



PAT McCrory  
*Governor*

NICHOLAS J. TENNYSON  
*Secretary*

December 21, 2016

US Army Corps of Engineers  
69 Darlington Avenue  
Wilmington, North Carolina 28403

Attention: Mr. Brad Shaver  
NCDOT Coordinator

Dear Sir:

**Subject: Application for Section 404 Individual Permit and Section 401 Water Quality Certification** for the proposed SR 1409 (Military Cutoff Road) extension and US 17 Hampstead Bypass in New Hanover and Pender Counties. TIP Nos. U-4751 & R-3300. Debit \$570 from WBS 40191.1.2.

The North Carolina Department of Transportation (NCDOT) proposes to construct a 5.5 mile 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). Partial and full control of access is proposed.

NCDOT is also proposing the future US 17 Hampstead Bypass to 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 purpose of this letter is to request approval for a Section 404 Individual Permit and Section 401 Water Quality Certification. In addition to this cover letter, this application package includes the following for U-4751 & R-3300: ENG Form 4345, stormwater management plan, permit drawings, roadway plans, Transfer of Liability Form from Northeast Cape Fear Mitigation Bank, DMS Acceptance Letter, and 4B/4C merger meeting minutes.

### **Purpose and Need**

The purpose of the project as stated in the State Record of Decision (SROD) is to improve the traffic carrying capacity and safety of the US 17 and Market Street corridor in the study area.

### **Project Description**

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. 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 are 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.

### **Project Schedule**

U-4751 & R-3300, for planning purposes, were combined to evaluate them from a system-wide perspective. Considering them together allowed for a more comprehensive evaluation of direct and indirect impacts of the larger system. Currently, U-4751 is scheduled to let October 17, 2017 and R-3300 is currently not funded for construction in the 2016-2025 STIP. Permit drawings for the proposed U-4751 have been completed and preliminary estimates, based on preliminary slope stakes plus 25 feet have been calculated for R-3300. The NCDOT will apply for any relevant permit modifications for R-3300 when final design is complete. Construction will not commence on R-3300 until permit modifications have been received based on final design.

### **Summary of Impacts**

For U-4751, proposed permanent impacts to jurisdictional areas total 59.99 acres of permanent wetland impacts, 2,122 linear feet of permanent stream impacts (including 55' of bank stabilization), and 7.76 acres of permanent surface water impacts. Preliminary proposed impacts (based on proposed slope stakes, plus 25 feet) for R-3300 include, 155.86 acres of permanent wetland impacts, 11,900 linear feet of permanent stream impacts, and 2.56 acres of permanent surface water impacts.

### **Summary of Mitigation**

The NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible. The proposed construction of U-4751 will result in unavoidable impacts 59.99 acres of non-riparian wetlands and 2,122 linear feet of jurisdictional stream that will require mitigation. The Department has acquired compensatory mitigation for the unavoidable impacts to non-riparian wetlands from the Northeast Cape Fear Mitigation Bank. The stream mitigation will be provided by the North Carolina Department of Environmental Quality (NCDEQ)-Division of Mitigation Services (DMS).

### **SEPA Document Status**

The Final Environmental Impact Statement (FEIS) and the SROD were approved in July 2014 and September 2014 respectively for U-4751 & R-3300. These documents are available at <https://xfer.services.ncdot.gov/pdea/EnvironmentalDocs/Documents/>.

### **Resource Status**

These projects are located in the Cape Fear and White Oak River Basins (Hydrologic Units 03030007 and 03020302), within the Southern Outer Coastal Plain eco-region. The project crosses several unnamed tributaries, surface waters, and wetlands. One stream, Howe Creek, within one mile downstream of the project area receives water from streams within the project area and has been designated as High Quality Water (HQW) and an Outstanding Resource Water (ORW) by the North Carolina Division of Water Resources (NCDWR). All tributaries within the project area of the downstream streams designated HQW



are classified as SA; HQW due to the classification of their receiving waters. However, most of the streams within the project area have a best usage classification of C; Sw.

Wetland and stream delineations were reviewed at various times between May 2010 and May 2015. Jurisdictional areas within the project study area were reviewed by the USACE (Brad Shaver) and by NCDWR (Mason Herndon) on November 6, 2014.

### Impacts to Jurisdictional Resources

Impacts to jurisdictional wetlands and surface waters for U-4751 are summarized below in Tables 1 and 2 respectively. Wetland BWD at Permit Drawing Site 1 is located in the 8 digit hydrologic unit 03020202 of the White Oak River Basin. All other impacts are located in the 8 digit hydrologic unit 03030007 of the Cape Fear River Basin. Preliminary impacts to jurisdictional wetlands and surface waters for R-3300, based on proposed slop stakes plus 25 feet, are summarized in Tables 3 and 4 respectively.

**Table 1. U-4751 Wetland Impacts**

Permit Drawing Site Number	FEIS Label	Type	Permanent Impacts (ac.)	Temporary Impacts (ac.)	Mitigation Required
1	BWD	Non-riparian	0.02	0	Yes
1	BWD	Non-riparian	1.31	0	Yes
2	BWC/BWB	Non-riparian	0.29	0	Yes
3	PD-04	Non-riparian	5.53	0	Yes
4	PD-03	Non-riparian	6.63	0	Yes
5	PD-01	Non-riparian	< 0.01	0	Yes
15	BWI	Non-riparian	0.03	0	Yes
16	CWA	Non-riparian	6.06	0	Yes
19	CWB	Non-riparian	0.52	0	Yes
21	CWB	Non-riparian	4.40	0	Yes
23	CWB/CSC	Non-riparian	6.89	0	Yes
24	CWB	Non-riparian	0.07	0	Yes
26	CWF	Non-riparian	11.77	0	Yes
28	CWD	Non-riparian	4.89	0	Yes
33	CWE	Non-riparian	6.16	0	Yes
37	CWE	Non-riparian	5.28	0	Yes
39	CWF	Non-riparian	0.13	0	Yes
41	ZWDD	Non-riparian	0.01	0	Yes
<b>Total:</b>			<b>59.99</b>	<b>0</b>	

**Table 2. U-4751 Surface Water Impacts**

Permit Drawing Site Number	FEIS Label	Type	Permanent (lf)	Temporary (lf)	Permanent (ac.)	Temporary (ac.)	Mitigation Required
1	BDitch1	T-WoUS			0.03	< 0.01	No
6	BSL	T-WoUS			0.21	0.03	No
6*	BSJ	T-WoUS			< 0.01	0	No
7	BSJ	T-WoUS			0.16	0	No
8	BSK	T-WoUS			0.47	0	No
9	BPE	Pond			0.51	0	No



10	BSA	Perennial	373	201	0.34	0.19	Yes (2:1)
11	BSM/BSN	T-WoUS			0.28	0	No
12	BPF	Pond			0.70	0	No
13	BSM	T-WoUS			< 0.01	< 0.01	No
14	BSO/BSQ	T-WoUS			2.05	0.02	No
15	BSP/BWI	Perennial	303	58	0.15	0.02	Yes (2:1)
17	CSH	T-WoUS			0.06	< 0.01	No
18	CSI	Intermittent	231	19	0.07	< 0.01	Yes (1:1)
20	CSG	T-WoUS			0.11	0	No
22	CSD/CSE	T-WoUS			0.98	0.02	No
23	CSC	T-WoUS			0.42	0.04	No
25	CSB	Perennial	251	16	0.12	< 0.01	Yes (1:1)
27	CSA	Perennial	544	46	0.25	0.02	Yes (1:1)
27*	CSA	Perennial	14	0	< 0.01	0	Yes (1:1)
29	CSA	Perennial	34	46	< 0.01	0.02	Yes (1:1)
30	CSJ	T-WoUS			0.14	< 0.01	No
30*	CSJ	T-WoUS			< 0.01	0	No
31	CSJ	T-WoUS			0.08	0.01	No
32	CSA	Perennial	36	33	< 0.01	0.02	Yes (1:1)
34	CSA	Perennial	32	37	0.01	0.01	Yes (1:1)
35	CSK	T-WoUS			0.19	< 0.01	No
35*	CSK	T-WoUS			< 0.01	0	No
36	FSJ	Perennial	200	56	0.34	0.04	Yes (2:1)
36*	FSJ	Perennial	41	0	0.02	0	Yes (1:1)
38	ZSK	Perennial	43	10	0.01	0.02	Yes (2:1)
40	CSB	Perennial	20	0	0.06	0	Yes (1:1)
<b>Total:</b>			<b>2,122</b>	<b>522</b>	<b>7.77</b>	<b>0.50</b>	

\*Bank Stabilization

T-WoUS – Tributary to Waters of the U.S.

**Table 3. R-3300 Selected Alternative Preliminary Design Wetland Impacts**

<b>FEIS Label</b>	<b>Type</b>	<b>NCDWR Wetland Rating</b>	<b>Preliminary Impacts (acres)</b>
FWB	Riparian	20	5.01
FWC2	Riparian	48	1.45
FWF	Non-riparian	37	5.83
	Riparian	37	1.08
FWHB	Non-riparian	24	0.04
FWI	Non-riparian	17	0.38
FWL	Non-riparian	19	0.03
FWY	Non-riparian	20	0.18
HBAA3	Riparian	32	0.25
HBAB	Non-riparian	27	1.09
HBWD4	Riparian	83	1.19
HBWF	Riparian	32	0.78
HBWK5	Riparian	83	1.47
HBWT	Non-riparian	14	0.39
HWB	Riparian	50	2.31
HWD	Non-riparian	21	0.35



<b>FEIS Label</b>	<b>Type</b>	<b>NCDWR Wetland Rating</b>	<b>Preliminary Impacts (acres)</b>
HWG6	Riparian	15	0.87
HWH	Non-riparian	26	0.15
HWH1	Non-riparian	26	0.08
HWH2	Non-riparian	26	0.03
HWH3	Non-riparian	26	0.07
HWH4	Non-riparian	26	0.02
HWH5	Non-riparian	26	0.23
HWY	Non-riparian	26	0.17
HWZ	Non-riparian	21	0.01
HWAA7	Non-riparian	40	8.52
	Riparian	40	1.64
HWHH	Non-riparian	34	0.90
HWMX	Non-riparian	40	0.05
IWA	Riparian	80	0.03
IWB	Riparian	25	0.09
IWC	Riparian	20	0.21
IWD	Non-riparian	31	17.71
	Riparian	31	0.39
IWE	Non-riparian	13	0.16
JWKX	Non-riparian	14	1.90
KWG	Non-riparian	43	0.71
LWA	Riparian	70	0.13
LWB	Riparian	72	8.36
LWD	Riparian	83	5.84
LWD1	Riparian	48	0.08
LWE	Non-riparian	29	0.49
LWF	Non-riparian	11	0.10
LWG	Non-riparian	46	0.01
LWH	Non-riparian	23	0.01
LWI	Riparian	80	2.50
LWJ	Non-riparian	40	5.50
LWK	Riparian	78	0.36
LWL	Riparian	76	0.28
MWA	Non-riparian	36	0.00
MWM(2)	Non-riparian	68	2.61
	Riparian	68	0.09
NWA	Non-riparian	12	0.01
NWB	Non-riparian	13	0.04
NWE	Non-riparian	12	0.03
NWF	Non-riparian	12	0.05
NWJ	Non-riparian	12	0.10
NWK	Non-riparian	12	0.04
NWM	Non-riparian	22	1.01
NWO	Non-riparian	17	3.69
NWP	Non-riparian	17	32.38



<b>FEIS Label</b>	<b>Type</b>	<b>NCDWR Wetland Rating</b>	<b>Preliminary Impacts (acres)</b>
ZWCC	Riparian	28	0.06
ZWDD	Non-riparian	26	0.92
	Riparian	26	0.24
PD-11	Non-riparian	N/A	0.04
PD-15	Non-riparian	N/A	0.53
PD-16	Non-riparian	N/A	0.63
PD-29	Non-riparian	N/A	10.58
PD-31	Non-riparian	N/A	2.02
PD-32	Non-riparian	N/A	2.44
	Riparian	N/A	0.92
PD-33	Non-riparian	N/A	7.79
	Riparian	N/A	0.67
PD-34	Non-riparian	N/A	2.30
PD-35	Non-riparian	N/A	7.24
<b>Total:</b>			<b>155.86</b>

**Table 4. R-3300 Selected Alternative Preliminary Design Stream Impacts**

<b>FEIS Label</b>	<b>Preliminary Impact (feet)</b>	<b>Compensatory Mitigation Required</b>	<b>Type</b>
FSA	2,131	Yes	Perennial
FSE	331	Yes	Perennial
FSH	135	Yes	Intermittent
FSI	274	Yes	Perennial
FSJ	859	Yes	Intermittent
HBSAA	214	Yes	Intermittent
HBSC	350	Yes	Perennial
HBSD(1)	161	Yes	Intermittent
	117	Yes	Perennial
HBSH	320	Yes	Intermittent
HSC	408	Yes	Perennial
HSX	310	Yes	Perennial
LSB	1,499	Yes	Perennial
LSC	861	Yes	Perennial
LSCA	336	Yes	Intermittent
	107	Yes	Perennial
LSCAA	206	Yes	Perennial
LSCB	298	Yes	Perennial
LSCC	273	Yes	Perennial
LSCF	120	Yes	Intermittent
LSD	278	Yes	Perennial
LSDA	195	Yes	Intermittent
NSA	344	Yes	Intermittent



<b>FEIS Label</b>	<b>Preliminary Impact (feet)</b>	<b>Compensatory Mitigation Required</b>	<b>Type</b>
	110	Yes	Perennial
NSF	483	Yes	Intermittent
	290	Yes	Perennial
ZSK	850	Yes	Perennial
ZSL	40	Yes	Perennial
<b>Total:</b>	<b>11,900</b>		

**Table 5. R-3300 Selected Alternative Preliminary Design Open Water Impacts**

<b>FEIS Label</b>	<b>Type</b>	<b>Impacts (acres)</b>
IPE	Stormwater Pond	0.27
JPD	Depression	1.71
KPB	Depression	0.34
LPB	Pond	0.38
LPD	Pond	0.02
LPE	Pond	0.36
NPA	Pond	0.01
NPC	Stormwater Pond	0.06
NPE	Water Treatment Pond	0.70
FSH	Tributary to Waters of the US	0.05
FSH	Tributary to Waters of the US	0.02
NDITCH1	Tributary to Waters of the US	0.04
ZTRIB1	Tributary to Waters of the US	< 0.01
<b>Total:</b>		<b>3.96</b>

**Permanent Impacts:** Proposed permanent impacts for U-4751 include 55.19 acres of fill and 4.80 acres of mechanized clearing in non-riparian wetlands. Proposed permanent impacts to surface waters include 2,122 linear feet of fill in jurisdictional streams, and 7.77 acres of fill in open water.

Proposed preliminary impacts for R-3300 include 155.56 acres of fill and mechanized clearing in jurisdictional wetlands. Proposed preliminary impacts to surface waters include 11,900 linear feet of fill in jurisdictional streams and 3.96 acres of fill in open water.

**Temporary Impacts:** There will be 522 linear feet of temporary impacts to jurisdictional streams and 0.50 acre of temporary impacts to open water due to pipe/culvert installations for U-4751.

**Utility Impacts:** There will be less than 0.01 acre of permanent fill and 0.03 acre of temporary fill in wetlands as a result of utility relocations. Please see the attached utility narrative and drawings for more detailed information.

### **Protected Species**

The USFWS lists 17 species that are federally protected in both New Hanover and Pender Counties as of the April 2, 2015 and March 25, 2015 (respectively) listings (Table 5).



