

Type III Categorical Exclusion Action Classification Form

STIP Project No.	HL-0007
WBS Element	49366.1.1
Federal Project No.	N/A

A. Project Description:

State Transportation Improvement Project (STIP) HL-0007 proposes to convert the intersection of NC 55 and SR 1191(Technology Drive)/SR 6107 (East Williams Street) to an alternative intersection, specifically a Reduced Conflict Intersection (RCI). The project also proposes to widen SR 6107 (East Williams Street) from a two-lane undivided facility to a four-lane median divided facility. The project is in Wake County within the Town of Apex. See attached **Figure 1 – Vicinity Map** for the project location.

B. Description of Need and Purpose:

The HL-0007 project is needed because the facility is projected to operate below acceptable operational limits in the peak hours in future years. While the facility operates at acceptable levels currently, significant nearby development in the area will cause congestion and delays in the future without significant improvements. The purpose of the project is to alleviate anticipated future peak hour congestion within the study area.

Table 1 presents intersection measures of effectiveness (MOE) including Level of Service (LOS) and delay for the intersection of NC 55 and SR 1191 (Technology Drive)/SR 6107 (East Williams Street) in the design year 2045. Note that Perry Road Extension in Table 1 refers to a future roadway that will tie in at the existing SR 1191 (Technology Drive) intersection with NC 55/SR 6107 (East Williams Street).

Traffic operations analysis completed for the project indicates that with no improvements, intersection LOS and overall delays will increase well beyond acceptable levels.

Table 1: Intersection MOE Comparison of Traffic Analysis Results Between RCI and Traditional

Turning Movement		RCI Intersection		Traditional Intersection	
		Delay (s) ¹	LOS ²	Delay (s) ¹	LOS ²
AM Peak Hour					
Approach	Overall	26.5/40.1*	C/D*	317.2	F
NC 55 (Southbound)	L	46.8	D	94.3	F
	T	18.3	B	380.9	F
	R	34.0	C	270.7	F
NC 55 (Northbound)	L	24.9	C	782.4	F
	T	22.0	C	516.1	F
	R	20.8	C	377.2	F
Perry Road Extension (Eastbound)	L	N/A	N/A	506.0	F
	T	N/A	N/A	72.2	E
	R	43.7	D	34.5	C
East Williams Street (Westbound)	L	N/A	N/A	319.0	F
	T	N/A	N/A	214.0	F
	R	65.7	E	201.7	F
PM Peak Hour					
Approach	Overall	26.6/23.0*	C/C*	235.1	F
NC 55 (Southbound)	L	33.1	C	245.6	F
	T	36.3	D	61.5	E
	R	32.3	C	38.3	D
NC 55 (Northbound)	L	7.3	A	532.5	F
	T	17.1	B	443.8	F
	R	19.8	B	418.2	F
Perry Road Extension (Eastbound)	L	N/A	N/A	197.5	F
	T	N/A	N/A	59.0	E
	R	34.7	C	44.6	D
East Williams Street (Westbound)	L	N/A	N/A	715.4	F
	T	N/A	N/A	414.9	F
	R	36.3	D	206.8	F

Intersection

1. Delays are in seconds per vehicle based on the 95th percentile average control delay for the 60-minute simulation period derived from ten random seed simulations.

2. Level of Service (LOS) shown is simulation-based and calculated in a manner that is consistent with the HCM.

* Denotes the Delay and LOS for the Southbound and Northbound directions of travel on NC 55 through the RCI intersection, respectively

C. Categorical Exclusion Action Classification:

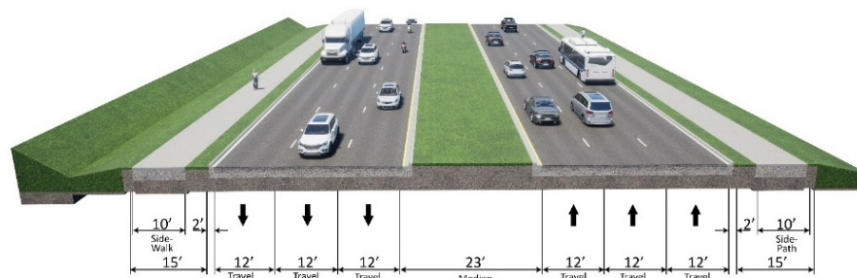
Type III

D. Proposed Improvements:

E. Special Project Information:

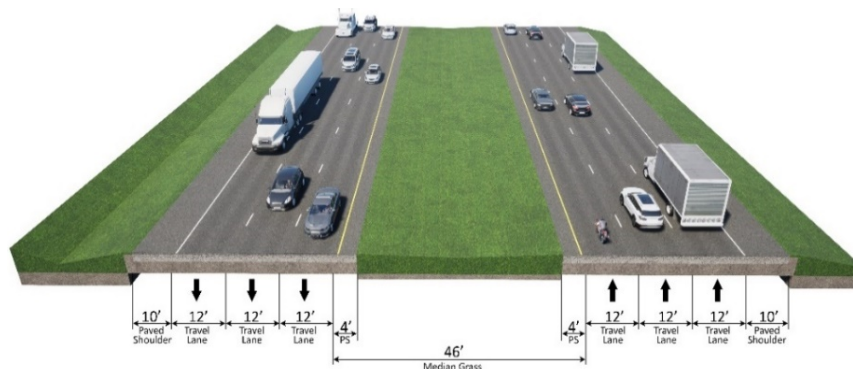
This project includes an alternative intersection design where NC 55 meets SR 1191 (Technology Drive)/SR 6107 (East Williams Street) and widening of SR 6107 (East Williams Street) from a 2-lane undivided facility to a four-lane median divided roadway.

The proposed improvements also include the following typical sections and design elements:



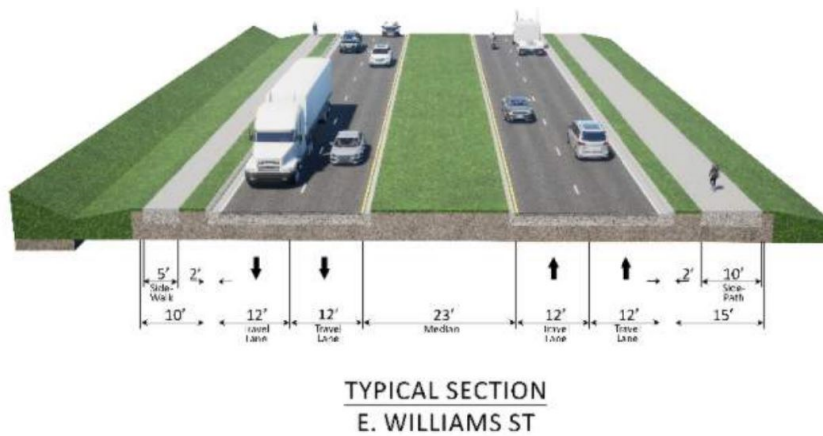
TYPICAL SECTION
N.C. 55 NORTH OF E. WILLIAMS

- Six travel lanes (three in each direction)
- 23-foot median (varies depending on presence of left-turn lanes)
- Curb and Gutter
- 10-foot side path on both sides



TYPICAL SECTION
N.C. 55 SOUTH OF E. WILLIAMS

- Six travel lanes (three in each direction)
- 46-foot median (varies depending on presence of left-turn lanes)
- Shoulder Section
- 4-foot inside paved shoulder
- 10-foot outside paved shoulder



- Four travel lanes (two in each direction)
- 23-foot median (varies depending on presence of left-turn lanes)
- Curb and Gutter
- 5-foot sidewalk on one side
- 10-foot side path on one side

Five build alternatives were considered as part of this project: a continuous flow intersection (CFI), a grade-separated interchange (CAMPO concept), two partial-cloverleaf/diamond interchange concepts, and the creation of a Reduced Conflict Intersection (RCI) along NC 55.

Converting the NC 55/SR 6107 (East Williams Street)/SR 1191 (Technology Drive) intersection into a RCI is the preferred alternative because it meets the project purpose and need while accommodating proposed development along the project corridor. This alternative would improve the traffic flow of the existing intersection by converting SR 6107 (E Williams Street) to a limited access roadway with right in, right out only movements. Access would be maintained through southbound left-turning movements onto SR 1448 (Bobbitt Road) and MCI Business Park and a northbound left turn into the Exxon station near the intersection. Additionally, a U-turn movement is proposed at the SR 6107 (East Williams Street)/Reunion Creek Parkway intersection to accommodate emergency vehicles.

Integrated Mobility

The proposed project will include pedestrian facilities along the east side of SR 6107 (E Williams Street) beginning at the intersection of SR 1301 (Sunset Lake Road)/SR 1172 (Old Smithfield Road) continuing north along SR 6107 (East Williams Street) and the east side of NC 55, to the northern terminus of the project. The ten-foot-wide side path will accommodate both cyclists and pedestrians. Signalized crossings along SR 6107 (E Williams Street) will be provided at the intersections with Reunion Creek Parkway and NC 55/SR 6107 (East Williams Street)/SR 1191 (Technology Drive).

A five-foot sidewalk with four-foot grass buffer will be provided on the west side of SR 6107 (E Williams Street) from the intersection of SR 1301 (Sunset Lake Road)/SR 1172 (Old Smithfield Road) to the intersection with NC 55/SR 6107 (East Williams Street)/SR 1191 (Technology Drive). A ten-foot-wide side path will also be installed on the west side of NC 55 from SR 1191 (Technology Drive) to the northern project limits. The two paths would connect via signalized crossings at the NC 55/SR 6107 (East Williams Street)/SR 1191 (Technology Drive) intersection.

The proposed project was reviewed by the NCDOT Integrated Mobility Division (IMD) as part of the Complete Street Review Assessment (CSRA), including Stage 1IM1 of the NCDOT Project Delivery Network. The review analyzed existing pedestrian activity in the proposed project area including a worn foot path extending north on SR 1448 (Bobbitt Road), parallel to westbound NC 55 showing clear evidence of the need for a sidewalk in this area. Subsequent to the IMD review, a sidewalk was added on the east side of SR 6107 (East Williams Street) under STIP project EB-5895. If this project impacts the existing sidewalk, it will be replaced in kind. IMD also suggested marked crosswalks at E Williams Street and NC 55 and separated bike lanes or shared-use paths along NC 55.

The NCDOT IMD Demand Estimation Map indicated that the demand for this area is Medium. Medium demand areas should consider sidewalks for pedestrian accommodations, separated bike lanes for bicycle facilities or shared-used paths to combine the two modes to reduce typical width. Each of the recommendations from the NCDOT IMD has been incorporated into the project plans.

Public Involvement

The North Carolina Department of Transportation (NCDOT) held a public meeting on February 16, 2023, for STIP Project HL-0007. There were 87 attendees at the public meeting, including six (6) NCDOT employees, four (4) Town of Apex representatives and five (5) representatives from the project consulting firm. Three (3) written comments were collected at the meeting. The Town of Holly Springs also submitted a comment letter at the meeting. To be included during the phase of the project development, the public comment period ended on March 2, 2023. As of June 22, 2023, the project's publicinput.com webpage had 3,073 views, with 49 participants, 105 comments and 52 subscribers to the project email update list. Comment responses as of March 20, 2023, were compiled by the project team and posted to the publicinput.com webpage. All comments, including those received after the close of the public comment period, will be saved to the project Sharepoint site as part of the administrative record.

