

**NC 150 IMPROVEMENTS
FROM THE NC 16 BYPASS TO JUST WEST OF THE
US 21/NC 150 INTERCHANGE IN MOORESVILLE
CATAWBA AND IREDELL COUNTIES
NORTH CAROLINA**

**TIP PROJECT NOS. R-2307 AND I-5717
WBS NO. 37944.1.1
FEDERAL AID NO. STP-150(19)**

**ADMINISTRATIVE ACTION
FINDING OF NO SIGNIFICANT IMPACT**

**Submitted Pursuant to the
National Environmental Policy Act
42 U.S.C. 4332 (2)(c)**

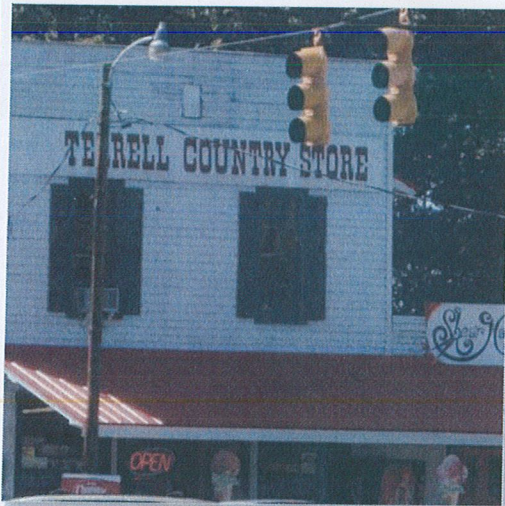
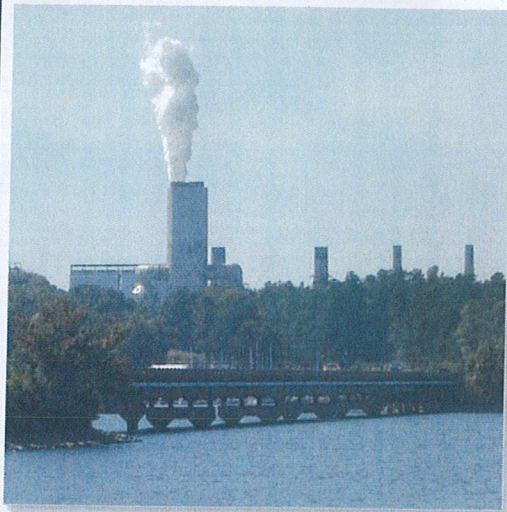
**United States Department of Transportation
Federal Highway Administration
and
North Carolina Department of Transportation
Division of Highways**

6/22/17
Date of Approval

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Administrative Action
Finding of No Significant Impact

June 2017

Documentation Prepared By:
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PROJECT COMMITMENTS

NC 150 Widening (From the NC 16 Bypass to just west of the NC 150/US 21 Interchange)

Catawba and Iredell Counties

Tip Project NOS. R-2307 AND I-5717

WBS No. 37944.1.1

Federal Aid No. STP-150(19)

In addition to conditions and requirements contained in the project's Section 404 and 401 permits, the following special commitments have been agreed to by NCDOT: Status updates and new commitments are in bold italics.

Project Development & Environmental Analysis Unit

- Pending selection of a preferred alternative, the NCDOT Historic Architecture Group will continue to work with the NC Historic Preservation Office, FHWA, and other interested parties to resolve any remaining Section 106 and Section 4(f) issues.

Alternative 2 (Northern Terrell Bypass) was selected as the Least Environmentally Damaging and Practicable Alternative. The LEDPA avoids impacts to the Terrell Historic District.

Therefore, the project has No Effect on and does not have a Section 4(f) use of the Terrell Historic District.

Hydraulics and Roadside Environmental Unit

- Due to the proximity of streams with a Best Usage Classification of CA (Critical Area) and the Catawba River Buffer Rules (Lake Norman), sedimentation and erosion control measures shall adhere to the Design Standards in Sensitive Watersheds (15A NCAC 4B .0124) per standard NCDOT practice.

Division 12

- This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division 12 shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.
- The City of Hickory and Aqua of NC have water and wastewater lines in the project area. Division 12 will coordinate with the City of Hickory and Aqua prior to construction to determine if lines are impacted and if so, coordinate their relocation.
- The Denver General Store has a groundwater remediation system and a NPDES discharge permit. If contaminated groundwater is unearthed during the construction of the project, NCDOT will ensure that it is disposed of in accordance NPDES permit.

Project Development & Environmental Analysis Unit, Natural Environment Section

- Construction authorization will not be requested until Endangered Species Act compliance is completed for the Northern long-eared bat.
- NCDOT will continue to coordinate with and secure any FERC permits required.

State Historic Preservation Office

- The integrity of the Terrell Historic District will be reevaluated prior to Right-of-Way acquisition and construction of Section A of the project. The historic integrity of the Terrell Historic District will be re-assessed to determine whether the visual, spatial, and functional connectivity of the historic district remains intact or has been further compromised, due to ongoing construction and residential and commercial development in the adjacent area.

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1.0 Type of Action

The North Carolina Department of Transportation (NCDOT) proposes to improve approximately 15 miles of existing NC 150 from the NC 16 Bypass in Catawba County to just west of the US 21/NC 150 Interchange in Iredell County, North Carolina (NCDOT STIP Project No. R-2307). The proposed project also includes improvements to the I-77/NC 150 interchange in Mooresville (NCDOT STIP Project No. I-5717). The project is separated into two sections for right of way acquisition and construction. Section A extends from NC 16 Bypass to SR 1902 (Harvel Road). Section B extends from Harvel Road to just west of the US 21/NC 150 Interchange.

This Finding of No Significant Impact (FONSI) is a Federal Highway Administration (FHWA) administrative action. The NCDOT and FHWA have determined that the Preferred Alternative for this project (Alternative 2) will not cause a significant adverse impact to the human or natural environment. This Finding of No Significant Impact is based on the March 8, 2016, Environmental Assessment (EA), which has been independently evaluated by the FHWA and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. This FONSI provides sufficient evidence and analysis for determining that an Environmental Impact Statement (EIS) is not required (40 CFR 1508.13).

The Project Inter-agency Merger Team concurred at all major milestones, including the Purpose and Need Statement, and Study Area Defined (Concurrence Point 1), selection of Detailed Study Alternatives (Concurrence Point 2), bridging decisions and alignment review (Concurrence Point 2A), selection of the Least Environmentally Damaging Practicable Alternative (LEDPA; Concurrence Point 3), and Avoidance and Minimization (Concurrence Point 4A). Signed R-2307/I-5717 Merger Team Concurrence forms are included in Appendix A.

2.0 Description of Proposed Action

The proposed project is referred to as the NC 150 Improvements project and proposes to widen existing NC 150 from the NC 16 Bypass to West of the US 21/NC 150 Interchange in Catawba, and Iredell Counties (TIP Project Nos. R-2307, and I-5717) and is included in the North Carolina Department of Transportation (NCDOT) 2016 – 2025 newly approved State Transportation Improvement Program (STIP). The proposed project is also included in the Draft 2018 – 2027 STIP.

From NC 16 Bypass to SR 1438 (Waddell Road), NC 150 is a two-lane facility. From east of Waddell Road to east of SR 1303 (Perth Road)/SR 1180 (Doolie Road), NC 150 is a three-lane facility with a center turn-lane. From Perth/Doolie Road to the NC 150/US 21 interchange, existing NC 150 is a three-lane facility that transitions down to a two-lane section that transitions to a five-lane facility with curb and gutter. NCDOT proposes to improve NC 150 to a median-divided 'superstreet' facility. The purpose of a superstreet design is to improve vehicular mobility and safety by limiting the number of conflict points between vehicles during traffic maneuvers. A superstreet design moves traffic through an intersection more efficiently, ultimately translating into shorter travel times.

The proposed improvements include multiple cross-sections to accommodate existing and expected traffic demand. The four to six-lane typical sections, combined with the variable median widths, turn lanes, and U-turn bulbs result in the proposed right-of-way widths ranging from 100 to 260 feet in the rural areas and from 100 to 190 feet in the urban areas. In the rural areas, the median is 46 feet wide with eight-foot shoulders. In the more urban/suburban areas, the typical section includes a 23-foot raised median with ten-foot shoulders in some sections, however there is also a curb and gutter section east of Waddell Road to accommodate bike lanes, sidewalks and/or multi-use paths.

In addition to adding an additional travel lane in each direction, the proposed project also includes upgrading the I-77/NC 150 interchange to current design standards (TIP Project # I-5717). To ensure a coordinated design, NCDOT combined the two STIP projects (R-2307 and I-5717) in to one environmental document. Right-of-way acquisition (R-2307B/I-5717), is scheduled for August 2017, with construction scheduled for Summer 2019 (based on the 2016 – 2025 STIP). The project location map is shown in Figure 1.

3.0 Purpose and Need

The purpose and need of the project is to improve traffic capacity and reduce congestion along NC 150 from, the NC 16 Bypass to just west of the US 21/NC 150 Interchange. Reducing traffic congestion within the project limits will result in lower accident potential, improving safety along the project corridor. Other purposes of the project are to provide sidewalks and six-foot paved shoulders, which would accommodate bikes, and multi-use pathways.

A Traffic Forecast Report was completed for the project in September 2013. The report developed projections based on a 2.3% year-over-year growth rate, consistent with historic trends and related forecasts. Current traffic volumes along NC 150 range from approximately 13,200 vehicles per day (vpd) at the NC 16 Bypass, to 45,700 vpd at the I-77 interchange. East of I-77, current traffic volumes range from approximately 41,400 to 36,900 vpd at the US 21 interchange.

The findings of the Traffic Forecast Report indicated that 2015 NC 150 traffic volumes exceed two-lane capacity (14,300 vpd) between Sherrills Ford Road and the I-77 Interchange commercial district, and that west of Sherrills Ford Road, NC 150 traffic volumes are anticipated to exceed capacity between 2015 and 2020. Existing traffic volumes within the I-77 commercial district already exceed the capacity of a five-lane facility (39,800 vpd). Design year (2040) traffic volumes along NC 150 within the project corridor range from approximately 18,000 vpd at the NC 16 Bypass to 58,700 vpd at the I-77 interchange. East of the I-77 interchange, projected design year traffic volumes range from 53,100 to 45,300 vpd at the US 21 interchange. Projected traffic volumes along the entire length of NC 150 will exceed the capacity of a two-lane facility by 2040. Additionally, capacity of a five-lane facility will be exceeded from the Mooresville Crossing shopping center entrance to US 21, by 2040.

The Project Merger Team met on December 12, 2012, to discuss the project Purpose and Need and to define the R-2307/I-5717 Study Area for Concurrence Point 1 (CP 1). The existing conditions, study area, project need, and purpose were presented to the participating agencies. The Project Merger Team signed the CP 1 form on December 12, 2012, defining the Purpose and Need for the project as:

- The purpose and need for this project is to improve capacity and reduce congestion along NC 150 from the NC 16 Bypass to just west of the I-77 interchange.

The revised CP 1 form was presented at the CP 2A meeting and the R-2307/I-5717 Merger Team reached consensus and signed the revised CP 1 form on August 13, 2014, re- defining the project Purpose and Need and revised Study Area as follows:

- The purpose and need for these projects is to improve capacity and reduce congestion along NC 150 from the NC 16 Bypass to just west of the US 21 Interchange; and,
- A single environmental document for the R-2307 and I-5717 projects will be prepared resulting in the revised

project limits on NC 150 from the NC 16 Bypass to just west of the US 21 Interchange.

4.0 Alternatives Considered

4.1 Preliminary Study Alternatives

This section identifies the various alternatives considered to address the transportation deficiencies in the project study area. Alternatives that did not meet the needs of the project, or were considered impractical or noncompetitive, were eliminated from further consideration. All alternatives were presented in the R-2307/I-5717 Environmental Assessment (EA).

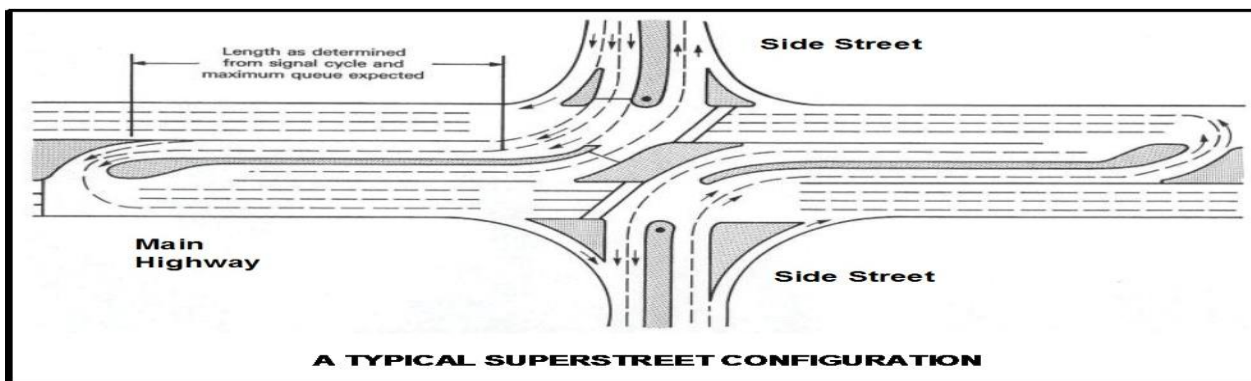
- Transportation Demand Management (TDM) –Transportation Systems Management (TSM)
- Mass Transit/Multimodal
- No-Build Alternative.
- Improve Existing Facility – Four proposed build alternatives were evaluated as part of this project. All four alternatives involve widening the existing NC 150 facility. Further discussion of these alternatives is provided in Section 4.2

4.2 Detailed Study Alternatives

Preliminary Build Alternative Development

As noted above, the ‘improve existing’ alternative would widen NC 150 to a multi-lane, median divided, superstreet facility. The superstreet design scenario utilizes directional crossovers and U-turn bulb-outs. Left turn movements from NC 150 to most side streets, will be provided at directional crossovers. Left turn and through movements from most side streets, will be redirected east and west of most intersections, for safe and efficient traffic operations to U-turn points located short distances, downstream.

EXAMPLE SUPERSTREET CONFIGURATION



The preliminary build designs were developed using a ‘best-fit’ approach, to address geometric and structural deficiencies along the existing NC 150 corridor. The best-fit alignment uses a combination of symmetrical and asymmetrical widening and avoids and/or minimizes impacts to the human and natural environments to the greatest extent possible.

Four preliminary build alternatives, shown in Figure 2, were developed during the project planning process. All four alternatives were identical in alignment, apart from the area around the Terrell Historic District. Because NC 150 passes through the Terrell Historic District, bypass options were developed to avoid and/or minimize impacts to the historic district. The bypass proposed options were combined with the best-fit alignment to create four preliminary build alternatives, described as follows:

Alternative 1 proposes to widen existing NC 150 with a best-fit alignment, that would continue through the Terrell Historic District along existing NC 150.

Alternative 2 proposes to widen existing NC 150 with a best-fit alignment and includes a northern bypass to avoid the Terrell Historic District.

Alternative 3 proposes to widen existing NC 150 with a best-fit alignment and includes a minimization bypass option that would cross land located in the southern portion of Terrell Historic District, but would not impact any historic structures within the district.

Alternative 4 proposes to widen existing NC 150 with a best-fit alignment and includes a southern bypass option that avoids impacts to the Terrell Historic District.

The Project Merger Team met on August 13, 2014, to discuss the proposed NC 150 Improvements in Catawba and Iredell Counties. The purpose of the meeting was to:

- 1) obtain Concurrence Point 1 (revised) to reflect a single environmental document for the R-2307 and I-5717 projects; and,
- 2) reach Concurrence Point 2 determining which alternatives to carry forward for detailed study.

It was noted that although Alternative 3 (the southern minimization bypass option) would not directly impact any structures in the historic district, bisecting the southern portion of the district would change the character of the historic district and its viewshed, resulting in an adverse effect under Section 106 of the National Historic Preservation Act of 1966. Therefore, the Project **Merger Team agreed to eliminate Alternative 3** from further detailed study and did **not** carry this alternative through preliminary design. The CP 2 form is included in Appendix A.

Preliminary Design Alternatives Carried Through to Concurrence Point 2A

The Project Merger Team met on June 10, 2015, to discuss the proposed project bridging decisions and to review the preliminary design alignments. The purpose of the meeting was to reach agreement on Concurrence Point 2A (Bridging Decisions and Alignment Review). The Project Merger Team determined that additional evaluation of Alternative 4 was warranted to evaluate whether this alternative was feasible and prudent. During this time, an effects consultation meeting was held June 30, 2015 with the State Historic Preservation Office (HPO). The results of these discussions concluded that there was an Adverse Effect to the historic district due to the foreseeable development and possible change to the superstreet intersection at Hob Road. The additional evaluation of Alternative 4 resulted in the following conclusions:

- Alternative 4 is considered feasible under NEPA, in that it can be designed and built,
- Alternative 4, like Alternative 1, has an **adverse** effect on historic structures and/or the Terrell Historic District boundary, and,

- Alternative 4 has significant impacts to streams, challenging geometric design constraints, safety and operational issues, additional FERC regulated crossings of Lake Norman and impacts to riparian buffer.

Based on this evaluation, the NEPA/404 Merger Team agreed that Alternative 4 would not be carried forward, therefore not presented at the public hearing. The revised CP 2 form is included in Appendix A. The following alternatives were presented at the public hearing for consideration:

- Alternative 1: Best Fit -Widen Existing NC 150 (No Terrell Bypass Option)
- Alternative 2: Best Fit – Widen Existing NC 150 & Northern Terrell Bypass Option

Multi-use Path

An approximately seven-mile long, 10-foot wide multi-use path is proposed from Little Mountain Road in Catawba County to Perth/Doolie Road on the northern side of NC 150, in Mooresville. The development of the multi-use path option is the result of multiple stakeholder meetings and coordination between NCDOT, Catawba and Iredell Counties, and the Town of Mooresville. NCDOT coordinated extensively with stakeholders to develop a cost-sharing approach for the multi-use path and determine the type of bike and pedestrian facility that would be constructed. NCDOT Division 12 worked with stakeholders to develop a Memorandum of Understanding (MOU) for implementing a multi-use path on this project. All three jurisdictions, Iredell County, Catawba County, and the Town of Mooresville signed the MOU, agreeing to cost-share on the construction of the multi-use path. The proposed multi-use path is near existing segments of the Carolina Thread Trail and the adopted Lake Norman Bicycle Plan. The proximity of the proposed multi-use path, offers future opportunity for the linkage of the Highway 150 corridor to these other trail networks and expands recreational opportunities in the northern Lake Norman area.

5.0 LEDPA/Preferred Alternative

After the distribution of the project Environmental Assessment (EA), NCDOT held two Public Hearings. The first public hearing was held on August 22, 2016, in Maiden and second on August 23, 2016 in Mooresville, North Carolina. Public hearing comments from local officials and project-area property owners were taken into consideration during the project alternatives analysis process. A summary of public involvement activities following distribution of the R-2307/I-5717 EA is included in Section 8, with a summary of comments from the Public Hearings included in Appendix B.

Alternative 2 has been selected as the LEDPA/Preferred Alternative and is shown in Figures 3A -3M (roadway alignment) and Figure 4 (roadway typical sections). The project Preferred Alternative was selected on February 8, 2017, during the CP3/CP4A Project Merger Team Meeting. The NEPA/404 merger team concurred with the selection of Alternative 2, as the Least Environmentally Damaging Practicable Alternative (LEDPA). A copy of the project CP 3/4A concurrence form is included in Appendix A of this document. NCDOT recommends Alternative 2 as the R-2307/I-5717 Least Environmentally Damaging Practicable Alternative (LEDPA) for the following reasons:

- Alternative 2 best serves the project's purpose and need,
- Alternative 2 is the **only** alternative that does not adversely impact Section 4(f) resources (Terrell Historic District),
- Alternative 2 results in the least amount of stream impacts, and
- Alternative 2 would require less total property-owner relocations.

The cost estimate for the R-2307/I-5717 Preferred Alternative is shown in Table 5.1.

TABLE 5.1
COST ESTIMATE FOR THE PREFERRED ALTERNATIVE (Alternative 2)

| Cost | |
|-------------------------|----------------------|
| Construction Cost | \$208,188,900 |
| Utility Relocation Cost | \$9,259,261 |
| Right-of Way Cost | \$178,400,000 |
| Total Cost | \$395,848,161 |

6.0 Summary of Associated Impacts

Table 6.1 summarizes the proposed environmental impacts of Alternative 2, the R-2307/I-5717 LEDPA/Preferred Alternative.

TABLE 6.1
Impact Matrix for the Preferred Alternative (Alternative 2)

| Resources | | Alternative 2 |
|---|---------------------------------|---|
| Length (miles) | | 15.42 |
| Relocations ^{1,2} | Residential | 40 |
| | Business | 60 |
| | Non-profit | 1 |
| Total Relocations | | 101 |
| Minority / Low Income Populations (Disproportionate Impacts) | | 0 |
| Historic Properties (Adverse Effects) | | 0 |
| Archaeological Sites | | 0 |
| Community Facilities Impacted | | 0 |
| Section 4(f) Impacts (de minimis determination) ³ | | 1 |
| Noise Receptor Impacts ⁴ | | 132 |
| Air Quality | | No Impact |
| Prime Farmland (acres) ⁵ | | 182 |
| Hazardous Material Sites | | 0 |
| Upland Forested Acres (acres) ⁶ | | Managed Pine: 30.9 Oak-Hickory: 14.5 |
| Streams (linear feet) | | 1,593 |
| Wetlands (acres) ⁶ | | 0.87 |
| Catawba Riparian Buffers (square feet) | | 52,000 |
| 100-Year Floodplain and Floodway Impacts (acres) ⁷ | | 5.52 |
| Federally Protected Species | <i>Northern long-eared bat</i> | Unresolved |
| | <i>Dwarf-flowered heartleaf</i> | No Effect |
| | <i>Schweinitz's sunflower</i> | No Effect |
| | <i>Bog Turtle</i> | Not required |

NOTES: The proposed project improvements would not affect any archaeological resources or water supply watersheds. Construction of R-2307/I-5717 would not create any impacts to hazardous materials sites.

- The number of relocations shown above are conservative estimates of a worst-case scenario, for each alternative. A smaller number of relocations are likely after the implementation of avoidance and minimization measures developed during final design.
- Construction of the multi-use path would relocate an additional three residences and three businesses.
- Because the proposed earthwork at the entrance to the Marshall Steam Plant would not adversely affect the activities, features and attributes that qualify the facility for protection under Section 4(f), FHWA is considering a Section 4(f) de minimis determination.
- Based on preliminary study, traffic noise abatement is recommended and noise abatement measures are proposed. Based on the October 6, 2016, Traffic Noise Policy, two noise barriers are preliminarily justified and recommended for construction contingent upon completion of the project design and a detailed analysis in a Design Noise Report subsequent to completion of the final design of the NC 150 widening project.
- Acreage is based on the proposed right-of-way for each alternative. Actual construction impacts would less than the acreage shown above.
- Impact quantities are based on construction limits, plus an additional 25 feet. Impacts to wetland forest communities are shown separately.
- Reed Creek, Mountain Creek, and Catawba Creek have delineated regulatory floodplains; however, the creeks are "covered" by Lake Norman; as such, the AE Zone (i.e., 100-year floodplain) boundary is the edge of Lake Norman, at full volume (760 feet above mean sea level). Due to this atypical condition, floodplain impacts are identical to surface water impacts, associated with the causeway construction across Lake Norman.

6.1 Natural Resources

Biotic Resources – Alternative 2 will impact approximately 14.5 acres of Oak-Hickory Forest and approximately 30.9 acres of Managed Pine (a total of 45.4 acres of terrestrial community impacts).

Waters of the United States - Wetland impacts for the Preferred Alternative total 0.87-acre. Wetlands impacted include Wetland WE and WK along the common alignment west of Terrell, Wetland WM along the common alignment east of Terrell and Wetland WB located along the Terrell bypass. Stream impacts for the Preferred Alternative total 1,593 linear feet. Most stream impacts occur at existing stream crossings along NC 150.

Other best-management practices that will be utilized during construction include:

- Hazardous spill basin countermeasures will be constructed in water-supply watershed critical areas.
- Design standards in sensitive watersheds will be used within 0.5 mile of the water-supply watershed critical areas.

Opportunities to further avoid and minimize jurisdictional impacts will continue to be identified as the project progresses into the final design stage. The locations of the jurisdictional features are shown on Figure 5 and described below in Table 6.2.

TABLE 6.2
LOCATION OF JURISDICTIONAL FEATURES

| Site ID | Stream ID (NRTR) | Classif. ¹ | Stream Name (Hydraulics Report) | Recommended Typical per NCDOT Design Manual | Stream Impacts (linear ft) ² | Wetland Impacts (acres) ² | Proposed Typical | Stream Impacts (linear ft) ² | Wetland Impacts (acres) ² | Wetland ID |
|----------------|--|-----------------------|--|--|---|--|---------------------|---|---|---------------|
| 1 | SA | P | West Fork Killian Creek | 60' | 221.0 | 0.43 | 46' | 204.0 | 0.38 | WE WK |
| 2 | SB | P | East Fork Killian Creek | 60' | 218.1 | --- | 46' | 201.1 | --- | --- |
| 3 ⁴ | Lake Norman | --- | Reed Creek (Lake Norman) | 60' | --- | --- | 46' | --- | --- | --- |
| 4 ⁴ | Lake Norman | --- | Mountain Creek (Lake Norman) | 60' | --- | --- | 46' | --- | --- | --- |
| 5 | Bettie Creek (2) SD | P | Bettie Creek UT to Bettie Creek (adj) | 60' | 453.0 229.0 | --- | 23' | 416.0 192.0 | --- | --- |
| 6 | SJ | P | UT to Beaverdam Creek | 60' | 197.8 | --- | 23' | 158.0 | --- | --- |
| 7 | Steam Plant Discharge Channel | --- | Discharge Channel to Lake Norman | 60' | --- | --- | 46' | --- | --- | --- |
| 8 ⁴ | Lake Norman | --- | Lake Norman | 60' | --- | --- | 46' | --- | --- | WM |
| 9 | SL | P | UT to Reeds Creek | 60' | 156.0 | --- | 35' | 130.0 | --- | --- |
| 10 | SM | P | UT to Reeds Creek | 60' | 91.5 | --- | 35' | 79.0 | --- | --- |
| 11 | SN | P | Reeds Creek | 60' | 139 | --- | 35' | 112.7 | --- | --- |
| 12 | Beaverdam Creek (1) SJ | P I | Beaverdam Creek UT to Beaverdam Creek | 60' | 260 52.3 | --- | 46' | 246.0 45.3 | --- | --- |
| 13 | Bettie Creek (1) | I | Bettie Creek | 60' | 243 | 0.36 | 46' | 235.5 | 0.35 | WB |

NOTES: Lake Norman was not assessed for physical water characteristics.

1 Classification: P = Perennial, I = Intermittent.

2 Stream and wetland impacts are based on the proposed construction limits plus an additional 25-foot boundary to account for mechanized clearing impacts.

3 Recommended structure dimensions show culvert extension lengths only. Headwall work will also be required at RCBC and RCP inlets and outlets.

4 Sites 3, 4, and 8 are subject to the Catawba River Basin Buffer Rules.

Rare and Protected Species

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE), and Proposed Threatened (PT) are protected under the provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of September 22, 2010, the United States Fish and Wildlife Service (USFWS) lists two federally protected species for Catawba County and two federally protected species for Iredell County (Table 6.3).

