

NC 42
From US 70 to SR 1003 (Buffalo Road)
Johnston County
Federal Aid Project STP-42(4)
State Project 8.1312301
TIP Project R-3825

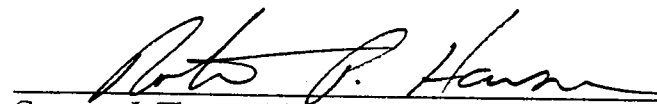
ADMINISTRATIVE ACTION
ENVIRONMENTAL ASSESSMENT

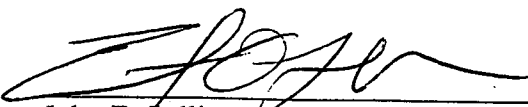
U. S. Department of Transportation
Federal Highway Administration
And

N. C. Department of Transportation
Division of Highways

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

APPROVED:

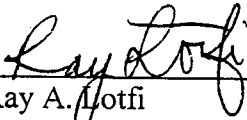
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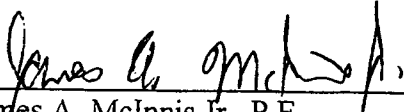
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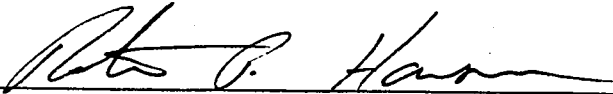
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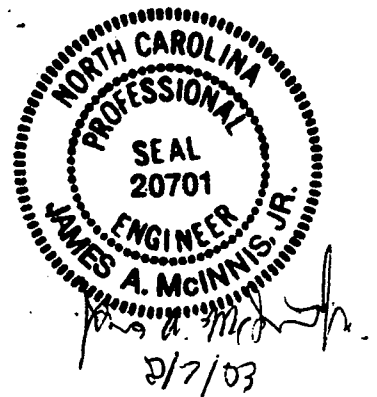


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PROJECT COMMITMENTS

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Division Four Construction

NCDOT's Stream Crossing Guidelines for Anadromous Fish Passage will apply to the Neuse River and all stream crossings within the project area.

No in-water work will be performed in the Neuse River between February 15th and June 15th, due to the likely presence of anadromous fish.

NCDOT will implement Best management Practices for Bridge Demolition and removal. The asphalt wearing surface of Bridge Number 75 and bridge rails will be removed without dropping into the water prior to bridge demolition.

During construction of the project, the driveway to Clayton Fire Station will be kept open at all times. No equipment or materials will be parked or placed in the fire station driveway at any time.

Roadside Environmental Unit/Division Four Construction

Turbidity curtains will be used during in-stream work in the Neuse River.

Structure Design Unit/Hydraulic Unit

Deck drains for the proposed bridge carrying NC 42 over the Neuse River will be designed so that runoff is not directly discharged into the Neuse River.

Roadway Design Unit/Geotechnical Unit

The proposed widening will require property from four sites potentially containing hazardous materials. A preliminary site assessment will be performed for all of the properties prior to right of way acquisition in order to determine the extent of any contamination. Right of way acquisition from the former Jimmy Flowers Store and the Percy Flowers Store will be by permanent easement rather than fee simple right of way due to the possibility of contamination on the properties. Permanent easements will be obtained from the former Peele Pesticide site and the Caterpillar site, as well, if the preliminary site assessment determines there is a possibility of contamination in areas needed for right of way.

SUMMARY
Environmental Assessment
Prepared by the
Project Development and Environmental Analysis Branch
of the
North Carolina Department of Transportation

1. Type of Action

This is a Federal Highway Administration (FHWA) Action, Environmental Assessment.

2. Project Purpose/Description of Action

The purpose of the proposed project is to improve the safety and traffic carrying capacity of NC 42 within the project limits.

The North Carolina Department of Transportation proposes to widen NC 42 to a four-lane shoulder facility with a 5.3 meter (17.5-foot) raised median from US 70 to SR 1003 (Buffalo Road). The proposed project is 5.7 miles long (see Figure 1).

3. Permits Required

It is anticipated that a U. S. Army Corps of Engineers Individual Permit will likely be required for the project. A Section 401 Water Quality General Certification from the North Carolina Division of Water Quality will be required prior to issuance of the Section 404 Individual Permit from the Corps of Engineers.

4. Summary of Environmental Impacts

Two homes and two businesses will be relocated as a result of this project. A relocation report is located in Appendix B.

Four residential receptors are predicted to experience noise impacts. A total of 0.288 hectares (0.71 acres) of wetlands will be impacted by the project.

5. Alternatives Considered

Two build alternatives, Alternate modes of transportation and the "no-build" alternative were considered as alternatives to the proposed improvements (see Section IV). Alternative 2 widening was chosen as the preferred alternative because it was the least expensive and least environmentally damaging of the alternatives considered. Alternate modes of transportation or the "no-build" alternative would not effectively serve the project purpose and need.

6. Additional Information

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

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7. Coordination

The following agencies were consulted regarding this project. An asterisk (*) indicates a response was received. Copies of the comments are included in Appendix A.

U.S. Department of the Army - Corps of Engineers (Wilmington District)
U.S. Fish and Wildlife Service - Raleigh
*N.C. Department of Cultural Resources
*N.C. Department of Environment, Health and Natural Resources

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I. DESCRIPTION OF PROPOSED ACTION

A. General Description

The North Carolina Department of Transportation proposes to widen NC 42 to a four-lane shoulder facility with a 5.3 meter (17.5 foot) raised median from US 70 to SR 1003 (Buffalo Road). The proposed project is 9.2 kilometers (5.7 miles) long (see Figure 1). No control of access is proposed. The project is included in the 2002-2008 North Carolina Transportation Improvement Program (TIP). Right of way acquisition and construction are scheduled in the draft 2004-2010 TIP for federal fiscal years 2004 and 2006 respectively.

B. Project Purpose

The purpose of the project is to improve safety and the traffic carrying capacity of NC 42 within the project limits.

C. Cost Estimates

The 2002-2008 TIP includes an estimated right of way acquisition cost of \$ 3,000,000 and construction cost of \$ 23,900,000. Total project cost included in the TIP is \$ 26,900,000.

The latest estimated costs for project R-3825 are shown below:

Right of Way Acquisition	\$ 4,624,500
Construction	\$22,500,000
Total Cost	\$27,124,500

II. NEED FOR PROPOSED PROJECT

A. Description of Existing Facility

1. Functional Classification

NC 42 is classified as a Rural Major Collector in the North Carolina Functional Classification System.

2. Existing Typical Section

NC 42, within the project limits, is a two-lane undivided facility. Travel lanes are 3.0 meters (10 feet) wide with 2.4 meter (8-foot) grass shoulders.

3. Right of Way and Access Control

The existing right of way on NC 42 is approximately 30 meters (100 feet). No control of access exists along the studied section of NC 42.

4. Speed Limit

The current posted speed limit along the length of the project varies from 45 mph to 55 mph.

5. Intersections

Currently, the following intersections are signalized:

- NC 42 and US 70
- NC 42 and Caterpillar Industrial Plant Drive
- NC 42 and SR 1902 (Glen Laurel Road)
- NC 42 and SR 1003

The remaining intersections along NC 42 in the project area are stop sign controlled.

6. Railroad Crossings

A single mainline track of the North Carolina Railroad crosses NC 42 just east of US 70. Approximately 10 trains a day pass through this crossing including two Amtrak passenger trains. Approximately 19,200 vehicles per day will use the crossing in 2006 and 24,600 vehicles per day are expected to use the crossing in 2026. The exposure index at this crossing is 190,200 based on 2006 traffic and 246,000 based on 2026 traffic. The exposure index at this crossing meets the warrant for a grade separation. However, due to the limited distance between the rail line and the adjacent intersection of NC 42/US 70, a grade separation would require a major reconstruction of NC 42 and the NC 42/US 70 intersection. This is beyond the scope of this project.

7. Structures

Bridge No. 75 was built in 1939 and carries NC 42 over the Neuse River (see Figure 6, Site 1). This two-lane bridge is 106.7 meters (350 feet) in length and has a clear roadway width of 7.3 meters (24.2 feet) wide. The current sufficiency rating is 4 out of a possible 100. The bridge is considered to be structurally deficient and functionally obsolete.

A 2.4 meters (8 feet) by 3 meters (10 feet) double barrel reinforced concrete box culvert carries Mill Creek under NC 42. A 1.5 meters (5 feet) by 1.5 meters (5 feet)

reinforced concrete box culvert carries an unnamed tributary to the Neuse River under NC 42. Figure 6 shows locations of these structures (Sites 1, 2, and 3).

8. Sidewalks/Bicycle Accommodations

There are no existing sidewalks or bicycle lanes along the project. NC 42 is not a designated bicycle route.

9. Utilities

Telephone, fiber optic cable, cable television, gas, water, and sewer lines are located along the proposed project. The degree of utility conflicts is expected to be medium.

10. School Bus Data

Approximately fifty school buses travel this section of NC 42 each school day, making an average of two trips per day.

11. Traffic Volumes

The projected traffic volumes for NC 42 range between 13,500 vehicles per day to 19,200 vehicles per day for the construction year (2006). These volumes are projected to increase to between approximately 18,200 vehicles per day to 26,300 vehicles per day for the design year (2026). Truck traffic is projected to be 6% of the total average daily traffic (volumes are shown on Figures 4A and 4B).

B. Deficiencies of Existing Facility

1. Traffic Carrying Capacity

The concept of level of service (LOS) is defined as a qualitative measure describing the operational conditions within a traffic stream and how these conditions are perceived by motorists and/or passengers. A level of service definition generally describes conditions in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, delay, comfort, convenience, and safety. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations from A to F, with level of service A representing the best operating conditions and level of service F representing the worst.

Without the proposed improvements, NC 42 will operate at level of service C in construction year 2006, and level of service F in design year 2026.

Levels of service for signalized intersections along NC 42 are presented in Table 1 below.

**Table 1
SIGNALIZED INTERSECTION LEVEL OF SERVICE
WITHOUT PROJECT**

NC 42 intersection with	Year 2006	Year 2026
US 70	C	E
SR 2022 *	B	F
Caterpillar Plant Drive	A	F
SR 1902	B	F
SR 1003	D	E

*Future signal recommended

2. Accident Record

A total of 172 accidents with two fatalities (Ran off road and angle type of accidents) were reported on this portion of NC 42 in the period between January 1, 1997 and December 31, 1999.

The accident rate along the existing facility for this time period was 245.08 accidents per one hundred million vehicle miles (acc/100mvm). In comparison to the statewide rate of 228.87 acc/100mvm, NC 42 within the project limits has an accident rate above the statewide rate. The fatal crash rate along the studied section of NC 42 was 2.85 accidents per 100 million vehicle miles. The fatal crash rate for similar facilities in North Carolina was 2.93 accidents per 100 million vehicle miles. Most of the accidents which occurred during the study period were rear end collisions, slow or stop type of accidents (52% of the total accidents).

C. Benefits of Proposed Project

1. Capacity

With the proposed widening, NC 42 is projected to operate at LOS B initially and maintain a LOS D or better through design year 2026.

Level of service for signalized intersections along NC 42 with the project are presented in Table 2 below.

**Table 2
SIGNALIZED INTERSECTION LEVEL OF SERVICE
WITH PROJECT**

NC 42 intersection with	Year 2006	Year 2026
US 70	C	E
SR 2022 *	B	B
Caterpillar Plant Drive	A	B
SR 1902	C	C
SR 1003	C	E

*Future signal recommended

2. **Safety**

As stated previously, the majority of accidents occurring along the subject section of NC 42 during the studied years were rear-end collisions. The additional travel lanes and left turn lanes will reduce the potential for these type accidents by allowing slowing or stopping vehicles to move out of the through lanes.

The proposed dual lanes per direction will allow vehicles to pass slow moving vehicles without having to encroach in the opposing travel lanes.

3. **Other Benefits**

The proposed widening of NC 42 will reduce delay for roadway users, resulting in lower roadway user costs.

III. PROPOSED IMPROVEMENTS

A. **Roadway Cross-section**

The recommended cross section for the proposed project is a four-lane median divided facility. Two 3.6 meter (12-foot) lanes in each direction will be separated by a 5.3 meter (17.5-foot) raised median. Outside grassed shoulders will be 2.4 meters (8 feet) wide, 1.2 meters (4 feet) of which will be paved. The total project length is 9.2 kilometers (5.7 miles). The proposed typical section is shown on Figure 5A.

B. **Alignment**

NC 42 will be widened symmetrically from US 70 to SR 2022 (Old NC 42). From Old NC 42 to SR 2008 (Fox Ridge Road), the proposed new lanes will be constructed on the north side of existing NC 42. From Fox Ridge Road to Bennett Place, the new lanes will be constructed on the south side of NC 42. NC 42 will be widened symmetrically from Bennett Place to Buffalo Road. The proposed improvements are designed to minimize impacts to streams, wetlands, and adjoining properties.

C. **Structures**

Bridge No. 75 carrying NC 42 over the Neuse River will be replaced with a new structure approximately 22.4 meters (73.5 feet) wide and 115.8 meters (380 feet) long. Bridge No. 75 will be replaced on existing location. Traffic will be maintained on the existing bridge during construction. The proposed typical section across the new bridge is shown on Figure 5B.

A double barrel 2.4 meters (8 feet) by 3 meters (10 feet) reinforced concrete box culvert carries Mill Creek under NC 42. The existing culvert will be retained and extended.

A 1.5 meters (5 feet) by 1.5 meters (5 feet) reinforced concrete box culvert carries an unnamed tributary to the Neuse River (see Figure 6 Site 3). The existing culvert will be

retained and extended with a 54-inch reinforced concrete pipe. Figure 6 shows locations of these structures.

D. Speed Limit

NC 42 within the project limits will likely be signed 45 MPH following completion of the project.

E. Design Speed

The proposed design speed for the subject project is 80 km/h (50 mph). This is consistent with the proposed 45 MPH speed limit.

F. Right of Way/Control of Access

Additional right of way will be required for the proposed widening of NC 42. A total right of way width of approximately 48.8 meters (160 feet) is proposed for NC 42 within the project limits. No control of access is proposed for this project.

G. Intersection Treatment and Type of Control

The intersection of SR 2022 (Old NC 42) with NC 42 is not signalized at this time. This intersection is expected to be signalized following construction of the future Front Street Extension, which will tie into SR 2022 north of NC 42. Front Street Extension is shown on the Clayton Thoroughfare Plan, but is unfunded.

H. Sidewalks/Bicycle Accommodations

No sidewalks are proposed along NC 42 in the project area. The proposed bridge over the Neuse River will be wide enough to allow pedestrians to cross the bridge without having to walk in the travel lane. NC 42 is not a designated bicycle route. No special bicycle accommodations are proposed to be constructed as part of this project. The proposed 1.2 meter (four-foot) paved shoulders will accommodate bicycles.

IV. ALTERNATIVES TO THE PROPOSED ACTION

A. Build Alternatives

Two build alternatives were studied for the project. Alternatives 1 and 2 would both widen NC 42 to a four-lane median divided facility with grassed shoulders. The two alternatives involve widening NC 42 symmetrically between US 70 and SR 2022 (Old NC 42). With both alternatives, the proposed new lanes will be constructed on the south side of existing NC 42 from Fox Ridge Road to Bennett Place and symmetrically from Bennett Place to Buffalo Road. The two alternatives differ along an approximately 1.75 mile section of NC 42, from SR 2022 (Old NC 42) to Woodberry Court. Along this portion of NC 42,

Alternative 1 involves widening to the south and Alternative 2 involves widening to the north. In this area, Alternative 2 was developed in order to reduce impacts to a wetland area located south of NC 42.