**Table 5. Federally Protected Species Listed for New Hanover and Pender Counties**

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion	County
<i>Alligator mississippiensis</i>	American alligator	T(S/A)	Yes	Not Required	New Hanover Pender
<i>Chelonia mydas</i>	Green sea turtle	T	No	No Effect	New Hanover Pender
<i>Caretta caretta</i>	Loggerhead sea turtle	T	No	No Effect	New Hanover Pender
<i>Eretmochelys imbricata</i>	Hawksbill (=carey) sea turtle	E	No	No Effect	New Hanover Pender
<i>Lepidochelys kempii</i>	Kemp's (=Atlantic) ridley sea turtle	E	No	No Effect	New Hanover Pender
<i>Dermochelys coriacea</i>	Leatherback sea turtle	E	No	No Effect	New Hanover Pender
<i>Charadrius melodus</i>	Piping plover	T	No	No Effect	New Hanover Pender
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	Yes	MA-LAA	New Hanover Pender
<i>Calidris canutus rufa</i>	Red knot	T	No	No Effect	New Hanover Pender
<i>Acipenser oxyrinchus oxyrinchus</i>	Atlantic sturgeon	E	No	No Effect	New Hanover Pender
<i>Acipenser brevirostrum</i>	Shortnose sturgeon	E	No	No Effect	New Hanover Pender
<i>Myotis septentrionalis</i>	Northern long-eared bat	T	Yes	MA-LAA	New Hanover
<i>Trichechus manatus</i>	West Indian manatee	E	No	No Effect	New Hanover Pender
<i>Schwalbea americana</i>	American chaffseed*	E	Yes*	No Effect	Pender
<i>Thalictrum cooleyi</i>	Cooley's meadowrue	E	Yes	No Effect	New Hanover Pender
<i>Carex lutea</i>	Golden sedge	E	Yes	No Effect	Pender
<i>Lysimachia sperulaefolia</i>	Rough-leaved loosestrife	E	Yes	MA-NLAA	New Hanover Pender
<i>Amaranthus pumilus</i>	Seabeach amaranth	T	No	No Effect	New Hanover Pender

E – Endangered, T – Threatened, T(S/A) – Threatened due to Similarity of Appearance,

MA-LAA - May Affect, Likely to Adversely Affect, MA-NLAA - May Affect, Not Likely to Adversely Affect

\* - Historic record (the species was last observed in the county more than 50 years ago)

**Biological Conclusions for Federally Listed Species:** NCDOT has determined the Biological Conclusion for the red-cockaded woodpecker (RCW) is May Affect, Likely to Adversely Affect. A Biological Opinion (BO) was signed by the USFWS on July 21, 2016 (additional copies are available upon request). In the BO the USFWS listed two Reasonable and Prudent Measures and three Terms and Conditions, which implement the Reasonable and Prudent Measures.



The Reasonable and Prudent Measures include the requirement that NCDOT completes the transfer of the conservation properties (outlined in the Conservation Measures section the BO) to the NC Wildlife Resources Commission (NCWRC) in a timely manner, and an RCW cavity tree survey and foraging habitat analysis data will be updated within the Section 7 action area prior to project construction.

The three Terms and Conditions are as follows: 1) Within 90 days of the completion of formal Section 7 consultation, NCDOT will initiate the execution of a Memorandum of Understanding with the NCWRC regarding the management and ownership of the referenced conservation properties, 2) within 180 days of the completion of formal Section 7 consultation, the NCDOT will convey the title to approximately 81.6 acres (i.e. portions of referenced Hampstead Commons, IBIS, and Pensco properties) to the NCWRC for inclusion into Holly Shelter Game Land, and 3) if at the projected date of project let for any portion of R-3300 that occurs within the defined Section 7 action area, the cavity tree survey data and foraging habitat analysis data is more than two years old, additional surveys and foraging habitat analysis will be conducted. At that time, the action agencies and the Service will determine if Section 7 consultation needs to be reinitiated prior to the project let date.

NCDOT provided the MOU to NCWRC and began the process to transfer the conservation properties in June 2016. Since the Section 7 action area is within the corridor of R-3300, NCDOT will schedule the cavity tree survey and foraging habitat analysis once R-3300 is programed in the STIP and a project letting date has been determined.

In addition to the RCW, NCDOT has concluded the Biological Conclusion for rough-leaved loosestrife is May Affect, Not Likely to Adversely Affect due to the proximity of the project to a known occurrence of this species; however, project construction will not have an impact on existing rough-leaved loosestrife habitat at the site (including future habitat management), nor will the hydrology of the site be affected by the project. A minimal amount of fill and clearing will occur along the existing US 17 bypass slope (approximately 0.14 acre along 750' of slope). The fill and clearing is approximately 150' from the rough-leaved loosestrife site.

The USFWS has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect." The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes New Hanover and Pender Counties, where U-4751 and R-3300 are located.

For the remaining federally protected species, NCDOT has concluded these projects will have No Effect (see Table 4).

Bald and Golden Eagle Protection Act (BGPA): In the July 9, 2007 Federal Register (72:37346-37372), the bald eagle was declared recovered, and removed (de-listed) from the Federal List of Threatened and Endangered wildlife. This delisting took effect August 8, 2007. After delisting, the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668d) became the primary law protecting bald eagles. Nesting and foraging habitat are not present in the project area, nor have bald eagle nests or individuals have been seen within a 660-foot radius of the project area.

Moratoria: There are no in-stream work moratoria required for U-4751 or R-3300.



Essential Fish Habitat: The project will not impact any Essential Fish Habitat afforded protection under the Magnuson-Stevens Act of 1996 (16 U.S.C 1801 et seq.).

## **Cultural Resources**

It was determined the project will have an adverse effect on the Mount Ararat AME Church and archaeological site (31PD344\*\*), both of which have been deemed eligible for the National Register of Historic Places. As a result NCDOT, USACE, and NC State Historic Preservation Officer (SHPO) have signed a Memorandum of Agreement (MOA) stipulating steps to mitigate the adverse effects. Please reference the MOA (additional copies are available upon request) for more detailed information on these adverse effects and resultant stipulations.

## **FEMA Compliance**

The project has been coordinated with appropriate state and local officials and the Federal Emergency Management Agency (FEMA) to assure compliance with FEMA, state, and local floodway regulations.

## **Mitigation Options**

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. Avoidance measures were taken during planning and SEPA compliance stages; minimization measures were incorporated as part of the project design.

Avoidance and Minimization: All jurisdictional features were delineated, field verified and surveyed within the corridor for U-4751 & R-3300. Using these features, preliminary designs were adjusted to avoid and/or minimize impacts to jurisdictional areas. NCDOT employs many strategies to avoid and minimize impacts to jurisdictional areas in all of its designs. Many of these strategies have been incorporated into BMP documents that have been reviewed and approved by the resource agencies and which will be followed throughout construction. All wetland areas not affected by the project will be protected from unnecessary encroachment. Individual avoidance and minimization items are as follows:

- No staging of construction equipment or storage of construction supplies will be allowed in wetlands or near surface waters.
- The project was designed to avoid or minimize disturbance to aquatic life movements.
- NCDOT and its contractors will not fill or perform land clearing activities within Waters of the U.S. or any areas under the jurisdiction of the USACE, except as authorized by the USACE. To ensure that all borrow and waste activities occur on high ground, except as authorized by permit, the NCDOT shall require its contractors to identify all areas to be used to borrow material, or to dispose of dredged, fill or waste material. Documentation of the location and characteristics of all borrow and disposal sites associated with the project will be available to the USACE on request.
- Grass swale, median roadway ditches and riprap dissipater treatments have been incorporated where applicable.
- Proposed box culverts will be buried 1 ft. to provide for fish passage.
- Cross pipes in jurisdictional streams will be buried 1ft. for all pipes where possible.
- Sediment and erosion control devices will be utilized where appropriate.
- Bank stabilization at outlets of pipes will not impact the stream bed where possible.
- Considering environmental, hydraulic, and roadway perspectives, 3:1 slopes are proposed within the wetlands where most practical.



Compensation: The NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible. If and when R-3300 is programed in the STIP, NCDOT will provide compensatory mitigation for proposed impacts within the R-3300 project footprint prior to the permit modification request.

The proposed construction of U-4751 will result in unavoidable impacts 59.99 acres of non-riparian wetlands and 2,122 linear feet of jurisdictional stream that will require mitigation. The stream mitigation will be provided by the North Carolina Department of Environmental Quality (NCDEQ)-Division of Mitigation Services (DMS). The majority of the wetland impacts are in the 8 digit hydrologic unit 03030007 of the Cape Fear River Basin. Of the total impacts, only 1.32 acres are just outside this hydrologic unit in the adjacent 8 digit hydrologic unit 03020302 of the White Oak River basin. The 1.32 acres is comprised of Wetland BWD at Permit Site 1. This is a non-riparian wetland described in the NRTR as a Wet Pine Flatwood. It is surrounded by urban development with manipulated drainage. The Department proposes to provide wetland mitigation within the Cape Fear 03030007 for all wetland impacts.

The Department has acquired compensatory mitigation for the unavoidable impacts to non-riparian wetlands from the Northeast Cape Fear Mitigation Bank. The Northeast Cape Fear Mitigation Bank is located in Pender County within the USGS hydrologic unit 03030007 of the Cape Fear River. The bank is located immediately north of the intersection of NC Highway 21 and Shaw Highway (SR 1522) approximately 12 miles north of Wilmington, NC. It is situated between northeast Cape Fear River and the state protected Holly Shelter Game Lands in Pender County. NCDOT purchased 200 acres of non-riparian wetland credits from the bank in March 2016, of which 120.00 acres will be debited from the NECFM Bank's ledger for U-4751 as shown below. The transfer of liability form is attached below.

Mitigation Type	Debit Amount (acers)	Site TIP	Notes
Non-Riparian Wetland Restoration	2.64	U-4751 (03020302)	Impacts were 1.32 acers calculated with a 2:1 ratio
Non-Riparian Wetland Restoration	117.34	U-4751 (03030007)	Impacts were 58.67 Acres calculated with a 2:1 ratio

### **Indirect and Cumulative Effects**

An Indirect and Cumulative Effects Screening Report and Land Use Scenario Assessment for the subject projects was completed in September 2013. Cumulatively, the construction of Military Cutoff Road Extension and the Hampstead Bypass combined with past NCDOT projects (US 17 Wilmington Bypass) that provide improved east-west regional access, and continued commercial and residential development within the study area, could contribute to cumulative impacts to environmental resources in the study area. Substantial development resulting exclusively from this project and the associated service roads is not expected. Any development that occurs would be implemented in accordance with local ordinances and land use plans. The proposed project is not likely to result in significant changes in land use. Therefore, cumulative effects beyond those discussed above are expected to be low.

### **Regulatory Approvals**



within the study area, could contribute to cumulative impacts to environmental resources in the study area. Substantial development resulting exclusively from this project and the associated service roads is not expected. Any development that occurs would be implemented in accordance with local ordinances and land use plans. The proposed project is not likely to result in significant changes in land use. Therefore, cumulative effects beyond those discussed above are expected to be low.

### **Regulatory Approvals**

Section 404: Application is hereby made for a USACE Individual 404 Permit as required for the above-described activities.

Section 401: We are requesting a Section 401 Water Quality Certification from NCDWR. We are providing this application to NCDEQ, for their approval. Authorization to debit the \$570 Permit Application Fee from WBS Element 40191.1.2 is hereby given.

CAMA: Under separate cover, NCDOT is submitting a request for a CAMA Federal Consistency Review from the N. C. Division of Coastal Management for U-4751 & R-3300.

A copy of this permit request and its distribution list will be posted on the NCDOT website at: <https://connect.ncdot.gov/resources/Environmental>

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Tyler Stanton at [tstanton@ncdot.gov](mailto:tstanton@ncdot.gov) or (919) 707-6156.

Sincerely,



*Per*

Philip S. Harris III, P.E., C.P.M.  
Natural Environment Section Head

cc:

NCDOT Permit Application Standard Distribution List



**U.S. ARMY CORPS OF ENGINEERS**  
**APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT**  
33 CFR 325. The proponent agency is CECW-CO-R.

*Form Approved -*  
*OMB No. 0710-0003*  
*Expires: 31-AUGUST-2013*

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

**PRIVACY ACT STATEMENT**

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

**(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)**

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
--------------------	----------------------	------------------	------------------------------

**(ITEMS BELOW TO BE FILLED BY APPLICANT)**

5. APPLICANT'S NAME First - Philip                      Middle - S                      Last - Harris III Company - NC Dept. of Transp.- Natural Environment Section E-mail Address - tstanton@ncdot.gov		8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First -                      Middle -                      Last - Company - E-mail Address -	
6. APPLICANT'S ADDRESS: Address- 1548 Mail Service Center City - Raleigh                      State - NC                      Zip - 27699                      Country - USA		9. AGENT'S ADDRESS: Address- City -                      State -                      Zip -                      Country -	
7. APPLICANT'S PHONE NOs. w/AREA CODE a. Residence                      b. Business                      c. Fax 919-707-6156                      919-250-5785		10. AGENTS PHONE NOs. w/AREA CODE a. Residence                      b. Business                      c. Fax	

**STATEMENT OF AUTHORIZATION**

11. I hereby authorize, \_\_\_\_\_ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

\_\_\_\_\_  
SIGNATURE OF APPLICANT                      DATE

**NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY**

12. PROJECT NAME OR TITLE (see instructions) TIP U-4751 & R-3300 (SR 1409 extension and US 17 Hampstead Bypass in New Hanover and Pender COs.), WBS 40191.1.2			
13. NAME OF WATERBODY, IF KNOWN (if applicable)		14. PROJECT STREET ADDRESS (if applicable) Address	
15. LOCATION OF PROJECT Latitude: °N                      Longitude: °W		City -                      State-                      Zip-	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID                      Municipality Section -                      Township -                      Range -			



17. DIRECTIONS TO THE SITE

See attached vicinity map

18. Nature of Activity (Description of project, include all features)

Construct a a 5.5 mile 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). Partial and full control of access is proposed.

NCDOT is also proposing the future US 17 Hampstead Bypass to 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.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

To improve the traffic carrying capacity and safety of the US 17 and Market Street corridor in the study area.

**USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED**

20. Reason(s) for Discharge

Wetlands and streams will be impacted by construction activities, i.e., widening of road, new locations, and replacement/extension of drainage structures.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
-------------------------------	-------------------------------	-------------------------------

Please see attached permit drawings

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 59.99 acres of non-riparian wetlands  
or

Linear Feet 2,122 feet of streams

23. Description of Avoidance, Minimization, and Compensation (see instructions)

See attached cover letter



24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- See attached mailing labels

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

\* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

 12-21-2016  
SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE  
For PHILIP S. HARRIS III

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.





Transportation

PAT McCrory  
Governor

NICHOLAS J. TENNYSON  
Secretary

December 21, 2016

N.C. Division of Coastal Management  
1638 Mail Service Center  
Raleigh, NC 27699-1638

ATTN: Ms. Cathy Brittingham, NCDOT Coordinator

Subject: Certification for DCM Consistency for the proposed SR 1409 (Military Cutoff Road) extension and US 17 Hampstead Bypass in New Hanover and Pender Counties. TIP Nos. U-4751 & R-3300. WBS 40191.1.2

Dear Madam:

The purpose of this letter and information package is to request concurrence from the Division of Coastal Management (DCM) for the North Carolina Department of Transportation's (NCDOT) consistency certification for the above-mentioned project. This package consists of the supporting information, half size plan sheets, permit drawings, utility plans, Transfer of Liability Form from Northeast Cape Fear Mitigation Bank, and the Division of Mitigation Services (DMS) acceptance letter for U-4751 & R-3300.

NCDOT proposes to construct a 5.5 mile 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). Partial and full control of access is proposed. NCDOT is also proposing the future US 17 Hampstead Bypass to 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 NCDOT is submitting an application for a U.S. Army Corps of Engineers (USACE) Section 404 Individual Permit as well as a N.C. Division of Water Quality (DWQ) Individual 401 Water Quality Certification.

NCDOT has reviewed the State's coastal program under 15 CFR 930.58 and 15A NCAC 07M. Specifically, we have considered the shoreline erosion, mitigation and coastal water quality policies, and the New Hanover and Pender County CAMA Core Land Use Plans as well as the City of Wilmington's *Choices, The Wilmington Future Land Use Plan, 2004- 2025*. The NCDOT certifies that the proposed activity complies with the enforceable policies of North Carolina's approved management program and will be conducted in a manner consistent with said program.

If you have any questions or need additional information please contact Tyler Stanton at (919) 707-6156 or [tstanton@ncdot.gov](mailto:tstanton@ncdot.gov).

Sincerely,

for Philip S. Harris III, P.E., C.P.M.  
Natural Environment Section Head

cc: Mr. Stephen Lane, NCDOT

Nothing Compares<sup>SM</sup>



**Coastal Zone Consistency Certification Supporting Information for the NCDOT's Request to Construct the Proposed SR 1409 (Military Cutoff Road) Extension and US 17 Hampstead Bypass in New Hanover and Pender Counties. TIP Nos. U-4751 & R-3300.**

## **History**

Feasibility studies were conducted for both Military Cutoff Road Extension (U-4751) and the US 17 Hampstead Bypass (R-3300). The Hampstead Bypass Feasibility Study was completed in draft form in February 1999, but was never published as final. In early 2004, the feasibility study was reinstated. A Feasibility Study for the Military Cutoff Road Extension was completed in June of 2004. The proposed project is included in local thoroughfare plans and shown in the 2012-2018 STIP, with both U-4751 and R-3300 shown as Strategic Highway Corridor projects. Project development studies for the proposed project began in 2005.