TABLE 6.3
FEDERALLY PROTECTED SPECIES LISTED FOR CATAWBA AND IREDELL COUNTIES

| Scientific Name | Common Name | Federal Status | Habitat Present | Biological Conclusion |
|--------------------------------|--------------------------|----------------|-----------------|-----------------------|
| <i>Hexastylis naniflora</i> | Dwarf-flowered heartleaf | T | Yes | No Effect |
| <i>Myotis spentrionalis</i> | Northern long-eared bat | T | Yes | Unresolved |
| <i>Helianthus schweinitzii</i> | Schweinitz's sunflower | E | Yes | No Effect |
| <i>Glyptemys muhlenberaii</i> | Bog Turtle | T (S/A) | No | Not Required |

Species' habitat requirements, Biological Conclusions rendered, and survey results are described in detail in the NRTR (*Natural Resources Technical Report, NC 150 Improvements, Iredell and Catawba Counties, NCDOT, September 2014*) and summarized in the EA.

Bald Eagle and Golden Eagle Protection Act – The lakeshore of Lake Norman does support bald eagle habitat. A review of the NCNHP Natural Heritage Element Occurrences (NHEO) (July 2014 dataset) indicates one known occurrence, within 1.0 mile of the study area. No nests and no known occurrences were detected within the corridor during field studies conducted between May 2014 and June 2014.

A desktop GIS analysis of the project study area, as well as a 1.13-mile radius (1.0 mile plus 660 feet) of the project limits, was performed in May 2013, using 2012 color aeriels. Lake Norman is large enough and sufficiently open to be considered a potential feeding source for the bald eagle.

A survey of the project study area was conducted in May 2013 and no nests were found. Additionally, a review of NCNHP Natural Heritage Element Occurrences (NHEO) (July 2014 dataset) revealed one known occurrence of this species, within 2.0 miles of the project study area. That occurrence is known as the 'Catawba #2 – Duke Energy Marshall Stream Station' site and had an active nest in 2011. The active nest site is approximately 0.4 miles northwest from the intersection of NC150 and SR 1902 (Harvel Road). Due to the distance from the study area, (>660 feet), it has been determined that this project will not affect this species.

Endangered Species Candidate and Proposed Species – As of April 28, 2017, the United States Fish and Wildlife Service (USFWS) lists no Candidate species for Iredell or Catawba Counties. The northern long-eared bat is listed as a Threatened species.

Other Jurisdictional Topics

- Essential Fish Habitat – There is no essential fish habitat within 1.0-mile of the project study area.
- Coastal Area Management Act Areas of Environmental Concern – There are no Areas of Environmental Concern in the project study area that fall under the jurisdiction of the Coastal Area Management Act.
- Construction Moratoria – No construction moratorium is anticipated at this time.
- N.C. River Basin Buffer Rules – Lake Norman and the streams in the project study area are subject to the Catawba River Riparian Buffer Rules.
- Rivers and Harbors Act Section 10 Navigable Waters – There are no Section 10 waters located within the project study area.

6.2 Human Environment/Cultural Resources**Section 4(f)/6(F) Resources**

Section 4(f) regulations describe direct impacts and other effects that may constitute “use” of a Section 4(f) resource. Section 4(f) uses are summarized as follows:

- 1) permanent incorporation of land through right-of-way acquisition or a permanent easement;
- 2) temporary occupancy through short-term arrangements such as a temporary easement; and,
- 3) constructive use where land within the property boundary is not directly affected, but proximity impacts result in substantial impairment to the property activities, features, or attributes, that qualify it as a Section 4(f) resource.

There are six Section 4(f) resources within the project study area: The Terrell Historic District, Johnson-Neel House, Marshall Steam Station, Marshall Fishing Area, Pinnacle Access Area, and the McCrary Access Area.

Table 6.4 summarizes HPO findings and Project Merger Team decisions, as they apply to Section 4(f) resources in the project study area.

TABLE 6.4
SUMMARY OF SECTION 4(F) FINDINGS

| SECTION 4(F) RESOURCE | ALTERNATIVE | SECTION 106 EFFECTS ASSESSMENT | SECTION 4(F) USE |
|---|--|--|---|
| Terrell Historic District | Alt. 1: widen NC 150 through Terrell Historic District. | Alt 1: Adverse Effect. Direct effects, even with minimization measures currently included in design. | Acquisition of 4.7 acres for additional right-of-way. Not a feasible and prudent avoidance alternative, when compared to Alt. 2. |
| | Alt. 2: widen NC 150 with a bypass option north of Terrell. | Alt 2: No Effect. Project is outside of historic district. | None. Other impacts associated with Alt. 2 do not cause severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) property. |
| | Alt 3: widen NC 150 with a "minimization" bypass option south of Terrell. | Alt. 3 was eliminated from further study by the NEPA/404 Merger Team on August 8, 2014. | Acquisition of 1.7 acres for additional right-of-way. Does not physically impact any structures within the district. Not a feasible and prudent avoidance alternative, when compared to Alt. 2. |
| | Alt. 4: widen NC 150 with a bypass option south of Terrell. | Alt. 4 Adverse Effect. Reasonably foreseeable development in the Hobbs Lane area will necessitate changes in roadway design that would impose impacts to the historic district. | Acquisition of 0.4 acres for additional right-of-way. Highest amount of stream and riparian buffer impacts. Geometric design constraints, safety/operational issues. Requires transmission tower relocation. Would create two new FERC-regulated crossings of Lake Norman. Not a feasible and prudent avoidance alternative, when compared to Alt. 2. |
| Marshall Steam Station | All Alts: widen NC 150 with a best-fit alignment. | All Alts: No Adverse Effect. No access alternations, direct impacts, or permanent utility easements. Small amount of right-of-way required does not compromise historic resource. | Proposed earthwork would require the acquisition of approximately 0.47 acres of property from the Marshall Steam Station. Level of impact and nature of use resulted in a de minimis finding. |
| Johnson-Neel House | All Alts: Widen NC 150 with a best-fit alignment. | All Alts: No Adverse Effect. No direct impacts; access preserved, but modified by superstreet requirements. | None. |
| Pinnacle Access Area | All Alts: Widen NC 150 with a best-fit alignment. | NA | None. Minimization includes a retaining wall to maintain the existing number of parking spaces, accessibility to and from the boat ramps, and the overall function of the site. |
| Marshall Fishing Area / McCrary Access Area | All Alts: Widen NC 150 with a best-fit alignment. | NA | None. |

Social Effects - Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) directs all federal agencies, or those who receive federal funding, to determine whether a proposed action will have a disproportionately high and adverse impact on minority and/or low income populations. Although minority populations were not observed in the Direct Community Impact Area (DCIA) during the site visit, census data indicates that there are minority populations in the eastern portion of the DCIA in Mooresville. Potential relocations include a small number of minority-owned residences (3) and a business (1). Compared to the total number of potential relocations, these impacts are not considered disproportionately high or adverse to minority and/or low-income populations. The R-2307/I-5717 LEDPA would not impact any schools, childcare centers, or senior facilities.

There are no disproportionately high and adverse impacts to minority, low-income or elderly populations. Benefits and burdens resulting from the proposed project, are anticipated to be equitably distributed throughout the community. In the project decision-making process, public involvement and outreach activities discussed in Section 6.0, were conducted to ensure full and fair participation of all potentially-affected communities within the proposed project limits.

Economic Effects - the proposed project is consistent with the goals and plans for the area, as expressed in local land use, transportation, and development plans. The proposed widening improvements would support the Catawba

County Small Area Plan for the Sherrills Ford Area, by facilitating the development of projects such as small business parks, light office/institutional uses, low-impact manufacturing, and service companies, which would benefit the area by diversifying job types and reducing travel trips outside of the county.¹

The proposed project supports elements of the 16 South Corridor Development Plan, including encouraging development at the NC 150/NC 16 Bypass interchange and creating more high-quality, aesthetically pleasing commercial developments.²

Local economic development plans also include recommendations related to transportation and land use along the NC 150 corridor and have goals to make the area more attractive to the retirement community; expand water/sewer infrastructure and transportation networks; and, provide government incentives to attract new businesses.

6.3 Physical Environment

Utilities – Coordination during the project design and construction, will be necessary to prevent major disruptions to utility service. In most locations, electric and telephone service are the major utility concerns.

A preconstruction conference will be held involving the contractor, pertinent local officials, and the NCDOT Division of Highways, to discuss various construction procedures, including precautionary steps to be taken during construction that will minimize the interruption of public utility and traffic services. Public utility officials may also be involved in the preconstruction conference.

Flood Hazard Evaluation - Within the project study area, Reed Creek, Mountain Creek, and Catawba Creek, have delineated regulatory floodplains. These creeks are currently flooded by Lake Norman. As such, the AE Zone (i.e., 100-year floodplain) boundary is the edge of Lake Norman, at full volume (760 feet above mean sea level). Due to this atypical condition, floodplain impacts are identical to surface water impacts associated with construction of the causeway, and total 5.52 acres for the Preferred Alternative. There are no floodplains along the proposed Terrell bypass.

Both Iredell and Catawba Counties, and the City of Mooresville, are participants in the regular program of the National Flood Insurance Program (NFIP). The addition of proposed major drainage structures is not anticipated to require a floodway revision, and the proposed stream crossings are not currently in designated flood hazard zones.

Federal Energy Regulatory Commission (FERC) – The proposed NC 150 roadway improvements project will impact property regulated by the Federal Energy Regulatory Commission (FERC). Duke Energy is the FERC license holder for the Marshall Steam Station historic resource. The NCDOT is coordinating with Duke Energy to determine which impacts and areas may be considered allowable under the conditions of their FERC license, or if modification of their FERC license is necessary. Additionally, and as noted previously, Lake Norman is included in the FERC boundary for the Catawba-Wateree Hydro Project, for which Duke Energy also holds the FERC license. Any non-maintenance activity that encroaches on the Lake Norman FERC boundary (760 feet above mean sea level), requires a permit.

NCDOT has evaluated potential impacts to the Pinnacle Access Area and McCrary Access Area. The Duke Energy FERC permit condition require that they maintain public access at these locations, and NCDOT would be responsible for

¹ Catawba County Small Area Plan for the Sherrills Ford Road Area.

<http://www.catawbacountync.gov/planning/smallarea/sford/SFmain.asp>

2 Catawba County NC 16 Corridor Development Plan. <http://www.catawbacountync.gov/Planning/16plan/16plan.asp>

impacts to these recreational areas. R-2307/I-5717 preliminary designs have avoided impacts to these lake access areas by modifying the construction limits/slope stakes and/or through the proposed use of retaining walls. NCDOT will continue to coordinate with Duke Energy, regarding these FERC regulations.

7.0 Permits

A list of permits that may be required for this project is provided below.

- **Section 401 general Water Quality Certification** – Due to the size of the project, an Individual Section 404 permit will likely be applicable. If a Section 404 permit is required, then a Section 401 Water Quality Certification (WQC) from the NCDWR will be needed. The specific permit(s) will be determined once impacts for the build alternatives have been minimized and quantified based on the final design.

8.0 Public and Agency Coordination

A considerable public involvement process was implemented during the planning phase of this project. All activities from the beginning of the planning process through the EA document are included in Chapter 6 of the EA. The following section provides a summary of agency coordination and public involvement efforts, following the publication of the R-2307/I-5717 EA.

8.1 Circulation of the Environmental Assessment (EA)

The project EA approved and signed by NCDOT on February 26, 2016, and by the FHWA on March 8, 2016. Copies were distributed to state and federal environmental resource and regulatory agencies and to local governments. The EA and public hearing maps were also made available for download on the project website at the following link: <https://www.ncdot.gov/projects/nc150/>, and are available for viewing in the NCDOT Highway Division 12 Office in Shelby, during normal business hours for citizens without internet access.

8.2 Agency Comments Received Concerning the EA

A summary of project-specific agency comments regarding the contents of the R-2307/I-5717 EA, are provided in the following section. Copies of these agency comment letters are included in Appendix B.

NC Department of Environmental Quality – Waste Management (Dated: May 10, 2016)

1. Coal ash structural fill sites may be located in the project vicinity. Structural fill sites are located at 7836 NC 150 E in Terrell (CCB0029), at the Port Village Business Park off NC 150 near I-77 (CCB0052), at Race Park USA off NC 150 on Doolie Road (CCB0053), at NC 150 at Bluefield Road (CCB 0054), and the Terry K. Smith site on NC 150 in Mooresville (CCB0051).

Response: NCDOT will evaluate opportunities for the use of coal ash in the construction of the project if feasible. If not feasible, then NCDOT will dispose of coal ash per NCDOT policy.

2. During construction, every feasible effort should be made to minimize the generation of waste, to recycle materials for which viable markets exist, and to use recycled products and materials where suitable.

Recommend that contractors are required to provide proof of proper disposal of all waste generated as part of the project.

Response: NCDOT will minimize the generation of waste during the construction of the project where possible and utilize best management practices.

NC Department of Environmental Quality – Federal Remediation (Dated: May 2, 2016)

1. Four superfund sites were identified within one mile of the project. Note attached map and table.

Response: Site #15041-11-49 (Mooresville Crossroads) is adjacent to the project. However, based off the brownfield boundary shown on the NCDEQ GIS site (<https://ncdenr.maps.arcgis.com>), impacts to the brownfield are not anticipated.

NC Wildlife Resources Commission (Dated: May 10, 2016)

1. NCWRC is participating with the NCDOT Merger Process and concurs with the use of sediment and erosion control measures that adheres to the NCDOT Design Standards in Sensitive Watersheds.

Response: NCDOT will continue to coordinate with the NCWRC through the remainder of the Merger Process

2. Encourages the use of low-impact development techniques, such as pervious pavement for sidewalks and multi-use paths to maximize storm water treatment and minimize harm to waterways.

Response: NCDOT is working with the Town of Mooresville, and Catawba and Iredell Counties to cost share the construction of the multi-use path. The design and construction of the multi-use path will be determined during the R-2307/I-5717 final design. Best management practices for construction will be utilized.

NC Department of Environmental Quality – Division of Water Resources (Dated May 6, 2016)

1. The project proposes expansion of several bridges and a FERC permit will be required. Coordination with Duke Power to address potential problems.

Response: NCDOT has initiated discussions with Duke Energy regarding the modification to their FERC Permit. NCDOT will continue to coordinate with Duke Energy to ensure that all the requirements for the FERC permit application process, are met.

2. The General Store in Denver, has a groundwater remediation systems and a National Pollution Discharge Elimination System (NPDES) discharge permit. Appropriate precautions should be taken with this property. If contaminated groundwater is unearthed, the water shall be pumped and hauled for appropriate disposal.

Response: If contaminated groundwater is unearthed during the construction the project, NCDOT will ensure that it is disposed of in accordance NPDES permit.

3. The City of Hickory and Aqua of NC have water and waste-water lines in the area, and should be consulted accordingly.

Response: Coordination with the City of Hickory and Aqua NC will occur prior to construction.

4. Near the NC 16/NC 150 interchange, there is potential to impact Killian Creek, a class C; 303(d) stream. NCDWR recommends that the most protective sediment and erosion control BMPs be implemented to reduce the risk of further impairment to Killian Creek. Also, to meet the requirement of the NPDES permit NC S0000250, NCDWR requests that road design plans provide treatment of stormwater runoff through NCDOT's Stormwater BMP Toolbox manual.

Response: Sedimentation and erosion control measures shall adhere to the Design Standards for Sensitive Watersheds (15A NCAC 4B .0124). NCDOT Best Management Practices for the Protection of Surface Waters would also be followed to during the construction phase of the project. Stormwater will be treated per the NCDOT Stormwater BMP Toolbox Manual.

5. Review reveals the presence of surface waters classified as Water Supply Critical Area in the project study area. NCDWR requests that NCDOT strictly adheres to North Carolina regulations entitled "Design Standards in Sensitive Watersheds (15A NCAC 04B.0124) throughout the design and construction of the project. This applies to any area that drains to streams having WS CA classifications. Should a bridge project be located within the Critical Area of Water Supply, the NCDOT will be required to design, construction, and maintain hazardous spill catch basins in the project area.

Response: Sedimentation and erosion control measures shall adhere to the Design Standards for Sensitive Watersheds (15A NCAC 4B .0124). NCDOT's Best Management Practices for the Protection of Surface Waters would also be adhered to during the construction phase of the project. Storm water will be treated per NCDOT's Storm water BMP Toolbox Manual.

6. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0243.

Response: During the development of the R-2307/I-5717 project, impacts to riparian buffers were avoided and minimized where feasible. During the preliminary design phase a reduced typical section was used throughout the corridor. It was not feasible to avoid impacts to the buffer zones as these impacts are associated with existing bridge crossings of Lake Norman and the project proposes to widen these bridges.

7. Bank stabilization should be addressed with culvert installations or extensions should be addressed in the CE.

Response: The location of bank stabilization at culvert installations and extensions will be determined during the final design phase of the project.

8. Any anticipated dewatering or access structures necessary for construction of bridges, should be addressed in the CE.

Response: Dewatering activities area not anticipated at this time. The need for temporary access structures will be determined during the final design phase of the project.

NC Division of Water Resources – Water Quality Regional Operations Section (WQROS) (Dated: May 6, 2016)

1. It appears that a Section 401 Water Quality Certification is required. Potential stream impacts should be determined prior to construction.

Response: Impact calculations are included in the EA and the FONSI.

2. Modification to the NPDES wastewater and waste water collection system permits may be necessary if existing facilities are modified as a result of the project.

Response: It is not yet known if the existing NPDES permits will require modification. This will be determined during the final design phase of the project.

3. If located, wells should be properly abandoned.

Response: Comment noted.

NCDEQ Division of Energy, Mining, and Land Resources (DELMR) - Land Quality and Storm water (Dated: April 25, 2016)

1. A storm water permit may be required

Response: Comment noted – It is anticipated that a storm water permit will be required for the project.

Division of Waste Management (Dated: April 20, 2016)

1. Division of Waste Management recommends removal of any abandoned or out-of-use petroleum USTs or petroleum above ground storage tanks within the project area. The UST Section should be contacted regarding any proposed or on-site USTs or ASTs.

Response: NCDOT will remove any USTs or ASTs that are directly impacted by the proposed improvements. NCDEQ Waste Management will be contacted if USTs or ASTs are impacted by the roadway improvements

2. Any petroleum spills must be contained and the area of impact be properly restored. Spills of significant quantity must be reported to the NCDEQ - Waste Management UST Section

Response: Comment noted.

3. Any soils excavated during demolition or construction that show evidence of petroleum contamination, such as stained soil, odors, or free product must be reported to the local Fire Marshal.

Response: NCDOT will notify the local Fire Marshal if soils showing any evidence of petroleum contamination are excavated.

NCDEQ – DWR Public Water Supply Section (Dated: April 18, 2016)

1. The Town of Mooresville PWS ID #01-49-015: Water mains will need relocation. The town of Mooresville has their own delegated plan approval authority. Any water main relocations will be reviewed through this authority.

Response: Comment noted. NCDOT will coordinate with the Town of Mooresville during the design and relocation of impacted water mains.

2. Homestead S/D PWS ID #01-49-118, River Park PWD, Big Daddy's, Pinnacle Shores, Old Country Church, Southeast Catawba County, Pointe Norman: Water mains may need to be relocated. Any relocation of water mains should be reviewed and approved by our technical review branch, in Raleigh.

Response: NCDOT will coordinate with the NCDEQ Public Water Supply section during the design and relocation of the water mains.

3. Lake Norman Marina, Linberger's, Pier 150, Butcher Boy's Café, Cross Country Camp Ground, and Lincoln County: Water mains and/or the well may not have to be replaced. This type of system does not require the review and approval of plans and specifications.

Response: NCDOT will coordinate with the NCDEQ Public Water Supply section during the design and relocation of the water mains.

NC Department of Public Safety – Emergency Management (April 29, 2016)

1. The proposed project includes encroachment within the Special Flood Hazard Area (SFHA). Please coordinate with Mr. David Chang, to determine if the proposed crossings within the project limits are eligible to fall within the MOA.

Response: NCDOT will coordinate with the NC Floodplain Mapping Program (FMP) to determine the status of the project, with regards to applicability of the NCDOT MOA or approval of a CLOMR and subsequent LOMR.

US Environmental Protection Agency (Dated: May 12, 2016)

1. The EPA supports the inclusion of these multi-modal facilities.

Response: *Comment noted.*

2. Due to the presence of Lake Norman, EPA requires storm water runoff be treated to the maximum extent practicable. Hazardous spill catch basins may also be necessary.

Response: *Sedimentation and erosion control measures shall adhere to the Design Standards for Sensitive Watersheds (15A NCAC 4B .0124). NCDOT Best Management Practices for the Protection of Surface Waters would also be followed during the construction phase of the project. Stormwater will be treated per NCDOT Stormwater BMP Toolbox Manual.*

3. Structural design of bridges and culverts with regards to the Northern long-eared bat might be considered during final design to benefit and/or promote recovery of the species. EPA defers to the USFWS and NCWRC for endangered species act guidance.

Response: *Comment noted. Suitable habitat for the northern long-eared bat does exist in the study area. Structures in the study area will be reviewed for evidence of bat use, prior to construction (Refer to the Northern Long-Eared Bat (NLEB) Guidance for NCDOT Projects). The NCDOT Biological Surveys Group will be conduct surveys for the northern long-eared bat prior to the initiation of construction activities.*

4. Recommend that the FHWA and NCDOT consider climate change adaptation measures, based on how future climatic scenarios may impact the proposed project in the FONSI.

Response: *Comment noted. The recent executive order {<https://www.whitehouse.gov/the-press-office/2017/03/28/presidential-executive-order-promoting-energy-independence-and-economy-1>{whitehouse.gov}} rolling back previous climate change initiatives appear to remove all requirements for evaluation of climate change impacts in NEPA documents. The following reflects text regarding NEPA reviews: "{c) The Council on Environmental Quality shall rescind its final guidance entitled "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews," which is referred to in "Notice of Availability," 81 Fed. Reg. 51866 {August 5, 2016}."*

5. EPA understands that Alternative 1 would impact the Terrell Historic District. EPA understands from the review of the EA that there are no outstanding or identified issues with Environmental Justice.

Response: *Comment noted.*

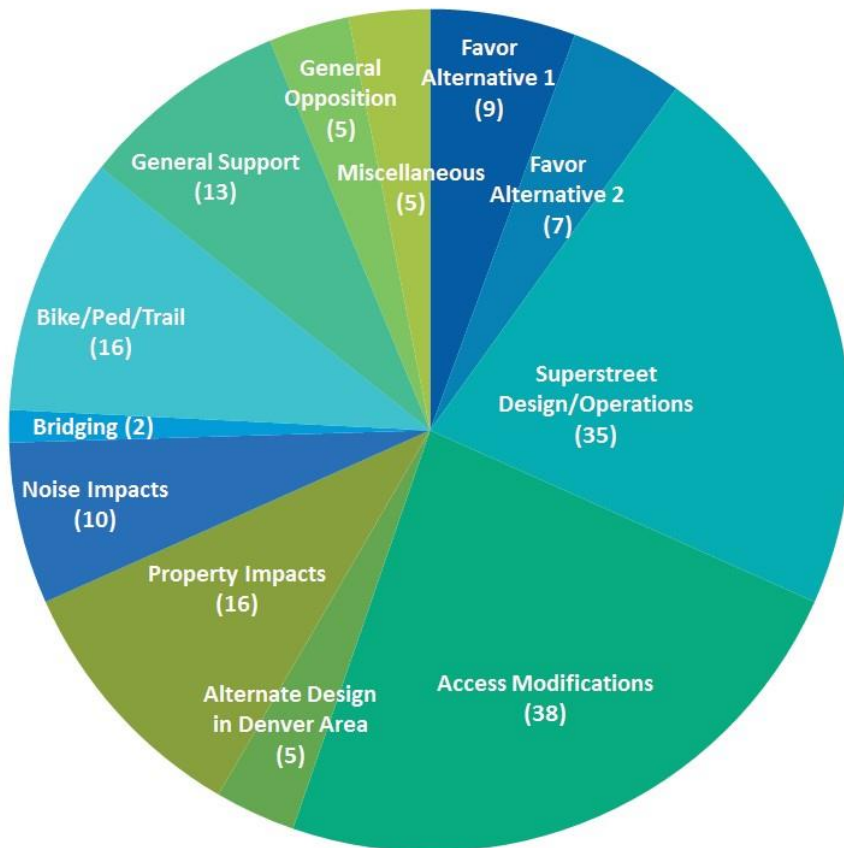
8.3 Public Hearing

A Design Public Hearing was held at the Mount Anderson Baptist Church in Maiden, on August 22, 2016, and at the Peninsula Baptist Church in Mooresville, on August 23, 2016. Both hearings were preceded by a local officials meetings, in addition to informal Pre-Hearing Open House discussions which were open to the public. All meeting attendees were provided a meeting packet that included the project description, a graphic of the two project alternatives, a table comparing the environmental impacts and cost



of each build alternative, roadway typical sections, traffic noise impacts, a discussion of Section 4(f) of the USDOT Act of 1966, right-of-way acquisition and relocation procedures, and a comment sheet.

During the Project open house and public hearing, preliminary design maps were available for viewing. Due to high citizen interest in the project, the NCDOT Public Involvement Section conducted a formal public hearing segment in which citizens could make publicly state their opinions regarding the project.



Summary of Public Hearing Comments –

542 citizens signed the attendee logs at public hearings and a total of 161 written comments, letters, e-mails messages, and telephone calls were received during the project comment period. Alternative preferences were expressed in 16 of the comments. A total of nine comments stated a preference for Alternative 1, while seven comments stated a preference for Alternative 2. Public comments by subject are shown in the pie chart to the left. Major comments received are summarized below.

- 35 comments expressed questions or concerns about the proposed superstreet roadway design and traffic operations. Citizens noted concerns about tractor-trailers or trucks pulling large boats navigating U-turns, EMS response time, traffic operations during school hours, additional time and

frustration for commuters, and impacts to community cohesion. There were also several questions regarding understanding the superstreet concept and requests for examples of other superstreets already constructed and operating in North Carolina.

- 38 comments expressed concerns about changes to property access. Citizens and business owners stated the project would have a direct impact on daily routines and access to and from businesses, schools, and other community resources. Multiple comments were received regarding access concerns associated with the Pinnacle Shores community.
- 5 comment forms stated concern about whether the impacts of the proposed typical section and NC 150 alignment on the Denver community. Citizens questioned a bypass of the NC 150 corridor, from the NC 16 Bypass to west of Terrell, was considered to reduce proposed NC 150 improvement impacts to the community.

- 16 comment forms noted concern about direct property impacts. Citizens questioned whether the proposed median width in the rural sections of the project could be reduced from 43 feet to 23 feet, to reduce property impacts. Citizens also noted that the proposed widening would render their property unusable or in one case, prevent the full buildout of a community.
- 10 comments focused on the potential or fear of increase in traffic noise due to project implementation. Multiple comments questioned if noise barriers would be constructed on the structures over Lake Norman. There was also concern that the removal of trees would result in additional noise impacts.
- 16 comment forms requested consideration of bicycle lanes, sidewalks, and multi-use paths. Specifically, several comments requested bicycle lanes across the Lake Norman bridge, and the extension of the multi-use path over Reed Creek.



In addition to comments from individual citizens, a petition was also received from the residents of the Pinnacle Point community, containing 190 signatures, expressing concern regarding the distance from the entrance of the community to the U-turn bulb for those vehicles traveling eastward on NC 150 toward Mooresville. These citizens expressed concern about EMS response time to the Pinnacle Point community, reduced neighborhood access, school bus travel times, and the potential negative impacts to community cohesion, and depreciating property values.

Comments received from local officials and citizens, along with NCDOT responses, are included in Appendix C.