A comparison between Alternatives 1 and 2 is shown in table 3 below:

**Table 3
ALTERNATIVE COMPARISON**

DESCRIPTION	ALTERNATIVE 1	ALTERNATIVE 2 "Recommended"
Residential Relocates	2	2
Business Relocates	2	2
Wetland Impacts	0.331 ha (0.82 ac)	0.288 ha (0.71 ac)
Surface Waters	335 meters (1096 feet)	329 meters (1079 feet)
Construction Cost	\$23,000,000	\$22,500,000
Right of Way Cost	\$ 5,047,400	\$ 4,624,500
Total Cost	\$28,047,400	\$27,124,500

Alternative 2 would reduce impacts on wetlands, streams, and has a lower project cost.

Curb and gutter was considered for the project, but a shoulder section was chosen because of stormwater treatment requirements for the Neuse River Basin. A shoulder section will allow the use of grass swales to treat stormwater runoff before discharging into buffered streams. The shoulder section will also eliminate the need for large stormwater detention facilities.

B. "No Build" Alternative

This alternative would avoid any environmental impacts that are anticipated as a result of the proposed project, but would not meet the purpose and need of the project.

C. Alternate Modes of Transportation

It was determined that no alternate modes of transportation would be a practical alternative to the recommended alternative. Highway transportation is the dominant mode of transportation in the area. Staggering work hours, car pooling, and van pooling are possible ways to generally reduce highway congestion; however, these congestion management measures are not controlled by the NCDOT and cannot be incorporated into this project.

V. EVALUATION OF ENVIRONMENTAL IMPACTS

A. Cultural Resources

1. Compliance Guidance

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

2. Historic Architectural Resources

The State Historic Preservation Office (HPO) stated by letter dated June 17, 1999 (see Appendix A) that they are aware of "no structures of historical or architectural importance located within the planning area." Therefore, no historic architectural investigation was conducted in connection with this project.

3. Archaeological Resources

An archaeological survey of the project's area of potential effect was conducted by NCDOT archaeologists to determine the project's impact on significant archaeological or historical resources. No archaeological sites were found within the project's area of potential effects. Therefore, no additional archaeological investigation is recommended for this project. The State Historic Preservation Office concurred with these findings in a letter dated March 22, 2001 (see Appendix A, page A-5).

B. Section 4(f) Resources

Section 4(f) of the U.S. Department of Transportation Act of 1966 specifies that publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, and all historic sites of national, state, and local significance may be used for federal projects only if:

- There is no feasible and prudent alternative to the use of such land.
- Such project includes all possible planning to minimize harm to 4(f) lands resulting from such use.

This project will not impact any resources protected by Section 4(f) of the NCDOT Act of 1966, as amended.

C. Natural Resources

1. Biotic Resources

Biotic resources include aquatic and terrestrial ecosystems. Descriptions of the terrestrial systems are presented in the context of plant community classifications. Dominant flora and fauna likely to occur in each community are described and discussed. Fauna observed during field investigations are denoted with an asterisk (*). Plant community descriptions are based on a classification system utilized by the North Carolina Natural Heritage Program (NHP). When appropriate, community classifications were modified to better reflect field observations.

a. Terrestrial Communities

Five terrestrial communities are identifiable in the project study area: disturbed community, mixed hardwood forest, pine hardwood forest, piedmont alluvial forest, and riparian fringe.

Disturbed Community

Dominant species include fescue, beardgrass, bermuda grass and foxtail grass. The irregularly maintained roadside shoulder and powerline easement have denser herbaceous vegetation and shrubs. Dominant herbs, grasses and vines include common greenbrier, a sunflower, wood sorrel, ragweed, morning glory, running cedar, blackberry, Japanese honeysuckle, and kudzu. The maintained yard is predominantly bermuda grass and other ornamental plant species. Agriculture fields located within the project study area were planted with cotton.

Riparian Fringe

This community is located along the banks of streams within the project study area. The herbs and vines located in this community include smartweeds, an aster, Japanese honeysuckle, goldenrod, false nettle, a rush, blackberry, a sedge, trumpet creeper, and dog fennel. Shrubs and trees located within the community include red maple, river birch, tag alder and sweetgum.

Mixed Hardwood Forest

This community is predominantly hardwoods with some scattered pines. There are areas where the pines are denser; however, the pines are not as dense as in the pine forest community. The forest is open with little herbaceous vegetation, and with the understory being predominantly hardwood saplings. Dominant species located in the canopy and subcanopy include sweetgum, red maple, tulip poplar, red bud, winged elm, white oak, American beech, ironwood, sourwood, sycamore, American holly and loblolly pine. Species located in the herb and vine layer include trumpet creeper, Japanese honeysuckle, muscadine grape and greenbrier.

Pine Hardwood Forest

This community is dominated by pine trees and a few scattered hardwoods. It is open with little herbaceous or shrubby vegetation. The dominant species are loblolly pine and short-leaf pine. The hardwoods include red maple, sweetgum, sourwood, and water oak. The herb and vine layer includes muscadine grape, trumpet creeper, and Japanese honeysuckle.

Piedmont Alluvial Forest

This community is located along the floodplains of the Neuse River. It is lower in elevation and flatter than other areas. The herbs and vines located in this community include an aster, muscadine grape, Japanese honeysuckle, and creeping grass. Shrubs and trees located within the community include box elder, Chinese privet, sweetgum, red maple, tulip poplar, river birch, sycamore, and American holly. Portions of this community are considered jurisdictional wetlands.

Faunal Component

Many species prefer open, disturbed habitat to feed and nest in. The Southeastern shrew may be found in the tangles of vines and dominant herbaceous vegetation in the irregularly maintained areas. The Eastern harvest mouse may be found in the agricultural fields in the open areas. Birds such as mourning doves* and killdeer* can be observed foraging for seeds and insects in open, disturbed areas. Soaring over open areas searching for carrion, turkey vultures* can be observed. American crows* and fish crows* were also heard. The Eastern fence lizard can be seen in the open areas.

Many species are highly adaptive and may utilize the edges of forests and clearings or prefer a mixture of habitat types. The Eastern cottontail prefers a mix of herbaceous and woody vegetation in disturbed open areas such as brushy edges of forests. White-tailed deer* will utilize the forested areas as well as the adjacent open areas. The white-footed mouse is found in edge habitat between forests and grassy fields. Both the Carolina anole and the five-lined skink enjoy the open sunny edge habitat. The black rat snake will come out of forested habitat to forage in open areas. The Northern mockingbird*, Eastern bluebird*, American robin*, and red-tailed hawk * can be observed perched in edge habitat.

Many species prefer to forage and nest primarily in forested communities. The opossum and the raccoon* prefer woodlands but can be observed in open areas as well. In the leaf litter of the forested habitats, the Southern short-tailed shrew and the white-footed mouse may be found. Gray squirrels* are often observed in wooded areas but may be seen in residential yards as well. The spring peeper can be found under forest litter and in brushy undergrowth. The Eastern box turtle is a terrestrial turtle but will be found near streams in hot, dry weather. Burrowing underground in moist areas, the worm snake is common in forests. Birds such as the Northern cardinal*, Carolina chickadee*, Carolina wren, and blue jay* will forage and nest within the forested community. In the alluvial forest within a wetland, a downy

woodpecker* and a red-bellied woodpecker* were observed. Because there are ponds located in close proximity to the project study area, both north and south of NC 42, species such as great blue herons *, Canada geese*, and mallards* will be crossing the project study area.

b. Aquatic Communities

During wet times the green frog may be found along the banks and in intermittent streams. Also, many of the terrestrial species such as the raccoon, opossum, and the white-tailed deer will utilize intermittent streams during wet periods.

Perennial streams sustain flow throughout the year. Perennial streams support an assemblage of fauna that require a constant source of flowing water. The dwarf salamander and the three-lined salamander both are found in Piedmont streams and creeks. Green frogs, Southern cricket frogs, Fowler's toads, and Eastern box turtles also frequent forested streams. Fish species that may be located here include the gizzard shad, golden shiner, rosyside dace, satinfin shiner, Eastern silvery minnow, creek chubsucker, margined madtom, Eastern mosquitofish, redbreast sunfish, bluegill, and other sunfishes. Possible anadramous fish include American shad and striped bass.

c. Anticipated Impacts to Biotic Resources

Construction of the subject project will have various impacts on the biotic resources described. Any construction related activities in or near these resources have the potential to impact biological functions. This section quantifies and qualifies impacts to the natural resources in terms of the ecosystems affected. All measurements are approximate.

Calculated impacts to terrestrial communities reflect the relative abundance of each community (Table 4). Project construction will result in the clearing and degradation of portions of these communities.

**Table 4
Anticipated Impacts to Biotic Communities**

Community	Area of Impact
Disturbed Community	29.8 ac / 12.1 ha
Mixed Hardwood Forest	18.9 ac / 7.7 ha
Pine Hardwood Forest	4.4 ac / 1.8 ha
Piedmont Alluvial Forest	3.0 ac / 1.2 ha
Riparian Fringe	0.1 ac / 0.04 ha
TOTAL	56.2 ac / 22.8 ha

The biotic communities found within the project area will be altered as a

result of project construction. Terrestrial communities serve as nesting, foraging, and shelter habitat for fauna. During construction, species that utilize open disturbed habitat will temporarily be displaced. Eventually, altered areas will revegetate and a disturbed community will be re-established. Because the species that inhabit disturbed communities are adapted to living in highly altered habitats, the area should be repopulated by species for which suitable habitat is provided following project completion.

The forested habitats located in the project study area are already relatively fragmented by agricultural areas, a school, a plant, and residential property, however there are large tracts of forest between developed areas. Following construction completion and revegetation, edge species will still have adequate habitat and the impacts from the loss of habitat should be minimal. The forested habitat loss will potentially impact fauna not located in the project study area as well. Interior species may be impacted from the reduced forested habitat available. If forested tracts become too small in area, interior species will not repopulate. However, because the impact will be along the already disturbed edge habitat of NC 42, impacts to fauna in the forest communities should be minimal.

2. Water Resources

The entire project area is located in the Neuse River Basin. There are a total of 16 streams in the project study area. There are 10 perennial streams (1 of which begins as an intermittent stream within the project study area) and 6 intermittent streams located within the project study area. Major streams crossed include the Neuse River and Mill Creek. There are 10 unnamed tributaries (UT) to the Neuse River located within the project area, each designated as UT #N. Mill Creek has 3 UTs, each designated as UT #M(see Figure 3) .

a. Neuse River and Tributaries

NC 42 crosses the Neuse River approximately 3.7 kilometers (2.3 miles) east of US 70. There are several wetlands associated with the floodplains of the Neuse River. The Neuse River is listed as an Anadromous Fish Spawning Area. Anadromous fish are those which spend most of their life in the ocean, but return to their natal freshwater streams to spawn.

b. Mill Creek and Tributaries

Mill Creek originates 8.4 kilometers (5.2 miles) north of NC 42 and flows south where it eventually converges with the Neuse River outside the project study area. The water flows through a double box culvert under NC 42. Fish and evidence of freshwater mussels and raccoons were observed. NC 42 crosses Mill Creek approximately 2.4 kilometers (1.5 miles) west of SR 1003.

c. Best Usage Classification

Streams have been assigned a best usage classification by the North Carolina Division of Water Quality (DWQ). According to the DWQ, the best usage classification of the Neuse River and Mill Creek (near Clayton) is WS-IV NSW. UTs receive the same classification as the stream into which they flow therefore, the best usage classification of all of the UTs in the project study area is WS-IV NSW as well. Class WS-IV (Water Supply IV) waters are used as sources of water supply for drinking, culinary, or food processing purposes. WS-IV waters are generally in moderately to highly developed watersheds or Protected Areas. The supplemental classification of NSW (Nutrient Sensitive Waters) are waters which require limitations on nutrient inputs because they are subject to growths of microscopic or macroscopic vegetation. No water resources classified as High Quality Waters (HQW's), Water Supplies (WS-I or WS-II), or Outstanding Resource Waters (ORW's) are located within 1.6 kilometers (1.0 mile) of the project study area.

d. Water Quality

The Ambient Monitoring System (AMS) is a network of stream, lake, and estuarine water quality monitoring stations. The program assesses water quality by collecting physical and chemical water quality data at fixed monitoring sites every five years. This data is used for basinwide assessment and planning. AMS station 2087500 is located on the Neuse River at the NC 42 crossing (NCDEHNR, 1992). Based on the specific criteria measured, the Neuse River at this station was rated ST (Support Threatened). The designated uses of these waters are currently being fully supported, however they may not be supported in the future without management.

Likewise, the Benthic Macroinvertebrate Ambient Network (BMAN) is managed by the DWQ and is part of an ongoing ambient water quality monitoring program which addresses long term trends in water quality. The program assesses water quality by sampling for selected benthic macroinvertebrate organisms at fixed monitoring sites. BMAN sampling station B-44, located on the Neuse River near Clayton was sampled July 1995 and received a bioclassification of Good (NCDEHNR, 1998).

Point source dischargers located throughout North Carolina are permitted through the National Pollutant Discharge Elimination System (NPDES) program. Any person discharging pollutants from a point source into waters of the United States is required to obtain a NPDES permit. River Dell Utilities/Neuse River Facilities (Permit No. NC 0064564 Date, 10/20/92) in Johnston County, is a permitted point source discharger to the Neuse River, located on NC 42 approximately 4 kilometers (2.5 miles) east of US 70.

There are many types of land use activities that can serve as sources of non-point source pollution in the Neuse River Basin including land development, construction, crop production, landfills, roads, and parking lots. Water quality may

be influenced by agricultural runoff. Land clearing can cause soil erosion, which leads to stream sedimentation, and animal waste can cause nutrient loading in streams.

e. Summary of Anticipated Impacts to Water Resources

Roadway construction in and adjacent to water resources may result in water quality impacts. Clearing and grubbing activities near the water will result in soil erosion leading to increased sedimentation and turbidity. These effects may extend downstream for a considerable distance with decreasing intensity.

Construction activities adjacent to water resources in the project area increase the potential for toxic compounds (gas, oil, and highway spills) to be carried into nearby water resources via precipitation, sheet flow, and subsurface drainage. Increased amounts of toxic materials can adversely alter the water quality of any water resource, thus impacting its biological and chemical functions. Indirect impacts to surface waters may extend both upstream and downstream of the project study area. Indirect impacts may include changes in flooding regime, discharge, erosion, and sedimentation patterns.

Removal of Bridge No. 75 may cause impacts to water resources. The bridge is constructed of reinforced concrete deck girders on concrete piers. The asphalt wearing surface and the bridge rails will be removed prior to bridge demolition, and will not be allowed to enter the water. There is a potential for components of the bridge to be dropped in Waters of the United States during construction. The maximum resulting temporary fill associated with the concrete bridge is approximately 316 cubic meters (414 cubic yards). Conditions in the river will raise sediment concerns and therefore a turbidity curtain is recommended as a preventative measure.

NCDOT's Best Management Practices (BMPs) for the Protection of Surface Waters will be strictly enforced during the entire life of the project to minimize impacts to water resources in the entire impact area. Because Bridge No. 75 is being removed, NCDOT's BMPs for Bridge Demolition and Removal will be used as well.

Erosion and sedimentation will be most pronounced as a result of disturbance of the stream banks and substrate. Sedimentation from these activities may be high during construction, but should diminish rapidly following project completion as exposed soils are revegetated and streambanks stabilized.

A shoulder section was chosen over curb and gutter for this project to allow the use of grass swales for the treatment of stormwater runoff before discharging into buffered streams and reduce the need for stormwater detention facilities.

3. Jurisdictional Topics

a. Waters of the United States

Surface waters and jurisdictional wetlands and streams fall under the broad category of "Waters of the United States," as defined in Section 33 of the Code of Federal Regulations (CFR) Part 328.3. Any action that proposes to place fill material into these areas falls under the jurisdiction of the U.S. Army Corps of Engineers (COE) under Section 404 of the Clean Water Act (CWA) (33 USC.1344).