### *Decision to Combine Projects in One Environmental Document*

During project development it was recognized that projects U-4751 and R-3300 may share a common terminus. Because they may be adjoining new location projects and together they would have a cumulative impact on the human and natural environment, it was decided the two projects should be addressed in a single environmental document. This combined document provides a way to communicate all direct and indirect impacts the projects would have on the environment, as well as the cumulative impact resulting from the incremental impacts of the two projects when added to other past, present, and reasonably foreseeable future actions.

### *Alternatives*

Along with the No-Build alternative, a Transportation Systems Management (TSM) alternative, a Travel Demand Management (TDM) alternative, and Mass Transit alternatives, the NEPA/Section 404 merger team reviewed 23 preliminary build alternatives for R-3300 and two preliminary build alternatives for U-4751. Ultimately four new location build alternatives (E-H, O, R, and U) for R-3300 and the two new location build alternatives (M1 and M2) for U-4751 were carried forward for detailed study.

### *NEPA/404 Merger process*

This project has followed the NEPA/404 Merger process. The Merger process is an interagency procedure integrating the regulatory requirements of Section 404 of the Clean Water Act into the National Environmental Policy Act decision making process. On September 21, 2006, the merger team concurred on the purpose and need (Concurrence Point 1) for this project. The Merger Team concurred on alternatives to be studied in detail at their August 23, 2007 meeting and reached concurrence on Bridging and Alignment Review (CP 2A) on May 27, 2010.

U-4751 Alternative M1 and R-3300 Alternative E-H were selected as the Least Environmentally Damaging Practicable Alternative (LEDPA) at the NEPA/ Section 404 Merger Team meeting on May 17, 2012. EPA conditionally concurred on selection of U-4751 Alternative M1 as the LEDPA for U-4751. EPA abstained from concurrence on R-3300 Alternative E-H as the LEDPA for R-3300.

The NEPA/Section 404 Merger Team met on June 14, 2012 to discuss Avoidance and Minimization (CP 4A) for U-4751. The Merger Team concurred on Avoidance and Minimization for U-4751 on September 25, 2012. The CP 4A meeting for U-4751 was conducted separately from the CP 4A meeting for R-3300 to maintain the U-4751 project schedule. The CP 4A meeting for R-3300 was postponed so NCDOT



could evaluate the northern interchange design and location in response to comments received from the public at the U-4751 and R-3300 corridor public hearings. The Avoidance and Minimization (CP 4A) meeting for R-3300 was held on February 20, 2013. The NEPA/Section 404 Merger Team concurred on Avoidance and Minimization for R-3300 on June 13, 2013, with EPA abstaining.

#### *Document Status*

The NCDOT completed the Final Environmental Impact Statement (FEIS) in July 2014 in compliance with State Environmental Policy Act (SEPA) guidelines. The FEIS explains the purpose and need for the project, provides a description of the alternatives considered, and characterizes the social, economic, and environmental effects. The SFEIS was approved and circulated to federal, state, and local agencies. Then following the FEIS, a State Record of Decision (SROD) was completed in September 2014. Copies of the project documents have been provided to regulatory review agencies involved in the approval process. Additional copies are available at <https://xfer.services.ncdot.gov/pdea/EnvironmentalDocs/Documents/>.

#### **Project Description**

The proposed U-4751 action involves construction of a 5.5 mile 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). Partial and full control of access is proposed.

NCDOT is also proposing the future R-3300 to be constructed as a freeway mostly on new location. The R-3300 will connect to the proposed U-4751 at the existing US 17 Wilmington Bypass and extend to existing US 17 north of Hampstead. Full control of access is proposed for the R-3300.

#### *Avoidance and Minimization*

All jurisdictional features were delineated, field verified and surveyed within the corridor for U-4751 & R-3300. Using these features, preliminary designs were adjusted to avoid and/or minimize impacts to jurisdictional areas. NCDOT employs many strategies to avoid and minimize impacts to jurisdictional areas in all of its designs. Many of these strategies have been incorporated into BMP documents that have been reviewed and approved by the resource agencies and which will be followed throughout construction. All wetland areas not affected by the project will be protected from unnecessary encroachment. Individual avoidance and minimization items are as follows:

- No staging of construction equipment or storage of construction supplies will be allowed in wetlands or near surface waters.
- The project was designed to avoid or minimize disturbance to aquatic life movements.
- NCDOT and its contractors will not fill or perform land clearing activities within Waters of the U.S. or any areas under the jurisdiction of the USACE, except as authorized by the USACE. To ensure that all borrow and waste activities occur on high ground, except as authorized by permit, the NCDOT shall require its contractors to identify all areas to be used to borrow material, or to dispose of dredged, fill or waste material. Documentation of the location and characteristics of all borrow and disposal sites associated with the project will be available to the USACE on request.
- Grass swale, median roadway ditches and riprap dissipater treatments have been incorporated where applicable.
- Proposed box culverts will be buried 1 ft. to provide for fish passage.
- Cross pipes in jurisdictional streams will be buried 1ft. for all pipes where possible.
- Sediment and erosion control devices will be utilized where appropriate.



- Bank stabilization at outlets of pipes will not impact the stream bed where possible.
- Considering environmental, hydraulic, and roadway perspectives, 3:1 slopes are proposed within the wetlands where most practical.

## Mitigation

The NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible. The proposed construction of U-4751 & R-3300 will result in unavoidable impacts 59.99 acres of non-riparian wetlands and 2,122 linear feet of jurisdictional stream that will require mitigation. The stream mitigation will be provided by the North Carolina Department of Environmental Quality (NCDEQ)-Division of Mitigation Services (DMS).

The Department has acquired compensatory mitigation for the unavoidable impacts to non-riparian wetlands from the Northeast Cape Fear Mitigation Bank. The Northeast Cape Fear Mitigation Bank is located in Pender County within the USGS hydrologic unit 03030007 of the Cape Fear River. The bank is located immediately north of the intersection of NC Highway 21 and Shaw Highway (SR 1522) approximately 12 miles north of Wilmington, NC. It is situated between northeast Cape Fear River and the state protected Holly Shelter Game Lands in Pender County. NCDOT purchased 200 acres of non-riparian wetland credits from the bank in March 2016, of which 120.00 acres will be debited from the NECFM Bank's ledger for U-4751 as shown below (Table 1).

**Table 1. NECFM Bank's ledger for U-4751**

Mitigation Type	Debit Amount (acres)	Site TIP	Notes
Non-Riparian Wetland Restoration	2.64	U-4751 (03020302)	Impacts were 1.32 acres calculated with a 2:1 ratio
Non-Riparian Wetland Restoration	117.34	U-4751 (03030007)	Impacts were 58.67 Acres calculated with a 2:1 ratio

## Protected Species

The USFWS lists 17 species that are federally protected in both New Hanover and Pender Counties as of the April 2, 2015 and March 25, 2015 (respectively) listings (Table 3).

**Table 3. Federally Protected Species Listed for New Hanover and Pender Counties**

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion	County
<i>Alligator mississippiensis</i>	American alligator	T(S/A)	Yes	Not Required	New Hanover Pender
<i>Chelonia mydas</i>	Green sea turtle	T	No	No Effect	New Hanover Pender
<i>Caretta</i>	Loggerhead sea turtle	T	No	No Effect	New Hanover Pender
<i>Eretmochelys imbricata</i>	Hawksbill (=carey) sea turtle	E	No	No Effect	New Hanover Pender



<i>Lepidochelys kempii</i>	Kemp's (=Atlantic) ridley sea turtle	E	No	No Effect	New Hanover Pender
<i>Dermochelys coriacea</i>	Leatherback sea turtle	E	No	No Effect	New Hanover Pender
<i>Charadrius melodus</i>	Piping plover	T	No	No Effect	New Hanover Pender
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	Yes	MA-LAA	New Hanover Pender
<i>Calidris canutus rufa</i>	Red knot	T	No	No Effect	New Hanover Pender
<i>Acipenser oxyrinchus</i>	Atlantic sturgeon	E	No	No Effect	New Hanover Pender
<i>Acipenser brevirostrum</i>	Shortnose sturgeon	E	No	No Effect	New Hanover Pender
<i>Myotis septentrionalis</i>	Northern long-eared bat	T	Yes	MA-LAA	New Hanover
<i>Trichechus manatus</i>	West Indian manatee	E	No	No Effect	New Hanover Pender
<i>Schwalbea americana</i>	American chaffseed*	E	Yes*	No Effect	Pender
<i>Thalictrum cooleyi</i>	Cooley's meadowrue	E	Yes	No Effect	New Hanover Pender
<i>Carex lutea</i>	Golden sedge	E	Yes	No Effect	Pender
<i>Lysimachia sperulaefolia</i>	Rough-leaved loosestrife	E	Yes	MA-NLAA	New Hanover Pender
<i>Amaranthus pumilus</i>	Seabeach amaranth	T	No	No Effect	New Hanover Pender

E – Endangered , T – Threatened, T(S/A) – Threatened due to Similarity of Appearance, MA-LAA - May Affect, Likely to Adversely Affect, MA-NLAA - May Affect, Not Likely to Adversely Affect  
 \* - Historic record (the species was last observed in the county more than 50 years ago)

#### *Biological Conclusions for Federally Listed Species*

NCDOT has determined the Biological Conclusion for the red-cockaded woodpecker (RCW) is May Affect, Likely to Adversely Affect. A Biological Opinion (BO) was signed by the USFWS on July 21, 2016. In the BO the USFWS listed two Reasonable and Prudent Measures and three Terms and Conditions, which implement the Reasonable and Prudent Measures.

The Reasonable and Prudent Measures include the requirement that NCDOT completes the transfer of the conservation properties (outlined in the Conservation Measures section the BO) to the NC Wildlife Resources Commission (NCWRC) in a timely manner, and an RCW cavity tree survey and foraging habitat analysis data will be updated within the Section 7 action area prior to project construction.

The three Terms and Conditions are as follows: 1) Within 90 days of the completion of formal Section 7 consultation, NCDOT will initiate the execution of a Memorandum of Understanding with the NCWRC regarding the management and ownership of the referenced conservation properties, 2) within 180 days of the completion of formal Section 7 consultation, the NCDOT will convey the title to approximately 81.6 acres (i.e. portions of referenced Hampstead Commons, IBIS, and Pensco properties) to the NCWRC for inclusion into Holly Shelter Game Land, and 3) if at the projected date of project let for any portion of R-



3300 that occurs within the defined Section 7 action area, the cavity tree survey data and foraging habitat analysis data is more than two years old, additional surveys and foraging habitat analysis will be conducted. At that time, the action agencies and the Service will determine if Section 7 consultation needs to be reinitiated prior to the project let date.

NCDOT provided the MOU to NCWRC and began the process to transfer the conservation properties in June 2016. Since the Section 7 action area is within the corridor of R-3300, NCDOT will schedule the cavity tree survey and foraging habitat analysis once R-3300 is programmed in the STIP and a project letting date has been determined.

In addition to the RCW, NCDOT has concluded the Biological Conclusion for rough-leaved loosestrife is May Affect, Not Likely to Adversely Affect due to the proximity of the project to a known occurrence of this species; however, project construction will not have an impact on existing rough-leaved loosestrife habitat at the site (including future habitat management), nor will the hydrology of the site be affected by the project. A minimal amount of fill and clearing will occur along the existing US 17 bypass slope (approximately 0.14 acre along 750' of slope). The fill and clearing is approximately 150' from the rough-leaved loosestrife site.

The USFWS has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect." The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes New Hanover and Pender Counties, where U-4751 and R-3300 are located.

For the remaining federally protected species, NCDOT has concluded these projects will have No Effect (see Table 3).

### ***Bald and Golden Eagle Protection Act (BGPA)***

In the July 9, 2007 Federal Register (72:37346-37372), the bald eagle was declared recovered, and removed (de-listed) from the Federal List of Threatened and Endangered wildlife. This delisting took effect August 8, 2007. After delisting, the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668d) became the primary law protecting bald eagles. Nesting and foraging habitat are not present in the project area, nor have bald eagle nests or individuals have been seen within a 660-foot radius of the project area.

### **Cultural Resources**

#### ***Archaeology and Historic Architecture***

It was determined the project will have an adverse effect on the Mount Ararat AME Church and archaeological site (31PD344\*\*), both of which have been deemed eligible for the National Register of Historic Places. As a result NCDOT, USACE, and SHPO have signed an MOA stipulating steps to mitigate the adverse effects. Please reference the attached MOA for more detailed information on these adverse effects and resultant stipulations.



## **Indirect and Cumulative Effects**

An Indirect and Cumulative Effects Screening Report and Land Use Scenario Assessment for the subject projects was completed in September 2013. Cumulatively, the construction of U-4751 and R-3300 combined with past NCDOT projects (US 17 Wilmington Bypass) that provide improved east-west regional access, and continued commercial and residential development within the study area, could contribute to cumulative impacts to environmental resources in the study area. Substantial development resulting exclusively from this project and the associated service roads is not expected. Any development that occurs would be implemented in accordance with local ordinances and land use plans. The proposed project is not likely to result in significant changes in land use. Therefore, cumulative effects beyond those discussed above are expected to be low.

## **Other Permits**

In addition to the DCM Consistency Determination, permits to be obtained for this project include an Individual Section 404 permit and an Individual Section 401 Water Quality Certification.

## **Division of Coastal Management (DCM) General Policy Guidelines for the Coastal Area**

The general policy guidelines in 15A NCAC 07M have been reviewed for applicability to this project in its entirety. Explicitly, the .0700 rules (mitigation), and the .0800 rules (water quality) were reviewed. This project will not affect shoreline erosion or shoreline access. However, this project will require compensatory mitigation and impact water quality. This project has been designed to avoid and minimize jurisdictional areas to the largest extent possible. Best Management Practices will be in place during construction; compensatory mitigation will be provided through NCDMS.

## **CAMA Land Use Plans**

The City of Wilmington developed *Choices, The Wilmington Future Land Use Plan, 2004- 2025* to guide physical development within the City and to determine how to build or preserve certain aspects of the community. The plan has a long-range planning horizon of twenty years. The plan notes that Wilmington is nearing build-out and there is a need to redevelop aging or underutilized properties. A small part of the study area is included in this plan's boundaries. A few areas along Market Street south of Military Cutoff Road are classified as small infill tracts in Varied Use Areas. This area of Market Street is mostly a Tier Two Redevelopment Area. These areas are characterized by declining or marginal commercial enterprises and/or businesses that have not kept pace with more recent trends. Tier 2 properties are targeted for upgrade as opportunities arise.

*The Market Street Corridor Study* (July 2010) includes a long-term view on development along the Market Street corridor that is defined by efficient land use patterns, transportation choices, distinctive architecture, and high quality of life. Plans for redevelopment of areas around Military Cutoff Road are premised on the proposed U-4751. The design intent for this area is to create a compact neighborhood center with a walkable street network and neighborhood services. The Study presents the opinion that the U-4751 intersection with Market Street should be grade-separated.

Both New Hanover and Pender Counties participate in the cooperative state-local North Carolina Coastal Area Management Act (CAMA) program. CAMA requires local governments within the 20 coastal counties to prepare land use plans that provide a balance of protection, preservation, and orderly development.



The *Wilmington-New Hanover County Joint Coastal Area Management Plan 2006 Update* functions as the future plan for both the City of Wilmington and New Hanover County. The future land use for the New Hanover County portion of U-4751 and R-3300 study area is identified as Wetland Resource

Protection Area, Rural, and Conservation Areas (primarily flood prone). According to the plan document, the rural classification is comprised of low intensity land uses (agriculture, forest) and discourages urban-type uses. Only low density residential development (less than 2.5 units per acre) is permitted in the rural area.

New Hanover County does not have a separate land use plan outside of the Wilmington- New Hanover County Joint Coastal Area Management Plan 2006 Update. Small area plans exist for the Middle Sound and Porters Neck communities. However, New Hanover County considers these plans outdated as they are more than 20 years old.

The *Pender County CAMA Land Use Plan 2005 Update* focuses on policies designed to protect significant and irreplaceable natural systems. It includes a land use classification system as a tool to protect natural systems, but does not provide detailed guidance for land use decisions. In the CAMA plan, future land use for the Pender County portion of the study area is identified as an Urban Growth Area and Conservation Area. The Urban Growth Area classification provides for the continued development of areas provided with water and/or sewer services or where the County is actively engaged in planning these services. This area classification provides for higher net densities. The Conservation Area Classification is intended to protect natural systems from inappropriate development. The CAMA Land Use Plan shows Conservation Areas along Harrisons Creek, Godfrey Creek, and tributaries to Harrisons Creek, Godfrey Creek, and Island Creek.