9.0 Additions and Revisions to the Environmental Assessment

9.1 Wetlands and Streams

In accordance with 33 CFR 328.3(b) and 23 CFR 777, jurisdictional wetlands were identified and delineated within the Project Study area. Preliminary jurisdictional verification of the wetlands and streams occurred May 27, 2015, by a representative of the USACE. Based on changes requested by the USACE that occurred after the publication of the EA, the Natural Resource Technical Report (NRTR) was updated May 17, 2017, to address these requested changes. Changes include:

- Extending Bettie Creek north to the project boundary (within WB). USACE determined stream origin was further upstream.
- Reclassify wetland WM as a wetland and not part of the surface water of Lake Norman. Wetland WM was included in both the NRTR and Jurisdictional Determination (JD) packet, however, during the field visit with USACE there was discussion about whether the area should be considered a wetland or surface water. This issue was not resolved before the publication of the EA. The USACE has recently determined that this feature is a wetland.

The origin of Bettie Creek (1) was extended to the northern boundary of the study area. In addition, the depiction of Bettie Creek (3) and wetland WM were modified to represent ground conditions. The original delineation showed the edge of the lake at 760' elevation intersected with the field delineation information. After discussion with USACE, it was determined only field delineation information should be used in locations where streams, wetlands, and the lake

are adjacent to each other. With the addition of Wetland WM, overall wetland impacts increased from 0.8-acre to 0.87-acre. The exhibits 6-A and 6-B show the locations of Wetland WM and Bettie Creek.

9.2 Traffic Noise Analysis

The Traffic Noise Analysis, dated August 2016, was reviewed for compliance with the October 6, 2016, NCDOT Traffic Noise Policy. Due to the updated policy, eight (8) additional impacts, based on a substantial increase in potential or anticipated traffic noise levels, were added to the Alternative 2 noise impacts tabulation. Under the 2016 Traffic Noise Policy, the Preferred Alternative will impact 132 noise receptors. Also, under the 2016 Traffic Noise Policy, two (2) noise walls, -NW4- and -NW9-, are preliminarily justified and recommended for construction. -NW2- (NSA 2-Bach Drive) does not meet the 2016 Policy feasibility requirement that "a noise reduction of 5 dB(A) must be achieved for at least two impacted receptors" because only one (1) impacted receptor would be benefited. -NW2- is no longer recommended for construction, contingent upon completion of final project designs (Alternatives 1 and 2). This action is contingent upon completion of the project design and the results of a detailed analysis in a Design Noise Report (DNR). The DNR is completed during the final design phase. Included in the DNR is an analysis of potential mitigation measures and determines if abatement measures are preliminarily deemed to meet feasibility and reasonableness criteria.

9.3 Air Quality Analysis

The project is partially located in Iredell County, which is within the Charlotte maintenance area for the 2008 ozone (O₃) standard as defined by the EPA. This area was designated marginal nonattainment under the 2008 eight-hour ozone standard on July 20, 2012. Due to improved air quality in the region, this area was re-designated as a maintenance area, on August 27, 2015. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Iredell County.

The Charlotte Region Transportation Planning Organization (CRTPO) 2014 Metropolitan Transportation Plan (MTP) and the 2016-2025 Transportation Improvement Program (TIP) conform to the intent of the SIP. The USDOT made a conformity determination on the MTP on April 20, 2016, and the TIP on April 20, 2016. The current conformity determination is consistent with the final conformity rule, found in 40 CFR Parts 51 and 93. There are no significant changes in the project design concept or scope, as used in the project conformity analyses in January 2016.

The project is also partially located in Catawba County, which is within the Greater Hickory Metropolitan Planning Organization (GHMPO). This area was found to be in attainment for fine particles PM_{2.5}, as defined by the EPA on October 24, 2016.

The FHWA published an Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents on October 18, 2016. A project-level air quality analysis was prepared for this project; Air Quality Analysis, NC 150 Widening from the NC 16 Bypass in Catawba County to US 21 in Iredell County, dated January 26, 2016, and summarized for inclusion in the R-2307/I-5717 EA. The following discussion of Air Quality conforms to the FHWA guidance of October 18, 2016.

Introduction

Air pollution originates from various sources. Emissions from industry and internal combustion engines are the most prevalent sources. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving the ambient air quality. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. Motor vehicles emit carbon

monoxide (CO), nitrogen oxide (NO), hydrocarbons (HC), particulate matter, sulfur dioxide (SO₂), and lead (Pb) (listed in order of decreasing emission rate).

The Federal Clean Air Act of 1970 established the National Ambient Air Quality Standards (NAAQS). These were established in order to protect public health, safety, and welfare from known or anticipated effects of air pollutants. The NAAQS contain criteria for SO₂, particulate matter (PM₁₀, 10-micron and smaller, PM_{2.5}, 2.5-micron and smaller), CO, nitrogen dioxide (NO₂), ozone (O₃), and lead (Pb).

The primary pollutants from motor vehicles are unburned HC, NO, CO, and particulates. HC and NO can combine in a complex series of reactions catalyzed by sunlight, to produce photochemical oxidants such as O₃ and NO₂. Because these reactions take place over a period of several hours, maximum concentrations of photochemical oxidants are often found far downwind of the precursor sources. These pollutants are regional problems.

A project-level air quality analysis was prepared for R-2307/I-5717. A copy of the unabridged version of the full technical report entitled *Air Quality Analysis, NC 150 Widening from the NC 16 Bypass in Catawba County to US 21 in Iredell County*, dated January 26, 2016, can be viewed at the NCDOT Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

Mobile Source Air Toxics (MSAT)

Background

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA assessed this expansive list in its rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS)³. In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk-drivers from their 2011 National Air Toxics Assessment (NATA)⁴. These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority MSAT, the list is subject to change and may be adjusted in consideration of future EPA rules.

According to EPA, the latest air quality model, MOVES2014, is a major revision to MOVES2010 and improves upon it in many respects. MOVES2014 includes new data, new emissions standards, and new functional improvements and features. It incorporates substantial new data for emissions, fleet, and activity developed since the release of MOVES2010. These new emissions data are for light- and heavy- duty vehicles, exhaust and evaporative emissions, and fuel effects. MOVES2014 also adds updated vehicle sales, population, age distribution, and vehicle miles travelled (VMT) data.

MOVES2014 incorporates the effects of three new Federal emissions standard rules, not included in MOVES2010. These new standards are all expected to impact MSAT emissions and include Tier 3 emissions and fuel standards,

³ <https://www.epa.gov/iris>

⁴ <https://www.epa.gov/national-air-toxics-assessment>

starting in 2017 (79 FR 60344), heavy-duty greenhouse gas regulations that phase in during model years 2014-2018 (79 FR 60344), and the second phase of light-duty greenhouse gas regulations that phase in during model years 2017-2025 (79 FR 60344). Since the release of MOVES2014, EPA has released MOVES2014a. In the November 2015, MOVES2014a Questions and Answers Guide,⁵ EPA states that for on-road emissions, MOVES2014a adds new options requested by users for the input of local VMT, includes minor updates to the default fuel tables, and corrects an error in MOVES2014 brake wear emissions. The change in brake wear emissions results in small decreases in PM emissions, while emissions for other criteria pollutants remain essentially the same as MOVES2014.

Using the EPA MOVES2014a model, FHWA estimates that even if VMT increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Diesel PM is the dominant component of MSAT emissions, making up 50 to 70 percent of all priority MSAT pollutants by mass, depending on calendar year. Users of MOVES2014a will notice some differences in emissions compared with MOVES2010b. MOVES2014a is based on updated data on some emissions and pollutant processes compared to MOVES2010b, and also reflects the latest Federal emissions standards in place at the time of its release. In addition, MOVES2014a emissions forecasts are based on lower VMT projections than MOVES2010b, consistent with recent trends suggesting reduced nationwide VMT growth, compared to historical trends.

MSAT analyses are intended to capture the net change in emissions within an affected environment, defined as the transportation network affected by the project. The affected environment for MSATs may be different than the affected environment defined in the NEPA document for other environmental effects, such as noise or wetlands. Analyzing MSATs only within a geographically-defined “study area” will not capture the emissions effects of changes in traffic on roadways outside of that area, which is particularly important where the project creates an alternative route or diverts traffic from one roadway class to another. At the other extreme, analyzing the entire roadway network of a metropolitan area will result in emissions estimates for many roadway links not affected by the project, diluting the results of the analysis.

Incomplete or Unavailable Information for Project Specific MSAT Health Impact Analysis

Per the FHWA, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation, rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects”⁶. Each report contains assessments of non-cancerous and cancerous effects

⁵ <https://www.epa.gov/moves/moves2014a-latest-version-motor-vehicle-emission-simulator-moves>

⁶ EPA, <https://www.epa.gov/iris/>

for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of the FHWA *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*. Among the adverse health effects linked to MSAT compounds at high exposures are: cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations⁷ or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and the exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI⁸. As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, “[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk (<https://www.epa.gov/iris>).”

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act, to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million.

Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million, due to emissions from a source. The results of this statutory two-step process do not guarantee

7 HEI Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects>

8 Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects>

that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld the EPA approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable⁹.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between project alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Conclusion

Under each Detailed Study Alternative (DSA) there may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emissions would likely be most pronounced along the new roadway sections that would be built with Alternative 2, to bypass the Terrell Historic District. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations. In sum, under both DSAs in the design year, it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No-Build Alternative, due to EPA's MSAT reduction programs.

Summary

Vehicles are a major contributor to decreased air quality because they emit a variety of pollutants into the surrounding environment. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. New highways or the widening of existing highways increase localized levels of vehicle emissions, but these increases could be offset due to reductions in traffic congestion and vehicle emissions in areas where traffic shifts to the new roadway. Significant progress has been made in reducing criteria pollutant emissions from motor vehicles and improving air quality, even as vehicle travel has increased rapidly in the United States.

This evaluation completes the assessment requirements for air quality of the 1990 Clean Air Act Amendments and the FHWA NEPA process. No additional reports are necessary.

10.0 Basis for Finding of No Significant Impact

The Environmental Assessment documents a study of the anticipated environmental impacts of the proposed project. Based on this study and on comments received from federal, state, and local agencies, and the local citizens, it is the finding of the FHWA that this project will not cause a significant adverse impact to the natural, social, ecological, cultural, economic, or scenic resources within the project limits. The proposed project is consistent with local plans, and has been coordinated with the appropriate federal, state, and local agencies.

⁹ [https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/\\$file/07-1053-120274.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-120274.pdf)

Based on this evaluation, it is determined that a FONSI is applicable for this project and is consistent with the Code of Federal Regulations 23, Part 771.121. Therefore, neither an Environmental Impact Statement nor further environmental analysis is required.

11.0 Contact Information

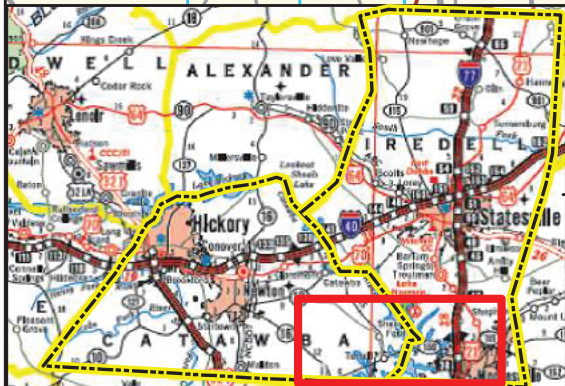
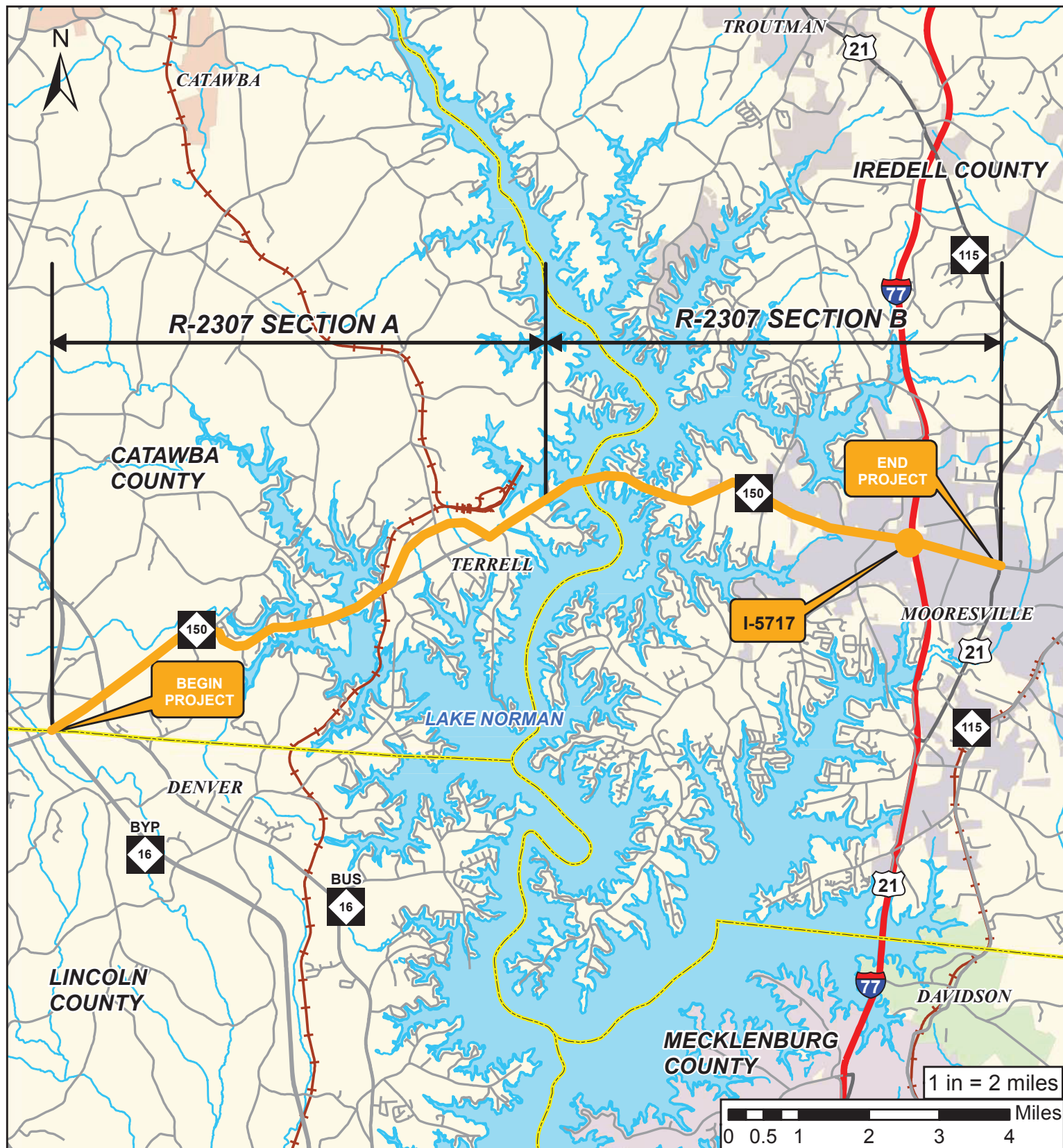
The following persons can be contacted for additional information concerning this proposal and statement:

John F. Sullivan II, PE
Division Administrator
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, NC 27601

Beverly G. Robinson, CPM
Assistant Project Manager, Central Project Delivery Team
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548



Exhibits

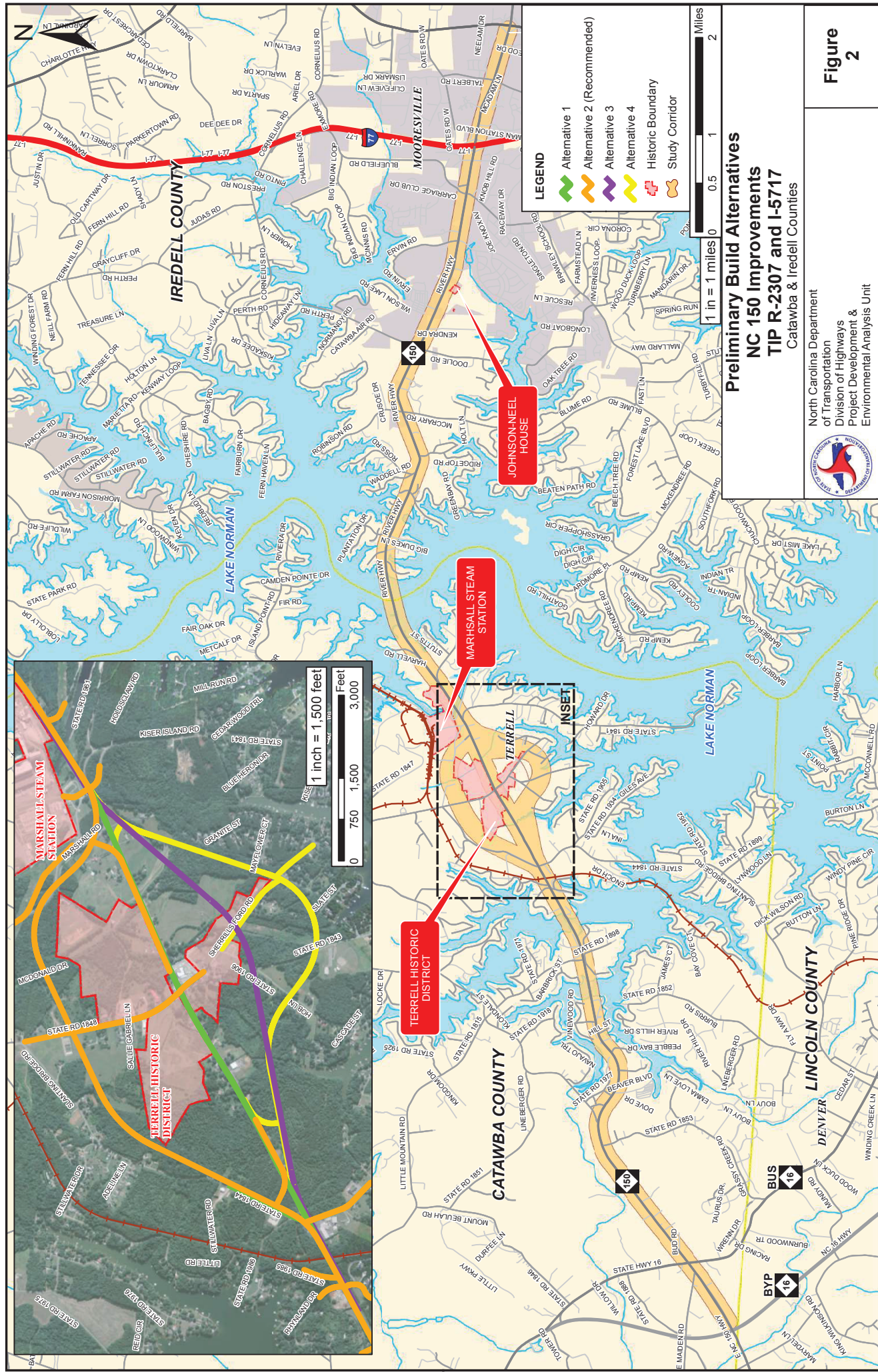


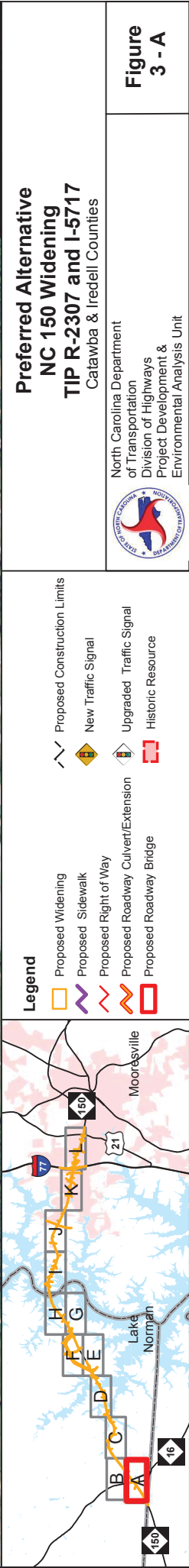
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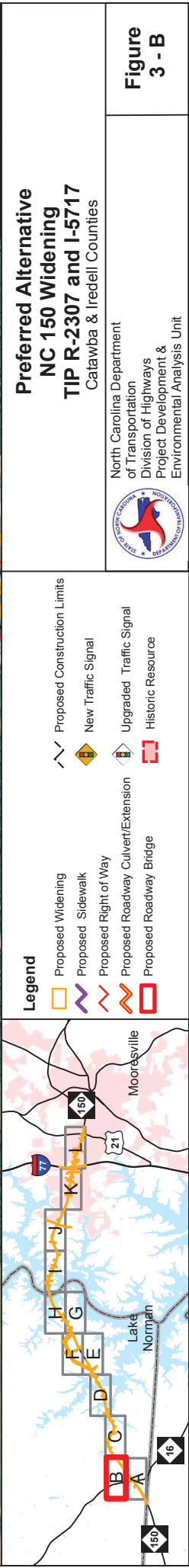
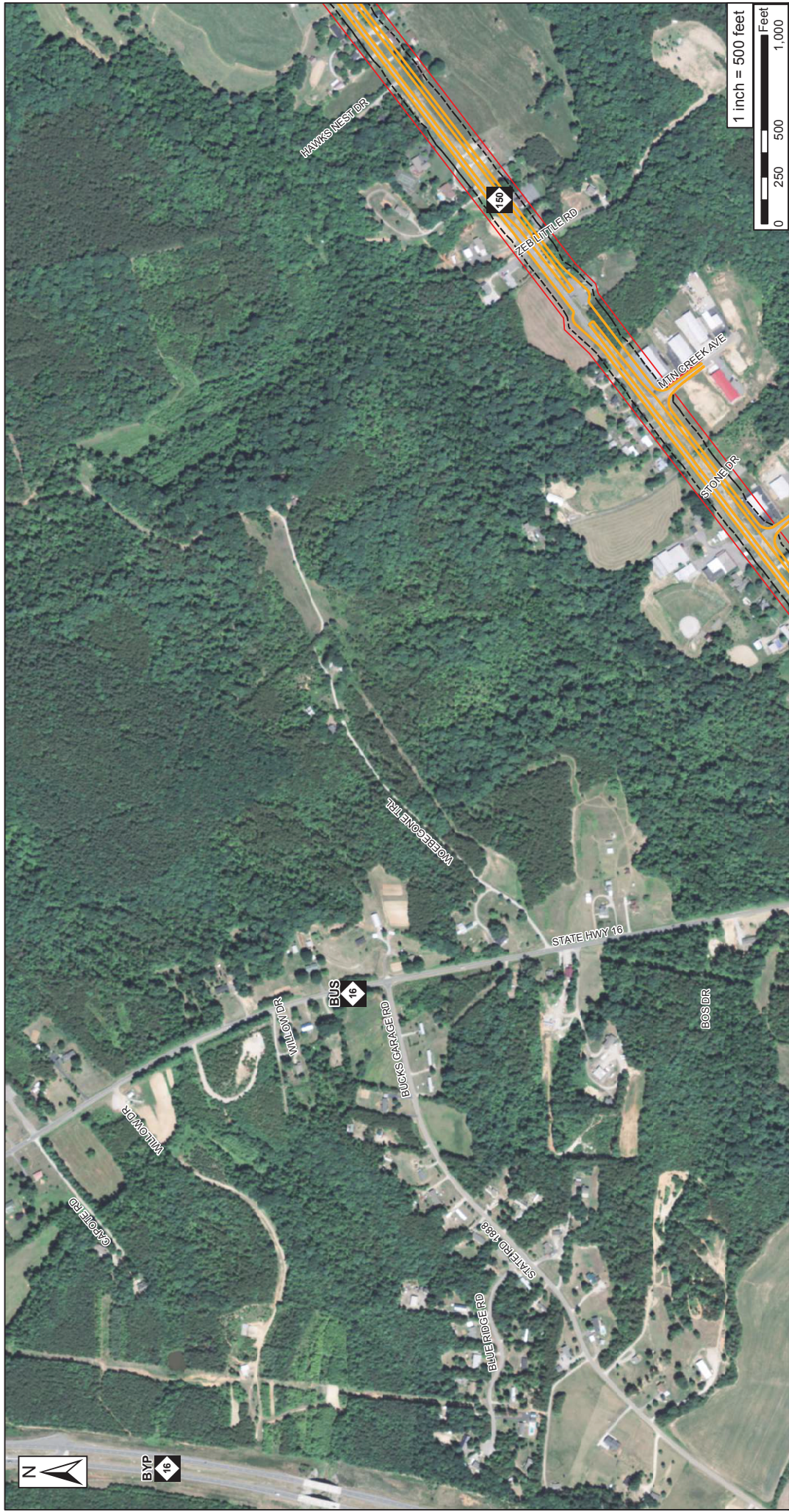


North Carolina Department
of Transportation
Division of Highways
Project Development &
Environmental Analysis Unit