There are 10 perennial streams and 6 intermittent streams located within the project study area. Major streams crossed include the Neuse River and Mill Creek. The Neuse River has 10 unnamed tributaries, and Mill Creek has 3 unnamed tributaries.

b. Wetlands

Eleven wetland areas were identified within the project study area. The approximate impact area for each is noted in Table 6. Approximate location of each wetland is shown in Figure 3.

c. Summary of Anticipated Impacts

Approximately 335 meters (1,096 feet) of jurisdictional waters are located within the proposed right of way limits of the project (Table 5). Actual impacts to the surface water community may be less than reported because the entire right of way width and easements are often not impacted by construction projects.

As stated previously, removal of Bridge No. 75 may cause impacts to water resources. There is a potential for the components of the bridge to be dropped in the Waters of the United States during construction. The maximum resulting temporary fill associated with the concrete bridge is approximately 316 cubic meters (414 cubic yards). Conditions in the stream will raise sediment concerns and therefore a turbidity curtain is recommended as a preventative measure. Because the Neuse River is listed as an anadromous fish spawning area, bridge demolition is classified as a Case 2. The Case 2 category allows no work in the water during moratorium periods (generally 15 February to 15 June) associated with fish migration, spawning, and larval recruitment into nursery areas.

Table 5
Stream Impacts Within the Project Study Area

Stream	Tributary of:	Class	Impacts m / ft[†]
Neuse R	-	perennial	30.5 m / 100 ft
UT #N1	Neuse River	intermittent	8.5 m / 28 ft
UT #N2	Neuse River	intermittent	9.8 m / 32 ft
UT #N3**	Neuse River	intermittent	4.3 m / 14 ft
UT #N3**	Neuse River	perennial	3.7 m / 12 ft
UT #N4	Neuse River	perennial	10.1m / 33 ft
UT #N5	Neuse River	intermittent	100 m / 327 ft
UT #N6	Neuse River	perennial	12 m / 38 ft
UT #N7	Neuse River	perennial	4 m / 14 ft
UT #N8	Neuse River	perennial	7 m / 23 ft
UT #N9	Neuse River	intermittent	9.4 m / 31 ft
UT #N10 [†]	Neuse River	perennial	0 m / 0 ft
Mill Cr	Neuse River	perennial	8.8 m / 29 ft
UT #M1	Mill Creek	perennial	127 m / 415 ft
UT #M2 [‡]	Mill Creek	intermittent	0 m / 0 ft
UT #M3 [‡]	Mill Creek	perennial	0 m / 0 ft
Total			335.1 m / 1096 ft

[†] Impacts based on feet of stream within the proposed right of way that is not already piped.

[‡] The pipes of these streams fall outside the right of way limit, however, symmetrical widening will cause impacts to these streams

**Stream changes from intermittent to perennial with in the right of way limits

There are 11 wetland systems located within the project study area (Table 6). The total estimated impact to these areas by the project is 0.288 ha (0.71 acres).

Table 6
Estimated Area of Wetland Impacts

Wetland Name	Impact Area (ha/ac)[†]	Associated Stream
Wetland A	0.008 ha / 0.02ac	UT #N10
Wetland B	0.09 ha / 0.22 ac	UT #N9
Wetland C	0.057 ha / 0.14 ac	UT #N9
Wetland D	0.017 ha / 0.04 ac	UT #M2
Wetland E	0.0012 ha / 0.03 ac	UT #M2
Wetland F	0.0003 ha / 0.0007 ac	UT #M2
Wetland G	0.009 ha / 0.02 ac	UT #N5
Wetland H	0.0364 ha / 0.09 ac	UT #N5
Wetland I	0.0081 ha / 0.02 ac	Neuse River floodplain
Wetland J	0.0364 ha / 0.09 ac	UT #N3
Wetland K	0.0162 ha / 0.04 ac	UT #N2 & UT #N1
Total	0.288 ha / 0.7107 ac	

d. Permits

Impacts to surface waters are anticipated from project construction. Although a discreet site may qualify for a Section 404 Nationwide Permit (NWP), cumulative impacts from this project will likely be authorized under an Individual Permit (IP). A North Carolina Division of Water Quality (DWQ) Section 401 Water Quality General Certification is required prior to the Section 404 Individual Permit.

e. Avoidance, Minimization, Mitigation

Total avoidance of impacts to wetlands is not feasible. Wetland areas are located on both sides of existing NC 42 in the project area (see Figure 3). Effects on wetlands have been minimized by widening away from wetlands as much as feasible, taking into consideration likely impacts to homes and businesses.

In wetland areas, the steepest side slopes practicable will be used in order to further minimize impacts. The proposed Best Management Practices will also reduce project effects on wetlands.

Compensatory mitigation is not normally considered until anticipated impacts to waters of the United States have been avoided and minimized to the maximum extent possible. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has been required. Compensatory actions often include restoration, creation, and enhancement of waters of the United States. Mitigation will be required for streams with 150 ft (45.7 m) and greater impacts. Such actions should be undertaken in areas adjacent to or contiguous to the discharge site.

Final decisions concerning compensatory mitigation for project impacts on wetlands will be made during the design phase of the project.

Because this project is located in the Neuse River Basin, buffer mitigation will also be required. Zone 1, the first 30 ft (9.1 m) of buffer, requires mitigation based on a 3:1 ratio. Zone 2, the remaining 6.1 meters (20 ft) (landward) of the 15 meters (50 feet) buffer, requires mitigation based on a 1.5:1 ratio.

4. Protected and Rare Species

a. Federally-protected Species

Plants and animals with federal classifications of Endangered, Threatened, Proposed Endangered, and Proposed Threatened are protected under provisions of Section 7 and Section 9 of the Endangered Species Act. As of January 29, 2003, there are four federally-protected species listed for Johnston County (Table 7). A brief description of each species' characteristics and habitat follows.

Table 7
Federally protected species in Johnston County

Common Name	Scientific Name	Status
Red-cockaded woodpecker	<i>Picooides borealis</i>	Endangered
Dwarf wedgemussel	<i>Alasmidonta heterodon</i>	Endangered
Tar spiny mussel	<i>Elliptio steinstansana</i>	Endangered
Michaux's sumac	<i>Rhus michauxii</i>	Endangered*

* indicates a historical record: last observed in the county more than 50 years ago

Red-Cockaded Woodpecker - Endangered

The red-cockaded woodpecker (RCW) uses open old growth stands of southern pines, particularly longleaf pine, for foraging and nesting habitat. A forested stand must contain at least 50% pine, lack a thick understory, and be contiguous with other stands to be appropriate habitat for the RCW. These birds nest exclusively in trees that are ≥ 60 years old and are contiguous with pine stands at least 30 years of age. The foraging range of the RCW is up to 200 hectares (500 acres). This acreage must be contiguous with suitable nesting sites.

These woodpeckers nest exclusively in living pine trees and usually in trees that are infected with the fungus that causes red-heart disease. Cavities are located in colonies from 3.6-30.3 meters (12-100 feet) above the ground and average 9.1- 15.7 meters (30-50 feet) high. They can be identified by a large incrustation of running sap that surrounds the tree.

BIOLOGICAL CONCLUSION

NO EFFECT

Potential habitat for the RCW is located within the project study area. A known population was visited on December 13, 2000. Red-cockaded woodpeckers, ideal habitat, and active cavities were observed. A survey for red-cockaded woodpeckers in the potential habitat areas at the project site was conducted on March 8, 2001 by NCDOT biologists. No red-cockaded woodpeckers were observed, nor were nesting cavities, or any other evidence that they may be using the project study area. A review of the NHP database of Rare Species and Unique Habitats on 15 November 2000 revealed no known occurrences of the red cockaded woodpecker within 1.0 mi (1.6 km) of the project study area. Therefore it can be concluded that construction of this project will not impact this species.

Dwarf Wedge Mussel - Endangered

The dwarf wedge mussel is a small mussel having a distinguishable shell noted by two lateral teeth on the right half and one on the left half. The periostracum (outer shell) is olive green to dark brown in color and the nacre (inner shell) is bluish to silvery white.

Known populations of dwarf wedge mussel in North Carolina are found in portions of the Neuse River Basin and in the Tar River Basin. This mussel is sensitive to agricultural, domestic, and industrial pollutants and requires a stable silt free streambed with well oxygenated water to survive.

BIOLOGICAL CONCLUSION

NO EFFECT

Surveys for mussels were conducted by NCDOT biologists on November 19, 2001, November 30, 2001, December 7, 2001 and August 14, 2002. The Dwarf wedge mussel was not found in the in-stream survey. The Natural Heritage Program's database of rare species and unique habitats was examined and there were no records of this species in the project area.

Tar Spiny mussel - Endangered

The Tar spiny mussel, one of only three freshwater mussels in the world with spines, is a medium-sized mussel reaching about 6.4 centimeters (2.5 inches) in length. In young specimens, the shell's outer surface is an orange-brown color with greenish rays; adults are darker with inconspicuous rays. The inside of the shell is yellow or pinkish at one end and bluish-white at the other. Juveniles may have as many as 12 spines; however, adult specimens tend to lose their spines as they mature.

Two relatively good populations are known to exist in two tributaries of the Tar River. Although they have been found in one other tributary and the main stem of the Tar River, individuals are becoming harder to find.

BIOLOGICAL CONCLUSION

NO EFFECT

No Tar spiny mussel population was observed in the project study area. A review of the Natural Heritage Program's database of rare species and unique habitats does not list a known population within twenty "river miles" up or downstream. Project construction will not impact this species.

Michaux's Sumac - Endangered

Michaux's sumac is a dioecious shrub growing to a height of 0.3–0.6 meters (1.0–2.0 feet). Plants flower in June, producing a terminal, erect, dense cluster of 4-5 parted greenish-yellow to white flowers. Fruits, produced from August through September, are red, densely short-pubescent drupes, 5-6 mm (0.25 inch) across.

Most populations of Michaux's sumac occur in North Carolina. This species prefers sandy, rocky, open woods and roadsides. Its survival is dependent on disturbance (mowing, clearing, fire) to maintain an open habitat. It is often found with other members of its genus as well as with poison ivy. There is no longer believed to be an association between this species and specific soil types.

BIOLOGICAL CONCLUSION:

NO EFFECT

Habitat for Michaux's sumac is present within the project study area. No Michaux's sumac was found during surveys of the project area. Given the result of the survey it can be concluded that the proposed project will not impact Michaux's sumac. The Natural Heritage Program's database of rare species and unique habitats was examined and there were no records of this species in the project area.

b. Federal Species of Concern

There are thirteen Federal Species of Concerns (FSC) listed for Johnston County as of January 29, 2003. FSC are not afforded federal protection under the Endangered Species Act and are not subject to any of its provisions, including Section 7, until they are formally proposed or listed as Threatened or Endangered. Organisms which are listed as Endangered, Threatened or Special Concern by the North Carolina Natural Heritage Program (NHP) list of Rare Plant and Animal Species are afforded state protection or are monitored under the State Endangered Species Act and the NC Plant Protection and Conservation Act of 1979. However, the level of protection given to the state listed species does not apply to NCDOT activities. Table 8 provides the FSC in Johnston County and indicates the species state status, and whether or not there is adequate habitat for each species in the project study area.

**Table 8
Federal Species of Concern in Johnston County**

Common Name	Scientific Name	State Status¹	Habitat
Pinewoods shiner	<i>Lythrurus matutinus</i>	SR	Yes
Yellow lance	<i>Elliptio lanceolata</i>	T(PE)	Yes
Atlantic pigtoe	<i>Fusconaia masoni</i>	T(PE)	Yes
Yellow lampmussel	<i>Lampsilis cariosa</i>	T(PE)	Yes
Green floater	<i>Lasmigona subviridis</i>	E	Yes
Tar River crayfish	<i>Procambarus medialis</i>	W3	Yes
Spring-flowering goldenrod	<i>Solidago verna</i>	T	Yes
Carolina asphodel	<i>Tofieldia glabra</i>	C	No
Carolina least trillium	<i>Trillium pusillum var. pusillum</i>	E	No
"Neuse" madtom*	<i>Noturus furiosus</i> "population 1"	FSC	
Sandhills bog lily*	<i>Lilium pyrophilum</i>	FSC	
Carolina bogmint*	<i>Macbridea caroliniana</i>	FSC	
Long beach seedbox*	<i>Ludwigia brevipes</i>	FSC*	

E-State-listed endangered species

C-State-listed candidate species

SC-State-listed special concern species

*Information on the habitat will be provided.

Surveys for FSC listed in Table 8 were not conducted during the site visit, nor were these species observed during the site visit. A review of the NHP database of Rare Species and unique habitats did not reveal the presence of these species or unique habitats in or near the project study area.

D. Social Effects

1. Land use

a. Existing Land Use and Zoning

Land development along both sides of NC 42 is either agricultural or low-density, single-family residential. There are a few large industries (Caterpillar and Adventis) located at the beginning of the project near US 70. Most of the project area remains heavily wooded.

b. Status of Planning

The Clayton Strategic Growth Plan, completed in December 2000, recommends that land along the south side of NC 42 between US 70 and Glen Laurel Road be used for industrial purposes, while the north side is proposed for a mix of industrial and single-family residential. A commercial center is recommended in the southeast quadrant of the

NC 42/Glen Laurel Road intersection. Except for a tract north of this intersection that is recommended for office/institutional use, all of the land along the NC 42 corridor east of Glen Laurel Road is recommended for single-family residential use.

2. Environmental Justice

In compliance with Executive Order 12898 (Federal Action to Address Environmental Justice in Minority Populations), a review was conducted to determine whether minority or low-income populations will receive disproportionately high and adverse human health or environmental impacts as a result of this project. It is estimated the project will relocate two residences; none of these are considered low-income. None of these relocatees is a minority residence. It is estimated the project will relocate two businesses; none of these are considered a minority business.

A citizens informational workshop was held for the project on September 13, 1999. This workshop was advertised in local newspapers. Through the public involvement program, citizens have been kept informed of the proposed project. No issues related to environmental justice concerns have been discovered through the public involvement process.

Based on project studies, this project is being implemented in accordance with Executive Order 12898.

3. Relocation of Residences and Businesses

The proposed project will require the relocation of two residences and two businesses. It is anticipated that adequate replacement properties will be available. The relocation program for the project will be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), and/or the NCDOT relocation Act (GS 1343-5 through 133-18). The NCDOT relocation program is designed to provide assistance to displaced persons in relocating to a replacement site in which to live or do business. A relocation report discussing potential relocatees and a description of NCDOT relocation programs are presented in Appendix B.

4. Public Facilities, Schools, Institutes and Services

A Fire station for the Town of Clayton is located on NC 42 approximately one mile east of US 70. The East Clayton Elementary School is located at the NC 42 /Castleberry Road intersection. Access from and to these public facilities in the project area will be much easier and improved following the completion of the project.

During the construction of the project, the driveway of the fire station will be kept open at all times. No equipment or materials will be parked or placed in the fire station driveway at any time.

5. Farmland

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the impact of land acquisition and construction projects on prime and important farmland soils. North Carolina Executive Order Number 96 requires all state agencies to consider the impact of land acquisition and construction projects on prime farmland soils, as designated by the US Natural Resources Conservation Service (NRCS). Land which is planned or zoned for urban development is not subject to the same level of preservation afforded other rural, agricultural areas. The project area meets the planned urbanization condition and is zoned for residential development. Therefore, no further consideration of farmland impacts is required.

6. Flood Hazard Evaluation

Johnston County is a current participant in the National Flood Insurance Regular Program. The crossings of Beaver Creek, a Beaver Creek Tributary, and Mill Creek are in designated flood hazard zones. Figure 6 shows the established limits of the 100-year floodplain in the vicinity of these stream crossings. Floodway revisions will be needed at these stream crossings. NCDOT will coordinate with the Federal Emergency management Agency (FEMA) and local authorities during the final design phase of the project for approval of the floodways revisions and to ensure compliance with applicable floodplain ordinances. It is anticipated the proposed project will have no significant adverse effect on the existing floodplain, nor on the associated flood hazards.

