030894
Cleveland

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor | William G. Ross Jr., Secretary

RECEIPT

January 9, 2004

Beth Harmon
PD and EA Branch
Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

WETLANDS / 401 GROUP
JAN 14 2004
WATER QUALITY SECTION

Re: Project: Dixon School Road
DOT TIP#: R-2625 A
DWQ#: 03-0894
COE#: 200331082
County: Cleveland

The North Carolina Ecosystem Enhancement Program (NCEEP) has received a check in the amount of $164,400.00 check number 1546742, as payment for the compensatory mitigation requirements of the 401 Water Quality Certification/Section 404 permit issued for the subject project. This receipt serves as notification that the compensatory mitigation requirements for this project have been satisfied. Please note that you must also comply with all other conditions of this certification and any other state, federal or local government permits or authorization associated with this activity.

The NCEEP, by acceptance of this payment, acknowledges that the NCEEP is responsible for the compensatory mitigation requirements associated with the subject permit and agrees to provide the compensatory mitigation as specified in the permit. The NCEEP will restore 822 linear feet of stream in Cataloging Unit 03050105 in the Board River basin.

Payments to the Ecosystem Enhancement Program are NOT reimbursable unless a request for reimbursement is received within 12 months of the date of the receipt. A letter must accompany requests for reimbursement from the permitting agencies stating that the permit and/or authorization has been rescinded.

If you have any questions or need additional information, please contact Carol Shaw at (919) 733-5208.

Sincerely,

Ronald E. Ferrell

Ronald E. Ferrell,
Program Manager

cc: Cyndi Karoly, Wetlands/401 Unit
Steve Lund, USACOE-Asheville
Mike Parker, DENR Regional Office-Mooresville

NC DENR Ecosystem Enhancement Program
1619 Mail Service Center, Raleigh, North Carolina 27699-1619
Phone: 919-733-5208 \ FAX: 919-733-5321 \ Internet: h2o.enr.state.nc.us/wrp/

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E., Director
Division of Water Quality
Coleen H. Sullins, Deputy Director
Division of Water Quality

October 2, 2003

Mr. Gregory J. Thorpe, Ph.D., Environmental Director
NCDOT Planning and Environmental Branch
1548 Mail Service Center
Raleigh, NC, 27699-1548

Dear Dr. Thorpe:

Re: Water Quality Certification Pursuant to §401 of the Federal Clean Water Act,
New Route from north of I-85 on SR 2283 (Dixon School Road) to south of SR 2256 (Phifer Road).
F.A. Project No. STP-2283(1); State Project No. 8.2800801
TIP No. R-2625A
DWQ Project No. 030894

Attached hereto is a copy of Certification No. 3433 issued to The North Carolina Department of Transportation dated October 2, 2003.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Cyndi Karoly

for Alan W. Klimek, P.E.

Attachments

cc: Wilmington District Corps of Engineers
Steve Lund, USACE Asheville Field Office
NCDWQ Mooresville Regional Office
Christopher Militscher, US Environmental Protection Agency – Region IV
Ron Ferrell, NC Wetlands Restoration Program
Central Files
File Copy

NORTH CAROLINA 401 WATER QUALITY CERTIFICATION

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H, §.0500. This certification authorizes the NCDOT to incur the following permanent impacts:

- 410 linear feet of stream channels in Hydrologic Unit 03050105.

These impacts occur in Cleveland County, as described in the Application dated 24 June 2003. The project shall be constructed pursuant to the application dated June 24, 2003 to construct the new two-lane route from north of I-85 on SR 2283 (Dixon School Road) to south of SR 2256 (Phifer Road) in Cleveland County.

The application provides adequate assurance that the discharge of fill material into the waters of the state with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application. Should your project change, you are required to notify the DWQ *in writing*, and you may be required to submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If additional wetland impacts or stream impacts for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion Control, Non-discharge and Water Supply watershed regulations. This Certification shall expire three (3) years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Corps of Engineers Permit, whichever is later.

Condition(s) of Certification:

1. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standard (50 NTUs in all fresh water streams and rivers not designated as trout waters; 25 NTUs in all lakes and reservoirs, and all saltwater classes; and 10 NTUs in trout waters).
    a. The erosion and sediment control measures for the R-2625A project must equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual.* These devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the R-2625A project.
    b. For borrow pit sites, the erosion and sediment control measures must equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the *North Carolina Surface Mining Manual.* The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

2. Sediment and erosion control measures shall not be placed in wetlands or waters to the maximum extent practicable. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored within 30 days after the Division of Land Resources has released the project.

3. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this Certification. If this occurs, compensatory mitigation will be required since it is a direct impact from road construction activities.

4. Stormwater shall be transported by vegetated conveyance before being discharged into the streams.

5. Live or fresh concrete shall not come into contact with waters of the state until the concrete has hardened.

6. Discharging hydroseeding mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is strictly prohibited.

7. The natural dimension, pattern and profile of the stream above and below the crossing should not be modified by widening the stream channel or changing the depth of the stream.

8. The removal of vegetation in riparian areas should be minimized. NCDOT is encouraged to use existing on-site vegetation and materials for stream bank stabilization and to minimize the use of rip rap. Riprap shall not be placed in the stream bottom.

9. Riparian vegetation, using native trees and shrubs, must be re-established within the construction limits of the project by the end of the growing season following completion of construction to reestablish the riparian zone and to provide long-term erosion control.

10. Excavation of stream crossings should be conducted in the dry unless demonstrated by the applicant or its authorized agent to be unfeasible. Sandbags, cofferdams, flexible pipe, or other diversion structures should be used to minimize excavation in flowing water.

11. Placement of culverts and other structures in waters, streams, and wetlands shall be placed below the elevation of the streambed to allow low flow passage of water and aquatic life unless it can be shown to DWQ that providing passage would be impractical. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or stream beds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium shall be maintained if requested in writing by DWQ.

12. Heavy equipment should be operated from the bank rather than in the stream channel unless demonstrated by the applicant or its authorized agent to be unfeasible. All mechanized equipment operated near surface waters should be inspected and maintained regularly to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids or other toxic substances.

13. *Mitigation:* Compensatory mitigation shall be the same as that approved by the US Army Corps of Engineers as long as the mitigation required equals a ratio of 1:1 restoration or creation of lost wetland acres as described in 15A NCAC 2H.0506 (h)(6).

- Compensatory mitigation in HU 03050105 of 822 linear feet of stream mitigation shall be provided via in-lieu payments to Wetlands Restoration Program, which has accepted your payment, for impacts associated with the above referenced projects.
- In accordance with 15A NCAC 2R.0500, this contribution will satisfy NC Division of Water Quality's compensatory mitigation requirements under 15A NCAC 2H.0506(h).

14. Upon completion of the project, the NCDOT shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed. The responsible party shall complete the attached form and return it to the 401/Wetlands Unit of the Division of Water Quality upon completion of the project.

The Applicant shall require its contractors (and/or agents) to comply with all of the terms of this Certification, and shall provide each of its contractors (and/or agents) a copy of this Certification.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal Permit. This Certification shall expire upon the expiration of the 404 Permit.

If you do not accept any of the conditions of this certification, you may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. To ask for a hearing, send a written petition that conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. This certification and its conditions are final and binding unless you ask for a hearing.

This the 2nd day of October 2003

DIVISION OF WATER QUALITY

Cyndi Karoly

for Alan W. Klimek, P.E.

WQC No. 3433

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E., Director
Division of Water Quality
Coleen H. Sullins, Deputy Director
Division of Water Quality

September 23, 2003

Mr. Gregory J. Thorpe, Ph.D., Environmental Director
NCDOT Planning and Environmental Branch
1548 Mail Service Center
Raleigh, NC, 27699-1548

Dear Dr. Thorpe:

Re: Water Quality Certification Pursuant to §401 of the Federal Clean Water Act,
New Route from north of I-85 on SR 2283 (Dixon School Road) to south of SR 2256 (Phifer Road).
F.A. Project No. STP-2283(1); State Project No. 8.2800801
TIP No. R-2625A
DWQ Project No. 030894

Attached hereto is a copy of Certification No. 3433 issued to The North Carolina Department of Transportation dated September 23, 2003.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Alan W. Klimek, P.E.

Attachments

cc: Wilmington District Corps of Engineers
Steve Lund, USACE Asheville Field Office
NCDWQ Mooresville Regional Office
Christopher Militscher, US Environmental Protection Agency – Region IV
Ron Ferrell, NC Wetlands Restoration Program
Central Files
File Copy

NORTH CAROLINA 401 WATER QUALITY CERTIFICATION

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H, §.0500. This certification authorizes the NCDOT to incur the following permanent impacts:

- 410 linear feet of stream channels in Hydrologic Unit 03050105.

These impacts occur in Cleveland County, as described in the Application dated 24 June 2003. The project shall be constructed pursuant to the application dated June 24, 2003 to construct the new two-lane route from north of I-85 on SR 2283 (Dixon School Road) to south of SR 2256 (Phifer Road) in Cleveland County.

The application provides adequate assurance that the discharge of fill material into the waters of the state with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application. Should your project change, you are required to notify the DWQ *in writing*, and you may be required to submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If additional wetland impacts or stream impacts for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion Control, Non-discharge and Water Supply watershed regulations. This Certification shall expire three (3) years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Corps of Engineers Permit, whichever is later.

Condition(s) of Certification:

1. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standard (50 NTUs in all fresh water streams and rivers not designated as trout waters; 25 NTUs in all lakes and reservoirs, and all saltwater classes; and 10 NTUs in trout waters).
    a. The erosion and sediment control measures for the R-2625A project must equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual.* These devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the R-2625A project.
    b. For borrow pit sites, the erosion and sediment control measures must equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the *North Carolina Surface Mining Manual.* The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

2. Sediment and erosion control measures shall not be placed in wetlands or waters to the maximum extent practicable. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored within 30 days after the Division of Land Resources has released the project.

3. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this Certification. If this occurs, compensatory mitigation will be required since it is a direct impact from road construction activities.

4. Stormwater shall be transported by vegetated conveyance before being discharged into the streams.

5. Live or fresh concrete shall not come into contact with waters of the state until the concrete has hardened.

6. Placement of culverts and other structures in waters, streams, and wetlands shall be placed below the elevation of the streambed to allow low flow passage of water and aquatic life unless it can be shown to DWQ that providing passage would be impractical. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or stream beds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium shall be maintained if requested in writing by DWQ.

7. *Mitigation:* Compensatory mitigation shall be the same as that approved by the US Army Corps of Engineers as long as the mitigation required equals a ratio of 1:1 restoration or creation of lost wetland acres as described in 15A NCAC 2H.0506 (h)(6).

   - Compensatory mitigation in HU 03050105 of 822 linear feet of stream mitigation shall be provided via in-lieu payments to Wetlands Restoration Program, which has accepted your payment, for impacts associated with the above referenced projects.

   In accordance with 15A NCAC 2R.0500, this contribution will satisfy NC Division of Water Quality's compensatory mitigation requirements under 15A NCAC 2H.0506(h). Until plans are received and approved for the proposed mitigation sites, wetland or stream fill shall not occur.

8. Upon completion of the project, the NCDOT shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed. The responsible party shall complete the attached form and return it to the 401/Wetlands Unit of the Division of Water Quality upon completion of the project.

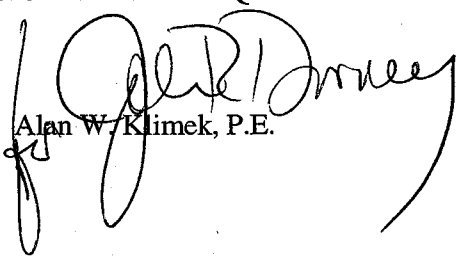
The Applicant shall require its contractors (and/or agents) to comply with all of the terms of this Certification, and shall provide each of its contractors (and/or agents) a copy of this Certification.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal Permit. This Certification shall expire upon the expiration of the 404 Permit.

If you do not accept any of the conditions of this certification, you may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. To ask for a hearing, send a written petition that conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. This certification and its conditions are final and binding unless you ask for a hearing.

This the 23rd day of September 2003

DIVISION OF WATER QUALITY



Alan W. Klimek, P.E.

WQC No. 3433

030894

DEPARTMENT OF THE ARMY
Wilmington District, Corps of Engineers
Post Office Box 1890
Wilmington, North Carolina 28402-1890

Action ID No. 200331082

August 29, 2003

PUBLIC NOTICE

The North Carolina Department of Transportation, ATTN: Dr. Gregory J. Thorpe, Director, Project Development and Environmental Analysis Branch, 1548 Mail Service Center, Raleigh, North Carolina 27699-1548 has applied for a Department of the Army (DA) permit TO DISCHARGE DREDGED OR FILL MATERIAL INTO 410 LINEAR FEET OF STREAM CHANNEL IN THE WATERS OF AN UNNAMED TRIBUTARY TO DIXON BRANCH TO CONSTRUCT AN EXTENSION OF SR 2283 (DIXON SCHOOL ROAD) APPROXIMATELY 1.8 MILES IN LENGTH FROM NORTH OF THE EXISTING INTERCHANGE WITH INTERSTATE HIGHWAY 85 TO SR 2256 (PHIFER ROAD) WEST OF KINGS MOUNTAIN , CLEVELAND COUNTY, NORTH CAROLINA (TIP NO. R-2625 A, STATE PROJECT NO. 8.2800801, FEDERAL PROJECT NO. STP-2283(1)).

The following description of the work is taken from data provided by the applicant and from observations made during an onsite visit by a representative of the Corps of Engineers. Plans submitted with the application show the proposed construction of a two-lane facility with 11-foot lanes and 8-foot shoulders from just north of the I-85 interchange at Exit 5, across NC Highway 216 (Battleground Avenue) and the Norfolk Southern Railway to SR 2256 (Phifer Road) at the northern end. The proposed right-of-way width for the project is approximately 175 feet. Between SR 2305 (Compact School Road) and NC 216 the proposed new road crosses an unnamed tributary of Dixon Branch. A 60-inch diameter, 272-foot long concrete pipe would carry the flow of this upper perennial channel through the roadway fill. Approximately 410 linear feet of channel would be impacted by pipe installation. There are no wetlands adjacent to the channel or at any other location in the project area. The applicant is proposing to mitigate for stream losses at a 2:1 ratio by contributing to the North Carolina Wetland Restoration Program (WRP). All proposed mitigation would occur in the Broad River Basin, Hydrologic Unit 03050105. An Environmental Assessment (EA) for the proposed work was completed on February 28, 1996. A Finding of No Significant Impact was approved on August 27, 1996. An Indirect and Cumulative Effects report was completed for this project on November 5, 2002. The purpose of the proposed work is to provide a more direct north-south transportation corridor between Interstate Highway 85 and US Highway 74 Business on the west side of Kings Mountain. The northern section of this project, TIP R-2625 B has been completed. Plans showing the proposed work are included with this public notice.

The State of North Carolina will review this public notice do determine the need for the applicant to obtain any required State authorization. No Department of the Army (DA) permit will be issued until the coordinated State viewpoint on the proposal has been received and reviewed by this agency, nor will a DA permit be issued until the North Carolina Department of Environment and Natural Resources (NCDENR) has determined the applicability of a Water Quality Certificate as

required by PL 92-500.

This application is being considered pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344). Any person may request, in writing within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearing shall state, with particularity, the reasons for holding a public hearing.

The District Engineer has consulted the latest published version of the National Register of Historic Places for the presence or absence of registered properties, or properties listed as being eligible for inclusion therein, and this worksite is not registered property or property listed as being eligible for inclusion in the Register. Consultation of the National Register constitutes the extent of cultural resource investigations by the District Engineer, and he is otherwise unaware of the presence of such resources. Presently, unknown archeological, scientific, prehistorical, or historical data may be lost or destroyed by work under the requested permit.

The District Engineer, based on available information, is not aware that the proposed activity will affect species, or their critical habitat, designated as endangered or threatened pursuant to the Endangered Species Act of 1973.