**Figure
1**





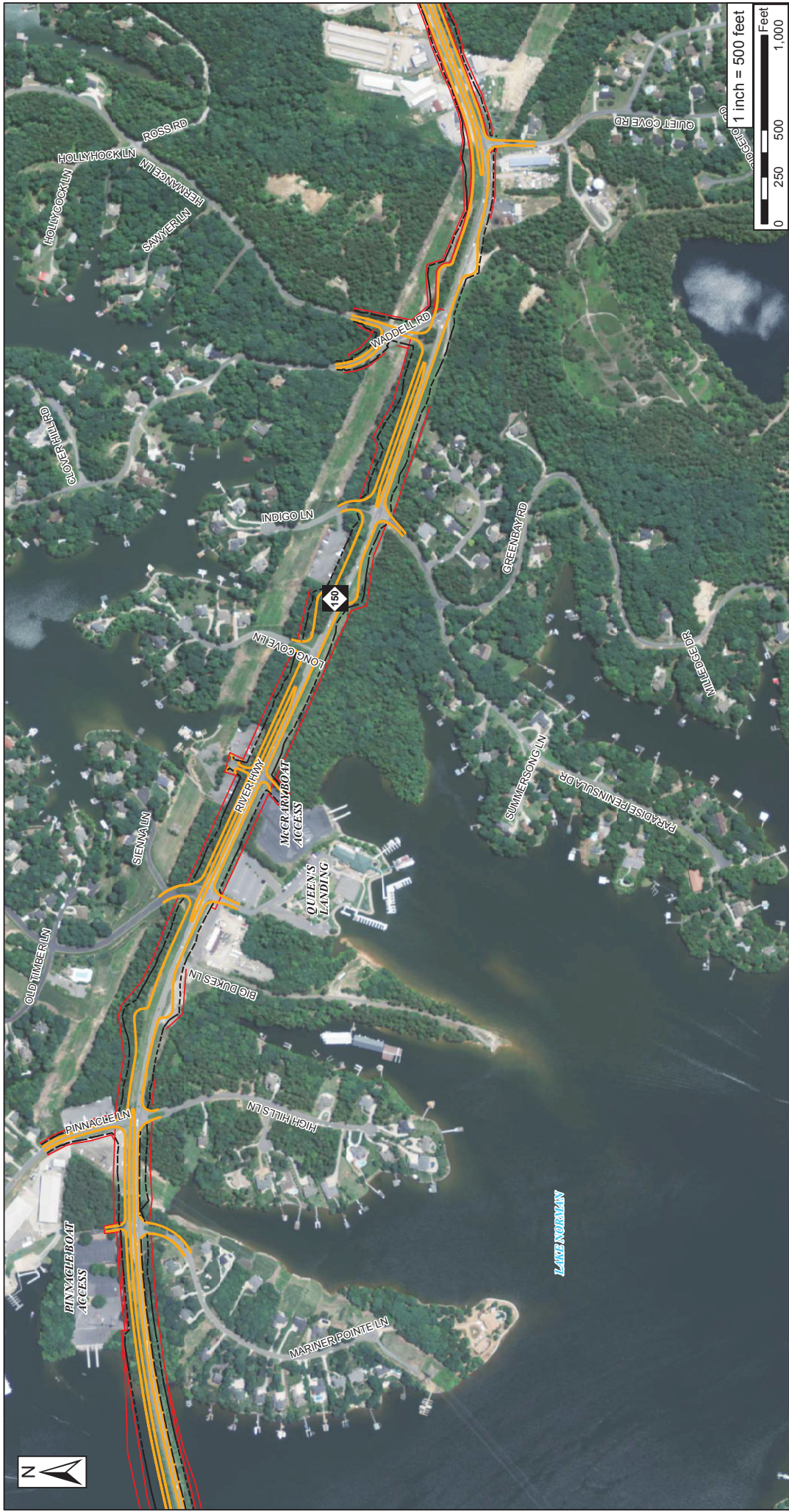


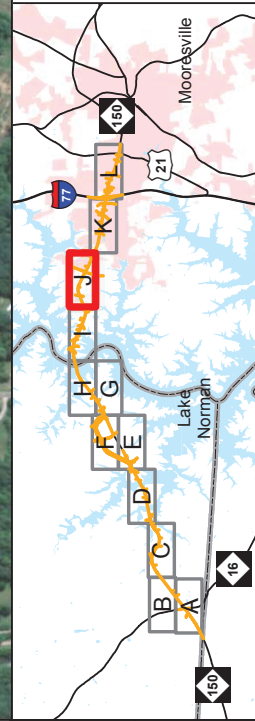


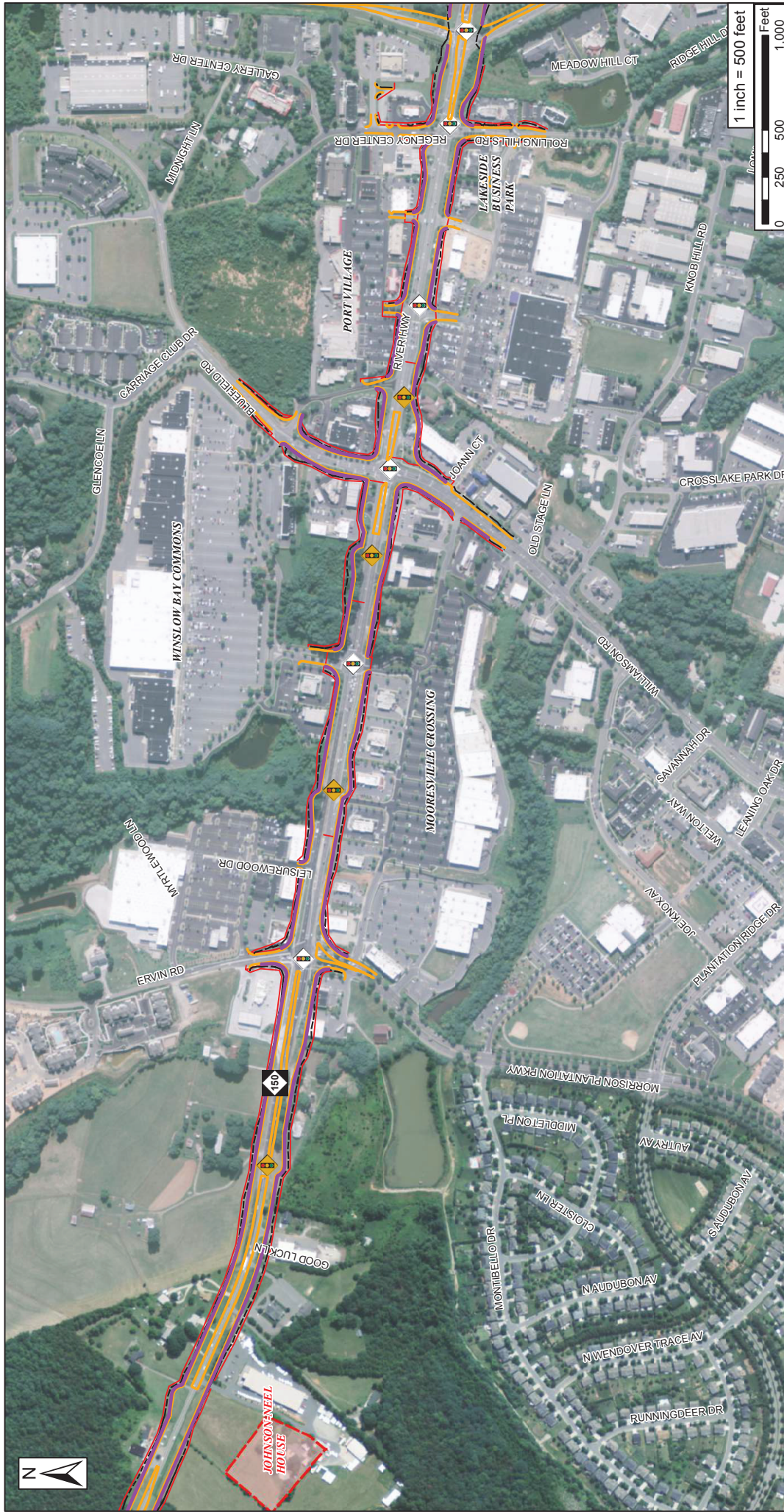


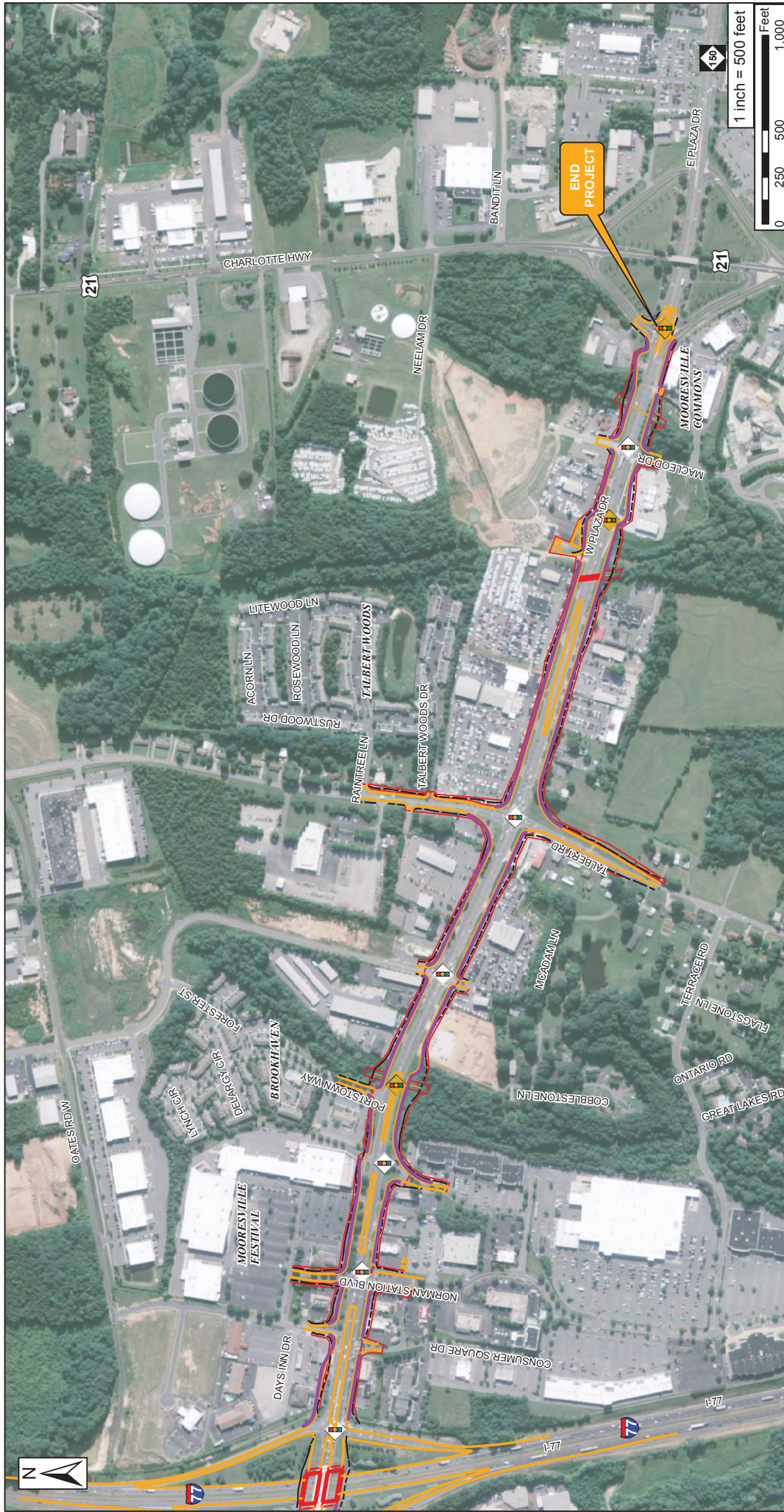


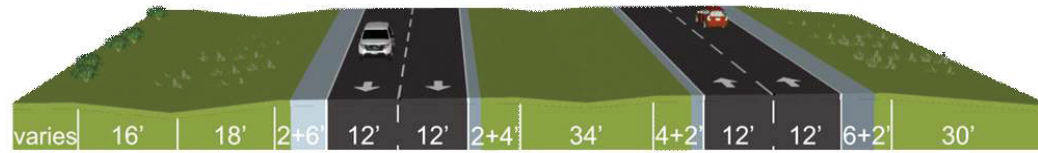




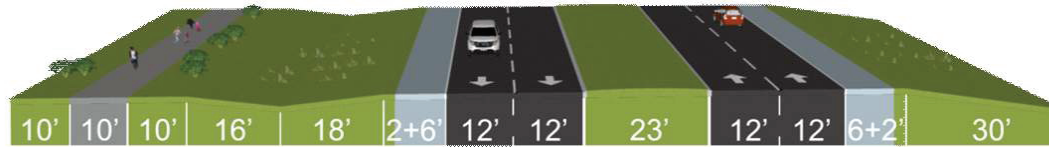




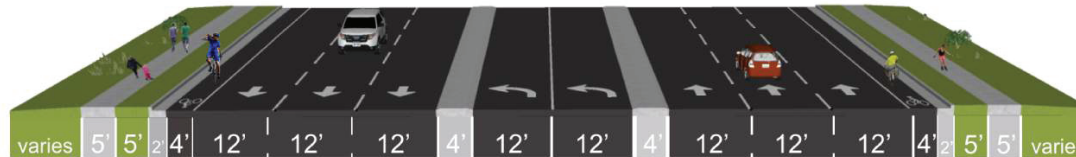





TYPICAL SECTION NO. 1
FROM NC 16 BYPASS TO KISER ISLAND ROAD

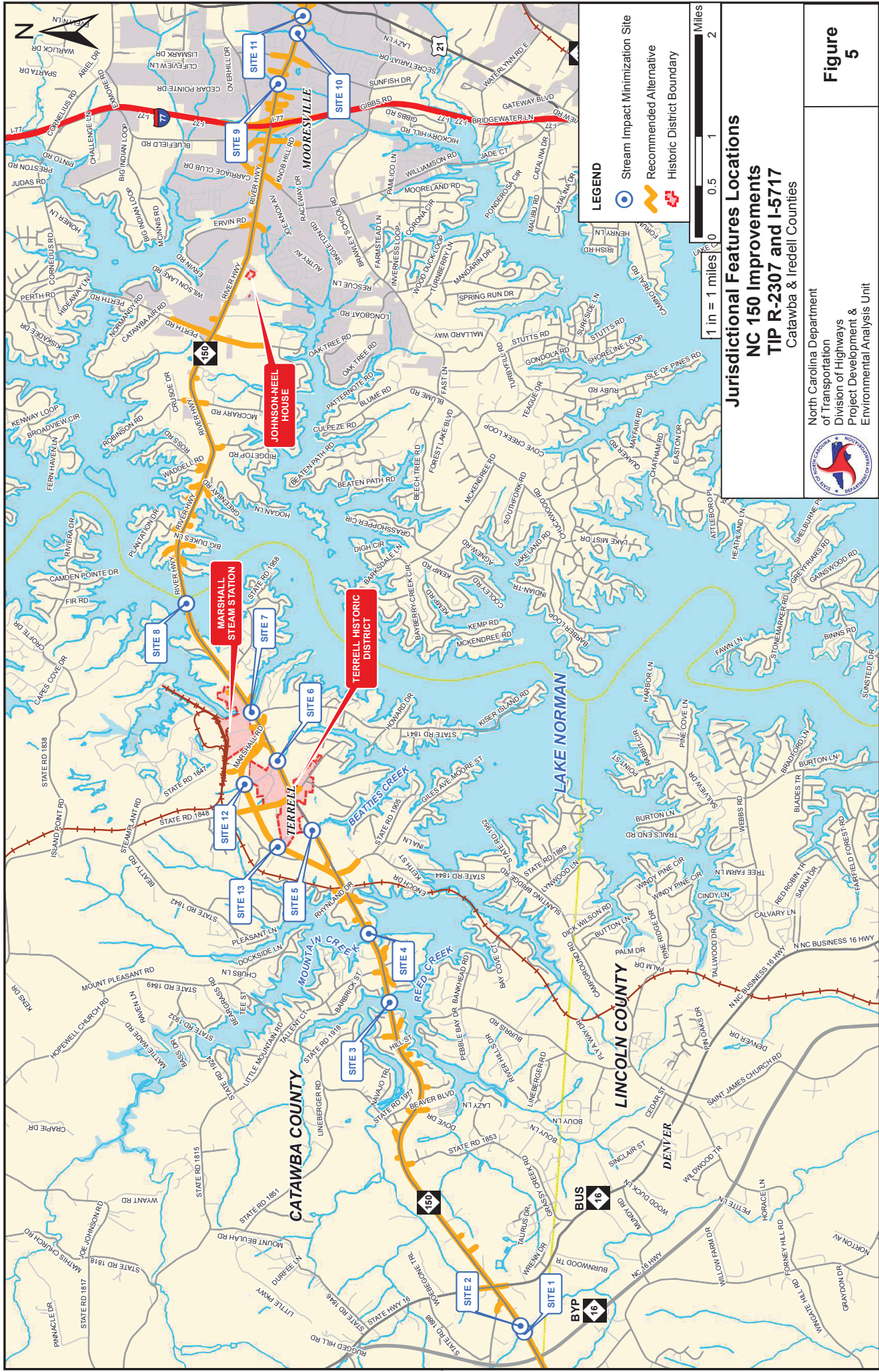


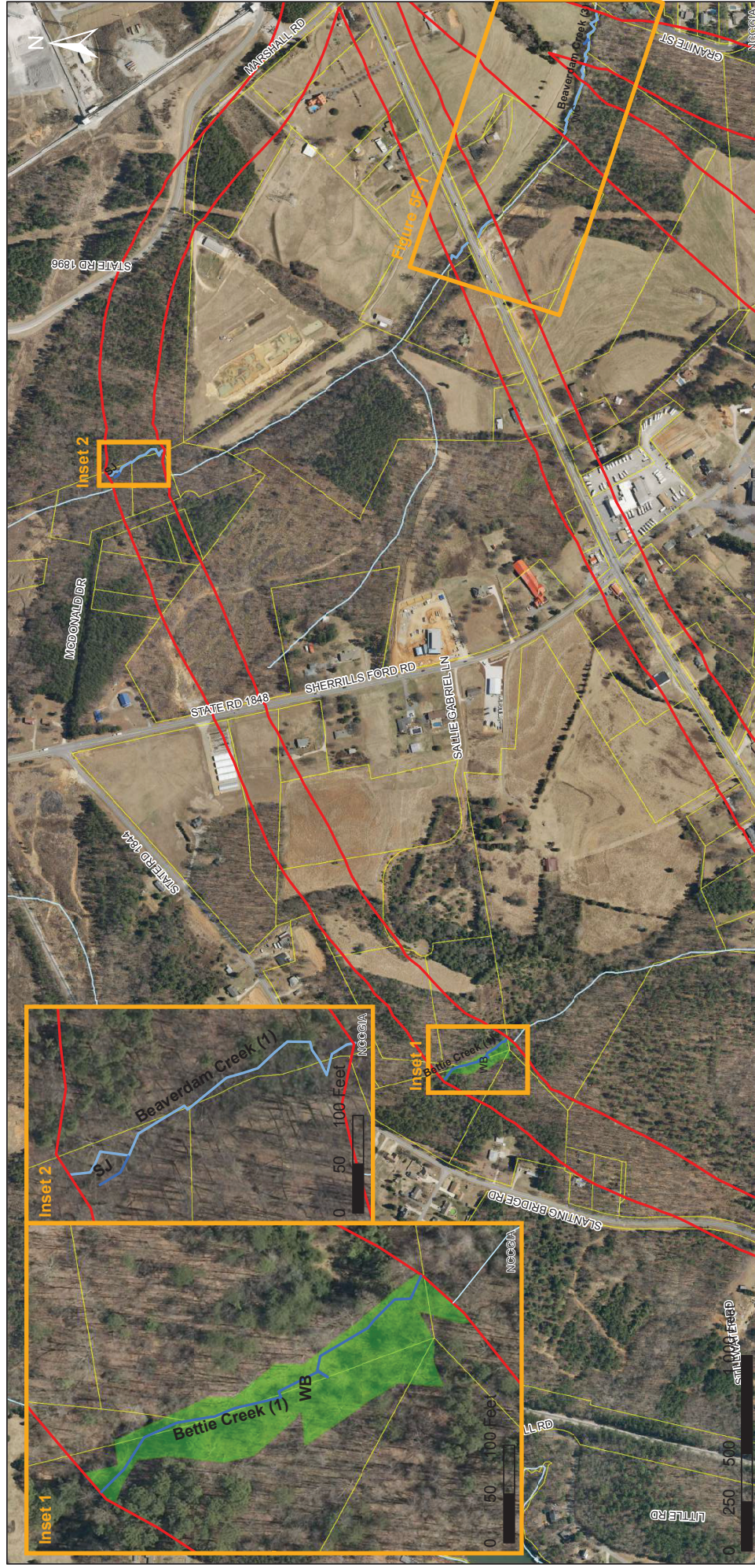
TYPICAL SECTION NO. 2
KISER ISLAND ROAD TO JUST WEST OF PERTH/DOOLIE ROAD
 NOTE - 7-mile long multi-use path extends from Little Mountain Road to Perth-Doolie Road



TYPICAL SECTION NO. 3
PERTH/DOOLIE ROAD TO NC 150/US 21 INTERCHANGE

| | |
|---|---|
| <p align="center">Typical Sections NC 150 Improvements TIP R-2307 and I-5717 Catawba & Iredell Counties</p> | |
|  <p>North Carolina Department of Transportation Division of Highways Project Development & Environmental Analysis Unit</p> | <p align="center">Figure 4</p> |





Jurisdictional Features NC 150 Improvements TIP R-2307 and I-5717

Catawba & Iredell Counties



North Carolina Department
of Transportation
Division of Highways
Project Development &
Environmental Analysis Branch

**Date
3/2017**

**Figure
6 - A**

- Wetland Flags
- Wetland Data Point
- Upland Data Point
- Intermittent Streams
- Perennial Streams
- Hydrography (outside study area)
- Wetlands
- Lake Norman (760' AMSL)
- Pond
- Study Area
- Adjacent Parcels
- County Boundary
- Map Sheet Limits





Jurisdictional Features NC 150 Improvements TIP R-2307 and I-5717

Catawba & Iredell Counties

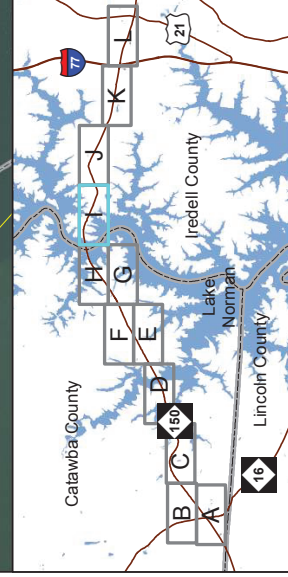


North Carolina Department
of Transportation
Division of Highways
Project Development &
Environmental Analysis Branch

**Date
3/2017**

**Figure
6 - B**

- Intermittent Streams
- Perennial Streams
- Hydrography (outside study area)
- Wetlands
- Lake Norman (760' AMSL)
- Pond
- Study Area
- Adjacent Parcels
- County Boundary
- Map Sheet Limits





Appendix A

Project Merger Concurrence Forms

NEPA/404 MERGER TEAM MEETING AGREEMENT

Concurrence Point No. 1: Purpose and Need & Study Area Defined

PROJECT NO./TIP NO./NAME/DESCRIPTION:

Federal Aid Project Number: STP-150(19)
State Project Number: WBS Element 37944.1.1
TIP Project Number: R-2307
TIP Description: NC 150 Widening (from the NC 16 Bypass to just west of I-77 Interchange), Catawba and Iredell Counties.

The Project Team concurred on this date of December 12, 2012 with the purpose of and need for the proposed project as stated below and the project study area as described below and shown in the attached exhibit.

Purpose and Need of Proposed Project

The purpose and need for this project is to improve capacity and reduce congestion along NC 150 from the NC 16 Bypass to just west of the I-77 Interchange.

Project Study Area

The preliminary project study area boundaries are shown in the attached exhibit.

US Federal Highway Administration

Michael V. Gatzert 12-12-12

US Army Corps of Engineers

Siz Nair 12/12/12

US Environmental Protection Agency

Kevin 12/17/12

US Fish and Wildlife Service

Michelle Janice 12/12/12

NC Wildlife Resources Commission

Maria Chambers 12/13/12

NC Department of Cultural Resources

Renee Hedrick-Easley 12/12/12

NC DENR, Division of Water Quality

Adam 12/17/12

NC Department of Transportation, PD & EA Branch

Michael E. Way 12/12/12

~~NC Department of Transportation, Division 12~~
NOT REQUIRED

NEPA/404 MERGER TEAM MEETING AGREEMENT

REVISED Concurrence Point No. 1: Purpose and Need & Project Limits Defined

PROJECT NO./TIP NO./NAME/DESCRIPTION:

Federal Aid Project Number: STP 150(19)
State Project Number: WBS Element 37944.1.1
TIP Project Number: R-2307, I-5717
TIP Description: NC 150 Widening from the NC 16 Bypass to just west of the NC 150/US 21 Interchange, Catawba and Iredell Counties

A single environmental document for the R-2307 and I-5717 projects will be prepared resulting in the revised project limits on NC 150 from the NC 16 Bypass to just west of the US 21 interchange, as shown in the attached exhibit.

The Project Team concurred on this date of August 13, 2014 with the revised limits incorporated into the original purpose and need as follows:

The purpose and need for these projects is to improve capacity and reduce congestion along NC 150 from the NC 16 Bypass to just west of the US 21 interchange.

Federal Highway Administration

Michael E. Egan 8-13-14

US Army Corps of Engineers

Sh. Kichefski 13th Aug 2014

US Environmental Protection Agency

Gyuthia F. Van Der Wiele 8-13-2014

US Fish and Wildlife Service

Matthew L. Baur 13 August 14

NC Wildlife Resources Commission

Maria Chambers 8/13/2014

NC Department of Cultural Resources

Rebecca Madell-Easley 8-19-14

NCDENR, Division of Water Resources

Alan John 8/14/14

NC Department of Transportation

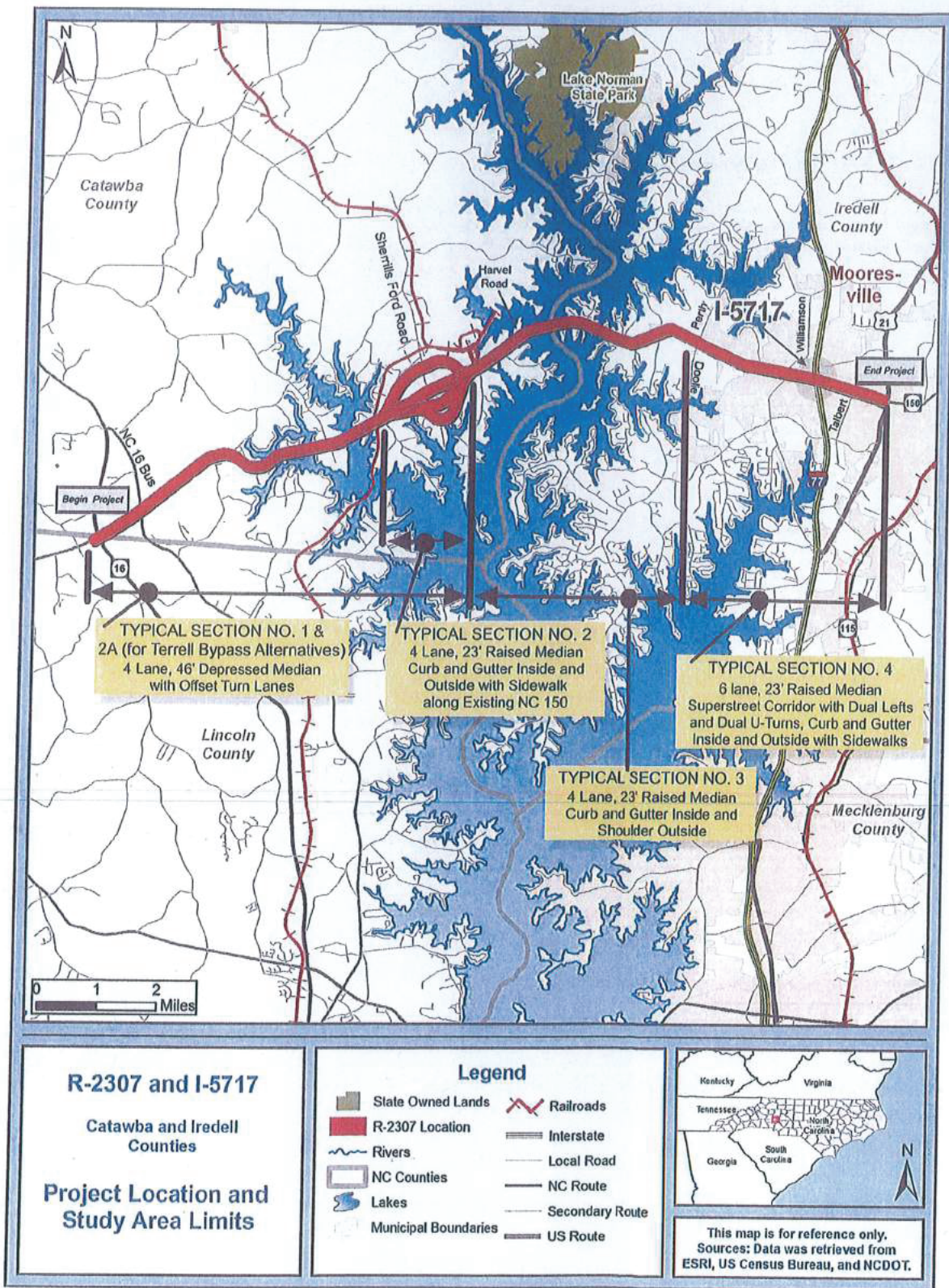
Samuel Myers 08/13/2014

Charlotte Regional Transportation Planning Organization (CRTPO)

Robert W. Cook

Greater Hickory MPO

John Marshall 8/13/2014



NEPA/404 MERGER TEAM MEETING AGREEMENT

Concurrence Point No. 2: Design Options for Detailed Study

PROJECT NO./TIP NO./ NAME/DESCRIPTION:

Federal Aid Project Number: STP-150(19)
State Project Number: WBS Element 37944.1.1
TIP Project Number: R-2307, I-5717
TIP Description: NC 150 Widening from the NC 16 Bypass to just west of the NC 150/US 21 Interchange, Catawba and Iredell Counties.

The Project Team concurred on this date of August 13, 2014 that the Best Fit (Widen Existing NC 150) Build Alternative with the following options for the Terrell Historic District will be carried forward for detailed study.