Cultural Resources

Review of HPOGIS web service was undertaken on February 10, 2021. Based on this review, there are no existing NR, DE, LL, or SL properties in the project area. Survey Site number WA5690 is a c.1960 house evaluated in the Historic Structure report for STIP project R-2721 and found to be ineligible for NR listing. Much of the southern portion of HL-0007 was surveyed for the Complete 540 project (R-2721). The APE contains several houses which date between 1940-1970. None of these properties have a level of integrity or architectural significance to warrant further evaluation; therefore, No Historic Properties are Present. A *Historic Architecture and Landscapes – No Historic Properties Present Form* was completed by a NCDOT Architectural Historian on February 11, 2021.

Tribal coordination with the Catawba Indian Nation was also completed as part of the historic resources review of the project area. A response to a request for comment on the project from the Catawba Indian Nation was received on April 8, 2021. The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.

Nearly half of the project area has been previously surveyed for archaeological resources and no sites were documented. The northern half of the APE is largely impacted and contains few habitable landforms likely to contain archaeological artifacts. A finding of “no archaeological survey required” is considered appropriate. A *No Archaeological Survey Required Form* was completed by a NCDOT Archaeologist on February 26, 2021.

Streams and Wetlands

Water resources within the study area are part of the Neuse River Basin (USGS Hydrologic Unit 03020201) and the Cape Fear River Basin (USGS Hydrological Unit 03030002). Three (3) jurisdictional wetlands and one (1) jurisdictional pond were identified within the study area. USACE wetland determination forms and NCWAM forms for each site are included in a separate Approved/Preliminary Jurisdictional Determination (JD) Package.

For the purposes of this CE, the project limits have been set at the slope stakes based on 25 percent design with a 25-foot buffer (**Table 4**). Based on those plans, Wetland A would not be affected, reducing wetland impacts from 1.025-acre to 0.081-acre. Impacts to the jurisdictional pond have also been eliminated as it falls outside of the proposed construction limits.

Table 2. Characteristics of jurisdictional wetlands in the study area

Map ID	NCWAM Classification	NCWAM Rating	Hydrologic Classification	Area
Wetland B	Basin Wetland	Medium	Riverine	0.079 acre
Wetland C	Basin Wetland	Medium	Riverine	0.002acre
			Total	0.081

Twenty (20) jurisdictional streams were identified in the study area. All jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation. 'Relatively permanent waters' are identified as intermittent streams and 'non-relatively permanent waters' are identified as ephemeral streams.

Table 3. Characteristics of impacted jurisdictional streams in the study area

Map ID	Total Linear Feet	Impacts Linear Feet	Classification	Compensatory Mitigation Required	Riparian Buffer Application / Buffer Area
Tributary H	260	76	Intermittent	Yes	Not Applicable
Tributary I	243	23	Intermittent	Yes	Subject / Neuse
Tributary K	202	132	Intermittent	Yes	Not Applicable
Tributary Q	451	144	Ephemeral	Yes	Not Applicable
Tributary R	277	47	Ephemeral	Yes	Not Applicable
Tributary S	366	43	Ephemeral	Yes	Not Applicable
Tributary T	126	99	Ephemeral	Yes	Not Applicable
Total	1,925-lf	564-lf			

Jurisdictional features impacted by the design will require appropriate permitting. Efforts to avoid wetlands and waters of the US should be taken during design and standard BMPs put in place for work around or adjacent to wetland and/or stream areas. A United States Army Corps of Engineers (USACE) Jurisdictional Determination (USACE Action ID: SAW-2-21-01245) was issued on October 28, 2021. The expiration date of the AJD is incorrectly identified in the Jurisdictional Determination. The USACE provided guidance via email on December 20, 2021, that the correct AJD expiration date is October 28, 2026.

The Department proposes to use Nationwide Permit 14 or Regional General Permit 50 to permit anticipated jurisdictional impacts at the project. The USACE will make a final decision on this issue.

Threatened and Endangered Species

The USFWS lists the following federally protected species on its Information for Planning and Conservation (IPaC) website for the project study area. IPaC identified species that could be affected during construction, primarily during tree clearing activities. For each species, a discussion of the presence or absence of habitat is included below along with the Biological Conclusion rendered based on survey results. The federally protected species listed in the NRTR, dated June 2021, has been updated to include the Tricolored bat, which has recently been proposed endangered (Table 2).

Table 4. ESA federally protected species potentially impacted by construction activities

Scientific name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Notropis mekistocholas</i>	Cape Fear shiner	E	No	No Effect
<i>Noturus furiosus</i>	Carolina madtom	E	No	No Effect
<i>Necturus lewisi</i>	Neuse River waterdog	T	No	No Effect
<i>Fusconaia masoni</i>	Atlantic pigtoe	T	No	No Effect
<i>Alasmidonta heterodon</i>	Dwarf wedgemussel	E	No	No Effect
<i>Elliptio lanceolata</i>	Yellow lance	T	No	No Effect
<i>Rhus michauxii</i>	Michaux's sumac	E	Yes	No Effect
<i>Perimyotis subflavus</i>	Tricolored bat*	PE	Unknown	Unresolved

E = Endangered; T = Threatened; PE = Proposed Endangered

* This was added as proposed endangered after the NRTR was completed. NCDOT will resolve Section 7 prior to project letting.

Source: USFWS IPaC website as of July 17, 2023

Northern Long-eared Bat

NCDOT staff and/or consultants must follow the NCDOT Bat Habitat Assessment SOP by filling out Bat Habitat Assessment Forms for projects that affect bridges and culverts. These forms will be submitted to NCDOT Biological Surveys Group (BSG) using the Survey 123 application or emailed to clknepp@ncdot.gov. BSG staff will enter the forms into its database even if no bat presence is detected. If NLEBs are detected at a bridge or culvert, the Service will be notified.

The USFWS has revised the previous 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) (*Myotis septentrionalis*) in eastern North Carolina (December 15, 2022). 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 ten years for all NCDOT projects with a federal nexus in Divisions 1-8. This level of incidental take is authorized from the effective date of a final listing determination through December 31, 2030.

The Revised PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. Although this programmatic covers Divisions 1-8, NLEBs are currently only known to occur in 27 counties but may potentially occur in 3 additional counties within Divisions 1-8 (note: Division 5 is not located within any of these 30 counties). NCDOT, FHWA, and USACE have agreed to two Conservation Measures which will avoid/minimize mortality of NLEBs. These Conservation Measures only apply to the 30 current known/potential counties and do not include any parts of Division 5. NCDOT, FHWA, and USACE have agreed to three Monitoring and Reporting Requirements to monitor the impacts of incidental take. All projects in Division 5 where planning has commenced after May 5, 2023, must adhere only to Monitoring and Reporting Requirement 3.

This project is outside the IPaC range for the NLEB.

Tricolored Bat

On September 14, 2022, the U.S. Fish and Wildlife Service announced a proposal to list the tricolored bat (*Perimyotis subflavus* - PESU) as endangered under the Endangered Species Act. Given the proposal to list PESU as Federally Endangered, NCDOT and its federal partners, FHWA and USACE are initiating a conference programmatic consultation to address impacts to this species. USFWS has not provided an official effective listing date, but it is anticipated to occur in the second half of 2023.

Upon listing, USFWS is expected to provide habitat descriptions and an area of influence/distribution range for PESU. When this information is provided, it will help to inform NCDOT's determinations on habitat that could be impacted by NCDOT actions.

F. Project Impact Criteria Checklists:

F3. Type III Actions			
Proposed improvement(s) that fit Type III Actions (NCDOT-FHWA CE Programmatic Agreement, Appendix C) answer questions below.			
<ul style="list-style-type: none"> <i>NCDOT will certify the Categorical Exclusion for FHWA approval.</i> <i>If any questions are marked "Yes" then additional information will be required for those questions in Section G.</i> 			
		Yes	No
1	Does the project involve potential effects to Threatened or Endangered species listed by the US Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGEPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Does the project involve substantial residential or commercial displacements or right of way acquisition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Does the project include a determination under Section 4(f)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Is a project-level analysis for direct, indirect, or cumulative effects required based on the NCDOT community studies screening tool?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Does the project impact anadromous fish spawning waters?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Does the project impact waters classified as Outstanding Resource Waters (ORW), High Quality Waters (HQW), Water Supply Watershed Critical Areas, 303(d)-listed impaired water bodies, buffer rules, or submerged aquatic vegetation (SAV)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	Does the project impact Waters of the United States in any of the designated mountain trout streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	Does the project require a US Army Corps of Engineers (USACE) Individual Section 404 Permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	Does the project include Section 106 of the National Historic Preservation Act (NHPA) effects determination other than a No Effect, including archaeological remains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14	Does the project involve GeoEnvironmental Sites of Concerns such as gas stations, dry cleaners, landfills, etc.?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

15	Does the project require work encroaching and adversely affecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>Type III Actions (continued)</u>		Yes	No
16	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Areas of Environmental Concern (AEC)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17	Does the project require a US Coast Guard (USCG) permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19	Does the project involve Coastal Barrier Resource Act (CBRA) resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20	Does the project impact federal lands (e.g. US Forest Service (USFS), US Fish and Wildlife Service (USFWS), etc.) or Tribal (Trust) Lands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21	Does the project involve any changes in access control or the modification or construction of an interchange on an interstate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23	Will maintenance of traffic cause substantial disruption?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24	Is the project inconsistent with the STIP, and where applicable, the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, TVA, Tribal Lands, or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26	Does the project involve Federal Emergency Management Act (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27	Is the project considered a Type I under the NCDOT's Noise Policy?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
28	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
29	Is the project in an Air Quality non-attainment or maintenance area for a National Ambient Air Quality Standard (NAAQS)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
30	Are there other issues that arose during the project development process that affected the project decision?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

G. Additional Documentation as Required from Section F (ONLY for questions marked 'Yes'):

Checklist Item #1

The USFWS has revised the previous 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) (*Myotis septentrionalis*) in eastern North Carolina (December 15, 2022). The Revised PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. Although this programmatic covers Divisions 1-8, NLEBs are currently only known to occur in 27 counties but may potentially occur in 3 additional counties within Divisions 1-8 (note: Division 5 is not located within any of these 30 counties). NCDOT, FHWA, and USACE have agreed to two Conservation Measures which will avoid/minimize mortality of NLEBs. These Conservation Measures only apply to the 30 current known/potential counties and do not include any parts of Division 5. NCDOT, FHWA, and USACE have agreed to three Monitoring and Reporting Requirements to monitor the impacts of incidental take. All projects in Division 5 where planning has commenced after May 5, 2023, must adhere only to Monitoring and Reporting Requirement 3.

NCDOT staff and/or consultants must follow the NCDOT Bat Habitat Assessment SOP by filling out Bat Habitat Assessment Forms for projects that affect bridges and culverts. These forms will be submitted to NCDOT Biological Surveys Group (BSG) using the Survey 123 application or emailed to clknepp@ncdot.gov. BSG staff will enter the forms into its database even if no bat presence is detected. If NLEBs are detected at a bridge or culvert, the Service will be notified.

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 ten years for all NCDOT projects with a federal nexus in Divisions 1-8. This level of incidental take is authorized from the effective date of a final listing determination through December 31, 2030.

Checklist Item #3

An online petition on Change.org was signed by 450 members of the public as of June 23, 2023. The petition notes opposition to the proposed project and request for consideration of other alternatives that do not impact the Miramonte and Pemberly neighborhoods or nearby businesses. Primary concerns listed in the petition include reduced left turn access both in and out of Miramonte, Pemberley and nearby businesses along East Williams Street, increased emergency vehicle response times, increased neighborhood traffic, lack of action on other parts of NC 55, and impact to home and business property values. Design revisions including left-in access at Bobbitt Road and the MCI Business Park, left-in access to the Exxon station near the intersection and right-out access onto NC 55 were added to the project after the public comment period in response to public concerns.