The June 2010 *Pender County Comprehensive Land Use Plan* includes future land use classifications that are intended to reflect and expand on the land use classifications used in the CAMA Land Use Plan. The comprehensive plan incorporates a Coastal Pender Small Area Plan that includes the study area from the Pender County line near Sidbury Road to Holly Shelter Game Land and Sloop Point Loop Road. The small area plan designates a Mixed-Use future land use classification from Sidbury Road to near Harrison Creek Road, between NC 210 and US 17. The Mixed-Use classification applies to locations where a mix of higher density uses is to be encouraged. The Mixed-Use classification continues along US 17 to Sloop Point Loop Road, with the exception of a few areas classified as Conservation. Conservation areas have special significance or unique characteristics that make them worthy of preservation. These areas include South Topsail Elementary School, the Topsail Schools complex, and Holly Shelter Game Land. Northwest of US 17, from Harrison Creek Road to Holly Shelter Game Land, the future land use classification is predominantly Suburban Growth. The Suburban Growth classification identifies areas where significant residential growth is expected to occur. The Coastal Pender Small Area Plan indicates regulations should be revised to protect the R-3300 Corridor from future development and to encourage development that is in harmony with the bypass when a corridor alternative is selected.

After reviewing the various policy statements, NCDOT concludes that this project is consistent with the relevant *CAMA Land Use Plans*.



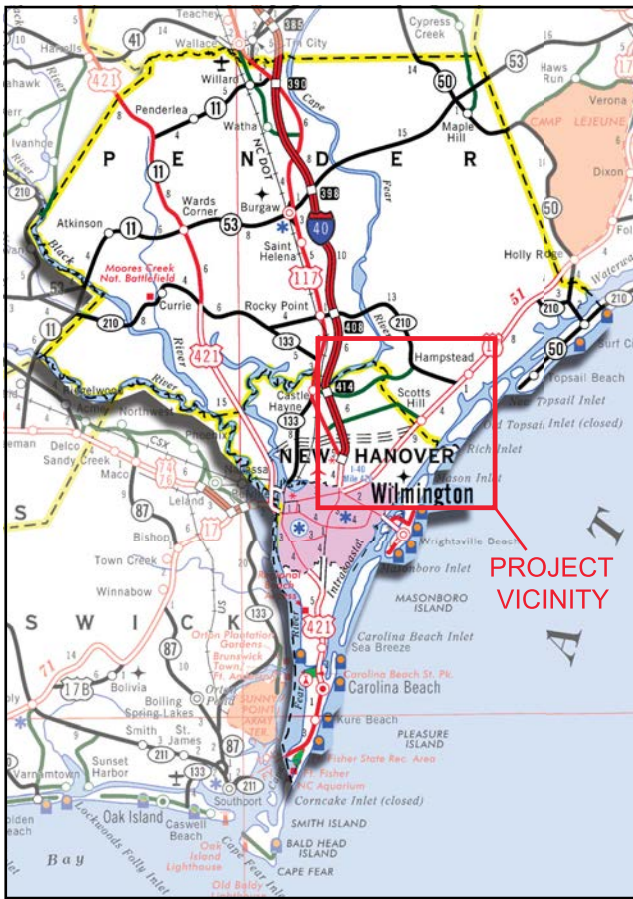


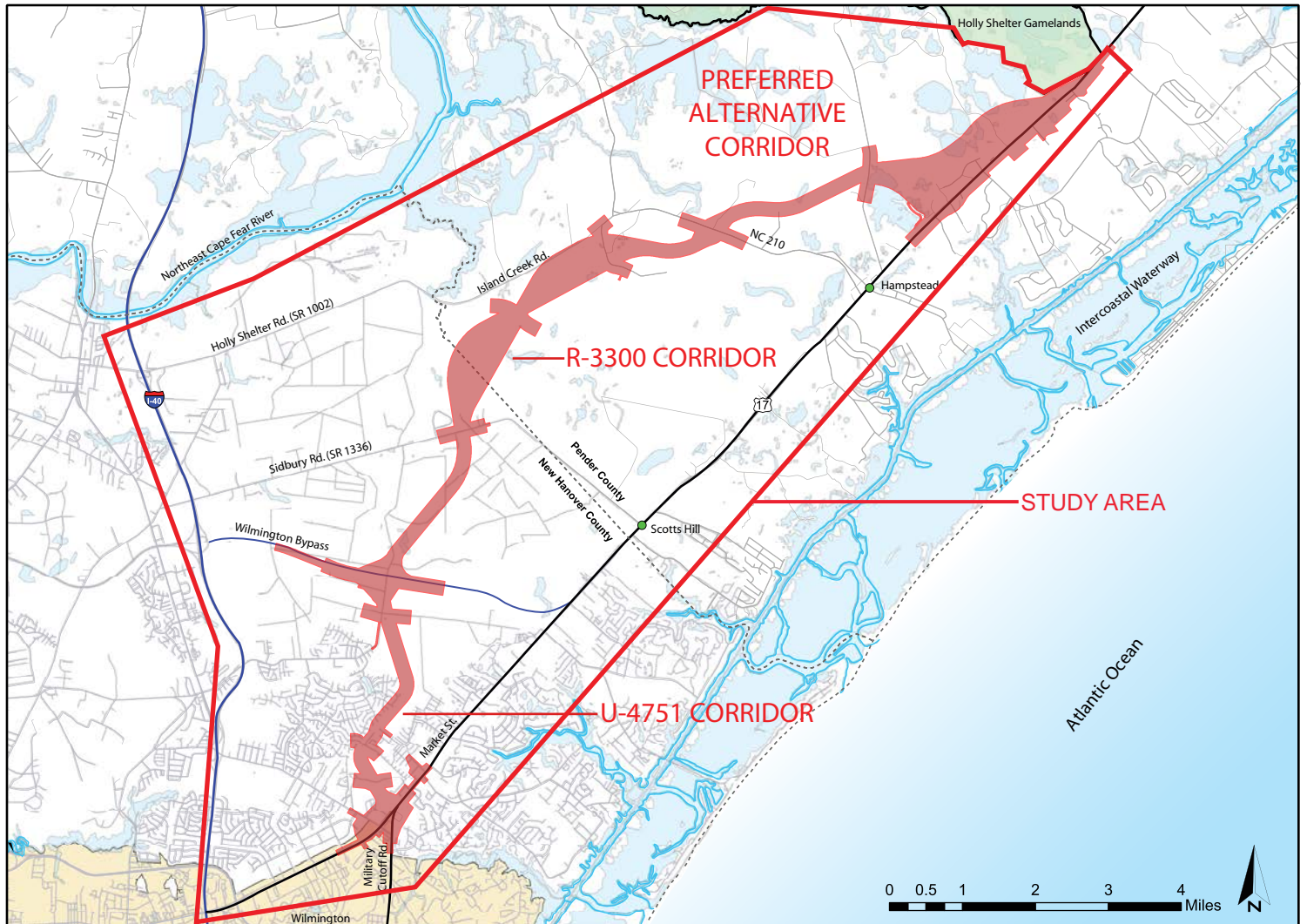
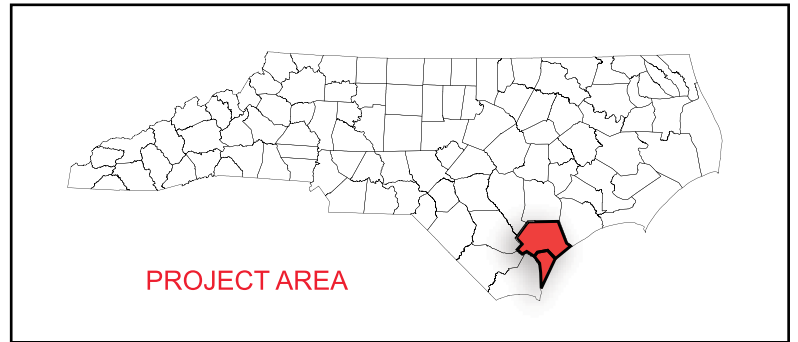
Figure 1

## PROJECT VICINITY

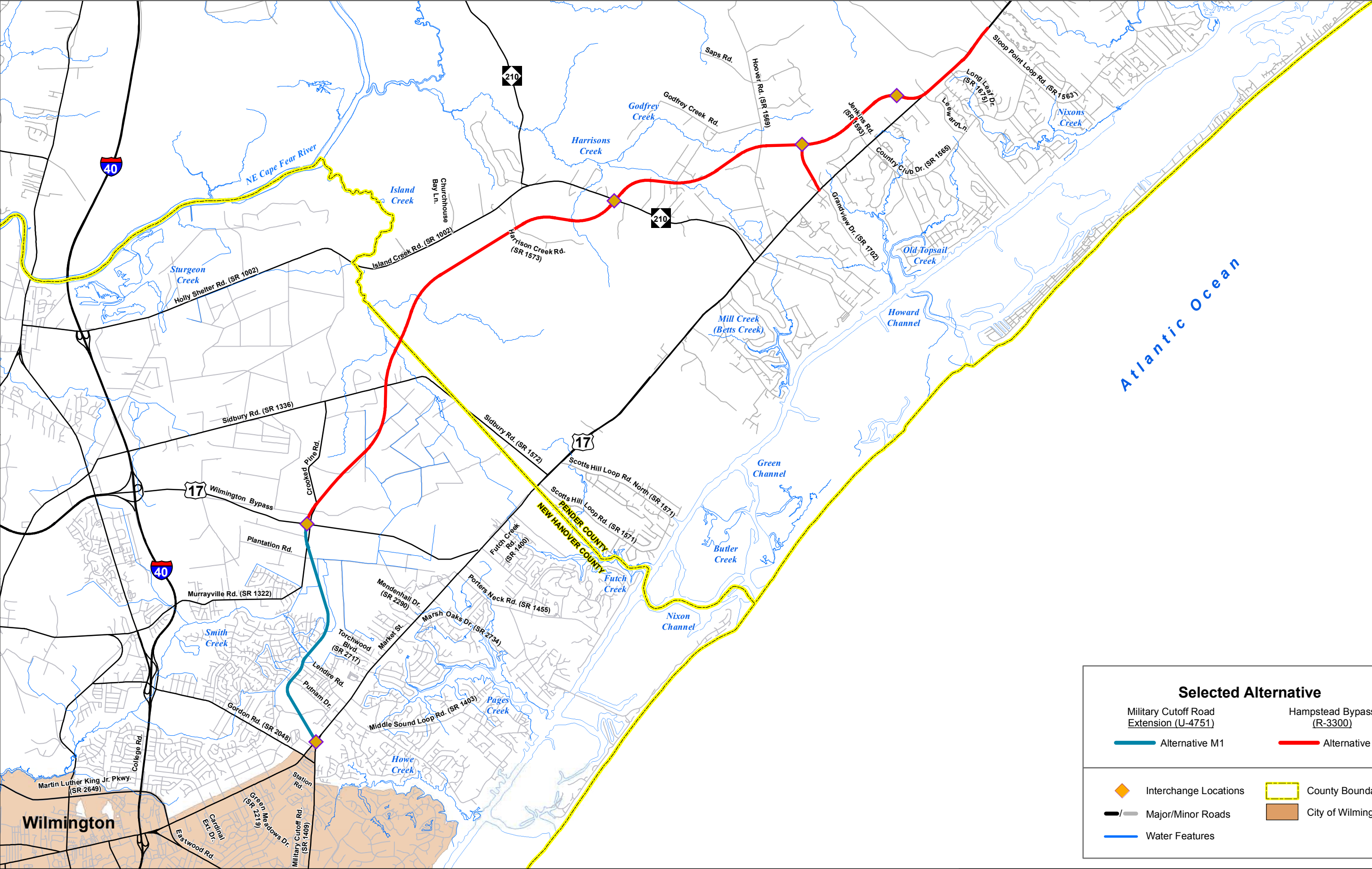
US 17 Corridor Study  
NCDOT TIP Nos. U-4751 and R-3300  
New Hanover and Pender Counties



North Carolina  
Department of Transportation







**Selected Alternative**

Military Cutoff Road Extension (U-4751)  
Alternative M1

Hampstead Bypass (R-3300)  
Alternative E-H

Interchange Locations

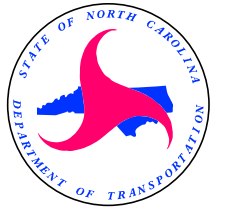
County Boundary

Major/Minor Roads

City of Wilmington

Water Features





**MATCH TO  
SHEET 3-2**

NC 210

NC 210

HARRISON CREEK RD.  
(SR 1573)

**R-3300 US 17 HAMPSTEAD BYPASS  
NEW HANOVER & PENDER COUNTIES  
STATE PROJECT 40191.1.2**

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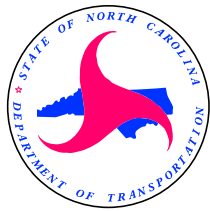
**PRELIMINARY PLANS**  
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NOT TO SCALE

Figure 3-1



# R-3300 US 17 HAMPSTEAD BYPASS NEW HANOVER & PENDER COUNTIES STATE PROJECT 40191.1.2



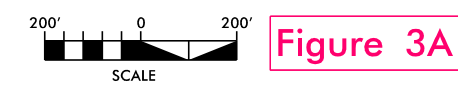
MATCH TO  
SHEET 3-1



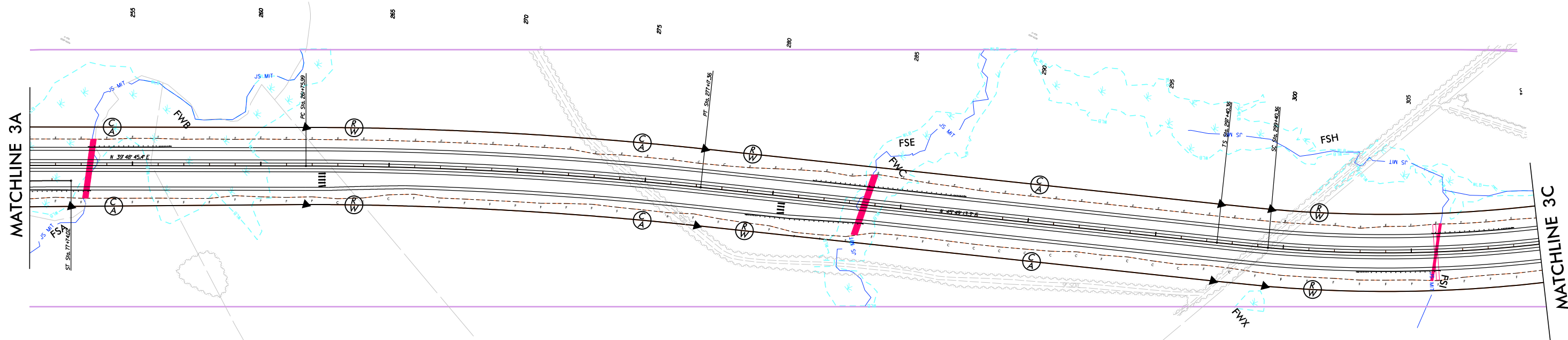
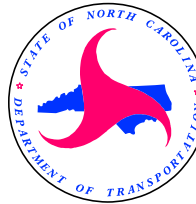
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NOT TO SCALE  
Figure 3-2









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LEGEND	
	SLOPE STAKE LIMITS
	CORRIDOR
	JS MITIGABLE STREAM
	JS NON-MITIGABLE STREAM
	WETLAND BOUNDARY
	STRUCTURES
	U-4751 PROJECT (-M1-)
	EXISTING RIGHT OF WAY
	CONSTRUCTION EASEMENT
	CONTROL OF ACCESS
	RIGHT-OF-WAY
	TRAFFIC SIGNAL

