/Quarry
Map Grids	Historic Site	Hydraulic Site
Project Study Corridor	Well Head Protection Area	River Basin
Wetland	CFPUA Well	Proposed Service Roads
Pond	Hazmat/UST	Holly Shelter Gamelands
Stream	Potential Noise Barriers	

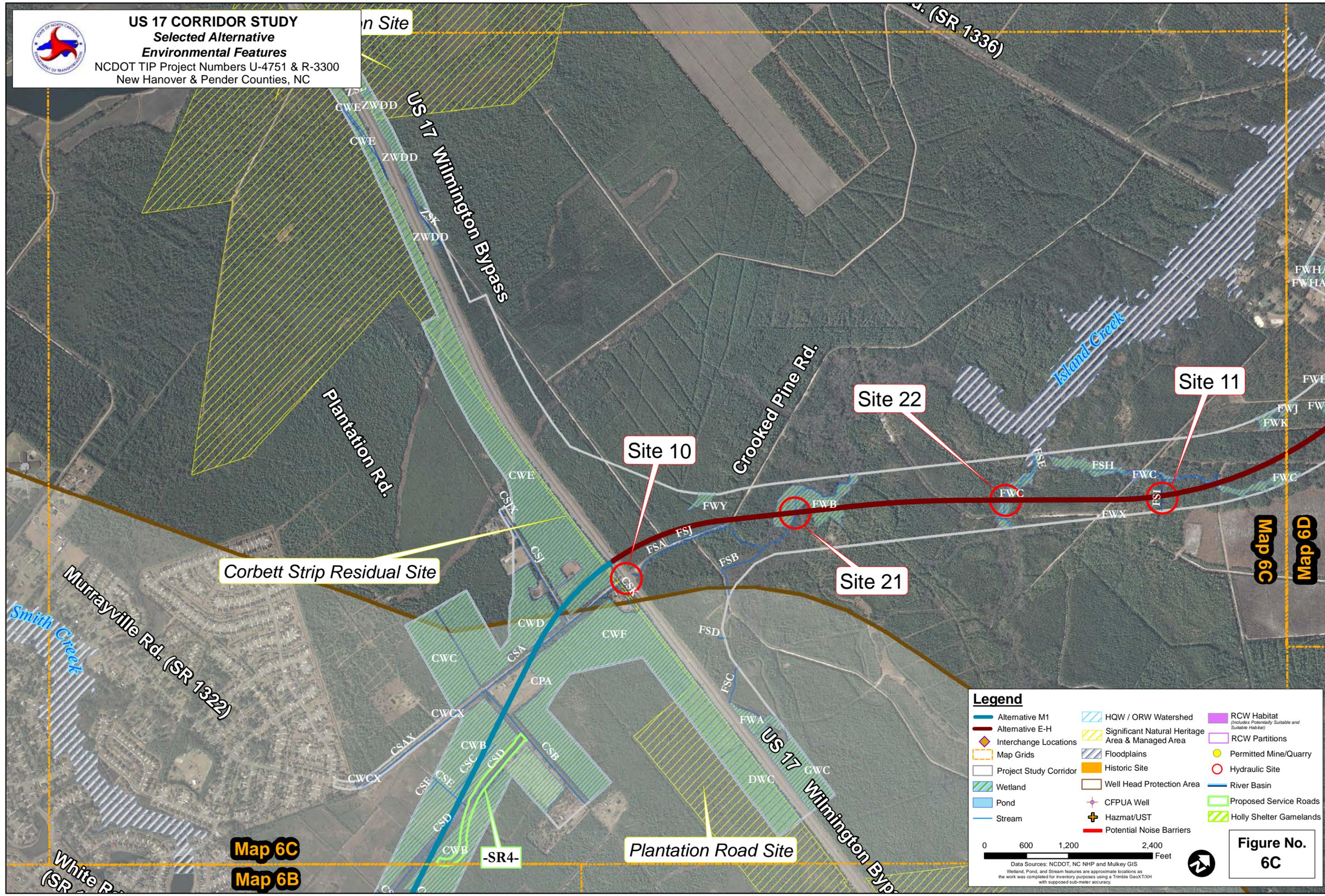
0 600 1,200 2,400 Feet

Data Sources: NCDOT, NC NHP and Mulkey GIS
 Wetland, Pond, and Stream features are approximate locations as the work was completed for inventory purposes using a Trimble GeoXT/HX with supposed sub-meter accuracy.

Figure No. 6B



US 17 CORRIDOR STUDY
Selected Alternative
Environmental Features
 NCDOT TIP Project Numbers U-4751 & R-3300
 New Hanover & Pender Counties, NC



Legend

Alternative M1	HQW / ORW Watershed	RCW Habitat (Includes Potentially Suitable and Suitable Habitat)
Alternative E-H	Significant Natural Heritage Area & Managed Area	RCW Partitions
Interchange Locations	Floodplains	Permitted Mine/Quarry
Map Grids	Historic Site	Hydraulic Site
Project Study Corridor	Well Head Protection Area	River Basin
Wetland	CFPUA Well	Proposed Service Roads
Pond	Hazmat/UST	Holly Shelter Gamelands
Stream	Potential Noise Barriers	

0 600 1,200 2,400 Feet

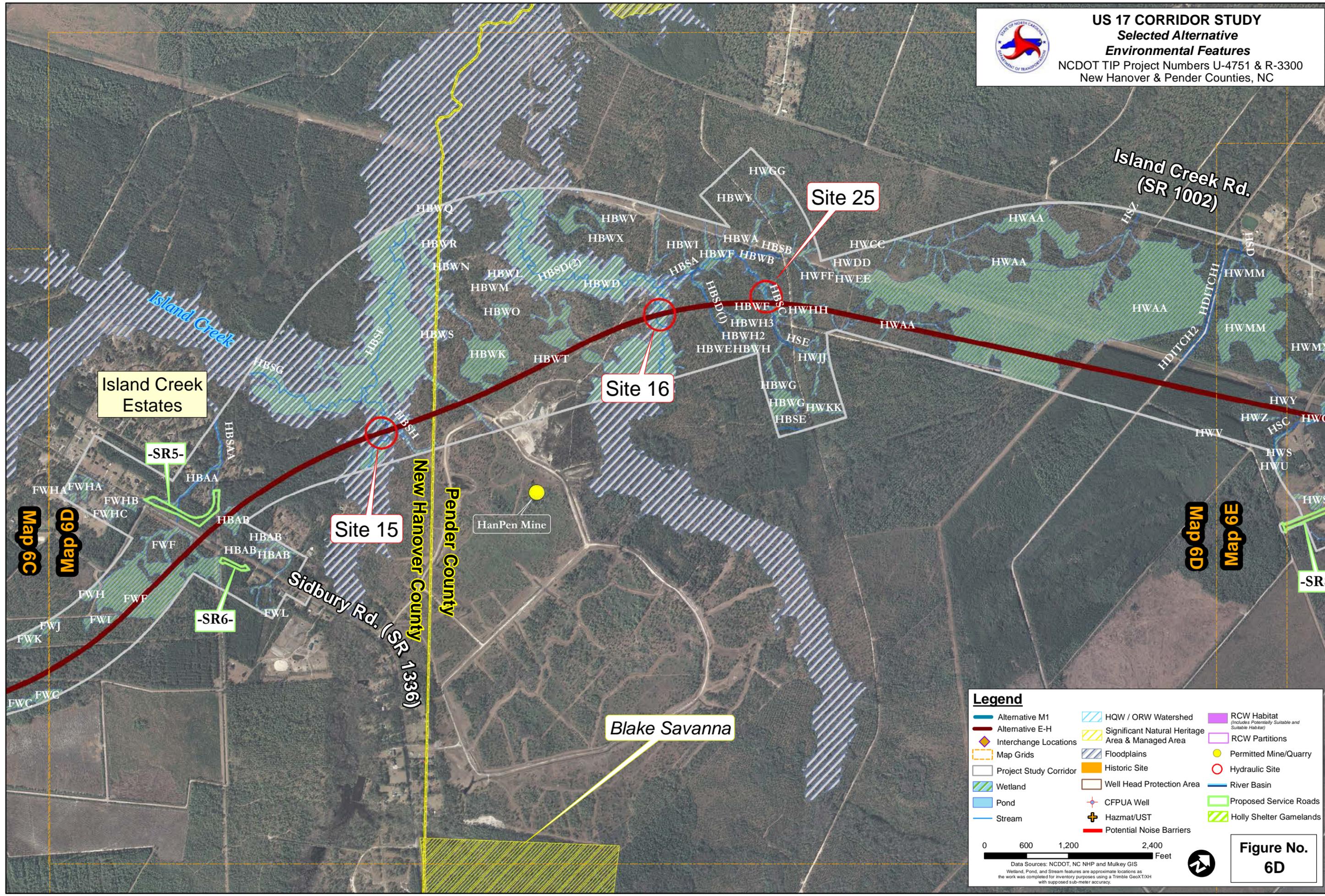
Data Sources: NCDOT, NC NHP and Mulkey GIS
 Wetland, Pond, and Stream features are approximate locations as the work was completed for inventory purposes using a Trimble GeoXT/GXH with supposed sub-meter accuracy.

Figure No. 6C

Map 6C
 Map 6B

Map 6C
 Map 6D

-SR4-



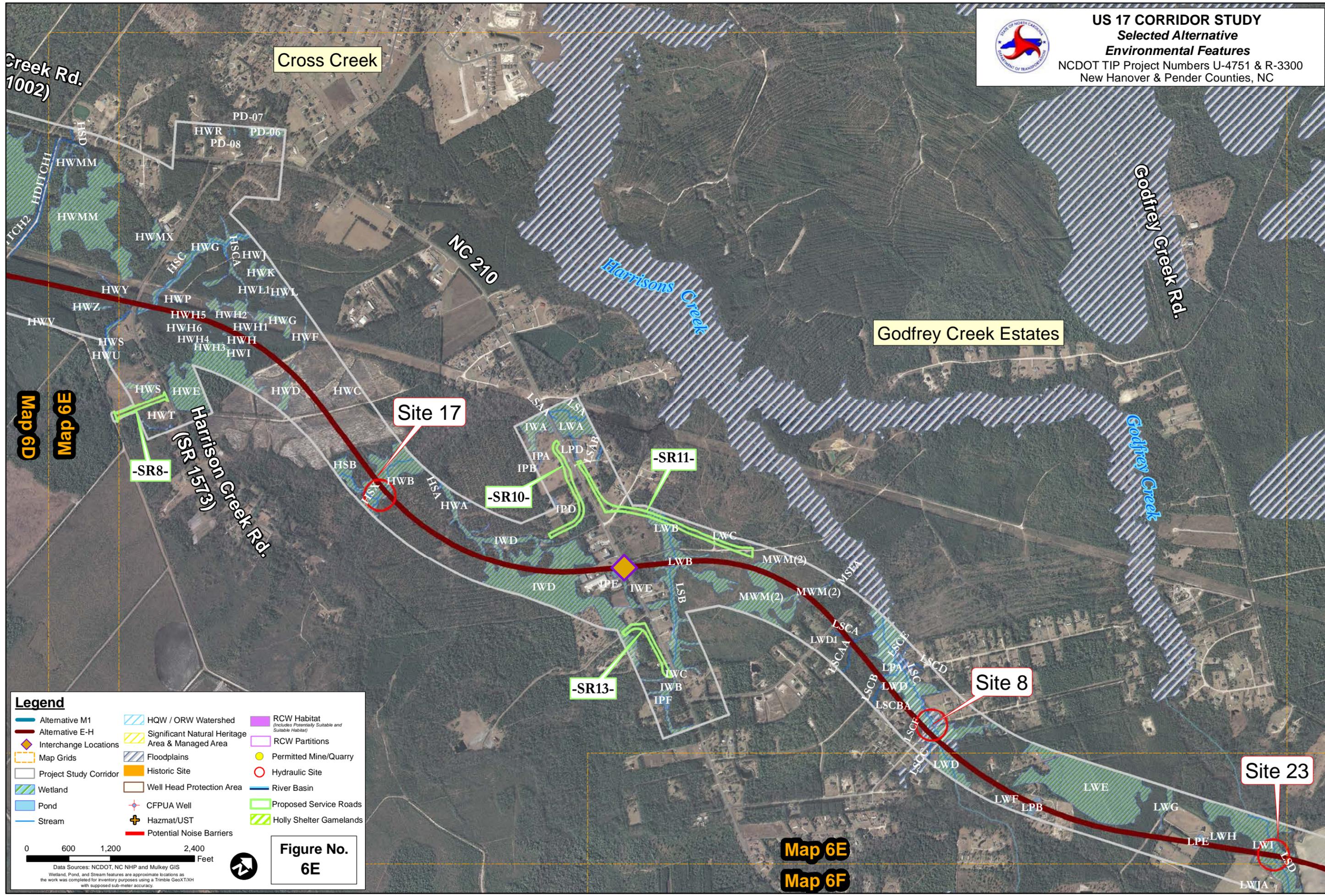
Legend

- Alternative M1
- Alternative E-H
- Interchange Locations
- Map Grids
- Project Study Corridor
- Wetland
- Pond
- Stream
- HQW / ORW Watershed
- Significant Natural Heritage Area & Managed Area
- Floodplains
- Historic Site
- Well Head Protection Area
- CFPUA Well
- Hazmat/UST
- Potential Noise Barriers
- RCW Habitat (Includes Potentially Suitable and Suitable Habitat)
- RCW Partitions
- Permitted Mine/Quarry
- Hydraulic Site
- River Basin
- Proposed Service Roads
- Holly Shelter Gamelands



Figure No. 6D

Data Sources: NCDOT, NC NHP and Mulkey GIS
 Wetland, Pond, and Stream features are approximate locations as the work was completed for inventory purposes using a Trimble GeoXT/GXH with supposed sub-meter accuracy.