Option 1: Best Fit -Widen Existing NC 150 (No Terrell Bypass Option)

Option 2: Best Fit - Widen Existing NC 150 & Northern Terrell Bypass Option

~~Option 3: Best Fit -Widen Existing NC 150 & Southern Terrell Minimization Bypass Option~~

Option 4: Best Fit - Widen Existing NC 150 & Southern Terrell Bypass Option

Federal Highway Administration

US Army Corps of Engineers

US Environmental Protection Agency

US Fish and Wildlife Service

NC Wildlife Resources Commission

NC Department of Cultural Resources

NCDENR, Division of Water Resources

NC Department of Transportation

Charlotte Regional Transportation Planning Organization (CRTPO)

Greater Hickory MPO

Michael J. Farnsworth 8-13-14

J. K. Kishner 8/13/2014

Gynthia J. VanDerWiele 8.13.2014

Mark E. Zwick 8/13/14

Marla Chambers 8/13/2014

Rebecca Medwell-Emery 8-19-14

Alfonso 8/14/14

Zane Meyer 8/13/2014

Robert M. Cook

John Marshall 8/13/2014

NEPA/404 MERGER TEAM MEETING AGREEMENT

Revised Concurrence Point No. 2: Design Options for Detailed Study

PROJECT NO./TIP NO./ NAME/DESCRIPTION:

Federal Aid Project Number: STP-150(19)
State Project Number: WBS Element 37944.1.1
TIP Project Number: R-2307, I-5717
TIP Description: NC 150 Widening from the NC 16 Bypass to just west of the NC 150/US 21 Interchange, Catawba and Iredell Counties.

The Merger Team concurred on this date, October 8, 2015, to eliminate Alternative 4 (Best Fit – Widen Existing NC 150 & Southern Terrell Bypass Option) from further consideration and carry forward the following 2 build alternatives for presentation at the public hearing.

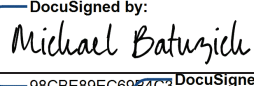
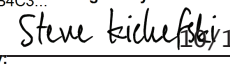
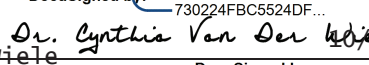
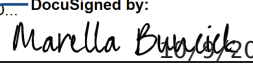

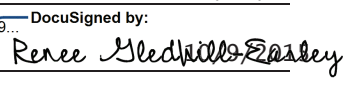

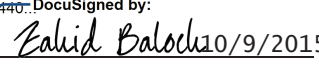

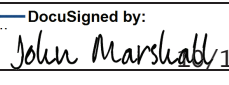
Alternative 1: Best Fit -Widen Existing NC 150 (No Terrell Bypass Option)

Alternative 2: Best Fit – Widen Existing NC 150 & Northern Terrell Bypass Option

Note:

Alternative 3 (Best Fit –Widening Existing NC 150 & Southern Terrell Minimization Bypass Option) was eliminated during the CP2 Meeting held on August 8, 2014 due to the adverse effect on the Terrell Historic District. Indirect and cumulative effects associated with Alternative 3 would be greater than the “take” impacts associated with Alternative 1.

Alternative 4 (Best Fit – Widen Existing NC 150 & Southern Terrell Bypass Option) is proposed for elimination due to the significant stream impacts, geometric design constraints, additional FERC regulated crossings of Lake Norman and Indirect and cumulative effects on the Terrell Historic District which has resulted in an adverse effects call by the SHPO and Section 4(f) impacts.

| | | |
|---|---------------------------|---|
| Federal Highway Administration | Michael Batuzich |  DocuSigned by: Michael Batuzich 10/9/2015 98CBE89EC6954C3... |
| US Army Corps of Engineers | Steve Kichefski |  DocuSigned by: Steve Kichefski 10/13/2015 730224FBC5524DF... |
| US Environmental Protection Agency | Dr. Cynthia Van Der Wiele |  DocuSigned by: Dr. Cynthia Van Der Wiele 10/13/2015 7ECF19B3FF8144D... |
| US Fish and Wildlife Service | Marella Buncick |  DocuSigned by: Marella Buncick 10/9/2015 A39FFDDE1E74BB... |
| NC Wildlife Resources Commission | Marla Chambers |  DocuSigned by: Marla Chambers 10/15/2015 B1D3DCA076AD4C9... |
| NC Department of Cultural Resources | Renee Gledhill-Earley |  DocuSigned by: Renee Gledhill-Earley 10/13/2015 C26A1556A275464... |
| NCDENR, Division of Water Resources | Donna Hood |  DocuSigned by: Donna Hood 10/9/2015 BF9F8AAB2F04440... |
| NC Department of Transportation | Zahid Baloch |  DocuSigned by: Zahid Baloch 10/9/2015 5F9297F958C0481... |
| Charlotte Regional Transportation Planning Organization (CRTPO) | Robert Cook |  DocuSigned by: Robert Cook 10/9/2015 95B1DADF89DD4D0... |
| Greater Hickory MPO | John Marshall |  DocuSigned by: John Marshall 10/13/2015 8A0C0E8AB4894FD... |

NEPA/404 MERGER TEAM MEETING AGREEMENT

Concurrence Point No. 2A: Bridging Decisions and Alignment Review

PROJECT NO./TIP NO./ NAME/DESCRIPTION:

Federal Aid Project Number: STP-150(19)
 State Project Number: WBS Element 37944.1.1
 TIP Project Number: R-2307, I-5717
 TIP Description: NC 150 Widening from the NC 16 Bypass to just west of the US 21/NC 150 Interchange in Catawba and Iredell Counties.

| Site ID | Recommended Structure Type and Preliminary Dimensions |
|---------|---|
| 1 | 7 ft x 7 ft RCBC |
| 2 | 6 ft x 7 ft RCBC |
| 3 | 241 ft Bridge |
| 4 | 301 ft Bridge |
| 5 | 6 ft x 7 ft RCBC |
| 6 | 10 ft x 10 ft RCBC |
| 7 | 450 ft Bridge (N); 600 ft Bridge (S) |
| 8 | 1,166 ft Bridge |
| 9 | 72-in RCP |
| 10 | Extend existing 6 x 6 ft RCBC |
| 11 | 72-in RCP |
| 12 | 8 x 8 RCBC |
| 13 | 7 x 7 RCBC |
| 14 | 175 ft Bridge |
| 15 | 10 x 10 RCBC |

Note: Dimensions are subject to change based on refined designs or avoidance and minimization measures.

FHWA Michael V. Jentzsch

NCDOT Div. 12 Charles Keilman for Rainbow Church

USACE John Kichigski

Charlotte Regional Transportation Planning Organization

USEPA Dr. Cynthia Voo 6/16/2015
DocuSigned by: 7ECF19B3FF8144D...

(CRPTO) Robert Cook 6/16/2015
DocuSigned by: 95B1DADF89DD4D...

USFWS Michael Jucicek

Greater Hickory MPO John Marshall 6/11/2015
DocuSigned by: 8A0C0E8AB4894FD...

NCWRC Marla Chambers

SHPO Renee Gledhill 06-10-2015
DocuSigned by: C26A1556A275464...

NCDWR Shirley Wainwright

NCDOT Salvador Mejia 06-10-2015

NEPA/404 MERGER TEAM MEETING AGREEMENT
Concurrence Point No. 3: Least Environmentally Damaging Practicable Alternative (LEDPA)

TIP Description: NC 150 Widening from the NC 16 Bypass to just west of the NC 150/US 21 Interchange, Catawba and Iredell Counties.
Federal-Aid Project: STP-150(19)
TIP Project: R-2307/I-5717
WBS Number: 37944.1.1

The Project Merger Team concurred on this date of February 8, 2017 that the following alternative, Alternative 2 (Best Fit Widening of Existing NC 150 with the Northern Terrell Bypass), as the LEDPA.

US Federal Highway Administration

Felix D. [unclear] 3-27-17

US Army Corps of Engineers

Sh. Kichulski

US Environmental Protection Agency

Cynthia F. VanDerWiele

US Fish and Wildlife Service

Mike Benin

NC Wildlife Resources Commission

Mala Chambers

NC Department of Cultural Resources

Renee Meekill-Earley

NC DENR, Division of Water Quality

David [unclear]

NC Department of Transportation, PDEA Unit

Karen S. Reynolds

NC Department of Transportation, Division 12

Michael L. Poe

Charlotte Regional Transportation Planning

Robert W. Cook

Organization (CRPTO)

Greater Hickory MPO

John Marshall

NEPA/404 MERGER TEAM MEETING AGREEMENT
Concurrence Point No. 4A: Avoidance and Minimization

TIP Description: NC 150 Widening from the NC 16 Bypass to just west of the NC 150/US 21 Interchange, Catawba and Iredell Counties.
Federal-Aid Project: STP-150(19)
TIP Project: R-2307/I-5717
WBS Number: 37944.1.1

The project team conducted avoidance and minimization efforts throughout the preliminary design and planning phase. The recommended Best-Fit Widening Alternative minimized impacts to resources, to the greatest extent possible. However, it is not feasible for the proposed project to completely avoid impacts to jurisdictional resources since the stream crossings, apart from the two stream crossings and one wetland that lie within the Terrell northern bypass alternative (Alt. 2), are already being crossed by existing NC 150. Measures taken during the planning and preliminary design phase to reduce impacts to jurisdictional features included:

- Reduced typical sections (as shown in attached table) to the maximum extent possible, given the characteristics of the area. The proposed typical sections are described below:
 - NC 16 Bypass – Slanting Bridge Road: 46-foot wide divided median to reduce impacts (60' median standard).
 - Slanting Bridge Road to the Terrell Historic District: 23-foot wide raised-median shoulder section, to reduce impacts.
 - Bypass Alternative 2 - Hermance Lane: 23-foot wide raised-median shoulder section, to reduce impacts.
- Stream crossings were designed as close to 90 degrees as possible.
- Best-fit alignment utilized to minimize impacts to the natural environment.

Avoidance and Minimization efforts were reviewed and concurred upon by the NEPA/404 Project Merger Team on this date of March 22, 2017.

US Federal Highway Administration

Felix D. [Signature] 4/6/17

US Army Corps of Engineers

St. Kichelski

US Environmental Protection Agency

Cynthia F. VanDerWiele 3.31.17

US Fish and Wildlife Service

Mark C. [Signature]

NC Wildlife Resources Commission

Marla Chambers 4/5/2017

NC Department of Cultural Resources

Rene Hedrick-Easley

NCDENR, Division of Water Quality

Donna Hood

NC Department of Transportation, PDEA Unit

Karen S. Reynolds

NC Department of Transportation, Division 12

M. L. [Signature]

Charlotte Regional Transportation Planning Organization
(CRPTO)

Robert W. [Signature]

Greater Hickory MPO

John Marshall



Appendix B

Agency Comments on the Environmental Assessment



Kathryn Johnston
Secretary

William W. Peaslee
General Counsel

May 17, 2016

Ms. Karen Reynolds
North Carolina Department of Transportation
Program Dev. & Environ. Analysis
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

**Re: SCH File # 16-E-4220-0309; EA; Proposed project to widen NC 150 from the NC 16 Bypass to just west of the US 21/NC 150 Interchange in Mooresville.
TIP R-2307 and I-5717**

Dear Ms. Reynolds:

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

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

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

Sincerely,

A handwritten signature in black ink that reads 'Crystal Best'.

Crystal Best
State Environmental Review Clearinghouse

Attachments
cc: Region E
Region F



PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

MEMORANDUM

To: Crystal Best
State Clearinghouse Coordinator
Department of Administration

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

RE: 16-0309 (13-0185)
Environmental Assessment
Proposed project is to widen NC 150 from the NC 16 bypass to just west of the US 21/NC 150
Interchange in Mooresville – TIP R-2307 and I-5717
Catawba and Iredell Counties

Date: May 12, 2016

The Department of Environmental Quality has reviewed the proposal for the referenced project. Based on the information provided, several of our agencies have identified permits that may be required and offered some valuable guidance to minimize impacts to the natural resources within the project area. The comments are attached for the applicant's review.

The Department encourages the applicant to continue to work with our agencies during the NEPA Merger Process and as this project moves forward.

Thank you for the opportunity to respond.

Attachment





Waste Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

MICHAEL SCOTT
Director

DATE: May 10, 2016
TO: Michael Scott, Division Director through Sharon Brinkley
FROM: Deb Aja, Western District Supervisor - Solid Waste Section
RE: NEPA Review Project #16-0309 Catawba and Iredell Counties, N.C.
NCDOT Project to widen NC 150

Digitally signed by
Deborah Aja
DN: cn=Deborah Aja,
o=State of North Carolina,
ou=Department of Environment
and Natural Resources,
email=deborah.aja@ncdenr.gov,
c=US
Date: 2016.05.10 15:31:04
-0400

The Solid Waste Section has reviewed the Environmental Assessment document for the NCDOT project to widen NC 150 from the NC16 bypass to just west of the US 21/NC 150 Interchange in Mooresville, located in Catawba and Iredell Counties, North Carolina. The review has been completed and has found that there are coal ash structural fill sites that may be located in the project vicinity. Structural fill sites are located at 7836 NC Highway 150E in Terrell (CCB0029), at the Port Village Business Park on NC Highway 150 near the I-77 Intersection (CCB0052), at Race Park, USA off NC Highway 150 E on Doolie Road (CCB0053), at NC Highway 150 and Bluefield Road (CCB0054), and the Terry K. Smith site on NC Highway 150 in Mooresville, NC (CCB0051). Otherwise the review has seen no adverse impact on the surrounding community and likewise knows of no situations in the community, which would affect this project from a solid waste perspective.

During construction, every feasible effort should be made to minimize the generation of waste, to recycle materials for which viable markets exist, and to use recycled products and materials in the development of this project where suitable. Any waste generated by this project that cannot be beneficially reused or recycled must be disposed of at a solid waste management facility approved to manage the respective waste type. The Section strongly recommends that any contractors are required to provide proof of proper disposal for all waste generated as part of the project. The nearest permitted facilities to the project are the Blackburn Resource Recovery Facility, a Lined MSW Landfill in Newton, Catawba County, and the Iredell County MSW Lined Landfill, Statesville, North Carolina.

Please contact Shawn McKee, Environmental Senior Specialist, Solid Waste Section, for specific information regarding the structural fill sites at (919) 707-8284 or by email at shawn.mckee@ncdenr.gov. All other questions regarding solid waste management should be directed to Deb Aja, Western District Supervisor, Solid Waste Section, at (828)-296-4702 or by email at deborah.aja@ncdenr.gov.

Cc: Jason Watkins, Field Operations Branch Head
Charles Gerstell, Environmental Senior
Kim Sue, Environmental Senior Specialist
Shawn McKee, Environmental Senior Specialist
Sarah Rice, Compliance Officer



Waste Management
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

MICHAEL SCOTT
Acting Director

Date: May 2, 2016

To: Michael Scott, Acting Director
Division of Waste Management

Through: Dave Lown, Head
Federal Remediation Branch

From: Doug Rumford, Federal Remediation Branch

Subject: NEPA Project #16-0309, NC Hwy 150 Improvements Construction Project, Town of Mooresville, Catawba and Iredell Counties, North Carolina

The Superfund Section has reviewed the proximity of CERCLIS and other sites under their jurisdiction to the roadway construction project of the proposed 15-mile improvement to the NC Hwy 150 corridor between the NC 16 Bypass in Catawba County to the US 21/NC 150 Interchange in Iredell County within the Town of Mooresville. The project will include an additional travel lane in each direction, reconfiguring the I-77/NC 150 interchange, and rehabilitating/replacing several bridges.

Four sites were identified within one mile of the project as shown on the attached map and in the table below. The Superfund Section recommends that site files be reviewed to ensure that appropriate precautions are incorporated into any construction activities that encounter potentially contaminated soil or groundwater. Superfund Section files can be viewed at: <https://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/e-documents>.

Please contact me at 919.707.8334 if you have any questions.

| Site Name | | Status |
|--------------|------------------------|--|
| NONCD0001308 | BACHS MHP SITE | Open site on the Inactive Hazardous Sites Inventory |
| NONCD0000374 | Mooresville Landfill | Open site on the Pre-Regulatory Landfill Inventory |
| 15041-11-49 | Mooresville Crossroads | Open site on the Brownfields Agreement Sites Inventory |
| NONCD0000376 | Mooresville Dump | Open site on the Pre-Regulatory Landfill Inventory |

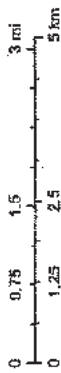
Superfund Section SEPA Review



April 25, 2016

- ◆ Brownfields Sites
- ★ Pre-Regulatory Landfill Sites
- ⚙ Dry-Cleaning Solvent Cleanup Act Sites
- ☒ Inactive Hazardous Sites
- ☐ One Mile Buffer
- ◻ All Sites

1:72,224.



Sources: Eni, HERE, DeLorme, Intermap, Intermat, P. Oxy, GEBCO, USGS, FAD, NPS, NOAA, GlobeX, IGN, Koudatse NL, Chinese Survey, Eni Japan, AETI, Eni China, Hong Kong, EastMap, Intermat, OpenStreetMap contributors, and the GIS User Community

Web Appraiser for Auctions
States of North Carolina DOT, End, F&DE, Deloane, INCREMENT P, inc:mp, USSS, METYNASA, NGA, EPA, USDA;

**Department of Environmental Quality
Project Review Form**

Project Number: 16-0309
(13-0185)

County: Catawba and Iredell

Date Received: 04/12/2016

Due Date: 05/09/2016

Project Description: Environmental Assessment – Proposed project is to widen NC 150 from the NC16 bypass to just west of the US 21/NC 150 Interchange in Mooresville.
TIP R-2307 and I-6717

This Project is being reviewed as indicated below:

| Regional Office | Regional Office Area | In-House Review | |
|---|--|---|---|
| <input type="checkbox"/> Asheville | <input checked="" type="checkbox"/> Air | <input type="checkbox"/> Air Quality | <input type="checkbox"/> Coastal Management |
| <input type="checkbox"/> Fayetteville | <input checked="" type="checkbox"/> DWR | <input checked="" type="checkbox"/> Parks & Recreation & NC Natural Heritage | <input type="checkbox"/> DCM-Marine Fisheries |
| <input checked="" type="checkbox"/> Mooresville | <input checked="" type="checkbox"/> DWR - Public Water | <input checked="" type="checkbox"/> Waste Mgmt | <input type="checkbox"/> Military Affairs |
| <input type="checkbox"/> Raleigh | <input checked="" type="checkbox"/> DEMLR (LQ & SW) | <input checked="" type="checkbox"/> Water Resources Mgmt (Public Water, Planning & Water Quality Program) | <input type="checkbox"/> DMF-Shellfish Sanitation |
| <input type="checkbox"/> Washington | <input checked="" type="checkbox"/> DWM-UST | <input checked="" type="checkbox"/> DWR-Transportation Unit <u>Dona Hood</u> | <input type="checkbox"/> Wildlife |
| <input type="checkbox"/> Wilmington | | | <input checked="" type="checkbox"/> Wildlife – DOT <u>Mark Chambers</u> |
| <input type="checkbox"/> Winston-Salem | | | |

| | | |
|--------------------------|------------------------|---|
| Manager Sign-Off/Region: | Date: <u>5/2/16</u> | In-House Reviewer/Agency: <u>Brent Huet / Winston-Salem Wildlife</u> |
|--------------------------|------------------------|---|

Response (check all applicable)

- ☐ No objection to project as proposed. ☒ No Comment
☐ Insufficient information to complete review ☐ Other (specify or attach comments)

If you have any questions, please contact:

Lyn Hardison at lyn.hardison@ncdema.gov or (252) 948-3842
943 Washington Square Mall Washington NC 27889
Courier No. 16-04-01

Hardison, Lyn

From: Chambers, Marla J
Sent: Tuesday, May 10, 2016 11:34 AM
To: SVC_DENR.SEPA@ncdenr.gov
Cc: Hardison, Lyn
Subject: 16-0309 due 5/9/2016 - TIP R-2307 & I-5717, NC 150 widening, Catawba and Iredell Co.

NCWRC is participating in the Merger process for the development of this project. We concur with using sediment and erosion control measures that adhere to the Design Standards in Sensitive Watersheds. We would also like to encourage the use of low-impact development techniques, such as pervious pavement for sidewalks or multi-use paths, to maximize storm water treatment and minimize harm to area waterways.

Thank you for the opportunity to review the Environmental Assessment.
Marla

Marla Chambers // NCDOT Coordinator
Habitat Conservation Program

NC Wildlife Resources Commission
c/o NCDOT
206 Charter Street
Albemarle, North Carolina 28001
office: 704-982-9181
mobile: 704-984-1070
Marla.chambers@ncwildlife.org

ncwildlife.org



Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.

May 6, 2016

MEMORANDUM

TO: Richard Hancock, NCDOT

FROM: Donna Hood, NC Division of Water Resources, Mooresville Office

SUBJECT: **Scoping Review of NCDOT's Proposed Road Widening: R-2307 and I-5717 Lincoln, Catawba, and Iredell Counties**

In reply to your correspondence dated February 2016 (received April 8, 2016) in which you requested comments for the above referenced projects, the NC Division of Water Resources Transportation Permitting Branch offers the following comments:

Project-Specific Comments

1. This project proposes expansion of several bridges and a FERC permit will be required. Coordination with Duke Power to address potential problems, as stated in the document will be required for the project.
2. The General Store in Denver has a groundwater remediation system and NPDES discharge permit. Appropriate precautions should be taken as regards to this property, location of the plume, disposal of groundwater (if any is accessed through utility relocation or otherwise while digging in the area), etc. Should contaminated groundwater be unearthed, the water shall be pumped and hauled for appropriate disposal.
3. The City of Hickory as well as Aqua of North Carolina have water and wastewater lines in the area and should be consulted with accordingly, depending on location.
4. In the upper reaches, near the Highway 16/Highway 150 interchange, there is the potential to impact Killian Creek, a class C; 303(d) waters of the State. Killian Creek is on the 303(d) list for impaired use for aquatic life due to impaired fish community. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDWR recommends that the most protective sediment and erosion control BMPs be implemented to reduce the risk of further impairment to Killian Creek. Additionally, to meet the requirements of NCDOT's NPDES permit NCS0000250, the NCDWR requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Tool box manual*.
5. Review of the project reveals the presence of surface waters classified as Water Supply Critical Area in the project study area. Given the potential for impacts to these resources during the project implementation, the NCDWR requests that DOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project. This would apply for any area that drains to streams having WS CA (Water Supply Critical Area) classifications.

Should the bridge project be located within the Critical Area of a Water Supply the NCDOT will be required to design, construct, and maintain hazardous spill catch basins in the project area. The number of catch basins installed shall be determined by the design of the bridge, so that runoff would enter said basin(s) rather than flowing directly into the stream, and in consultation with the NCDWR.

6. This project is within the Catawba River Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B .0243.
7. Any anticipated bank stabilization associated with culvert installations or extensions should be addressed in the Categorical Exclusion (CE) document. It is understood that final designs are not determined at the time the CE is developed. However, the CE should discuss the potential for bank stabilization necessary due to culvert installation.
8. Any anticipated dewatering or access structures necessary for construction of bridges should be addressed in the CE. It is understood that final designs are not determined at the time the CE is developed. However, the CE should discuss the potential for dewatering and access measures necessary due to bridge construction.

General Comments Regarding Bridge Replacement Projects

9. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. NC DOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
10. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3883/Nationwide Permit No. 6 for Survey Activities.
11. If a bridge is being replaced with a hydraulic conveyance other than another bridge, the NCDWR believes the use of a Nationwide Permit may be required. Please contact the US Army Corp of Engineers to determine the required permit(s).
12. If the old bridge is removed, no discharge of bridge material into surface waters is allowed unless otherwise authorized by the US ACOE. Strict adherence to the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.
13. Whenever possible, the NCDWR prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the stream banks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allow for human and wildlife passage beneath the structure, do not block fish passage and do not block navigation by canoeists and boaters.
14. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. To meet the requirements of NCDOT's NPDES permit NCS0000250, please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual for approved measures.
15. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
16. Bridge supports (bents) shall not be placed in the stream when possible.
17. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.
18. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.
19. All work in or adjacent to stream waters shall be conducted in a dry work area unless otherwise approved by the NCDWR. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.

20. Heavy equipment shall be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
21. In most cases, the NCDWR prefers the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour shall be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure shall be removed and the approach fills removed from the 100-year floodplain. Approach fills shall be removed and restored to the natural ground elevation. The area shall be stabilized with grass and planted with native tree species. Tall fescue shall not be used in riparian areas.
22. Placement of culverts and other structures in waters, streams, and wetlands shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required.
23. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
24. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures shall be properly designed, sized and installed.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Donna Hood at (704)682-2839 or at donna.hood@NCDENR.gov.