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so the conditions under which it will be allowed to occur, are therefore determined by the outcome of the general balancing process. That decision should reflect the national concern for both protection and utilization of important resources. All factors which may be relevant to the proposal must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards and flood plain values (in accordance with Executive Order 11988), land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving the placement of dredged or fill materials in waters of the United States, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria, a permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State and local agencies and officials; Indian Tribes and other interested parties in order to consider and evaluate the impacts, including secondary and cumulative impacts, of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects and the other public interest factors listed above. Comments are used in the preparation of an

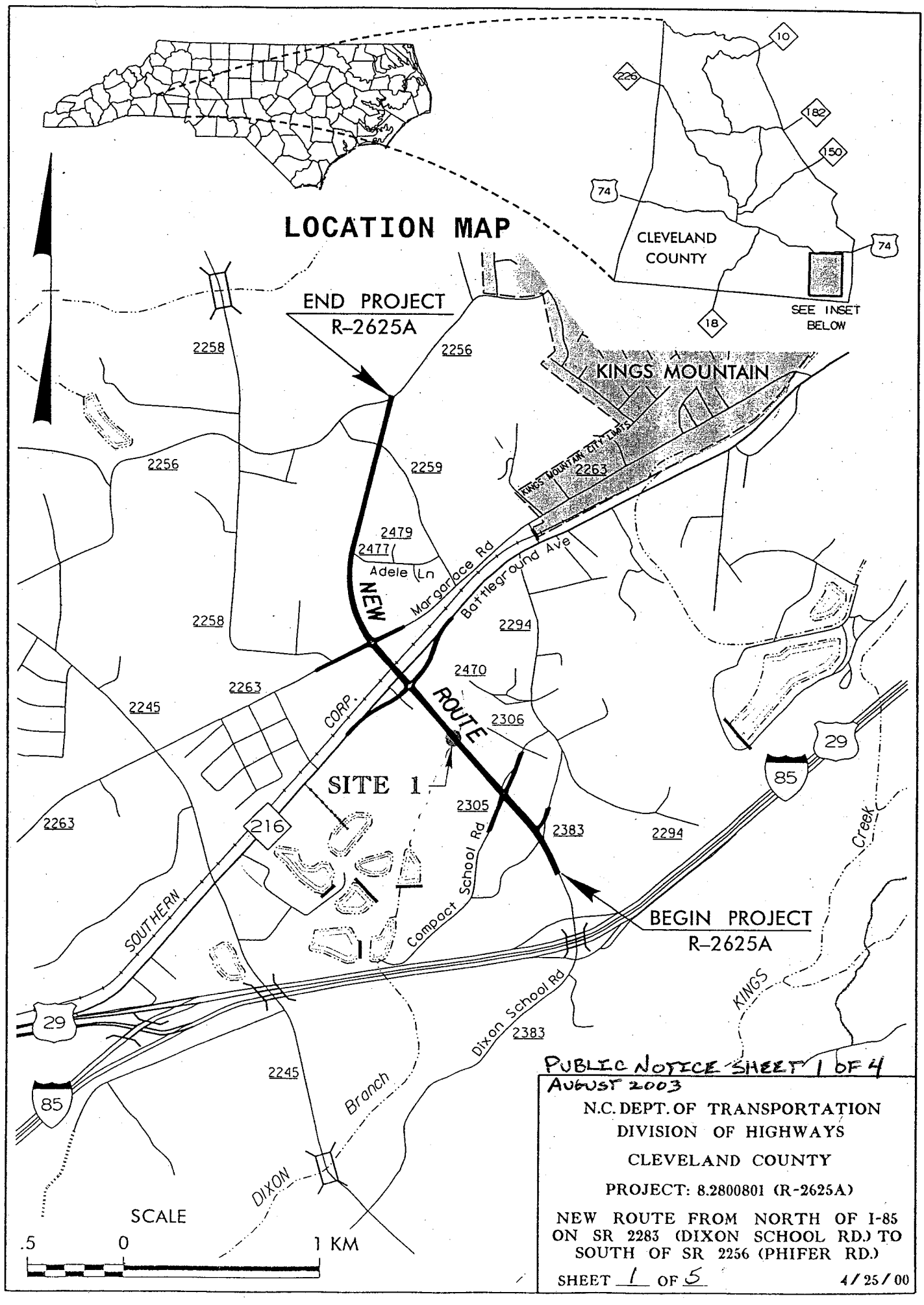
Environmental Assessment (EA) and/or an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Generally, the decision whether to issue this Department of the Army (DA) permit will not be made until the North Carolina Division of Water Quality (NCDWQ) issues, denies, or waives State certification required by Section 401 of the Clean Water Act. The NCDWQ considers whether or not the proposed activity will comply with Sections 301, 302, 306 and 307 of the Clean Water Act. The application and this public notice for the DA permit serves as application to the NCDWQ for certification.

Additional information regarding the Clean Water Act certification may be reviewed at the offices of the 401 Wetlands Certification Unit, North Carolina Division of Water Quality (NCDWQ), 2321 Crabtree Blvd., Raleigh, North Carolina 27604. Copies of such materials will be furnished to any person requesting copies upon payment of reproduction costs.

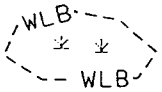
All persons desiring to make comments regarding the application for Clean Water Act certification should do so in writing delivered to the North Carolina Division of Water Quality Wetlands Section, 1621 Mail Service Center, Raleigh, North Carolina 27626-0621, on or before September 22, 2003, Attention: Mr. John Dorney.

Written comments pertinent to the proposed work, as outlined above, will be received in this office, Attention: Mr. Steven Lund, until 4:15 p.m., September 29, 2003, or telephone (828) 271-7980.

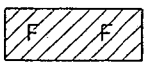

LOCATION MAP
CLEVELAND COUNTY
SEE INSET BELOW
10
226
182
150
74
74
18
END PROJECT
R-2625A
KINGS MOUNTAIN
KINGS MOUNTAIN CITY LIMITS
2263
2258
2256
2256
2259
2479
2477
Adele Ln
Margarace Rd
Battleground Ave
NEW
ROUTE
2258
2294
2470
2263
2245
CORP.
2306
SITE 1
29
85
2305
2263
216
2383
2294
Creek
SOUTHERN
Compact School Rd
BEGIN PROJECT
R-2625A
KINGS
29
Dixon School Rd
2383
2245
85
Branch
DIXON
SCALE
.5
0
1 KM
PUBLIC NOTICE SHEET 1 OF 4
AUGUST 2003
N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
CLEVELAND COUNTY
PROJECT: 8.2800801 (R-2625A)
NEW ROUTE FROM NORTH OF I-85 ON SR 2283 (DIXON SCHOOL RD.) TO SOUTH OF SR 2256 (PHIFER RD.)
SHEET 1 OF 5
4/25/00

LEGEND

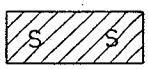
---WLB---- WETLAND BOUNDARY



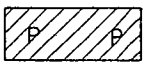
WETLAND



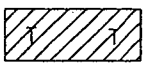
DENOTES FILL IN WETLAND



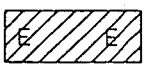
DENOTES FILL IN SURFACE WATER



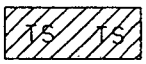
DENOTES FILL IN SURFACE WATER (POND)



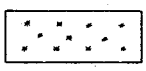
DENOTES TEMPORARY FILL IN WETLAND

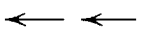


DENOTES EXCAVATION IN WETLAND

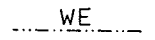


DENOTES TEMPORARY FILL IN SURFACE WATER

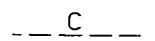

DENOTES MECHANIZED CLEARING


FLOW DIRECTION

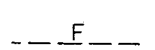
TOP OF BANK



EDGE OF WATER

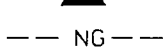


PROP. LIMIT OF CUT

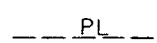


PROP. LIMIT OF FILL

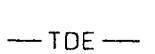

PROP. RIGHT OF WAY



NATURAL GROUND

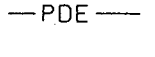


PROPERTY LINE

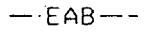


TEMP. DRAINAGE EASEMENT

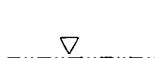
PERMANENT DRAINAGE EASEMENT

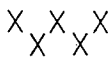


EXIST. ENDANGERED ANIMAL BOUNDARY



EXIST. ENDANGERED PLANT BOUNDARY

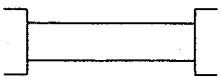

WATER SURFACE

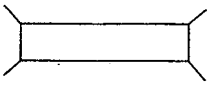

LIVE STAKES


BOULDER

COIR FIBER ROLLS


ADJACENT PROPERTY OWNER OR PARCEL NUMBER

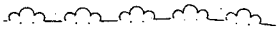

PROPOSED BRIDGE


PROPOSED BOX CULVERT

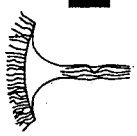

PROPOSED PIPE CULVERT

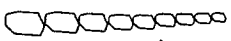
(DASHED LINES DENOTE EXISTNG STRUCTURES)


SINGLE TREE

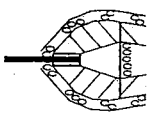

WOODS LINE


DRAINAGE INLET


ROOTWAD


VANE


RIP RAP


RIP RAP ENERGY DISSIPATOR BASIN

PUBLIC NOTICE SHEET 2 OF 4

AUGUST 2003

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

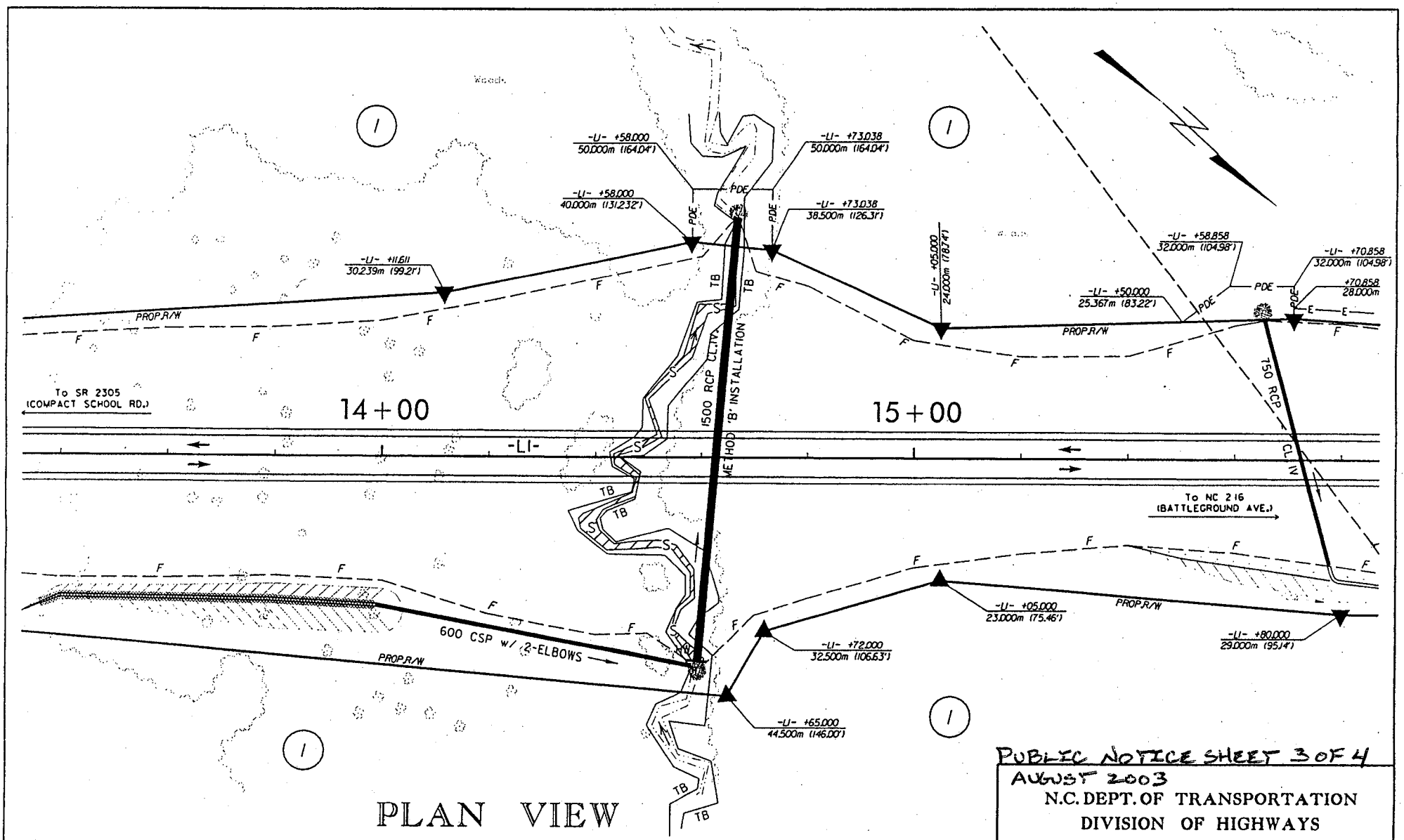
CLEVELAND COUNTY

PROJECT: 8.2800801 (R-2625A)

NEW ROUTE FROM NORTH OF I-85 ON SR 2283 (DIXON SCHOOL RD.) TO SOUTH OF SR 2256 (PHIFER RD.)

SHEET 2 OF 5

4/25/00



PLAN VIEW
SITE 1

DENOTES FILL IN SURFACE WATERS

PUBLIC NOTICE SHEET 3 OF 4

AUGUST 2003

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CLEVELAND COUNTY

PROJECT: 8.2800801 (R-2625A)

NEW ROUTE FROM NORTH OF I-85 ON SR 2283 (DIXON SCHOOL RD.) TO SOUTH OF SR 2256 (PHIFER RD.)

SHEET 3 OF 5 4/25/00

IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS						BUFFER IMPACTS	
Site No.	Station (From/To)	Structure Size	Fill In Wetlands (ha)	Temp. Fill In Wetlands (ha)	Excavation In Wetlands (ha)	Interchange Isolated Wetland (ha)	Mechanized Clearing (Method III) (ha)	Fill In SW (Natural) (ha)	Fill In SW (Pond) (ha)	Temp. Fill In SW (ha)	Existing Channel Impacted (m)	Relocated Channel (m)	Enclosed Channel (m)	Zone 1 (ha)	Zone 2 (ha)
1	-L1-14-37R / -L1-14-68L	1500	—	—	—	—	—	0.014	—	—	125.2	—	82.9	—	—
PROJECT TOTALS:			0.000	0.000	0.000	0.000	0.000	0.014	0.000	0.000	125.2	0.0	82.9	0.000	0.000

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CLEVELAND COUNTY

PROJECT: 8.2800801
NCDOT T.I.P. NO: R-2625A

SHEET 4 OF 5 PUBLIC NOTICE SHEET 4 OF 4 AUGUST 2003

04/25

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

June 24, 2003

030894

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

WQC # 3433

ATTN.: Mr. John Hendrix
NCDOT Coordinator

Subject: **Application for Individual Section 404 and 401 permits for R-2625A.** New route from North of I-85 on SR 2283 (Dixon School Road) to south of SR 2256 (Phifer Road). State Project No. 8.2800801, Federal Project No. STP-2283(1), TIP No. R-2625A.

Dear Sir:

The North Carolina Department of Transportation proposes to construct a two- lane new highway from north of I-85/SR 2283 (Dixon School Road) Interchange to south of SR 2256 (Phifer Road) southwest of Kings Mountain on new location. The project is approximately 1.8 miles in length. This application package consists of the cover letter, ENG Form 4345, 81/2x11 inch permit drawings, and half size plan sheets.

Purpose and Need: As identified in the EA, the main purpose of the proposed project is to provide motorists a more direct north- south route between Interstate 85 and US 74 Business on the western side of Kings Mountain.

Summary of Impacts: Impacts on jurisdictional areas of the proposed project consist of a total of 410.76 linear feet of stream impacts.

Summary of Mitigation: The project has been designed to avoid and minimize impacts to jurisdictional areas throughout the NEPA and design processes. Compensatory mitigation for jurisdictional streams will be handled by using 821.6 linear feet from the North Carolina Wetlands Restoration Program.

PAYMENT
RECEIVED

NEPA DOCUMENT STATUS

A North Carolina State Environmental Assessment (SEA) was submitted by the NCDOT on February 28, 1996 in compliance with the North Carolina Environmental Policy Act. The document addressed R-2625 A, a new route from north of I-85 on SR 2283 (Dixon School Road) to south of SR 2256 (Phifer Road), as well as R-2625B which is already constructed. The SEA explains the purpose and need for the project; provides a description of the alternatives considered; and characterizes the social, economic, and environmental effects. After the SEA was approved it was circulated to federal state and local agencies. On August 27, 1996 a FONSI was approved for R-2625. Copies of the EA and FONSI have been provided to regulatory review agencies involved in the approval process. Additional copies will be provided upon request.

INDEPENDENT UTILITY

The subject project is in compliance with 23 CFR Part 771.111(f) which lists the Federal Highway Administration (FHWA) characteristics of independent utility of a project:

(1) The project connects logical termini and is of sufficient length to address environmental matters on a broad scope,

(2) The project is usable and a reasonable expenditure, even if no additional transportation improvements are made in the area;

(3) The project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

RESOURCE STATUS

Delineations:
Stream delineations were conducted in May 2003 by Environmental Services Incorporated using the criteria specified on both the NCDWQ Stream Classification Form and the USACE Intermittent Channel Evaluation Form. R-2625A has 410.76 feet of jurisdictional streams.

Wetlands: There are no permanent or temporary impacts to jurisdictional or isolated wetlands for this project.

Streams: The project corridor is located within the boundary of the Broad River Drainage Basin. Drainage from the project corridor flows into an unnamed tributary to Dixon Branch and is classified as Class C. This perennial unnamed system (DWQ index No. 9-54-3) is located at Station number 14+00 to 15+00.

PROTECTED SPECIES

Plants and animals with Federal classification of Endangered (E) or Threatened (T) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of January 29, 2003, the U.S. Fish and Wildlife Service (FWS) lists one federally protected species for Cleveland County (Table 2).

Table 2. Federally Protected Species for Cleveland County

SCIENTIFIC NAME	COMMON NAME	STATUS
Hexastylis naniflora	Dwarf-flowered heartleaf	T

"T" denotes Threatened "likely to become endangered within the foreseeable future throughout all or a significant portion of its range."

A biological conclusion of "No Effect" was reached for the Dwarf-flowered heartleaf based on on-site surveys made in May 2003. The results of the surveys indicate that there is no habitat for the species. Therefore, there will be no effect on the species.

INDIRECT CUMULATIVE IMPACT ANALYSIS

Existing rules for the 401 Water Quality Certification Program (15A NCAC 2H .0506(b)(4) require that the DWQ determine that a project "does not result in cumulative impacts, based on past or reasonably anticipated future impacts, that cause or will cause a violation of downstream water quality standards."

A Indirect and Cumulative Impact Assessment was conducted for this project on November 5, 2002. The document states that since this project will be a new road through undeveloped land and will not be access controlled, there will be new development that occurs. However, because of the requirements instituted by the Division of Land Resources and the studies required by the City of Kings Mountain, this development should not have any impact on water quality in the area. The evaluation of local regulations and water quality management plans indicate that new development induced as a result of TIP R2625A will not substantially deteriorate water quality in Beason Creek, Dixon Branch, or the Broad River Basin.

The Unnamed tributary to Dixon Branch is not an impaired stream and therefore is not on the state 303d list.

CULTURAL RESOURCES

Archaeology: An archaeological survey report for the proposed project was completed and transmitted to the SHPO on February 23-24 and March 1-2, 1993. On December 8, 1995 the SHPO concurred that no additional archaeological investigation is warranted in connection with the project.

Historic: On December 8, 1995, the SHPO concurred that there are no properties considered eligible for the National Register and that no further evaluations are required.