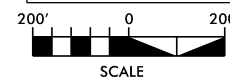
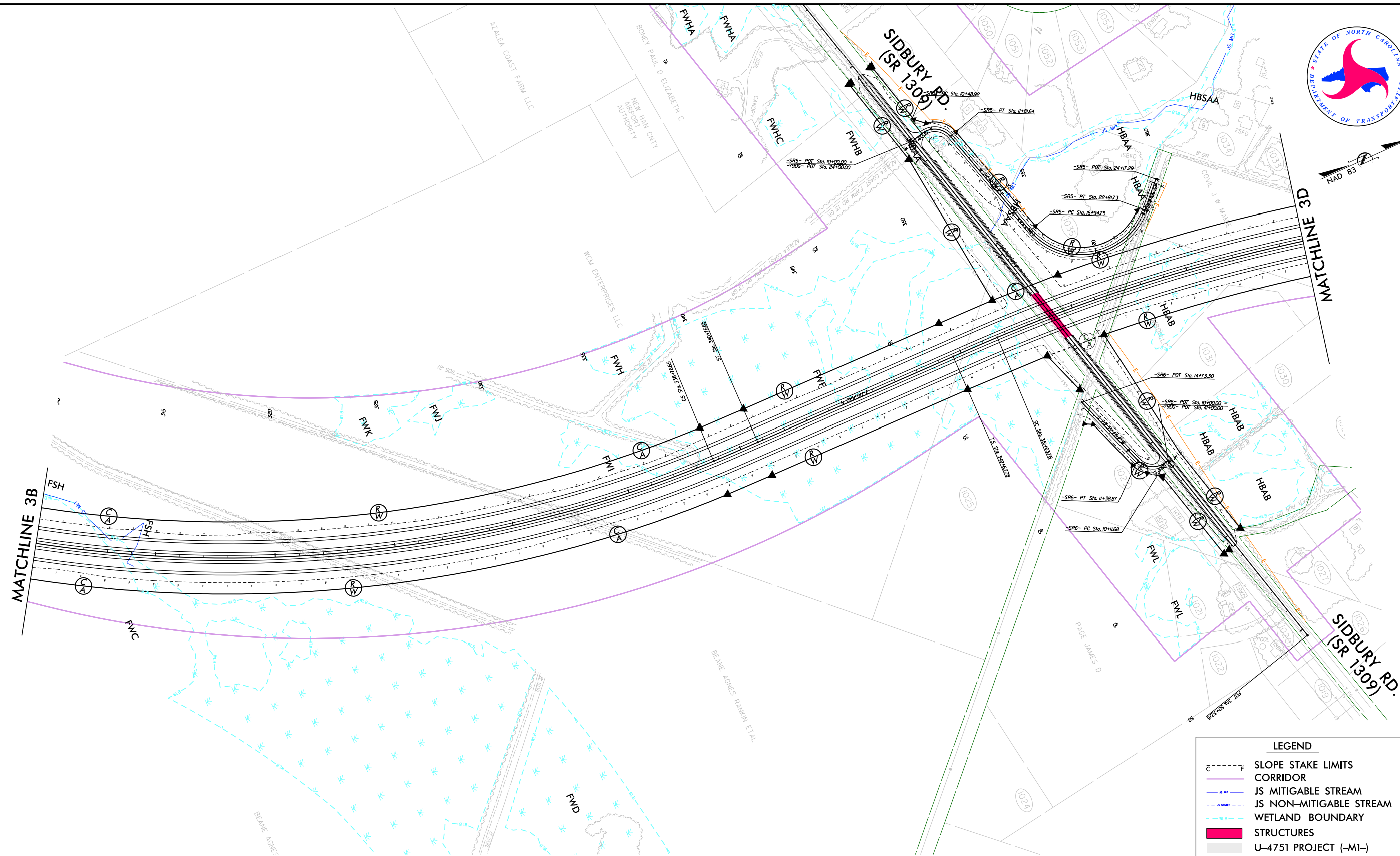
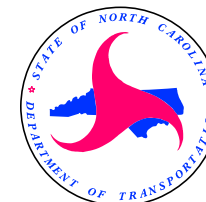


Figure 3B





A graphic scale bar with a total length of 400 feet. It is divided into four equal segments of 100 feet each. The first segment is solid black, the second is white with a black border, the third is solid black, and the fourth is white with a black border. Above the bar, the markings '200'', '0', and '200' are shown. Below the bar, the word 'SCALE' is centered.

Figure 3C

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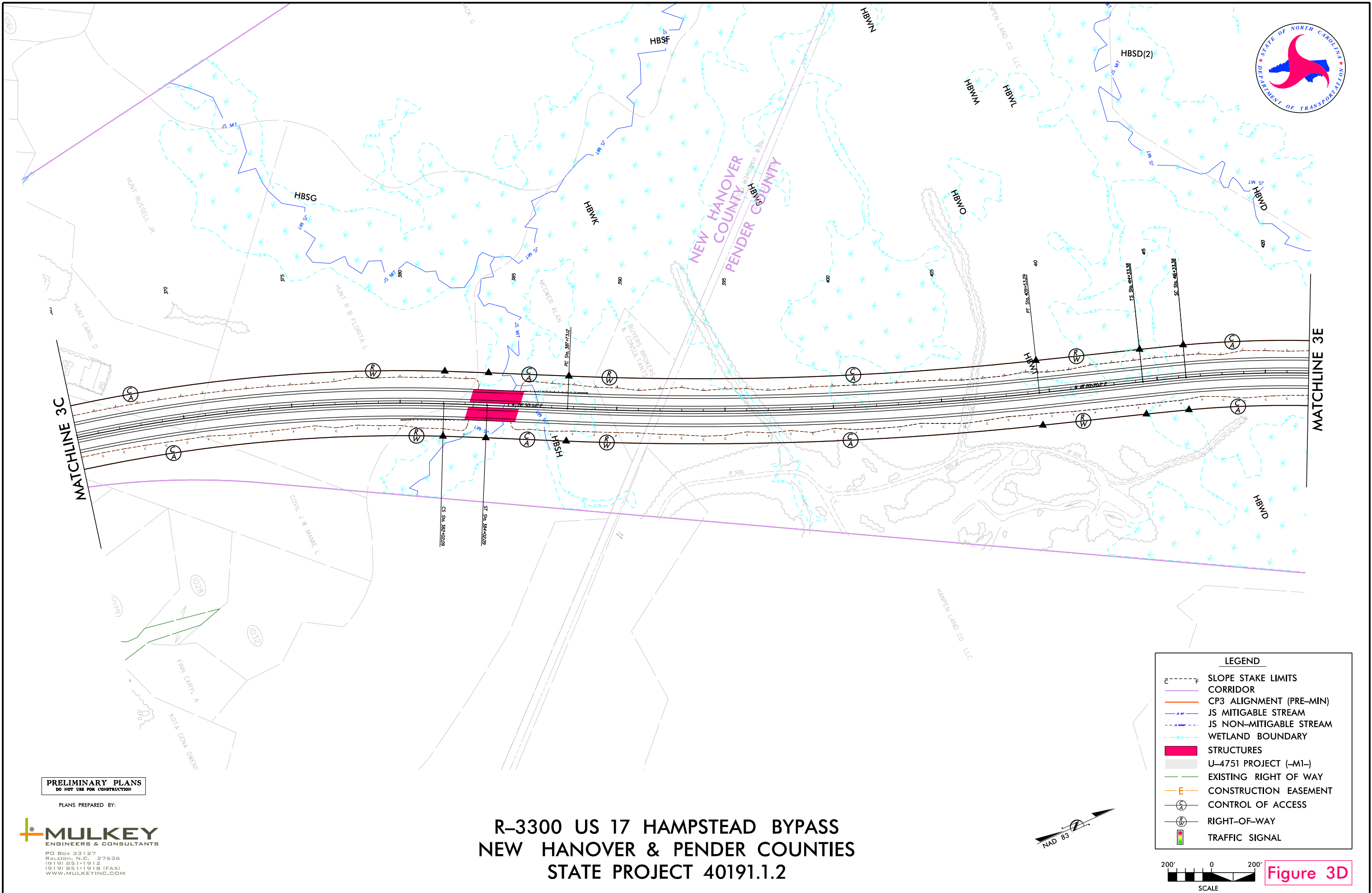
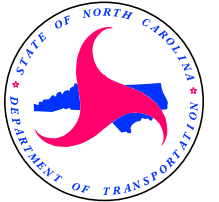
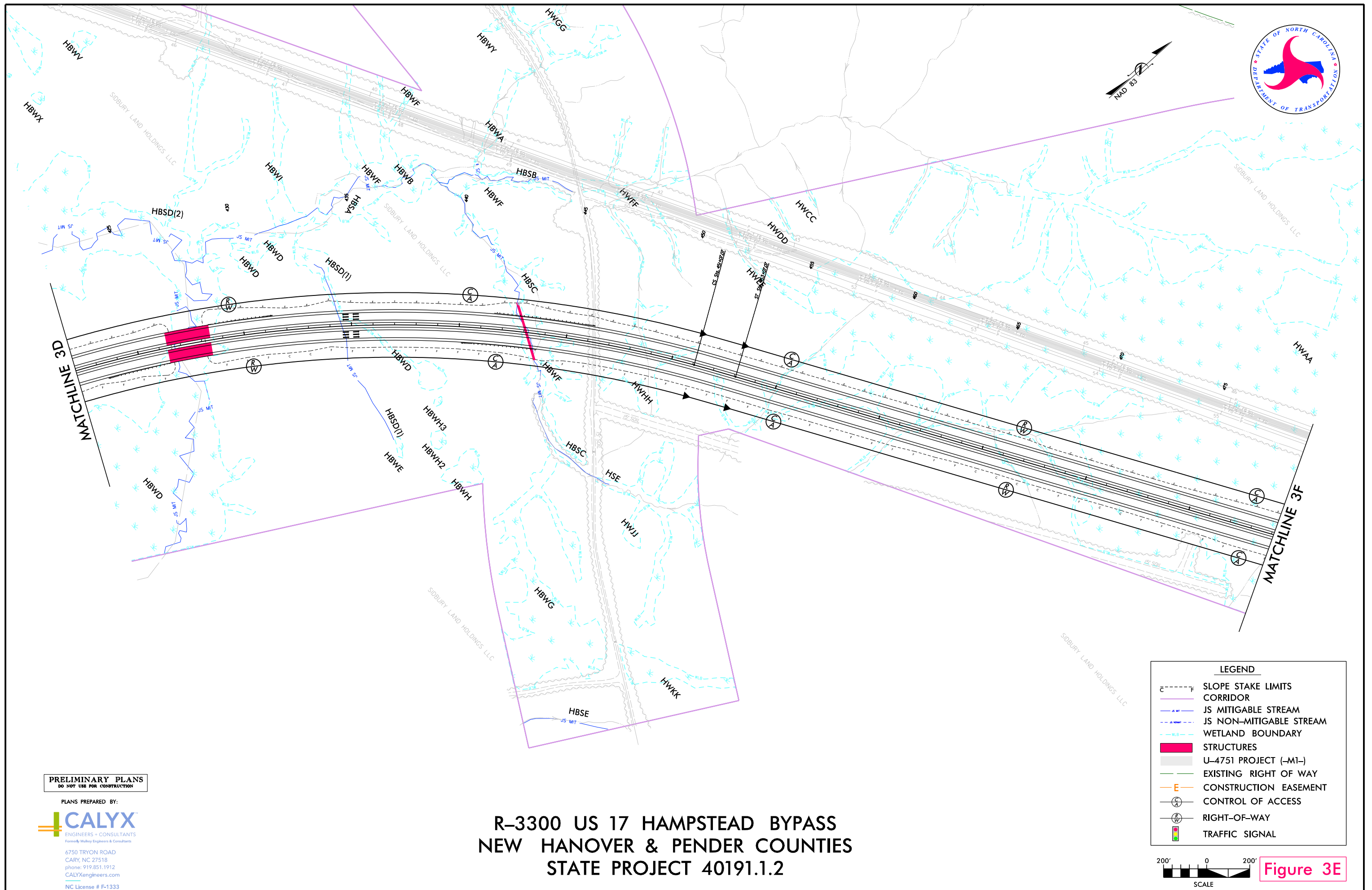


Figure 3D





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R-3300 US 17 HAMPSTEAD BYPASS  
NEW HANOVER & PENDER COUNTIES  
STATE PROJECT 40191.1.2

LEGEND	
	SLOPE STAKE LIMITS
	CORRIDOR
	JS MITIGABLE STREAM
	JS NON-MITIGABLE STREAM
	WETLAND BOUNDARY
	STRUCTURES
	U-4751 PROJECT (-M1-)
	EXISTING RIGHT OF WAY
	CONSTRUCTION EASEMENT
	CONTROL OF ACCESS
	RIGHT-OF-WAY
	TRAFFIC SIGNAL

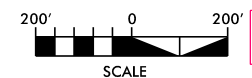
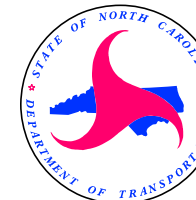


Figure 3E





MATCHLINE 3E

MATCHLINE 3G


LEGEND	
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	CORRIDOR
	JS MITIGABLE STREAM
	JS NON-MITIGABLE STREAM
	WETLAND BOUNDARY
	STRUCTURES
	U-4751 PROJECT (-M1-)
	EXISTING RIGHT OF WAY
	CONSTRUCTION EASEMENT
	CONTROL OF ACCESS
	RIGHT-OF-WAY
	TRAFFIC SIGNAL



Figure 3F

PRELIMINARY PLANS  
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PLANS PREPARED BY:

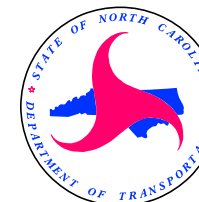


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# R-3300 US 17 HAMPSTEAD BYPASS NEW HANOVER & PENDER COUNTIES STATE PROJECT 40191.1.2





MATCHLINE 3F

MATCHLINE 3H

LEGEND	
	SLOPE STAKE LIMITS
	CORRIDOR
	JS MITIGABLE STREAM
	JS NON-MITIGABLE STREAM
	WETLAND BOUNDARY
	STRUCTURES
	U-4751 PROJECT (-M1-)
	EXISTING RIGHT OF WAY
	CONSTRUCTION EASEMENT
	CONTROL OF ACCESS
	RIGHT-OF-WAY
	TRAFFIC SIGNAL