Legend

Alternative M1	HQW / ORW Watershed	RCW Habitat (Includes Potentially Suitable and Suitable Habitat)
Alternative E-H	Significant Natural Heritage Area & Managed Area	RCW Partitions
Interchange Locations	Floodplains	Permitted Mine/Quarry
Map Grids	Historic Site	Hydraulic Site
Project Study Corridor	Well Head Protection Area	River Basin
Wetland	CFPWA Well	Proposed Service Roads
Pond	Hazmat/UST	Holly Shelter Gamelands
Stream	Potential Noise Barriers	

0 600 1,200 2,400 Feet

Data Sources: NCDOT, NC NHP and Mulkey GIS
 Wetland, Pond, and Stream features are approximate locations as the work was completed for inventory purposes using a Trimble GeoXTXH with supposed sub-meter accuracy.

Figure No. 6E

Map 6E
Map 6F



Site 23

Castle Bay

Map 6E

Map 6F

NC 210

South Topsail Elementary

Map 6F

Map 6G

-SR14-

-SR16-

St. Johns Church Rd.
(SR 1592)

Jenkins Rd.
(SR 1593)

Whitehouse Creek Mine

Hoover Rd.
(SR 1569)

US 17

Hampstead

Topsail Consolidated School

GrandView Dr. (SR 1702)

Ravenswood Dr.
(SR 1687)

Country Club Dr. (SR 1565)

Legend

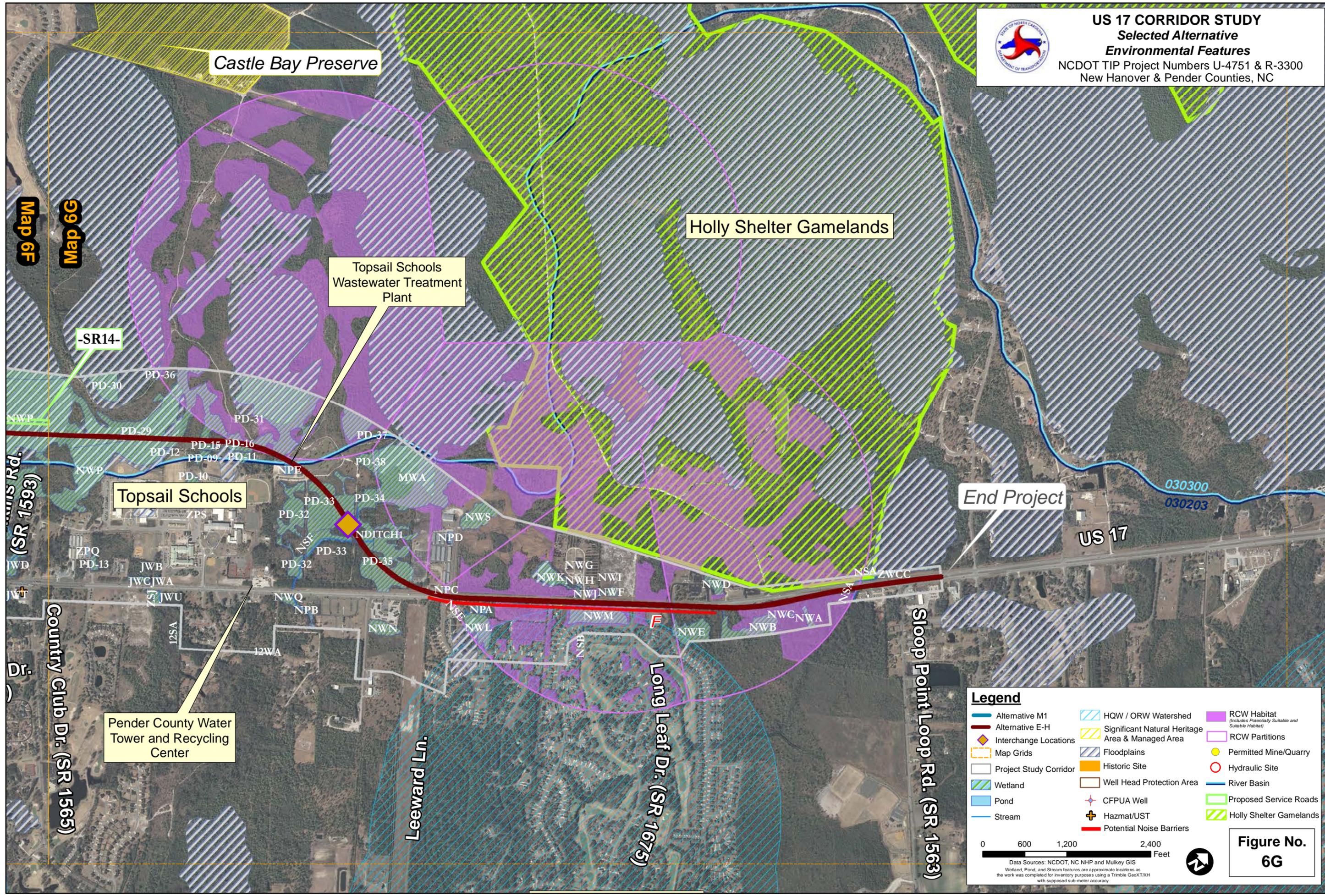
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- Alternative E-H
- Interchange Locations
- Map Grids
- Project Study Corridor
- Wetland
- Pond
- Stream
- HQW / ORW Watershed
- Significant Natural Heritage Area & Managed Area
- Floodplains
- Historic Site
- Well Head Protection Area
- CFPUA Well
- Hazmat/UST
- Potential Noise Barriers
- RCW Habitat (Includes Potentially Suitable and Suitable Habitat)
- RCW Partitions
- Permitted Mine/Quarry
- Hydraulic Site
- Proposed Service Roads
- Holly Shelter Gamelands

0 600 1,200 2,400 Feet



Data Sources: NCDOT, NC NHP and Mulkey GIS
 Wetland, Pond, and Stream features are approximate locations as the work was completed for inventory purposes using a Trimble GeoXT1XH with supposed sub-meter accuracy.

Figure No. 6F



Map 6F
Map 6G

Topsail Schools

Pender County Water Tower and Recycling Center

Topsail Schools Wastewater Treatment Plant

Holly Shelter Gamelands

End Project

US 17

Legend

- | | | |
|------------------------|--|--|
| Alternative M1 | HQW / ORW Watershed | RCW Habitat (Includes Potentially Suitable and Suitable Habitat) |
| Alternative E-H | Significant Natural Heritage Area & Managed Area | RCW Partitions |
| Interchange Locations | Floodplains | Permitted Mine/Quarry |
| Map Grids | Historic Site | Hydraulic Site |
| Project Study Corridor | Well Head Protection Area | River Basin |
| Wetland | CFPWA Well | Proposed Service Roads |
| Pond | Hazmat/UST | Holly Shelter Gamelands |
| Stream | Potential Noise Barriers | |



Data Sources: NCDOT, NC NHP and Mulkey GIS
 Wetland, Pond, and Stream features are approximate locations as the work was completed for inventory purposes using a Trimble GeoXTXH with supposed sub-meter accuracy.



Figure No.
6G

NEW HANOVER COUNTY NORTH CAROLINA

I, ARNOLD W. CARSON, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION (DESCRIPTIONS RECORDED AS SHOWN HEREON); THAT THE INDIVIDUAL BOUNDARIES WERE NOT SURVEYED AND ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND AS SHOWN HEREON; THAT THIS GPS SURVEY WAS PERFORMED EXCEEDING ORDER (C) 3 OF THE FGCC SPECIFICATIONS AND THAT I USED RTK (STATIC MODE) GPS FIELD PROCEDURES AND COORDINATES WERE OBTAINED BY AVERAGE MEAN METHOD OF 3 OR MORE OBSERVATIONS WITH DEVIATIONS LESS THAN 0.1" OF EACH POINT SHOWN HEREON; THAT THIS SURVEY WAS PERFORMED IN APRIL - JULY, 2005 USING (2) TOPCON HYPER L1/L2 RECEIVERS AND ALL COORDINATES ARE BASED ON NAD '83.

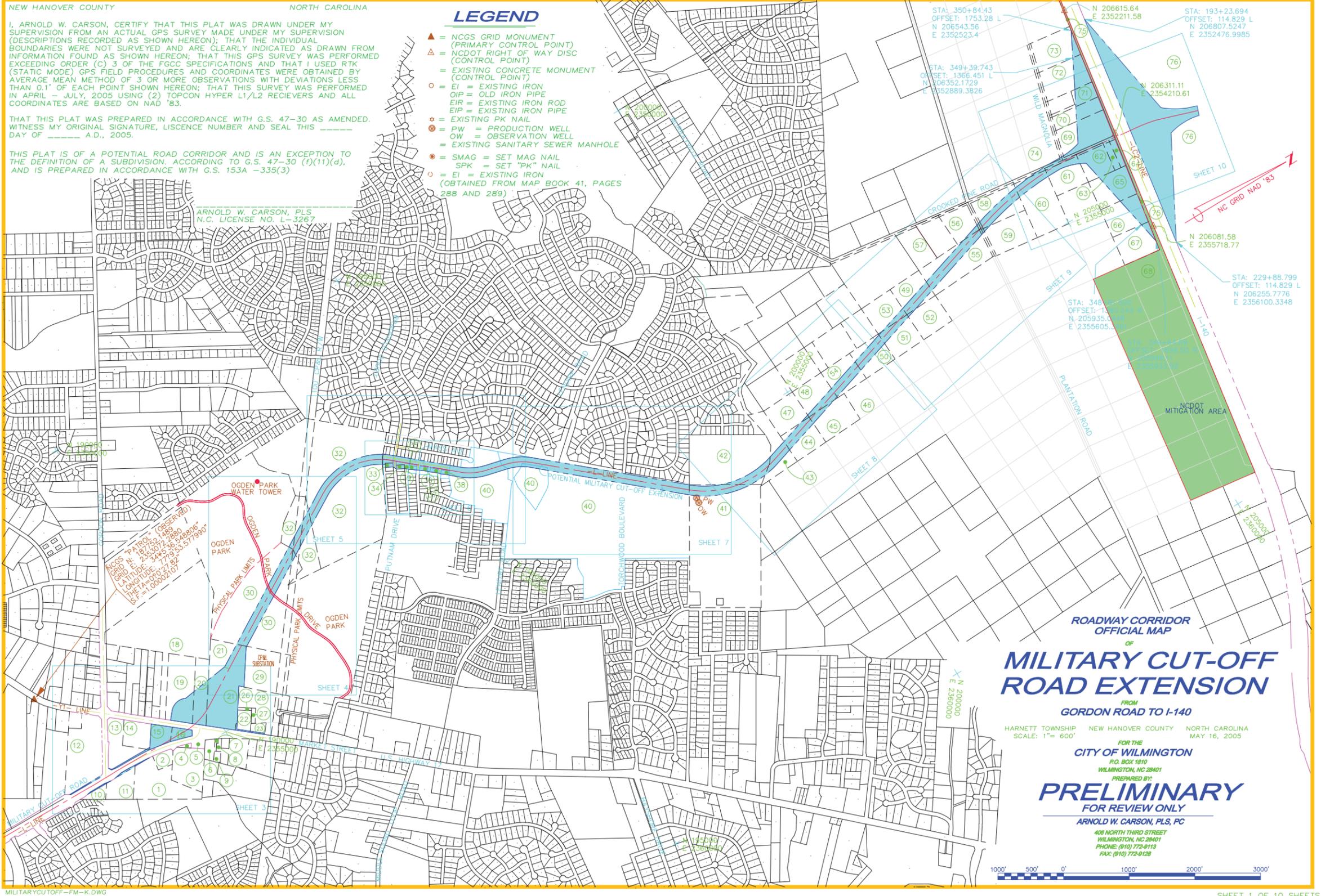
THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED. WITNESS MY ORIGINAL SIGNATURE, LICENCE NUMBER AND SEAL THIS DAY OF _____ A.D., 2005.