E. Highway Traffic Noise Analysis

1. Introduction

A traffic noise analysis was performed to determine the effect of widening NC 42 on noise levels in the immediate project area. This investigation included an inventory of existing noise sensitive land uses and a field survey of ambient (existing) noise levels in the study area. It also included a comparison of the predicted noise levels and the ambient noise levels to determine if traffic noise impacts can be expected to result from the proposed project. Traffic noise impacts are determined from the current procedures for the abatement of highway traffic noise and construction noise, appearing as Part 772 of Title 23 of the Code of Federal Regulations. If traffic noise impacts are predicted, examination and evaluation of alternative noise abatement measures must be considered.

2. Noise Abatement Criteria

To determine whether highway noise levels are compatible with various land uses, the Federal Highway Administration (FHWA) has developed noise abatement criteria (NAC) and procedures to be used in the planning and design of highways. These abatement criteria and procedures are set forth in Title 23 CFR Part 772. A summary of the noise abatement criteria for various land uses is presented in Appendix C, Table N2. The Leq, or equivalent sound level, is the level of constant sound which in a given situation and time period has the same energy as does time varying sound. In other words, the fluctuating sound levels of traffic noise are represented in terms of a steady noise level with the same energy content.

3. Ambient Noise Levels

Ambient noise levels were taken in the vicinity of the project to determine the existing noise levels. The purpose of this noise level information was to quantify the existing acoustic environment and to provide a base for assessing the impact of noise level increases. The existing Leq noise levels in the project area as measured at 50 feet from the edge of pavement of the nearest lane of traffic ranged from 67.8 to 68.2 dBA. Measured exterior Leq noise levels are presented in Appendix C, Table N3.

4. Procedure for Predicting Future Noise Levels

The procedure used to predict future noise levels in this study was the Traffic Noise Model (TNM). TNM uses the number and type of vehicles on the planned roadway, their speeds, the physical characteristics of the road, receptor location and height, and, if applicable, barrier type, barrier ground elevation, and barrier top elevation.

Only preliminary alignment was available for use in this noise analysis. Only those existing natural or man-made barriers were included in setting up the model. The roadway sections and proposed intersections were assumed to be flat and at-grade. Thus, this analysis represents the "worst-case" topographical conditions. The noise predictions made in this report are highway-related noise predictions for the traffic conditions during the year being analyzed.

Peak hour design and level-of-service (LOS) C volumes were compared, and the volumes resulting in the noisiest conditions were used with the proposed posted speed limits. Hence, during all other time periods, the noise levels will be no greater than those indicated in this report.

5. Noise Analysis Results

Traffic noise impacts occur when the predicted traffic noise levels approach (within 1 dBA of the Table N2 value) or exceed the Federal Highway Administration (FHWA) noise abatement criteria and/or a receptor is predicted to sustain a substantial noise increase. The traffic Noise Abatement criteria are shown on Table N2 of Appendix C.

The Leq traffic noise exposures associated with this project are listed in Table N4 of Appendix C. The maximum number of receptors in each activity category for each section predicted to become impacted by traffic noise is shown in Table N5. Under Title 23 CFR Part 772, with the construction of the project, four receptors are predicted to be impacted by highway traffic noise in the project area. The maximum extent of the 72 and 67 dBA noise level contours from the center of the proposed roadway are 56.9 and 85.2 feet, respectively (see Table N5 of Appendix C).

Tables N6 indicate the exterior traffic noise level increases for the identified receptors and roadway section. The predicted noise level increases for this project range from +1 to +6. There are no receptors predicted to experience a substantial increase in exterior noise levels.

6. Traffic Noise Abatement Measures

If traffic noise impacts are predicted, examination and evaluation of alternative noise abatement measures for reducing or eliminating the noise impacts must be considered. Consideration for noise abatement measures must be given to all impacted receptors.

a. Highway Alignment

The selection of alternative highway alignments for noise abatement purposes must consider the balance between noise impacts and other engineering and environmental parameters. For noise abatement, horizontal alignment selection is primarily a matter of siting the roadway at a sufficient distance from noise sensitive areas. Changing the highway alignment is not a viable alternative for noise abatement.

b. Traffic System Management Measures

Traffic management measures which limit vehicle type, speed, volume and time of operations are not considered appropriate for noise abatement due to their effect on the capacity and level of service of the proposed roadway.

c. Noise Barriers

Physical measures to abate anticipated traffic noise levels can often be applied with a measurable degree of success by the application of solid mass, attenuable measures to effectively diffract, absorb, and reflect highway traffic noise emissions. Solid mass, attenuable measures may include earth berms or artificial abatement walls.

No control of access is proposed for the project, which means that most commercial establishments and residences will have direct driveway connections to the proposed improvement, and all intersections will be at-grade.

For a noise barrier to provide sufficient noise reduction it must be high enough and long enough to shield the receptor from significant sections of the highway. Access openings in the barrier severely reduce the noise reduction provided by the barrier. It then becomes economically unreasonable to construct a barrier for a small noise reduction. Safety at access openings (driveways, crossing streets, etc.) due to restricted sight distance is also a concern. Furthermore, to provide a sufficient reduction, a barrier's length

would normally be 8 times the distance from the barrier to the receptor. For example, a receptor located 50 feet from the barrier would normally require a barrier 400 feet long. An access opening of 40 feet (10 percent of the area) would limit its noise reduction to approximately 4 dBA.

In addition, businesses, churches, and other related establishments located along a particular highway normally require accessibility and high visibility. Noise barriers would tend to disallow these two qualities, and thus, would not be acceptable abatement measures in this case.

d. "No Build" Alternative

The traffic noise impacts for the "do nothing" or "no-build" alternative were also considered. No receptors are predicted to experience traffic noise impacts and the future traffic noise levels would only increase approximately 1-2 dBA. This small increase in noise levels would be barely be noticeable to the people working and living in the area. A 5 dBA change in noise levels is more readily noticed.

e. Construction Noise

The major construction elements of this project are expected to be earth removal, hauling, grading, and paving. General construction noise impacts, such as temporary speech interference for passers-by and those individuals living or working near the project, can be expected. However, considering the relatively short-term nature of construction noise and the limitation of construction to daytime hours, these impacts are not expected to be substantial. The transmission loss characteristics of nearby natural elements and man-made structures are believed to be sufficient to moderate the effects of intrusive construction noise.

f. Summary

Based on these preliminary studies, traffic noise abatement is not recommended, and no noise abatement measures are proposed. This evaluation completes the highway traffic noise requirements of Title 23 CFR Part 772, and unless a major project change develops, no additional noise reports will be submitted for this project.

F. Air Quality Analysis

Introduction

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

considered to be the major source of CO in the project area. For this reason, most of the analysis presented herein is concerned with determining expected carbon monoxide levels in the vicinity of the project due to automobile flow.

1. CO Concentration

The background concentration is defined by the North Carolina Department of Environment, Health and Natural Resources as "the concentration of a pollutant at a point that is the result of emissions outside the local vicinity; that is, the concentration at the upwind edge of the local sources."

The background CO concentration for the project area was estimated to be 1.8 parts per million (ppm). Consultation with the Air Quality Section, Division of Environmental Management (DEM), North Carolina Department of Environment, Health and Natural Resources indicated that an ambient CO concentration of 1.8 parts per million (ppm) is suitable for most suburban and rural areas.

2. Air Quality Analysis

Johnston County is in compliance with the National Ambient Air Quality Standards. The project is located in an attainment area. The worst-case scenario air quality receptor was determined to be located along the limits of the roadway's right-of-way. The predicted one-hour CO concentrations for the evaluation build years of 2005, 2010 and 2025 for the worst-case air quality scenario are 7.8, 7.9 and 8.2 parts per million (ppm), respectively.

Comparison of the predicted CO concentrations with the NAAQS (maximum permitted for 1-hour averaging period = 35 ppm; 8-hour averaging period = 9 ppm) indicates no violation of these standards. Since the results of the worst-case 1-hour CO analysis for the build scenario is less than 9 ppm, it can be concluded that the 8-hour CO level does not exceed the standard. In addition, a no build scenario was completed for all evaluation years. The resulting CO concentrations were similar to the build scenario, thus not exceeding the standards. The proposed project is not anticipated to create any adverse effects on the air quality of this attainment area.

3. Construction Air Quality Effects

During construction of the proposed project, all materials resulting from clearing and grubbing, demolition or other operations will be removed from the project, burned or otherwise disposed of by the Contractor. Any burning will be done in accordance with applicable local laws and ordinances and regulations of the North Carolina State Implementation Plan (SIP) for air quality in compliance with 15 NCAC 2D.0520. Care will be taken to insure

burning will be done at the greatest distance practical from dwellings and not when atmospheric conditions are such as to create a hazard to the public. Burning will be performed under constant surveillance. Measures will be taken to reduce the dust generated by construction when the control of dust is necessary for the protection and comfort of motorists or area residents.

G. Hazardous Materials and UST Involvement

Based on a field reconnaissance survey and database review of the project area, two facilities containing underground storage tanks (UST)s and two Superfund sites have been identified within the project limits.

The first UST site is a former service station (Jimmy Flowers Store) located just east of SR 1704 on the north side of NC 42. The underground storage tanks were removed in August 1994. These tanks were located approximately 20.4 meters (67 feet) from the existing centerline of NC 42. Soil contamination above state action levels was found during the closure, but no groundwater was encountered. A groundwater incident number (17217) was assigned to the site. No action has been taken, and the site is not under any type of remediation.

The second UST site is located in the northwest quadrant NC 42 and SR 1003. This service station (The Percy Flowers Store) is currently in operation. The active underground storage tanks are located approximately 105 feet from NC 42. New underground storage tanks were installed in 1993, and four older USTs were removed. No monitoring wells were observed, and the site does not appear to be under remediation.

The first Superfund site, the Peele Company Pesticide Disposal Site, is located on the south side of NC 42 approximately 0.6 kilometer (0.4 mile) west of SR 1902 (Glenn Laurel Road). The property was used for the disposal of pesticides in the late 1950's and 1960's. The chemicals were placed in a trench and then burned. This former trench is approximately 85 meters (280 feet) from the centerline of NC 42. Soils in the area were excavated and properly disposed of in 1997. The groundwater at this Superfund site is currently being monitored. The Town of Clayton plans to construct a fire station on this property. No hazardous material issues are expected at this site.

The second Superfund site, the Former Data General Corporation Site (now Caterpillar), is located on the south side of NC 42 approximately 0.3 kilometer (0.2 mile) west of SR 1902. This site is listed as a Superfund site because fish collected from a pond on the property indicated low levels of pesticide contamination from the Peele site, which is nearby. This pond is located nearly 305 meters (1,000 feet) away from NC 42. Two USTs were removed from the property, one in 1986 and the other in 1990. These tanks were located on the side of the building away from NC 42. No hazardous materials issues are expected at this site.

No regulated or unregulated landfills or dumpsites exist within the project limits.

The proposed widening will require property from all of these potential hazardous material sites. A preliminary site assessment will be performed for all of the properties prior to right of way acquisition in order to determine the extent of any contamination. Right of way acquisition from the two service station sites will be by permanent easement rather than fee simple right of way due to the possibility of contamination on the properties. Permanent easements will be obtained from the two Superfund sites, as well, if the preliminary site assessment determines there is a possibility of contamination in areas needed for right of way.

VI. COMMENTS AND COORDINATION

A. Citizens Informational Workshop

A citizens informational workshop was held on September 13, 1999, to obtain comments and suggestions about the project from the public. Approximately 43 persons attended this meeting, including NCDOT representatives. Most of the comments received related to project impacts on private properties and access to properties. This meeting was advertised through local newspapers and flyers were sent to property owners and citizens in the project area.

B. Agency Coordination

The following agencies were consulted regarding this project. An asterisk (*) indicates a response was received. Copies of the comments are included in Appendix A.

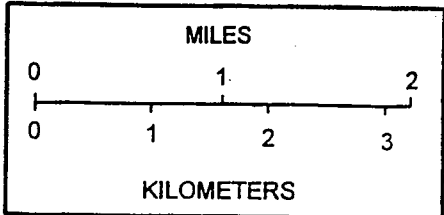
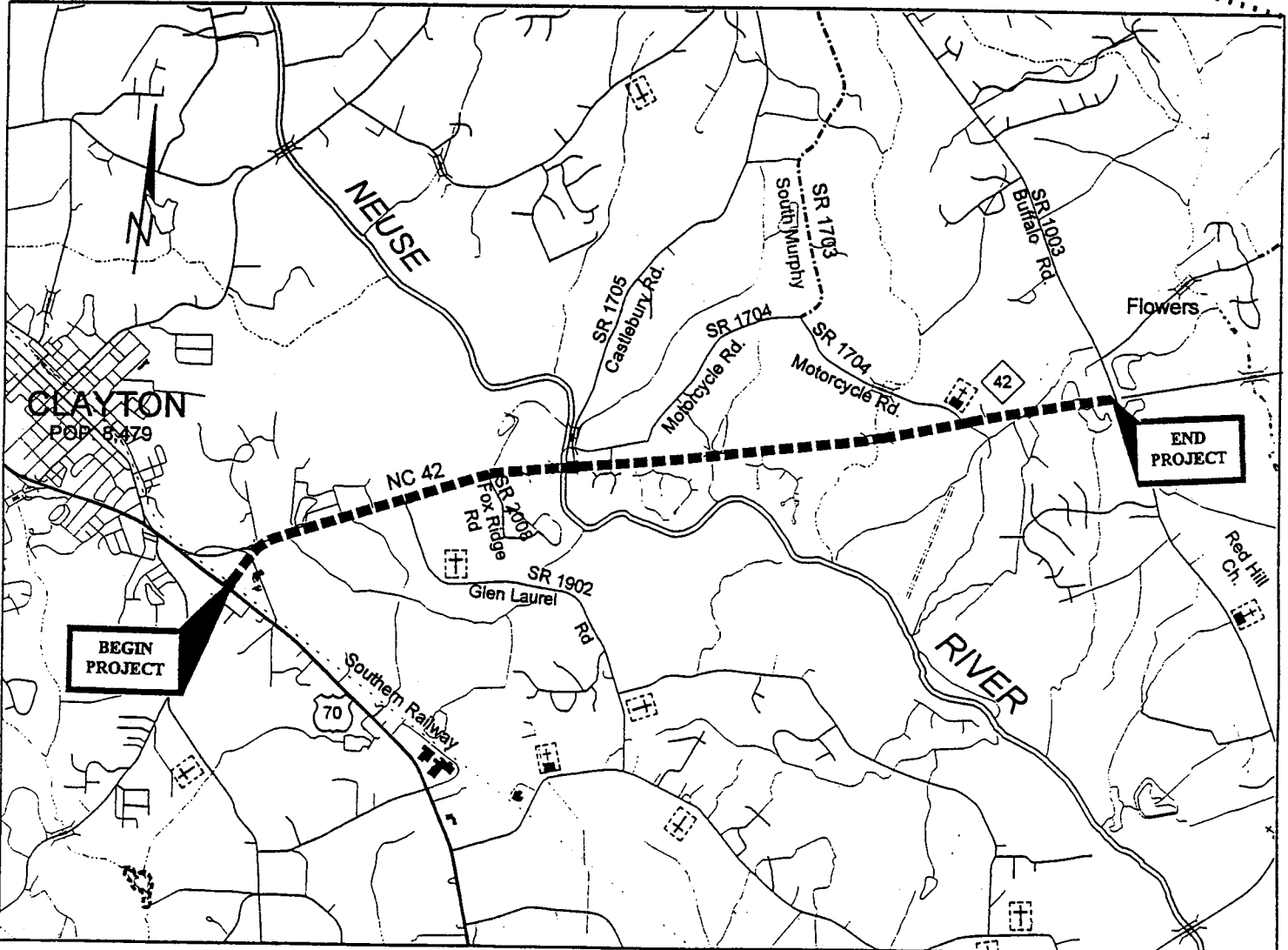
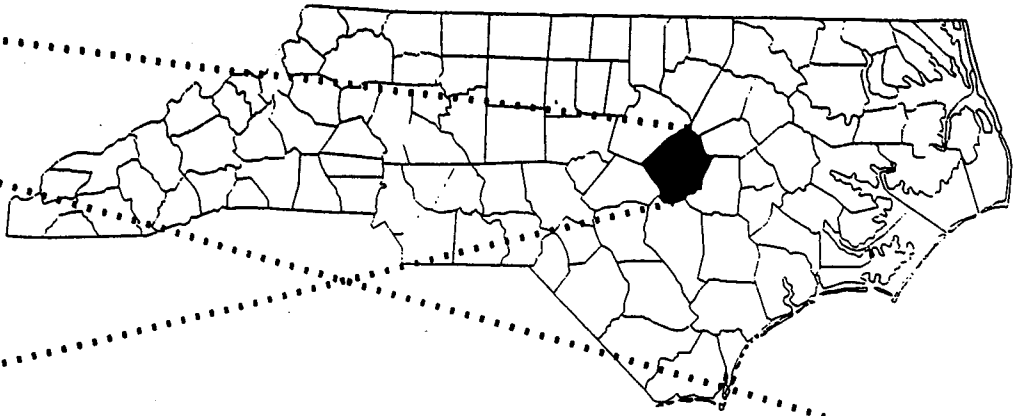
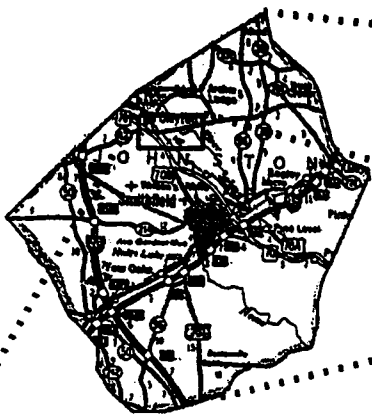
U.S. Department of the Army - Corps of Engineers (Wilmington District)