FEMA COMPLIANCE

There are no regulated floodways on this project; therefore compliance with FEMA regulations is not applicable

WILD AND SCENIC RIVER SYSTEM

The project will not impact any designated Wild and Scenic Rivers or any rivers included in the list of study rivers (Public Law 90-542, as amended).

MITIGATION OPTIONS

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

MINIMIZATION

Sta. 14+00-15+00 (UT to Dixon Branch) The existing stream will be directed through a 5' reinforced concrete pipe. This design was minimized to the fullest extent possible by increasing the slopes to reduce the impacts to the unnamed tributary to Dixon Branch.

COMPENSATION

The project has been designed to avoid and minimize impacts to jurisdictional areas throughout the NEPA and design processes. Compensatory mitigation for jurisdictional streams will be at a 2:1 ratio and will be handled by using 821.6 linear feet from the North Carolina Wetlands Restoration Program as indicated on the attached letter.

REGULATORY APPROVALS

Application is hereby made for a Department of the Army Individual 404 Permit as required for the above-described activities. We are also hereby requesting a 401 Water Quality Certification from the Division of Water Quality. In compliance with Section 143-215.3D(e) of the NCAC we have enclosed a check for $475.00 to act as payment for processing the Section 401 permit application. We are providing seven copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, for their review.

If you have any questions or need additional information please contact Michael Turchy at maturchy@dot.state.nc.us or 919 715-1468.

Sincerely,

Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch

Cc:
Mr. John Dorney, NCDWQ (7 copies)
Ms. Marla Chambers, NCWRC
Ms. Kathy Matthews, USEPA
Ms. Marella Buncick, USFWS
Mr. John F. Sullivan , III, P.E., FHWA
Mr. Jay Bennett, P.E., Roadway Design
Mr. Omar Sultan, Programming and TIP
Ms. Debbie Barbour, P.E., Highway Design
Mr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. M. L. Holder, P.E. (Div. 12), Division Engineer
Ms. Trish Simon (Div. 12), DEO
Mr. David Franklin, USACE, Wilmington (Cover Letter only)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)

OMB APPROVAL NO. 0710-003
Expires December 31, 2004

PRIVACY ACT STATEMENT

Authority: Rivers and Harbors Act, Section 10, 33 USC 403: Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research and Sanctuaries Act, 33 USC 1413, Section 103. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

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

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

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME
North Carolina Department of Transportation
Project Development & Environmental Analysis

8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required)

6. APPLICANT'S ADDRESS
1548 Mail Service Center
Raleigh, NC 27699-1548

9. AGENT'S ADDRESS

7. APPLICANT'S PHONE NOs. W/AREA CODE
a. Residence
b. Business 919-733-3141

10. AGENT'S PHONE NOs. W/AREA CODE
a. Residence
b. Business

11. **STATEMENT OF AUTHORIZATION**

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

_____ APPLICANT'S SIGNATURE

_____ DATE

NAME, LOCATION, AND DESCRIPTION OR PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions
New Route, from North of the I-85/SR2283 (Dixon School Rd) Interchange to US 74 Business (Shelby Road)

13. NAME OF WATERBODY, IF KNOWN (if applicable)
Unnamed tributary to Dixon Branch

14. PROJECT STREET ADDRESS (if applicable)
North of I-85/SR2283 (Dixon School Rd) Interchange to US 74 Business (Shelby Road)

15. LOCATION OF PROJECT
Cleveland (COUNTY) NC (STATE)

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) **Section, Township, Range, Lat/Lon, and/or Accessors's Parcel Number, for example.**

North of I-85/SR2283 (Dixon School Rd) Interchange to US 74 Business (Shelby Road)

17. DIRECTIONS TO THE SITE
Please see attached vicinity map and cover letter.

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

New Road location, realigning, extension, grade separations.

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

Public transportation; to improve traffic flow and increase safety.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

New Road Location North of I-85/SR2283 (Dixon School Rd) Interchange to US 74 Business (Shelby Road)

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

Earthen fill material,

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

410.76 linear feet of streams

23. Is Any Portion of the Work Already Complete? Yes ___ No _X___ IF YES, DESCRIBE THE COMPLETED WORK

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

Please see the attached sheet in the permit drawing package.

25. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application.

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

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

6-14-05

SIGNATURE OF APPLICANT | DATE | SIGNATURE OF AGENT | DATE

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

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

North Carolina
Department of Environment and Natural Resources

Michael F. Easley, Governor
William G. Ross Jr., Secretary

November 20, 2002

Mr. Gregory Thorpe
NC Department of Transportation
P D and E A Branch
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Thorpe:

Subject: TIP #: R – 2625A
County: Cleveland

The purpose of this letter is to notify you that the North Carolina Wetlands Restoration Program (NCWRP) will accept payment for stream impacts associated with the subject project. Wetland impacts will be mitigated in accordance with the Memorandum of Understanding between the N.C. Department of Environment and Natural Resources and the U.S. Army Corps of Engineers dated November 4, 1998.

Based on the information supplied by you in a letter dated November 5, 2002, the stream restoration that is necessary to satisfy the compensatory mitigation requirements for this project is summarized in the following table. The maximum amount of mitigation that the NCWRP will accept for this project is also indicated in this table.

	Stream (linear feet)	Wetlands (riparian)	Wetlands (non-riparian)
Impact	822		
Mitigation Max.	1644		

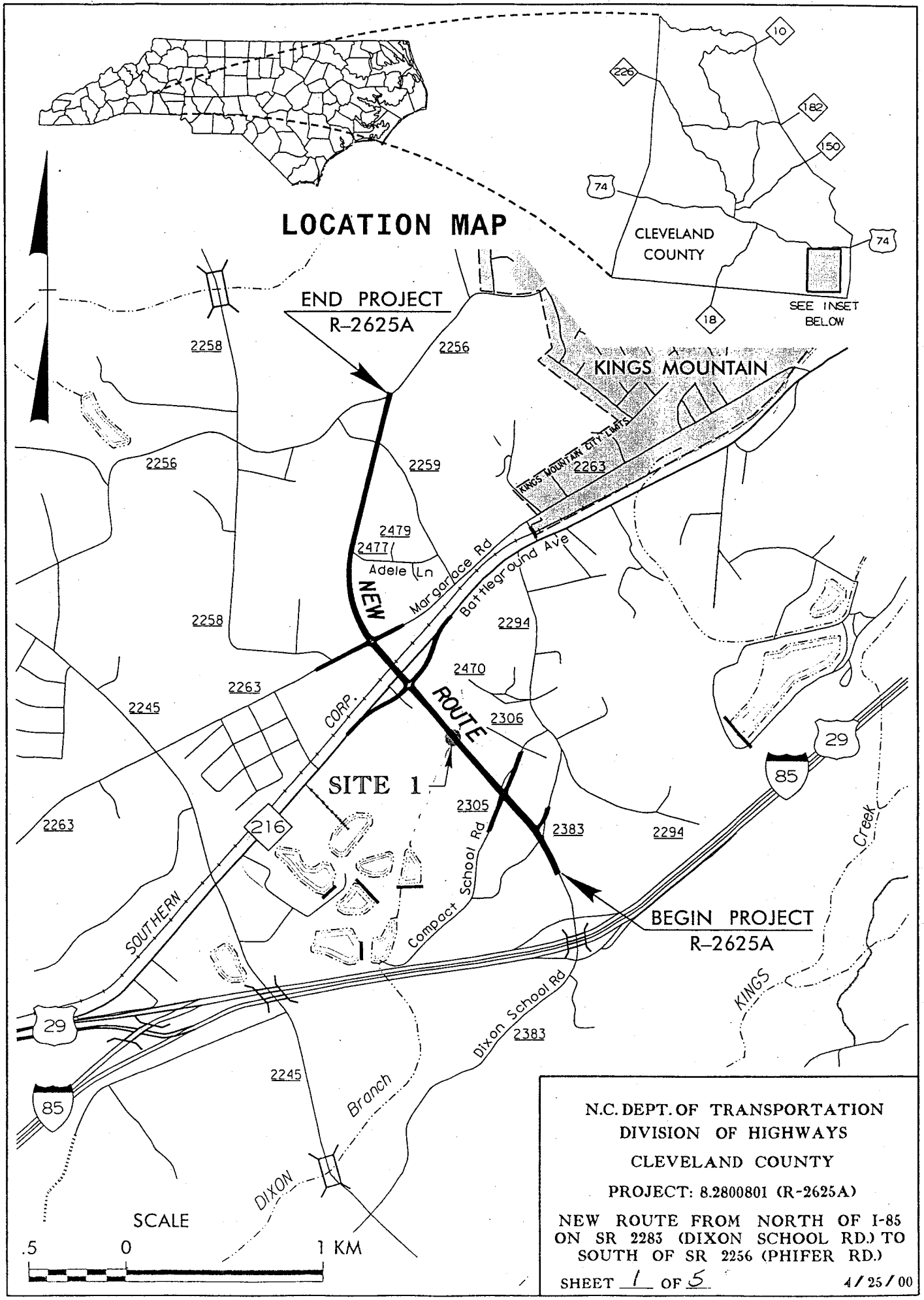
As requested, the NCWRP will provide stream mitigation as specified in the 401 Water Quality Certification and/or Section 404 Permit for impacts associated with the subject project in Cataloging Unit 03050105 of the Broad River Basin.

If you have any questions or need additional information, please contact Valerie Mitchener at (919) 733-5208.

Sincerely,

Ronald E. Ferrell,
Program Manager

cc: Cyndi Karoly, Wetlands/401 Unit
Steve Lund, USACOE-Asheville
Mike Parker, DENR Regional Office-Mooresville
file



N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
CLEVELAND COUNTY
PROJECT: 8.2800801 (R-2625A)
NEW ROUTE FROM NORTH OF I-85 ON SR 2283 (DIXON SCHOOL RD.) TO SOUTH OF SR 2256 (PHIFER RD.)

SHEET 1 OF 5 4/25/00

LEGEND

WLB ---- WETLAND BOUNDARY

WLB WETLAND WLB

F F DENOTES FILL IN WETLAND

S S DENOTES FILL IN SURFACE WATER

P P DENOTES FILL IN SURFACE WATER (POND)

T T DENOTES TEMPORARY FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

TS TS DENOTES TEMPORARY FILL IN SURFACE WATER

DENOTES MECHANIZED CLEARING

FLOW DIRECTION

TB TOP OF BANK

WE EDGE OF WATER

C PROP. LIMIT OF CUT

F PROP. LIMIT OF FILL

PROP. RIGHT OF WAY

NG NATURAL GROUND

PL PROPERTY LINE

TDE TEMP. DRAINAGE EASEMENT

PDE PERMANENT DRAINAGE EASEMENT

EAB EXIST. ENDANGERED ANIMAL BOUNDARY

EPB EXIST. ENDANGERED PLANT BOUNDARY

WATER SURFACE

LIVE STAKES

BOULDER

COIR FIBER ROLLS

1 ADJACENT PROPERTY OWNER OR PARCEL NUMBER

PROPOSED BRIDGE

PROPOSED BOX CULVERT

PROPOSED PIPE CULVERT

(DASHED LINES DENOTE EXISTNG STRUCTURES)

SINGLE TREE

WOODS LINE

DRAINAGE INLET

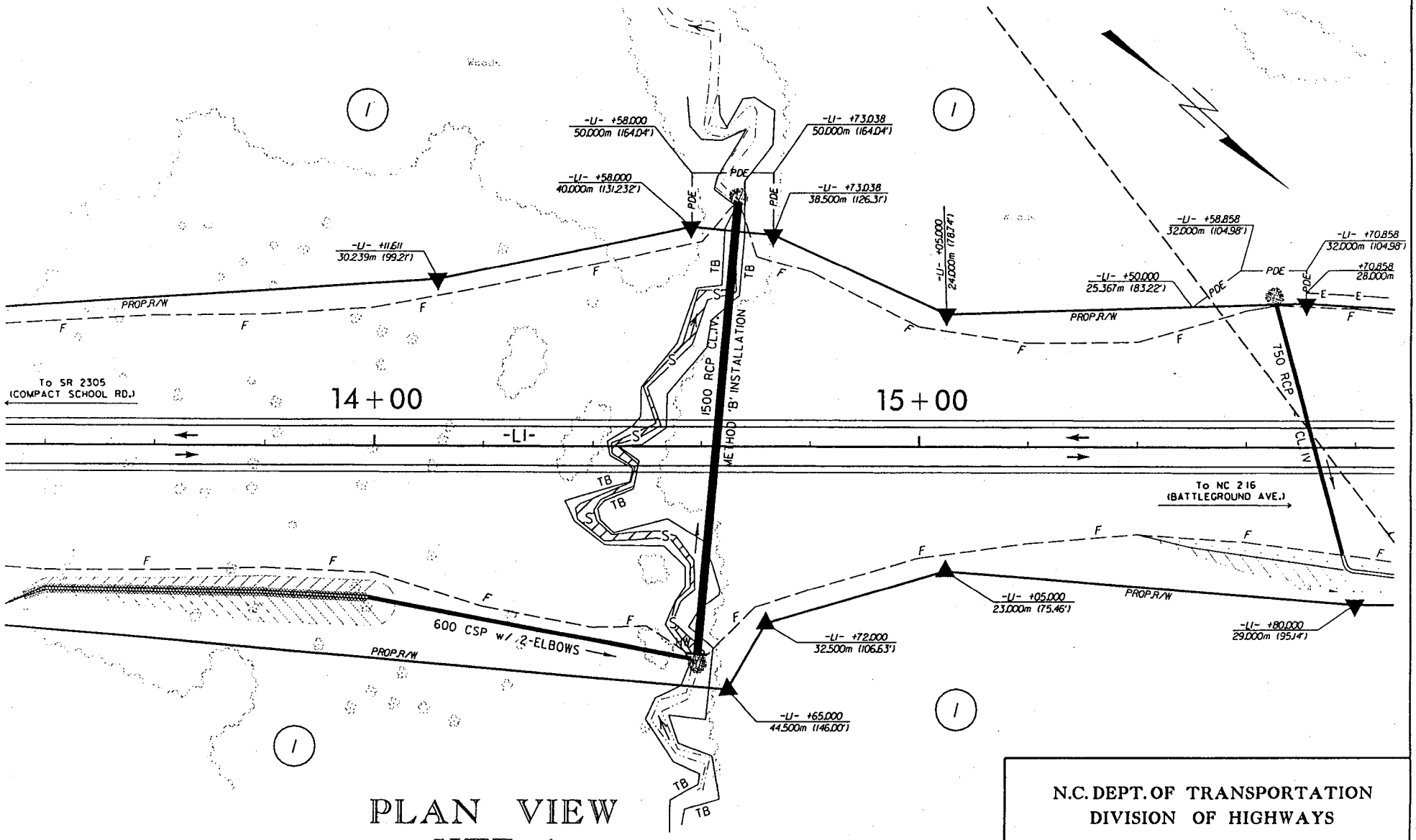
ROOTWAD

VANE

RIP RAP

RIP RAP ENERGY DISSIPATOR BASIN

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
CLEVELAND COUNTY
PROJECT: 8.2800801 (R-2625A)
NEW ROUTE FROM NORTH OF I-85 ON SR 2283 (DIXON SCHOOL RD.) TO SOUTH OF SR 2256 (PHIFER RD.)



PLAN VIEW
SITE 1

10 0 20

DENOTES FILL IN SURFACE WATERS

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
CLEVELAND COUNTY
PROJECT: 8.2800801 (R-2625A)
NEW ROUTE FROM NORTH OF I-85 ON SR 2283 (DIXON SCHOOL RD.) TO SOUTH OF SR 2256 (PHIFER RD.)

SHEET 3 OF 5 4/25/00

IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS						BUFFER IMPACTS	
Site No.	Station (From/To)	Structure Size	Fill In Wetlands (ha)	Temp. Fill In Wetlands (ha)	Excavation In Wetlands (ha)	Interchange Isolated Wetland (ha)	Mechanized Clearing (Method III) (ha)	Fill In SW (Natural) (ha)	Fill In SW (Pond) (ha)	Temp. Fill In SW (ha)	Existing Channel Impacted (m)	Relocated Channel (m)	Enclosed Channel (m)	Zone 1 (ha)	Zone 2 (ha)
1	-L1-14-37R/ -L1-14-68L	1500	—	—	—	—	—	0.014	—	—	125.2	—	82.9	—	—
PROJECT TOTALS:			0.000	0.000	0.000	0.000	0.000	0.014	0.000	0.000	125.2	0.0	82.9	0.000	0.000

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CLEVELAND COUNTY

PROJECT: 8.2800801
NCDOT T.I.P. NO: R-2625A

04/25

Project No. 8.2800801 (R-2625A)
Property Owner List For Each Wetland Site

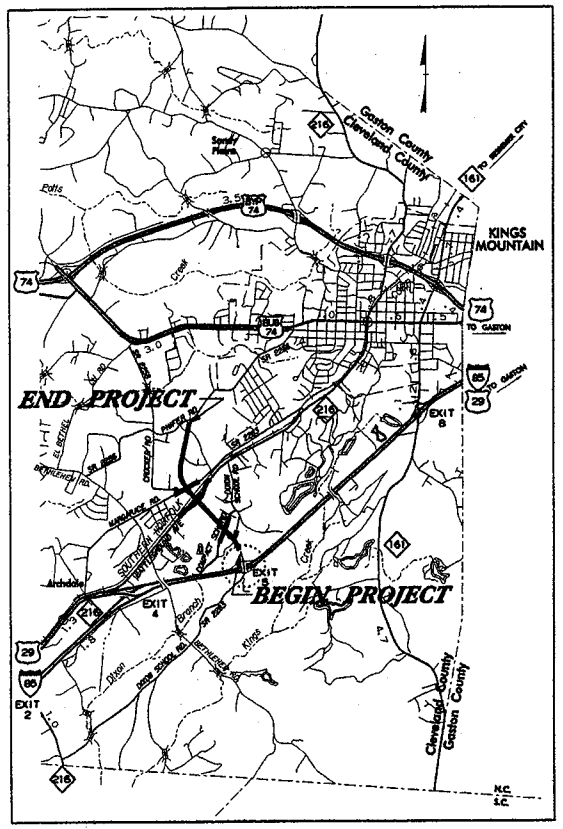
Site NO.	Station	Parcel NO.	Name DB and Pg	Address
1	-L1- 14+37 Rt. to -L1- 14+68 Lt.	(1)	John Cole Hatcher DB 1114 Pg 341	1318 F Cenrtal Ave. Charlotte, N.C. 28205

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
CLEVELAND COUNTY
PROJECT: 8.2800801 (R-2625A)
NEW ROUTE FROM NORTH OF I-85 ON SR 2283 (DIXON SCHOOL RD.) TO SOUTH OF SR 2256 (PHIFER RD.)