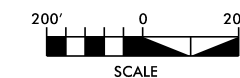


Figure 3G

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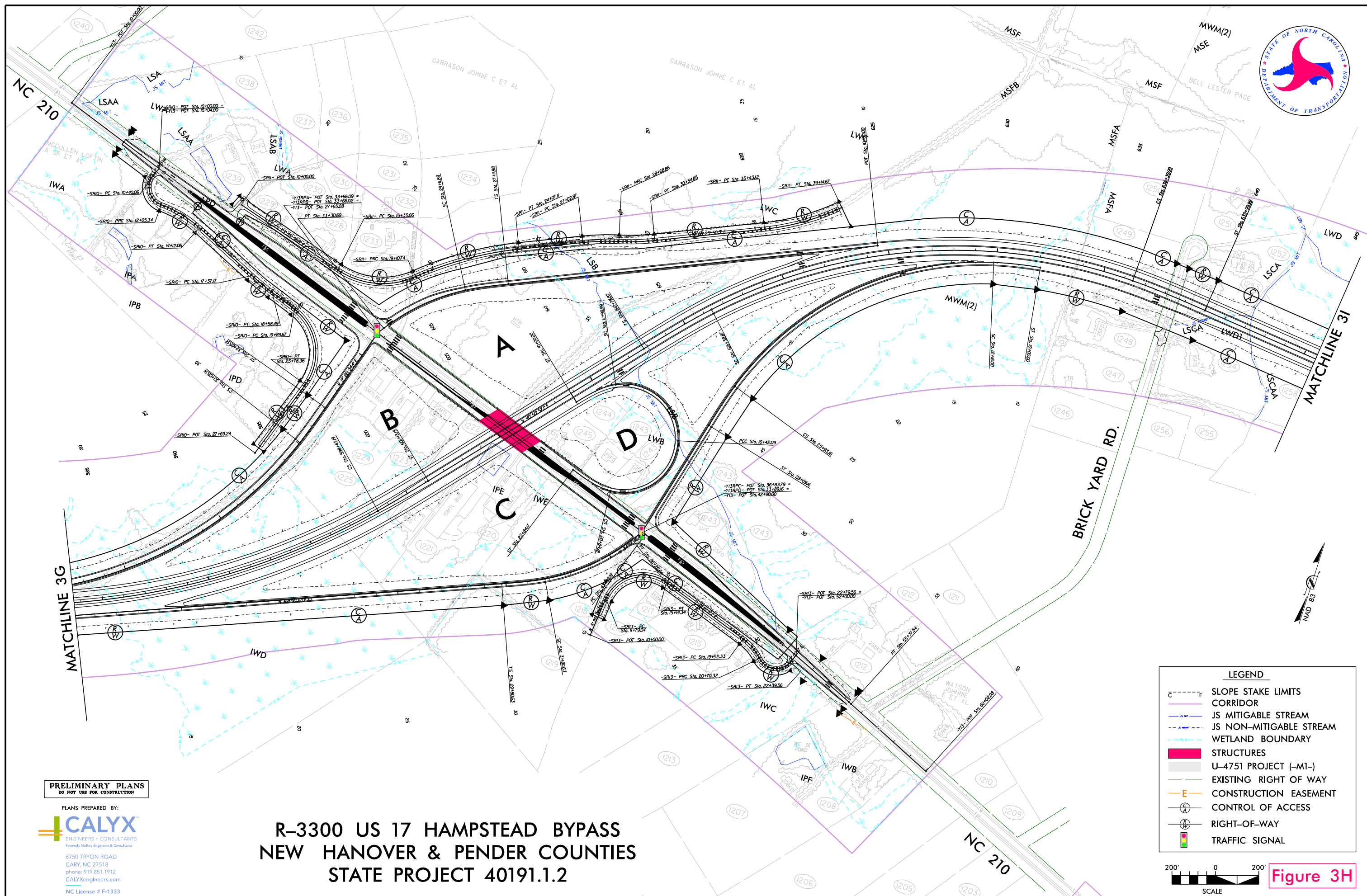
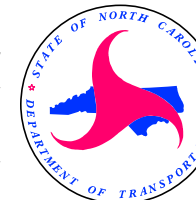
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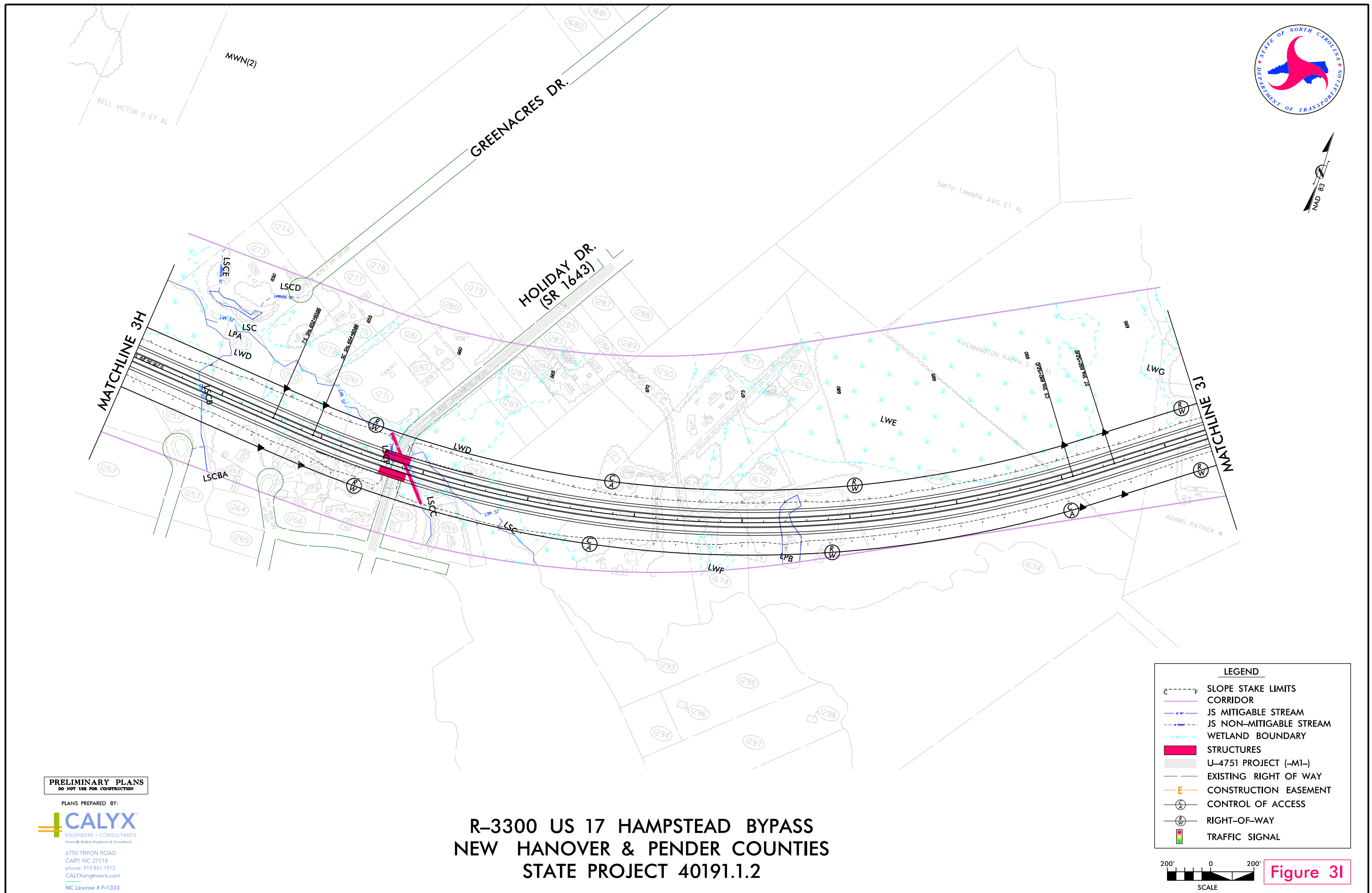
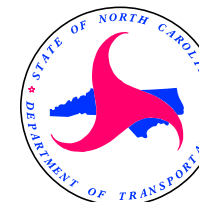
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Figure 3H





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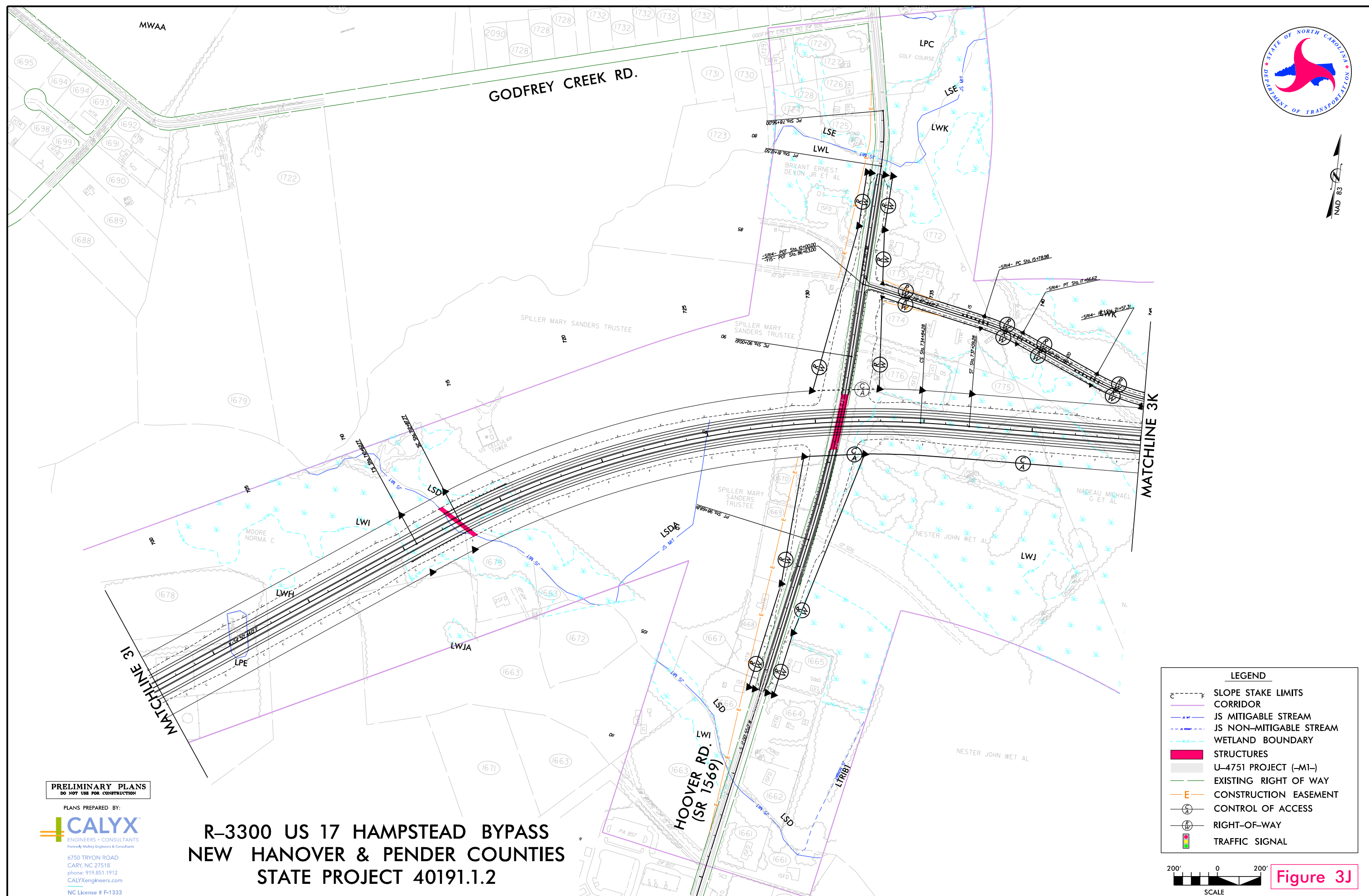
R-3300 US 17 HAMPSTEAD BYPASS  
NEW HANOVER & PENDER COUNTIES  
STATE PROJECT 40191.1.2

LEGEND	
	SLOPE STAKE LIMITS
	CORRIDOR
	JS MITIGABLE STREAM
	JS NON-MITIGABLE STREAM
	WETLAND BOUNDARY
	STRUCTURES
	U-4751 PROJECT (-M1-)
	EXISTING RIGHT OF WAY
	CONSTRUCTION EASEMENT
	CONTROL OF ACCESS
	RIGHT-OF-WAY
	TRAFFIC SIGNAL

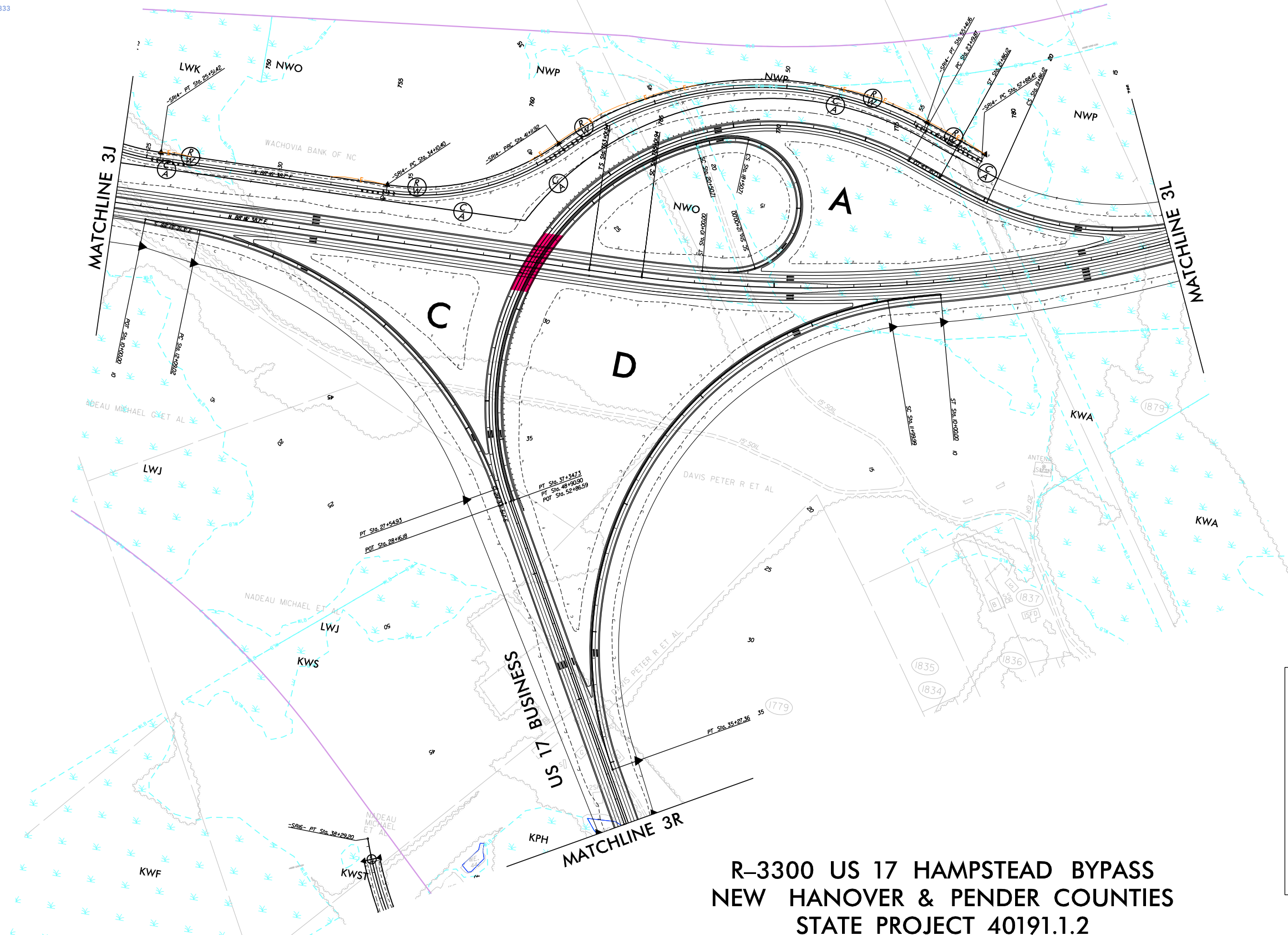
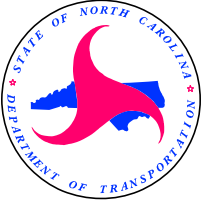


Figure 3I









R-3300 US 17 HAMPSTEAD BYPASS  
NEW HANOVER & PENDER COUNTIES  
STATE PROJECT 40191.1.2

LEGEND	
	SLOPE STAKE LIMITS
	CORRIDOR
	JS MITIGABLE STREAM
	JS NON-MITIGABLE STREAM
	WETLAND BOUNDARY
	STRUCTURES
	U-4751 PROJECT (-M1-)
	EXISTING RIGHT OF WAY
	CONSTRUCTION EASEMENT
	CONTROL OF ACCESS
	RIGHT-OF-WAY
	TRAFFIC SIGNAL

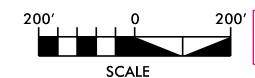
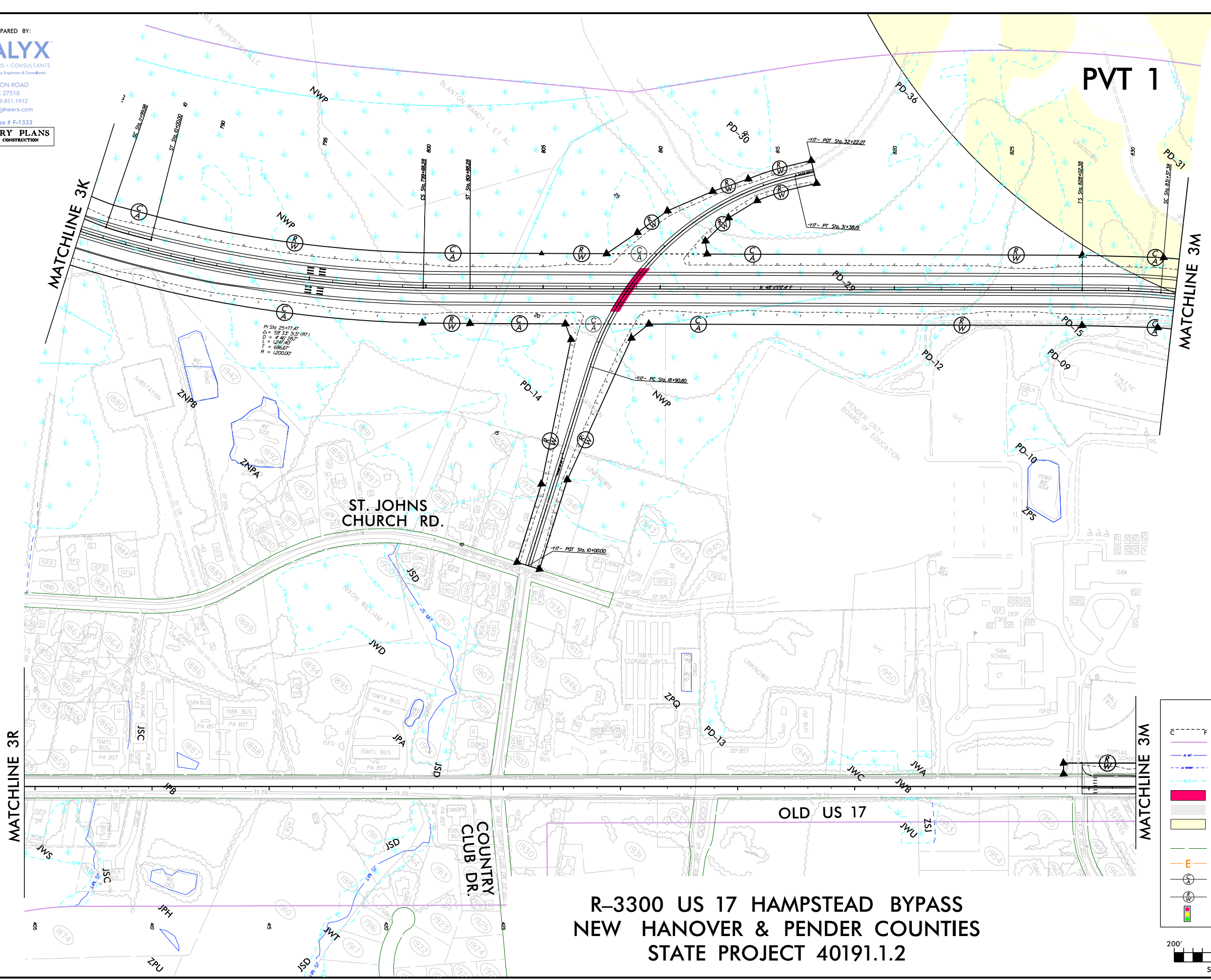
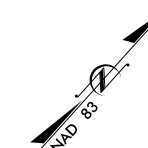
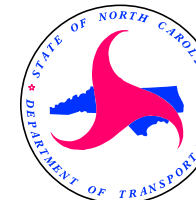