U.S. Fish and Wildlife Service - Raleigh

*N.C. Department of Cultural Resources

*N.C. Department of Environment, Health and Natural Resources

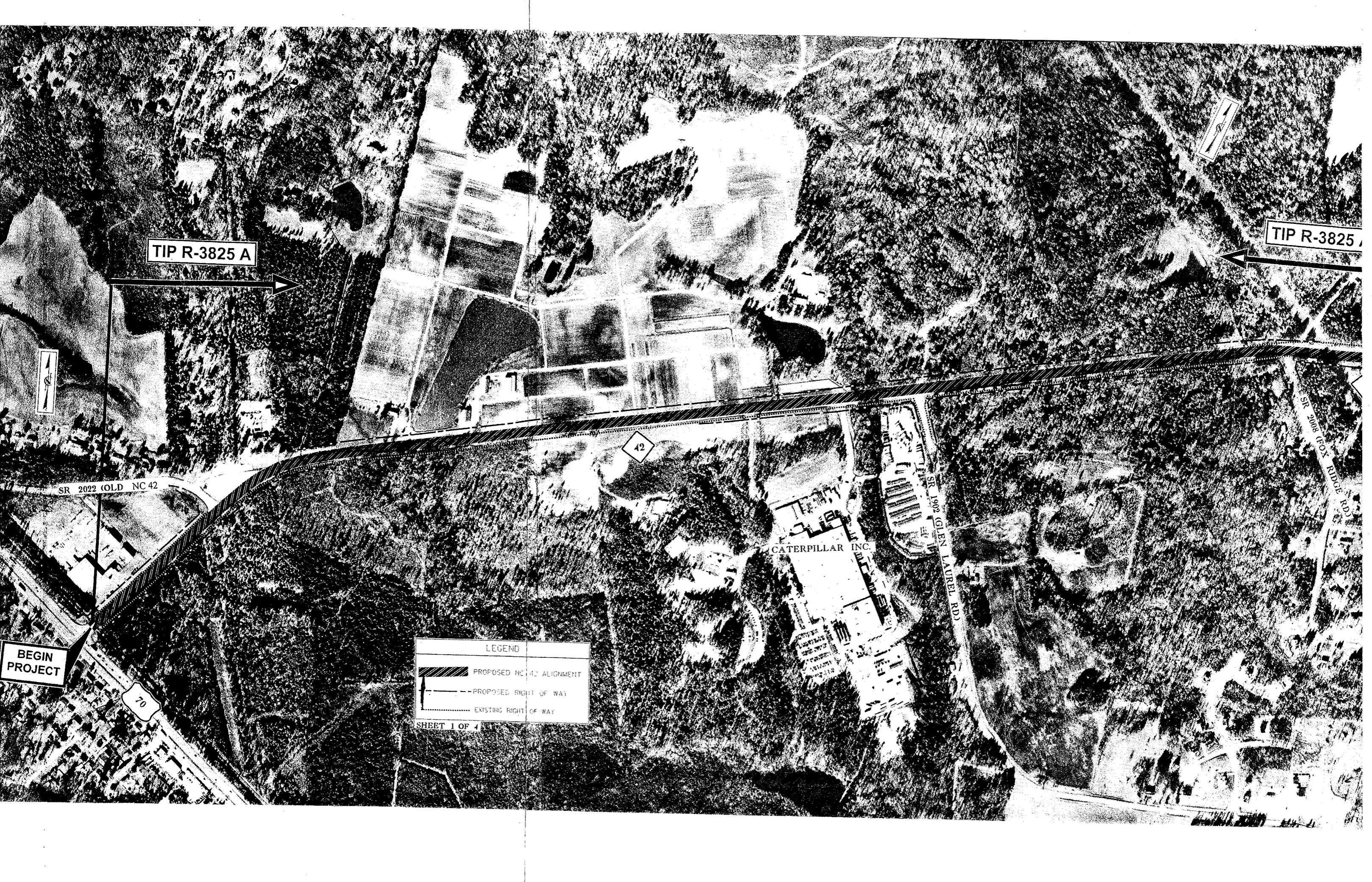
FIGURES



NORTH CAROLINA DEPARTMENT
 OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 PROJECT DEVELOPMENT AND
 ENVIRONMENTAL ANALYSIS BRANCH

NC 42
 US 70 to SR 1003 (Buffalo Rd.)
 Johnson County
 TIP PROJECT R-3825

Figure 1



TIP R-3825 A

TIP R-3825

SR 2022 (OLD NC 42)

CATERPILLAR INC.


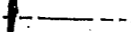
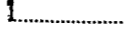
SR 1902 (GLEN LAUREL RD)

SR 2008 (FOX RIDGE RD)

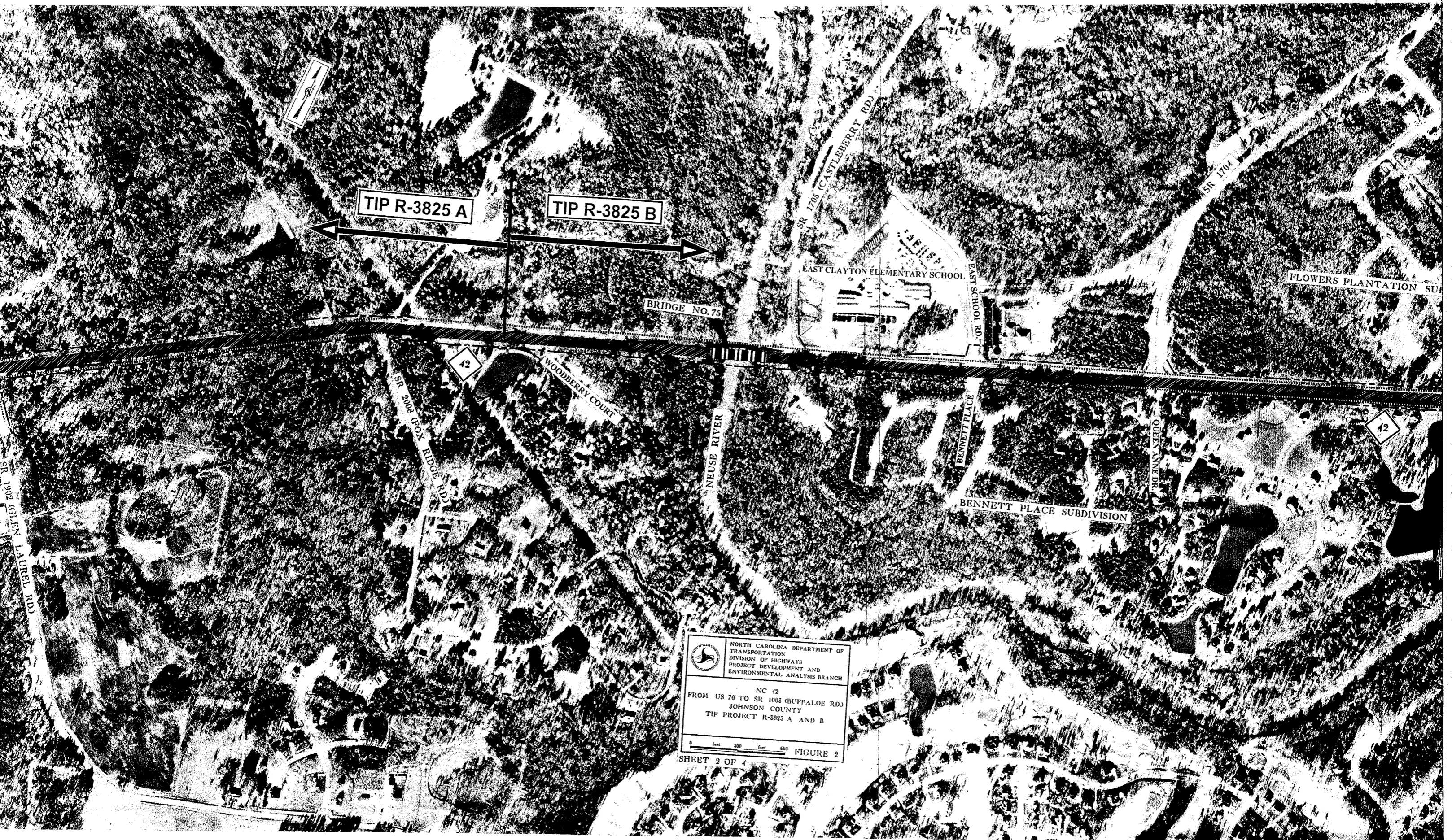
42

70

BEGIN PROJECT

LEGEND	
	PROPOSED NC 42 ALIGNMENT
	PROPOSED RIGHT OF WAY
	EXISTING RIGHT OF WAY

SHEET 1 OF 4



TIP R-3825 A

TIP R-3825 B


EAST CLAYTON ELEMENTARY SCHOOL

BRIDGE NO. 75

FLOWERS PLANTATION SU

42

42


 NORTH CAROLINA DEPARTMENT OF
 TRANSPORTATION
 DIVISION OF HIGHWAYS
 PROJECT DEVELOPMENT AND
 ENVIRONMENTAL ANALYSIS BRANCH

 NC 42
 FROM US 70 TO SR 1003 (BUFFALO RD.)
 JOHNSON COUNTY
 TIP PROJECT R-3825 A AND B

 0 feet 200 feet 600 feet
 SHEET 2 OF 4
 FIGURE 2

SR 170A

FLOWERS PLANTATION SUBDIVISION



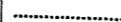


MILL CREEK

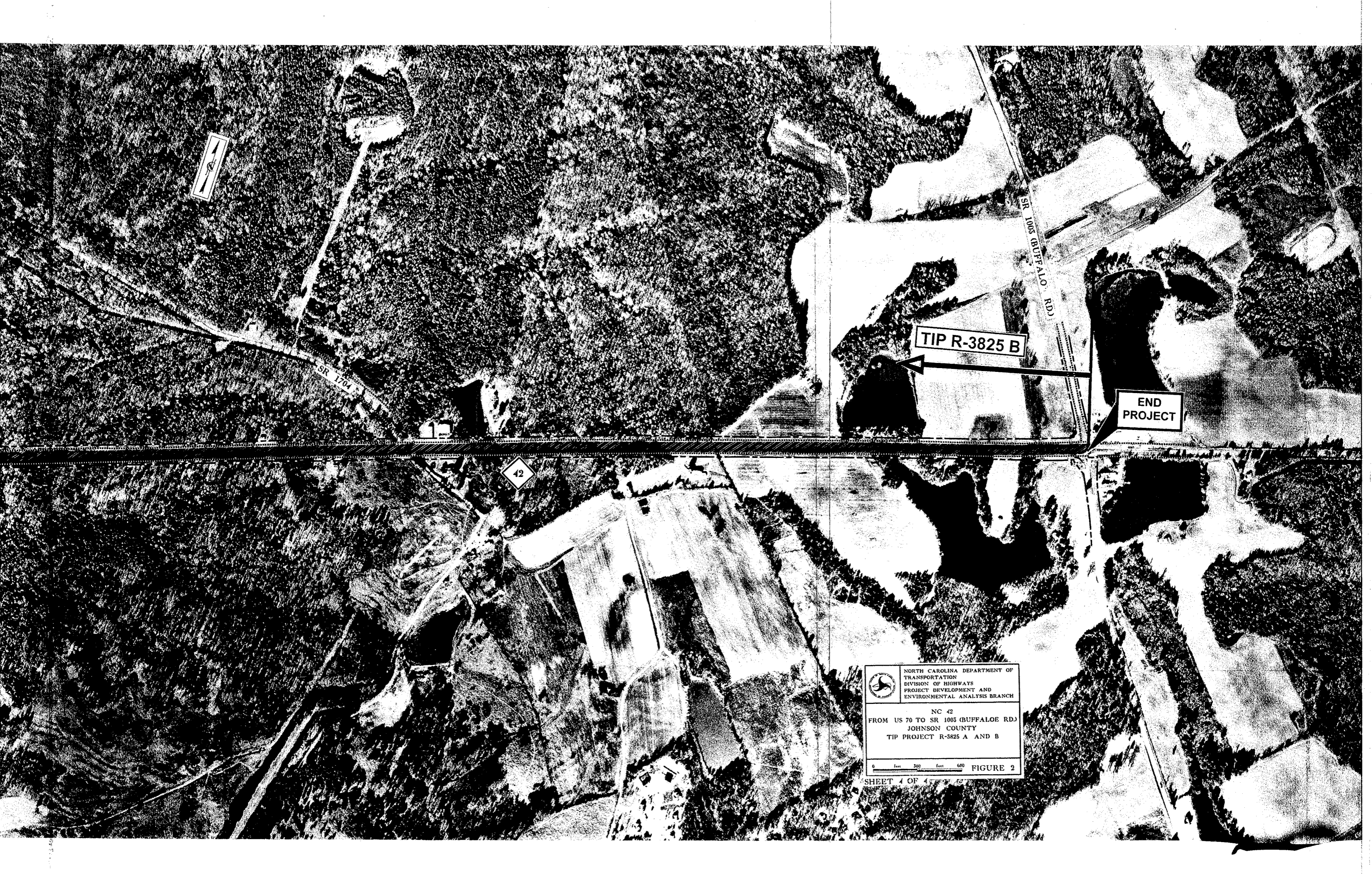
SR 170A

42

NEUSE COLONY DR

LEGEND	
	PROPOSED NC 42 ALIGNMENT
	PROPOSED RIGHT OF WAY
	EXISTING RIGHT OF WAY

SHEET 3 OF 4




SR 170

SR 1005 (BUFFALO RD.)