4/25/00

PROJECT: 8.2800803 R-2625A

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CLEVELAND COUNTY

METRIC

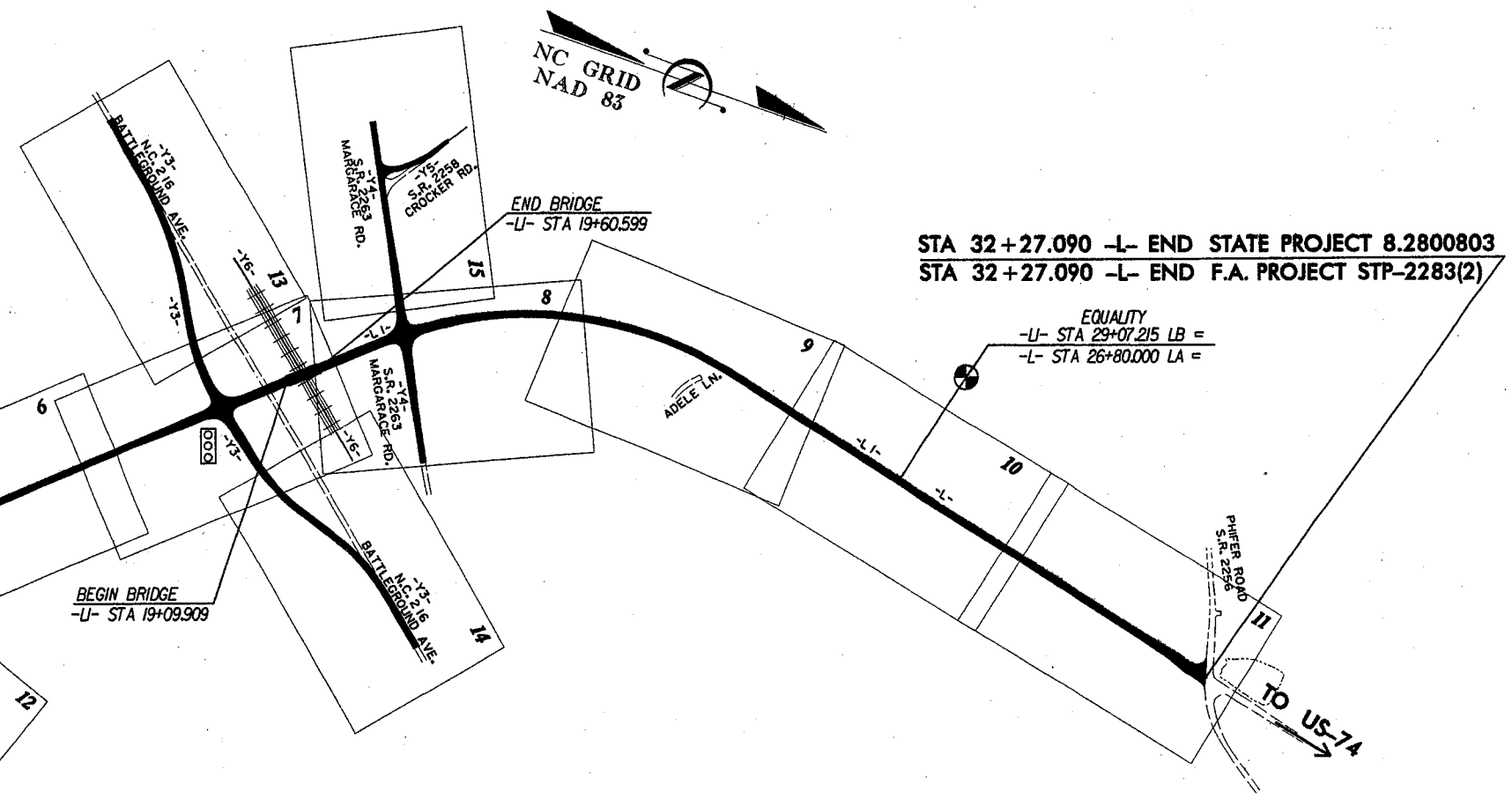
ALL DIMENSIONS IN THESE PLANS ARE IN METERS AND/OR MILLIMETERS UNLESS OTHERWISE NOTED

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2625A	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
8.2800801	STP-2283(1)	PE
8.2800802	STP-2283(2)	R/W, UTL
8.2800803	STP-2283(2)	CONST.

LOCATION: NEW ROUTE, FROM NORTH OF I-85 /S.R. 2283 (DIXON SCHOOL ROAD) INTERCHANGE TO SOUTH OF S.R. 2256 (PHIFER ROAD) SOUTHWEST OF KINGS MOUNTAIN

TYPE OF WORK: WIDENING, SIGNING, GRADING, DRAINAGE, PAVING, SIGNALS, AND STRUCTURE



STA 32+27.090 -L- END STATE PROJECT 8.2800803
STA 32+27.090 -L- END F.A. PROJECT STP-2283(2)

STA 5+75.000 -L1- BEGIN STATE PROJ. 8.2800803-CONST.
STA 5+75.000-BEGIN F.A. PROJECT NO. STP-2283(2)

N.C.D.O.T. CONTACT:
SCOTT D. BLEVINS, PE -
ENGINEERING COORDINATOR

GRAPHIC SCALES

PLANS: 10m 0 10m 20m
PROFILE (HORIZONTAL): 10m 0 10m 20m
PROFILE (VERTICAL): 2m 0 2m 4m

DESIGN DATA

ADT 2003 = 6,995
ADT 2025 = 10,180
DHV = 10 %
D = 60 %
T = 6 %*
V = 80 km/hr
*(2% TTST, 4% DUAL)

PROJECT LENGTH

LENGTH OF ROADWAY F.A. PROJ. NO. STP-2283(2) = 2.828 km
TOTAL BRIDGE LENGTH F.A. PROJ. NO. STP-2283(2) = 0.051 km
TOTAL LENGTH STATE PROJ. NO. 8.2800803 = 2.879 km

Prepared in the Office of:
THE LPA GROUP of NORTH CAROLINA
4904 PROFESSIONAL CT. /(919) 954-1244
RALEIGH, NORTH CAROLINA 27609
For The North Carolina Department of Transportation

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: OCTOBER 30, 2000

LETTING DATE: MARCH 18, 2003

JEFFERY S. DOUGLAS, PE
PROJECT ENGINEER

DAVID MARTIN
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14160 ENGINEER DOUGLAS S. BRUNDIGE
11/29/02
SIGNATURE: P.E.

ROADWAY DESIGN

NORTH CAROLINA PROFESSIONAL SEAL 23853 ENGINEER
SIGNATURE: P.E. 11/21/02

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR DATE

...\octet\26825a\proj\r2625a.tsh 11/21/02 11:26:13 AM

10/26/98

REVISIONS

METRIC

PROJ. REFERENCE NO.	SHEET NO.
R-2625A	1 - A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLOTTED: 8/24/99
FILE: r2625a_sym21.ssh

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJ. REFERENCE NO. R-2625A | SHEET NO. 1-B

*S.U.E = SUBSURFACE UTILITY ENGINEER

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

- Edge of Pavement
- Curb
- Prop. Slope Stakes Cut
- Prop. Slope Stakes Fill
- Prop. Woven Wire Fence
- Prop. Chain Link Fence
- Prop. Barbed Wire Fence
- Prop. Wheelchair Ramp
- Exist. Guardrail
- Prop. Guardrail
- Equality Symbol
- Pavement Removal

RIGHT OF WAY

- Baseline Control Point
- Existing Right of Way Marker
- Exist. Right of Way Line w/Marker
- Prop. Right of Way Line with Proposed R/W marker (Iron Pin & Cap)
- Prop. Right of Way Line with Proposed (Concrete or Granite) R/w Marker
- Exist. Control of Access Line
- Prop. Control of Access Line
- Exist. Easement Line
- Prop. Temp. Construction Easement Line
- Prop. Temp. Drainage Easement Line
- Prop. Perm. Drainage Easement Line

HYDROLOGY

- Stream or Body of Water
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Shoreline
- Falls, Rapids
- Prop Lateral, Tail, Head Ditches

STRUCTURES

MAJOR

- Bridge, Tunnel, or Box Culvert
- Bridge Wing Wall, Head Wall and End Wall

MINOR

- Head & End Wall
- Pipe Culvert
- Footbridge
- Drainage Boxes
- Paved Ditch Gutter

UTILITIES

- Exist. Pole
- Exist. Power Pole
- Prop. Power Pole
- Exist. Telephone Pole
- Prop. Telephone Pole
- Exist. Joint Use Pole
- Prop. Joint Use Pole
- Telephone Pedestal
- Cable TV Pedestal
- Hydrant
- Satellite Dish
- Exist. Water Valve
- Sewer Clean Out
- Power Manhole
- Telephone Booth
- Water Manhole
- Light Pole
- H-Frame Pole
- Power Line Tower
- Pole with Base
- Gas Valve
- Gas Meter
- Telephone Manhole
- Power Transformer
- Sanitary Sewer Manhole
- Storm Sewer Manhole
- Tank; Water, Gas, Oil
- Water Tank With Legs
- Traffic Signal Junction Box
- Fiber Optic Splice Box
- Television or Radio Tower
- Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement
- Recorded Water Line
- Designated Water Line (S.U.E.*)
- Sanitary Sewer
- Recorded Sanitary Sewer Force Main
- Designated Sanitary Sewer Force Main(S.U.E.*)
- Recorded Gas Line
- Designated Gas Line (S.U.E.*)
- Storm Sewer
- Recorded Power Line
- Designated Power Line (S.U.E.*)
- Recorded Telephone Cable
- Designated Telephone Cable (S.U.E.*)
- Recorded U/G Telephone Conduit
- Designated U/G Telephone Conduit (S.U.E.*)
- Unknown Utility (S.U.E.*)
- Recorded Television Cable
- Designated Television Cable (S.U.E.*)
- Recorded Fiber Optics Cable
- Designated Fiber Optics Cable (S.U.E.*)
- Exist. Water Meter
- U/G Test Hole (S.U.E.*)
- Abandoned According to U/G Record — ATTUR
- End of Information — E.O.I.

BOUNDARIES & PROPERTIES

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Property Line Symbol
- Exist. Iron Pin
- Property Corner
- Property Monument
- Property Number
- Parcel Number
- Fence Line
- Existing Wetland Boundaries
- Proposed Wetland Boundaries
- Existing Endangered Animal Boundaries
- Existing Endangered Plant Boundaries

BUILDINGS & OTHER CULTURE

- Buildings
- Foundations
- Area Outline
- Gate
- Gas Pump Vent or U/G Tank Cap
- Church
- School
- Park
- Cemetery
- Dam
- Sign
- Well
- Small Mine
- Swimming Pool

TOPOGRAPHY

- Loose Surface
- Hard Surface
- Change in Road Surface
- Curb
- Right of Way Symbol — R/W
- Guard Post — GP
- Paved Walk
- Bridge
- Box Culvert or Tunnel
- Ferry
- Culvert
- Footbridge
- Trail, Footpath
- Light House

VEGETATION

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard

RAILROADS

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH

revised 2/25/97

PLOTTED: 1/06/03
FILE: TYPSECT.TYP

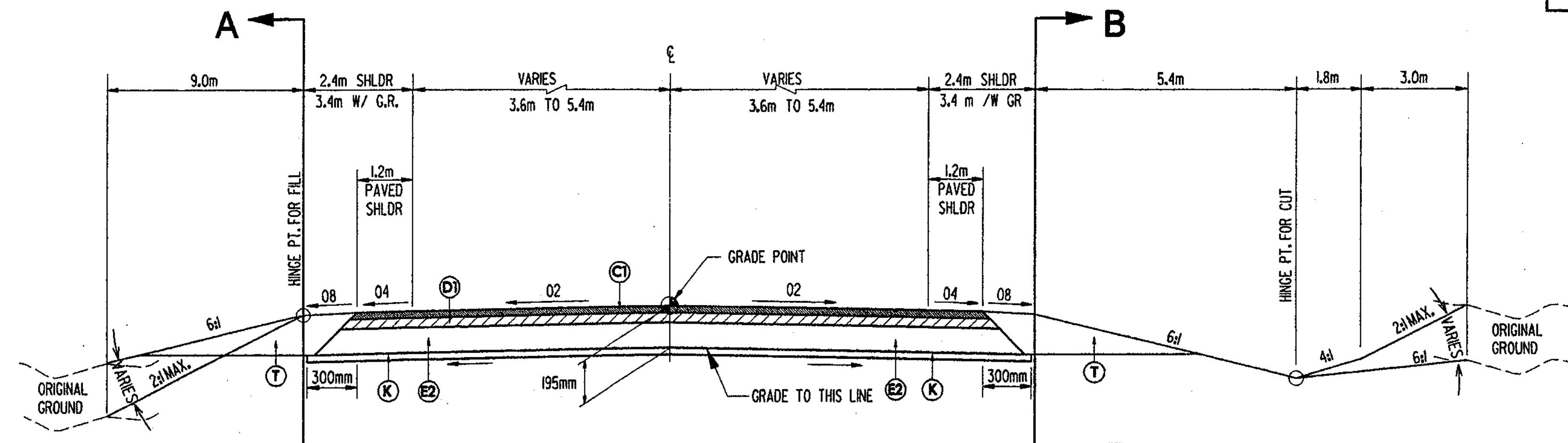
	PROJECT REFERENCE NO.	SHEET NO.
THE LPA GROUP TRANSPORTATION CONSULTANTS 4904 PROFESSIONAL COURT, SUITE 201 RALEIGH, NORTH CAROLINA 27619 (919) 954-1244 / METRIC / CONST. REV. / R/W REV.	R-262	
	PAVEMENT DESIGN ENGINEER	

Pavement Design Engineer— Judith Corley-Lay & needs to see plans.

PAVEMENT SCHEDULE

C1	PROP. APPROX. 60 mm ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 72 kg PER SQ. METER IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 2.40 kg PER SQ. METER PER 1 mm DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 40 mm IN DEPTH.
D1	PROP. APPROX. 55 mm ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 135 kg PER SQ. METER.
D2	PROP. APPROX. 110 mm ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 270 kg PER SQ. METER
D3	PROP. VAR. DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 2.45 kg PER SQ. METER PER 1 mm DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 55 mm OR GREATER THAN 110 mm IN DEPTH.
E1	PROP. APPROX. 75 mm ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 184 kg PER SQ. METER.
E2	PROP. APPROX. 80 mm ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 196 kg PER SQ. METER.
E3	PROP. APPROX. 100 mm ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 245 kg PER SQ. METER IN EACH OF TWO LAYERS.
E4	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 2.45 kg PER SQ. METER PER 1 mm DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 75 mm IN DEPTH OR GREATER THAN 140 mm IN DEPTH.
K	SUBGRADE TO BE TREATED WITH CEMENT TO A DEPTH OF 180 mm AT THE RATE OF 30 kg/ SQ. METER. AS DIRECTED BY ENGINEER. OR SUBGRADE TO BE TREATED WITH CEMENT TO A DEPTH OF 180 mm AT THE RATE OF 30 kg/SQ. METER AND AGGREGATE AT A RATE OF 135 kg/SQ. METER. AS DIRECTED BY ENGINEER. OR SUBGRADE TO BE TREATED WITH LIME TO A DEPTH OF 200 mm AT THE RATE OF 11 kg/SQ. METER. AS DIRECTED BY ENGINEER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT.

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

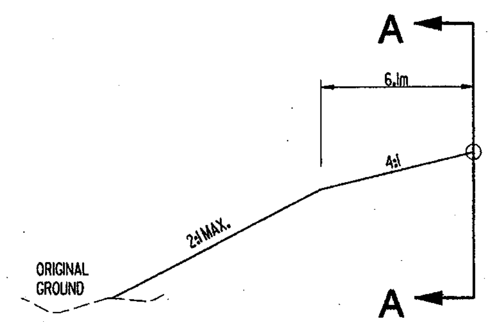


TYPICAL SECTION No. 1

N.T.S.