Checklist Item #9

Streamside riparian zones within the study area are protected under provisions of the Neuse River Buffer Rules administered by the North Carolina Division of Water Resources (NCDWR). A summary of impacted streams within the study area for the Preferred Alternative (slope stake line +25 feet) are shown in **Table 3**.

Table 5. Status of impacted jurisdictional streams in the study area

Map ID	Total Linear Feet*	Impacts Linear Feet	Classification	Compensatory Mitigation Required	Riparian Buffer Application / Buffer Area
Tributary H	260	76	Intermittent	Yes	Not Applicable
Tributary I	243	23	Intermittent	Yes	Subject / Neuse
Tributary K	202	132	Intermittent	Yes	Not Applicable
Tributary Q	451	144	Ephemeral	Yes	Not Applicable
Tributary R	277	47	Ephemeral	Yes	Not Applicable
Tributary S	366	43	Ephemeral	Yes	Not Applicable
Tributary T	126	99	Ephemeral	Yes	Not Applicable
Total	1,925-If	564-If			

*Total feet of stream in the study area

Checklist Item #14

Seven (7) sites of concern were identified within the proposed study area. We anticipate low monetary and scheduling impacts resulting from these sites. These sites are:

- Site #1, Former Prince's Grocery and Service, 2260 E Williams Street
- Site #2, The Biscuit Garden, 2112 E Williams Street
- Site #3, Raleigh Winwater (former Merritt Trucking Company, Inc.), 1928 E Williams Street
- Site #4, Stop n Go #5, 1900 E Williams Street
- Site #5, Kenan Transport, 1690 E Williams Street
- Site #6, Rigsbee Auto Parts, 1680 E Williams Street
- Site #7, Han Dee Hugo's #69, 1561 E Williams Street

Discovery of additional sites not recorded by regulatory agencies and not reasonably discernible during the project reconnaissance may occur. The GeoEnvironmental Section should be notified immediately after discovery of such sites so their potential impact(s) may be assessed.

Sites of concern identified in this report should be reviewed by the GeoEnvironmental Section once the Final Right of Way plans are complete to determine if Phase II Investigations and Right of Way Recommendations are necessary prior to right of way being acquired.

Checklist Item #27 – Noise

The source of this traffic noise information is Traffic Noise Report for NC 55 at SR 1191 (Technology Drive) / SR 6107 (East Williams Street) by RS&H Architects-Engineers-Planners, Inc., September 2023.

Traffic Noise Impacts

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

Predicted Traffic Noise Impacts by Alternative*

Traffic Noise Impacts				
Alternative	Residential (NAC B)	Places of Worship/Schools, Parks, etc. (NAC C & D)	Businesses (NAC E)	Total
Build	23	1	0	24

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

Traffic Noise Abatement Measures

Five of the six Noise Study Areas (NSA-1, -2, -3, -5, and -6) have noise sensitive sites impacted by future traffic noise and the feasibility and reasonableness of noise abatement measures were evaluated.

Measures for reducing or eliminating the traffic noise impacts, including noise barriers, were considered for all impacted receptors in each alternative. Noise barriers include two basic types: earthen berms and noise walls. These structures act to diffract, absorb, and reflect highway traffic noise. This project will maintain uncontrolled right of way access, meaning that most noise-sensitive land uses will have direct access connections to the proposed project, and most intersections will adjoin the project at grade.

For NSA 1, the Build Alternative will impact six scattered single-family receptors along Old Smithfield Road or East Williams Road. There are constructability issues with constructing noise barriers at most locations due to residences having access driveways to properties. Constructing noise barriers would block driveway access for several residences. Therefore, noise abatement would not be feasible at this location.

For NSA 2, a feasibility review was performed to determine if a noise barrier can be constructed using standard construction techniques to abate noise impacts at three receptors along the north side of Sunset Lake Road. Based on the constructability issues associated with construction of a noise barrier that included conflicts with utilities and would require acquisition of additional right-of-way, the noise barrier was determined not to be feasible at this location. Also, there are two impacted receptors along the south side of the future NC 540 in the Village of Sunset Hill subdivision. These impacts are associated with NC 540 and will receive a benefit from the proposed noise barriers to be constructed along the south side of the future NC 540. Therefore, this area was not further evaluated for noise abatement measures.

For NSA 3, the Build Alternative will impact four scattered single-family receptors and a recreational area receptor. Four of the receptors are along the west side of East Williams Street and the fifth is on the east side of East Williams Street. Each of the receptors on the west side of East Williams Street have an access driveway that limits the ability to construct a continuous and effective noise barrier without blocking the access to these properties. Since construction of an effective noise barrier is not possible, abatement measures at these locations were not considered feasible. The impacted receptor on the east side of East Williams Street represents an isolated/impacted receptor site. Per NCDOT Traffic Noise Policy, "a noise reduction of 5 dB(A) must be achieved for at least two impacted receptors" for a noise abatement measure to be considered feasible. Since only one receptor is impacted at this location, abatement measures are not considered feasible and were not further evaluated for noise abatement measures.

For NSA 5, the Build Alternative will impact six single family receptors along the east side of NC 55. Five of the six impacted receptors have an access driveway in front of their residence that limits the ability to construct a continuous and effective noise barrier without blocking access to these properties. Since construction of an effective noise barrier is not possible, abatement measures at these sites were not considered feasible and were not further evaluated for noise abatement measures. The other impacted receptor represents an isolated/impacted receptor site. Per NCDOT Traffic Noise Policy, "a noise reduction of 5 dB(A) must be achieved for at least two impacted receptors" for a noise abatement measure to be considered feasible. Since only one receptor is impacted at this location, abatement measures are not considered feasible or were further evaluated for noise abatement measures.

For NSA 6, the Build Alternative will impact two single family receptors along the west side of NC 55. Both of these receptors have an access driveway in front of their residence that limits the ability to construct a continuous and effective noise barrier without blocking the access to these properties. Since construction of an effective noise barrier is not possible, abatement measures at these locations were not considered feasible. Therefore, these sites were not further evaluated for noise abatement measures.

Based on this preliminary study, traffic noise abatement is not recommended, and no noise abatement measures are proposed. This evaluation completes the highway traffic noise requirements of Title 23 CFR Part 772. No additional noise analysis will be performed for this project unless warranted by a substantial change in the project's design concept or scope.

In accordance with NCDOT Traffic Noise Policy, the Federal/State governments are not responsible for providing noise abatement measures for new development for which building permits are issued after the Date of Public Knowledge. The Date of Public Knowledge of the proposed highway project will be the approval date of the Categorical Exclusion. NCDOT strongly advocates the planning, design and construction of noise-compatible development and encourages its practice among planners, building officials, developers and others.

H. Project Commitments (attach as Green Sheet to CE Form):

NCDOT PROJECT COMMITMENTS

STIP Project No. **HL-0007**

HL-0007 proposes to convert the intersection of NC 55 and SR 1191(Technology Drive)/SR 6107 (East Williams Street) to an alternative intersection, specifically a Reduced Conflict Intersection (RCI). The project also proposes to widen SR 6107 (East Williams Street) from a two-lane undivided facility to a four-lane median divided facility.

Wake County

Federal Aid Project No. N/A

WBS Element 49366.1.1

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

There are no specific commitments for the project to date.

I. Categorical Exclusion Approval:

STIP Project No.	HL-0007
WBS Element	49366.1.1
Federal Project No.	N/A

Prepared By:

9/27/2023

Date

DocuSigned by:

Berry Still

800B01760835475

Berry Still, PE, Mead & Hunt, Inc.

Prepared For:

Zahid Baloch, PE NCDOT Division 5

Reviewed By:

9/27/2023

Date

DocuSigned by:

Zahid Baloch

5F9297E958C0481

Zahid Baloch, PE, Division 5 Senior Project Engineer
North Carolina Department of Transportation**Approved****Certified**

- If classified as Type III Categorical Exclusion.

9/28/2023

Date

DocuSigned by:

Beth Quinn

C105EF1BF8BDE404

Beth Quinn, Ph.D., PE, Division 5 Team Lead for
Brandon Jones, PE, Division Engineer
North Carolina Department of TransportationFHWA Approved: For Projects Certified by NCDOT (above), FHWA signature required.

9/28/2023

Date

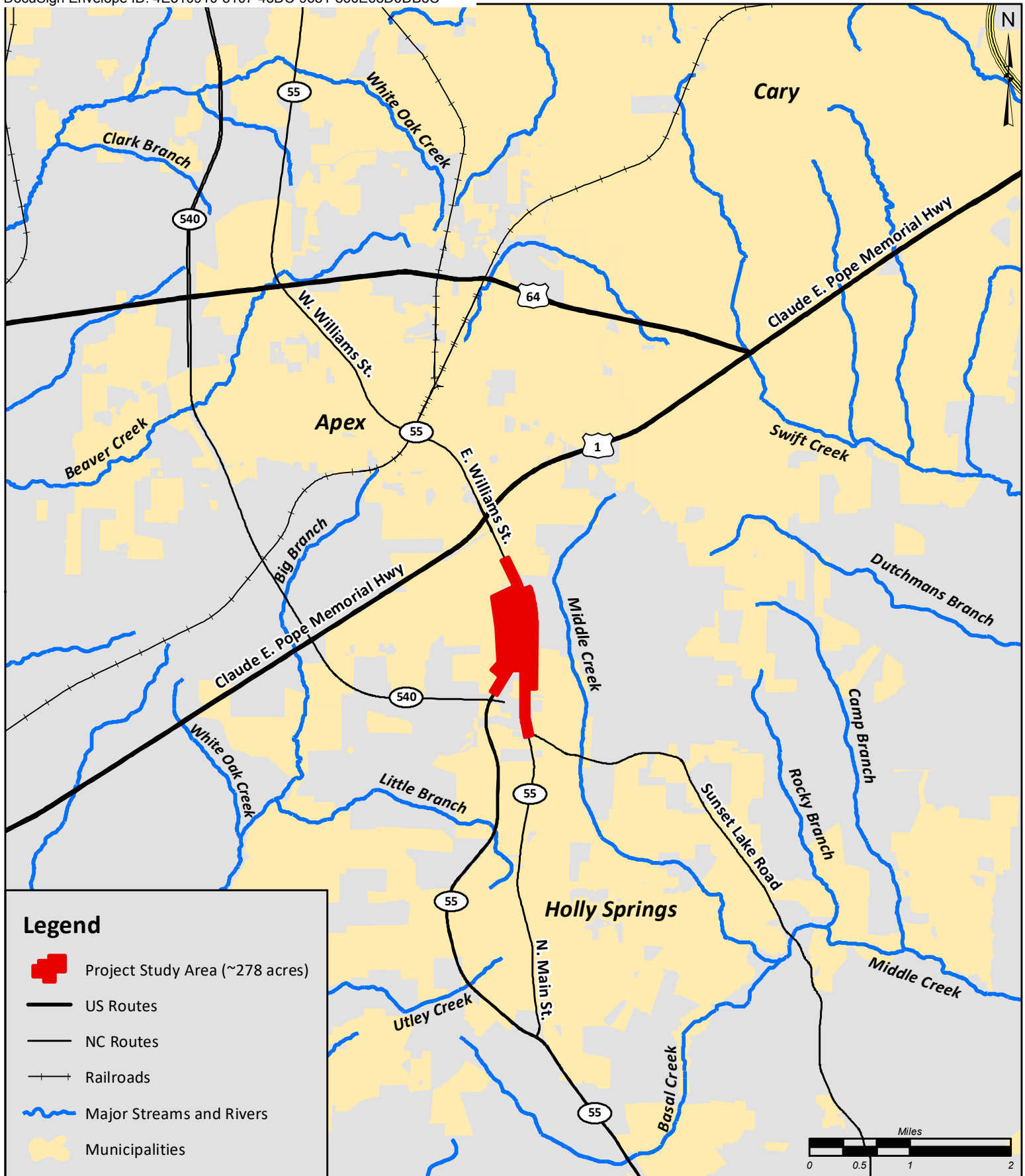
DocuSigned by:

Joseph P. Geigle

9A9CB35E2753494

for Yolonda Jordan, Division Administrator
Federal Highway Administration

Note: Prior to ROW or Construction authorization, a consultation may be required (please see Section VII of the NCDOT-FHWA CE Programmatic Agreement for more details).