THIS PLAT IS OF A POTENTIAL ROAD CORRIDOR AND IS AN EXCEPTION TO THE DEFINITION OF A SUBDIVISION, ACCORDING TO G.S. 47-30 (f)(1)(d), AND IS PREPARED IN ACCORDANCE WITH G.S. 153A -335(3)

ARNOLD W. CARSON, PLS
N.C. LICENSE NO. L-3267

LEGEND

- ▲ = NCGS GRID MONUMENT (PRIMARY CONTROL POINT)
- △ = NCDOT RIGHT OF WAY DISC (CONTROL POINT)
- = EXISTING CONCRETE MONUMENT (CONTROL POINT)
- = EI = EXISTING IRON
- = OIP = OLD IRON PIPE
- = EIR = EXISTING IRON ROD
- = EIP = EXISTING IRON PIPE
- ☆ = EXISTING PK NAIL
- ⊙ = PW = PRODUCTION WELL
- ⊙ = OW = OBSERVATION WELL
- = EXISTING SANITARY SEWER MANHOLE
- = SMAG = SET MAG NAIL
- = SPK = SET "PK" NAIL
- = EI = EXISTING IRON (OBTAINED FROM MAP BOOK 41, PAGES 288 AND 289)



**ROADWAY CORRIDOR
OFFICIAL MAP
OF
MILITARY CUT-OFF
ROAD EXTENSION**

FROM
GORDON ROAD TO I-140

HARNETT TOWNSHIP NEW HANOVER COUNTY NORTH CAROLINA
SCALE: 1" = 600' MAY 16, 2005

FOR THE
CITY OF WILMINGTON
P.O. BOX 1810
WILMINGTON, NC 28401

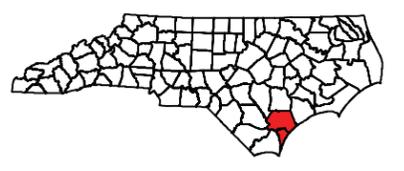
PRELIMINARY
FOR REVIEW ONLY

ARNOLD W. CARSON, PLS, PC
408 NORTH THIRD STREET
WILMINGTON, NC 28401
PHONE: (910) 772-9113
FAX: (910) 772-9128



SHEET 1 OF 10 SHEETS

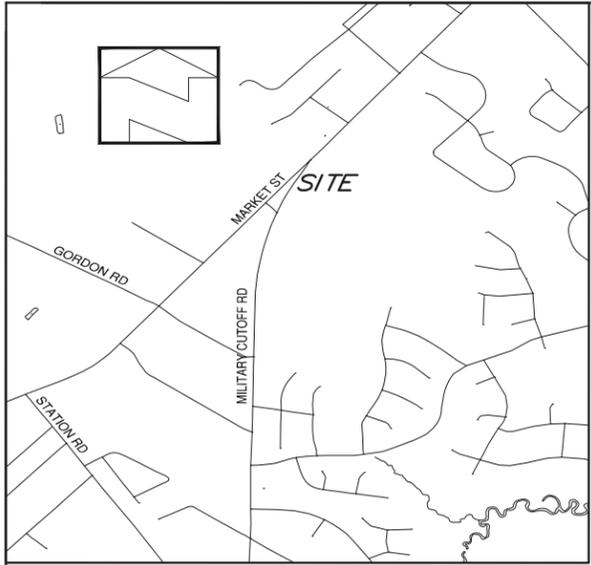
Prepared by: MULKEY
Prepared for:



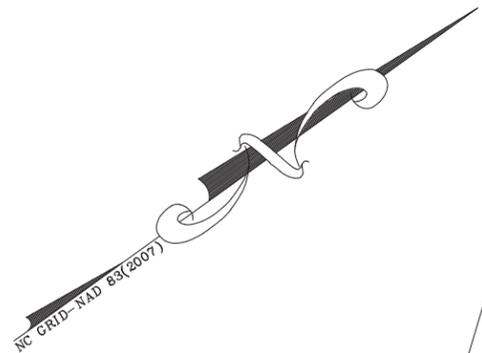
**City of Wilmington Military Cut-Off Road Extension
Transportation Corridor Official Map**
US 17 Corridor Study
NCDOT TIP Project Numbers U-4751 & R-3300
New Hanover & Pender Counties, NC

Data Source: City of Wilmington
Figure Prepared: 10/21/10

Figure No.
7A



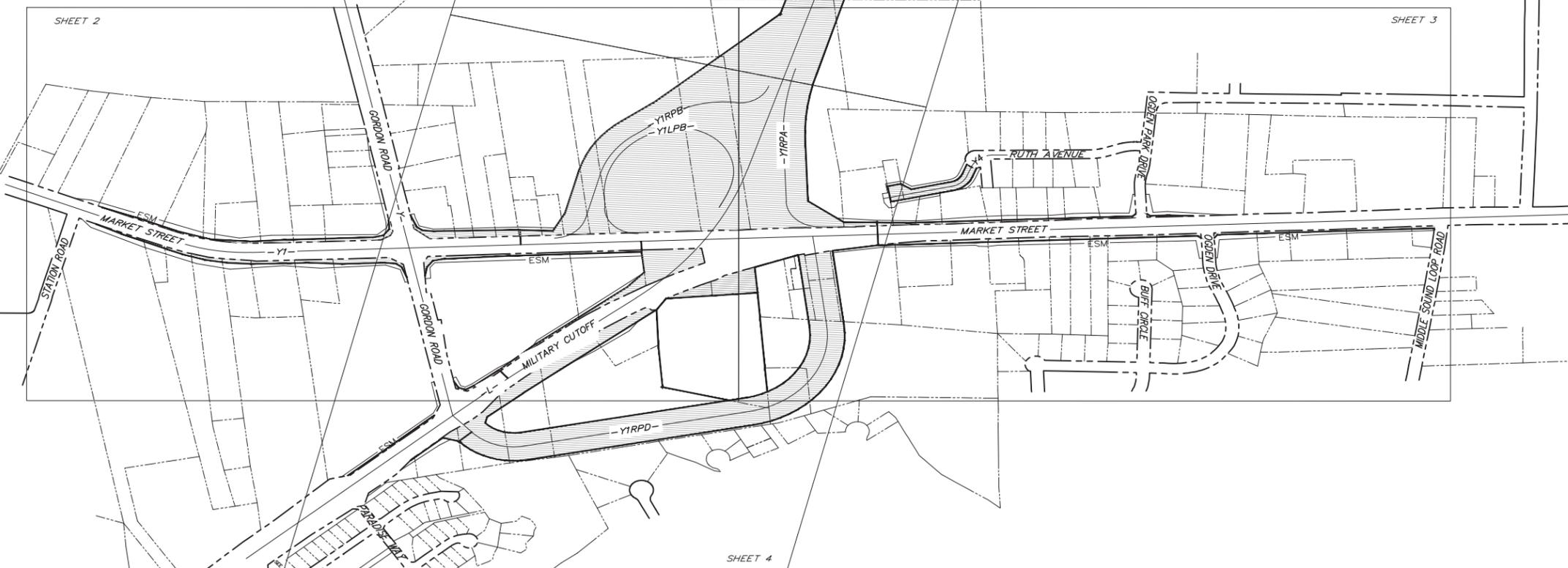
LOCATION MAP NOT TO SCALE



SHEET 5

PRELIMINARY PLAT - NOT FOR RECORDATION, CONVEYANCES, OR SALES.

- LEGEND**
- PROPOSED RIGHT-OF-WAY AREA
 - PROPOSED RIGHT-OF-WAY LINES
 - EXISTING PROPERTY LINES
 - PROPOSED CONSTRUCTION EASEMENT
 - LAND OWNER REFERENCE (SEE SHEET 6)
 - PROPOSED CONTROL OF ACCESS
 - EXISTING RIGHT-OF-WAY LINES



SHEET 2

SHEET 3

SHEET 4



Public Services • Engineering Division
P.O. Box 1810 • 414 Chestnut Street • Wilmington, NC 28401 • (910) 341-7807

DESIGNED	
DRAWN	TCR
CHECKED	PJB
PROJ. ENGR.	

PATH: N:\PROJECT FILES\
TRANS-MILITARY CUTOFF @ MARKET CORRIDOR-2010
FILE NAME: MARKET AND MILITARY CORR - REVISED 10/25/11 U 4751.2DWG

TRANSPORTATION CORRIDOR OFFICIAL MAP
MILITARY CUTOFF AND MARKET STREET
PROPOSED INTERCHANGE - REVISED 10/25/11
CITY OF WILMINGTON WILMINGTON TOWNSHIP NEW HANOVER COUNTY, N.C.

NOT TO SCALE
SHEET
1 of 6

PH-1-5

Prepared by:



**City of Wilmington Military Cut-Off Road Extension
Transportation Corridor Official Map**
US 17 Corridor Study
NCDOT TIP Project Numbers U-4751 & R-3300
New Hanover & Pender Counties, NC