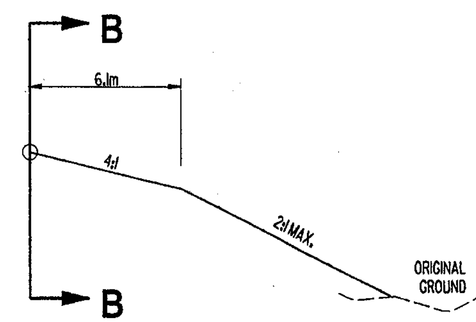
USE TYPICAL SECTION No.1:

-L1- 7+40.000 TO (12+80.000 LT; 12+60.000 RT)
-L1- (18+60.000 RT; 19+00.000 LT) TO 19+09.909 (BEGIN BRIDGE)
-L1- 19+60.599 (END BRIDGE) TO 19+80.000
-L1- (21+20.000 RT; 21+80.000 LT) TO 29+07.215 LB
-L- 26+80.000 LA TO 31+98.500
-Y3- 11+85.000 TO (12+00.000 RT; 12+40.000 LT)
-Y3- (15+40.000 LT; 17+20.000 RT) TO 17+80.000



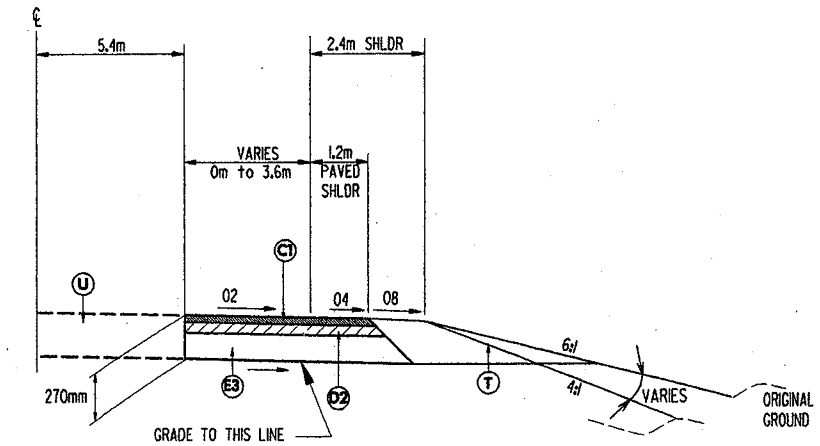
USE A-A IN CONJUNCTION WITH TYPICAL SECTION No.1

-L1- 12+80.000 TO 19+00.000
-L1- 19+80.000 TO 21+80.000
-Y3- 12+40.000 TO 14+28.469
-Y3- 14+94.327 TO 15+40.000



USE B-B IN CONJUNCTION WITH TYPICAL SECTION No.1

-L1- 12+60.000 TO 18+60.000
-L1- 19+80.000 TO 21+20.000
-Y3- 12+00.000 TO 14+38.753
-Y3- 15+00.330 TO 17+20.000

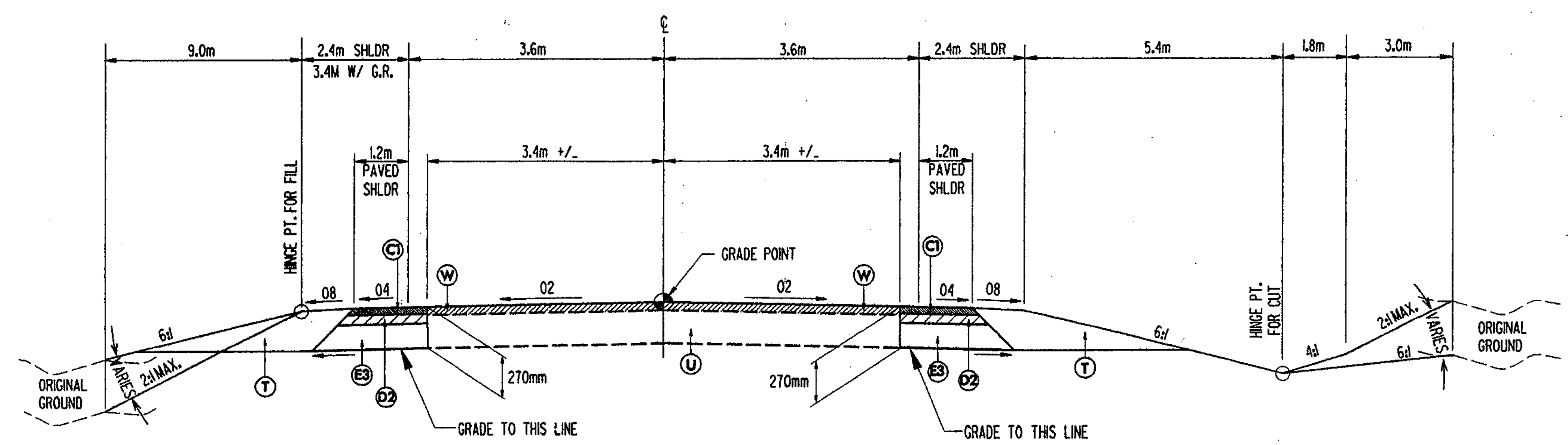


DETAIL 'A'

N.T.S.

USE DETAIL 'A' IN CONJUNCTION WITH TYPICAL SECTION NO.1

-L- 31+98.500 RT TO 32+27.090 RT

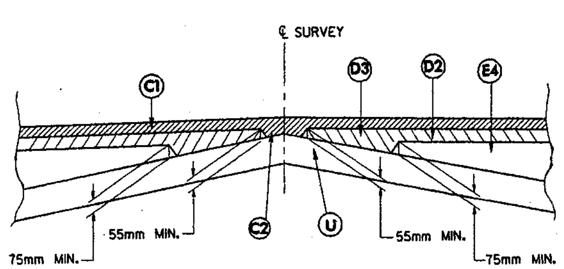


TYPICAL SECTION No. 2

N.T.S.

USE TYPICAL SECTION No.2 :

-L1- 5+75.000 TO 7+40.000
-Y3- 10+60.000 TO 11+85.000
-Y3- 17+80.000 TO 18+82.000



DETAIL SHOWING METHOD OF WEDGING (W)

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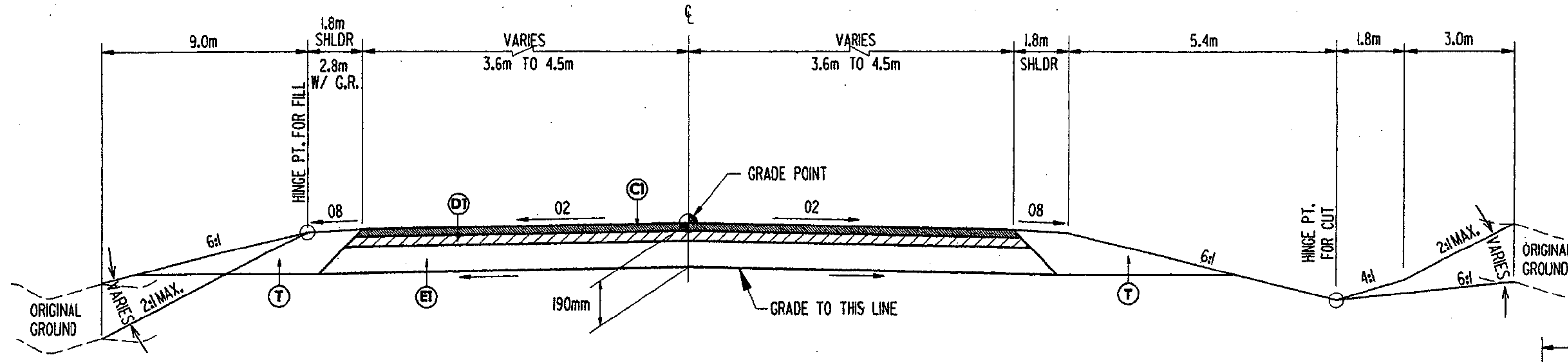
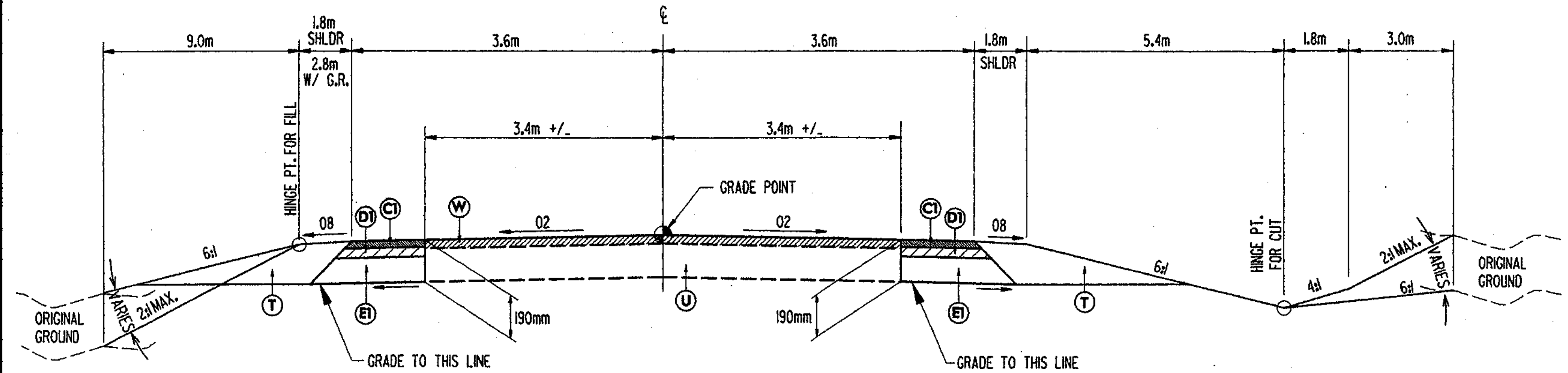


TYPICAL SECTION No. 3

N.T.S.

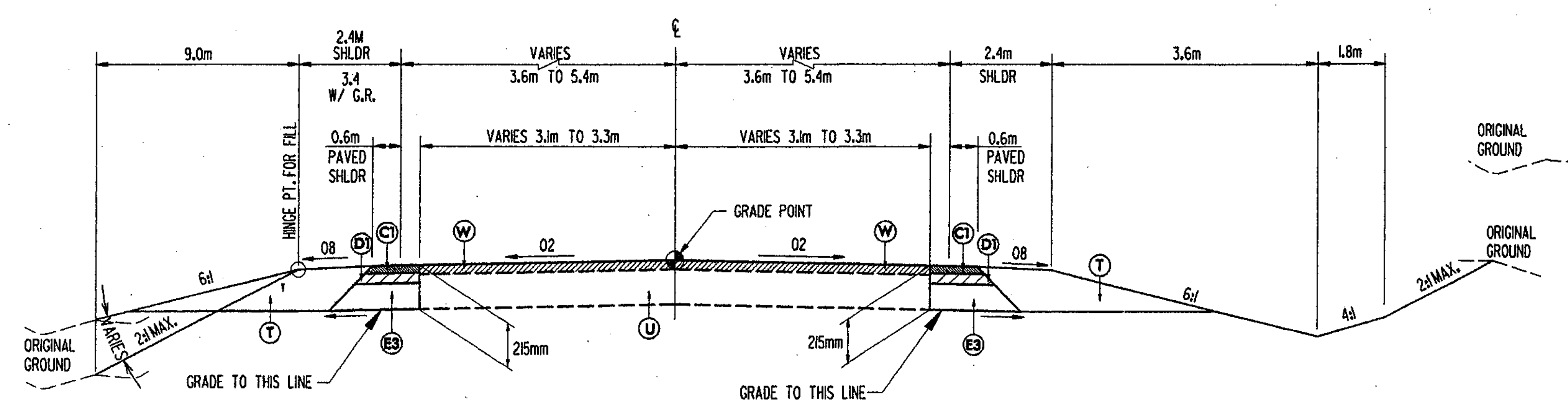
USE TYPICAL SECTION No.3 :
-Y1- 10+27.037 TO 10+70.000
-Y2- 11+80.000 TO 12+32.178
-Y2- 12+96.004 TO 14+15.000



TYPICAL SECTION No. 4

N.T.S.

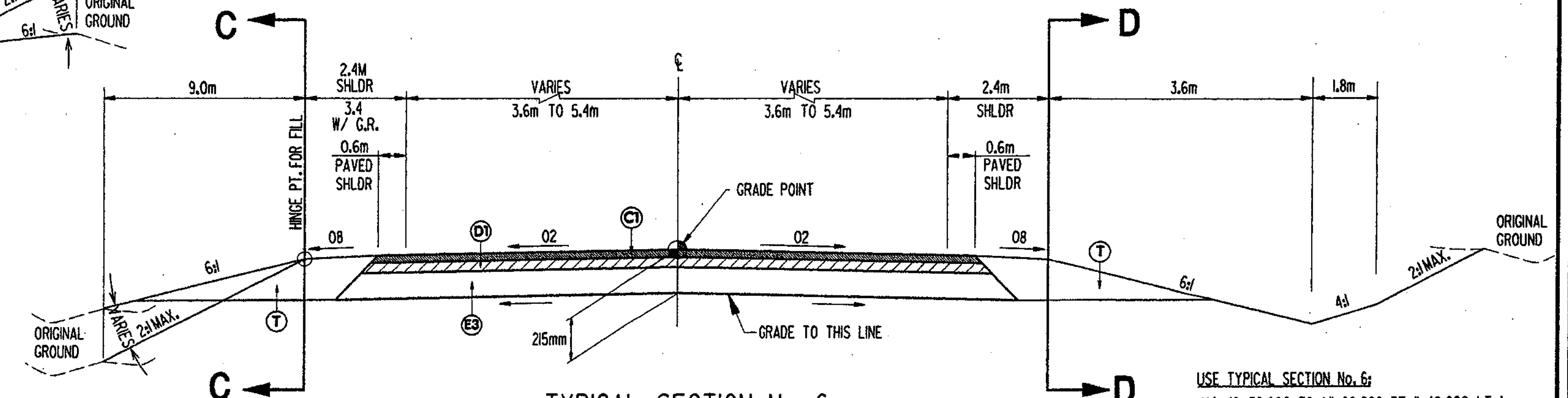
USE TYPICAL SECTION No.4 :
-Y1- 10+70.000 TO 11+40.000
-Y2- 10+60.000 TO 11+80.000
-Y2- 14+15.000 TO 15+00.000



TYPICAL SECTION No. 5

N.T.S.

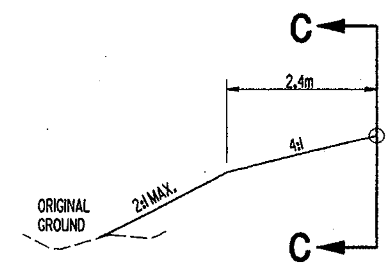
USE TYPICAL SECTION No.5 :
-Y4- 10+00.000 TO 10+30.000
-Y4- 14+70.000 TO 15+00.000



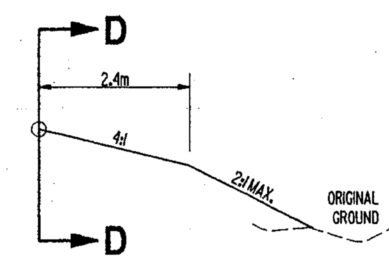
TYPICAL SECTION No. 6

N.T.S.

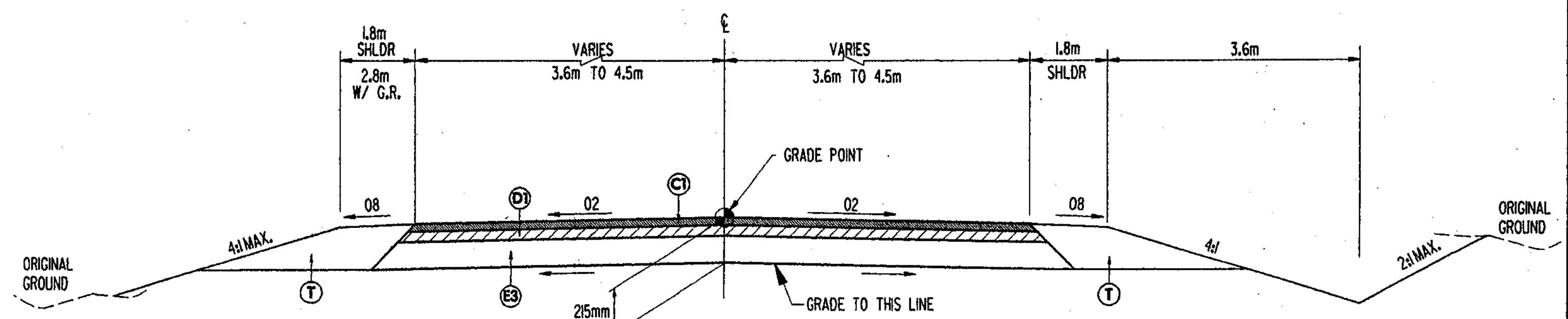
USE TYPICAL SECTION No. 6:
-Y4- 10+30.000 TO (11+20.000 RT; 11+40.000 LT)
-Y4- (13+60.000 LT; 13+80.000 RT) TO 14+70.000



USE C-C IN CONJUNCTION WITH TYPICAL SECTION No. 6
-Y4- 11+40.000 TO 12+87.533
-Y4- 13+53.691 TO 13+60.000



USE D-D IN CONJUNCTION WITH TYPICAL SECTION No. 6
-Y4- 11+20.000 TO 12+87.250
-Y4- 13+53.031 TO 13+80.000



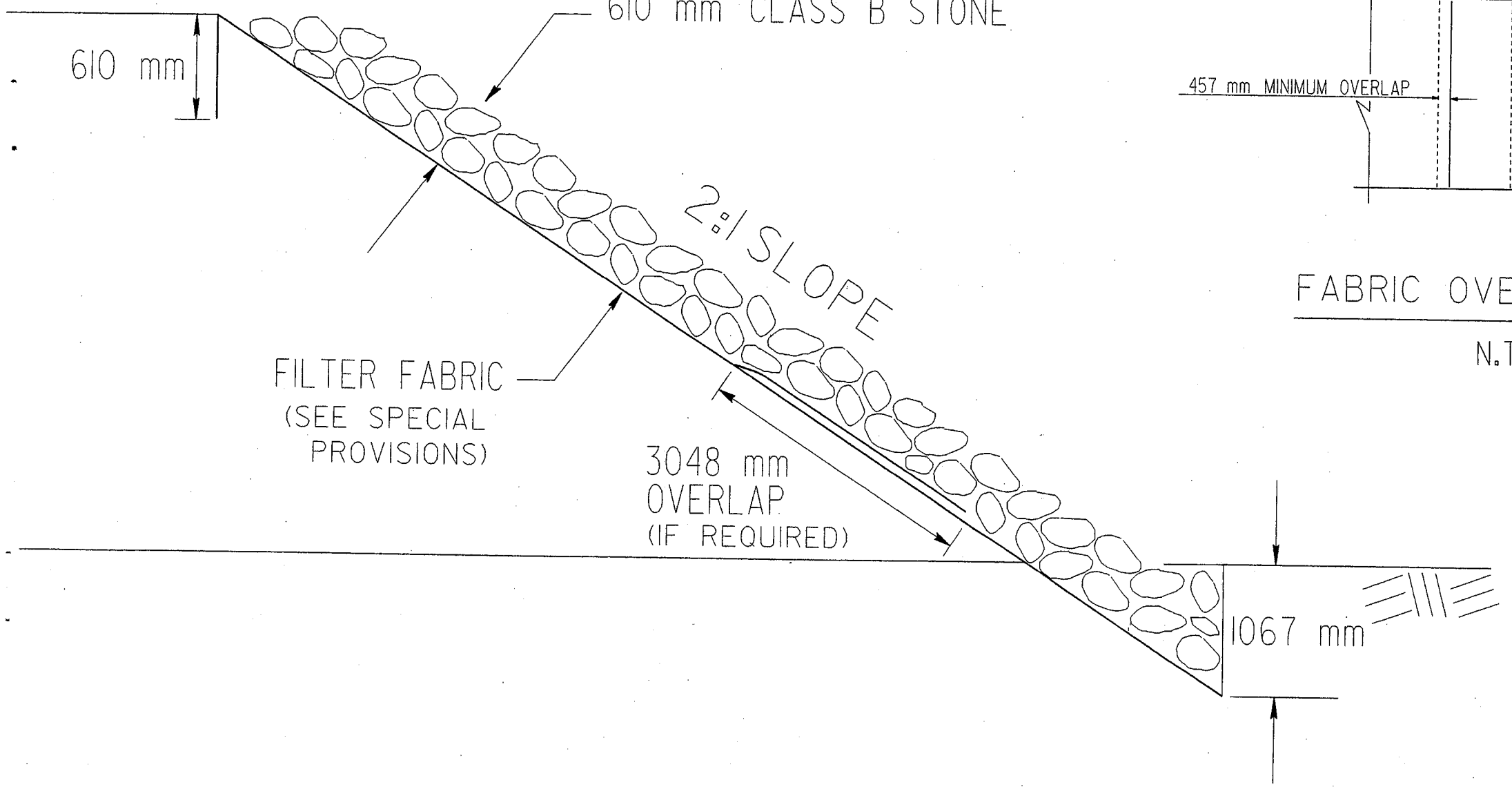
TYPICAL SECTION No. 7

N.T.S.