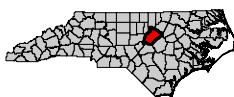


Legend

- Project Study Area (~278 acres)
- US Routes
- NC Routes
- Railroads
- Major Streams and Rivers
- Municipalities

**Mead
& Hunt**

Mead & Hunt
111 E. Hargett Street, Suite 300
Raleigh, North Carolina 27601
Tele: (919) 714-8670
www.meadhunt.com



Wake County

**NC 55 at SR 1191 (Technology Dr.) and SR 6107
(E. Williams St.) in Apex.
Convert Intersection to Interchange.**

WAKE COUNTY, NORTH CAROLINA

TIP NO.: HL-0007
WBS NO.: 49366.1.1

SOURCE: TIGER 2010 ROAD,
COUNTY, AND MUNICIPALITY DATA

PREPARED FOR:



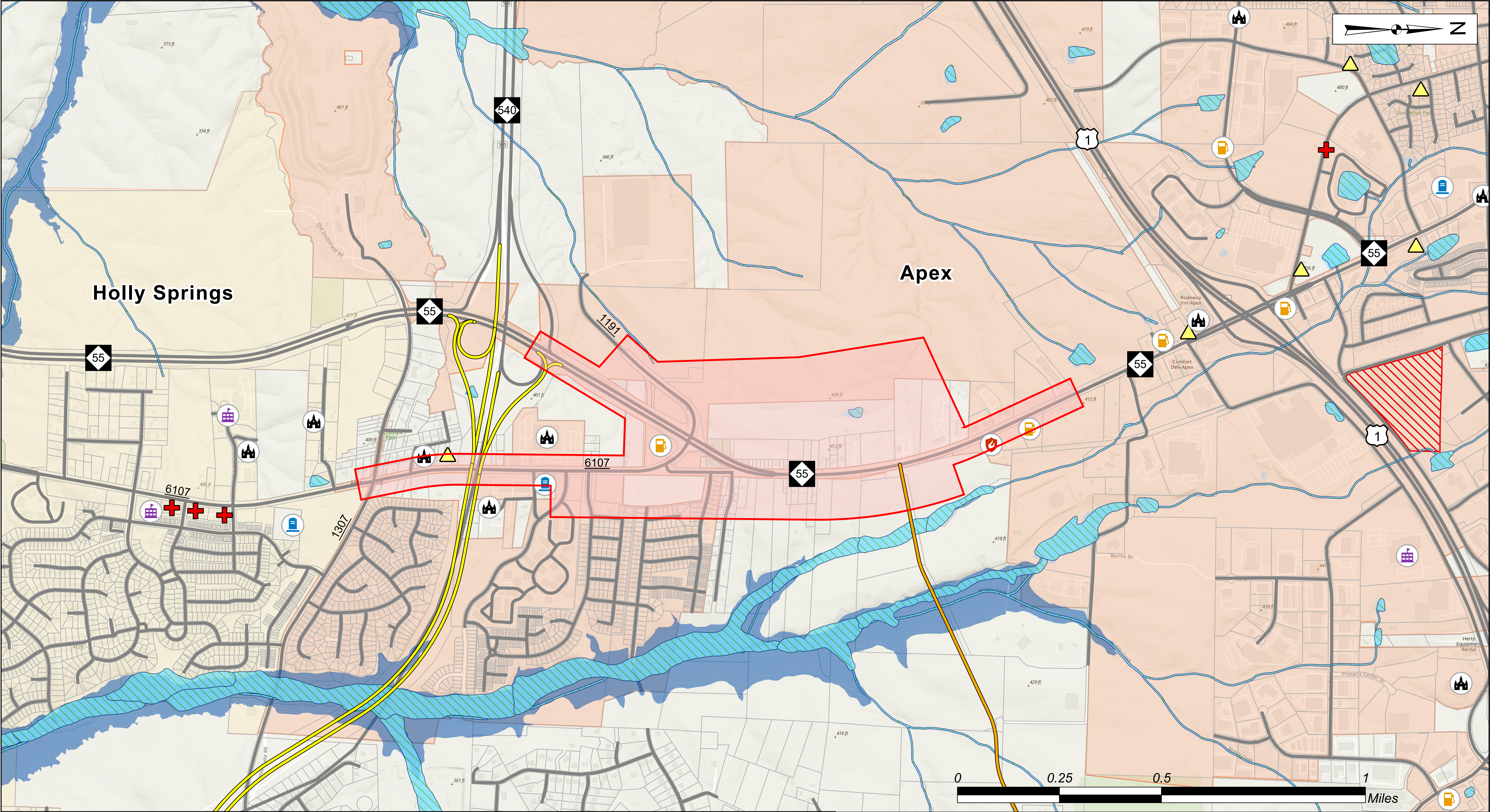
SITE LOCATION MAP


DRAWN BY: VM

DATE: 05/03/2021


QA/QC BY: SB

FIGURE 1





Mead & Hunt
111 E Hargett Street
Raleigh, NC 27601
Tel. 919.714.8670
www.meadhunt.com



NC 55 AT SR 1191 (TECHNOLOGY DR.) AND SR 6107 (E. WILLIAMS ST.) IN APEX.
CONVERT INTERSECTION TO INTERCHANGE
OR ALTERNATIVE INTERSECTION.

WAKE COUNTY

ENVIRONMENTAL AND COMMUNITY
FEATURES MAP

TIP NO.: HL-0007 WBS NO.: 49366.1.1	DATE: 09/26/2023
--	------------------

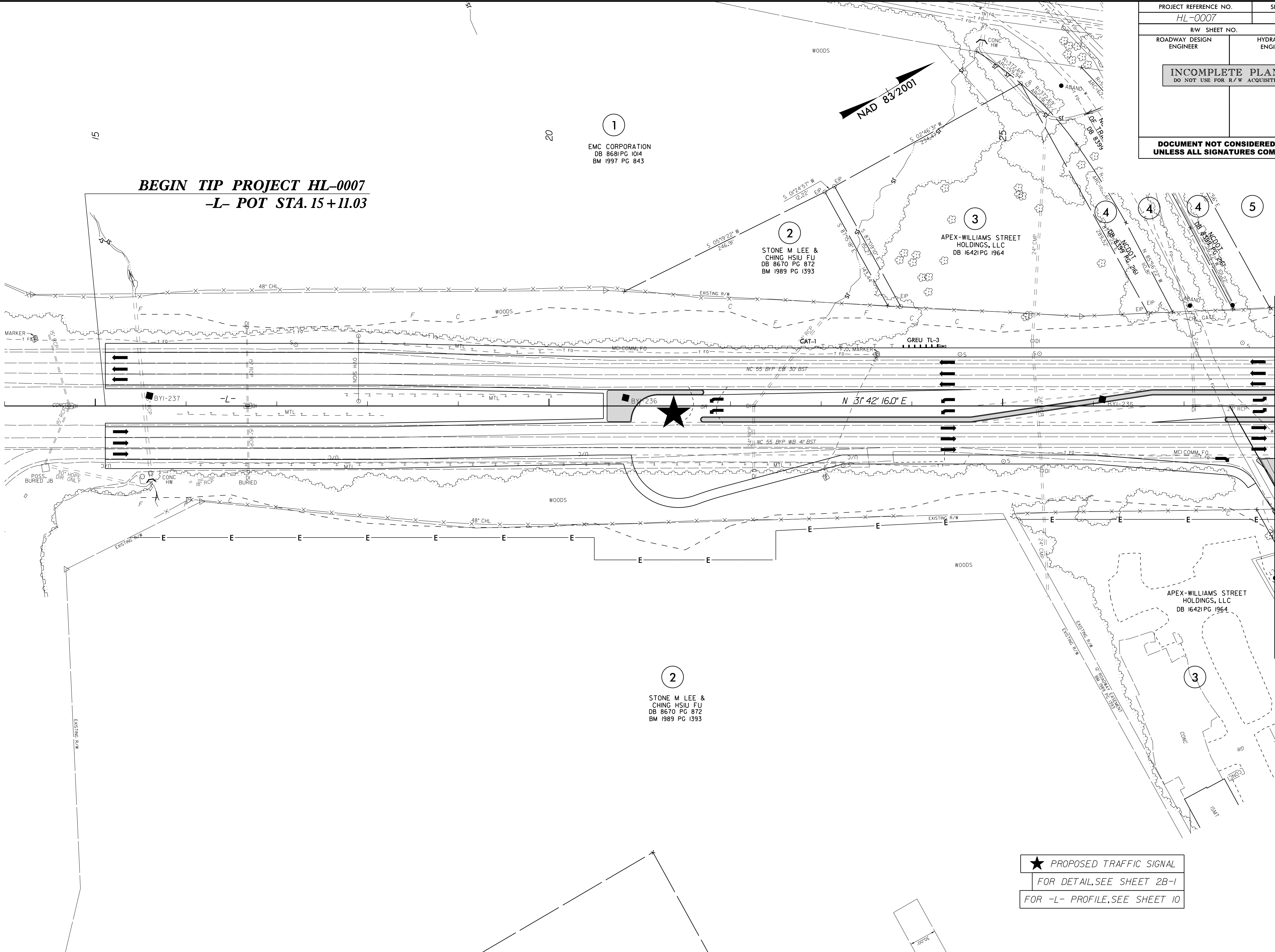
LEGEND

Complete540(UnderConstruction)	EffectiveFloodplain	MedicaFacility	FireStations
JessieDrive(FutureConstruction)	NCStateOwnedLand	NCSchool	GasStation
Roadways	ApexTownLimits	ReligiousBuilding	Cemetery
Parcels	HollySpringsTownLimits		
NWWetlands	NCHPOPoint		

8/17/99

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218146

REVISIONS



PROJECT REFERENCE NO.		SHEET NO.	
HL-0007		4	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

★ PROPOSED TRAFFIC SIGNAL
FOR DETAIL, SEE SHEET 2B-1
FOR -L- PROFILE, SEE SHEET 10

8/17/99

REVISIONS

TRAFFIC VOLUME DATA			
	1,515	TECHNOLOGY DRIVE	
	2,400		
32,362	481	612	46,646
42,800	1,100	700	56,200
NC 55	723	14,877	NC 55
	3200	17,000	
2022 AADT	16,023	E WILLIAMS STREET	
2045 AADT	20,800		

WILLIAMS STREET PROPERTIES LLC
LUND, MARCIA M
DB 17290 PG 300
BM 2003 PG 398

MATCHLINE -L- STA. 28+00 SEE SHEET 4

- ★ PROPOSED TRAFFIC SIGNAL
FOR DETAIL,SEE SHEET 2B-2
- FOR -L- PROFILE,SEE SHEET 10
- FOR -YI- PROFILE,SEE SHEET 13
- FOR -Y3- PROFILE,SEE SHEET 13