Electronic copy only distribution:

Steve Kichefski, US Army Corps of Engineers, Asheville Field Office
Dr. Cynthia Van Der Wiele, US Environmental Protection Agency
NC Division of Water Resources Raleigh Central Office
File Copy

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

Reviewing Office: MRO

Project Number 16-0309 Due Date: 5/9/2016
County Catawba

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

| | PERMITS | SPECIAL APPLICATION PROCEDURES or REQUIREMENTS | Normal Process Time (statutory time limit) |
|-------------------------------------|--|---|---|
| <input checked="" type="checkbox"/> | Permit to construct & operate wastewater treatment facilities, sewer system extensions & sewer systems not discharging into state surface waters. | Application 90 days before begin construction or award of construction contracts. On-site inspection. Post-application technical conference usual. | 30 days (90 days) |
| <input checked="" type="checkbox"/> | NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters. | Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later. | 90-120 days (N/A) |
| <input type="checkbox"/> | Water Use Permit | Pre-application technical conference usually necessary | 30 days (N/A) |
| <input type="checkbox"/> | Well Construction Permit | Complete application must be received and permit issued prior to the installation of a well. | 7 days (15 days) |
| <input type="checkbox"/> | Dredge and Fill Permit | Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit. | 55 days (90 days) |
| <input type="checkbox"/> | Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.0100 thru 2Q.0300) | Application must be submitted and permit received prior to construction and operation of the source. If a permit is required in an area without local zoning, then there are additional requirements and timelines (2Q.0113). | 90 days |
| <input type="checkbox"/> | Permit to construct & operate Transportation Facility as per 15A NCAC (2D.0800, 2Q.0601) | Application must be submitted at least 90 days prior to construction or modification of the source. | 90 days |
| <input checked="" type="checkbox"/> | Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900 | N/A | 60 days (90 days) |
| <input type="checkbox"/> | Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 2D.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950. | | |
| <input type="checkbox"/> | Complex Source Permit required under 15 A NCAC 2D.0800 | | |
| <input type="checkbox"/> | The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Section) At least 30 days before beginning activity. A fee of \$65 for the first acre or any part of an acre. An express review option is available with additional fees. | | 20 days (30 days) |
| <input checked="" type="checkbox"/> | Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable stormwater conveyances and outlets. | | (30 days) |
| <input type="checkbox"/> | Mining Permit | On-site inspection usual. Surety bond filed with ENR Bond amount varies with type mine and number of acres of affected land. Any acre mined greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued. | 30 days (60 days) |
| <input checked="" type="checkbox"/> | North Carolina Burning permit | On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days | 1 day (N/A) |
| <input type="checkbox"/> | Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils | On-site inspection by N.C. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual burn is planned." | 1 day (N/A) |
| <input type="checkbox"/> | Oil Refining Facilities | N/A | 90-120 days (N/A) |
| <input type="checkbox"/> | Dam Safety Permit | If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans, inspect construction, certify construction is according to ENR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of \$200.00 must accompany the application. An additional processing fee based on a percentage of the total project cost will be required upon completion. | 30 days (60 days) |

| County <u>Catawba</u> | | Project Number: <u>16-0309</u> | Due Date: <u>5/9/2016</u> | Normal Process Time (statutory time limit) |
|-------------------------------------|--|--|---------------------------|---|
| PERMITS | | SPECIAL APPLICATION PROCEDURES or REQUIREMENTS | | |
| <input type="checkbox"/> | Permit to drill exploratory oil or gas well | File surety bond of \$5,000 with ENR running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to ENR rules and regulations. | | 10 days N/A |
| <input type="checkbox"/> | Geophysical Exploration Permit | Application filed with ENR at least 10 days prior to issue of permit. Application by letter. No standard application form. | | 10 days N/A |
| <input type="checkbox"/> | State Lakes Construction Permit | Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property. | | 15-20 days N/A |
| <input checked="" type="checkbox"/> | 401 Water Quality Certification | N/A | | 60 days (130 days) |
| <input type="checkbox"/> | CAMA Permit for MAJOR development | \$250.00 fee must accompany application | | 55 days (150 days) |
| <input type="checkbox"/> | CAMA Permit for MINOR development | \$50.00 fee must accompany application | | 22 days (25 days) |
| <input type="checkbox"/> | Several geodetic monuments are located in or near the project area. If any monument needs to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687 Raleigh, NC 27611 | | | |
| <input checked="" type="checkbox"/> | Abandonment of any wells, if required must be in accordance with Title 15A, Subchapter 2C.0100. | | | |
| <input checked="" type="checkbox"/> | Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation. | | | |
| <input type="checkbox"/> | Compliance with 15A NCAC 2H 1000 (Coastal Stormwater Rules) is required. | | | 45 days (N/A) |
| <input type="checkbox"/> | Catawba, Jordan Lake, Randolmen, Tar Pamtico or Neuse Riparian Buffer Rules required. | | | |
| <input checked="" type="checkbox"/> | Plans and specifications for the construction, expansion, or alteration of a public water system must be approved by the Division of Water Resources/Public Water Supply Section prior to the award of a contract or the initiation of construction as per 15A NCAC 18C .0300 et. seq. Plans and specifications should be submitted to 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. All public water supply systems must comply with state and federal drinking water monitoring requirements. For more information, contact the Public Water Supply Section, (919) 707-9100. | | | 30 days |
| <input checked="" type="checkbox"/> | If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Water Resources/Public Water Supply Section at 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. For more information, contact the Public Water Supply Section, (919) 707-9100. | | | 30 days |

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

| Division | Initials | No comment | Comments | Date Review |
|----------------------------------|----------|--|---|---------------|
| DAQ | RES | <input type="checkbox"/> | Plans adequately address air quality issues | 4/29/16 |
| DWR-WQROS (Aquifer & Surface) | JB | <input type="checkbox"/> <input type="checkbox"/> | <ul style="list-style-type: none"> In reference to the maps provided, it appears that a Section 401 Water Quality Certification may be necessary. Potential stream impacts should be determined prior to construction. Modification to NPDES Wastewater, and Wastewater Collection System Permits may be necessary if existing facilities are modified as a result of the project. If located, wells should be properly abandoned. | 5/6/16 / / |
| DWR-PWS | JHW | <input type="checkbox"/> | Please see attached sheet | 4/18/16 |
| DEMLR (LQ & SW) | ZSK | <input type="checkbox"/> | Stormwater permit may required | 4/25/16 |
| DWM - UST | RHT | <input type="checkbox"/> | <p>RE: Project Review Form: 16-0309</p> <p>The following comments are pertinent to my review:</p> <ol style="list-style-type: none"> The Mooresville Regional Office (MRO) UST Section recommends removal of any abandoned or out-of-use petroleum USTs or petroleum above ground storage tanks (ASTs) within the project area. The UST Section should be contacted regarding use of any proposed or on-site petroleum USTs or ASTs. We may be reached at 704-663-1699. Any petroleum spills must be contained and the area of impact must be properly restored. Petroleum spills of significant quantity must be reported to the North Carolina Department of Environmental Quality - Division of Waste Management Underground Storage Tank Section in the | 4/20/16 |

| | | | | |
|--|--|--|--|--|
| | | | <p>Mooresville Regional Office at 704-663-1699.</p> <p>3. Any soils excavated during demolition or construction that show evidence of petroleum contamination, such as stained soil, odors, or free product must be reported immediately to the local Fire Marshall to determine whether explosion or inhalation hazards exist. Also, notify the UST Section of the Mooresville Regional Office at 704-663-1699. Petroleum contaminated soils must be handled in accordance with all applicable regulations.</p> <p>If you have any questions or need additional information, please contact me at Ron.Taraban@ncdenr.gov or by phone at 704-235-2167.</p> | |
|--|--|--|--|--|

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

- | | | |
|--|--|---|
| <input type="checkbox"/> Asheville Regional Office 2090 US Highway 70 Swannanoa, NC 28778 (828) 296-4500 | <input checked="" type="checkbox"/> Mooresville Regional Office 610 East Center Avenue, Suite 301 Mooresville, NC 28115 (704) 663-1699 | <input type="checkbox"/> Wilmington Regional Office 127 Cardinal Drive Extension Wilmington, NC 28405 (910) 796-7215 |
| <input type="checkbox"/> Fayetteville Regional Office 225 North Green Street, Suite 714 Fayetteville, NC 28301-5043 (910) 433-3300 | <input type="checkbox"/> Raleigh Regional Office 3800 Barrett Drive, Suite 101 Raleigh, NC 27609 (919) 791-4200 | <input type="checkbox"/> Winston-Salem Regional Office 450 West Hanes Mill Road, Suite 300 Winston-Salem, NC 27105 (336) 771-9800 |
| | <input type="checkbox"/> Washington Regional Office 943 Washington Square Mall Washington, NC 27889 (252) 946-6481 | |



Water Resources
ENVIRONMENTAL QUALITY

PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

S. JAY ZIMMERMAN

Director

MEMORANDUM

TO: Intergovernmental Review
Attachment to Project Comments

FROM: Jeffrey H. Westmoreland, P. E.
Environmental Engineer
Division of Water Resources
Public Water Supply Section
Mooresville Regional Office

DATE: April 18, 2016

SUBJECT: Public Water Supply Review Comments
Project #16-0309
Catawba County

Because the length of my comments on the above mentioned project, my comments are being made on an attachment. The above mentioned project is large and will require a number of utilities to relocate water mains. This project will also displace public water supply wells and water lines. The following is a list of water systems that will be affected by this project.

1. Town of Mooresville – PWS ID# 01-49-015 – Water Mains will need to be relocated. The Town of Mooresville has their own delegated plan approval authority and any water main relocations will have to be reviewed and approved through this authority.
2. Homestead S/D – PWS ID# 01-49-118 – Water mains may need to be relocated. Any relocation of water mains must be reviewed and approved by our Technical Review Branch in Raleigh.
3. River Park – PWS ID# 01-49-193 - Water mains may need to be relocated. Any relocation of water mains must be reviewed and approved by our Technical Review Branch in Raleigh.
4. Big Daddy's – PWS ID# 01-49-551 – Water mains and/or the well may have to be replaced. This type of water system does not require the review and approval of plans and specifications.

5. Pinnacle Shores – PWS ID#01-49-188 - Water mains may need to be relocated. Any relocation of water mains must be reviewed and approved by our Technical Review Branch in Raleigh.
6. The Old Country Church – PWS ID# 01-18-736 – Water mains and/or the well may have to be replaced. This type of water system does not require the review and approval of plans and specifications.
7. Southeast Catawba County – PWS ID# 20-18-004 - Water mains and/or the well may have to be replaced. This type of water system does not require the review and approval of plans and specifications.
8. Pointe Norman – PWS ID# 01-18-307 – Water mains and a well may have to be relocated. Any relocation of water mains or a well must be reviewed and approved by our Technical Review Branch in Raleigh.
9. Lake Norman Marina – PWS ID# 01-18-613 - Water mains and/or the well may have to be replaced. This type of water system does not require the review and approval of plans and specifications.
10. Linberger's – PWS ID# 01-18-323 - Water mains and/or the well may have to be replaced. This type of water system does not require the review and approval of plans and specifications.
11. Pier 150 – PWS ID# 01-18-695 Water mains and/or the well may have to be replaced. This type of water system does not require the review and approval of plans and specifications.
12. Butcher Boy Café PWS ID# 01-18-707 - Water mains and/or the well may have to be replaced. This type of water system does not require the review and approval of plans and specifications.
13. Cross Country Campground – PWS ID# 01-18-612 - Water mains and/or the well may have to be replaced. This type of water system does not require the review and approval of plans and specifications.
14. Lincoln County W/S – PWS ID#01-55-035 - Water mains and/or the well may have to be replaced. This type of water system does not require the review and approval of plans and specifications.

In addition, any project that will be reviewed by our Technical Services Branch that is greater than 5 miles in length must submit an Environmental Assessment with any plans and specifications.

If you have any questions, please call me at (704) 235-2124.

Department of Environmental Quality Project Review Form

Project Number: 16-0309
(13-0185)

County: Catawba and Iredell

Date Received: 04/12/2016

Due Date: 05/09/2016

Project Description: Environmental Assessment -- Proposed project is to widen NC 150 from the NC16 bypass to just west of the US 21/NC 150 interchange in Mooresville.
TIP R-2307 and I-5717

This Project is being reviewed as indicated below:

| Regional Office | Regional Office Area | In-House Review | |
|---|--|---|--|
| <input type="checkbox"/> Asheville | <input checked="" type="checkbox"/> Air | <input type="checkbox"/> Air Quality | <input type="checkbox"/> Coastal Management |
| <input type="checkbox"/> Fayetteville | <input checked="" type="checkbox"/> DWR | <input checked="" type="checkbox"/> Parks & Recreation & NC | <input type="checkbox"/> DCM-Marine Fisheries |
| <input checked="" type="checkbox"/> Mooresville | <input checked="" type="checkbox"/> DWR - Public Water | <input checked="" type="checkbox"/> Natural Heritage | <input type="checkbox"/> Military Affairs |
| <input type="checkbox"/> Raleigh | <input checked="" type="checkbox"/> DEMLR (LQ & SW) | <input checked="" type="checkbox"/> Waste Mgmt | <input type="checkbox"/> DMF-Shellfish Sanitation |
| <input type="checkbox"/> Washington | <input checked="" type="checkbox"/> DWM-UST | <input checked="" type="checkbox"/> Water Resources Mgmt (Public Water, Planning & Water Quality Program) | <input type="checkbox"/> Wildlife |
| <input type="checkbox"/> Wilmington | | <input checked="" type="checkbox"/> DWR-Transportation Unit Donna Hood | <input checked="" type="checkbox"/> Wildlife -- DOT Mada Chambers |
| <input type="checkbox"/> Winston-Salem | | | |

| | | |
|--------------------------|---------------------|---|
| Manager Sign-Off/Region: | Date: 2016-04-28 | In-House Reviewer/Agency: NCEM P/Suzanne Mason |
|--------------------------|---------------------|---|

Response (check all applicable):

☐ No objection to project as proposed.

☒ No Comment

☐ Insufficient information to complete review

☐ Other (specify or attach comments)

If you have any questions, please contact:

Lyn Hardison at lyn.hardison@ncdenr.gov or (252) 948-3842
943 Washington Square Mall Washington NC 27889
Courier No. 16-04-01

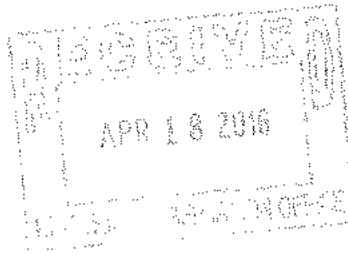
**NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW**

COUNTY: CATAWBA
IREDELL

F02: HIGHWAYS AND ROADS

STATE NUMBER: 16-E-4220-0309
DATE RECEIVED: 04/12/2016
AGENCY RESPONSE: 05/09/2016
REVIEW CLOSED: 05/12/2016

MS RENEE GLEDHILL-EARLEY
CLEARINGHOUSE COORDINATOR
DNCR - DIV OF PARKS AND RECREATION
MSC 4617 - ARCHIVES BUILDING
RALEIGH NC



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DPS - DIV OF EMERGENCY MANAGEMENT
WESTERN PIEDMONT COG

PROJECT INFORMATION

APPLICANT: N.C. Department of Transportation
TYPE: National Environmental Policy Act
Environmental Assessment

DESC: Proposed project to widen NC 150 from the NC 16 Bypass to just west of the US
21/NC 150 Interchange in Mooresville. TIP R-2307 and I-5717

CROSS-REFERENCE NUMBER: 13-E-4220-0185

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

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

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

SIGNED BY:

Renee Gledhill-Earley

DATE:

5.5.16



NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

APR 14 2016

COUNTY: CATAWBA
IREDELL

F02: HIGHWAYS AND ROADS

STATE NUMBER: 16-E-4220-0309
DATE RECEIVED: 04/12/2016
AGENCY RESPONSE: 05/09/2016
REVIEW CLOSED: 05/12/2016

MS PAULA CUTTS
CLEARINGHOUSE COORDINATOR
DPS - DIV OF EMERGENCY MANAGEMENT
FLOODPLAIN MANAGEMENT PROGRAM
MSC # 4218
RALEIGH NC

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WESTERN PIEDMONT COG

PROJECT INFORMATION

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DESC: Proposed project to widen NC 150 from the NC 16 Bypass to just west of the US
21/NC 150 Interchange in Mooresville. TIP R-2307 and I-5717

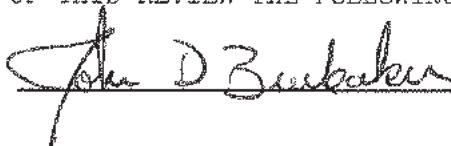
CROSS-REFERENCE NUMBER: 13-E-4220-0185

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

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

SIGNED BY:



DATE: 29 April 2016



North Carolina Department of Public Safety

Emergency Management

Pat McCrory, Governor
Frank L. Perry, Secretary

Michael A. Sprayberry, Director

April 29, 2016

State Clearinghouse
N.C. Department of Administration
1301 Mail Service Center
Raleigh, North Carolina 27699-1301



Subject: Intergovernmental Review State Number: 16-E-4220-0309
NC 150 Widening, Catawba and Iredell Counties

As requested by the North Carolina State Clearinghouse, the North Carolina Department of Public Safety Division of Emergency Management Risk Management reviewed the proposed project for the Coastal Carolina Regional Airport Development Project and offers the following comment:

The proposed project includes encroachment within the Special Flood Hazard Area (SFHA). North Carolina Executive Order 123 directs NCDOT to coordinate with and follow the FHWA floodplain management requirements which are found in the Federal Executive Order 11988. To ensure NCDOT compliance with EO 11988 and 44 CFR the NCDOT Hydraulics Section and the NC Floodplain Mapping Program have a Memorandum of Agreement (MOA). Please coordinate with Mr. David Chang, NCDOT Hydraulics, to determine if the proposed crossings within this project are eligible to fall within the MOA.

Thank you for your cooperation and consideration. If you have any questions concerning the above comments, please contact me at (919) 825-2300, by email at dan.brubaker@ncdps.gov or at the address shown on the footer of this document.

Sincerely,

John D. Brubaker, P.E., CFM
NFIP Engineer
Risk Management

cc: Tom Langan, Engineering Supervisor
John Gerber, NFIP State Coordinator

File

MAILING ADDRESS:
4218 Mail Service Center
Raleigh NC 27699-4218
www.ncdps.gov
www.ncfloodmaps.com



GTM OFFICE LOCATION:
4105 Reedy Creek Road
Raleigh, NC 27607
Telephone: (919) 825-2341
Fax: (919) 825-0408

**NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW**

COUNTY: CATAWBA
IREDELL

F02: HIGHWAYS AND ROADS

STATE NUMBER: 16-E-4220-0309
DATE RECEIVED: 04/12/2016
AGENCY RESPONSE: 05/09/2016
REVIEW CLOSED: 05/12/2016

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

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DPS - DIV OF EMERGENCY MANAGEMENT
WESTERN PIEDMONT COG

PROJECT INFORMATION

APPLICANT: N.C. Department of Transportation
TYPE: National Environmental Policy Act
Environmental Assessment

DESC: Proposed project to widen NC 150 from the NC 16 Bypass to just west of the US
21/NC 150 Interchange in Mooresville. TIP R-2307 and I-5717

CROSS-REFERENCE NUMBER: 13-E-4220-0185

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

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

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

SIGNED BY: _____

DATE: 4/20/2016



NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

Linda Doss

COUNTY: CATAWBA
IREDELL

F02: HIGHWAYS AND ROADS

STATE NUMBER: 16-E-4220-0309
DATE RECEIVED: 04/12/2016
AGENCY RESPONSE: 05/09/2016
REVIEW CLOSED: 05/12/2016

MS CARRIE ATKINSON
CLEARINGHOUSE COORDINATOR
DEPT OF TRANSPORTATION
STATEWIDE PLANNING - MSC #1554
RALEIGH NC

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WESTERN PIEDMONT COG

PROJECT INFORMATION

APPLICANT: N.C. Department of Transportation
TYPE: National Environmental Policy Act
Environmental Assessment

DESC: Proposed project to widen NC 150 from the NC 16 Bypass to just west of the US
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If additional review time is needed, please contact this office at (919)807-2425.

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

SIGNED BY:

Linda Doss

DATE:

4-18-16



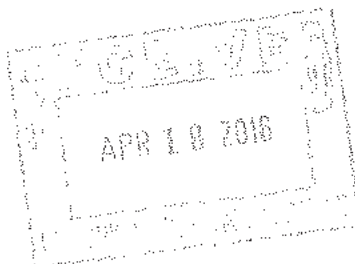
NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

COUNTY: CATAWBA
IREDELL

F02: HIGHWAYS AND ROADS

STATE NUMBER: 16-E-4220-0309
DATE RECEIVED: 04/12/2016
AGENCY RESPONSE: 05/09/2016
REVIEW CLOSED: 05/12/2016

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



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WESTERN PIEDMONT COG

PROJECT INFORMATION

APPLICANT: N.C. Department of Transportation
TYPE: National Environmental Policy Act
Environmental Assessment

De 4/29/16 H-182

DESC: Proposed project to widen NC 150 from the NC 16 Bypass to just west of the US
21/NC 150 Interchange in Mooresville. TIP R-2307 and I-5717

CROSS-REFERENCE NUMBER: 13-E-4220-0185

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intergovernmental review. Please review and submit your response by the above
indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

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

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

SIGNED BY:

Renee Gledhill-Earley

DATE:

5.5.16





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
SAM NUNN
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA GEORGIA 30303-8960

Cox/Barlock

May 12, 2016

Robert Hanson, P.E.
Project Development Section Head- Eastern Region
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

SUBJECT: EPA Review Comments for the Federal Environmental Assessment (EA) for Proposed Improvements to NC 150, from the NC 16 Bypass to Just West of the US 21/NC 150 Interchange in Mooresville, Catawba and Iredell Counties, N.C.; TIP Nos.: R-2307 and I-5717.

Dear Mr. Hanson:

The Environmental Protection Agency (EPA) has reviewed the subject document and is providing comments consistent with §309 of the Clean Air Act and §102(2)(C) of the National Environmental Policy Act (NEPA). The North Carolina Department of Transportation (NCDOT) is proposing to improve NC 150 to a median-divided 'superstreet' facility in order to improve vehicular mobility and safety as well as reconfigure the I-77/NC 150 interchange, rehabilitate/replace several bridges, and implement access management measures. The proposed project length is approximately 15 miles, beginning at the NC 16 Bypass in Catawba County and terminating just west of the US 21/NC 150 interchange in Iredell County, N.C.

The proposed project is included in the NEPA/Section 404 Merger process. The EPA staff attended the CP-2a field meeting on June 10, 2015. The EPA's detailed technical review comments on the Federal Environmental Assessment (EA) are attached to this letter (See Attachment A). Four preliminary build alternatives have been under consideration; Alternatives 3 and 4 were eliminated via consensus from the Merger team. Alternative 1 consists of a best-fit widening with no Terrell Bypass, while Alternative 2 consists of a best-fit widening and a Northern Terrell Bypass option.

The EPA acknowledges the NCDOT's 'Green Sheet' project commitments included in the EA. USEPA appreciates the opportunity to review the EA and requests a copy of the FONSI when it becomes available. The EPA plans to remain an active participant in the NEPA/Section 404 Merger process as the proposed project moves forward.

Thank you and please feel free to contact me directly should you or your staff have any questions at (919) 450-6811 or by e-mail at: vanderwiele.cynthia@epa.gov

Sincerely,



Cynthia F. Van Der Wiele, Ph.D.
Sr. Environmental Scientist
USEPA Region 4 Raleigh Office

For:

Christopher A. Militscher
Chief, NEPA Program Office
Resource Conservation and Restoration Division

Cc: Michael Batuzich, FHWA
Steven Kichefski, USACE Asheville Field Office
Marella Buncick, USFWS Asheville Field Office
Donna Hood, NCDWR Mooresville Regional Office
Marla Chambers, NCWRC

Attachment A: Detailed technical comments

Attachment A
Detailed Technical Comments
NC 150 Improvements
Catawba and Iredell Counties, N.C.
TIP Nos.: R-2307 and I-5717

Purpose and Need and Build Alternatives

The purpose of the project is to improve traffic capacity and reduce congestion along NC 150 from the NC 16 Bypass to the US 21/NC 150 interchange. Existing traffic congestion within the project corridor along with projected growth in the area, particularly around the I-77 interchange, will continue to exacerbate travel times.

The EA provides that four Build options were considered; all consist of best-fit widening, with variations regarding the alignment of NC 150 within the Terrell Historic District. Alternatives 3 and 4 were eliminated due to "adverse effect" findings by the State Historic Preservation Office (SHPO). Alternative 2 consists of a Northern Terrell Bypass option. In addition, Alternatives 1 and 2 include the provision of sidewalks from just west of Doolie Road east to the project terminus as well as a multi-use path. The EPA supports the inclusion of these multi-modal facilities as they provide additional transportation choices for the public.

Natural Resources Impacts

Table S.1 [p. S-4] summarizes the impacts to the human and natural environment. Alternative 1 has somewhat higher stream impacts, but lower wetland impacts than Alternative 2. Due to the proximity to Lake Norman (classified as WS-IV, critical area), the EPA requests that stormwater runoff be treated to the maximum extent practicable. Hazardous spill catch basins may also be necessary, depending on the level and composition of freight transportation along NC 150.

Three endangered species have suitable habitat within the project area. The EPA understands that the biological conclusion for the Northern long-eared bat (*Myotis septentrionalis*) is as yet unresolved with the U.S. Fish and Wildlife Service (FWS). Several recent studies have examined the use of bridges and culverts as [day and night] bat roosting habitat¹. The structural design of bridges and culverts with regard to the Northern long-eared bat might be considered during final design as a way to benefit and/or promote recovery of the species within the project study area. However, the EPA defers to the analysis and recommendations by the FWS and North Carolina Wildlife Resources Commission on these endangered species issues.

Climate Change Adaption: The EA did not address climate change/greenhouse gas emissions. We recommend that the Federal Highway Administration and the NCDOT consider climate adaption measures based on how future climate scenarios may impact the proposed project in the FONSI. The National Climate Assessment (NCA) contains

¹ See: <http://www.icoet.net/downloads/99paper21.pdf>

scenarios for regions and sectors, including transportation. Using the NCA or other peer review-reviewed climate scenarios to inform alternatives analysis and possible changes to the proposal can improve resilience and preparedness for climate change. Changing climate conditions can affect a proposed project as well as the project's ability to meet the designated purpose and need. For additional information, the transportation agencies may wish to refer to:

https://www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf

Cultural Resource and Human Environment Impacts

The EPA understands that Alternative 1 would impact the Terrell Historic District while Alternative 2 would bypass this resource.

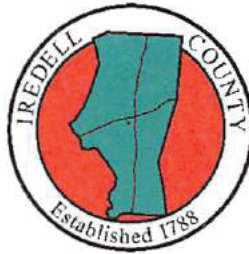
The EPA understands from the review of the EA that there are no outstanding or identified issues with environmental justice (EJ) communities resulting from the proposed project.



Appendix C

Public Hearing Comments

James B. Mallory III, Chairman
Marvin Norman, Vice-Chairman
Kenneth M. Robertson, Jr.
Stephen D. Johnson
Thomas Bowles



Post Office Box 788
Statesville, North Carolina 28687
Phone (704) 878-3058 Fax (704) 878-3053
www.co.iredell.nc.us

IREDELL COUNTY BOARD OF COMMISSIONERS

A RESOLUTION TO PROVIDE GUIDANCE AND COMMENTS TO THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION REGARDING PROJECT R-2307 (HIGHWAY 150)

Be it ordained by the Iredell County Board of Commissioners:

WHEREAS, NC 150 has been identified by Iredell County, Town of Mooresville, and the North Carolina Department of Transportation (NCDOT) as needing improvement; and

WHEREAS, R-2307 is a NCDOT project that will widen NC 150 in Iredell County from the Catawba County line to US 21 in Mooresville; and

WHEREAS, in the absence of a bypass the proposed design appears to be primarily intended to move traffic through Iredell County; and

WHEREAS, the proposed design of this project will result in limited movement at a number of intersections along NC 150; and

WHEREAS, the proposed design will also require business patrons exiting Interstate 77 to travel an inordinate distance on NC 150 to execute a U-turn and return to Interstate 77; and

WHEREAS, destination businesses along NC 150 depend on direct access; and

WHEREAS, a negative impact on these businesses will create a potential loss of tax base, sales tax revenue, jobs, and the threat of empty storefronts and buildings; and

WHEREAS, additional consideration should be given to enhancing the north-south direct movements across NC 150 in an effort to move traffic to alternative routes; and

WHEREAS, providing greater mobility must strike a balance for existing commercial businesses to remain viable.

WHEREAS, these excessive U-turns may cause increased traffic counts and delays on NC 150; and

WHEREAS, Iredell County, the Town of Mooresville, and volunteer fire departments provide law enforcement and emergency response services along this corridor; and

WHEREAS, the proposed design will likely contribute to slower response times, jeopardizing the public's safety; and

NOW, THEREFORE, Be IT RESOLVED that the Iredell County Board of Commissioners fully supports and endorses the following:

1. That additional north-south direct movements across NC 150 are imperative to the road network and local commerce, specifically at Talbert Road and Regency Center.
2. That traveling business patrons should not be required to drive excessive distances to make U-turns to get back on Interstate 77. The first U-turns or signalized intersections should be placed as close as is feasible from the Interstate. This may be partially resolved with allowing left turns coming out of Regency Center (Item 1 above).
3. That turn lanes should be strategically placed to ensure destination businesses have adequate access.
4. That emergency vehicle crossings at strategic locations, specifically Perth Road/Doolie Road, be provided to insure minimal response times.

This 20th day of September, 2016.

IREDELL COUNTY BOARD OF COMMISSIONERS

By:


James B. Mallory III, Chairman

(Seal)

ATTEST:

Retha Gaither, Clerk to the Board of Commissioners



PO Box 389
100A Southwest Boulevard
Newton, NC 28658
828.465.8201
Fax: 828.465.8392
www.catawbacountync.gov/

September 19, 2016

Mr. Jamille A. Robbins
NCDOT – Human Environment Section
1598 Mail Service Center
Raleigh, NC 27699-1598

RE: TIP Project Nos. R-2307 & I-5717

Dear Mr. Robbins:

Members of the Catawba County Board of Commissioners along with county staff attended the August 22, 2016 briefing, open house, and public hearing. NCDOT informed the public at that meeting, the public comment period would end September 23, 2016.

Catawba County prefers the Alternative 1 design from Slanting Bridge Road to Marshall Road. The following comments support the County's position (see attached map):

- Alternative 1 was overwhelmingly supported by the public at the NCDOT initial scoping meeting held at Sherrills Ford-Terrell Fire and Rescue on November 21, 2013.
- Alternative 1 alignment is consistent with the adopted Sherrills Ford Small Area Plan and Highway 150 Corridor Plan.
- Alternative 1 was part of the adopted land use plan which took into account a future village center with storefronts adjacent to the existing Highway 150 alignment.
- Alternative 1 was incorporated within the Village at Sherrills Ford, LLC design upon which driveway permits have been approved by NCDOT and future ones are anticipated. The Village at Sherrills Ford strongly supports Alternative 1 as reflected in their design which was based upon the current Hwy 150 alignment.
- Alternative 1 does not further undermine the rural character of the Terrell Historic District due to the fact structures have been razed, altered, or expanded upon inconsistent with the National Register of Historic Places. Also, approximately 83 acres within the Terrell Historic District are for sale or under option for purchase.
- Alternative 1 would have less impact upon the existing Sherrills Ford-Terrell Fire/Rescue Station located on Slanting Bridge Road (see accompanying letter from Fire Chief Rick Davis).