USE TYPICAL SECTION No. 7:
-Y5- 9+00.381 TO 9+81.425

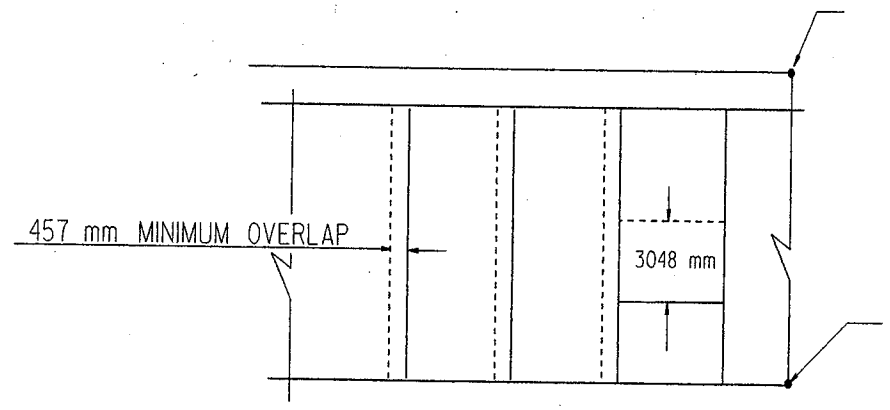
C1	60 mm, TYPE S9.5B
D1	55 mm, TYPE I19.0B
E1	75 mm, TYPE B25.0B
E3	100 mm, TYPE B25.0B
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
R-2625A	2B	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION



SLOPE REPAIR DETAIL

N.T.S.



FABRIC OVERLAP DETAIL

N.T.S.

NORTH CAROLINA PROFESSIONAL SEAL 025434 ENGINEER NILESH M. SURTI
12/3/02

DRAWN BY NS DATE 4/00
CHECKED BY GRT DATE 4/00

PROJECT R-2625A
CLEVELAND COUNTY
STATION

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SLOPE REPAIR DETAIL

REVISIONS

METRIC	PROJECT REFERENCE NO.	SHEET NO.
	R-2625A	3
CONST. REV.		
R/W REV.		

PLOTTED: 4/16/02
FILE: TYPSECT.TYP

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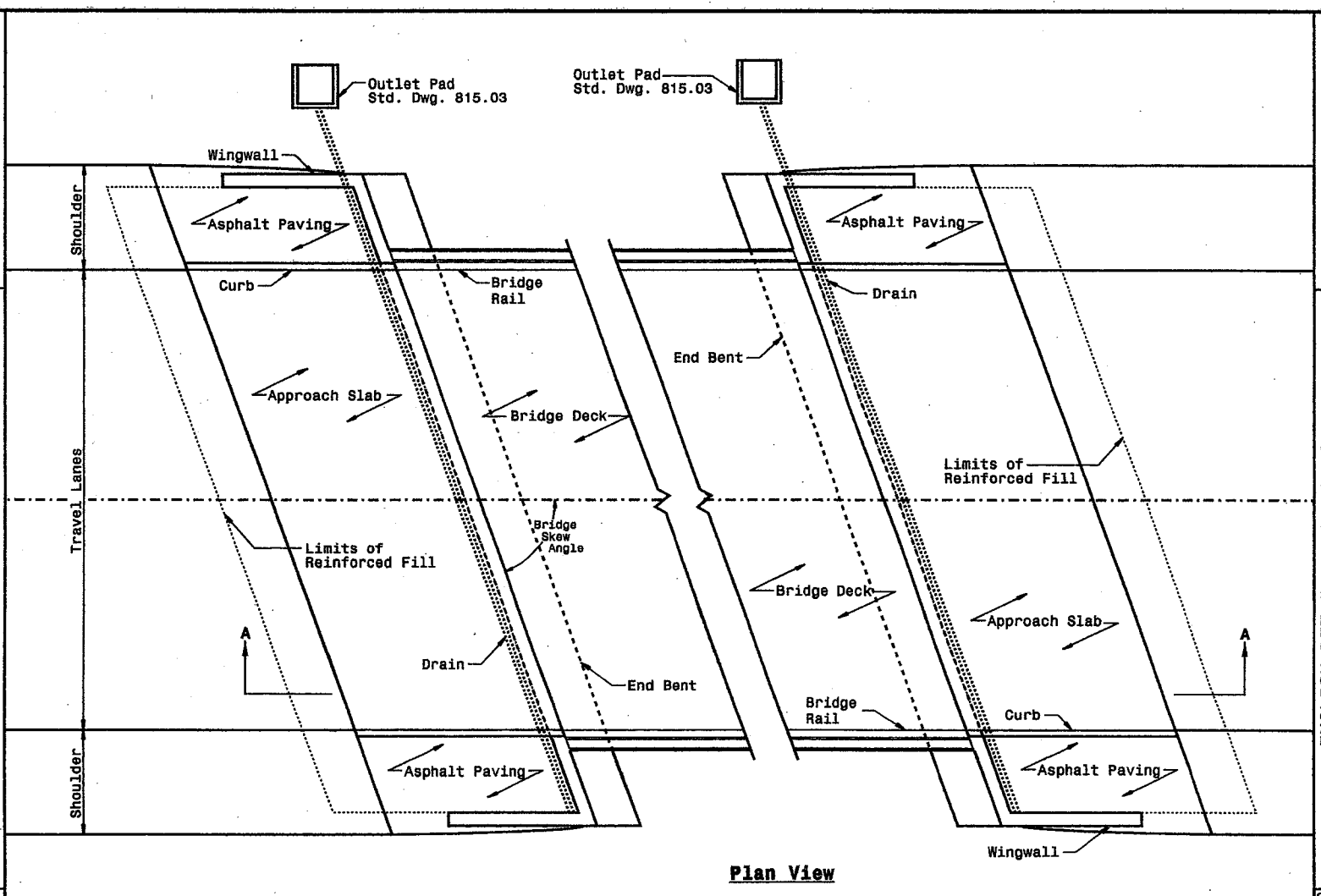
5/14/99

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS

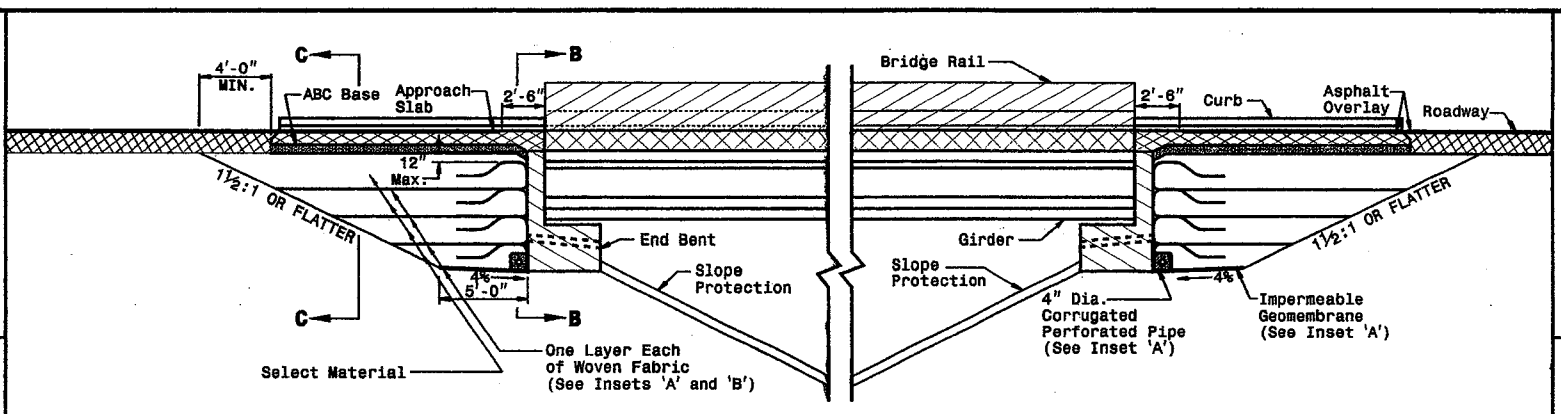


Plan View

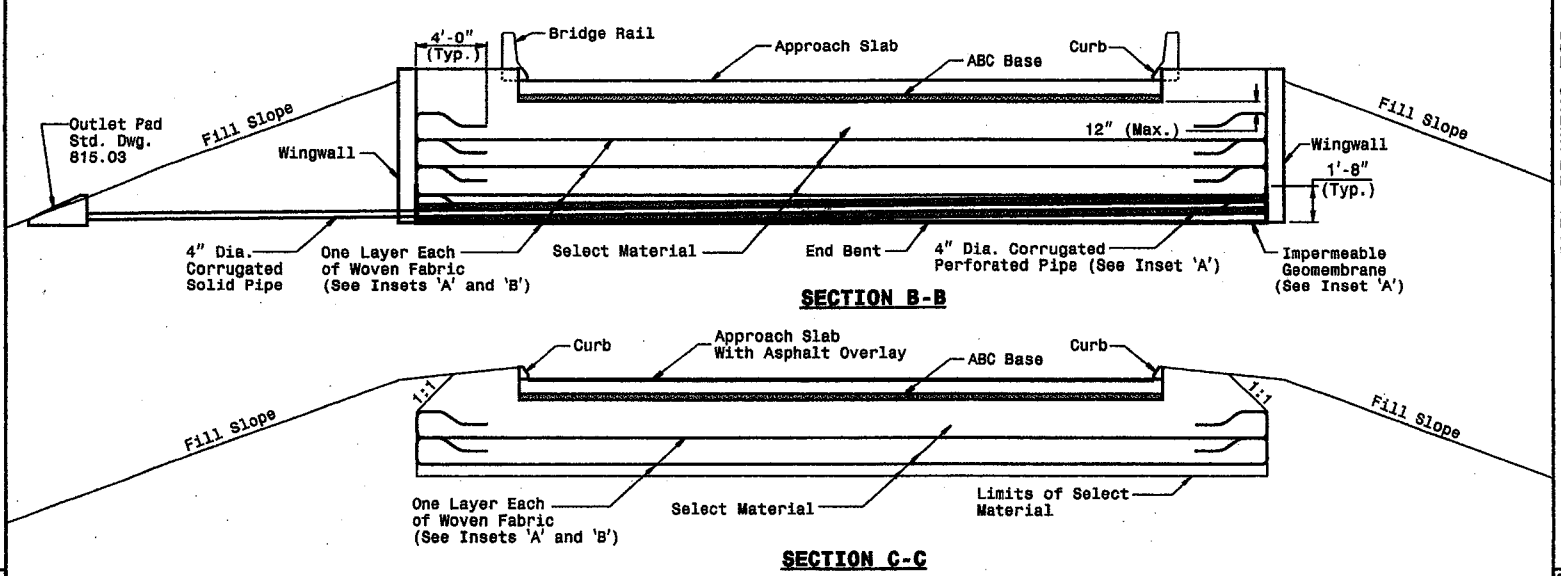
SHEET 1 OF 4
422D10

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS



SECTION A-A



SECTION B-B

SECTION C-C

SHEET 2 OF 4
422D10

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
PRESTRESSED AND PLATE GIRDER BRIDGES

SEE PLATE FOR TITLE

DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

ORIGINAL BY: 2002 STANDARDS DATE: 01-15-02
MODIFIED BY: T.S. SPELL DATE: 12-11-02
CHECKED BY: DATE: 12-12
FILE SPEC.: stds/02/stdstodet/dtls/english/422d10.dgn

PROJECT REFERENCE NO. R-2625A
SHEET NO. 2-C

12-DEC-2002 16:03
W:\Special Details\ericward\stds\02' Stds to Special Details\english\42210\0422d10.dgn
ericward AT DS188660