-L- CURVE DATA		-YI- CURVE DATA	
PI Sta 41+91.67	PI Sta 60+07.85	PI Sta 19+17.20	PI Sta 50+87.72
$\Delta = 26^{\circ}04'48.8"$ (LT)	$\Delta = 29^{\circ}45'17.0"$ (LT)	$\Delta = 11^{\circ}53'20.9"$ (RT)	$\Delta = 59^{\circ}49'09.2"$ (LT)
$D = 3^{\circ}34'51.6"$	$D = 1^{\circ}02'37.1"$	$D = 2^{\circ}29'28.0"$	$D = 7^{\circ}09'43.1"$
$L = 728.30'$	$L = 2,851.06'$	$L = 477.26'$	$L = 835.23'$
$T = 370.57'$	$T = 1,458.45'$	$T = 239.49'$	$T = 460.20'$
$R = 1,600.00'$	$R = 5,490.00'$	$R = 2,300.00'$	$R = 800.00'$
$e = 4\%$	$e = 2\%$	$e = 3\%$	$e = 4\%$
$R.O. = 260'$	$R.O. = 130'$	$R.O. = 150'$	$R.O. = 200'$

-Y3- CURVE DATA	
PI Sta 11+145.2	
$\Delta = 61^{\circ}15'09.3"$ (LT)	
$D = 95^{\circ}29'34.7"$	
$L = 641.4'$	
$T = 35.52'$	
$R = 60.00'$	
$e = 2\%$	
$R.O. = 60'$	

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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2/23/23

MATCHLINE -YI- STA. 49+50
SEE SHEET 9

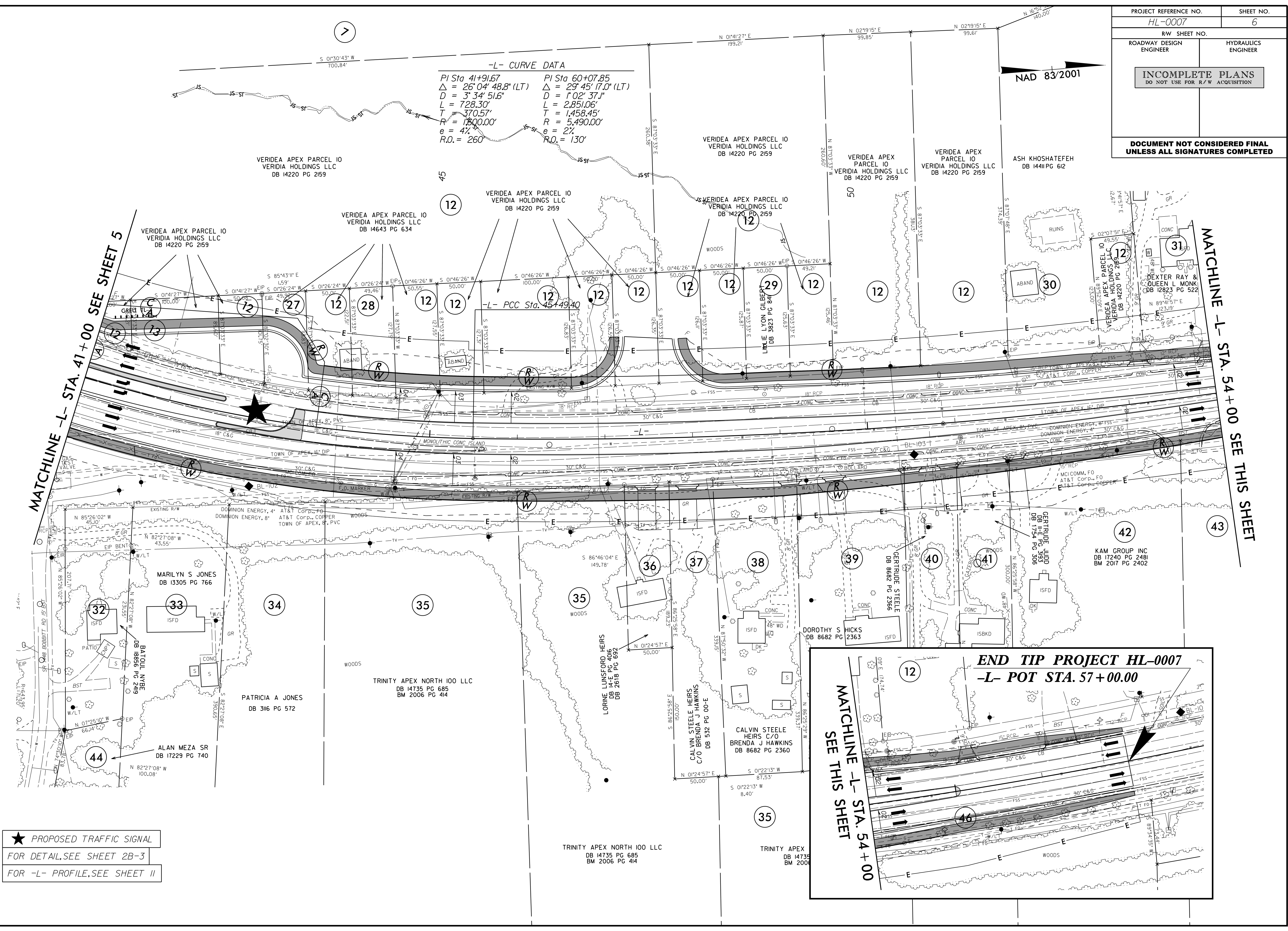
END CONSTRUCTION
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MATCHLINE -L- STA. 41+00 SEE SHEET 6

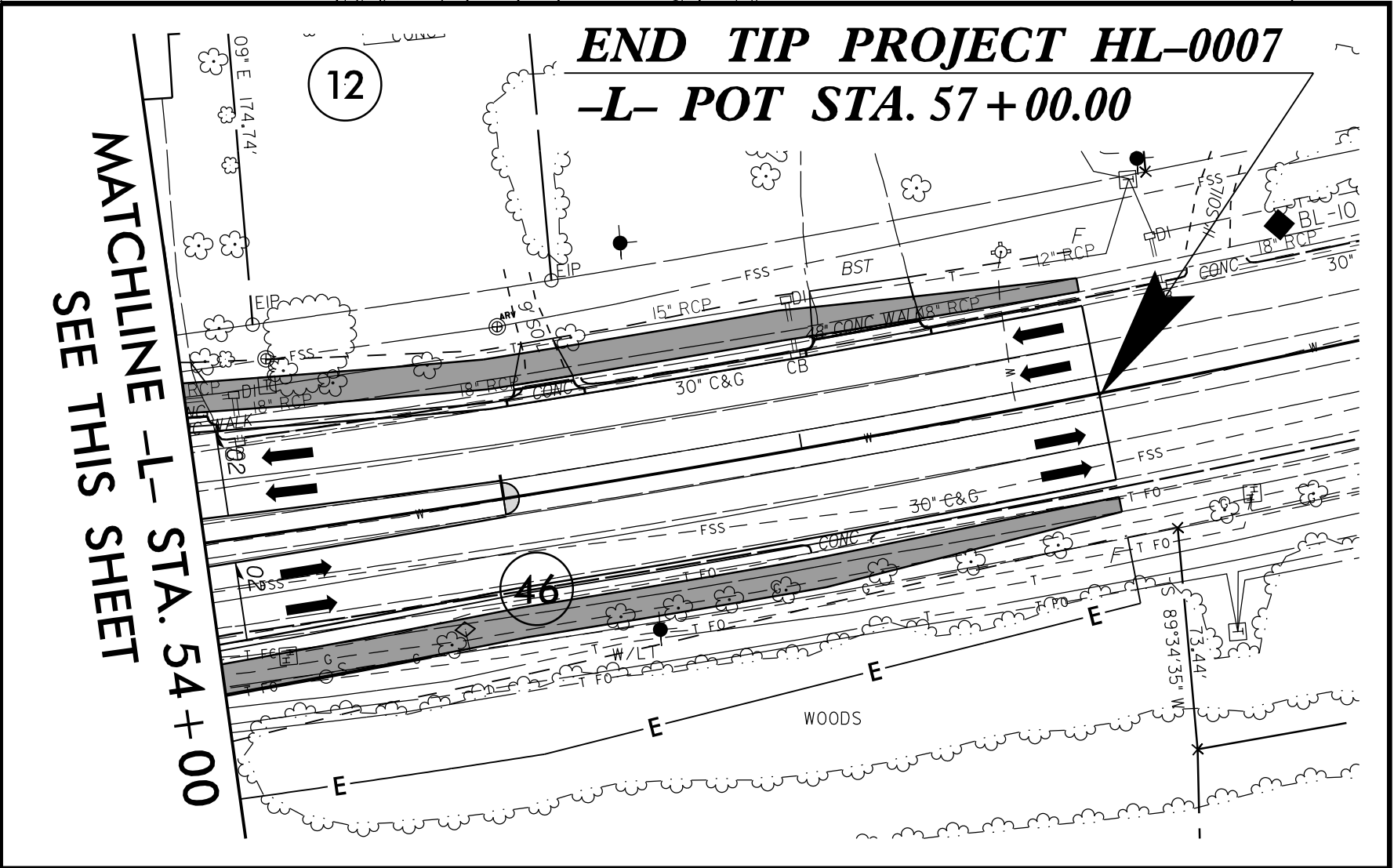
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REVISIONS

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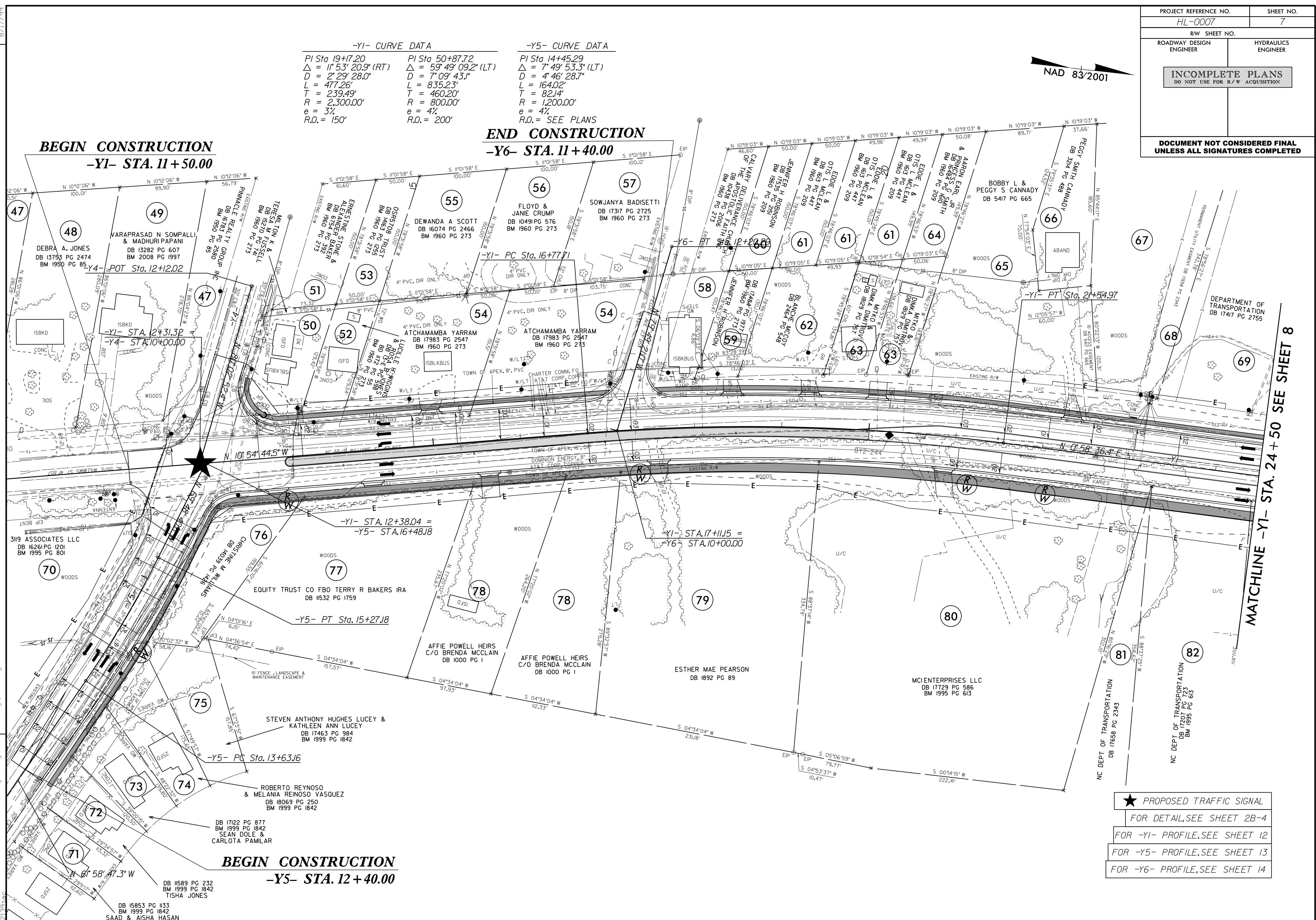