Data Source: City of Wilmington
Figure Prepared: 04/01/2014

**Figure No.
7B**

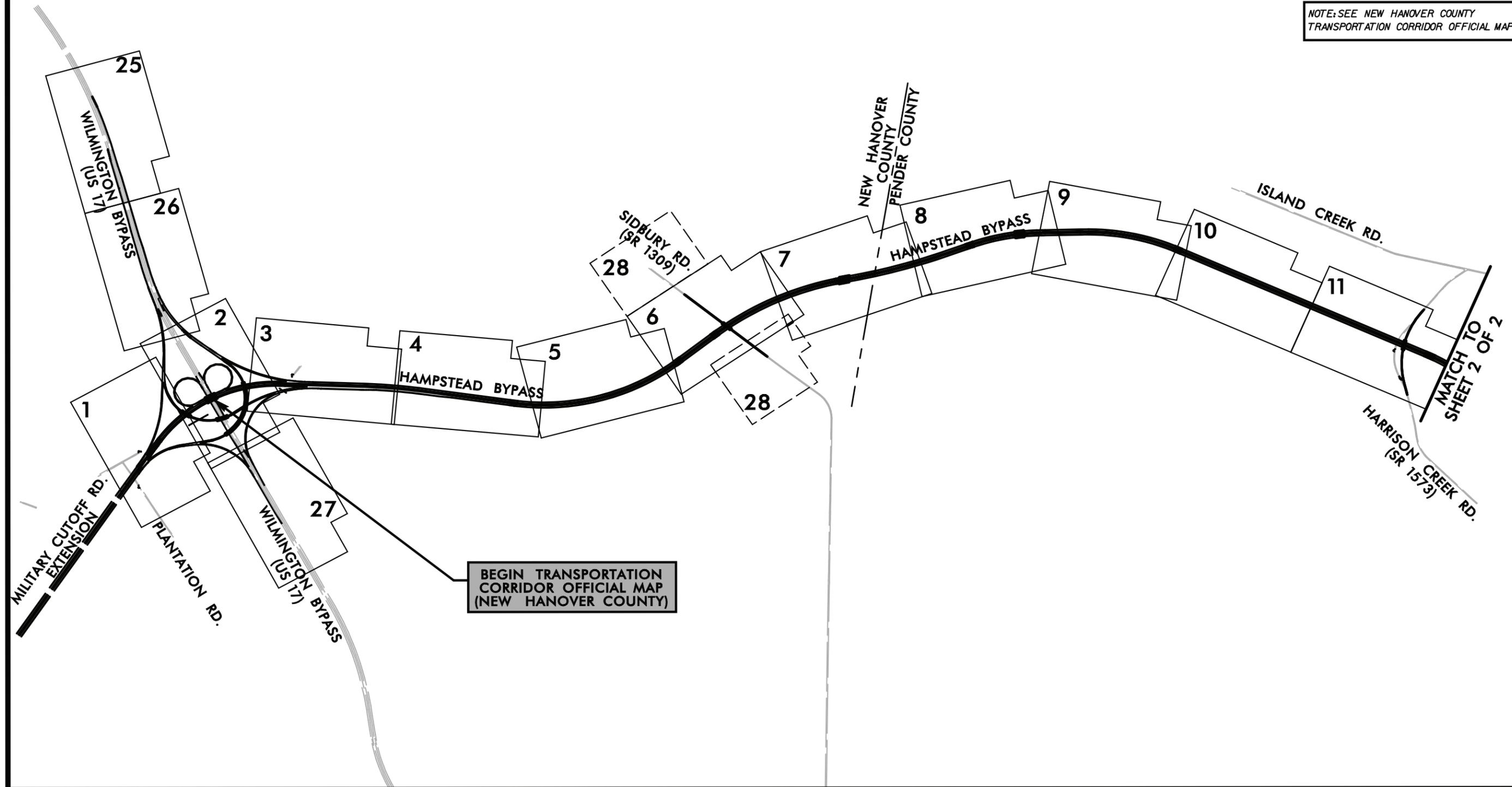
MAP KEY

MULKEY
ENGINEERS & CONSULTANTS
PO BOX 33127
RALEIGH, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

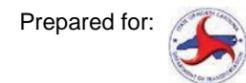
TRANSPORTATION CORRIDOR OFFICIAL MAP	
STATE PROJECT NO.	R-3300
US 17 BYPASS OF HAMPSTEAD	
NEW HANOVER & PENDER COUNTIES	
OFFICIAL SIGNATURE:	
DATE OF ADOPTION:	MAP KEY
	MAP 1 OF 2

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE: SEE NEW HANOVER COUNTY TRANSPORTATION CORRIDOR OFFICIAL MAP



Prepared by: **MULKEY**
ENGINEERS & CONSULTANTS



Wilmington Urban Area MPO US 17 Bypass
Transportation Corridor Official Map
US 17 Corridor Study
NCDOT TIP Project Numbers U-4751 & R-3300
New Hanover & Pender Counties, NC

Data Source: Wilmington Urban Area Metropolitan Planning Organization
Figure Prepared: 09/15/2014

Figure No.
7C

MAP KEY

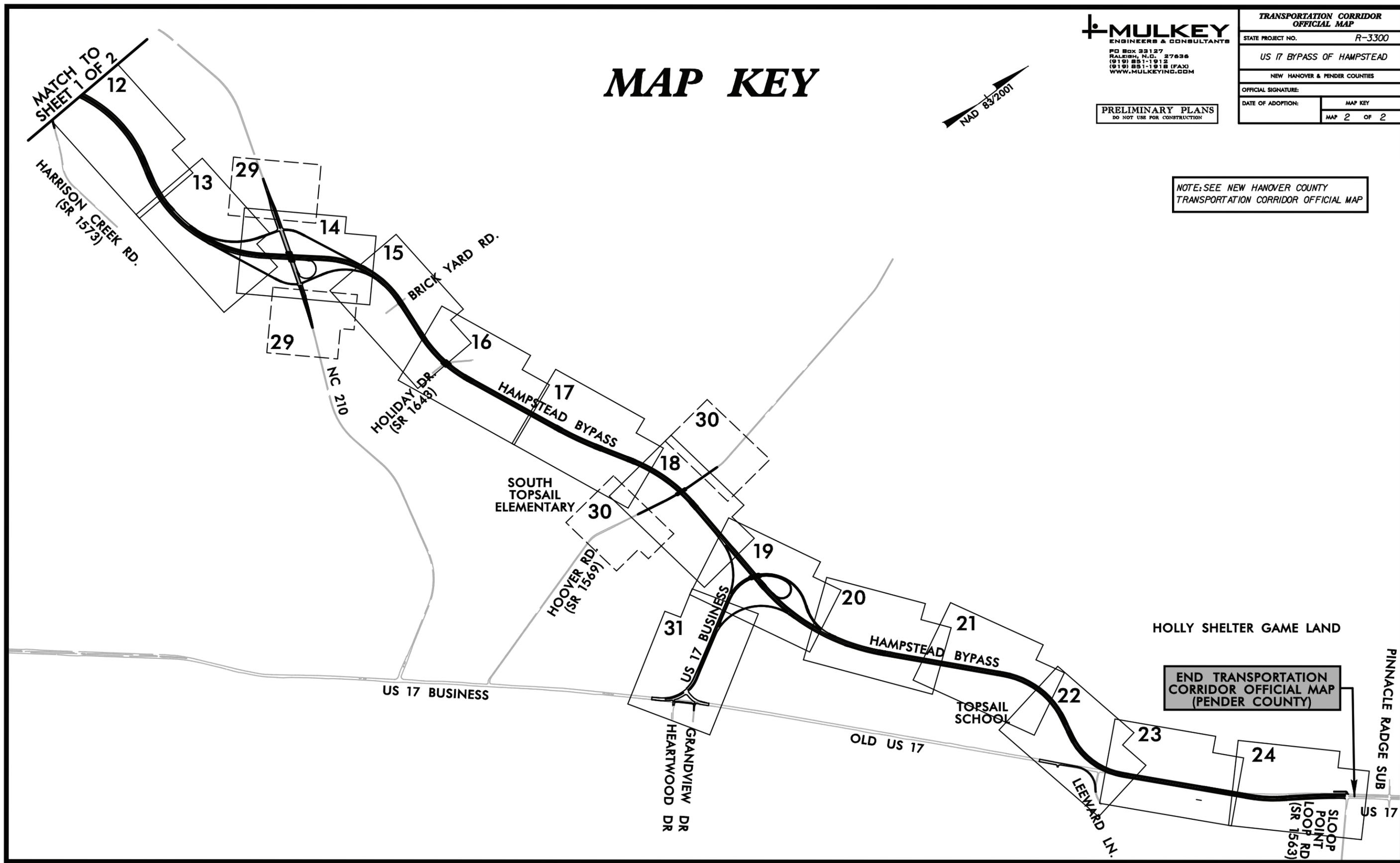
MULKEY
ENGINEERS & CONSULTANTS
PO BOX 33127
RALEIGH, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

TRANSPORTATION CORRIDOR OFFICIAL MAP	
STATE PROJECT NO.	R-3300
US 17 BYPASS OF HAMPSTEAD	
NEW HANOVER & PENDER COUNTIES	
OFFICIAL SIGNATURE:	
DATE OF ADOPTION:	MAP KEY
	MAP 2 OF 2

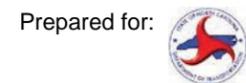
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NOTE: SEE NEW HANOVER COUNTY TRANSPORTATION CORRIDOR OFFICIAL MAP



Prepared by: **MULKEY**
ENGINEERS & CONSULTANTS



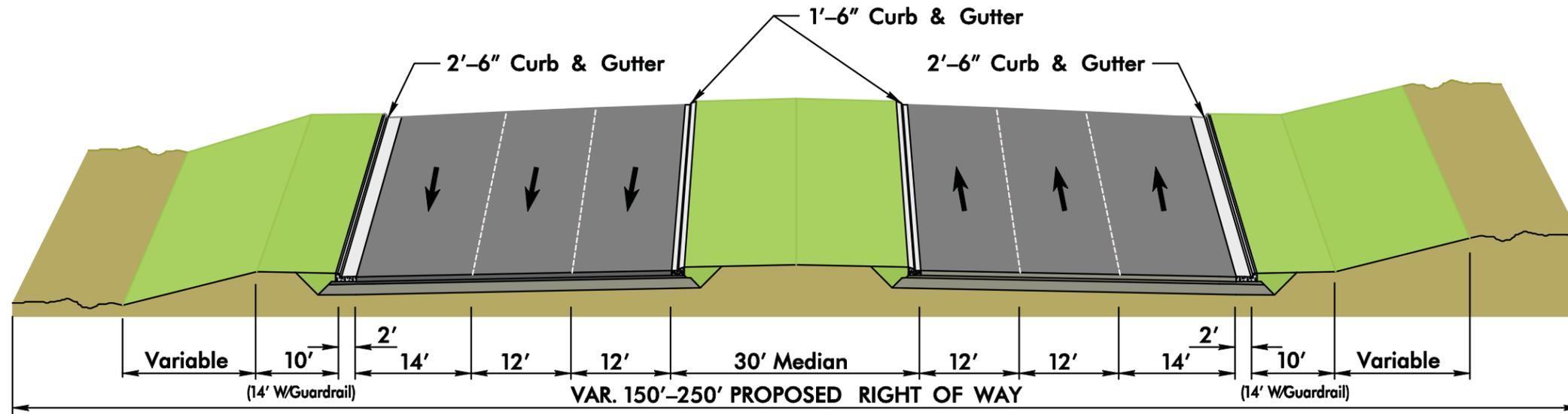
Wilmington Urban Area MPO US 17 Bypass
Transportation Corridor Official Map
US 17 Corridor Study
NCDOT TIP Project Numbers U-4751 & R-3300
New Hanover & Pender Counties, NC

Data Source: Wilmington Urban Area Metropolitan Planning Organization

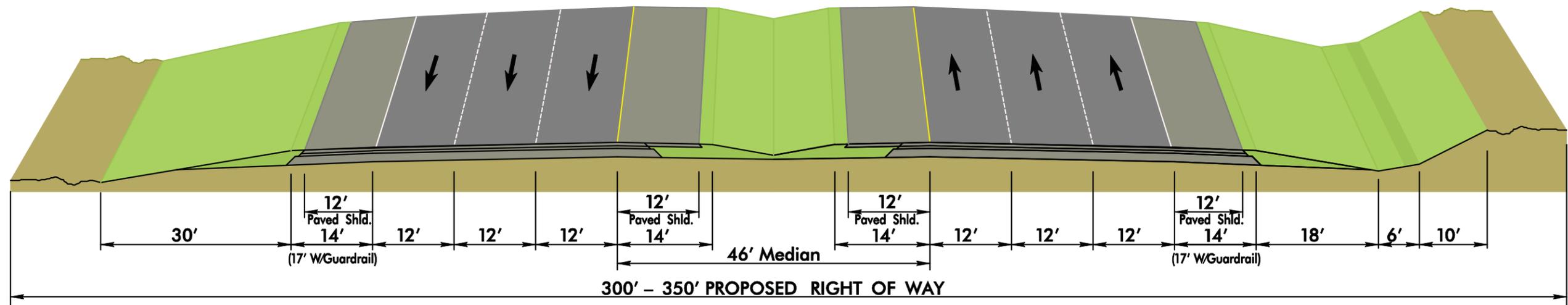
Figure Prepared: 09/15/2014

Figure No.