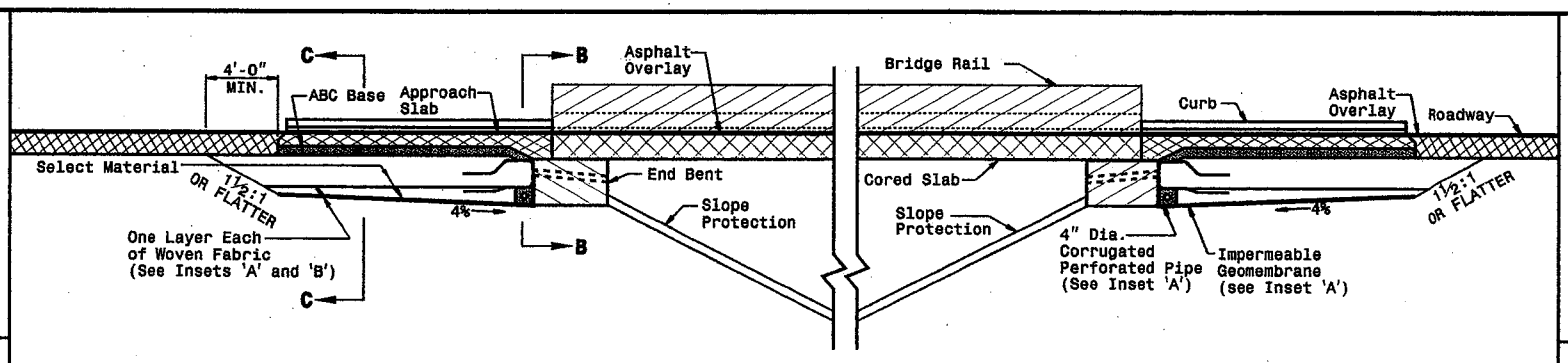
5/14/99

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

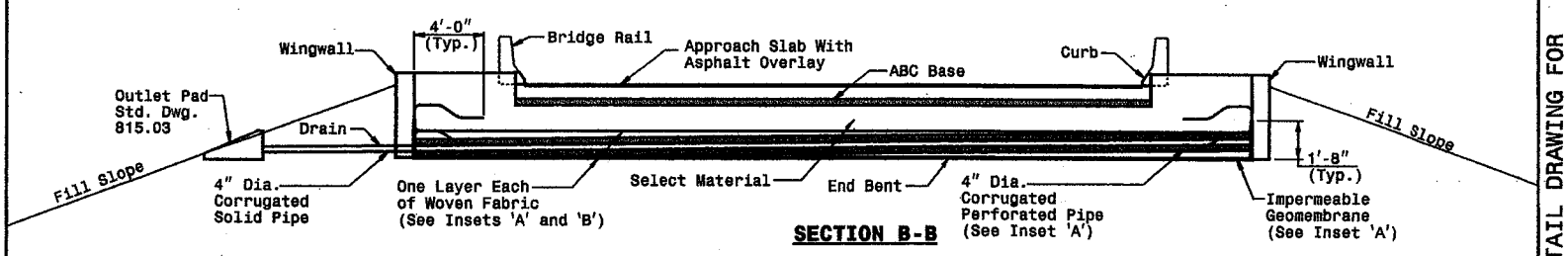
ENGLISH DETAIL DRAWING FOR

REINFORCED BRIDGE APPROACH FILLS

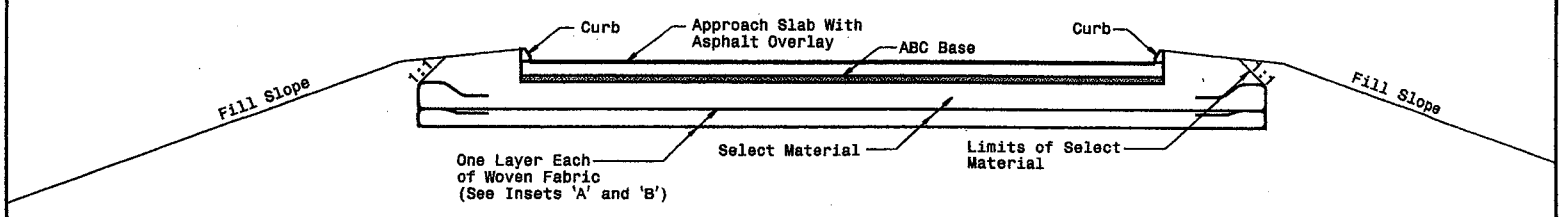
CORED SLAB BRIDGES



SECTION A-A



SECTION B-B



SECTION C-C

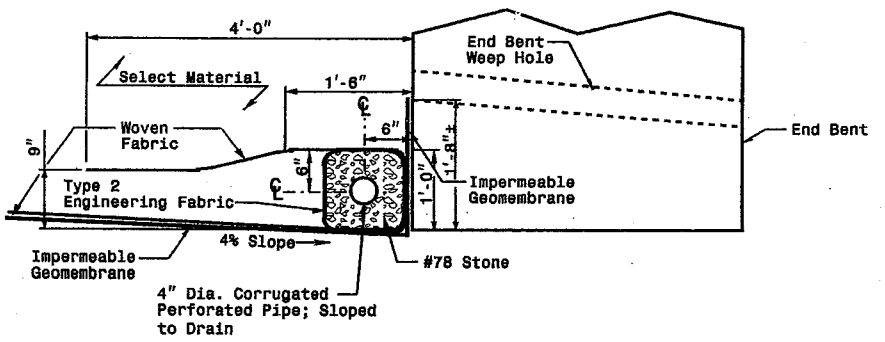
SHEET 3 OF 4
422D10

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

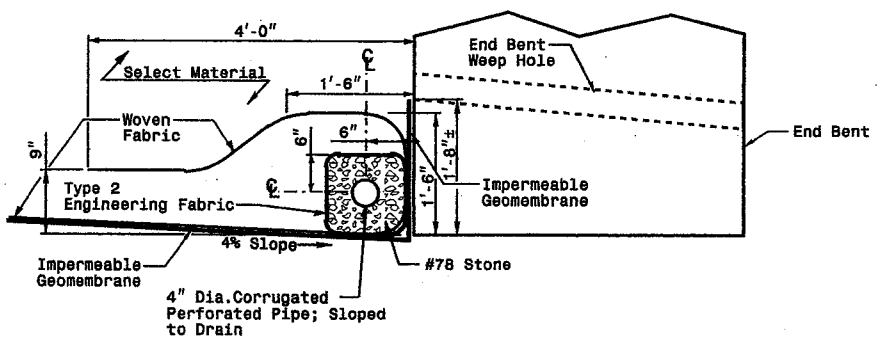
REINFORCED BRIDGE APPROACH FILLS

INSETS AND CHARTS



Cored Slab Bridge

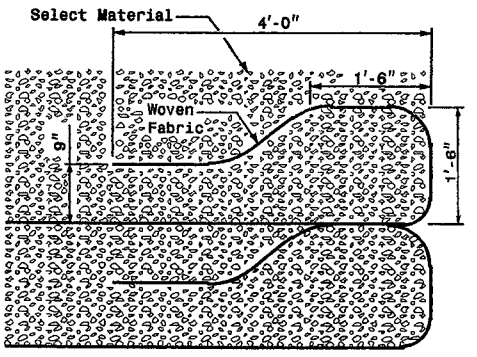
Showing First Lift and Drains



Girder Bridge

Showing First Lift and Drains

Inset 'A'



Typical Fabric Lift and Wrap

Showing Second and Above Lifts

Inset 'B'

Height of Backwall	Number of Fabric Layers
4'-6" - 5'-9"	3
5'-10" - 7'-2"	4
7'-3" - 8'-8"	5
8'-9" - 10'-1"	6
10'-2" - 11'-8"	7

Note: Cored Slab Structures Require 2 Fabric Layers.

Length of Bridge End Bent Inside Wingwalls
If Bridge Skew is Less Than or Equal to 90°: $\frac{\text{(Roadway Width + 7'-0")}}{\text{Sin (Bridge Skew Angle)}}$ = Dis. Between Wingwalls
If Bridge Skew is Greater Than 90°: $\frac{\text{(Roadway Width + 7'-0")}}{\text{Cos (Bridge Skew Angle - 90°)}}$ = Dis. Between Wingwalls

SHEET 4 OF 4
422D10

DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STANDARDS DATE: 01-15-02
MODIFIED BY: T.S. SPELL DATE: 12-11-02
CHECKED BY: DATE: 12-12-02
FILE SPEC.: stds/02stdstodet/dtls/english/422d10.dgn

PROJECT REFERENCE NO. R-2625A
SHEET NO. 2-D

06/12/98

COMPUTED BY: RR DATE: 9-18-01
CHECKED BY: TJ DATE: 10-22-01

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

METRIC

PROJ. REFERENCE NO.	SHEET NO.
R-2625A	3-A

SUMMARY OF PAVEMENT REMOVAL

IN SQUARE METERS

LOCATION	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L1-				
7+60 TO 8+30 RT	501.08			
-L1-				
18+75 LT & RT		370.02		
-Y2-				
12+00 TO 12+55 LT	242.83			
13+00 TO 14+00 LT	522.83			
-Y3-				
11+50 TO 12+30 LT		385.03		
12+10 TO 14+40 LT	1,447.92			
15+00 TO 17+40 LT	1,498.37			
-Y4-				
10+80 TO 14+20 CL		2,185.09		
10+84 TO 11+02	141.35			
TOTAL	4,354.38	2,940.14		
SAY	4,375	2,950		

EARTHWORK SUMMARY

IN CUBIC METERS

LOCATION	UNCLASSIFIED EXCACATION	EMBANKMENT +%	BORROW	WASTE
-L1- 5+75.000 TO 12+40.000	16,535	2,999		13,536
-Y1- 10+00.000 TO 11+40.000	765	278		487
-Y2- 10+60.000 TO 15+00.000	3,222	1,260		1,962
SUBTOTAL	20,522	4,537		15,985
-L1- 12+60.000 TO 19+09.909 (BEG. APP SLAB)	0	173,502	173,502	
-Y3- 10+60.000 TO 18+82.000	2,497	89,030	86,533	
SUBTOTAL	2,497	262,532	260,035	
-L1- 19+60.599(END APP SLAB) TO 29+07.215 LB	13,776	67,264	53,488	
-Y4- 10+00.000 TO 15+00.000	413	35,694	35,281	
-Y5- 9+00.381 TO 10+00.000	113	82		31
SUBTOTAL	14,302	103,040	88,769	31
-L- 26+80.000 LA TO 31+98.500	24,577	7,956		16,621
SUBTOTAL	24,577	7,956		16,621
SUMMARY OF SUBTOTAL	61,898	378,065	348,804	32,637
WASTE IN LIEU OF BORROW			-32,637	-32,637
ESTIMATE LOSS DUE TO CLEARING & GRUBBING	-7,300		+7,300	
ESTIMATED SHOULDER MATERIAL		4,048	+4,048	
PROJECT TOTAL	54,598	382,113	327,515	0
ESTIMATE 5% FOR REPLACING TOPSOIL ON BORROW PIT			+16,376	
GRAND TOTAL	54,598	382,113	343,891	
SAY	54,600		343,900	
DRAINAGE DITCH EXCAVATION = 3,525 CM				
ADDITIONAL UNDERCUT PER GEOTECH = 5,000 CM				
ESTIMATED UNDERCUT FOR GRADE POINT = 1,300 CM				

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS						IMPACT ATTENUATOR TYPE 350			REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END		III	GRAU 350	CAT - 1						
-L-	18+45.139	19+09.909	RT	64.770			19+07.720		1.2	3.4	57.150		1.138			1	1							
-L-	18+83.239	19+09.909	LT	26.670				19+07.720	1.2	3.4		22.860		0.457		1		1						
-L-	19+60.599	20+25.369	LT	64.770			19+58.167		1.2	3.4	57.150		1.138			1	1							
-L-	19+60.599	19+87.269	RT	26.670				19+58.167	1.2	3.4		22.860		0.457		1		1						
		SUBTOTAL		182.88																				
LESS ANCHOR DEDUCTIONS																								
	GRAU - 350	2 @ 15.24=		-30.48																				
	CAT-1	2 @ 1.905=		-3.81																				
	TYPE III	4 @ 5.716=		-22.86																				
(5 ADDITIONAL GUARDRAIL POSTS)																								
TOTAL				125.73												4	2	2						

LIST OF PIPE, ENDWALLS, ETC. (FOR PIPE 1350 mm & OVER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	CLASS IV R.C. PIPE 1350	1500	1650	1800	1950	2100	BITUMINOUS COATED C.S. PIPE TYPE B 1400 2.77	1400 3.51	1400 4.27	1500 2.77	1500 3.51	1650	1800	SHOP ELONGATED	STRUCTURAL PLATE PIPE 1500 2.77	1500 3.51	1500 4.27	1650 2.77	1650 3.51	1650 4.27	1800 2.77	1800 3.51	1800 4.27	REINFORCED ENDWALLS CLASS "A" CONC. WITH R.C. C.M.	WITH C.S. C.M.	REINF. CONC. FLARED END SECTION NO. & SIZE	CORR. STEEL FLARED END SECTIONS NO. & SIZE	REINF. CONC. ELBOWS NO. & SIZE	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS, CL. "B" C.M. STD.840.72	PIPE REMOVAL METERS	REMARKS
SIZE																																				
14+62 -L1-	CL	18			284.330	282.000		84																					4.3								METHOD 'B' CONSTRUCTION
TOTAL								84																					4.5								

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

CHECKED BY: TJ DATE: 10-22-01

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

METRIC

R-2625A | 3-8

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 1200 mm & UNDER)

STATION	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION (IN)	INVERT ELEVATION (OUT)	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) SIZE	CLASS IV R.C. PIPE (UNLESS NOTED OTHERWISE) SIZE	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) SIZE	ENDWALLS: STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE)	QUANTITIES: STRUCTURES	FOR DRAINAGE "TOTAL HEIGHT" QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B')	FRAME, GRATES, AND HOOD STD. 840.03	D.I. STD. 840.15 OR STD. 840.14	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "A" STD. 840.17 OR 840.26	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. TYPE "D" STD. 840.19 OR 840.28	M.D.I. FRAME WITH GRATE STD. 840.22	M.D.I. FRAME WITH TWO GRATES STD. 840.22	M.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	CORR.STEEL ELBOW NO. & SIZE	CONC. COLLARS, CL "B" C.M. STD.840.72	CONC. & BRICK PIPE PLUG C.M. STD.840.71	PIPE REMOVAL METERS	REMARKS
SIZE					(IN)	(OUT)		300 375 450 600 750 900 1050 1200	450 600 750 900	300 400 450 600 800 900 1000 1200																			
THICKNESS OR GAUGE		FROM	TO							1.63 1.63 1.63 1.63 2.01 2.01 2.77 2.77																				
											375mm SIDE DRAIN PIPE	450mm SIDE DRAIN PIPE	600mm SIDE DRAIN PIPE	R.C.P. C.S.P. CU. METERS	PER EACH (0 THRU 1.50) METERS A (1.50 THRU 3.00) B (3.00 AND ABOVE)	C.B. STD. 840.01 OR 840.02	TYPE OF GRATE m F G													
6+03 –L1–	RT	1									9.6																			
6+03 –L1–	LT	2																											5.5	REMOVE PIPE
7+08 –L1–	CL	3																											0.10	
7+50 –L1–	LT	4	5	281.094	280.281	280.050		26.4							1				1				1						
7+50 –L1–	RT	5		281.673	279.675	279.550		8.4							1				1				1						
8+45 –L1–	RT	7	5	285.466	284.146	279.825		97.2							1				1				1						
8+45 –L1–	LT	6	7	286.155	285.342	284.371		30							1				1				1						
8+45 –L1–	RT	8	7		287.150	284.346				4.8																	2–400			BERM DRAINAGE OUTLET (STD. 850.01)
9+40 –L1–	RT	9	7	292.039	290.775	284.296		96							1				1				1						
9+40 –L1–	LT	10	9	291.799	290.986	290.850		26.4							1				1				1						
13+15 –Y2–	LT	15									7.2																		
14+26 –Y2–	LT	17									8.4																	7.7	REMOVE PIPE
10+86 –L1–	RT	11	9	299.691	298.878	290.850		145.2							1				1				1						
10+69 –Y1–	CL	12			284.636	283.710				30				2.6														12.1	REMOVE PIPE
10+86 –L1–	LT	13																										17.4	REMOVE 2 PIPES
11+13 –L1–	RT	14																										12.4	REMOVE 2 PIPES
13+98 –Y2–	CL	16			303.000	302.150		28.8																				10	REMOVE PIPE
14+00 –L1–	RT	19			290.500	284.330				60																	2–600			
15+72 –L1–	CL	20			294.190	291.750			48																				
10+93 –Y3–	RT	32									6																	6.5	REMOVE PIPE
12+70 –Y3–	LT	31																										7.5	REMOVE PIPE
13+10 –Y3–	CL	29			298.560	296.250			63.6					2.6														METHOD 'B' CONSTRUCTION
13+10 –Y3–	LT	30																										17.1	REMOVE PIPE & HWS
13+34 –Y3–	LT	28																										9.8	REMOVE PIPE
15+00 –Y3–	CL	21			306.250	303.750			56.4																				
15+70 –Y3–	LT	22									7.2																		
16+50 –Y3–	CL	23			305.940	304.450		36																					
16+50 –Y3–	LT	24																										10	REMOVE PIPE & HWS
17+60 –Y3–	CL	25			308.038	306.699		24																			0.4	11.1	REMOVE PIPE
17+90 –Y3–	RT	26									10.8																		
18+20 –Y3–	RT	27									6																	6.2	REMOVE PIPE
18+69 –L1–	CL	33			308.050	305.750				51.6																			
19+63 –L1–	CL	34			308.740	306.780			51.6																				METHOD 'B' CONSTRUCTION
10+75 –Y4–	RT	47											9.6															7	REMOVE PIPE
11+05 –Y4–	CL	46			306.260	305.308		22.8																			0.66		
11+20 –Y4–	RT	45											18															13.5	REMOVE PIPE
11+95 –Y4–	RT	44											25.2															5.9	REMOVE PIPE
12+20 –Y4–	RT	43									16.8																	7.9	REMOVE PIPE
12+77 –Y4–	CL	42			310.280	309.250			48																			11.2	CLEANOUT EXIST. PIPE
13+60 –Y4–	LT	35									6																	9.3	REMOVE PIPE
13+90 –Y4–	LT	36									6																	6.7	REMOVE PIPE
14+20 –Y4–	LT	37									6																		
14+30 –Y4–	LT	38									6																	6.7	REMOVE PIPE
14+49 –Y4–	LT	39									6																	6.7	REMOVE PIPE
14+66 –Y4–	LT	40									6																	6.6	REMOVE PIPE
14+82 –Y4–	LT	41									6																	13.6	REMOVE 2 PIPES
15+00 –Y4–	LT	41A									6																		
SHEET TOTAL								228 183.6 121.2 8.4 30	51.6 156 48 63.6	4.8 60	120	52.8	5.2	7				7			7				2–400 2–600	1.06	.10	228.4	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

CHECKED BY: TJ DATE: 10-22-01

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

METRIC

R-2625A | 3-C

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 1200 mm & UNDER)

STATION	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION (IN)	INVERT ELEVATION (OUT)	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 300	375	450	600	750	900	1050	1200	CLASS IV R.C. PIPE (UNLESS NOTED OTHERWISE) 450	600	750	900	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) 300	400	450	600		800		900		1000		1200	
SIZE																					1.63	1.63	1.63	1.63	2.01	2.01	2.01	2.77	2.77	
THICKNESS OR GAUGE																														
21+28 –L1–	CL	48			311.600	310.340					40.8																			
21+72 –L1–	CL	49			312.750	311.450				36																				
23+50 –L1–	LT	50	51	306.802	305.989	305.812			25.2																					
23+60 –L1–	RT	51		306.575	305.762	305.650			12																					
24+03 –L1–	CL	52			304.000	302.600								34.8																
24+20 –L1–	RT	53		305.371	304.558	304.400			14.4																					
26+25 –L1–	CL	54			305.550	302.610					32.4																			
27+14 –L1–	RT	55	56		306.050	304.979																3.6								
27+14 –L1–	RT	56		305.742	304.929	303.200			26.4																					
28+90 –L1–	CL	57			299.320	298.550						33.6																		
28+70 –L1–	RT	58		301.098	300.285	300.250			12																					
28+00 –L–	CL	59																						26.4						
28+05 –L–	CL	60			295.500	294.750					27.6																			
29+55 –L–	LT	61																					15.6							
29+55 –L–	LT	62																					15.6							
30+80 –L–	LT	63		289.009	288.100	287.950			12																					
30+80 –L–	LT	64	63	289.102	288.289	288.150			25.2																					
31+55 –L–	CL	65			285.700	284.617								36																
32+15 –L–	RT	66								27.6																				
SHEET TOTAL									127.2	63.6	100.8	33.6		70.8								3.6		26.4						
TOTAL FROM SHEET 3-B									228	183.6	121.2	8.4	30			51.6	156	48	63.6		4.8		60						
TOTAL									355.2	247.2	222	42	30	70.8		51.6	156	48	63.6		8.4		86.4						
SAY																														