42

TIP R-3825 B

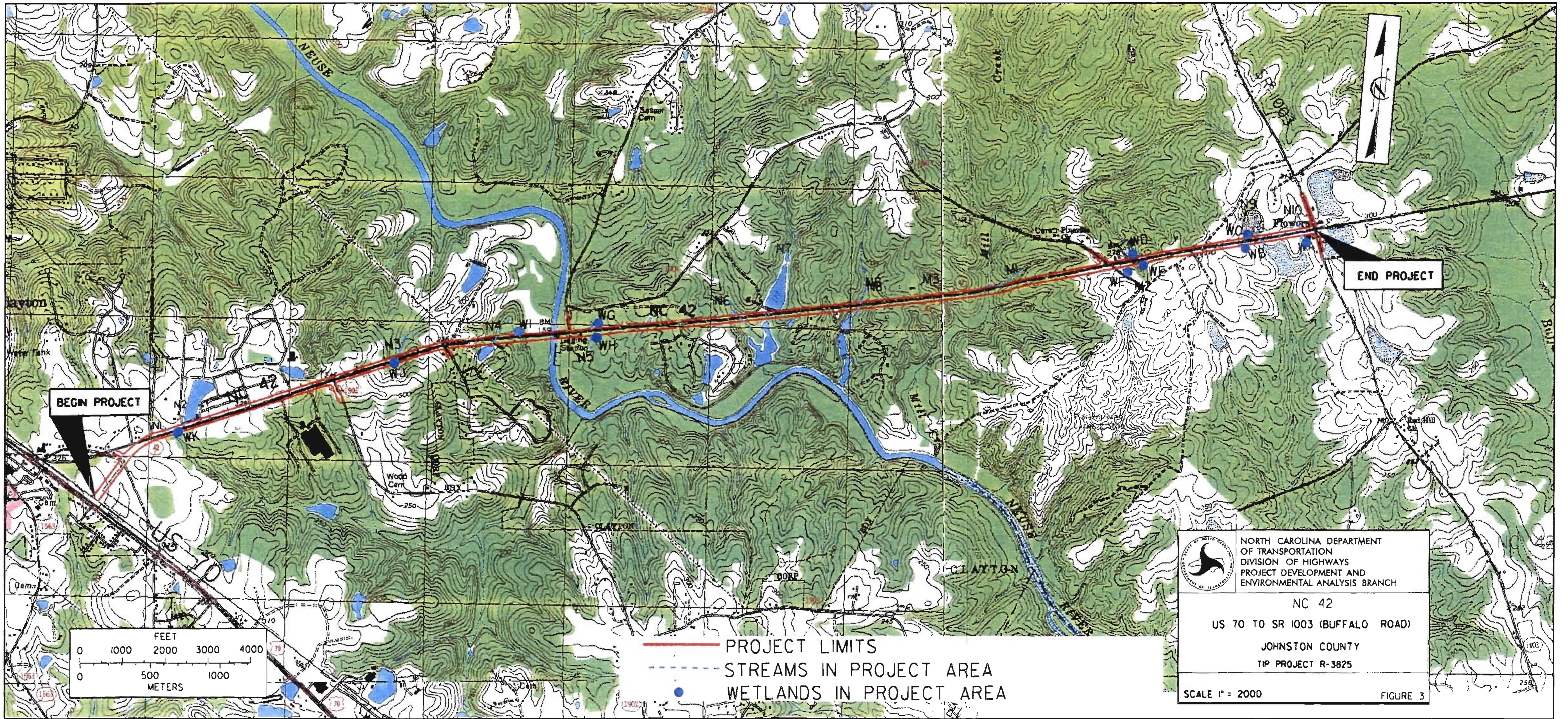
END PROJECT


 NORTH CAROLINA DEPARTMENT OF
 TRANSPORTATION
 DIVISION OF HIGHWAYS
 PROJECT DEVELOPMENT AND
 ENVIRONMENTAL ANALYSIS BRANCH

NC 42
 FROM US 70 TO SR 1005 (BUFFALO RD.)
 JOHNSON COUNTY
 TIP PROJECT R-3825 A AND B

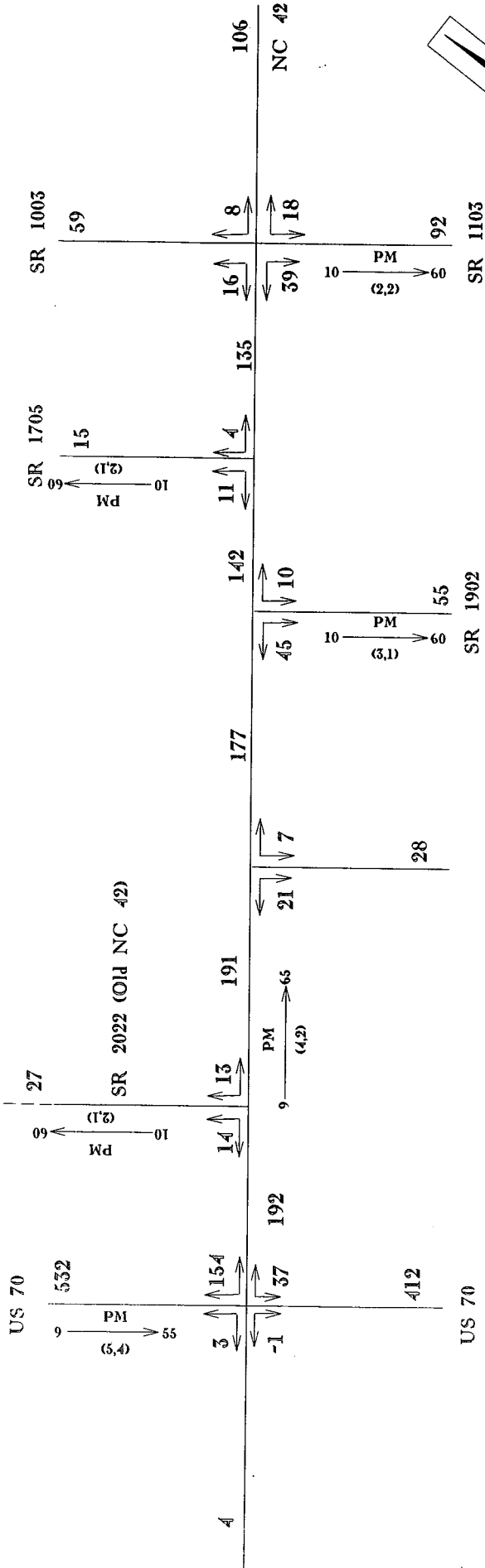
0 feet 300 feet 600 FIGURE 2

SHEET 4 OF 4



TIP PROJECT R-3825 JOHNSTON COUNTY

PROPOSED FRONT
STREET EXTENSION



CATERPILLAR
INDUSTRIAL
PLANT

LEGEND

VPD- # OF VEHICLES PER DAY

X MOVEMENT PROHIBITED

DHV $\begin{matrix} \text{PM} \\ \text{D} \end{matrix} \begin{matrix} \text{---} \\ \text{---} \end{matrix} \begin{matrix} \text{---} \\ \text{---} \end{matrix} \begin{matrix} \text{---} \\ \text{---} \end{matrix} \begin{matrix} \text{---} \\ \text{---} \end{matrix}$


DHV DESIGN HOURLY VOLUME (X) = K30

D K30-50TH HIGHEST HOURLY VOLUME

PM DIRECTIONAL SPLIT (X)

DUALS, TT-ST'S (X)

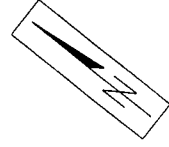
NOTE: DHV D INDICATES THE DIRECTION D. REVERSE FLOW FOR AM PEAK



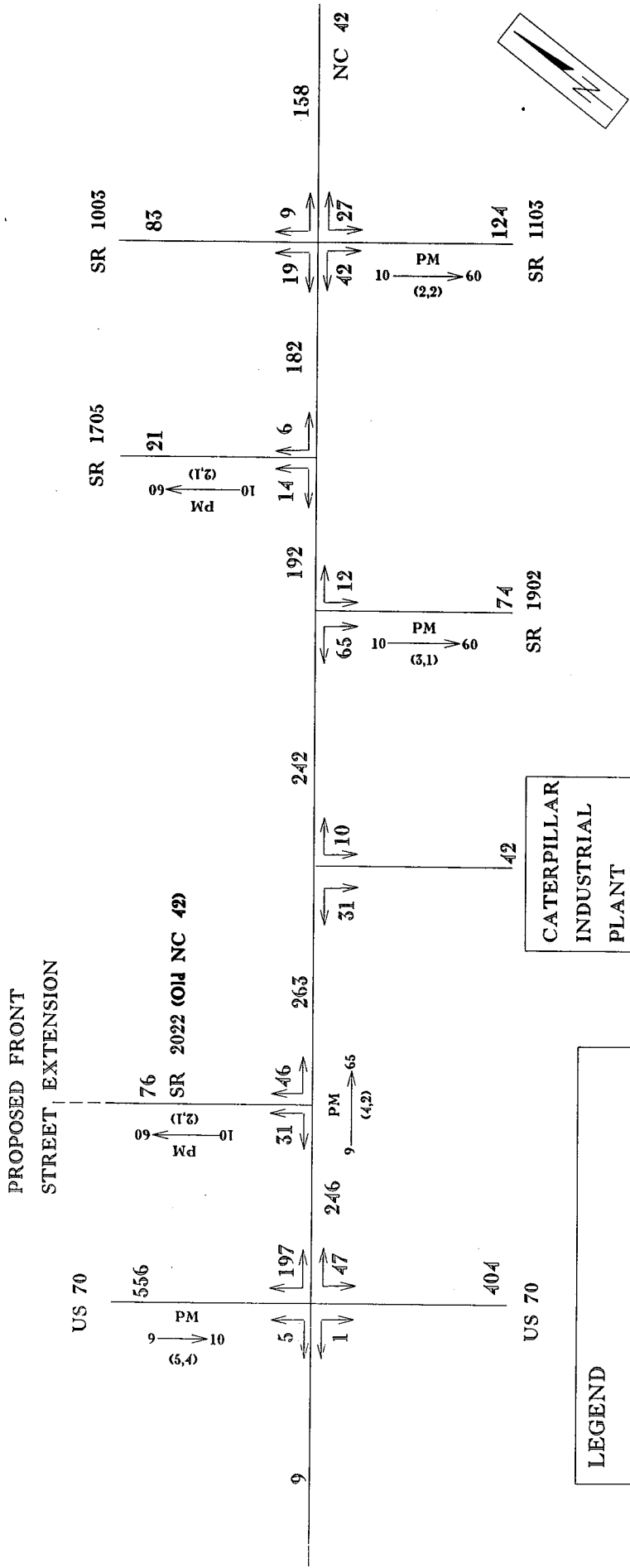
NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

NC 42
US 70 TO SR 1003
WIDEN TO MULTI-LANES
JOHNSTON COUNTY
TIP PROJECT R-3825

NOT TO SCALE FIGURE 4A



TIP PROJECT R-3825 JOHNSTON COUNTY



LEGEND

VPD- # OF VEHICLES PER DAY

X MOVEMENT PROHIBITED

DHV $\xrightarrow{(d,t)}$ D

DHV DESIGN HOURLY VOLUME (X) = K30

D K30=30TH HIGHEST HOURLY VOLUME


D DIRECTIONAL SPLIT (X)

PM PM PEAK PERIOD

(d,t) DUALS, TT-ST'S (X)

NOTE: DHV \xrightarrow{D} D INDICATES THE DIRECTION D.