PROJECT REFERENCE NO.		SHEET NO.	
HL-0007		6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



REVISIONS

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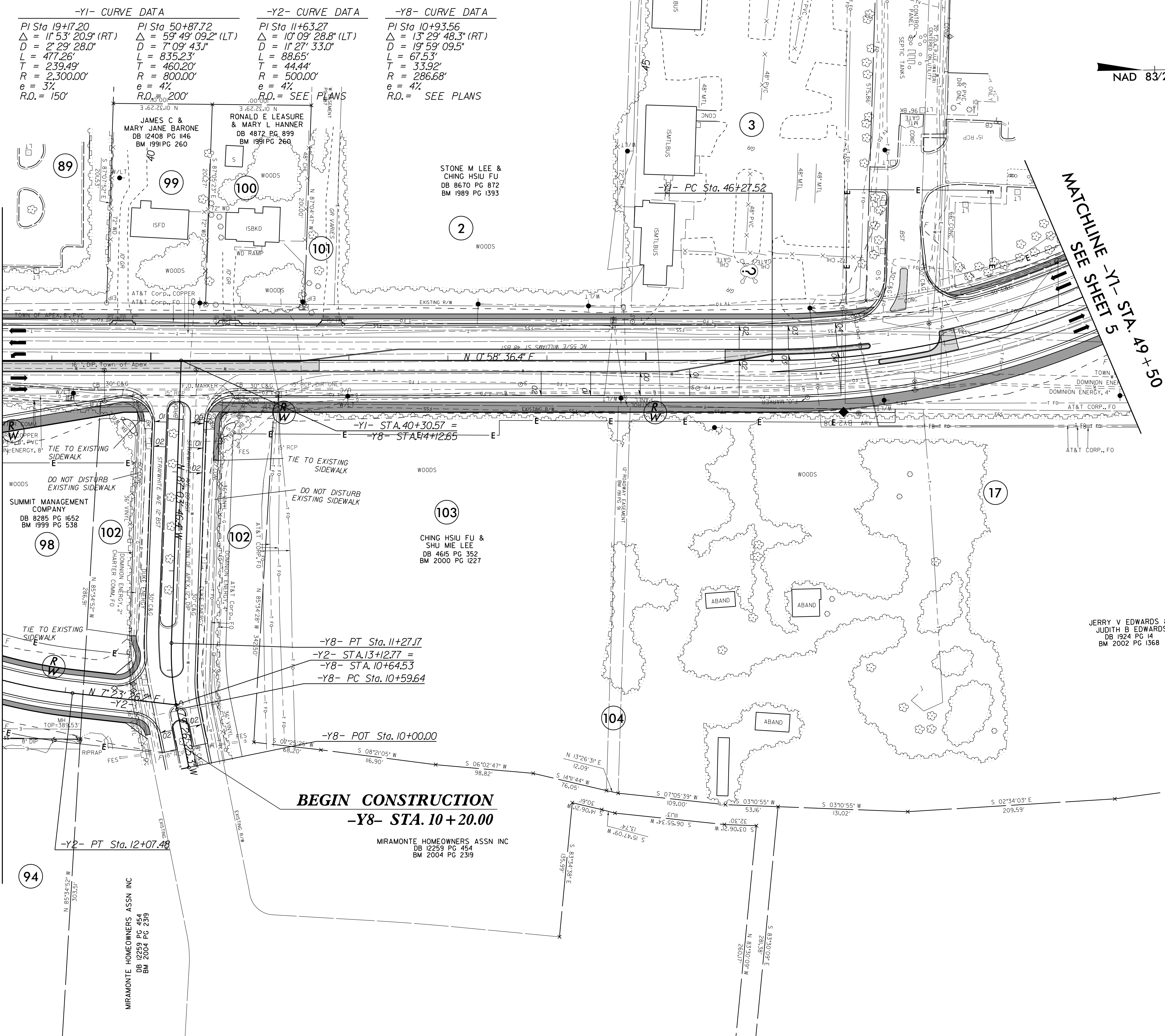


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REVISIONS

MATCHLINE -Y1- STA. 38 + 50 SEE SHEET 8



NAD 83/2001

PROJECT REFERENCE NO.		SHEET NO.	
HL-0007		9	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

FOR DETAIL,SEE SHEET 2B-5
FOR -Y1- PROFILE,SEE SHEET 13
FOR -Y2- PROFILE,SEE SHEET 14
FOR -Y8- PROFILE,SEE SHEET 14

21-02-0008



HISTORIC ARCHITECTURE AND LANDSCAPES NO HISTORIC PROPERTIES PRESENT FORM

This form only pertains to Historic Architecture and Landscapes for this project. It is not valid for Archaeological Resources. You must consult separately with the Archaeology Group.

PROJECT INFORMATION

Project No:	HL-0007	County:	Wake
WBS No.:	49366.3.1	Document Type:	FCE
Fed. Aid No:		Funding:	<input checked="" type="checkbox"/> State <input type="checkbox"/> Federal
Federal Permit(s):	<input type="checkbox"/> Yes <input type="checkbox"/> No	Permit Type(s):	unknown
<u>Project Description:</u> Convert Intersection to Interchange on NC 55 at SR 1191 (Technology Dr.)/SR 6107 (E. Williams St.) in Apex.			

Description of review activities, field surveys, results, and conclusions:

Review of HPOGIS web service was undertaken on February 10, 2021. Based on this review, there are no existing NR, DE, LL, or SL properties in the project area. Survey Site number WA5690 is a c.1960 house evaluated in the Historic Structure report for TIP# R-2721 and found to be ineligible for NR listing. Much of the southern portion of HL-0007 was surveyed for the Complete 540 project (R-2721). The APE contains several houses which date between 1940-1970. None of these properties have a level of integrity or architectural significance to warrant further evaluation. No Historic Properties Present.

SUPPORT DOCUMENTATION

☐ Map(s)
 ☐ Previous Survey Info.
 ☐ Photos
 ☐ Correspondence
 ☐ Design Plans

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes – **NO HISTORIC PROPERTIES PRESENT**

Shelby Reap

February 11, 2021

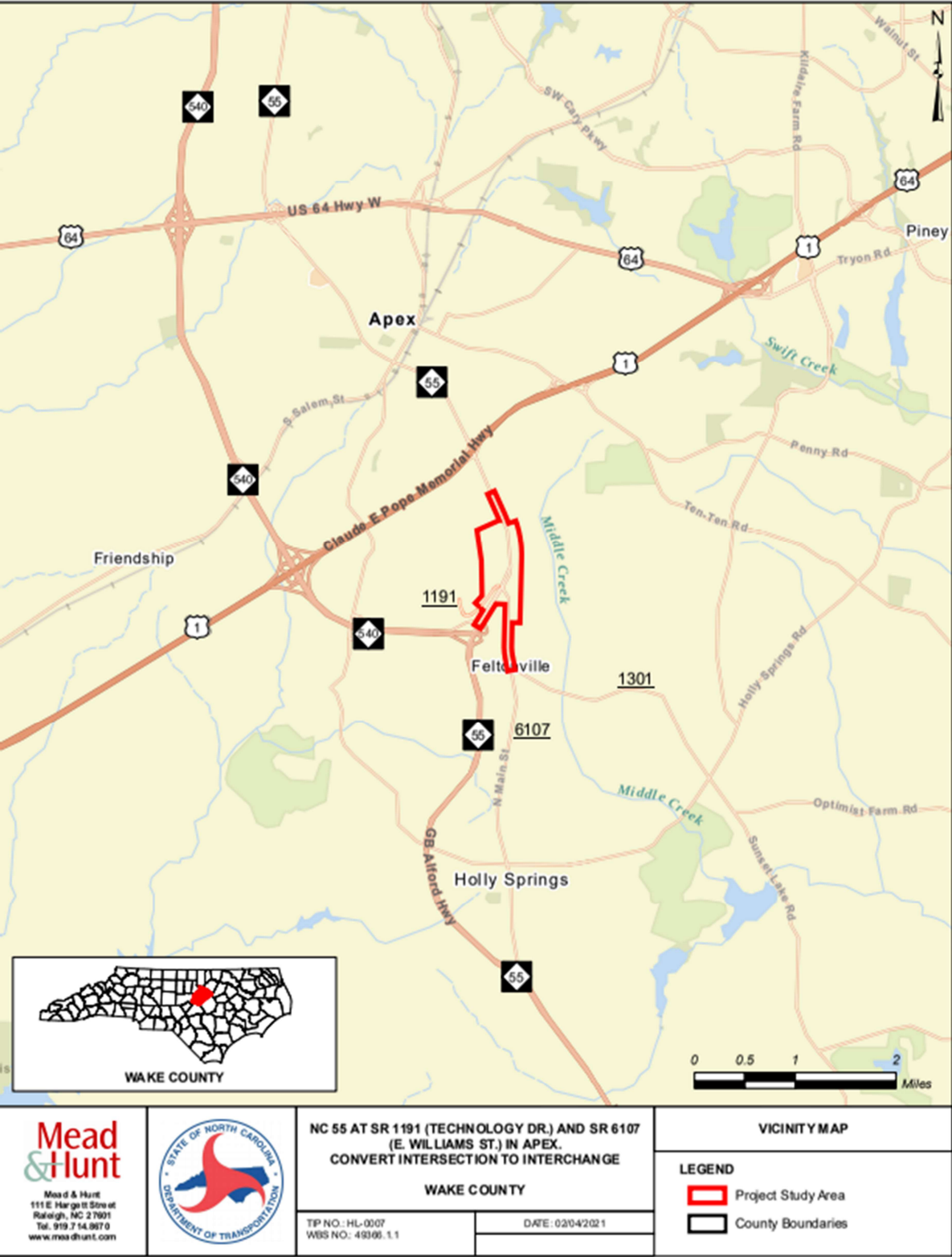
NCDOT Architectural Historian

Date

Historic Architecture and Landscapes NO HISTORIC PROPERTIES PRESENT OR AFFECTED form for Minor Transportation Projects as Qualified in the 2007 Programmatic Agreement.



Project Area



21-02-0008

**NO ARCHAEOLOGICAL SURVEY REQUIRED FORM**

This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Team.