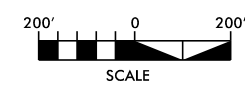
Figure 3K





**R-3300 US 17 HAMPSTEAD BYPASS  
 NEW HANOVER & PENDER COUNTIES  
 STATE PROJECT 40191.1.2**

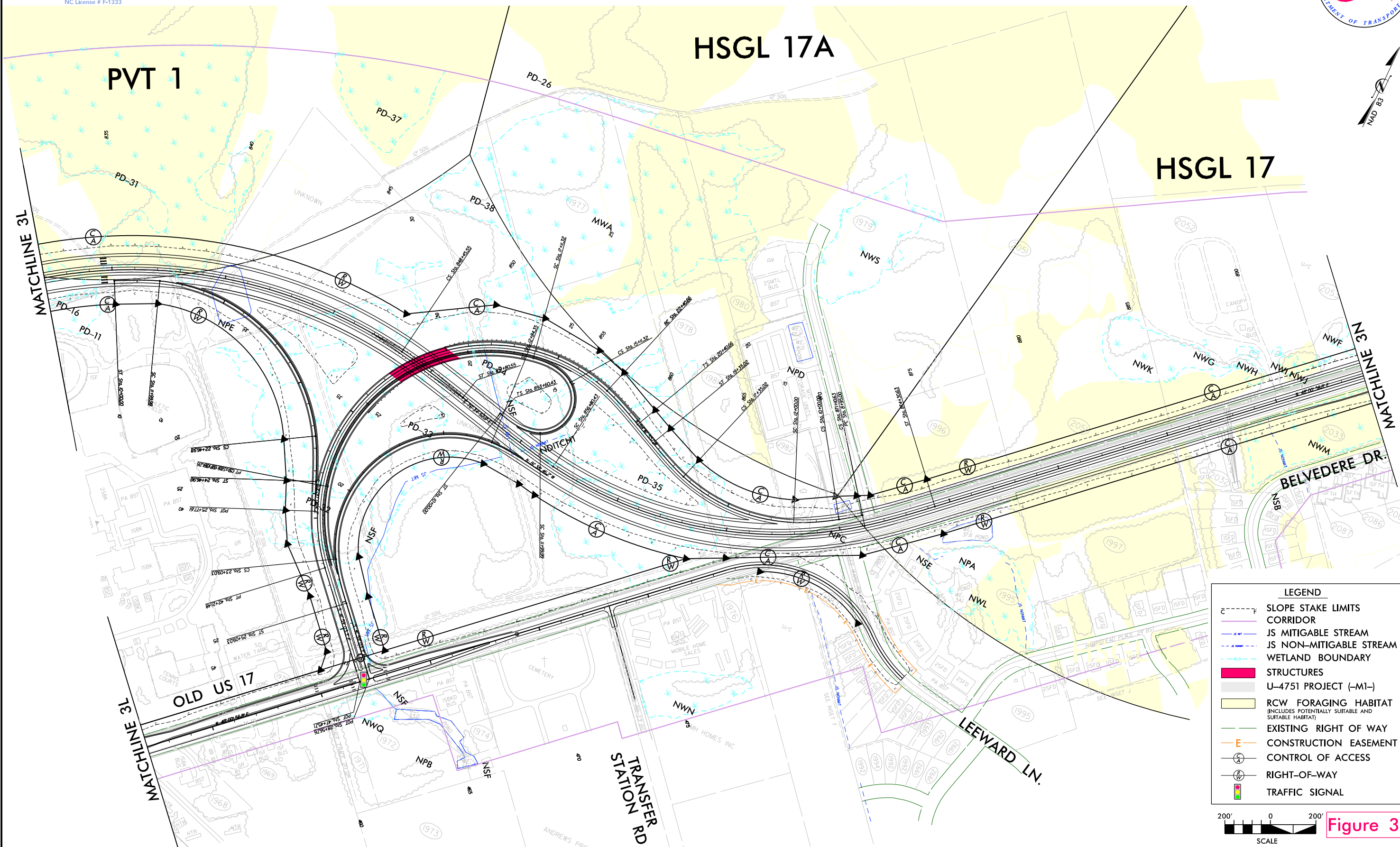
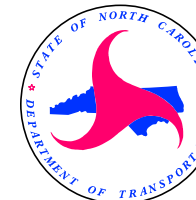
- LEGEND**
- SLOPE STAKE LIMITS
  - CORRIDOR
  - JS MITIGABLE STREAM
  - JS NON-MITIGABLE STREAM
  - WETLAND BOUNDARY
  - STRUCTURES
  - U-4751 PROJECT (-M1-)
  - RCW FORAGING HABITAT (INCLUDES POTENTIALLY SUITABLE AND SUITABLE HABITAT)
  - EXISTING RIGHT OF WAY
  - CONSTRUCTION EASEMENT
  - CONTROL OF ACCESS
  - RIGHT-OF-WAY
  - TRAFFIC SIGNAL



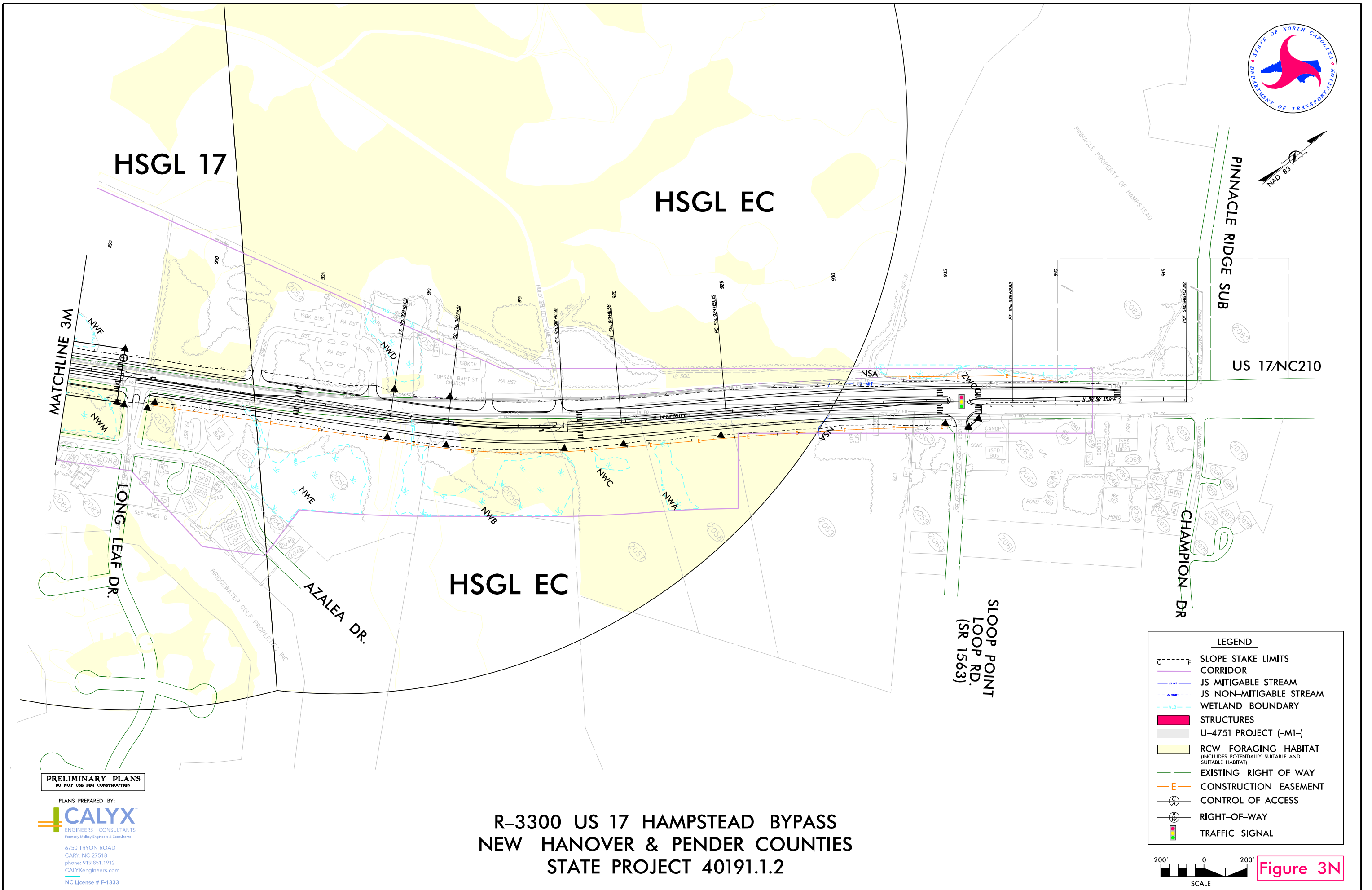
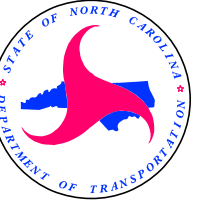
**Figure 3L**



R-3300 US 17 HAMPSTEAD BYPASS  
NEW HANOVER & PENDER COUNTIES  
STATE PROJECT 40191.1.2







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NEW HANOVER & PENDER COUNTIES  
STATE PROJECT 40191.1.2

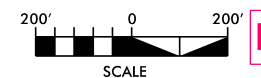
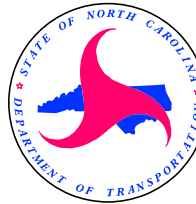


Figure 3N





WILMINGTON BYPASS  
(US 17 / I-140)

CORBETT TRACT  
MITIGATION SITE

ZWDD

CWE

ZSL

ZSK

MATCHLINE 3P

CORR  
MITIG

CORBETT TRACT  
MITIGATION SITE

PGC 300.050.150.154

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R-3300 US 17 HAMPSTEAD BYPASS  
NEW HANOVER & PENDER COUNTIES  
STATE PROJECT 40191.1.2

LEGEND	
	SLOPE STAKE LIMITS
	CORRIDOR
	JS MITIGABLE STREAM
	JS NON-MITIGABLE STREAM
	WETLAND BOUNDARY
STRUCTURES	
	U-4751 PROJECT (-M1-)
	EXISTING RIGHT OF WAY
	CONSTRUCTION EASEMENT
	CONTROL OF ACCESS
	RIGHT-OF-WAY
	TRAFFIC SIGNAL

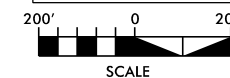
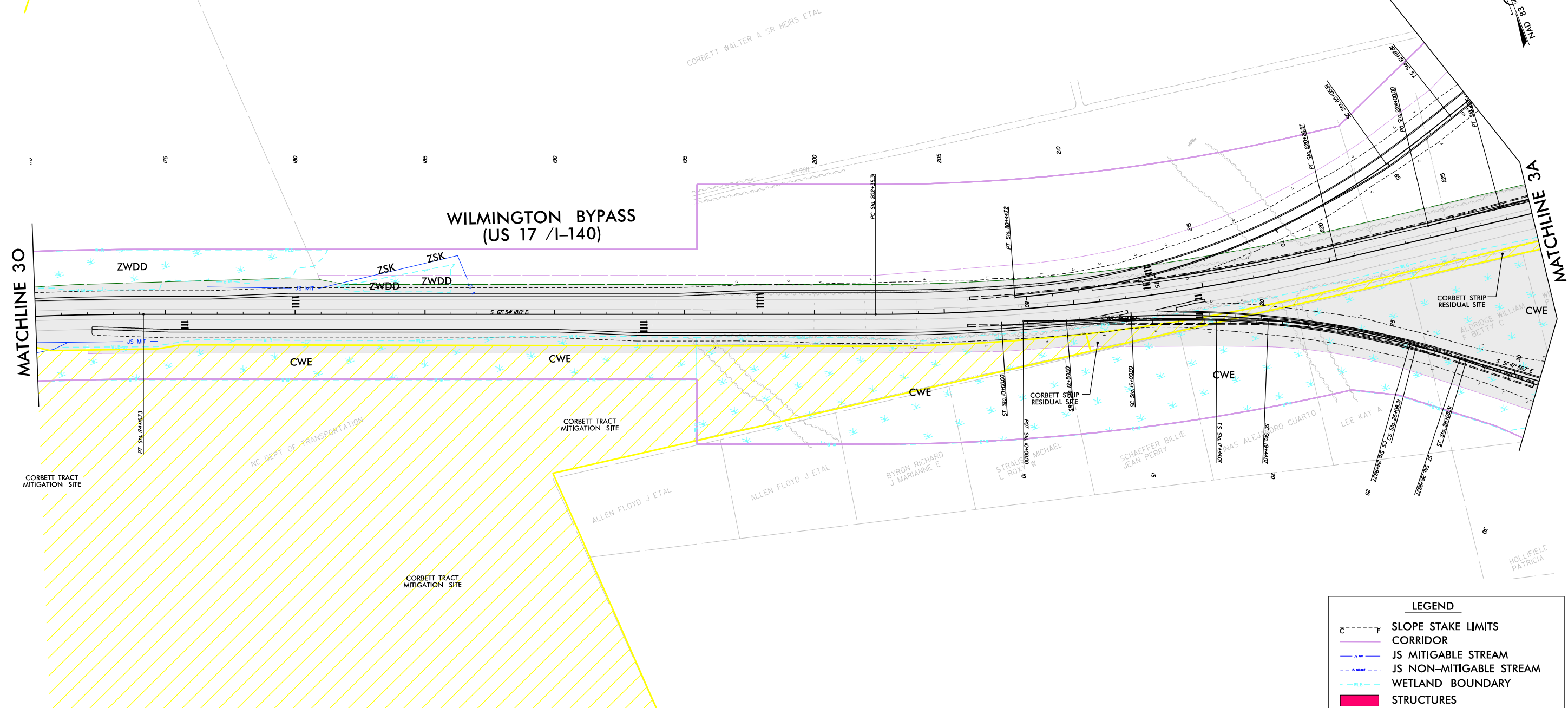
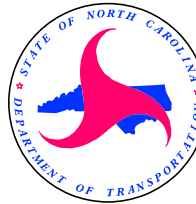