Catawba County prefers a reduction in right-of-way from approximately 220' to 150' from NC Highway 16 By-pass to Harvel Road. The following comments support the County's position:

- A reduction in right-of-way would appear to be less costly and disruptive to existing and future businesses along the current NC 150 alignment.
- Alternative 1 in its proposed design utilized a reduced right-of-way width in front of the Robert Harold Gabriel Estate property just west of the Highway 150/Sherrills Ford intersection).
- A reduced right-of-way design would accommodate the four-lane median separated facility and future traffic projections with reduced speed limit (45-50mph).
- The limitation of controlled access shown on the preliminary design along with the many existing driveway cuts reinforces the consideration for a reduced speed limit and design right-of-way width.

September 19, 2016

Catawba County would request that NCDOT consider the following based on the 2016 draft STIP which postpones right-of-way acquisition for R-2307A (NC 16 Bypass to Harvel Rd.) until 2026:

- An updated Environmental Assessment (EA) and cost benefit analysis.
- Re-evaluate the Terrell Historic District.
- Study a southern by-pass from Beaver Boulevard to Bud Lane (significantly less impact to residences, businesses and utilities).
- The reduction in right-of-way referenced above.
- Updating traffic counts to plan for traffic demand beyond 2040 because of the likely timeframe of the construction project.
- Consider traffic impacts and transportation improvements to side roads such as Greenwood Rd. and Kiser Island Rd., driveways into parking areas such as Midway Marina, and proposed entrances to developments such as Bridgewater and the Village at Sherrills Ford **(See accompanying letter addressed to Lou Wetmore dated August 26, 2016).**
- Reconsider turning movement options for emergency vehicles at EMS bases located on Mt. Pleasant Road and Slanting Bridge Road.
- Re-evaluate need for and location of controlled access areas.
- Evaluate impact upon business expansion/improvements, buying and selling of property, future growth and development and revenue enhancement.
- A thorough explanation as to why other bypass routes were not considered (excluding the Terrell Historic District) for the Hwy 150 Improvement Project and why the subject could not be addressed over the next 2-5 years.

Catawba County continues to support the multi-use path and its long range benefits of connecting people and places across multiple jurisdictions identified in the Carolina Thread Trail Plan and the Lake Norman Bicycle Plan.

In conclusion, Catawba County prefers Alternative 1 and supports the overall upgrade of the NC 150 project. Catawba County recognizes that NCDOT is charged with moving traffic safely and efficiently from one point to another. We concur with that policy. Catawba County is charged with maintaining and improving the "quality of life" for our citizens and our region. As such, we endorsed the concept of a village in the Terrell community and Smart Growth Principles along Hwy 150 over a decade ago, not a highway with a 60 MPH speed limit.

The County requests that we remain on the mailing list for project updates and would like to meet with NCDOT officials to discuss talking points addressed in this letter at the earliest convenience.

Sincerely,



C. Randall Isenhower, Chairman
Catawba County Board of Commissioners

Approximate Right-Of-Way Locations and Perceived Structure Impacts

NCDOT 250' ROW Affected Structures = 41
County Proposed 150' ROW Affected Structures = 7
Possible County Alternate 150' ROW = 3

**Possible Alternate County
150' ROW**



Sherrills Ford-Terrell
Fire & Rescue

Post Office Box 51
Sherrills Ford, North Carolina 28673
Phone: 828-478-2131; Fax: 828-478-3296
www.sftfr.net

NCDOT Public Involvement Group Leader
Jamilie Robbins
1598 Mail Service Center
Raleigh, N.C. 27699-1598

Dear Mr. Robbins,

On behalf of the Sherrills Ford-Terrell Fire & Rescue (SFTFR) Board of Directors and as the Fire Chief we were presented with a map outlining the "Alternative 2 Route" for the expansion of Highway 150 in Catawba County. In reviewing the impact of this expansion on our headquarters fire station location we have the following concerns:

1. The property to be used for this expansion takes the entire front of our headquarters station with no access shown for entry to or emergency egress onto the roadway for fire apparatus to respond to emergency calls.
2. All signage for the headquarters station that is used to provide public safety messages would be eliminated along with all designated parking and flag poles.
3. The map indicates no access for fire apparatus to make a left turn onto Slanting Bridge Road to respond to emergency calls down the remaining portion of Slanting Bridge Road.
4. This plan would increase response times to the areas mentioned above and potentially impacts the department's rating as well as impact the citizen's insurance rating.
5. Due to the close proximity of the proposed expansion to our headquarters station and traffic flow, the need for some type of emergency signaling device needs to be considered to alert traffic for apparatus needing to enter the roadway and respond to emergency calls.

We would very much like to discuss these concerns with you or other representatives of NCDOT with the goal of reaching options in conjunction with the expansion project to ensure fire department adequate ingress and egress for daily operations as well as emergency response along with maintaining the Class 6 rating of the department and to its citizens.

Feel free to contact me at (828) 478-2131, or email by rdavis@sftfr.net to schedule a meeting to discuss this project.

Regards,
Rick Davis

Rick Davis
Fire Chief, Sherrills Ford – Terrell Fire & Rescue

Proudly serving, honoring, and educating our community since 1972
SFTFRSTRONG



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August 26, 2016

Mr. Lou Wetmore
Division 12 Board Member
NC Department of Transportation
PO Box 47
Shelby, NC 28151

In Re: NC150 Widening Improvements, Catawba County TIP R-2307 A & B

Dear Mr. Wetmore:

Several of your NCDOT staff recently met with Catawba County elected officials, members of the Stutts family, and planning engineers working with the Stutts family to discuss the development of property adjacent to NCDOT widening projects R-2307A and R-2307B.

This 55-acre parcel (represented on the attached draft development plan) runs approximately 2000' along the funded project (R-2307B) and approximately 1200' along the unfunded project (R-2307A). It was explained that there would be a transition area from the funded project that would likely extend to the end of the Stutts parcels as a part of project "B", and that this would generally be the taper from the new 4-lane section to the 2-lane section. It was also mentioned there is no funding timeline for section "A" at this point, making it unlikely that any progress will be made on project "A" for the foreseeable future and a minimum of 10 years until any improvements will be made.

Tony Stutts owns the western parcels affected by Project A, while Harold and Clay Stutts primarily own parcels impacted by Project B. The Stutts's recognize the impact of working together on the development of this opportunity for the greater development potential of the entire site, and have spurned offers to date for their property individually. They have been working with the two of us, Scott Millar, and Alliance Consulting Engineers to development planning for the best development of the entire site. Very preliminary concept plans were provided to Michael Poe, Mark Stafford, and Larry Carpenter at this meeting that showed hotel, mixed-use retail/commercial, high density residential, and multi-family residential primarily accessed from Greenwood Road on the western end of the project (within unfunded Project A and the transition area for Project B).

Wetmore, Lou
Page Two
August 26, 2016

Two primary requests surfaced during these discussions:

- 1) Signalization at Greenwood Road: Should traffic studies prove warrant for signalization at Greenwood Road during the development of the transition zone from Project B to two-lane Project A, we would request signalization and improvements for access from Greenwood Road.
- 2) Relocation of Project A/Project B boundary westward along NC150: As a result of the many unknown variables in timing and construction and the agreement by the Stutts's to work together for the benefit of the County, their own property, and access for all Greenwood Road homeowners, moving the Project A/B dividing line 1200' westward along NC150 would be very advantageous and cause development of this parcel to be years earlier. The vagaries of "10 years or more" until construction, living with years of changing accessibility during the transition period, and then years of future construction strike fear in the hearts of the development community and their bankers. The simple relocation of this line to Greenwood Road would take many years off of the timeline for beneficial use of this property, would facilitate the improvement of access to Greenwood Road, eliminate the need for signalization, and appears to only add one turnout lane to the project.

We respectfully request any consideration NCDOT might have for these requests and would like to work together with NCDOT to find a cost- and time-sensitive solution that will allow the development of this property into a showcase for Catawba County on the west side of Lake Norman.

Please let us know should you have any questions specific to this request.

Sincerely,



Barbara Beatty, Vice Chair
Catawba County Board of Commissioners



Sherry Butler, Commissioner
Catawba County Board of Commissioners

amw

Wetmore, Lou
Page 3
August 26, 2016

pc: Mr. Clay Stutts
Mr. Harold Stutts
Mr. Tony Stutts
Mr. Scott Millar, President, Catawba County Economic Development Corporation
Mr. Mick Berry, Manager, Catawba County
Mr. Michael Poe, Division 12 Project Development Engineer, NCDOT
Mr. Mark Stafford, NCDOT
Mr. Larry Carpenter, NCDOT
Mr. Mark Stevens, Alliance Consulting Engineers
Mr. Dan Warrick, Alliance Consulting Engineers

Attachment



PROPOSED NEW GREENWOOD ROAD
INTERSECTION WITH SIGNAL

PROPOSED NORTH CAROLINA
HIGHWAY 150 RIGHT-OF-WAY

PROPERTY
BOUNDARY

CLEMENT CIRCLE

GREENWOOD ROAD

| PROPOSED BUILDINGS | | |
|--------------------|----------------|--|
| MULTI - FAMILY | | |
| NUMBER | FOOTPRINT AREA | |
| 1 | 6,000 SF | |
| 2 | 9,000 SF | |
| 3 | 16,000 SF | |
| MIXED USE | | |
| NUMBER | FOOTPRINT AREA | |
| 4 | 9,000 SF | |
| 5 | 7,500 SF | |
| 6 | 3,750 SF | |
| 7 | 60,000 SF | |
| 8 | 6,000 SF | |
| HOTEL | | |
| NUMBER | FOOTPRINT AREA | |
| 10 | 48,000 SF | |

| LEGEND | | |
|--------|--------------------------|--------|
| COLORS | DESCRIPTION | ACRES |
| Purple | HIGH DENSITY RESIDENTIAL | ±17.03 |
| Orange | PROPOSED HOTEL AREA | ±6.95 |
| Blue | MULTI - FAMILY | ±7.30 |
| Green | MIXED USE | ±4.53 |

Conceptual Site Plan for
the Approximately 54-Acre
Stutts Property Site in
Catawba County, North Carolina



Project No. S3997
August 19, 2016



Town of Mooresville
Post Office Box 878
Mooresville, North Carolina 28115

September 21, 2016

Mr. Brian Key, PE
Project Design Engineer
Roadway Design Unit
North Carolina Department of Transportation
1582 Mail Service Center
Raleigh, NC 27699-1582

RE: Design Comments for Widening NC 150 (R-2307)

Dear Mr. Key,

The Town of Mooresville appreciates the opportunity to participate in the design discussions of the R-2307 project to widen NC150 in Catawba and Iredell Counties. Please accept the comments below from Town of Mooresville staff.

1. Utilize an alternative cross section for the project west of Doolie Road/Perth Road to reduce the distance from the edge of pavement to the multi-use path. We understand and agree that appropriate clear zones must be maintained for safety, however the current design sets the multi-use path 46 to 50 feet from the paved shoulder of the roadway. We believe this to be excessive and will result in unnecessary property acquisition. In addition, it will not provide the desired effect of a multi-use path integrated into a rural roadway.
2. Consideration should be given to the increased and/or adjusted internal circulation on developed properties along the commercial corridor, in particular between US21 and Morrison Plantation Parkway/Ervin Road. We are concerned that restricting turning movements at driveways could significantly impact deliveries and other necessary support to retail developments. Of particular concern are delivery trucks of various sizes, fueling vehicles, emergency vehicles (eg fire trucks) etc. We feel it is appropriate to provide design and construction assistance to accommodate these different traffic patterns that are directly affected by this project or, if this is not possible, make appropriate consideration during right-of-way negotiations.



Town of Mooresville
Post Office Box 878
Mooresville, North Carolina 28115

3. Provide safe, marked pedestrian accommodations across NC150 utilizing whatever technology or designs are appropriate. Of particular concern are the intersections at Talbert Road, Williamson Road/Bluefield Road, Morrison Plantation Parkway/Ervin Road and Doolie Road/Perth Road, all due to their close proximity to residential subdivisions.
4. See the attached Resolution (previously submitted) from the Town of Mooresville Board of Commissioners regarding additional north-south mobility across NC150. While the Town certainly wishes to accommodate future growth along the corridor, we believe that a final roadway design must take into consideration the current and future economic vitality and livability of the area in addition to efficiency in operations based on model data.

Thank you again for this opportunity to comment on the preliminary plans. We look forward to a successful project implemented by NCDOT. Please let me know if you have any questions.

Sincerely,

Allison Kraft, PE
Engineering Services Director

CC: Erskine Smith, Town of Mooresville
Mark Stafford, NCDOT
Jamille Robbins, NCDOT

A RESOLUTION

To Endorse Additional North-South Direct Movements Across NC 150 at Strategic Locations as Part of the North Carolina Department of Transportation R-2307 Project

Be it ordained by the Board of Commissioners of the Town of Mooresville:

WHEREAS, portions of NC 150 are located in the Town of Mooresville; and

WHEREAS, NC 150 has been identified by the Town and the North Carolina Department of Transportation (NCDOT) as needing improvement; and

WHEREAS, R-2307 is a NCDOT project that will widen NC 150 in Iredell County from Catawba County to US21; and

WHEREAS, the current design of R-2307 will result in limited movement at a number of intersections along NC 150 in the Town of Mooresville; and

WHEREAS, some intersection designs result in additional traffic on NC 150 for vehicles wishing to cross through the intersection on the minor street; and

WHEREAS, the designs for the Talbert Road (SR1116) and Regency Center Drive intersections prohibit vehicles from crossing through the intersection on the minor street; and

WHEREAS, U-5816 is a NCDOT project that will connect Midnight Road and Oates Road (SR1305) via a bridge over I-77; and

WHEREAS, the Town recognizes that the U-5816 project will provide an alternate route to NC 150; and

WHEREAS, providing direct access to Oates Road (SR1305) via nearby full movement intersections will encourage motorists to use this alternate route to NC 150; and

WHEREAS, the intersections at Talbert Road (SR1116) and Regency Center Drive are nearby intersections; and

WHEREAS, these two intersections are adjacent or nearly adjacent to commercial/industrial parks; and

WHEREAS, the commercial/industrial parks generate a significant amount of daily traffic; and

WHEREAS, visitors or employees of these parks should be encouraged to use alternate routes to NC 150 whenever possible.

NOW, THEREFORE, BE IT RESOLVED that the Town of Mooresville Board of Commissioners fully supports and endorses providing north-south mobility at the NC 150 intersections of Talbert Road (SR1115) and Regency Center Drive to encourage motorists in nearby commercial/industrial parks to utilize route options other than NC 150, such as Oates Road (SR1305).

Adopted this 6th day of September, 2016.



Myles Atkins, Mayor

Attest:


Janet Pope, Town Clerk

LOCAL GOVERNMENT COMMENTS

NC 150 Improvements STIP Project Numbers R-2307 & I-5717

| COMMENT | RESPONSE |
|---|--|
| <i>The Town of Mooresville</i> | |
| Utilize alternative cross sections for the project west of Perth Road/Doolie Road to reduce the distance from the edge of pavement to the multi-use path. The current design sets the multi-use path 46 to 50 feet from the paved shoulder. | Curb and gutter was already extended west of Perth Road / Doolie Road to Waddell Road to reduce right of way impacts. Beyond Waddell Road, the typical section is a shoulder section due to the suburban nature of the road and to satisfy environmental regulatory agencies who prefer shoulder sections that can filter stormwater runoff as opposed to curb and gutter sections that discharge point loads into best management practice basins. The closer you get to the lake and its buffers, the less likely a curb and gutter section should be used. The current design sets the multi-use path 10' from the bottom of the fill slope or 10' from the top of a cut slope in accordance with standard NCDOT typical sections. This distance could be reduced to 5' in final design. Placing the multi-use path closer to the road would locate it on the cut or fill slope requiring a bench to place it on with a retaining wall to hold back the slope adding additional cost to the path. Since some of the fill slopes are 3:1, that would place an automobile that leaves the road on a "traversable but recoverable slope" encountering users of the multi-use path with no means to avoid them. A solid barrier would need to be constructed which would also add more cost. Flattening the slope to a 4:1 and thus providing a recoverable slope that an automobile that leaves the road could recover from pushes the toe of the 4:1 slope out further than the 3:1 with no net right of way savings. |
| Consideration should be given to the increased and/or adjusted internal circulation on developed properties along the commercial corridor----in particular between US 21 and Morrison Plantation Parkway/Ervin Road. We are concerned that restricting turning movements at driveways could significantly impact deliveries and other necessary support of retail developments. | Appropriate truck turning templates were used to set the radii of the left, right, and U-turn movement. U-turns and main entrances to developments were designed with NCDOT's largest standard single tractor trailer combination. A medium box truck was used at smaller entrances. Passenger cars were used as the inner car in dual left and U-Turn movements. This should allow delivery access to the businesses as it exists now in most instances. Final designers on this project have agreed to meet with the town to discuss their concerns once preliminary plans are complete. |
| Provide safe, marked accommodations across NC 150 utilizing available technology or design. In particular at the Talbert Road, Williamson/Bluefield Roads, Morrison Plantation/Ervin Road and Perth/Doolie Road, due to close proximity residential subdivisions. | Typically, pedestrian, and bicycle-related traffic markings are not included on the Design Public Hearing Map. A simplified version of the pedestrian crossing was shown crossing the island at the Perth/Doolie intersection due to a request by shareholders and NCDOT Division. Pedestrian and bicycle traffic markings will be included in the final plans. |
| See resolution regarding north-south mobility across NC 150. While the town wishes to accommodate growth along the corridor, we believe that the final road way design must take into consideration the current and future economic vitality and livability of the area in addition to efficiency in operations based on model data. | North-South mobility has been provided for using redirected turning movements. To provide more direct north-south movements would require an intersection that has a larger footprint, is less safe for cars and pedestrians, less efficient, and at a higher cost. A separate traffic study was performed which added these type intersections at various places along the corridor. The intersections were analyzed individually and did not perform as well even with extra laneage added. They then were analyzed within the signal timed corridor and caused significant delays along the corridor with one causing a backup onto I-77. |
| <i>Iredell County</i> | |
| Additional north-south direct movements across NC 150 are imperative to the road network and local commerce, specifically at Talbert Road and Regency Center. | See response above |

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| Traveling business patrons should not be required to drive excessive distances to make U-turn to get back on I-77. The first U-turns or signalized intersections should be placed as close as is feasibly possible from the interstate. This may be partially resolved by allowing left turns coming out of Regency Center. | NCDOT is currently investigating the possibility to accommodate westbound U-turn moves closer to I-77. Other improvements may also be found as final design proceeds. Allowing left turns out of Regency Center would add a third phase to the signal thus disrupting the two-phase signal progression along the superstreet corridor. |
| Turn lanes should be strategically placed to ensure destination businesses have adequate access. | Very careful consideration was taken to place turn lanes to access the businesses during preliminary designs while adhering to the geometric constraints of the corridor. Further improvements will be evaluated during final design. |
| Emergency vehicle crossings at strategic locations, specifically Perth/Doolie Road to insure minimal response times. | NCDOT has provided an adequate number of crossings for emergency vehicles along NC 150. Coming from a side road like Perth/Doolie, the additional time required to navigate the redirected left or through move in emergencies is offset by the improved mobility along the NC 150 corridor which allows you to make the redirected moves sooner. We anticipate that emergency vehicles will be able to arrive at their destination faster than they can today once the road is widened due to the efficiency of the superstreet corridor. |
| Catawba County | |
| Catawba County prefers the Alternative 1 design from Slanting Bridge Road to Marshall Road. | No problems with delayed response time have been reported on the other superstreet projects in North Carolina. |
| Alternative 1 does not further undermine the rural character of the Terrell HD due to the fact that structures have been razed, altered, or expanded upon is inconsistent with the NRHP. Also, approximately 83 acres within the Terrell HD are for sale or under option for purchase. | The State Historic Preservation Office and the FHWA have purview over compliance with the requirements of the Historic Preservation Act and Section 4(f) of the USDOT Act (FHWA purview only). It was determined that Alternative 1 would have an "Adverse Effect" on the Terrell HD based off the status of the properties in the district at the time of the on-going environmental studies. Alternative 1 also requires the acquisition of property from the Historic District, which is considered a "use" of the historic district per Section 4(f). Based off this "use", a feasible and prudent alternative (Alternative 2) must be evaluated. |
| Alternative 1 would have less impact upon the existing Sherrills Ford/Terrell Fire and Rescue Station located upon Slanting Bridge Road. | Comment noted |
| Catawba County prefers a reduction in the right of way from approximately 220 feet to 150 feet from NC 16 Bypass to Harvell Road. | A detailed hydraulic study has not been performed and therefore the exact sizes of ditches are unknown. The right of way shown on the public hearing map is a worst case scenario that estimates the size of the ditches. During final right of way plans, every effort will be made to reduce the right of way while still maintaining the ability of NCDOT to provide a safe area for errant vehicles and contain the proposed ditches for maintenance purposes. |
| A reduction in right of way would appear to be less disruptive and less costly to existing and future businesses along the current NC 150 alignment. | Comment noted |
| Alternative 1 utilized a reduced right of way width in front of the Robert Harold Gabriel Estate property just west of the NC 150/Sherrills Ford intersection. | The typical section was changed to curb and gutter to reduce impacts to the Historic District. There were no ditches to contain in that area. |
| A reduced right of way design would accommodate the four-lane median separated facility and future traffic projections with reduced speed limit (45-50 mph) | A detailed hydraulic study has not been performed and therefore the exact sizes of ditches are unknown. The right of way shown on the public hearing map is a worst case scenario that estimates the size of the ditches. During final right of way plans, every effort will be made to reduce the right of way while still maintaining the |

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| | ability of NCDOT to provide a safe area for errant vehicles and contain the proposed ditches for maintenance purposes. |
| Limitation of controlled access shown on the preliminary design along with the many existing driveway cuts reinforces the consideration for a reduced speed limit and design right of way width. | Control of access around the U-Turn bulbs is required to ensure future safe U-turn movements and will be maintained with all designs. Due to the rural nature of NC 150 and its functional classification, a posted speed of 55 mph is appropriate. Reduction of the posted speed would not automatically result in a reduction in right of way because the right of way is set to contain the ditches. During final right of way plans, every effort will be made to reduce the right of way while still maintaining the ability of NCDOT to provide a safe area for errant vehicles and contain the proposed ditches for maintenance purposes. |
| Catawba County would request that NCDOT consider the following based on the 2016 Draft STIP which postpones right of way acquisition for R-2307A until 2026. (See below comments) An updated Environmental Assessment and Cost Benefit Analysis. | Based off the current funding timeline for Section A, the EA will likely be re-evaluated to determine if the considerations in the EA are still valid. |
| Re-evaluate the Terrell Historic District. | It is the intention of NCDOT and SHPO to do this. |
| Study a southern bypass from Beaver Boulevard to Bud Lane. | The option to study a southern bypass of NC 150 west of Terrell was not considered as a preliminary build alternative for the proposed project because it would not meet the project's purpose and need. The Purpose and Need Statement for the R-2307 project was agreed upon by the NEPA/404 Merger Team on December 12, 2012 as follows: "The purpose and need for this project is to improve capacity and reduce congestion along NC 150 from the NC 16 Bypass to just west of the I-77 interchange." The need for project is based on traffic volumes, existing and projected level-of-service, and safety. A bypass of existing NC 150 through the Denver area would have to be submitted as a new project through the Strategic Transportation Initiatives (STI) process and then be scored and prioritized against other projects. |
| Reduction in right of way. | As previously noted, this will be done where possible. |
| Updating traffic counts and to plan for traffic beyond 2040 because of the likely timeframe of the project. | This will be addressed if the Environmental Assessment is reevaluated |
| Consider traffic impacts and transportation improvements to side roads such as Greenwood Road and Kiser Island Road, driveways into parking areas such as Midway Marina and proposed entrances to developments such as Bridgewater and the Village at Sherrills Ford. | The layout of driveways and parking lots impacted by the project will be addressed during final design. Modifications to the current design changes to the intersection of NC 150 with side roads will be addressed during final design. |
| Reconsider turning movement options for emergency vehicles at EMS bases located on Mt. Pleasant and Slanting Bridge Road. | Final designers will reconsider turning movements for emergency vehicles at each of these locations. |
| Re-evaluate need for and location of controlled access areas. | This will be reevaluated during Right of Way plans stage. Control of access will be maintained in the U Turn bulb areas to ensure safe operation of the bulbs. |

| | |
|--|---|
| Evaluate impact upon business expansion/improvements, buying and selling of property, future growth and development and revenue enhancement. | This will be addressed when the Environmental Assessment is revaluated. |
| A thorough explanation as to why other bypass routes were not considered (excluding the Terrell HD for the Hwy 150 Improvement Project and why the subject could not be addressed over the next 2 - 5 years. | Evaluating other bypasses outside of what was shown in the EA to avoid impacts to the Terrell Historic District would not meet the purpose and need of the project which is to improve existing NC 150. |
| Sherrills Ford - Terrell Fire and Rescue | |
| Floodzone Encroachment The property to be used for this expansion takes the entire front of our headquarters station with no access shown for entry to or emergency egress onto the roadway for the apparatus to respond to emergency calls. | Alternative 2 was designed to minimize impacts to the Fire Station as much as possible. The current drives and access will remain as it is currently. Impacts to the Fire Station, as shown on the hearing map were due to the proposed multi-use path and the right of way and easements needed to build it. The hearing maps show a worst case scenario for the construction of the multi-use path with the intentions of reducing those impacts during final design. NCDOT spoke with representatives at the Public Hearing it was noted that NCDOT was evaluating an emergency left out for the station's vehicles but learned that both drives are used for entry and exit and that this will need to be considered during final design. |
| All signage for the headquarters station that is used to provide public safety messages would be eliminated along with all designated parking and flag poles. The map indicates no access for fire apparatus to make a left turn onto Slanting Bridge Road. | The sign will need to be relocated but it is anticipated that the flag poles will remain in their current location |
| This plan would increase response times to the areas mentioned above and potentially impact the department's rating as well as impact the citizen's insurance ratings. | This connection can be revaluated in final design to see if it warrants a right -in right-out from the bypass or maybe even a left over while also considering the newly constructed subdivision entrances in the area. |
| Due to the close proximity of the proposed expansion to our headquarters station and traffic flow, the need for some type of emergency signaling device needs to be considered to alert traffic for apparatus needing to enter the roadway and respond to emergency calls. | This would need to be evaluated in the future but consider that it may also decrease emergency response time in some instances by enabling first responders to travel at a higher rate of speed along the bypass than on the two lane roads. |
| Iredell County Solid Waste | |
| There will be only one way to access our facility because of a proposed median that will not allow left hand turns when traveling west on Hwy 150 onto Macleod Drive or left turns when existing our Macleod Drive Facility. This will have a negative impact on customers coming and leaving and will create an undue burden on our trucks leaving to go to the landfill. This will make it impossible to access I-77 North from Macleod Drive with our tractor trailers. This could be rectified by using directional signal lights to aid in left hand turns. | As it is today, there will be two ways to reach your facility. From the west, vehicles will turn right into your facility using a larger radius that will accommodate NCDOT's largest standard single tractor trailer combination. From the east, vehicles will use the signalized U-Turn just west of the current intersection. These U-turn bulbs have been designed to accommodate NCDOT's largest standard single tractor trailer combination. Exiting will be the reverse process. This reconfiguration will have a positive impact on customers by providing them the ability to reach your facility in the future with increased traffic and doing so with a safer turning movement. |
| Traffic leaving Macleod Drive could utilize a proposed U-turn area east of Macleod Drive to head west towards I-77. This will potentially cause more of a hazard with our loaded tractor trailers trying to make this turn to get to I-77. Our trucks have heavy hydraulic lines from the track to the trailers that will not allow ups to make extremely sharp turns. If the turnaround area doesn't work for our trucks, we will be forced to travel HWY 21 N to access I-77 at exit 42. This automatically adds travel time and fuel expense to our trips. The extended travel could be exaggerated if there is an accident anywhere on HWY 21 or I-77. | See above. |