**PROJECT INFORMATION**

Project No: **HL-0007** *County:* Wake
WBS No: 49366.1.1 *Document:* Federal CE
Federal Aid No: *Funding:* ☐ State ☒ Federal
Federal Permit Required? ☐ Yes ☒ No *Permit Type:* N/A

Project Description: The project involves the conversion of an intersection to an interchange (NC 55 at SR 1191 [Technology Drive]/SR 6107 [East Williams Street] in Apex, Wake County, North Carolina. The archaeological APE corresponds with the overall project study area as depicted on the attached ARC-GIS shape file maps.

SUMMARY OF CULTURAL RESOURCES REVIEW

Permitting and funding information was reviewed for determining the level of archaeological input required by state and federal laws. Based on the submitted "request for cultural resources review" form, the project is federally funded with no federal permit interaction. As such, Section 106 of the National Historic Preservation Act will apply and the Federal Highway Administration (FHWA) will serve as the lead federal agency. Next, construction design and other data was examined (when applicable) to define the character and extent of potential impacts to the ground surfaces embracing the project locale. The archaeological APE encompasses all areas of potential ground disturbing activity.

Once an APE was outlined, a map review and site file search was conducted utilizing on-line resources provided to the NCDOT by the Office of State Archaeology (OSA) on Friday, February 26, 2021. No NRHP eligible archaeological sites nor any other archaeological resources are located within the APE or directly adjacent. According to mapping provided by OSA, the southern portions of the currently defined APE were previously surveyed by Commonwealth Heritage Group (CHG) as part of the I-540 Southeastern Expressway survey. No archaeological sites were recorded by that survey within the APE. While the I-540 Southeastern Expressway survey managed to locate and record lots of archaeological sites (n=155), only one of the 155 sites was recommended as significant, undisturbed, and eligible for the National Register of Historic Places. Any remnants of sites located in the APE would certainly be deflated and disturbed in some manner. Furthermore, several large pieces of acreage directly surrounding the northern half of the project area have already been reviewed for the need for archaeological survey by the OSA. In most cases, no archaeological survey was recommended due to the amount of disturbance and infrastructure build-up in this vicinity.

Examination of National Register of Historic Places (NRHP), State Study Listed (SL), Locally Designated (LD), Determined Eligible (DE), and Surveyed Site (SS) properties employing resources available on the NCSHPO website is important in establishing the location of noteworthy historic occupations related to a perspective construction impact area. A cross-check of these mapped

21-02-0008

resources concluded that none of the above properties with potential contributing archaeological components are situated within the APE. In addition, historic maps of Wake County were appraised to identify former structure locations, land use patterns, cemeteries, or other confirmation of historic occupation in the project vicinity. Archaeological/historical reference materials were inspected as well. In general, the cultural background review established that no previously recorded archaeological sites, cemeteries, or NRHP properties with potential archaeological components are located within the APE. Based on cultural-historical factors, the APE is considered to have a low potential for the documentation of archaeological resources.

Further, topographic, geologic, flood boundary, and NRCS soil survey maps were referenced to evaluate pedecological, geomorphological, hydrological, and other environmental determinants that may have resulted in past occupation at this location. Aerial and on-ground photographs (NCDOT Spatial Data Viewer) and the Google Street View map application (when amenable) were also examined/utilized for additional assessment of disturbances, both natural and human induced, which compromise the integrity of archaeological sites. Environmental/impact factors do not suggest a heightened potential for archaeological resource recovery.

(This project falls within a North Carolina County in which the following federally recognized tribes have expressed an interest: Catawba. We recommend that you ensure that this documentation is forwarded to these tribes using the process described in the current NCDOT Tribal Protocol and PA Procedures Manual.)

Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:

Nearly half of the project area has been previously surveyed for archaeological resources and no sites were documented. The northern half of the APE is largely impacted and contains few habitable landforms likely to contain archaeological artifacts. There are no existing NRHP eligible archaeological sites within the projects APE, and it is unlikely to contain significant, intact, and preserved archaeological deposits. As currently proposed as a federally funded project, no further consultation is advocated. A finding of "no archaeological survey required" is considered appropriate.

SUPPORT DOCUMENTATION

See attached: ☒ Map(s) ☐ Previous Survey Info ☐ Photos ☐ Correspondence
Other:

FINDING BY NCDOT ARCHAEOLOGIST: NO ARCHAEOLOGY SURVEY REQUIRED

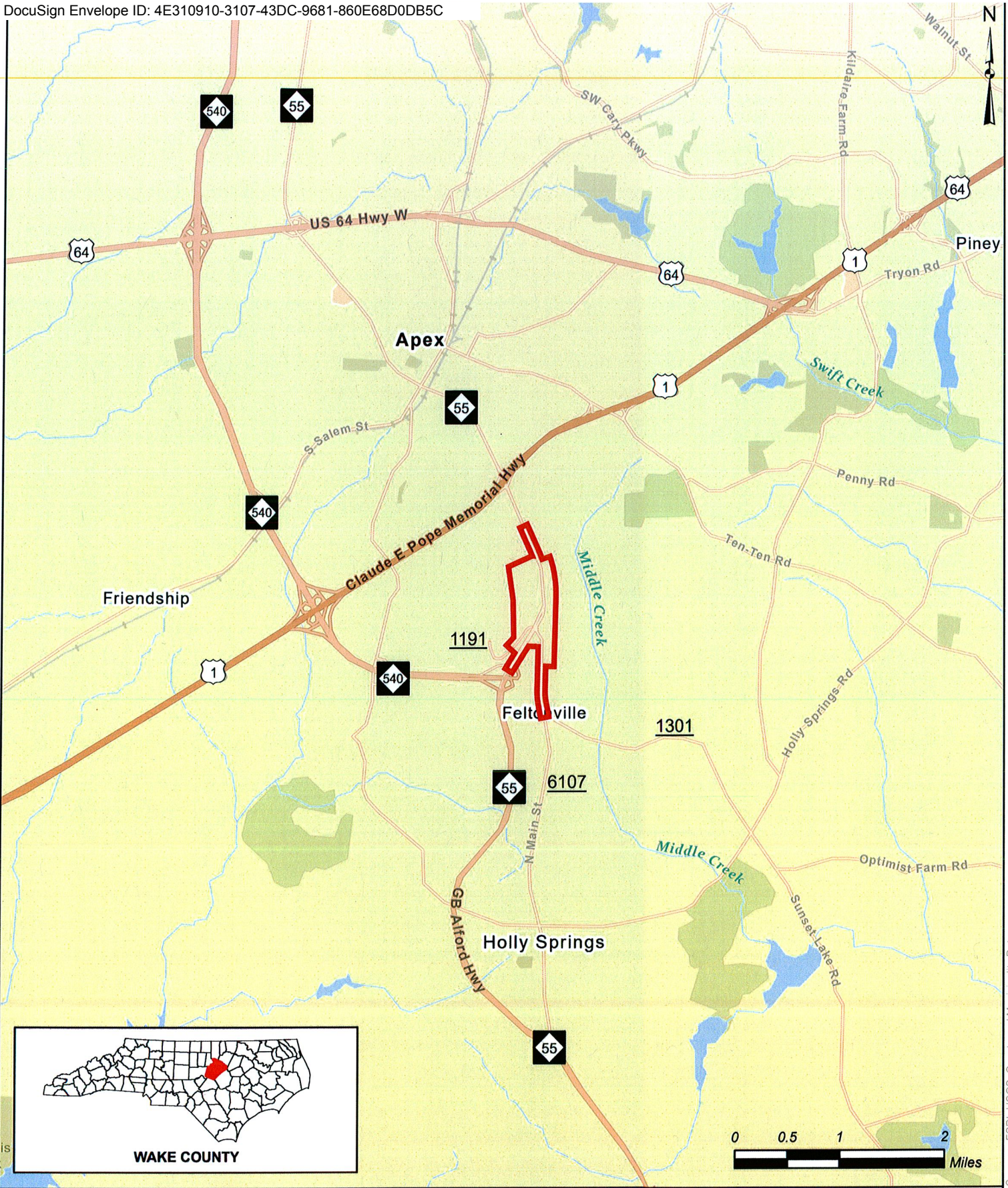
Scott Halvorsen



2/26/2021

NCDOT ARCHAEOLOGIST II

Date



Sources: ESRI, USGS, County and Municipality Data

Mead & Hunt

Mead & Hunt
111 E Hargett Street
Raleigh, NC 27601
Tel. 919.714.8670
www.meadhunt.com