7D



Alternative M1 (Selected Alternative) - From Market Street to Approximately 1.0 Mile North of Torchwood Boulevard



Alternative M1 (Selected Alternative) - From Approximately 1.0 Mile North of Torchwood Boulevard to US 17 Wilmington Bypass

Prepared by: 

Prepared for: 



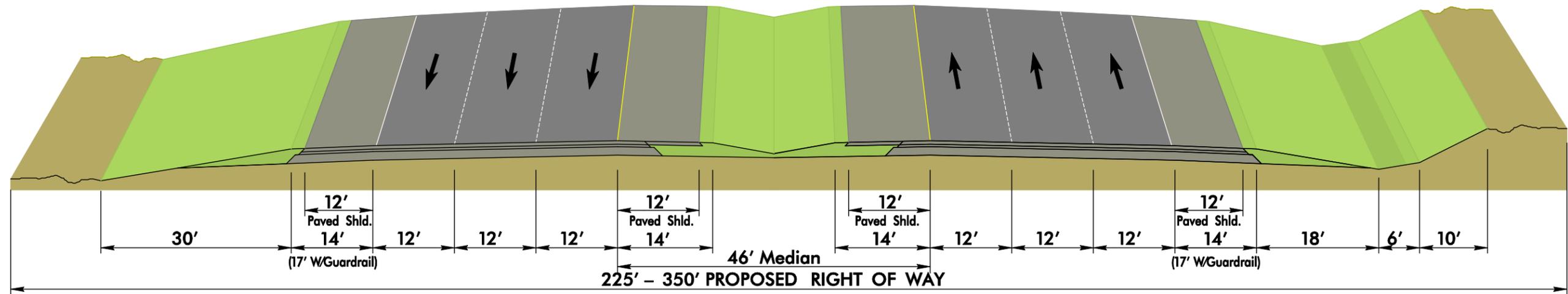
Military Cutoff Road Extension Typical Section Nos. 1 and 2
Selected Alternative
 US 17 Corridor Study
 NCDOT TIP Project Numbers U-4751 & R-3300
 New Hanover & Pender Counties, NC

Not to Scale

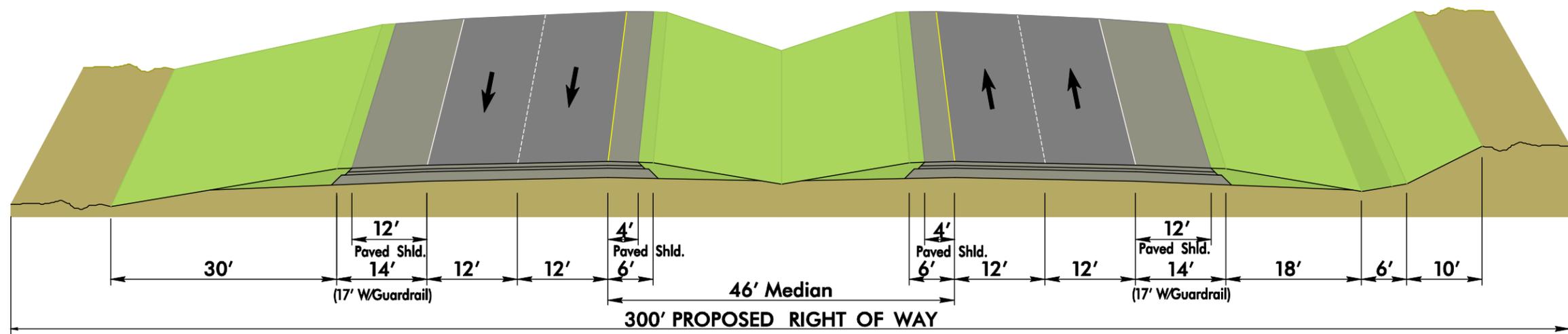
Figure Prepared 2/15/2011

Figure No.

8



Alternative EH (Selected Alternative) - From Proposed Hampstead Bypass Interchange at US 17 Wilmington Bypass to Proposed Hampstead Bypass Interchange at NC 210 and From Proposed Hampstead Bypass Interchange with Realigned US 17 Approximately 0.7 Mile West of Grandview Drive to Sloop Point Loop Road



Alternative EH (Selected Alternative) - From Proposed Hampstead Bypass Interchange at NC 210 to Proposed Hampstead Bypass Interchange with Realigned US 17 Approximately 0.7 Mile West of Grandview Drive

Prepared by: 

Prepared for: 



Hampstead Bypass Typical Section Nos. 1 and 2 Selected Alternative

US 17 Corridor Study
NCDOT TIP Project Number R-3300
New Hanover & Pender Counties, NC

Not to Scale

Figure Prepared 1/15/2013

Figure No.

9

Appendix A

Description of the Selected Alternative

Appendix A

Description of the Selected Alternative

DESCRIPTION OF THE SELECTED ALTERNATIVE (ALTERNATIVE M1+E-H)

The total length of the selected alternative (Alternative M1+E-H) for Military Cutoff Road Extension and the US 17 Hampstead Bypass is approximately 17.5 miles.

Military Cutoff Road Extension Alternative M1

Military Cutoff Road Extension Alternative M1 will extend Military Cutoff Road from Market Street to the US 17 Wilmington Bypass. As shown on Figure 5 and Figures 6A through 6G, Alternative M1 begins at a proposed interchange at Military Cutoff Road and Market Street. It then extends to the north and northeast through vacant County property between the two sections of Ogden Park and residential areas. Alternative M1 then turns northwest and ends near Plantation Road and Crooked Pine Road at a proposed interchange with the US 17 Wilmington Bypass and the proposed US 17 Hampstead Bypass, approximately midway between the I-40 and Market Street interchanges. Alternative M1 generally follows the alignment shown on the *Wilmington Urban Area MPO Transportation Corridor Official Map of Military Cutoff Road Extension* (2005, amended 2011) adopted by the City of Wilmington (see Figures 7A and 7B).

Military Cutoff Road Extension will be a full/limited control of access facility. Access to Military Cutoff Road Extension will be provided at interchanges at Market Street and Military Cutoff Road, and the US 17 Wilmington Bypass/proposed US 17 Hampstead Bypass. Additional access along Military Cutoff Road Extension will be provided at directional crossovers with Putnam Drive, Lendire Road, and Torchwood Boulevard. Only right turns will be permitted onto Military Cutoff Road Extension from these roads. U-turn lanes will be provided to accommodate left turns. A grade separation will be provided on Military Cutoff Road Extension at Ogden Park Drive.

A variable right-of-way width of 150 feet to 350 feet is proposed for Military Cutoff Road Extension (see Figure 8). The typical section from the proposed interchange at Market Street to approximately one mile north of Torchwood Boulevard consists of six lanes (three in each direction) with a 30-foot raised median and curb and gutter. Two 12-foot inside lanes and one 14-foot outside lane (to accommodate bicycles) with two-foot curb and gutter and a ten-foot berm will be provided in each direction. From approximately one mile north of Torchwood Boulevard to the proposed interchange at the US 17 Wilmington Bypass, the typical section consists of six 12-foot lanes (three in each direction) with 14-foot outside shoulders (12-foot paved) and a 46-foot median. The median for Military Cutoff Road Extension transitions from a width of 30 feet to 46 feet between Torchwood Boulevard and the proposed interchange at the US 17 Wilmington Bypass because the proposed roadway transitions from a boulevard facility with limited control of access to a freeway facility with full control of access in this area. The design speed of the proposed roadway also transitions from 50 mph (45 mph posted speed limit) to 70 mph in this area. The 46-foot median is necessary adjacent to the proposed interchange at the US 17 Wilmington Bypass to allow southbound traffic travelling at high speeds on the US 17 Hampstead Bypass, as well as traffic exiting high-speed ramps from the US 17 Wilmington Bypass, time to safely reduce speed before reaching the 45 mph speed zone for the 30-foot median section on Military Cutoff Road Extension.

As part of the improvements to the Market Street corridor associated with the construction of Military Cutoff Road Extension, Lendire Road will be realigned to form an intersection with Middle Sound Loop Road at Market Street. The proposed improvements to Lendire Road are expected to improve traffic operations along the Market Street corridor by eliminating the existing unsignalized T-intersection at Lendire Road and Market Street.

US 17 Hampstead Bypass Alternative E-H

As shown on Figure 5 and Figures 6A through 6G, US 17 Hampstead Bypass Alternative E-H begins in New Hanover County at a proposed interchange with the US 17 Wilmington Bypass and proposed Military Cutoff Road Extension, approximately midway between the I-40 and Market Street interchanges. Alternative E-H then extends to the northeast across Sidbury Road into Pender County and continues to a proposed interchange with NC 210. From its interchange at NC 210, Alternative E-H extends to the northeast and crosses Hoover Road north of South Topsail Elementary School, continuing to a proposed interchange with realigned US 17 approximately 0.7 mile west of Grandview Drive. Alternative E-H then continues behind the Topsail Schools complex before turning to the east to a proposed interchange with existing US 17 near Leeward Lane. From the interchange near Leeward Lane, Alternative E-H continues to the northeast on existing US 17 to Sloop Point Loop Road. Alternative E-H generally follows the alignment shown on the *Transportation Corridor Official Map Project R-3300 Hampstead Bypass* (2011) adopted by the Wilmington Area Metropolitan Planning Organization (see Figures 7C and 7D).

The proposed US 17 Hampstead Bypass will have full control of access. Interchanges will be constructed on the proposed US 17 Hampstead Bypass at the US 17 Wilmington Bypass/proposed Military Cutoff Road Extension, NC 210, realigned US 17 approximately 0.7 mile west of Grandview Drive, and existing US 17 at the northern end of the project near Leeward Lane. Grade separations on the proposed bypass will be provided at Sidbury Road, Harrison Creek Road, Holiday Drive, and Hoover Road. No access to the proposed project will be provided from these roadways.

A variable right-of-way width of 225 feet to 350 feet is proposed for the US 17 Hampstead Bypass (see Figure 9). The typical section from the proposed interchange at the US 17 Wilmington Bypass to the proposed interchange at NC 210 and from the proposed interchange with realigned US 17 approximately 0.7 mile west of Grandview Drive to Sloop Point Loop Road consists of six 12-foot lanes (three in each direction) with 14-foot outside shoulders (12-foot paved) and a 46-foot median. From the proposed interchange at NC 210 to the proposed interchange with realigned US 17 approximately 0.7 mile west of Grandview Drive, the roadway typical section is comprised of four 12-foot lanes (two in each direction) with 14-foot outside shoulders (12-foot paved) and a 46-foot median. A 70 mph design speed (65 mph posted speed limit) is proposed for the US 17 Hampstead Bypass.

Service Roads

The proposed Military Cutoff Road Extension and US 17 Hampstead Bypass will remove access to a number of properties that would otherwise be unaffected by the projects. As a result, ten proposed service roads (two for Military Cutoff Road Extension and eight for the US 17 Hampstead Bypass) were determined to be cost effective and are included in the preliminary design of the selected alternative. The ten proposed service roads included in the selected

alternative are shown on Figures 6A through 6G. The only purpose of the proposed service roads is to restore existing access to the properties served.

COST ESTIMATES

Table 2 shows the current cost estimate for the selected alternative based on the current preliminary design.

Table 2. Current Cost Estimate for Selected Alternative

M1+E-H (Selected Alternative)	Cost Estimate
Right-of-Way Acquisition	\$108,250,000
Utility Relocation	\$1,368,734
Wetland and Stream Mitigation	\$44,071,618
Construction	\$305,207,130
Total	\$458,897,482

SUMMARY OF IMPACTS

Table 3 shows the anticipated impacts of the selected alternative.