REVERSE FLOW FOR AM PEAK



NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

NC 42
US 70 TO SR 1003
JOHNSTON COUNTY
TIP PROJECT R-3825

NOT TO SCALE

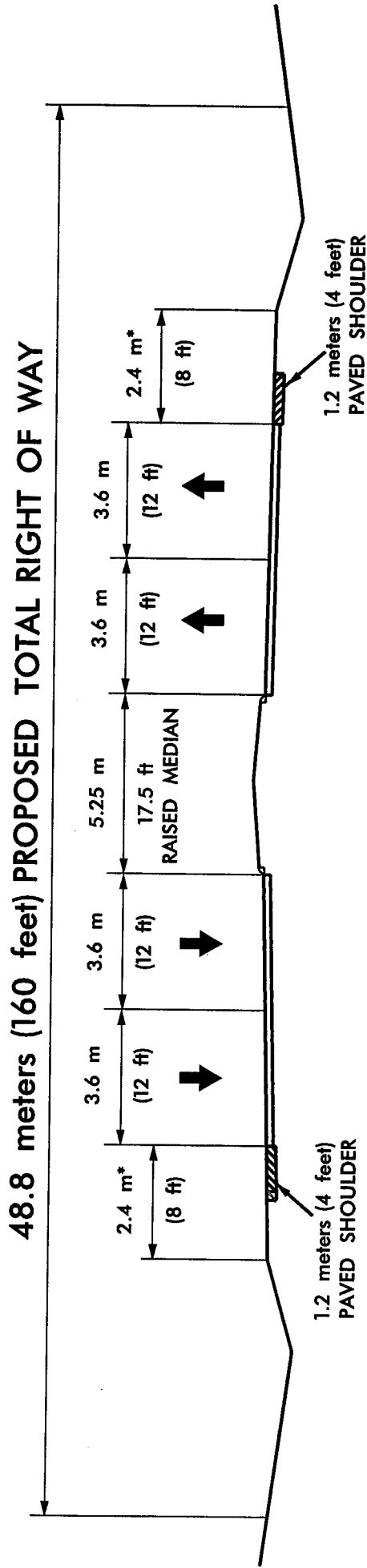
FIGURE 4B

2026 ESTIMATED ADT VOLUME (IN HUNDREDS)
WITH PROPOSED US 70 BYPASS (OTHER PROJECT)

TIP PROJECT R-3825

PROPOSED TYPICAL SECTION

FOUR-LANES WITH MEDIAN AND SHOULDERS

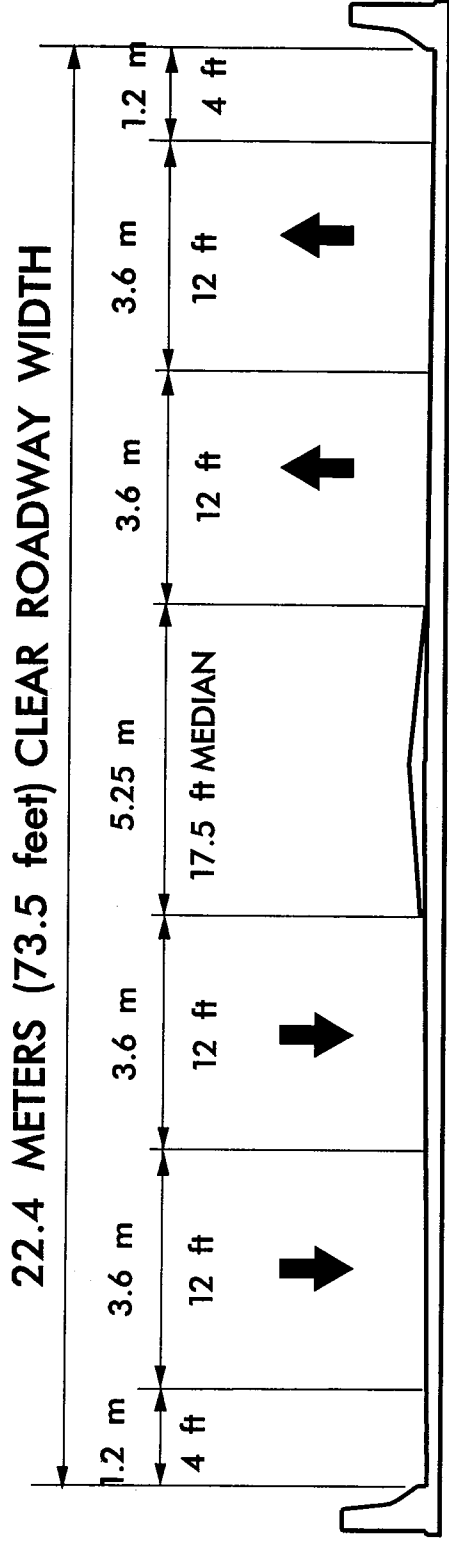


* 3.3 m (11 ft) with Guardrail

FIGURE 5A

TIP PROJECT R-3825

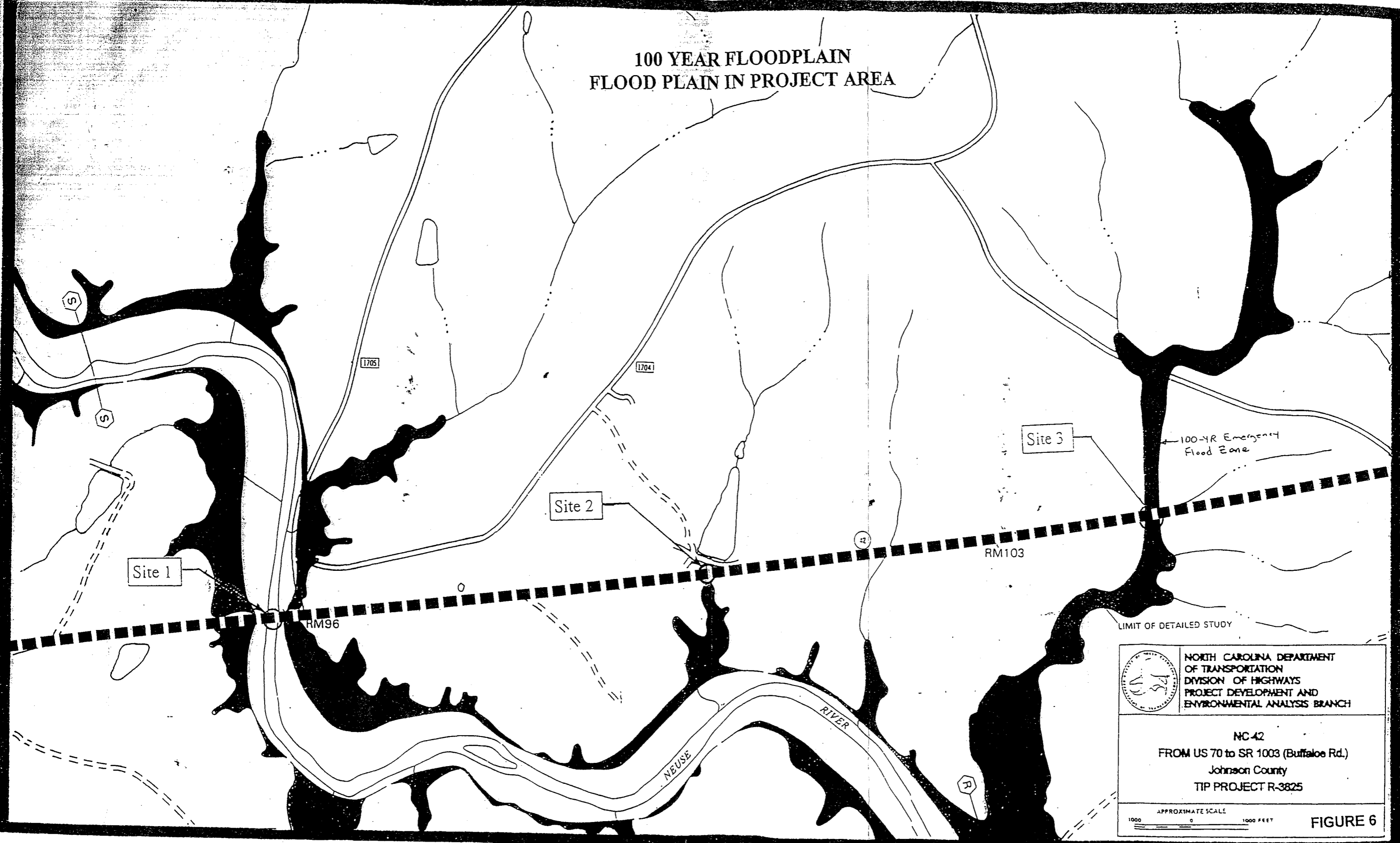
FOUR LANES BRIDGE TYPICAL SECTION




REPLACEMENT BRIDGE OVER NEUSE RIVER

FIGURE 5B

100 YEAR FLOODPLAIN FLOOD PLAIN IN PROJECT AREA

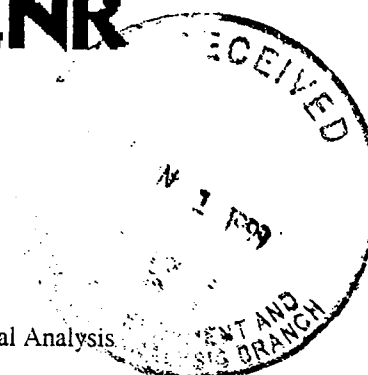


	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH
	NC-42 FROM US 70 to SR 1003 (Buffaloe Rd.) Johnson County TIP PROJECT R-3825
APPROXIMATE SCALE 1000 0 1000 FEET	
FIGURE 6	

APPENDIX A

State of North Carolina
Department of Environment
and Natural Resources
Division of Water Quality

James B. Hunt, Jr., Governor
Wayne McDevitt, Secretary
Kerr T. Stevens, Director



May 24, 1999

MEMORANDUM

To: William D. Gilmore, P.E., Manager, NCDOT, Project Development & Environmental Analysis
From: John E. Hennessy, NC Division of Water Quality *JCH*
Subject: Scoping comments on proposed widening of NC42 from US 70 to SR 1003 (Buffalo Road), Johnston County, Federal Aid Project No. STP-42(4), State Project No. 8.1312301, TIP R-3825.

Reference your correspondence dated May 5, 1999 in which you requested comments for widening project TIP R-3825. Preliminary analysis of the project reveals the potential for multiple impacts to perennial streams and jurisdictional wetlands in the project area. Furthermore, the impacts include a crossing of the Neuse River with a classification of WS-IV NSW. The DOT is respectfully reminded that they will need to comply with all the Neuse River Rules prior to issuance of a 401 Water Quality Certification. Further investigations at a higher resolution should be undertaken to verify the presence of other streams and/or jurisdictional wetlands in the area. The Division of Water Quality requests that NCDOT consider the following environmental issues for the proposed project:

- A. We would like to see a discussion in the document that presents a sufficient purpose and need to justify the project's existence. Since the project is a widening project, we assume that the Level-of-Service (LOS) is one of the primary reasons for the project. Therefore, the document should delineate a detailed discussion on the existing Level-of-Service as well as the proposed future Level-of-Service. The discussion for the future Level-of-Service should consider the Level-of-Service with and without the project.
- B. The document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping.
- C. There should be a discussion on mitigation plans for unavoidable impacts. If mitigation is required, it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. While the NCDWQ realizes that this may not always be practical, it should be noted that for projects requiring mitigation, appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.
- D. Review of the project reveals that WS-IV waters are located in the project area. The DWQ requests that DOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0024) throughout design and construction of the project. This would apply for any area that drains to streams having WS (Water Supply), ORW (Outstanding Resource Water), HQW (High Quality Water), B (Body Contact), SA (Shellfish Water) or Tr (Trout Water) classifications.

A-1

- E. The DOT is reminded that road crossings are permitted through Neuse Riparian Buffers. However, pursuant to 15A NCAC 2B.0233, the impacts to buffers less than 150 linear feet or 1/3 of an acre will be allowed so long as no practical alternative for the impact exists. Impacts in excess of 150 linear feet or 1/3 of an acre will be allowed with no practical alternative and will require mitigation.
- F. Pursuant to 15A NCAC 2B.0233, sediment and erosion control devices will not be permitted in Zone 1 (edge of the stream to a perpendicular distance of 30 feet) of the riparian buffer. Sediment and erosion control devices will be permitted in Zone 2 (30-50 feet from the edge of the stream) provided they promote diffuse flow (dispersed overland flow) through the buffer and do not compromise the integrity of Zone 1.
- G. When practical, the DWQ requests that bridges be replaced on the existing location with road closure. If a detour proves necessary, remediation measures in accordance with the NCDWQ requirements for General 401 Certification 2726/Nationwide Permit No. 33 (Temporary Construction, Access and Dewatering) must be followed.
- H. Due to the presence of Water Supply Waters, the DWQ requests that hazardous spill catch basins be installed at any bridge crossing a stream classified as HQW or WS (Water Supply). The number of catch basins installed should be determined by the design of the bridge, so that runoff would enter said basin(s) rather than flowing directly into the stream.
- I. If applicable, DOT should not install the bridge bents in the creek, to the maximum extent practicable.
- J. Wetland and stream impacts should be avoided (including sediment and erosion control structures/measures) to the maximum extent practical. If this is not possible, alternatives that minimize wetland impacts should be chosen. Mitigation for unavoidable impacts will be required by DWQ for impacts to wetlands in excess of one acre and/or to streams in excess of 150 linear feet.
- K. Borrow/waste areas should not be located in wetlands. It is likely that compensatory mitigation will be required if wetlands are impacted by waste or borrow.
- G. DWQ prefers replacement of bridges with bridges. However, if the new structure is to be a culvert, it should be countersunk to allow unimpeded fish and other aquatic organisms passage through the crossing.
- H. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3027/Nationwide Permit No. 6 for Survey Activities.
- I. In accordance with the NCDWQ Wetlands Rules {15A NCAC 2H.0506(b)(6)}, mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation becomes required, the mitigation plan should be designed to replace appropriate lost functions and values. In accordance with the NCDWQ Wetlands Rules {15A NCAC 2H.0506 (h)(3)}, the Wetland Restoration Program may be available for use as stream mitigation.
- J. Sediment and erosion control measures should not be placed in wetlands.
- K. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater should not be permitted to discharge directly into the creek. Instead, stormwater should be designed to drain to a properly designed stormwater detention facility/apparatus.

Mr. William D. Gilmore memo
05/24/99
Page 3

While the use of National Wetland Inventory (NWI) maps and soil surveys is a useful office tool, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval. 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 John Hennessy at (919) 733-1786 or John_Hennessy@h2o.enr.state.nc.us.

cc: Eric Alsmeyer, Corps of Engineers
Tom McCartney, USFWS
David Cox, NCWRC

C:\ncdot\TIP R-3825\comments\R-3825 scoping comments.doc



North Carolina Department of Cultural Resources

James B. Hunt Jr., Governor
Betty Ray McCain, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

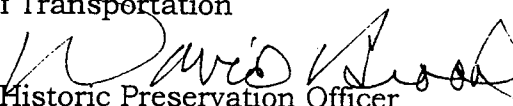
MAILING ADDRESS
4617 Mail Service Center
Raleigh, NC 27699-4617

LOCATION
507 North Blount Street
Raleigh, NC
State Courier 53-31-31

June 7, 1999

MEMORANDUM

TO: William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch
Division of Highways
Department of Transportation

FROM: David Brook 
Deputy State Historic Preservation Officer

SUBJECT: Widening of NC 42 to multilanes from US
70 to SR 1003 (Buffalo Road), Johnston
County, State Project 8.1312301, Federal
Aid Project STP-42(4), TIP R-3825, ER 99-
8910

Thank you for your letter of May 5, 1999, concerning the above project.

We have conducted a search of our files and are aware of no structures of historical or architectural importance located within the planning area.

There is one archaeological site in close proximity to the project (31JT52**) and there are a number of high probability areas which should be considered. We recommend an archaeological survey be conducted of the project area.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

DB:slw

cc: Nicholas Graf
Barbara Church
Thomas Padgett





North Carolina Department of Cultural Resources
State Historic Preservation Office

David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

March 22, 2001

MEMORANDUM

To: William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch

From: David Brook *DB for David Brook*
Deputy State Historic Preservation Officer

Re: Archaeological Survey Report and Evaluation of NC 42, Johnston County, ER 99-8916

Thank you for your letter of January 24, 2001, transmitting copies of the above referenced report.

We have reviewed the report by Coastal Carolina Research and offer our comments. We agree that the single site located during the survey, 31JT342**, is not eligible for inclusion of the National Register of Historic Places and that no further archaeological work will be necessary for the project as planned.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919/733-4763.

DB:kgc

cc: John Wadsworth, FHWA
Loretta Lautzenheiser
Tom Padgett, NCDOT

bc: County
Reading
Claggett/Clauser

A-5

	Location	Mailing Address	Telephone/Fax
Administration	507 N. Blount St. Raleigh, NC	4617 Mail Service Center, Raleigh 27699-4617	(919) 733-4763 • 733-8653
Restoration	515 N. Blount St. Raleigh, NC	4613 Mail Service Center, Raleigh 27699-4613	(919) 733-6547 • 715-4801
Survey & Planning	515 N. Blount St. Raleigh, NC	4618 Mail Service Center, Raleigh 27699-4618	(919) 733-4763 • 715-4801

APPENDIX B

NCDOT RELOCATION REPORT

DIVISION OF HIGHWAYS RELOCATION PROGRAMS

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

- * Relocation Assistance,
- * Relocation Moving Payments, and
- * Relocation Replacement Housing Payments or Rent Supplement.

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

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

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

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

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

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

A displaced tenant may be eligible to receive a payment, not to exceed \$5,250, to rent a replacement dwelling or to make a down payment, including incidental expenses, on the purchase of a replacement dwelling. The down payment is based upon what the state determines is required when the rent supplement exceeds \$5250.

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

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

RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

E.I.S. CORRIDOR DESIGN

PROJECT:	8.1312301	COUNTY	Johnston	Alternative 1	Sheet 1 of 2
I.D. NO.:	R-3825	F.A. PROJECT			
DESCRIPTION OF PROJECT:	Proposed NC 42 widening to a four lane facility from US 70 to SR 1003				

ESTIMATED DISPLACED					INCOME LEVEL				
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP
Residential		1	1	1		1			
Businesses					VALUE OF DWELLING			DSS DWELLING AVAILABLE	
Farms					Owners	Tenants	For Sale	For Rent	
Non-Profit					0-20M	\$ 0-150	0-20M	\$ 0-150	
ANSWER ALL QUESTIONS					20-40M	150-250	20-40M	150-250	
Yes	No	Explain all "YES" answers.			40-70M	250-400	40-70M	250-400	
	x	1. Will special relocation services be necessary?			70-100M	400-600	70-100M	400-600	
	x	2. Will schools or churches be affected by displacement?			100 UP	600 UP	1	100 UP	600 UP
x		3. Will business services still be available after project?			TOTAL		1		

REMARKS (Respond by number)

3. Similar services are close to affected area.

12. adequate housing is available

14. Smithfield Herald & News and Observer

<i>Lloyd Johnston, Jr.</i> Right of Way Agent	4-29-03 Date		 Relocation Coordinator	4-29-03 Date
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RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

E.I.S. CORRIDOR DESIGN

PROJECT:	8.1312301	COUNTY	Johnston	Alternative 1	Sheet 2 of 2
I.D. NO.:	R-3825	F.A. PROJECT			
DESCRIPTION OF PROJECT:	Proposed NC 42 widening to a four lane facility from US 70 to SR 1003				

ESTIMATED DISPLACES					INCOME LEVEL				
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP
Residential		1	1			1			
Businesses	1	1	2						
Farms									
Non-Profit									

ANSWER ALL QUESTIONS					VALUE OF DWELLING		DSS DWELLING AVAILABLE		
Yes	No	Explain all "YES" answers.			Owners	Tenants	For Sale		For Rent
	x	1. Will special relocation services be necessary?			0-20M	\$ 0-150	0-20M	\$ 0-150	
	x	2. Will schools or churches be affect by displacement?			20-40M	150-250	20-40M	150-250	
		3. Will business services still be available after project?			40-70M	250-400	1	40-70M	250-400
x		4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.			70-100M	400-600		70-100M	400-600
	x	5. Will relocation cause a housing shortage?			100 UP	600 UP		100 UP	600 UP
		6. Source for available housing (list).			TOTAL		1		
	x	7. Will additional housing programs be needed?			REMARKS (Respond by number)				
	x	8. Should Last Resort Housing be considered?			3. Similar services are close to affected area. 4. Rebecca Flowers Finch- approx. 8 employees Repair Shop- approx. 5 employees 12. adequate housing is available 14. Smithfield Herald & News and Observer				
	x	9. Are there large, disabled, elderly, etc. families?							
	x	10. Will public housing be needed for project?							
	x	11. Is public housing available?							
x		12. Is it felt there will be adequate DSS housing housing available during relocation period?							
	x	13. Will there be a problem of housing within financial means?							
x		14. Are suitable business sites available (list source).							
		15. Number months estimated to complete RELOCATION?							