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| On the weekends, we have experienced traffic backed up from our facility out into the right eastbound lane of NC 150 on a regular basis. This same situation may occur at the proposed turnaround mentioned above. Heavy weekend traffic may back out into the highway causing more danger of an accident. | Iredell County can contact the contractor who is widening NC 150 to discuss the possibility of an exclusive right turn lane along NC 150 or the possibility of widening southbound MacLeod to accommodate this traffic at a reduced cost. The proposed U-turn provided for the westbound traffic has been designed to allow a second U-turn lane to be constructed if necessary to accommodate traffic. |
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DESIGN PUBLIC HEARING COMMENTS

NC 150 Improvements STIP Project Numbers R-2307 & I-5717

| PUBLIC COMMENT | | RESPONSE |
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| <i>Favor Alternative 1</i> | | |
| Alternative 2 would increase noise; Alternative 1 is less expensive to construct | | Section 4(f) of the USDOT Act provides protection for historic resources listed in the National Register of Historic Places (NRHP) and requires the evaluation of alternatives to avoid impacts to these resources. The Terrell Historic District (HD) is listed on the NRHP. As such, the project team must evaluate bypass alternatives that avoid impacts (direct and indirect) to the Terrell HD. An inter-agency team (NEPA/Section 404 Merger Team) that includes the North Carolina Historic Preservation Office evaluated three bypass alternatives during the development of the project. All but Alternative 2 resulted in impacts to the Terrell HD. The team then agreed to carry Alternative 2 forward, in addition to Alternative 1, as the two build alternatives. |
| Project would relief traffic congestions and improve safety; Historic properties do not have significance to residents | | |
| Favor Alternative 1, but expressed concerns about right-of-way and turnaround | | |
| Would minimize loss of land | | |
| Historic structures could be moved – would save \$3M; Alternative 2 prohibits development | | |
| Favor Alternative 1 but concerned about cost; does not feel that bypass is worth cost to save historic structures | | |
| Sees no reason to keep or maintain the Terrell Historical District | | |
| Consider moving historic structures and maintaining existing 150 to save money and have less | | |
| Keep existing layout for 150 and just adding extra driving lanes | | |
| <i>Favor Alternative 2</i> | | |
| Favor Alternative 2 | | Your comments are noted and will be discussed in our internal NCDOT post-public hearing design team meeting for R-2307AB. |
| Favor Alternative 2; Request multi-purpose path | | |
| Favor Alternative 2; Note steepness of existing NC 150 and crashes | | |
| Oppose widening through Terrell Historic District | | |
| Favor of Alternative 2; Existing 150 should be 3-lane | | |
| Importance of preserving history | | |
| Existing Rd 150 is too steep west of Sherrill's Ford Rd | | |
| <i>Superstreet Design/Traffic Operations</i> | | |
| Request NCDOT post website on superstreets | | <p>The superstreet design will handle a high-volume, massively congested urban traffic situation, as is now happening along NC 150 in Mooresville. This roadway improvement design will vastly improve the ease of making local trips in the immediate vicinity for Mooresville residents, as well as improving the mobility of through-traffic, along NC 150 within the project limits. Compared to traditional intersections, the superstreet corridor design will handle the traffic more efficiently and provides a higher level of safety for cars and pedestrians, using less lanes, at a lower cost.</p> <p>This design uses synchronized, or coordinated, traffic signals in the intersections, and in the U-turn bulbs, where higher traffic volumes warrant their use. Left and right-turn movements will be redirected away from through-traffic movements in each intersection. This separation of traffic movements will reduce vehicular congestion in all NC 150 intersections, lessening the waiting time for those motorists waiting to execute each traffic movement. Motorists, including emergency vehicles will move through the</p> |
| Other comparable areas in NC where superstreets have been put in? | | |
| Superstreets don't work. | | |
| U-turn bulbs are unstriped and there is no separation to keep drivers from side swapping each other. | | |
| Don't understand superstreet concept. | | |
| Can EMS vehicles cross median or forced to U-turn bulbs? | | |
| Concern about tractor-trailers navigating U-turn bulbs (3x); Trucks pulling large boats? | | |
| Dislikes having to drive 2 miles over the bridge to turn left; Concerned for EMS vehicles and school traffic on Mariner Pointe Lane | | |
| If an additional lane was constructed, it would be a lot simpler than making the rights to make a left | | |
| Superstreet design adds time and frustration for commuters; does not seem logical for high school traffic | | |
| Consider widening east of Lake Norman bridge to four lanes to eliminate traffic congestion | | |
| Concern about high traffic impacts on Rt-150 to Lake Norman High School (2x) | | |
| Concern about congestion on Hwy 150 and 801 due to lack of turning lane and 18 wheeler traffic | | |
| Suggest construction during night time to resolve extreme traffic congestion during day time (2x) | | |
| Concern about traffic issues at the western end of section B due transition from four-lane to two lane road; Notes difficulty in turning out of his neighborhood especially during am school hours | | |

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| Request intersection improvements to Norman Station Boulevard to allow for tractor trailer turn-arounds; Suggests a detour behind the Water Oak Subdivision during construction | corridor efficiently even using the U-turn bulbs as motorists will be spending less time in a superstreet corridor versus the existing condition where motorists may wait 10-15 minutes attempting to make highly dangerous left-turns onto NC 150. Traffic volumes within the project limits are expected to double in the next 25-30 years. These improvements will handle those high traffic volumes. |
| Recommend adding one lane to both sides of 150 would reduce cost and act as easy fix on Doolie Rd; Opposes idea of toll lanes expressed concern on the inconvenience it will have on the residents | |
| High school on Doolie Road would pose a problem for the traffic; Requested more discussion on how the intersection at Perth/Doolie and NC 150 will operate during school hours | |
| More people will use NC 150 to reach NC 16 to avoid the toll lanes and the traffic on I-77; Concern about the impacts of the superstreet concept on the Pinnacle community; Concern about the upcoming years of construction due to the NC 150 project and surrounding development | |
| The center median will split the neighborhood. They noted that there will be no opportunity for crossing NC 150 without having to travel down the road to make a U-turn. Also, they felt that crossing the four-lane divided facility would be more difficult than the existing two-lane typical. Ultimately, the project would change the look and feel of the neighborhood. | |
| Access Modifications | |
| Suggest left turn at Marine Point Ln and/or adding U-turn before the bridge; Open to property acquisition to allow access to other homes in neighborhood | A revised design will be investigated but it is dependent upon final hydraulic studies. |
| Request exclusive right-turn in and out of neighborhood, a longer left turn lane on Perth Road, and a service exit out of Water Oak to Perth Road | An exclusive right turn bay on NC 150 will be added during final design. Left turn lanes on Perth will be redirected to right turn lanes and will be of sufficient length to accommodate the queue of cars. A service exit from Water Oak to Perth is not being evaluated currently as it is outside the scope of this project. |
| Asked about turnarounds on sides roads off NC 150, specifically Slanting Bridge Road, Waddell Road, and Perth Road | Placement of U-turn bulbs were carefully considered to provide for the redirected turning movements at intersection. Then, additional U-Turn bulbs were added between these bulbs following the NCDOT guidelines written for locating median breaks. |
| Concern about right-turn out of Water Oak; would like traffic light to be moved east to allow for a left-turn out of Water Oak | Redirecting left turns into right turns provides a safer and more efficient intersection especially when connected with other intersections that do the same. |
| Concern about the lack of a left-turn from Morrison Plantation and ability of U-turn to handle the traffic | Based on the results of our computer traffic models, the "superstreet" intersection's dual lane U-Turn will handle the traffic without backing up into the through lanes. |
| Cost analysis between the proposed intersection at Morrison Plantation and a traditional intersection? | To duplicate the efficiency of the superstreet intersection with a traditional intersection, at least one additional through lane in each direction, as well as an additional turn lane would be needed. This would result in a higher construction cost for the additional lanes and higher right of way costs for the extra width. The traditional intersection would also not operate at same efficiency as the superstreet. |
| Concerned about not having a turnaround on the Iredell side of the bridge, forcing residents to cross the bridge to turn; Concerns about accidents on the bridge causing delays to get home | A revised design will be investigated, but is dependent upon final hydraulic studies. |
| Concern about people on the north side of NC 150 between Queens Landing and Lake Norman bridge have no U-turn bulbs and would be required to cross the lake before being able to head eastbound | Sufficient shoulders will be provided on the new bridge to allow traffic to pass around most accidents. |

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| Concern about Mariner Pointe Lane currently being used as bus turnaround; with project, buses will be forced to cross the bridge into Catawba County to turn around; Proposed speed limit of 55 mph seems too high. Three streets will be difficult to access (Pinnacle Lane, High Hills Drive, and Mariner Pointe Lane) | The proposed typical section with a divided median has proven to safely accommodate 55 mph in other areas across the state. Pinnacle Lane will be accessed from the east as it is currently accessed. From the west, Pinnacle Lane will be accessed via a U-Turn that is safer to use than turning left across oncoming traffic. High Hills Drive and Mariner Pointe Lane will be accessed from the west as they are now with no more difficulty. The design team will evaluate access options between the Pinnacle Shores neighborhood and eastbound NC 150 during the final design process. Note that the access options are dependent on final hydraulic studies. This will allow you to access these two roads via a U-Turn that is safer to use than turning left across oncoming traffic |
| Stoplight needed at Pinnacle Shores Drive & Queen's Landing due to AM traffic on bridge (2x); Request speed limit be changed to 45 mph from the bridge to I-77 (2x). Concern about changing access to the Pinnacle Shores community and the requirement to go west on NC 150 to go east towards Mooresville | This signal will not be needed once the NC 150 widening project is complete. NCDOT Division traffic engineering will review the plans for appropriate speed limit posting before the road is widened and again after the project is constructed. |
| Concern regarding difficulty accessing Pinnacle Shores neighborhood and inconvenience to get to Lake Norman High School, with the proposed 'super street' at the NC 150 intersection of Perth and Doolie Rd | The design team will evaluate access options between the Pinnacle Shores neighborhood and eastbound NC 150 during the final design process. Note that the access options are dependent on final hydraulic studies. The superstreet design will improve traffic flow in all directions at the NC 150/Perth Road/Doolie Road intersection. The project also includes an extended right-turn lane from NC 150 East to Doolie Road and dual left turn lanes onto Doolie Road from NC 150 west. This will improve traffic flow from NC 150 to the high school. Also, the multiple right-turn lanes, and the slip lane on northbound Doolie Road will expedite the flow of traffic away from Lake Norman High School during the afternoon dismissal. |
| Suggest left turn lane off Hwy 150 West on to the property to allow fire and emergency access | If accessing the Pinnacle Shores neighborhood from the west, a U-Turn bulb will be located as close to the neighborhood as possible at Long Cove Lane to provide that move. Pinnacle Shores Lane at the intersection of Perth/Doolie road will be the same as it is today – a right turn on to Doolie Road. Emergency vehicles can arrive at their destination faster than they can today once the road improvements are completed. |
| Suggest turn lane going west at Antiquity lane located 769 River Hwy to allow access to members and staff (4x) | The addition of a left turn lane on the superstreet corridor would decrease the ability of the road to handle the expected traffic. |
| Concerns about U-turn spacing; Most of his patrons are westbound from Mooresville and would have to travel further to access his business; Recommends turnaround at Good Luck Lane | U-Turn placement in this area was influenced by current and future subdivision plans. Adding a U-Turn bulb at Good Luck Lane would locate this bulb too closely (approximately 350 feet) to another U-turn bulb. |
| Forced turning movements to left turn will burden the public and will affect amount of traffic to the Kohl's store. Analysis needed to ensure trucks can access Belk's loading dock and can make complete U-turn; Eliminating Belk's west driveway would increase traffic congestion and negatively impact the shopping center | Redirected left turn movements and widening of NC 150 will ensure that customers can safely and efficiently reach businesses well into the future even with the increase in traffic. While we believe that Kohls' trucks are currently driving behind Kohls to make deliveries, a truck turning template can be laid on the route in final design to prove the assumption. Depending on U-Turn bulb placement, eliminating Belk's west driveway may not be necessary and will be reevaluated in final design. If it is eliminated, NCDOT |

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| | believes that traffic from this drive can be handled at Kohl's drive with its long entryway. |
| Concerned about impact on customers' and suppliers' ability to access business. Concern that students traveling to Lake Norman High School would take potential dangerous U-turns to take short cuts | Redirected left turn movements and widening of NC 150 will ensure that customers can safely and efficiently reach Kohl's well into the future even with the increase in traffic. Students traveling to Lake Norman will make safe U-Turns at the designated U-Turn Bulbs. |
| Concern with the proposed project, there will be limited access to Panera Bread based off the CFI | There will be less access to Panera Bread however the CFI was necessary to accommodate future traffic in this increasingly congested corridor. |
| Concerned about the proposed project's negative effect on access to Mooresville Festival Shopping Center; Propose realigning Straightaway Drive to tie in to the Mooresville Festival entrance and adding a left-turn lane (2x) | NCDOT believes the project will be a positive effect on access to Mooresville Festival Shopping Center ensuring that customers can safely and efficiently reach businesses well into the future even with the increase in traffic. Depending on U-Turn bulb placement, eliminating Belk's west driveway may not be necessary and will be reevaluated in final design. NCDOT is aware that there is a plan by the owner of Mooresville Festival to realign Straightaway Drive and left turns at the Mooresville Festival entrance were studied. An additional traffic study was performed which added the left turn movement into Mooresville Festival Shopping Center but adding it resulted in safety concerns. |
| Noted Lowe's parking lot used as cut-through and requested project include cross interconnectivity to improve safety and accessibility. Also requested that the westbound turn lane into Lowe's Home Improvement could be extended | The possibility of tying the Lowes parking to JoAnn drive and providing interconnectivity was investigated but it was determined that there was too much of a grade difference to make this link feasible. |
| Concern about the lack of left turn lanes east of I-77. Requested a service road from the I-77 exist ramp onto I-77 northbound to for Urgent Care | Redirecting left turns into right turns is the key to a superstreet corridor. It has been proven in other existing superstreet corridors that it will accommodate the future traffic without the left turn lanes. |
| Was a traditional intersection considered at Williamson and Morrison Plantation? Notes inexperienced drivers due to the high school having to navigate the changes to the roadway. | A traditional intersection was considered at Williamson Morrison Plantation. To duplicate the efficiency of the superstreet intersection with a traditional intersection, at least another through lane in each direction as well as additional turn lanes would need to be added. This would result in a higher construction cost for the additional lanes and higher right of way costs for the extra width. The traditional intersection would also not operate at that the efficiency of the superstreet as long causing improvements to be needed sooner. |
| Issue of having one access to Lake Norman High School | Providing additional access roads to the high school is beyond the scope of the NC 150 widening project. |
| Shell Station will have access taken along with an area occupied by canopy and tanks; as a result there will be no fueling facilities within one mile of Highway 77, causing a public safety issue in emergency situations. Tire Kingdom will be denied access if proposed median on Regency Drive is constructed, and the owner requests altering the median barrier to allow access. The owner also requests placing a U-turn closer to the retail center on the north side of NC 150 between Regency Drive and Bluefield Road, or a left-turn to allow traffic to return to the interstate or travel east on NC 150 | Another proposed fueling facility is planned to be built near the interstate. NCDOT is investigating the length of the monolithic island on Regency Drive during the development of final plans while considering other properties in the area. Allowing U-Turns at the Lowes entrance is being investigated in final plans. The future Midnight-Oates connector project will provide an access to the interstate from Regency Drive - via Regency Drive/ Bluefield/ NC 150. |
| How will access to the boat ramp be maintained and are items in the storage lot going to be relocated | Relocating the driveway entrance to minimize the impacts on parking spaces will be evaluated during final design. |

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| | <p>There are concerns with health and safety as the community has many older residents and the project makes it more difficult for residents to leave the neighborhood for emergencies or make it difficult for EMS to access the neighborhood</p> | <p>Realigning the driveway will be evaluated to reduce the impact on parking. By separating the individual movements, we make it safer and easier for all drivers to navigate the corridor. This gives older drivers less decisions to make, increasing safety;</p> <p>The efficiency of the superstreet design will enable residents to leave their neighborhood more easily, as well as reduce the response times of the emergency vehicles as compared to the existing condition.</p> <p>Access to individual properties will be determined in the Final Design stage of the NC 150 widening project.</p> |
| | <p>Hearing map should show access to my property</p> | |
| <i>Alternate Design in Denver Area</i> | | |
| | <p>Consider bypassing current roadway to the north of Hwy 150 to mitigate property loss in the Denver Community and reduce traffic congestion during the construction phase\</p> <p>Propose a bypass that would run from bypass Hwy 16 to the Northern Terrell bypass section to save the Denver community and save money</p> <p>Is there a study being done to bypass NC 150 between NC 16 Bypass and Slanting Bridge Road?</p> <p>Is there still time to consider a northern bypass? Would be less bridging and then utilize NC 150 closer to NC 16</p> <p>Supports a bypass of NC 150 west of Terrell preserve businesses and residences</p> | <p>The option to study a bypass around Denver was not considered as a preliminary build alternative for the proposed project because it would not meet the project's purpose and need. The Purpose and Need Statement for the R-2307 project was agreed upon by the NEPA/404 Merger Team on December 12, 2012 as follows: "The purpose and need for this project is to improve capacity and reduce congestion along NC 150 from the NC 16 Bypass to just west of the I-77 interchange." The need for project is based on traffic volumes, existing and projected level-of-service, and safety.</p> <p>A bypass of existing NC 150 through the Denver area would have to be submitted as a new project through the Strategic Transportation Initiatives (STI) process and then be scored and prioritized against other projects.</p> |
| <i>Property Impacts</i> | | |
| | <p>Concern about property encroachment; Limit median to 23 feet instead of 43 and reduce speed limit; Request study of how many residential and business relocations could be saved by reducing the median widths</p> <p>Concern about property lot on "Waddell and Hermance" that will leave 119 units unbuildable</p> <p>Concern with the widening his home will be closer to the 4 lane highway. He is concerned about noise increase, and diminished value of his property</p> <p>Property might fall within the boundaries of the proposed project; Would like to discuss future Midnight Lane/Oates Road and I-77 overpass</p> <p>Would like to know financial recourse if project takes away his business</p> <p>Opposes property taking and ask the State to reconsider design in order to avoid damaging their property</p> <p>Concerned that proposed plan will negatively impact the property and will render the property as unusable (3x)</p> <p>Concern about the 23-foot median width and the decision to widen to the north; Widening would impact the Pinnacle Shores Boat Launch area and properties within their community;</p> <p>Hearing map shows utilities going through her front porch. Does this mean home would be taken?</p> | <p>The R-2307 AB roadway design plans are not final. Efforts will be made to reduce the impacts to properties along NC 150, during the final design phase of R-2307 AB.</p> <p>NC DOT Right-of-Way agents will work with the public during the ROW acquisition phase. Impacted citizens will be contacted in the years 2017 through 2019 or assistance may be obtained by contacting Mr. David Angel, the NCDOT Highway Division 12 Right-of-Way Agent in Shelby, NC, at (704) 480-5472, or via email at dangel@ncdot.gov</p> <p>Additional right-of-way acquisition assistance information is available on the "NC 150 Widening Improvements" webpage, on the NCDOT website at https://www.ncdot.gov/projects/hci/ISO/</p> |

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| What surety do we have that the 'temporary' down time for our tenants will not change; Will we receive permanent exceptions for setbacks; If our parking is permanently affected, what is the remedy for the owners; Is there compensation for construction time for owners and tenants? | |
| Project would impact family farm and take about three acres, loss two acres due to utility construction; Medians and the U-turns are not necessary | |
| Would like to see their home on Mariner Point added to the Noise Study | |
| Noise Impact | |
| Interested in noise abatement study at Harbor Lane where planning to build | <p>A preliminary noise evaluation was performed that identified four (4) noise barriers that meet preliminary feasible and reasonable criteria found in the NCDOT Traffic Noise Abatement Policy. A more detailed analysis will be completed during project final design. Noise barriers found to be feasible and reasonable during the preliminary noise analysis may not be found to be feasible and reasonable during the final design noise analysis due to changes in proposed project alignment and other design considerations, surrounding land use development, or utility conflicts, among other factors. Conversely, noise barriers that were not considered feasible and reasonable may meet the established criteria and be recommended for construction. This evaluation completes the highway traffic noise requirements of Title 23 CFR Part 772.</p> <p>In accordance with NCDOT Traffic Noise Abatement Policy, the Federal/State governments are not responsible for providing noise abatement measures for new development for which building permits are issued after the Date of Public Knowledge. The Date of Public Knowledge of the proposed highway project will be the approval date of the Finding of No Significant Impact (FONSI). For development occurring after this date, local governing bodies are responsible to ensure that noise compatible designs are utilized along the proposed facility.</p> |
| Widening will remove all the trees on the north side which currently provides a noise and visual barrier; Reduces boat storage at Pinnacle Shores Boat Storage; Suggests widening Hwy 150 on the south side as there is more room and less impact to homeowners; Recommend reduction of median on Pinnacle Shore corridor to reduce impact on homes and trees to mitigate noise (3x) | |
| Are noise studies going to be done for bridges across the lake? Can sound barriers be placed on bridges? | |
| There was no mention of sound barriers on the bridges over Lake Norman. Requested sound barriers be incorporated into the bridges | |
| Requested noise studies for High Hills Lane, Indigo Lane, Long Cove Lane and Sienna Drive, in addition to the study planned for Mariner Point Lane | |
| Where will noise walls be located? | |
| Bridging | |
| Asked if the bridge will be widened before the rest of the highway. Concerned that the bridge widening would be dropped due to the budget concerns and the inconvenience would be in vain | <p>The existing bridge will not be widened. A new bridge will be constructed to the north and the newly rehabilitated existing bridge will remain to carry the eastbound traffic. The new bridge will be constructed at the same time as the road approaching it is widened. The cost of the bridge is provided for in the currently budgeted amount for the project.</p> <p>The newly rehabilitated existing bridge will remain to carry the eastbound traffic. A new bridge to carry westbound traffic will be constructed under this project. Current environmental laws prohibit the construction of a "flat bridge" due to the need to collect stormwater runoff and not dump it directly into the lake.</p> |
| Suggest demolishing both bridges and constructing a "flat bridge" enabling bridge to open earlier and maximize the life of the "patched bridge" | |
| Concern regarding cost of raising the existing bridge | |

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| Concern regarding raising existing bridge to accommodate the proposed project | The Structures Management Unit is evaluating the construction of the new bridge to accommodate four lanes. The bridge will potentially be realigned 18 feet to the north of the existing structure. The new bridge will be higher than the existing structure. |
| <i>Bicycle and Pedestrian Accommodations</i> | |
| There are other alternatives better suited for the area; Project will displace long-time homeowners and businesses. Construction will drive away businesses/developers due to the project's construction duration | Bicycle accommodations are included along NC 150 in this project, west of Waddell Road to NC 16. These accommodations will be a signed bicycle route along an 8-foot wide shoulder, 4 feet of which will be paved. Cyclists can also use the proposed multi-use path that will be constructed along the northern side of NC 150, from Perth Road, in Mooresville, to Little Mountain Road, in Catawba County. 4-foot bike lanes are included along each side of the road east of Waddell Road. |
| Express concern with the proposed widening no facilities for pedestrian or cyclists were considered | |
| Request consideration of bike lanes, sidewalks, and multi-use path to be included in the proposed project (5x) | |
| Request consideration of bicycle lanes across the Lake Norman bridge (6x) | |
| Favor multi-use path (2x) and like to see it extended over Reed Creek | |
| | Per the FHWA, sidewalks and multi-use paths must also have logical termini, which means that these facilities must begin and terminate at intersections, or must connect to other facilities such as greenways, sidewalks, or multi-use paths. Catawba County officials requested that this potential multi-use path end at the Little Mountain Road intersection. You could contact your Catawba County planning department and request that this potential multi-use path be extended across the bridge to Vinewood Drive, for example. The NCDOT does not construct parking lots at the termini of multi-use paths, but again you could request that of your county officials. That may be something that they could consider constructing. |
| <i>General Support</i> | |
| General support; no preference of alternative | Your comments are noted. |
| Support project happening "ASAP" and requested the funding process start now | |
| Support and suggested construction begin at I-77 and work westward to relieve traffic as early as possible | |
| Request project begin soon | |
| General support of the project | |
| General support and request project begin soon to resolve existing traffic congestion | |
| Project should be expedited to address traffic congestion and improve access to emergency vehicles | |
| Project should begin sooner to resolve existing traffic congestion, especially between Perth and Morrison Plantation | |
| General support for the proposed project, but also request special consideration to preserve 'History' | |
| Consideration should be given to EMS vehicles and effort made to complete the project as fast as possible | |
| Noted that traffic during school hours and high volume of accidents; Cannot wait 3 to 4 years for construction | |
| Applaud NCDOT for the work they did on the project | |
| Thank you NCDOT for providing vertical clearance necessary to allow boats under UNC 150 | |
| <i>General Opposition</i> | |
| Cost to go around Terrell is too expensive and doesn't make sense | Your comments are noted. |

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| Project would destroy many businesses and residences and create deep resentment among many NC citizens | Concern about funding and the likelihood of the funds being diverted | <p>With the new State Transportation Improvement Program, these funds are committed for Part B for the project. Part A is not funded.</p> <p>Since R-2307B is a high priority project for the NCDOT in reducing traffic congestion and improving motorists' safety in Mooresville, it is unlikely that the dedicated state and Federal funding for this project, will be diverted to another NCDOT roadway improvement project. R-2307AB has been in planning and development for many years, so much effort has already been expended by many NCDOT and Federal Highway Administration engineers, and various state and Federal agency members advancing R-2307AB toward completion. Local municipal planning organization staff members, county officials and municipal officials in Catawba County and in Iredell County, have also worked for many years, contributing to the R-2307AB project development effort. R-2307B, in Mooresville, is now roughly one year away from beginning right-of-way acquisition.</p> |
| Project would cause severe environmental issues and burden infrastructure in Sherrill's Ford and Terrell | | |
| Project destroying small businesses that have been anchored for years | | |
| There are other alternatives better suited for the area; Project will displace long-time homeowners and businesses. | | |
| Construction will drive away businesses/developers due to the project's construction duration | | |
| Miscellaneous | | |
| Encouraged neighbors to submit comments | | Comment Noted. |
| Requesting retaining wall | | Retaining walls will be further evaluated during final design and implemented where feasible. |
| Opposes widening NC 150 past Queen's Landing | | Electing to not widen NC 150 past Queen's Landing would not satisfy the purpose and need of the project and not provide safe and efficient access to Queen's Landing in the future as the amount of traffic grows. Additionally, stopping the project at Queen's Landing does not provide logical termini for the project. |
| Concern about the lack of community involvement regarding comments and suggestions from the citizens (2x) | | Two Public Meetings were held for this project. The first Public Meeting was held on November 21, 2013 and A second public meeting was held on February 25, 2014. Additionally, two public hearings were held August 22 - 23, 2016 which provided the public an opportunity to make a verbal statement on the record in addition to the standard written comment. Coordination has been ongoing with elected community officials and staff concerning multi-use paths and road configurations throughout the length of the preliminary designs. |