Table 3. Summary of Anticipated Impacts of Selected Alternative (M1+E-H)

FEATURE¹	Selected Alternative Impacts²
Length (miles)	17.5 (22.27) ³
Delineated Wetland Impacts (acres)	261.19
Delineated Stream Impacts (linear feet)	22,552
Delineated Surface Water Impacts	
• Ponds with a connection to tributary waters (acres)	3.61
• Ponds with no connection to tributary waters (acres)	1.42
• Tributary waters determined to be jurisdictional based on the presence of an OHWM (acres) ⁴	0.725
Displacements	
• Residential	60
• Business	35
• Non-profit	3
Red-cockaded Woodpecker Cluster-Level Take	1
Other Federally-Protected Species Impacts	1
Natural Heritage Program SNHA, Managed Areas, and Wetland Mitigation Sites (acres)	4.33
Prime and Unique Farmland Soils (acres)	501
Forest (acres)	546.40
100-Year Floodplain and Floodway Impacts (acres)	33.08
Historic Properties (no.)	1
Noise Receptor Impacts⁵	232
Recorded and NRHP-Eligible Archaeological Sites (no.)	1
Wildlife Refuge/Game Lands (acres)	0
Recreational Areas/Parks (no.)	0
High Quality Waters Watershed (HQW, ORW, WS Protected or Critical Areas) (acres)	20.72
Public Water Supply Wells (100-foot Buffer)	0
Cemeteries (no.)	2
Potential UST/Hazmat Sites (no.)	6
Total Cost (in millions)	\$458.9

¹Impact calculations are based on preliminary design slope stake limits plus an additional 25 feet.

²Impacts for the selected alternative include avoidance and minimization measures incorporated to date.

³Length in parenthesis () includes proposed service roads and proposed Lendire Road improvements.

⁴These waters are classified as 'Waters of the US' (impacts calculated in acres) and will not require compensatory mitigation.

⁵Impacts are based on the DEIS preliminary design with updates in accordance with the current (July 2011) NCDOT Traffic Noise Abatement Policy. A more detailed review of impacts will be completed during project final design and recommended noise barrier locations will be reviewed.

Appendix B

Revisions to the Final Environmental Impact Statement

Appendix B

Revisions to the Final Environmental Impact Statement

Section 3.5.3.2.1 – Streams

The list of streams included in the fourth sentence should include Mill Creek (Betts Creek). The sentence should read: “Futch Creek, Old Topsail Creek, Pages Creek, Nixons Creek, Mill Creek (Betts Creek), and an unnamed tributary to the Atlantic Intracoastal Waterway (AIWW) receive water from streams within the study area and are designated HQW from their source to their confluence with the AIWW.”

A tributary that is not deemed as an intermittent or perennial stream and has been identified as jurisdictional waters based on the presence of an ordinary high water mark (OHWM) by the USACE is considered surface water and does not carry a classification. The sixth sentence should read: “All unnamed tributaries deemed as an intermittent or perennial stream and not assigned a classification within the study area of the downstream streams designated HQW are classified as SA; HQW due to the classification of their receiving waters.”

The tenth sentence reads “There are no water supply watersheds (WS-I or WS-II) or North Carolina 2012 Final 303(d) listed (due to sedimentation or turbidity) streams within one mile downstream of the study area.” The following statement should be added after the tenth sentence: “There are several receiving waters within one mile downstream of the study area included on the 303 (d) list for assessment reasons other than sedimentation or turbidity.”

Section 4.6.1 – Evaluation of Indirect Effects

Several references are made in Section 4.6.1 to local and state policies and regulations that are in place to direct growth and protect sensitive environmental resources. The following statement should be inserted in Section 4.6.1, paragraph six, second sentence, to identify where additional information can be found regarding these policies and regulations: “Section 1.11 of the *Indirect and Cumulative Effects Screening Report and Land Use Scenario Assessment* (September 2013) prepared for the project provides details regarding the land use plans, zoning, and development regulations that guide land use and development in the project area.”

Appendix C

Comments on the Final Environmental Impact Statement

Appendix C

Comments on the Final Environmental Impact Statement

The following substantive comments were received on the Final Environmental Impact Statement.

Federal Agencies

United States Environmental Protection Agency, Region 4 – August 25, 2014

Comment: “EPA does not concur on a number of the responses provided to our previously identified environmental concerns, including the NEPA/Section 404 Merger team selection of the least environmentally damaging practicable alternative (LEDPA) for the R-3300/US 17 Hampstead Bypass portion of the project.”

Response: The FEIS and this State Record of Decision both provide information supporting the selection of Alternative E-H as the corridor for the proposed Hampstead Bypass. USEPA was the only member of the NEPA/404 merger team to not concur with the selection of Alternative E-H as the least environmentally damaging practicable alternative (Concurrence Point 3).

Comment: “The USACE has attempted to make a distinction between the Merger team USACE’s representative’s concurrence on LEDPA with the Section 404 permitting determination of a LEDPA (e.g., Page S-2 footnote). This project specific approach appears to contradict the intent of the multi-agency 2005 Memorandum of Understanding (MOU) regarding the selection of the LEDPA and agencies abiding by concurrence point decisions during the streamlined and combined NEPA/Section 404 process.”

Response: Comment acknowledged.

Comment: “EPA acknowledges the USACE’s regulations at 33 CFR Part 325, Appendix B, Number 9(5) and its stated role as being ‘neither an opponent nor proponent for the applicant’s proposal’. EPA also notes that the Merger team has not concurred upon all of the locations of the proposed service roads for the US 17 Hampstead Bypass (Page 2-49, Page 2 of 4 Green sheet commitment, et al) and that the NCDOT will seek formal concurrence from the Merger team after all of the options have been explored. EPA has a significant process issue with requesting Merger team concurrence following the issuance of this SFEIS.”

Response: As noted, NCDOT will continue to explore options to avoid and minimize impacts to jurisdictional resources with the proposed US 17 Hampstead Bypass service roads and will seek formal concurrence from the merger team after all service road options have been explored. NEPA/Section 404 merger team concurrence on avoidance and minimization is not required prior to the issuance of the FEIS. NCDOT will seek concurrence on proposed US 17 Hampstead Bypass service roads prior to submitting the Section 404 permit application to the US Army Corps of Engineers.

Comment: “Furthermore, recent design changes proposed by NCDOT for the Lendire Road improvements extend outside of the project study area boundary which was decided at the CP 1

Purpose and Need meeting. This new extension encompasses an additional 36 acres and potentially changes some of the human resources impacts.”

Response: This is an incorrect statement. The proposed Lendire Road improvements are included within the study area agreed on by the NEPA/404 Merger Team at the purpose and need meeting (Concurrence Point 1).

Comment: “The SFEIS does not include a Conceptual Mitigation Plan as requested by the EPA in previous correspondence for the unavoidable and substantial jurisdictional impacts. Section 4.5.4.1.2 on compensatory mitigation provides the same general approach as previous NEPA documents.”

Response: Additional details regarding the conceptual mitigation plan were provided to USEPA on June 5, 2012. As discussed in Section 4.5.4.1.2 of the FEIS, NCDOT is investigating potential on-site mitigation opportunities for the project. Several possible sites have been identified. NCDOT’s plan is to provide as much on-site mitigation as feasible, then obtain any needed off-site mitigation from the NC Ecosystem Enhancement Program. More detailed mitigation information will be provided as part of the Section 404 permitting process.

Comment: “The requirements for borrow materials that might be needed for the proposed project are also not provided and potential impacts to jurisdictional resources is not analyzed for nor disclosed in the FSEIS (Page 4-83). The NCDOT and USACE have separated this very likely project related activity to potential future permit actions under Section 404. Past projects in the coastal areas of N.C. have included this activity and the potential for additional jurisdictional impacts during the NEPA/Section 404 Merger team process.”

Response: Potential impacts of borrow sources on jurisdictional resources are typically not included in environmental documents because the location of borrow sources is determined by the contractor and jurisdictional areas are rarely used as borrow sources. Materials found in such areas are often unsuitable for use as fill. In addition, the contractor is responsible for obtaining all necessary permits and must certify the borrow source will have no effect on any property eligible for or listed on the National Register of Historic Places, as well as have no effect on any federally-protected species.

Comment: “In summary, EPA’s concerns with the proposed project as previously identified from the DEIS and SDEIS have not been fully addressed and should be further discussed in the Record of Decision (ROD). Please notify us of additional Merger team activities for this proposed project. Please provide a copy of the ROD when it becomes available and the resolution of outstanding issues involving protected species with the U.S. Fish and Wildlife Service (e.g., a copy of the Biological Opinion).”

Response: USEPA’s comments on the DEIS and SDEIS and NCDOT’s responses to each comment are documented in Section 5.5 of the FEIS. USEPA will be notified of future merger team meetings for this project. NCDOT will provide USEPA with the requested information.

Comment: “The proposed cost of the Preferred Alternative (M1+E+H) is \$458.9 million, or \$42.4 million more than EPA’s environmentally-preferred alternative M1 +U (which has lower wetland and stream impacts, less surface water impacts, less mitigation site impacts, less prime

farmland impacts, less 100-year floodplain impacts, less terrestrial forest impacts, less High Quality Waters impacts, less potential UST/Hazardous material site impacts, and less indirect and cumulative impacts to jurisdictional resources, wildlife habitat and other natural resources).”

Response: The cost included in the FEIS for Alternative M1+E-H was updated in 2014 based on the latest project design. The cost included in the FEIS for Alternative M1+U has not been updated, with the exception of correcting an error in the wetland and stream mitigation costs. The impacts and costs presented for Alternative M1+U do not include the service roads that would be required for the alternative, the realignment of Lendire Road or the additional interchange north of Topsail High School. At the time of the DEIS, Alternative M1+U was expected to cost \$42.8 million more than Alternative M1+E-H. As USEPA states in their comment, Alternative M1+U would impact less wetlands (20 percent less) and less streams (46 percent less) than Alternative M1+E-H. However, Alternative M1+U would impact three times the number of historic properties as Alternative M1+E-H and would affect substantially more homes (approximately 55 percent more), more businesses (160 percent more), more non-profit organizations (260 percent more) and would have more noise impacts than Alternative M1+E-H. Both alternatives M1+E-H and M1+U have a Biological Conclusion of “May Affect, Likely to Adversely Affect” for two federally protected species.

State Agencies

North Carolina Department of Environment and Natural Resources – Division of Water Resources – August 27, 2014

Project Specific Comments:

Comment: “Section 3.5.3.2.1 (Streams) reveals the presence of surface waters classified as SA: High Quality Waters (HQW) of the State in the project study area and list Futch Creek, Old Topsail Creek, Pages Creek, Nixons Creek and an unnamed tributary to the Atlantic Intracoastal Waterway (AIWW) as streams within one mile downstream of the study area with this classification. Table 3.8 also lists several unnamed tributaries to Mill Creek within the study area which is also classified as SA; HQW which needs to be added to the list of receiving waters with this classification that will be required to meet the protection of sensitive watershed requirements of NCDOT NPDES permit NCS0002502.”

Response: Appendix B of this State Record of Decision “Revisions to the Final Environmental Impact Statement corrects the FEIS per the comment above.

Comment: “Section 3.5.3.2.1 (Streams) states “All tributaries within the study area of the downstream streams designated HQW are classified as SA; HQW due to the classification of their receiving waters.” The term tributary in this statement can be misleading. An unnamed tributary (UT) that has been deemed as an intermittent or perennial stream and has not been assigned a classification does carry the same classification as its receiving waters. However, a tributary that is not deemed as an intermittent or perennial stream and has been identified as jurisdictional waters based on the presence of an ordinary high water mark (OHWM) by the USACE is considered surface water and does not carry a

classification.”

Response: Appendix B of this State Record of Decision “Revisions to the Final Environmental Impact Statement corrects the FEIS per the comment above.

Comment: “It is stated in Section 3.5.3.2.1 that there are no 303(d) listed waters (due to sedimentation or turbidity) on the North Carolina 2012 303(d) list within one mile downstream of the study area. While this statement may be true, there are several receiving waters within one mile downstream of the study area which is listed on the 303(d) list for different assessment reasons which needs to be disclosed in future environmental documents.”

Response: Appendix B of this State Record of Decision “Revisions to the Final Environmental Impact Statement corrects the FEIS per the comment above.

Comment: “Section 4.6.1 (Evaluation of Indirect Effects) states “Project related growth could result in negative effects to water quality and the natural environment. These effects could include a decline in water quality, an increase in the amount and rate of stormwater runoff and loss of wildlife habitat.” In addition it is stated in this section that “Indirect effects in the form of changes in land use, will be mitigated by existing development regulations such as ordinances that limit development in floodplains and require riparian buffers along streams.” Additional detailed and specific information should be included in this section on the topic of existing development regulations that effect land development within the specific project area. Some of this information was provided in the Indirect and Cumulative Effects Screening Report and Land Use Scenario Assessment (September 2013) that was prepared for this project.”