**NC 55 AT SR 1191 (TECHNOLOGY DR.) AND SR 6107
(E. WILLIAMS ST.) IN APEX.
CONVERT INTERSECTION TO INTERCHANGE**

WAKE COUNTY

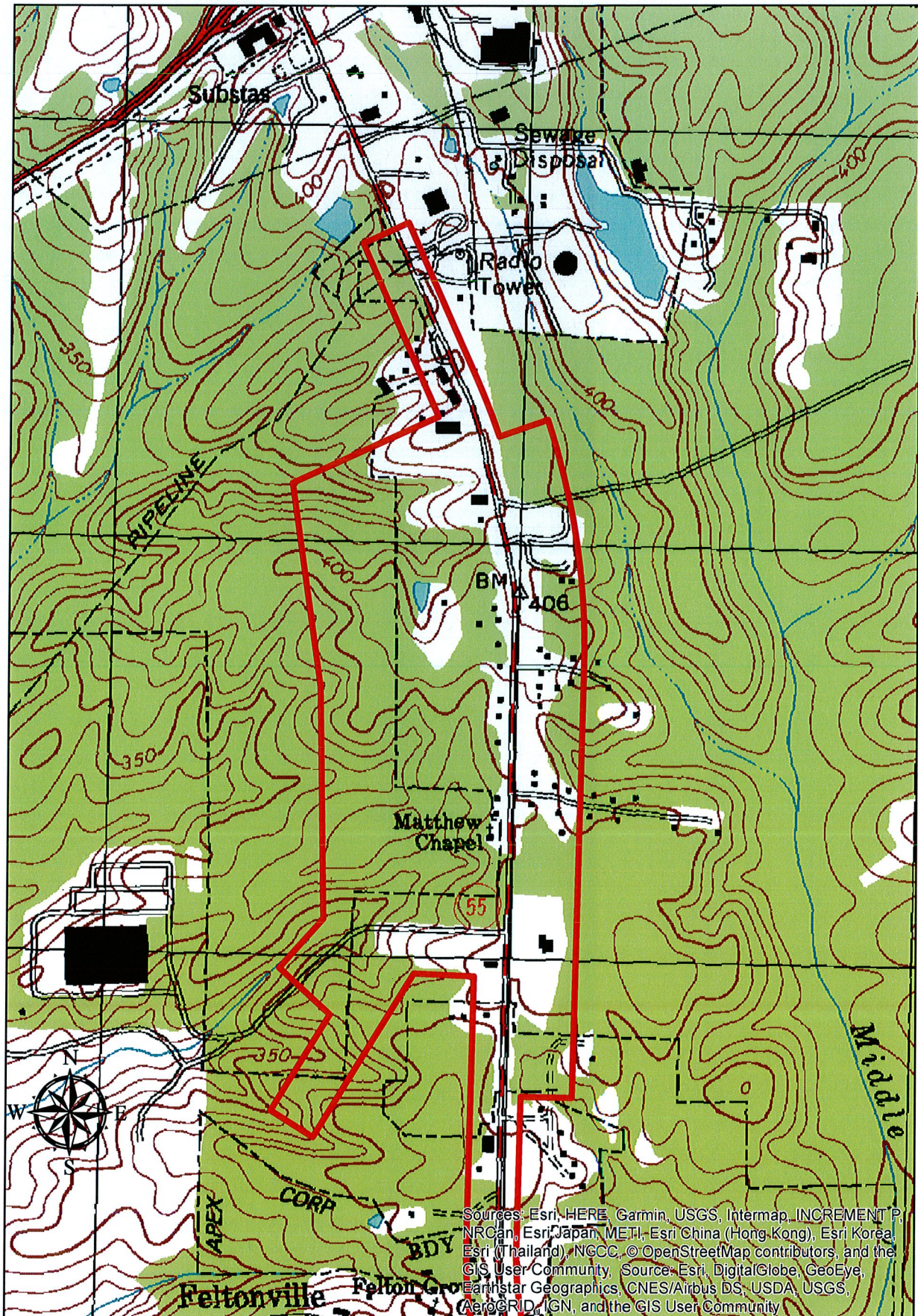
TIP NO.: HL-0007
WBS NO.: 49366.1.1

DATE: 02/04/2021

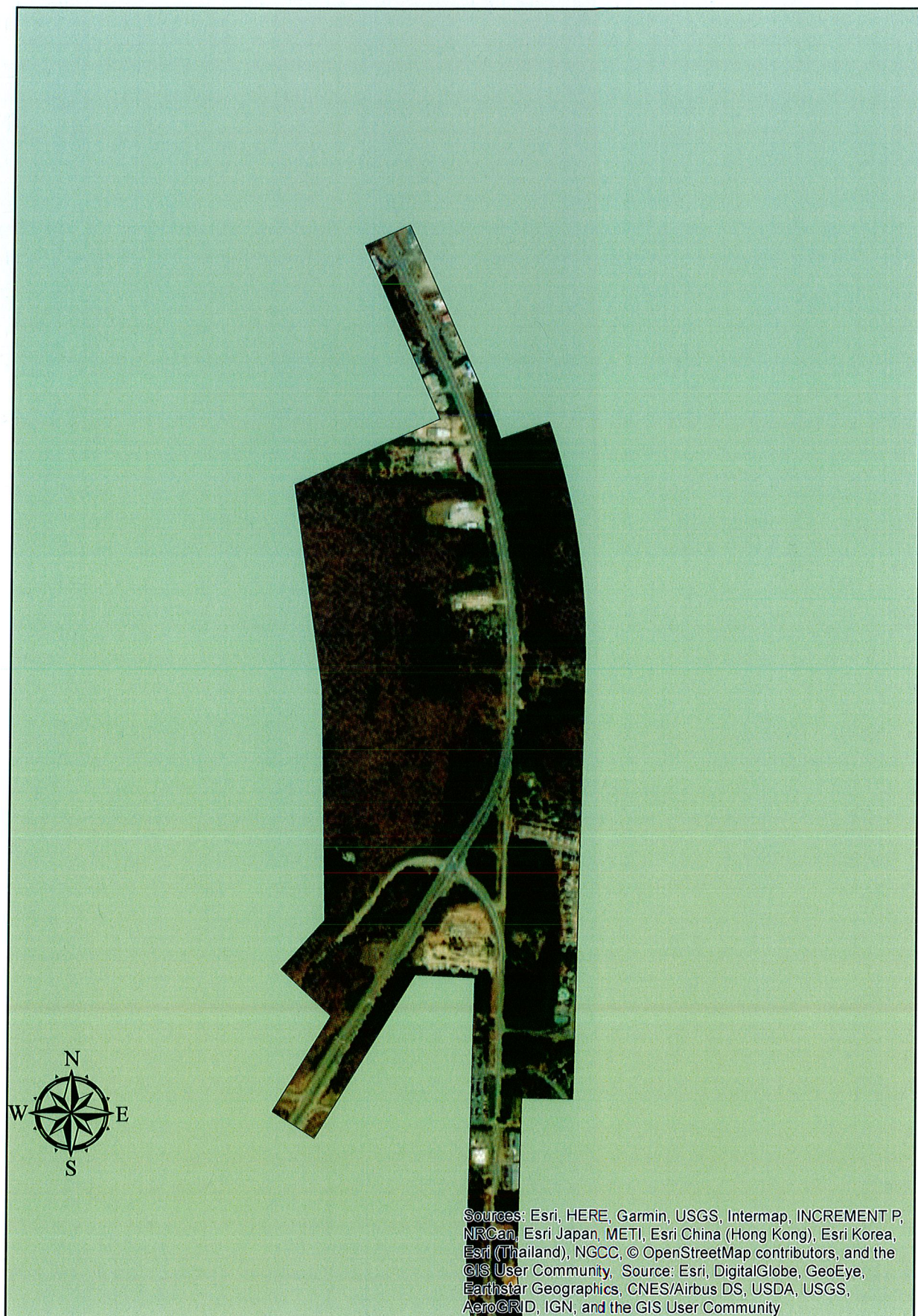
VICINITY MAP

LEGEND

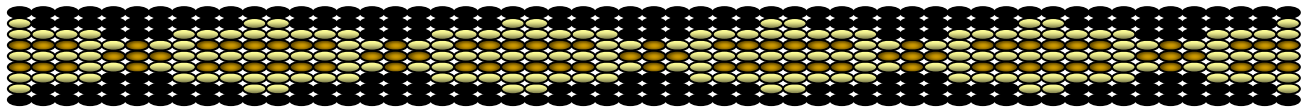
- Project Study Area
- County Boundaries



Portion of the Apex topographic map illustrating the boundaries and location of the Area of Potential Effects (APE) in Wake County, North Carolina.



ARC-GIS aerial shape file map relating the boundaries and location of the Area of Potential Effects (APE) in Wake County, North Carolina.



Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

Office 803-328-2427
Fax 803-328-5791

April 8, 2021

Attention: Zahid Baloch
NC Department of Transportation
2612 North Duke Street
Durham, NC 27704

Re. THPO #	TCNS #	Project Description
2021-193-75		Conversion of the intersection of NC 55 at SR 1191 and SR 6107 to an interchange in Wake County as project HL-0007

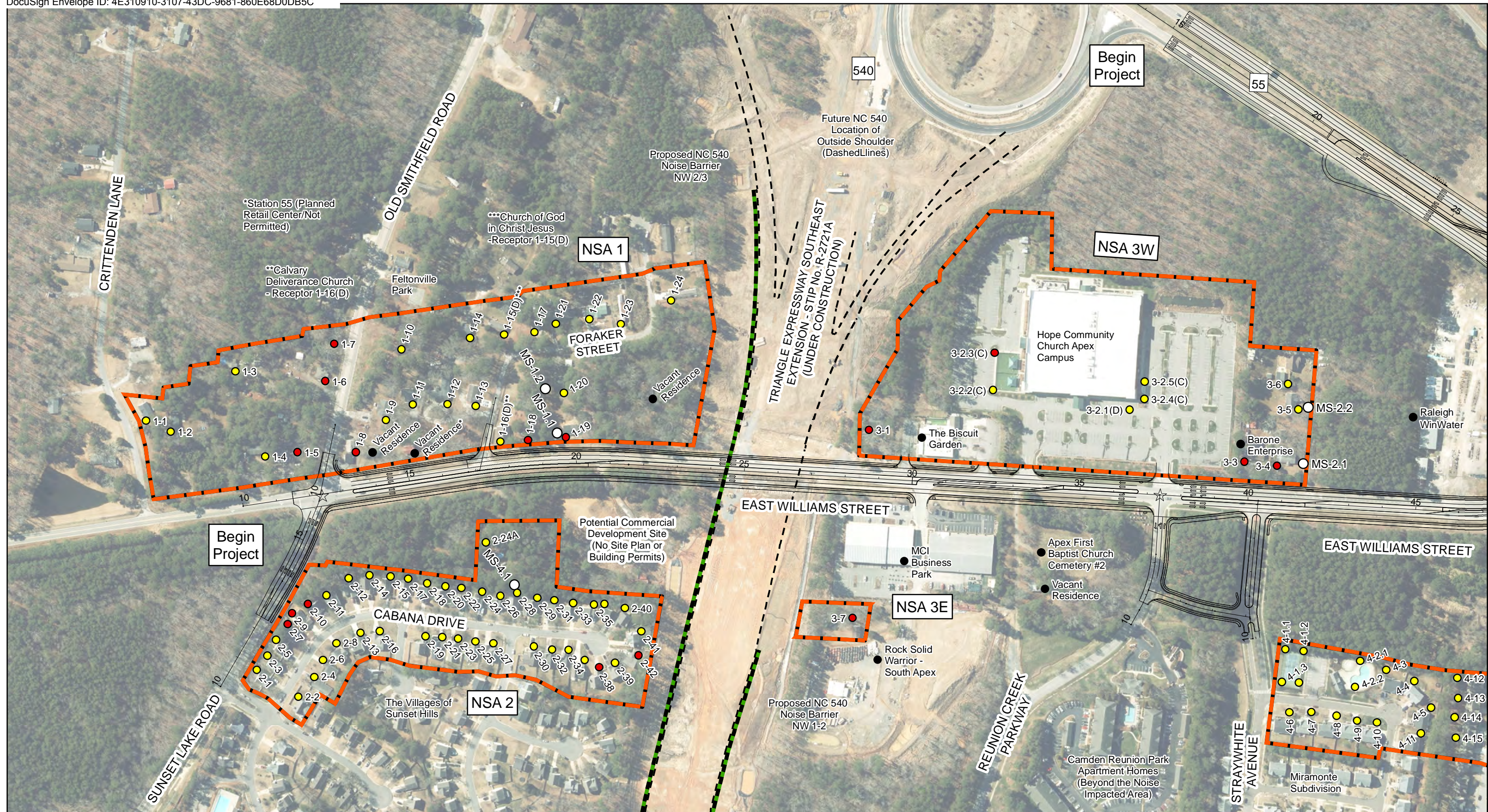
Dear Mr. Baloch,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail Caitlin.Rogers@catawba.com.

Sincerely,

Wenonah G. Haire
Tribal Historic Preservation Officer



NC 55 at SR 1191
(Technology Drive) /
SR 6107 (East Williams Street)
STIP Project No.: HL-0007
Wake County, North Carolina



Receptor Sites (Design Year 2045 Build Alternative)

- Impacted but Not Benefited
- Not Impacted or Benefited
- Non Noise Sensitive Sites

Note: Existing and Proposed Signalized Intersections
are Identified by Stars.

- Noise Monitoring Sites
- Proposed Improvements
- Proposed NC 540 Noise Barriers
- Noise Study Area

0 200 400 800 Feet

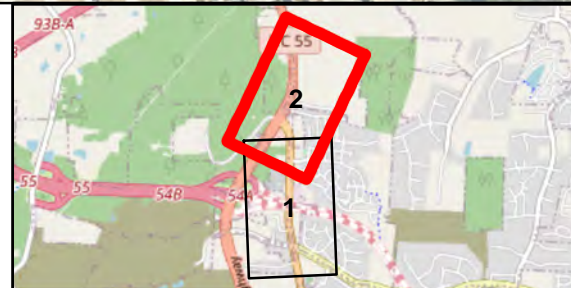


September 2023

**FIGURE 3
DETAILED
STUDY AREA
MAP
Sheet 1 of 2**



NC 55 at SR 1191
(Technology Drive) /
SR 6107 (East Williams Street)
STIP Project No.: HL-0007
Wake County, North Carolina



Receptor Sites (Design Year 2045 Build Alternative)

- Impacted but Not Benefited
- Not Impacted or Benefited
- Non Noise Sensitive Sites

Note: Existing and Proposed Signalized Intersections
are Identified by Stars.

- Noise Monitoring Sites
- Proposed Improvements
- Proposed NC 540 Noise Barriers
- Noise Study Area

0 200 400 800 Feet



September 2023

**FIGURE 3
DETAILED
STUDY AREA
MAP
Sheet 2 of 2**