<i>David Johnson</i> Right of Way Agent	4-29-03 Date	 Relocation Coordinator	4-29-03 Date
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RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

E.I.S. CORRIDOR DESIGN

PROJECT:	8.1312301	COUNTY	Johnston	Alternative 2	Sheet 1 of 2
I.D. NO.:	R-3825	F.A. PROJECT			
DESCRIPTION OF PROJECT:	Proposed NC 42 widening to a four lane facility from US 70 to SR 1003				

ESTIMATED DISPLACEDS

INCOME LEVEL

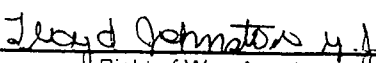
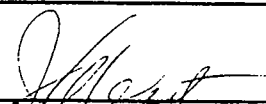
Type of Displacees	Owners	Tenants	Total	Minorities	INCOME LEVEL					
					0-15M	15-25M	25-35M	35-50M	50 UP	
Residential		1	1			1				
Businesses					VALUE OF DWELLING			DSS DWELLING AVAILABLE		
Farms					Owners		Tenants		For Sale	
Non-Profit					0-20M	\$ 0-150	0-20M	\$ 0-150		
					20-40M	150-250	20-40M	150-250		
					40-70M	250-400	40-70M	250-400		
					70-100M	400-600	70-100M	400-600		
					100 UP	600 UP	1	100 UP	600 UP	
					TOTAL		1			

ANSWER ALL QUESTIONS

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

REMARKS (Respond by Number)

- 3. Similar services are close to affected area.
- 12. adequate housing is available
- 14. Smithfield Herald & News and Observer

 Right of Way Agent	4-29-03 Date	 Relocation Coordinator	4-29-03 Date
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RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

E.I.S. CORRIDOR DESIGN

PROJECT:	8.1312301	COUNTY	Johnston	Alternative 2	Sheet 2 of 2
I.D. NO.:	R-3825	F.A. PROJECT			
DESCRIPTION OF PROJECT:	Proposed NC 42 widening to a four lane facility from US 70 to SR 1003				

ESTIMATED DISPLACED					INCOME LEVEL					
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP	
Residential		1	1			1				
Businesses	1	1	2		VALUE OF DWELLING			DSS DWELLING AVAILABLE		
Farms					Owners		Tenants		For Sale	For Rent
Non-Profit					0-20M	\$ 0-150	0-20M	\$ 0-150		
					20-40M	150-250	20-40M	150-250		
					40-70M	250-400	1	40-70M	250-400	
					70-100M	400-600	70-100M	400-600		
					100 UP	600 UP	100 UP	600 UP		
					TOTAL		1			

ANSWER ALL QUESTIONS		
Yes	No	Explain all "YES" answers.
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	x	13. Will there be a problem of housing within financial means?
x		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION?

REMARKS (Respond by number)				
				3. Similar services are close to affected area.
				4. Rebecca Flowers Finch- approx. 8 employees Repair Shop- approx. 5 employees
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<p><i>David Johnston</i> Right of Way Agent</p>	<p style="text-align: center;">4-29-03 Date</p>	<p style="text-align: center;"><i>[Signature]</i> Relocation Coordinator</p>	<p style="text-align: center;">4-29-03 Date</p>
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APPENDIX C

RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

E.I.S. CORRIDOR DESIGN

PROJECT:	8.1312301	COUNTY	Johnston	Alternative 1	Sheet 1 of 2
I.D. NO.:	R-3825	F.A. PROJECT			
DESCRIPTION OF PROJECT:	Proposed NC 42 widening to a four lane facility from US 70 to SR 1003				

ESTIMATED DISPLACED					INCOME LEVEL					
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP	
Residential		1	1	1		1				
Businesses					VALUE OF DWELLING			DSS DWELLING AVAILABLE		
Farms					Owners		Tenants		For Sale	
Non-Profit					0-20M	\$ 0-150	0-20M	For Rent		
					20-40M	150-250	20-40M	150-250		
					40-70M	250-400	40-70M	250-400		
					70-100M	400-600	70-100M	400-600		
					100 UP	600 UP	1	100 UP	600 UP	
					TOTAL		1			

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.
	x	1. Will special relocation services be necessary?
	x	2. Will schools or churches be affect by displacement?
x		3. Will business services still be available after project?
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	x	13. Will there be a problem of housing within financial means?
x		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION? _____

REMARKS (Respond by number)

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<i>Lloyd Johnston, Jr.</i> Right of Way Agent	4-29-03 Date	 Relocation Coordinator	4-29-03 Date
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RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

E.I.S. CORRIDOR DESIGN

PROJECT:	8.1312301	COUNTY	Johnston	Alternative 1	Sheet 2 of 2
I.D. NO.:	R-3825	F.A. PROJECT			
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ESTIMATED DISPLACES					INCOME LEVEL				
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP
Residential		1	1			1			
Businesses	1	1	2						
Farms									
Non-Profit									

ANSWER ALL QUESTIONS					VALUE OF DWELLING		DSS DWELLING AVAILABLE		
Yes	No	Explain all "YES" answers.			Owners	Tenants	For Sale		For Rent
	x	1. Will special relocation services be necessary?			0-20M	\$ 0-150	0-20M	\$ 0-150	
	x	2. Will schools or churches be affect by displacement?			20-40M	150-250	20-40M	150-250	
		3. Will business services still be available after project?			40-70M	250-400	1	40-70M	250-400
x		4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.			70-100M	400-600		70-100M	400-600
	x	5. Will relocation cause a housing shortage?			100 UP	600 UP		100 UP	600 UP
		6. Source for available housing (list).			TOTAL		1		
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	x	8. Should Last Resort Housing be considered?			3. Similar services are close to affected area. 4. Rebecca Flowers Finch- approx. 8 employees Repair Shop- approx. 5 employees 12. adequate housing is available 14. Smithfield Herald & News and Observer				
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	x	11. Is public housing available?							
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	x	13. Will there be a problem of housing within financial means?							
x		14. Are suitable business sites available (list source).							
		15. Number months estimated to complete RELOCATION?							

<i>David Johnston</i> Right of Way Agent	4-29-03 Date	 Relocation Coordinator	4-29-03 Date
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RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

E.I.S. CORRIDOR DESIGN

PROJECT:	8.1312301	COUNTY	Johnston	Alternative 2	Sheet 1 of 2
I.D. NO.:	R-3825	F.A. PROJECT			
DESCRIPTION OF PROJECT:	Proposed NC 42 widening to a four lane facility from US 70 to SR 1003				

ESTIMATED DISPLACEDS

INCOME LEVEL

Type of Displacees	Owners	Tenants	Total	Minorities	INCOME LEVEL					
					0-15M	15-25M	25-35M	35-50M	50 UP	
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Businesses					VALUE OF DWELLING			DSS DWELLING AVAILABLE		
Farms					Owners		Tenants		For Sale	
Non-Profit					0-20M	\$ 0-150	0-20M	\$ 0-150		
ANSWER ALL QUESTIONS Yes No <i>Explain all "YES" answers.</i>					20-40M	150-250	20-40M	150-250		
					40-70M	250-400	40-70M	250-400		
					70-100M	400-600	70-100M	400-600		
					100 UP	600 UP	1	100 UP	600 UP	
					TOTAL		1			

REMARKS (Respond by Number)

- 3. Similar services are close to affected area.
- 12. adequate housing is available
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Yes	No	<i>Explain all "YES" answers.</i>
	x	1. Will special relocation services be necessary?
	x	2. Will schools or churches be affect by displacement?
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x		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION? _____

<u>Joyd Johnson 4.1</u> Right of Way Agent	<u>4-29-03</u> Date	 Relocation Coordinator	<u>4-29-03</u> Date
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RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

E.I.S. CORRIDOR DESIGN

PROJECT:	8.1312301	COUNTY	Johnston	Alternative 2	Sheet 2 of 2
I.D. NO.:	R-3825	F.A. PROJECT			
DESCRIPTION OF PROJECT:	Proposed NC 42 widening to a four lane facility from US 70 to SR 1003				

ESTIMATED DISPLACED					INCOME LEVEL					
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP	
Residential		1	1			1				
Businesses	1	1	2		VALUE OF DWELLING			DSS DWELLING AVAILABLE		
Farms					Owners		Tenants		For Sale	
Non-Profit					0-20M	\$ 0-150	0-20M	For Rent		
					20-40M	150-250	20-40M	150-250		
					40-70M	250-400	1	40-70M	250-400	
					70-100M	400-600		70-100M	400-600	
					100 UP	600 UP		100 UP	600 UP	
					TOTAL		1			

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

REMARKS (Respond by number)				
				3. Similar services are close to affected area.
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<p><i>David Johnston</i> Right of Way Agent</p>	<p style="text-align: center;">4-29-03 Date</p>	<p style="text-align: center;"><i>[Signature]</i> Relocation Coordinator</p>	<p style="text-align: center;">4-29-03 Date</p>
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APPENDIX C

TABLE N1

HEARING: SOUNDS BOMBARDING US DAILY

D E C I B E L S	140	Shotgun blast, jet 30m away at takeoff Motor test chamber	PAIN HUMAN EAR PAIN THRESHOLD
	130		
	120	Firecrackers Severe thunder, pneumatic jackhammer Hockey crowd Amplified rock music	UNCOMFORTABLY LOUD
	110		
	100	Textile loom Subway train, elevated train, farm tractor Power lawn mower, newspaper press Heavy city traffic, noisy factory	LOUD
	90		
	80	Diesel truck 65 kmph at 15m away Crowded restaurant, garbage disposal Average factory, vacuum cleaner Passenger car 80 kmph at 15m away	MODERATELY LOUD
	70		
	60	Quiet typewriter Singing birds, window air-conditioner Quiet automobile Normal conversation, average office	QUIET
	50		
	40	Household refrigerator Quiet office	VERY QUIET
	30		
	20	Average home Dripping faucet Whisper at 1.5m away Light rainfall, rustle of leaves	AVERAGE PERSON'S THRESHOLD OF HEARING JUST AUDIBLE
	10		
0	THRESHOLD FOR ACUTE HEARING		

Sources: World Book, Rand McNally Atlas of the Human Body, Encyclopedia America, "Industrial Noise and Hearing Conversation" by J. B. Olishifski and E. R. Harford (Researched by N. Jane Hunt and published in the Chicago Tribune in an illustrated graphic by Tom Heinz.)

TABLE N2

NOISE ABATEMENT CRITERIA

CRITERIA FOR EACH FHWA ACTIVITY CATEGORY HOURLY A-WEIGHTED SOUND LEVEL - DECIBELS (dBA)		
Activity Category	Leq(h)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities are essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	—	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Title 23 Code of Federal Regulations (CFR) Part 772, U. S. Department of Transportation, Federal Highway Administration.

CRITERIA FOR SUBSTANTIAL INCREASE HOURLY A-WEIGHTED SOUND LEVEL - DECIBELS (dBA)	
Existing Noise Level in Leq(h)	Increase in dBA from Existing Noise Levels to Future Noise Levels
< 50	>= 15
>= 50	>= 10

Source: North Carolina Department of Transportation Noise Abatement Policy.

TABLE N3
AMBIENT NOISE LEVELS (Leq)
SR 42, Johnston County, TIP # R-3825

SITE	LOCATION	DESCRIPTION	NOISE LEVEL (dBA)
1	NC 42 From US 70 to SR 1902 (Glen Laurel Road)	Grassy	68.2
2	NC 42 From SR 1902 (Glen Laurel Road) to SR 1003 (Buffalo Road), End of Project	Paved	67.8

NOTE: The ambient noise level sites were measured at 50 feet from edge of pavement of the nearest lane of traffic.

TRAFFIC NOISE EXPOSURES

NC 42 Widening, Johnston County, TIP # R-3825

ID#	RECEPTOR INFORMATION		NEAREST EXISTING ROADWAY	AMBIENT NOISE LEVEL	NEAREST PROPOSED ROADWAY		PREDICTED NOISE LEVELS			NOISE LEVEL INCREASE
	LAND USE	CATEGORY			NAME	CL DIST(ft)	-L-	-Y-	MAXIMUM	
NC 42 From US 70 to SR 1902 (Glen Laurel Road)										
1	Residence	B	NC 42	65	-L-	90.0 L	-	-	* 66	+ 1
NC 42 From SR 1942 (Glen Laurel Road) to SR 1003 (Buffalo Road), End of Project										
2	Residence	B	NC 42	62	-L-	120.0 R	-	-	62	+ 0
3	Residence	B	"	63	"	110.0 R	-	-	63	+ 0
4	School	E	"	51<40	"	405.0 L	-	-	57<40	+ 6/0
5	Residence	B	"	66	"	75.0 R	-	-	* 66	+ 0
6	Residence	B	"	62	"	120.0 R	-	-	62	+ 0
7	Residence	B	"	60	"	150.0 R	-	-	60	+ 0
8	Residence	B	"	62	"	120.0 R	-	-	62	+ 0
9	Business	C	"	60	"	150.0 L	-	-	60	+ 0
10	Residence	B	"	62	"	115.0 R	-	-	62	+ 0
11	Residence	B	"	61	"	130.0 R	-	-	61	+ 0
12	Residence	B	"	65	"	85.0 R	-	-	65	+ 0
13	Residence	B	"	64	"	95.0 L	-	-	64	+ 0
14	Residence	B	"	66	"	75.0 R	-	-	* 66	+ 0
15	Residence	B	"	61	"	130.0 R	-	-	61	+ 0
16	Residence	B	"	60	"	150.0 R	-	-	60	+ 0
17	Residence	B	"	65	"	80.0 R	-	-	* 66	+ 1

-L- Denotes proposed roadway's noise level contribution and -Y- denotes contributions from other roadways.
 "*" Denotes a noise impact per 23 CFR Part 772 and Category E noise levels shown as exterior/interior (68/48).

TABLE N5
FHWA NOISE ABATEMENT CRITERIA SUMMARY
NC 42 Widening , Johnston County, TIP # U-3825

DESCRIPTION	Leq NOISE LEVELS (dBA)			MAXIMUM CONTOUR DISTANCES		APPROXIMATE # OF IMPACTED RECEPTORS ACCORDING TO TITLE 23 CFR PART 772				
	50ft	100ft	200ft	72 dBA	67 dBA	A	B	C	D	E
	1- NC 42 From US 70 to SR 1902 (Glen Laurel Road)	67.4	63.0	58.3	<57.0	85.2	0	1	0	0
2 - NC 42 From SR 1902 (Glen Laurel Road) to SR 1003 (Buffalo Road), End of Project	66.0	61.6	56.8	<57.0	74.5	0	3	0	0	0
TOTALS ---->						0	4	0	0	0

1. 50ft, 100ft, and 200ft distances are measured from the center of nearest travel lane.
2. 72 dBA and 67 dBA contour distances are measured from the center of proposed roadway.

TABLE N6
 TRAFFIC NOISE LEVEL INCREASE SUMMARY
 NC 42 Widening, Johnston County, TIP # R-3825

DESCRIPTION	RECEPTOR EXTERIOR NOISE LEVEL INCREASES							SUBSTANTIAL NOISE LEVEL INCREASE "1"	IMPACTS DUE TO BOTH CRITERIA "2"
	<=0	1-4	5-9	10-14	15-19	20-24	>=25		
1 - NC 42 From US 70 to SR 1902 (Glen Laurel Rd)	1	0	0	0	0	0	0	0	0
2 - NC 42 From SR 1902 (Glen Laurel Rd.) to SR 1003 (Buffalo Road), End of Project	16	0	0	0	0	0	0	0	0
TOTALS --->	17	0	0	0	0	0	0	0	0

"1" As defined by only a substantial increase (See bottom of TABLE N2).
 "2" As defined by both criteria in TABLE N2.