Response: Appendix B of this State Record of Decision “Revisions to the Final Environmental Impact Statement corrects the FEIS per the comment above.

Comment: As noted in NCDOT’s response to NCDWR comments in Section 5.5.1.2 of the FEIS, NCDWR will continue to work with the team to further minimize and avoid impacts and to determine an appropriate mitigation plan designed to replace appropriate lost functions and values in accordance with the Environmental Management Commission’s Rules (15A NCAC 2H.0506[h]) during the merger and individual permitting process.”

Response: Comment acknowledged.

**North Carolina Department of Environment and Natural Resources – Wilmington
Regional Office (DWM-UST) – August 27, 2014**

Comment: “I have reviewed the above mentioned project previously circulated as 14-0204, please see the comments below.

Incident #
19505 Closed
22841 Open High Risk
22178 Open High Risk

17931 Closed
7050 Closed
16267 Closed
32540 Closed
10148 Closed
32522 Closed
32113 Closed
17066 Closed
15368 Closed
23276 Closed”

Response: The two incidents listed as open are located outside of the project study area and the remaining incidents are closed. Based on this, no updates are needed to the UST analysis discussed in Sections 3.3.5 and 4.3.5 of the FEIS.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

RECEIVED

AUG 29 2014

REG. WILM. FLD. OFG.

Date: August 25, 2014

Mr. Richard W. Hancock, P.E.
Manager, Project Development and Environmental
Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

SUBJECT: EPA Review Comments of the Federal Supplemental Final Environmental Impact Statement for the Proposed US 17, Hampstead Bypass and Military Cutoff road Extension, New Hanover and Pender Counties, TIP Nos.: R-3300 and U-4751; CEQ No.: 20140219

Dear Mr. Hancock:

The U.S. Environmental Protection Agency (EPA) has reviewed the subject document and is providing comments in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The North Carolina Department of Transportation (NCDOT) and the U.S. Army Corps of Engineers (USACE) propose to construct a 17.8 mile multi-lane facility on new location with an additional interchange for the previously selected US 17 alternative and potentially 5.2 miles of recommended service roads.

EPA is a participating member of the NEPA/Section 404 Merger team for this proposed project. EPA provided review comments to the Supplemental Draft Environmental Impact Statement (SDEIS) on December 16, 2013, and on the DEIS on November 15, 2011. The USACE and NCDOT have responded to EPA's comments on pages 5-20 to 5-20, and pages 5-51 to 5-68 in the Supplemental Final EIS (SFEIS), respectively.

EPA does not concur on a number of the responses provided to our previously identified environmental concerns, including the NEPA/Section 404 Merger team selection of the least environmentally damaging practicable alternative (LEDPA) for the R-3300/US 17 Hampstead Bypass portion of the project. The USACE has attempted to make a distinction between the Merger team USACE's representative's concurrence on LEDPA with the Section 404 permitting determination of a LEDPA (e.g., Page S-2 footnote). This project specific approach appears to contradict the intent of the multi-agency 2005 Memorandum of Understanding (MOU) regarding the selection of the LEDPA and agencies abiding by concurrence point decisions during the streamlined and combined NEPA/Section 404 process.

EPA acknowledges the USACE's regulations at 33 CFR Part 325, Appendix B, Number 9(5) and its stated role as being 'neither an opponent nor proponent for the applicant's proposal'. EPA also notes that the Merger team has not concurred upon all of the locations of the proposed service roads for the US 17 Hampstead Bypass (Page 2-49, Page 2 of 4 Green sheet commitment, et al) and that the NCDOT will seek formal concurrence from the Merger team after all of the options have been explored. EPA has a significant process issue with requesting Merger team concurrence following the issuance of this SFEIS. Furthermore, recent design changes proposed by NCDOT for the Lendire Road improvements extend outside of the project study area boundary which was decided at the CP 1 Purpose and Need meeting. This new extension encompasses an additional 36 acres and potentially changes some of the human resources impacts.

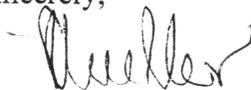
EPA acknowledges the revised project commitments and Concurrence Point 4A form for avoidance and minimization dated April 16, 2014, for the U-4751 portion of the project. A complete summary of total project impacts based upon current designs is identified in Table S-1. EPA has also summarized and characterized these impacts from the various sections of the SFEIS in Attachment A (See Attachment A).

The SFEIS does not include a Conceptual Mitigation Plan as requested by the EPA in previous correspondence for the unavoidable and substantial jurisdictional impacts. Section 4.5.4.1.2 on compensatory mitigation provides the same general approach as previous NEPA documents. The requirements for borrow materials that might be needed for the proposed project are also not provided and potential impacts to jurisdictional resources is not analyzed for nor disclosed in the FSEIS (Page 4-83). The NCDOT and USACE have separated this very likely project related activity to potential future permit actions under Section 404. Past projects in the coastal areas of N.C. have included this activity and the potential for additional jurisdictional impacts during the NEPA/Section 404 Merger team process.

In summary, EPA's concerns with the proposed project as previously identified from the DEIS and SDEIS have not been fully addressed and should be further discussed in the Record of Decision (ROD). Please notify us of additional Merger team activities for this proposed project. Please provide a copy of the ROD when it becomes available and the resolution of outstanding issues involving protected species with the U.S. Fish and Wildlife Service (e.g., a copy of the Biological Opinion).

Please feel free to contact Mr. Christopher Militscher of my staff at militscher.chris@epa.gov or 404-562-9512 should you have any questions concerning these comments.

Sincerely,



Heinz J. Mueller, Chief
NEPA Program Office

Attachment A

Cc: S. McClendon, USACE, w/attachment
B. Shaver, USACE, w/attachment
M. Herndon, NCDENR w/attachment
G. Jordan, USFWS w/attachment

Attachment A
Summary of Preferred Alternative Impacts
Supplemental Final Environmental Impact Statement
US 17, Hampstead Bypass and Military Cutoff Road Extension, New Hanover and Pender
Counties, TIP Nos.: R-3300 and U-4751

From EPA's detailed review of the SFEIS, the proposed NCDOT's U-4751/R-3300 preferred alternative and the USACE's 'Merger LEDPA' impacts in total are:

Terrestrial communities: 1,006 acres (including 546.6 acres to terrestrial forests)
Gamelands and Preservation (including mitigation sites) Areas: 4.3 acres
100-year Floodplain and Floodways: 33.1 acres
Prime and Unique Farmland Soils: 501 acres
Residential relocations: 60 (including 3 minority owned)
Business relocations: 35
Non-profit relocations: 3 (including 1 minority owned and the Pender County EMS property)
Historic properties: 1 (adverse effect)
Archeological resources: 1 (adverse effect)
Noise receptors: 232 (including 4 churches, schools or parks)
Community facilities: 2 (including the Topsail Elementary, Middle and High schools wastewater treatment plant and Pender County recycling center)
Streams: 22,552 linear feet (including 20.72 acres to High Quality Waters: HQW, ORW and WS Protected or Critical Areas)
Wetlands: 261.2 acres
Other surface waters: 5.8 acres
Federally protected species: 4 (May affect, likely to Adversely Affect)
Cemeteries: 2
Potential UST/Hazardous Material Sites: 6

The proposed cost of the Preferred Alternative (M1+E+H) is \$458.9 million, or \$42.4 million more than EPA's environmentally-preferred alternative M1+U (which has lower wetland and stream impacts, less surface water impacts, less mitigation site impacts, less prime farmland impacts, less 100-year floodplain impacts, less terrestrial forest impacts, less High Quality Waters impacts, less potential UST/Hazardous material site impacts, and less indirect and cumulative impacts to jurisdictional resources, wildlife habitat and other natural resources).



North Carolina Department of Administration

Pat McCrory, Governor

Bill Daughtridge, Jr., Secretary

September 10, 2014

Ms. Kim Gillespie
North Carolina Department of Transportation
Transportation Building
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Re: SCH File # 15-E-4220-0085; FEIS - Military cutoff extension from US 17 (Market Street) to the proposed I-140 in New Hanover County & US 17 bypass of Hampstead in New Hanover & Pender counties. TIP U-4751 & R-3300

Dear Ms. Gillespie:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are the comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

A handwritten signature in cursive script that reads "Crystal Best".

Crystal Best

State Environmental Review Clearinghouse

Attachments

cc: Region O

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail state.clearinghouse@doa.nc.gov

Location Address:
116 West Jones Street
Raleigh, North Carolina

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

COUNTY: NEW HANOVER
PENDER

F02: HIGHWAYS AND ROADS

STATE NUMBER: 15-E-4220-0085
DATE RECEIVED: 08/04/2014
AGENCY RESPONSE: 08/29/2014
REVIEW CLOSED: 09/03/2014

MS ELIZABETH HEATH
CLEARINGHOUSE COORDINATOR
DEPT OF AGRICULTURE
1001 MSC - AGRICULTURE BLDG
RALEIGH NC

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DENR LEGISLATIVE AFFAIRS
DEPT OF AGRICULTURE
DEPT OF CULTURAL RESOURCES
DEPT OF TRANSPORTATION

PROJECT INFORMATION

APPLICANT: N.C. Department of Transportation
TYPE: National Environmental Policy Act
Final Environmental Impact Statement

DESC: FEIS - Military cutoff extension from US 17 (Market Street) to the proposed I-140
in New Hanover County & US 17 bypass of Hampstead in New Hanover & Pender
counties. TIP U-4751 & R-3300

CROSS-REFERENCE NUMBER: 06-E-4220-0107 12-E-4220-0061 14-E-4220-0204

The attached project has been submitted to the N. C. State Clearinghouse for
intergovernmental review. Please review and submit your response by the above
indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED: NO COMMENT COMMENTS ATTACHED

SIGNED BY:



DATE:

8/12/14



NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

COUNTY: NEW HANOVER
PENDER

F02: HIGHWAYS AND ROADS

STATE NUMBER: 15-E-4220-0085
DATE RECEIVED: 08/04/2014
AGENCY RESPONSE: 08/29/2014
REVIEW CLOSED: 09/03/2014

MS CAROLYN PENNY
CLEARINGHOUSE COORDINATOR
CC&PS - DIV OF EMERGENCY MANAGEMENT
FLOODPLAIN MANAGEMENT PROGRAM
MSC # 4719
RALEIGH NC

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AUG 7, 2014

Division of Legislative Programs



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DEPT OF AGRICULTURE
DEPT OF CULTURAL RESOURCES
DEPT OF TRANSPORTATION

PROJECT INFORMATION

APPLICANT: N.C. Department of Transportation
TYPE: National Environmental Policy Act
Final Environmental Impact Statement

DESC: FEIS - Military cutoff extension from US 17 (Market Street) to the proposed I-140 in New Hanover County & US 17 bypass of Hampstead in New Hanover & Pender counties. TIP U-4751 & R-3300

CROSS-REFERENCE NUMBER: 06-E-4220-0107 12-E-4220-0061 14-E-4220-0204

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED: NO COMMENT COMMENTS ATTACHED

SIGNED BY:

John D. Burboaker

DATE:

18 Aug 2014

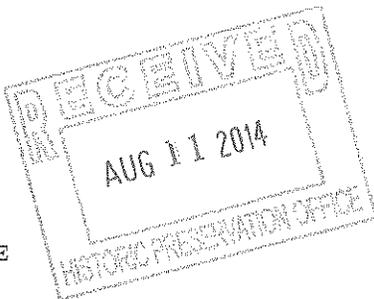
MOA addressed.