Figure 30

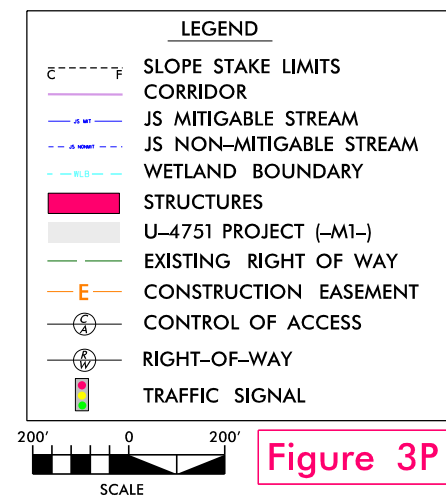




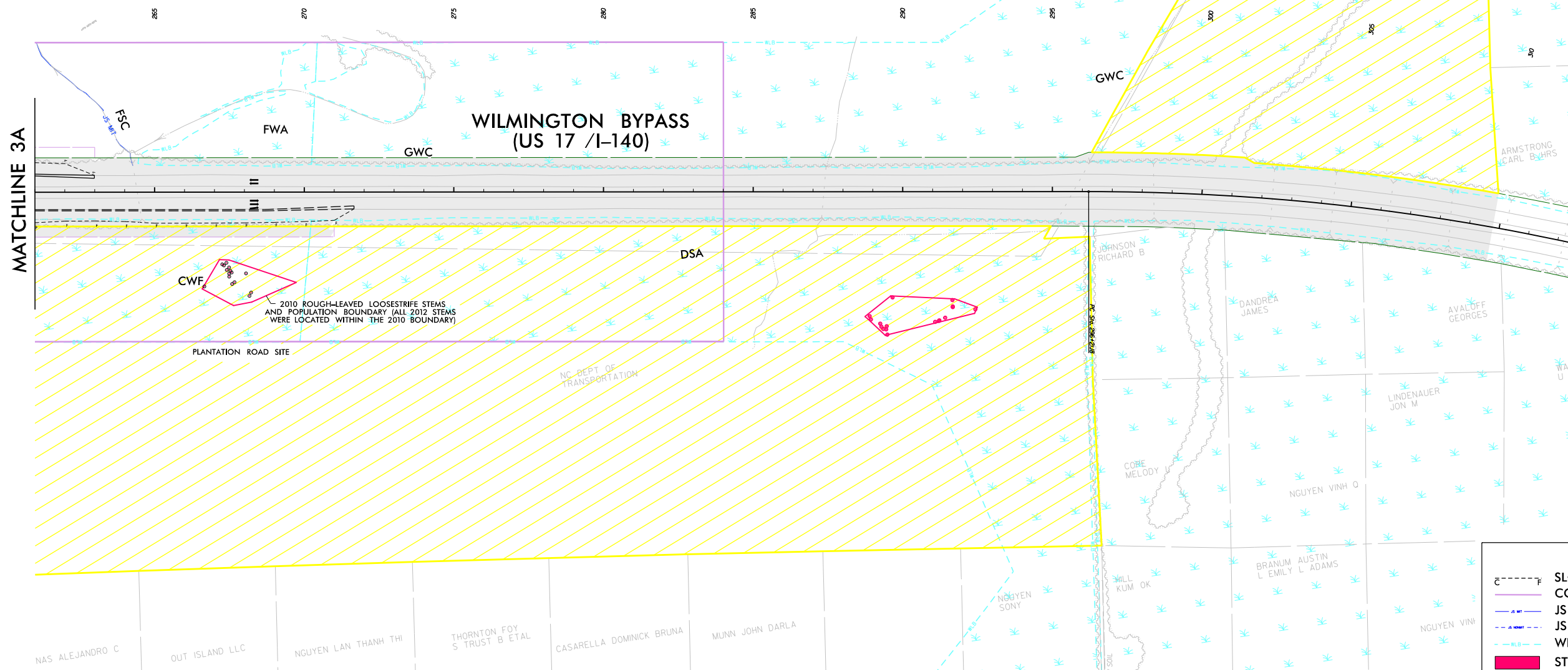
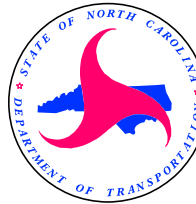
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LEGEND	
	SLOPE STAKE LIMITS
	CORRIDOR
	JS MITIGABLE STREAM
	JS NON-MITIGABLE STREAM
	WETLAND BOUNDARY
STRUCTURES	
	U-4751 PROJECT (-M1-)
	EXISTING RIGHT OF WAY
	CONSTRUCTION EASEMENT
	CONTROL OF ACCESS
	RIGHT-OF-WAY
	TRAFFIC SIGNAL

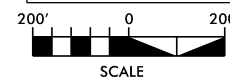
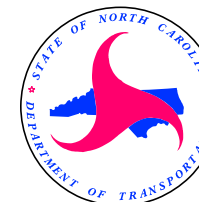


Figure 3Q





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R-3300 US 17 HAMPSTEAD BYPASS  
NEW HANOVER & PENDER COUNTIES  
STATE PROJECT 40191.1.2

	SLOPE STAKE LIMITS
	CORRIDOR
	JS MITIGABLE STREAM
	JS NON-MITIGABLE STREAM
	WETLAND BOUNDARY
	STRUCTURES
	U-4751 PROJECT (-M1-)
	EXISTING RIGHT OF WAY
	CONSTRUCTION EASEMENT
	CONTROL OF ACCESS
	RIGHT-OF-WAY
	TRAFFIC SIGNAL

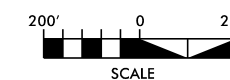


Figure 3R



Table 1. R-3300 Selected Alternative EH Preliminary Design Stream Impacts

Stream ID	Stream Name <sup>1</sup>	Figure No.	Stream Impact (feet)	Compensatory Mitigation Required	Stream Determination
FSA	UT to Island Creek	3-A, B	2,131	Yes	Perennial
FSE	UT to Island Creek	3-B	331	Yes	Perennial
FSH	UT to Island Creek	3-B, C	135	Yes	Intermittent
FSI	UT to Island Creek	3-B	274	Yes	Perennial
FSJ	UT to Island Creek	3-A	859	Yes	Intermittent
HBSAA	UT to Island Creek	3-C	214	Yes	Intermittent
HBSC	UT to Island Creek	3-E	350	Yes	Perennial
HBSD(1)	UT to Island Creek	3-E	161	Yes	Intermittent
			117	Yes	Perennial
HBSH	UT to Island Creek	3-D	320	Yes	Intermittent
HSC	UT to Harrisons Creek	3-F	408	Yes	Perennial
HSX	UT to Harrisons Creek	3-G	310	Yes	Perennial
LSB	UT to Harrisons Creek	3-H	1,499	Yes	Perennial
LSC	Harrisons Creek	3-I	861	Yes	Perennial
LSCA	UT to Harrisons Creek	3-H	336	Yes	Intermittent
			107	Yes	Perennial
LSCAA	UT to Harrisons Creek	3-H	206	Yes	Perennial
LSCB	UT to Harrisons Creek	3-I	298	Yes	Perennial
LSCC	UT to Harrisons Creek	3-I	273	Yes	Perennial
LSCF	UT to Harrisons Creek	3-I	120	Yes	Intermittent
LSD	Godfrey Creek	3-J	278	Yes	Perennial
LSDA	UT to Godfrey Creek	3-J	195	Yes	Intermittent
NSA	UT to AIWW <sup>2</sup>	3-N	344	Yes	Intermittent
			110	Yes	Perennial
NSF	UT to AIWW <sup>2</sup>	3-M	483	Yes	Intermittent
			290	Yes	Perennial
ZSK	UT to Prince George Creek	3-O, P	850	Yes	Perennial
ZSL	UT to Prince George Creek	3-O	40	Yes	Perennial
<b>Total Delineated Stream Impacts (linear feet)</b>					
Perennial			<b>8,733</b>		
Intermittent			<b>3,167</b>		
Total			<b>11,900</b>		

<sup>1</sup>Smith Creek, Island Creek, Prince George Creek, Harrisons Creek, and Godfrey Creek are classified C; Sw. Nixons Creek and Old Topsail Creek are classified SA; HQW.

<sup>2</sup>Atlantic Intracoastal Waterway.



Table 2. R-3300 Selected Alternative EH Preliminary Design Surface Water Impacts

Feature ID	Appearance <i>or</i> Name	Figure No.	Connection <i>or</i> Compensatory Mitigation Requirement	Impacts	Additional Information
IPE	Stormwater Pond	3-H	No Connection	0.27 acres	No record of permit
JPD	Cypress/Gum Depression	3-R	KWG	1.71 acres	
KPB	Cypress/Gum Depression	3-R	KWA/KWG	0.34 acres	
LPB	Manmade/Maintained	3-I	LWF	0.38 acres	
LPD	Manmade/Maintained	3-H	LWA	0.02 acres	
LPE	Manmade/Maintained	3-J	No Connection	0.36 acres	
NPA	Small Borrow Pond	3-M	No Connection	0.01 acres	
NPC	Stormwater Pond	3-M	No Connection	0.06 acres	Permit No. SW8 040431
NPE	Water Treatment Pond	3-M	No Connection	0.70 acres	
FSH	UT to Island Creek <sup>1</sup>	3-B, C	Compensatory Mitigation not Required <sup>3</sup>	2,328 sq. ft./ 0.053 acres	OHW <sup>4</sup>
FSH	UT to Island Creek <sup>1</sup>	3-B, C	Compensatory Mitigation not Required <sup>2</sup>	906 sq. ft./ 0.021 acres	OHW <sup>4</sup>
NDITCH1 <sup>5</sup>	UT to Old Topsail Creek <sup>1</sup>	3-M	Compensatory Mitigation not Required <sup>2,3</sup>	1,558 sq. ft./ 0.036 acres	OHW <sup>4</sup>
ZTRIB1 <sup>5</sup>	UT to Old Topsail Creek <sup>1</sup>	3-R	Compensatory Mitigation not Required <sup>2</sup>	181 sq. ft./ 0.004 acres	OHW <sup>4</sup>
<b>Total Surface Water Impacts</b>					
Ponds with a connection to tributary waters (acres)			<b>2.45</b>		
Ponds with no connection to tributary waters (acres)			<b>1.40</b>		
Tributary waters determined to be jurisdictional based on the presence of an OHW <sup>4</sup> (square feet/acres)			<b>4,973/0.114</b>		

<sup>1</sup>Old Topsail Creek is classified as SA; HQW. Island Creek is classified C; Sw.

<sup>2</sup>Tributary feature exists within the boundaries of an adjacent wetland and therefore does not require mitigation independent of the wetland.

<sup>3</sup>Tributary feature does not require stream mitigation but may require mitigation by USACE as a 'Water of the US' dependent upon the type of impact proposed at the time of permit application.

<sup>4</sup>Tributary waters determined to be jurisdictional based on the presence of an ordinary high water mark (OHWM). These waters are classified as 'Waters of the US' (impacts calculated in sq. ft.) and will not require compensatory mitigation.

<sup>5</sup>ZTRIB1 and NDITCH1 were added during Jurisdictional review based on current site conditions.



Table 3. R-3300 Selected Alternative EH Preliminary Design Wetland Impacts

Wetland ID	Figure No.	Cowardin Classification <sup>1</sup>	Hydrologic Classification	NCDWR Wetland Rating	Wetland Impacts (acres)
FWB	3-A, B	PFO	Riparian	20	5.01
FWC <sup>2</sup>	3-B, C	PFO	Riparian	48	1.45
FWF	3-C	PFO	Non-riparian	37	5.83
			Riparian	37	1.08
FWHB	3-C	PFO	Non-riparian	24	0.04
FWI	3-C	PFO	Non-riparian	17	0.38
FWL	3-C	PFO	Non-riparian	19	0.03
FWY	3-A	PFO	Non-riparian	20	0.18
HBAA <sup>3</sup>	3-C	PSS/PFO	Riparian	32	0.25
HBAB	3-C	PSS/PFO	Non-riparian	27	1.09
HBWD <sup>4</sup>	3-D, E	PSS/PFO	Riparian	83	1.19
HBWF	3-E	PEM/PSS	Riparian	32	0.78
HBWK <sup>5</sup>	3-D	PFO/PSS	Riparian	83	1.47
HBWT	3-D	PSS	Non-riparian	14	0.39
HWB	3-G	PFO	Riparian	50	2.31
HWD	3-G	PFO	Non-riparian	21	0.35
HWG <sup>6</sup>	3-F	PFO/PSS	Riparian	15	0.87
HWH	3-G	PFO	Non-riparian	26	0.15
HWH1	3-G	PFO	Non-riparian	26	0.08
HWH2	3-G	PFO	Non-riparian	26	0.03
HWH3	3-G	PFO	Non-riparian	26	0.07
HWH4	3-G	PFO	Non-riparian	26	0.02
HWH5	3-F	PFO	Non-riparian	26	0.23
HWY	3-F	PFO	Non-riparian	26	0.17
HWZ	3-F	PFO	Non-riparian	21	0.01
HWAA <sup>7</sup>	3-E, F	PFO	Non-riparian	40	8.52
			Riparian	40	1.64
HWHH	3-E	PFO	Non-riparian	34	0.90
HWMX	3-F	PFO	Non-riparian	40	0.05
IWA	3-H	PFO	Riparian	80	0.03
IWB	3-H	PFO	Riparian	25	0.09
IWC	3-H	PFO	Riparian	20	0.21
IWD	3-H	PFO	Non-riparian	31	17.71
			Riparian	31	0.39
IWE	3-H	PFO	Non-riparian	13	0.16
JWKX	3-R	Non-Riverine Swamp Forest <sup>8</sup>	Non-riparian	14	1.90
KWG	3-R	PFO1/2G	Non-riparian	43	0.71
LWA	3-H	PFO	Riparian	70	0.13
LWB	3-H	PFO	Riparian	72	8.36
LWD	3-H, I	PFO	Riparian	83	5.84
LWD1	3-H	PFO	Riparian	48	0.08



Table 3. R-3300 Selected Alternative EH Preliminary Design Wetland Impacts *continued*

Wetland ID	Figure No.	Cowardin Classification <sup>1</sup>	Hydrologic Classification	NCDWR Wetland Rating	Wetland Impacts (acres)
LWE	3-I	PFO	Non-riparian	29	0.49
LWF	3-I	PFO	Non-riparian	11	0.10
LWG	3-I	PFO	Non-riparian	46	0.01
LWH	3-J	PFO	Non-riparian	23	0.01
LWI	3-J	PFO	Riparian	80	2.50
LWJ	3-J, K	PFO	Non-riparian	40	5.50
LWK	3-J, K	PFO	Riparian	78	0.36
LWL	3-J	PFO	Riparian	76	0.28
MWA	3-M	PSS/PFO	Non-riparian	36	0.00
MWM(2)	3-H	PFO	Non-riparian	68	2.61
			Riparian	68	0.09
NWA	3-N	PFO	Non-riparian	12	0.01
NWB	3-N	PEM/PFO	Non-riparian	13	0.04
NWE	3-N	PEM/PFO	Non-riparian	12	0.03
NWF	3-M, N	PEM/PSS	Non-riparian	12	0.05
NWJ	3-M	PSS/PFO	Non-riparian	12	0.10
NWK	3-M	PSS	Non-riparian	12	0.04
NWM	3-M, N	PFO	Non-riparian	22	1.01
NWO	3-K	PFO4	Non-riparian	17	3.69
NWP	3-K, L	PSS	Non-riparian	17	32.38
ZWCC	3-N	PFO	Riparian	28	0.06
ZWDD	3-O, P	PFO	Non-riparian	26	0.92
			Riparian	26	0.24
PD-11	3-M	PFO/PSS	Non-riparian	N/A	0.04
PD-15	3-L	PFO/PSS	Non-riparian	N/A	0.53
PD-16	3-M	PFO/PSS	Non-riparian	N/A	0.63
PD-29	3-L	PFO/PSS	Non-riparian	N/A	10.58
PD-31	3-L, M	PFO/PSS	Non-riparian	N/A	2.02
PD-32	3-M	PFO/PSS	Non-riparian	N/A	2.44
			Riparian	N/A	0.92
PD-33	3-M	PFO/PSS	Non-riparian	N/A	7.79
			Riparian	N/A	0.67
PD-34	3-M	PFO/PSS	Non-riparian	N/A	2.30
PD-35	3-M	PFO/PSS	Non-riparian	N/A	7.24
<b>Total Delineated Wetland Impacts (acres)</b>					<b>155.86</b>

<sup>1</sup>Cowardin classifications are based on characteristics of each wetland at the specific time and location of observation.

Wetlands having 'No ID' were not characterized due to impacted appearance at the time of observation.

<sup>2</sup>Includes wetland FEW

<sup>3</sup>Includes wetland HBAC

<sup>4</sup>Bridging at Site 16 reduces wetland impacts to HBWD from 1.71 acres to 1.19 acres.

<sup>5</sup>Includes wetland HBWP; bridging at Site 15 reduces wetland impacts to HBWK from 1.61 acres to 1.47 acres.

<sup>6</sup>Includes wetlands HWM, HWN, HWO

<sup>7</sup>Includes wetlands HWBB, HWII, HWLL

<sup>8</sup>NCWAM classifications were used for wetlands in extended study areas.