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

COUNTY: NEW HANOVER
PENDER

F02: HIGHWAYS AND ROADS

STATE NUMBER: 15-E-4220-0085
DATE RECEIVED: 08/04/2014
AGENCY RESPONSE: 08/29/2014
REVIEW CLOSED: 09/03/2014



MS RENEE GLEDHILL-EARLEY
CLEARINGHOUSE COORDINATOR
DEPT OF CULTURAL RESOURCES
STATE HISTORIC PRESERVATION OFFICE
MSC 4617 - ARCHIVES BUILDING
RALEIGH NC

EE 05-2123

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DENR LEGISLATIVE AFFAIRS
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DEPT OF CULTURAL RESOURCES
DEPT OF TRANSPORTATION

*Document addresses
A - our concerns -
Mitigation plan to be
developed, 31PD344**
BJS 8-12-14*

Due 8/11/14

PROJECT INFORMATION

APPLICANT: N.C. Department of Transportation
TYPE: National Environmental Policy Act
Final Environmental Impact Statement

Due 8/20/14 S

DESC: FEIS - Military cutoff extension from US 17 (Market Street) to the proposed I-140 in New Hanover County & US 17 bypass of Hampstead in New Hanover & Pender counties. TIP U-4751 & R-3300

CROSS-REFERENCE NUMBER: 06-E-4220-0107 12-E-4220-0061 14-E-4220-0204

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED: NO COMMENT COMMENTS ATTACHED

SIGNED BY: Renee Gledhill-Earley *Developing HOA* DATE: 8.21.14



AUG 12 2014



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

MEMORANDUM

TO: Crystal Best
State Clearinghouse

FROM: Lyn Hardison 
Division of Environmental Assistance and Customer Service
Permit Assistance & Project Review Coordinator

RE: 15-0085
Final Environmental Impact Statement
Military cutoff extension from US 17 (Market Street) to the proposed I-140 in New
Hanover County & US 17 bypass of Hampstead in New Hanover and Pender counties-
TIP U-4751 & R-3300
New Hanover and Pender Counties

Date: September 5, 2014

The Department of Environment and Natural Resources has reviewed the proposal for the referenced project. The comments are attached for the applicant's consideration.

The Department encourages the applicant to consider the attached recommendations and continue to work with our agencies during the NEPA Merger Process

Thank you for the opportunity to respond.

Attachment



North Carolina Department of Environment and Natural Resources

Division of Water Resources

Water Quality Programs

Thomas A. Reeder

Director

Pat McCrory
Governor

John E. Skvarla, III
Secretary

August 27, 2014

MEMORANDUM

To: Lyn Hardison, Environmental Coordinator, Office of Legislative and Intergovernmental Affairs

From: Mason Herndon, Division of Water Resources, Fayetteville Regional Office, *MH*
Transportation Permitting Unit

Subject: Comments on the Final Environmental Impact Statement, related to proposed SR 1409 (Military Cutoff Road) extension and the proposed Hampstead Bypass (US 17), New Hanover and Pender Counties, Federal Aid Project No. State Project No. 4091.1.2, TIP's U-4751 and R-3300, State Clearinghouse Project No. 15-0085

This office has reviewed the referenced document dated July 2014. The NC Division of Water Resources (NCDWR) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. It is our understanding that the project as presented will result in impacts to jurisdictional wetlands, streams, and other surface waters. The NCDWR offers the following comments based on review of the aforementioned document:

Project Specific Comments:

1. This project is being planned as part of the 404/NEPA Merger Process. As a participating team member, the NCDWR will continue to work with the team.
2. Section 3.5.3.2.1 (Streams) reveals the presence of surface waters classified as SA: High Quality Waters (HQW) of the State in the project study area and list Futch Creek, Old Topsail Creek, Pages Creek, Nixons Creek and an unnamed tributary to the Atlantic Intracoastal Waterway (AIWW) as streams within one mile downstream of the study area with this classification. Table 3.8 also lists several unnamed tributaries to Mill Creek within the study area which is also classified as SA; HQW which needs to be added to the list of receiving waters with this classification that will be required to meet the protection of sensitive watershed requirements of NCDOT NPDES permit NCS0002502.
3. Section 3.5.3.2.1 (Streams) states "All tributaries within the study area of the downstream streams designated HQW are classified as SA; HQW due to the classification of their receiving waters." The term tributary in this statement can be misleading. An unnamed tributary (UT) that has been deemed as an intermittent or perennial stream and has not been assigned a classification does carry the same classification as its receiving waters. However, a tributary that is not deemed as an

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-733-1290
Internet: www.ncwaterquality.org

One
North Carolina
Naturally

intermittent or perennial stream and has been identified as jurisdictional waters based on the presence of an ordinary high water mark (OHWM) by the USACE is considered surface water and does not carry a classification.

4. It is stated in Section 3.5.3.2.1 that there are no 303(d) listed waters (due to sedimentation or turbidity) on the North Carolina 2012 303(d) list within one mile downstream of the study area. While this statement may be true, there are several receiving waters within one mile downstream of the study area which is listed on the 303(d) list for different assessment reasons which needs to be disclosed in future environmental documents.
5. Section 4.6.1 (Evaluation of Indirect Effects) states "Project related growth could result in negative effects to water quality and the natural environment. These effects could include a decline in water quality, an increase in the amount and rate of stormwater runoff and loss of wildlife habitat." In addition it is stated in this section that "Indirect effects in the form of changes in land use, will be mitigated by existing development regulations such as ordinances that limit development in floodplains and require riparian buffers along streams." Additional detailed and specific information should be included in this section on the topic of existing development regulations that effect land development within the specific project area. Some of this information was provided in the Indirect and Cumulative Effects Screening Report and Land Use Scenario Assessment (September 2013) that was prepared for this project.
6. As noted in NCDOT's response to NCDWR comments in Section 5.5.1.2 of the FEIS, NCDWR will continue to work with the team to further minimize and avoid impacts and to determine an appropriate mitigation plan designed to replace appropriate lost functions and values in accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]) during the merger and individual permitting process.

General Comments:

7. Future documentation, including the 401 Water Quality Certification Application, shall continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.
8. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. To meet the requirements of NCDOT's NPDES permit NCS0000250 please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual for approved measures.
9. Sediment and erosion control measures should not be placed in wetlands or streams.
10. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
11. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.

12. Unless otherwise authorized, placement of culverts and other structures in waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required.
13. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
14. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3883/Nationwide Permit No. 6 for Survey Activities.
15. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.
16. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of the NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
17. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
18. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.
19. Riparian vegetation (native trees and shrubs) shall be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
20. The NCDOT is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.
21. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater shall not be permitted to discharge directly into streams or surface waters.

The NCDWR appreciates the opportunity to provide comments on your project. Should you have any questions or require any additional information, please contact Mason Herndon at (910) 308-4021 or mason.herndon@ncdenr.gov.

cc: Brad Shaver, US Army Corps of Engineers, Wilmington Field Office
Stoney Mathis, Division 3 Environmental Officer
Travis Wilson, NC Wildlife Resources Commission
Steve Sollod, NC Coastal Management
Ron Lucas, Federal Highway Administration
Cynthia Van Der Wiele, Environmental Protection Agency
Gary Jordan, US Fish and Wildlife Service
Jackie Roddy, NCDWR
Sonia Carrillo, NCDWR Central Office
File Copy

State of North Carolina
 Department of Environment and Natural Resources
 INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

Reviewing Office: WIRO

Project Number 15-0085 Due Date: 8/29/2014
 County NHC/Pender

After review of this project it has been determined that the ENR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
<input type="checkbox"/>	Permit to construct & operate wastewater treatment facilities, sewer system extensions & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts. On-site inspection. Post-application technical conference usual.	30 days (90 days)
<input type="checkbox"/>	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
<input type="checkbox"/>	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
<input type="checkbox"/>	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
<input type="checkbox"/>	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
<input type="checkbox"/>	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.0100 thru 2Q.0300)	Application must be submitted and permit received prior to construction and operation of the source. If a permit is required in an area without local zoning, then there are additional requirements and timelines (2Q.0113).	90 days
<input type="checkbox"/>	Permit to construct & operate Transportation Facility as per 15 A NCAC (2D.0800, 2Q.0601)	Application must be submitted at least 90 days prior to construction or modification of the source.	90 days
<input type="checkbox"/>	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900	N/A	60 days (90 days)
<input type="checkbox"/>	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 20.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950.		
<input type="checkbox"/>	Complex Source Permit required under 15 A NCAC 2D.0800		
<input type="checkbox"/>	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Section) At least 30 days before beginning activity. A fee of \$65 for the first acre or any part of an acre. An express review option is available with additional fees.		20 days (30 days)
<input checked="" type="checkbox"/>	Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable stormwater conveyances and outlets.		(30 days)
<input type="checkbox"/>	Mining Permit	On-site inspection usual. Surety bond filed with ENR Bond amount varies with type mine and number of acres of affected land. Any acre mined greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
<input type="checkbox"/>	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
<input type="checkbox"/>	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.C. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual burn is planned."	1 day (N/A)
<input type="checkbox"/>	Oil Refining Facilities	N/A	90-120 days (N/A)
<input type="checkbox"/>	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans, inspect construction, certify construction is according to ENR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of \$200.00 must accompany the application. An additional processing fee based on a percentage of the total project cost will be required upon completion.	30 days (60 days)

Project Number: <u>15-0085</u> Due Date: <u>8/29/2014</u>			Normal Process Time (statutory time limit)
PERMITS		SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	
<input type="checkbox"/>	Permit to drill exploratory oil or gas well	File surety bond of \$5,000 with ENR running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to ENR rules and regulations.	10 days N/A
<input type="checkbox"/>	Geophysical Exploration Permit	Application filed with ENR at least 10 days prior to issue of permit. Application by letter. No standard application form.	10 days N/A
<input type="checkbox"/>	State Lakes Construction Permit	Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.	15-20 days N/A
<input type="checkbox"/>	401 Water Quality Certification	N/A	60 days (130 days)
<input type="checkbox"/>	CAMA Permit for MAJOR development	\$250.00 fee must accompany application	55 days (150 days)
<input type="checkbox"/>	CAMA Permit for MINOR development	\$50.00 fee must accompany application	22 days (25 days)
<input type="checkbox"/>	Several geodetic monuments are located in or near the project area. If any monument needs to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687 Raleigh, NC 27611		
<input type="checkbox"/>	Abandonment of any wells, if required must be in accordance with Title 15A. Subchapter 2C.0100.		
<input checked="" type="checkbox"/>	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
<input checked="" type="checkbox"/>	Compliance with 15A NCAC 2H 1000 (Coastal Stormwater Rules) is required.		45 days (N/A)
<input type="checkbox"/>	Tar Pamlico or Neuse Riparian Buffer Rules required.		
<input checked="" type="checkbox"/>	Plans and specifications for the construction, expansion, or alteration of a public water system must be approved by the Division of Water Resources/Public Water Supply Section prior to the award of a contract or the initiation of construction as per 15A NCAC 18C .0300 et. seq. Plans and specifications should be submitted to 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. All public water supply systems must comply with state and federal drinking water monitoring requirements. For more information, contact the Public Water Supply Section, (919) 707-9100.		30 days
<input checked="" type="checkbox"/>	If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Water Resources/Public Water Supply Section at 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. For more information, contact the Public Water Supply Section, (919) 707-9100.		30 days

Other comments (attach additional pages as necessary, being certain to cite comment authority)

Division	Initials	No comment	Comments	Date Review
DAQ	DAC	<input checked="" type="checkbox"/>		8/25/14
DWR-WQROS (Aquifer & Surface)	JHG	<input checked="" type="checkbox"/>	No additional comments	9/3/14
DWR-PWS	DJW	<input type="checkbox"/>	Comments above also apply to any water supply wells that serve public water systems (community or non-transient non-community water systems) that may be impacted by this planned project.	8/26/14
DEMLR (LQ & SW)	DES	<input checked="" type="checkbox"/>		8/13/14
DWM - UST	WER	<input type="checkbox"/>	I have reviewed the above mentioned project previously circulated as 14-0204, please see the comments below. Incident # 19505 Closed 22841 Open High Risk 22178 Open High Risk 17931 Closed 7050 Closed 16267 Closed 32540 Closed 10148 Closed 32522 Closed 32113 Closed 17066 Closed 15368 Closed 23276 Closed	8/27/14