STATION	375mm SIDE DRAIN PIPE	450mm SIDE DRAIN PIPE	600mm SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) R.C.P.	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) C.S.P.	QUANTITIES: STRUCTURES PER EACH (0 THRU 1.50)	FOR DRAINAGE TYPES MAY BE USED QUANTITY SHALL BE COL. "A" + (1.3 X COL. "B") METERS A 1.50 THRU 3.00	METERS B 3.00 AND ABOVE	C.B. STD. 840.01 OR 840.02	FRAME, GRATES, AND HOOD STD. 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "A" STD. 840.17 OR 840.26	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. TYPE "D" STD. 840.19 OR 840.28	M.D.I. FRAME WITH GRATE STD. 840.22	M.D.I. FRAME WITH TWO GRATES STD. 840.22	M.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	CORR.STEEL ELBOW NO. & SIZE	CONC. COLLARS, CL "B" C.M. STD. 840.72	CONC. & BRICK PIPE PLUG C.M. STD. 840.71	PIPE REMOVAL METERS	REMARKS
21+28 –L1–						1																						
21+72 –L1–																												
23+50 –L1–						1												1			1							
23+60 –L1–						1												1			1							
24+03 –L1–				2.6																								
24+20 –L1–						1												1			1							
26+25 –L1–																												
27+14 –L1–																									2–400			BERM DRAINAGE OUTLET (STD. 850.01)
27+14 –L1–						1												1			1							
28+90 –L1–																												
28+70 –L1–						1												1			1							
28+00 –L–																												
28+05 –L–																												
29+55 –L–		15.6																										
29+55 –L–		15.6																										
30+80 –L–						1												1			1							
30+80 –L–						1												1			1							
31+55 –L–				3.4																						0.33		
32+15 –L–																												
SHEET TOTAL		31.2		6		7												7			7					0.33		
TOTAL FROM SHEET 3-B	120		52.8	5.2		7												7			7				2–400 2–600	1.39	.10	228.4	
TOTAL	120	31.2	52.8	11.2		14												14			14				4–400 2–600	1.39	0.10	228.4	
SAY				11.5																						1.4	0.10	230	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

$$$$SYSTIME$$$$ $$$$USERNAME$$$$ $$$$DRAWING$$$$

...\R2625A\pro\r2625a-rev.dgn 01/08/03 04:46:50 PM

COMPUTED BY: ROBIN J. THOMSON DATE: 10/26/99
CHECKED BY: JEFFREY M. KIRBY, P.E. DATE: -
REVISED BY: SCOTT BOYLES, P.E. DATE: 3/27/02

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
RIGHT OF WAY AREA DATA SHEET

THE LPA GROUP TRANSPORTATION CONSULTANTS
4904 PROFESSIONAL COURT, SUITE 201
RALEIGH, NORTH CAROLINA 27609
(919) 954-1244

METRIC

PROJ. REFERENCE NO.	SHEET NO.
R-2625A	3D

SM = SQUARE METERS
(SF) = SQUARE FEET
HA = HECTARES
(AC) = ACRES

PARCEL NO.	PROPERTY OWNERS NAME	TOTAL AREA	AREA TAKEN	AREA REMAINING RIGHT	AREA REMAINING LEFT	CONSTR. EASEMENT	PERMANENT DRAINAGE EASEMENT	TEMPORARY DRAINAGE EASEMENT	
01	MILTON M. HAGEN	UNKNOWN	2206.117 SM	-	-	-	-	53.849 SM	
		UNKNOWN	(0.55 AC)	-	-	-	-	(579.61 SF)	
02	ROADSIDE TRUCK PLAZA INC.	17.996 HA	3388.695 SM	-	17.656 HA	-	-	-	
		(44.47 AC)	(0.84 AC)	-	(43.63 AC)	-	-	-	
03	JOHN C. HATCHER	UNKNOWN	3.389 HA	-	-	1494.656 SM	574.943 SM	62.214 SM	
		UNKNOWN	(8.37 AC)	-	-	(0.37 AC)	(0.14 AC)	(669.647 SF)	
04	NOT USED								
05	CHARLES W. STEPHENS	3439.842 SM	1381.670 SM	2063.905 SM	0	-	-	-	
		(0.85 AC)	(0.34 AC)	(0.51 AC)	0	-	-	-	
06	OZENA OATES HUTHINSON	5868.070 SM	1308.484 SM	4559.586 SM	0	-	-	-	
		(1.45 AC)	(0.32 AC)	(1.13 AC)	0	-	-	-	
07	JAMES W. OATES	1.056 HA	3344.955 SM	7009.183 SM	238.765 SM	51.494 SM	-	-	
		(2.609 AC)	(0.83 AC)	(1.732 AC)	(0.059 AC)	(554.26 SF)	-	-	
08	LIMUEL OATES	5665.722 SM	962.505 SM	4703.217 SM	0	-	54.636 SM	-	
		(1.40 AC)	(0.24 AC)	(1.16 AC)	0	-	(588.08 SF)	-	
09	NOT USED								
10	ODELL MITCHEM	1.663 HA	888.059 SM	1.574 HA	-	-	-	-	
		(4.11 AC)	(0.22 AC)	(3.89 AC)	-	-	-	-	
11	NOT USED								
12	NOT USED								
13	JERRY D. MACK	UNKNOWN	89.240 SM	-	-	-	-	-	
		UNKNOWN	(960.54 SF)	-	-	-	-	-	
14	CATHERINE O. BUIE	5463.375 SM	1903.071 SM	2503.903 SM	1056.401 SM	-	-	-	
		(1.35 AC)	(0.47 AC)	(0.62 AC)	(0.26 AC)	-	-	-	
15	FRED W. OATES	5584.784 SM	1808.556 SM	2031.524 SM	1744.704 SM	-	-	-	
		(1.38 AC)	(0.45 AC)	(0.50 AC)	(0.43 AC)	-	-	-	
16	CHARLES W. STEPHENS	5949.001 SM	2023.272 SM	1481.786 SM	2443.943 SM	-	-	-	
		(1.47 AC)	(0.50 AC)	(0.37 AC)	(0.60 AC)	-	-	-	
17	ROBERT W. MOSS, Sr.	3.327 HA	6229.815 SM	0	2.704 HA	128.697 SM	98.044 SM	-	
		(8.22 AC)	(1.54 AC)	0	(6.68 AC)	(1385.28 SF)	(1055.30 SF)	-	
18	BOBBY WAYNE CHRISTOPHER, Jr.	4.739 HA	1.850 HA	2.889 HA	0	51.494 SM	-	503.654 SM	
		(11.71 AC)	(4.57 AC)	(7.14 AC)	0	(554.26 SF)	-	(0.12 AC)	
19	HERMAN KEITH COBB	6717.809 SM	3342.140 SM	3358.904 SM	-	42.000 SM	-	-	
		(1.66 AC)	(0.83 AC)	(0.83 AC)	-	(452.08 SF)	-	-	
20	DELOMA MORROW	1.210 HA	7611.692 SM	-	4488.308 SM	231.410 SM	-	-	
		(2.99 AC)	(1.88 AC)	-	(1.11AC)	(2490.88 SF)	-	-	
21	JOHN H. COLVIN	1.012 HA	4091.345 SM	6028.655 SM	0	37.620 SM	-	-	
		(2.50 AC)	(1.01 AC)	(1.49 AC)	0	(404.92 SF)	-	-	
22	ROBERT W. MOSS, Sr.	3.136 HA	4674.223 SM	2.669 HA	0	-	-	-	
		(7.75 AC)	(0.91 AC)	(6.84 AC)	0	-	-	-	
23	ROBERT W. MOSS, Sr.	4977.653 SM	1186.797 SM	3804.06 SM	-	48.774 SM	-	-	
		(1.23 AC)	(0.29 AC)	(0.94 AC)	-	(525 SF)	-	-	

PARCEL NO.	PROPERTY OWNERS NAME	TOTAL AREA	AREA TAKEN	AREA REMAINING RIGHT	AREA REMAINING LEFT	CONSTR. EASEMENT	PERMANENT DRAINAGE EASEMENT	TEMPORARY DRAINAGE EASEMENT	EXISTING R/W
23A	CREGG BEACH	1070.718 SM	222.578 SM	1048.14 SM	-	48.774 SM	-	-	
		(0.314 AC)	(0.055 AC)	(0.259 AC)	-	(175 SF)	-	-	
24	WILLIAM PALMER PAGE	4694.456 SM	101.556 SM	4592.900 SM	-	6.056 SM	-	-	
		(1.16 AC)	(1093.108 SF)	(1.14 AC)	-	(65.18 SF)	-	-	
25	BEN ELMER PAGE		286.217 SM	7241.100 SM	-	43.275 SM	-	-	
			(3080.72 SF)	(1.79 AC)	-	(465.79 SF)	-	-	
26	RICK ASBURY	6272.653 SM	216.187 SM	6029.84 SM	-	19.372 SM	-	-	
		(1.55 AC)	(2326.95 SF)	(1.49 AC)	-	(208.52 SF)	-	-	
27	MIDVIEW BAPTIST CHURCH	9.547 HA	1069.960 SM	-	-	-	-	112.637 SM	
		(23.59 AC)	(0.26 AC)	-	-	-	-	(1212.38 SF)	
28	NORFOLK-SOUTHERN RAILRAOD	UNKNOWN	-	-	-	264.950 SM	-	-	
		UNKNOWN	-	-	-	(2851.82 SF)	-	-	
29	CHANTAY MUONGHANE	1.060 HA	2294.018 SM	7902.594 SM	403.388 SM	-	-	2.819 SM	
		(2.62 AC)	(0.57 AC)	(1.95 AC)	(0.10 AC)	-	-	(30.35 SF)	
30	JANICE B. GLASS	2.218 HA	2387.655 SM	1.514 HA	3358.904 SM	8.094 SM	-	238.521 SM	1294.999 SM
		(5.48 AC)	(0.59 AC)	(3.74 AC)	(0.83 AC)	(0.002 AC)	-	(2567.35 SF)	(0.32 AC)
31	COMBINED WITH PARCEL 30								
32	VIRGIL R. PERRY	7527.317 SM	237.407 SM	7289.910 SM	-	308.989 SM	-	-	
		(1.86 AC)	(2555.35 SF)	(1.56 AC)	-	(3325.84 SF)	-	-	
33	COLEMAN E. ANDERSON	6677.34 SM	369.844 SM	6313.121 SM	0	107.446 SM	-	-	
		(1.65 AC)	(3980.85 SF)	(1.56 AC)	0	(1156.51 SF)	-	-	
34	DENNIS CONNER, etal	5.500 HA	1.146 HA	9028.573 SM	1.882 HA	339.937 SM	-	337.053 SM	
		(13.59 AC)	(2.83 AC)	(2.321 AC)	(4.65 AC)	(0.084 AC)	-	(3627.91 SF)	
35	RUTH M. HOYLE	22.557 HA	1.663 HA	6.621 HA	13.888 HA	306.804 SM	-	451.831 SM	(3844.529 SM)
		(55.74 AC)	(4.11 AC)	(16.36 AC)	(34.32 AC)	(3302.41 SF)	-	(4863.47 SF)	(0.95 AC)
36	HERMAN KEITH COBB	2913.748 SM	404.687 SM	-	2509.061 SM	-	-	190.269 SM	
		(0.72 AC)	(0.10 AC)	-	(0.62 AC)	-	-	(2047.98 SF)	
37	COMBINED WITH PARCEL 35								
38	HERMAN KEITH COBB	6394.172 SM	563.914 SM	5830.258 SM	-	-	-	98.598 SM	
		(1.58 AC)	(0.14 AC)	(1.44 AC)	-	-	-	(1061.27 SF)	
39	WRAY D. MURRAY, Sr.	3.254 HA	1006.837 SM	3.153 HA	-	-	-	153.710 SM	
		(8.04 AC)	(0.25 AC)	(7.79 AC)	-	-	-	(1654.47 SF)	
40	NANCY SHORT	14.100 HA	971.249 SM	-	-	272.554 SM	-	-	1.736 HA
		(34.842 AC)	(0.24 AC)	-	-	(2933.66 SF)	-	-	(4.29 AC)
41	LOGAN PARK INC.	5.152 HA	1.093 HA	1.849 HA	2.210 HA	-	-	27.785 SM	
		(12.73 AC)	(2.70 AC)	(4.57 AC)	(5.46 AC)	-	-	(2947 SF)	
41A	PEGGY R. CARTER		90.116 SM	4046.893 SM	-	-	-	-	
			(970 SF)	(1.00 AC)	-	-	-	-	
42	COMBINED WITH PARCEL 41								
43	LAURA M. HOUSER	31.970 HA	963.4.775 SM	30.526 HA	4802.247 SM	-	-	113.750 SM	
		(79.0 AC)	(2.38 AC)	(75.43 AC)	(1.19 AC)	-	-	(1224.36 SF)	
44	JEANNE WARE	32.092 HA	4.361 SM	13.678 HA	18.414 HA	319.185 SM	641.261 SM	868.3266 SM	
		(79.30 AC)	(46.94 SF)	(33.80 AC)	(45.499 AC)	(3435.68 SF)	(6902.48 SF)	(9346.59 SF)	
45	COMBINED WITH PARCEL 44								

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STA. 5+75.000 -L1- BEGIN STATE PROJECT R-2625A

-L1- 6+80 TO 7+80 LT.
-Y1- 10+40 TO 11+00 LT.

-L1- 7+50 LT.
-L1- 8+45 LT.

-Y1- 10+71 LT.

-L1- 7+00 TO 7+40 RT.

-L1- 7+50 RT.

-Y1- 10+66 RT.

See SHEET No.16 for -L1- PROFI
See SHEET No.23 for -Y1- PROFI

MATCHLINE -L1- STA. 9+20 SEE SHEET NO. 5

END CONSTRUCTION
-Y1- STA. 11+40.000

NAD 83

THE LPA GROUP — TRANSPORTATION CONSULTANTS
4904 PROFESSIONAL COURT, SUITE 201
RALEIGH, NORTH CAROLINA 27609
(919) 954-1240

TRANSITE CONSULTING
ENGINEERS, INCORPORATED
1200 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

METRIC
5m 0 10m
SCALE

CONST. REV.
R/W REV.

PROJECT REFERENCE NO.
R-2625A

ROADWAY DESIGN ENGINEER
SEAL 23853
ENGINEER
DOUGLAS
11/21/02

HYDRA
E

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D = 0.3m

DETAIL FSL
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 10:1, 20:1, .6m, .15m Min. .3m Max., GI etc., S=Ditch Slope, ℄ Proposed Ditch

DETAIL D
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Filter Fabric, B, Min. Max.
Type of Liner = CLASS B

DETAIL B
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, 2:1, b, .08m/m, Fill Slope, Filter Fabric
Min. D = 0.3m
Max. d = 0.3m
B = 0.6m
b = 1.5m
Type of Liner = CLASS B

DETAIL FSR
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 10:1, 20:1, 6m, .15m Min. .3m Max., GI etc., S=Ditch Slope, ℄ Proposed Ditch

DETAIL C
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Natural Ground, B
Min. D = 0.6m
B = 0.9m

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R-2625-F" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 1446547.026(m) EASTING: 1994.47.267(m)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT GROUND TO GRID: [illegible]
THE N.C. LAMBERT GRID BEARING
LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R-2625-F" TO -L1- STATION 5+75.000 IS S 25° 19' 58.8" E 2549.816m
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NGVD 29

2003 ADT / 2023 ADT

-L1-
3830/6348
3482/5408
467/1133
119/193
586/1326
-Y1-

02 Roadside Truck Plaza Inc
DB 1210 PG 167
DB 1210 PG 174

03 John C. Hatcher
DB 1114 PG 341

01 Milton M. Hagen
DB 13-L PG 124
DB 7-M PG 185

CLYDE BESS
DB 1081 PG 110
DB 90-E PG 5

-L1-
PI Sta 6+50.256
Ds = 1° 57' 51.9"
Ls = 60.000
LT = 40.002
ST = 20.002

PI Sta 7+75.996
Δ = 13° 46' 53.3" (LT)
L = 210.466
T = 105.743
R = 875.000
e = .04
V = 80 km/hr

PI Sta 9+00.721
Ds = 1° 57' 51.9"
Ls = 60.000
LT = 40.002
ST = 20.002

-Y1-
PI STA. 10+61.785
Δ = 41°54'55.4" (LT)
L = 117.0498
T = 61.2827
R = 160.0000
e = .04
V = 65 km/hr

-Y1- PC 10+00.502
-Y1- N 54°04'43.2" E
-Y1- PT 11+17.552

-L1- STA. 8+29.097
-Y1- STA. 10+00.000

BL-2
-BL- PINC 7+26.125 =
-BY1- POT 5+00.000
(-L1- Sta. 7+26.341 0.747 Lt)

BL-3
PINC 8+73.324
-L1- Sta. 8+73.741
0.377 Rt)

BY1-1
PINC 6+12.642
(-Y1- Sta. 10+47.236
12.528 Rt)

BY1-2
POT 7+30.643
(-Y1- Sta. 11+62.149
4.077 Lt)

-L1- CS 8+80.719

N 23°35'05.9" W

N 12°09'47.8" E

SR 2283 DIXON SCHOOL RD

PLOTTED DATE: 11/21/02
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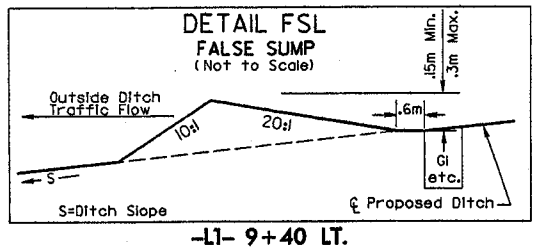

-L1- 9+40 LT.

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1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

METRIC

5m 0 10m
SCALE

CONST. REV.

R/W REV.

PROJECT REFERENCE NO.	SHEET NO.
R-2625A	5

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 23825 ENGINEER DOUGLAS B. ALEXANDER
11/21/02

HYDRAULIC DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 14160 ENGINEER DOUGLAS B. ALEXANDER
11/25/02

See SHEET No.s 16 & 17 for -L1- PROFILE
See SHEET No.23 for -Y2- PROFILE SR 2305

-Y2-
PI STA. 11+64.414
Δ = 04°47'08.5" (RT)
L = 100.2315
T = 50.1449
R = 1,200.0000
e = .02
V = 65 km/hr

-Y2-
PI STA. 13+63.626
Δ = 05°22'56.6" (LT)
L = 112.7284
T = 56.4057
R = 1,200.0000
e = .02
V = 65 km/hr

NAD 83

MATCHLINE -Y2- STA. 11+60.00 SEE SHEET NO. 12

MATCHLINE -L1- STA. 9+20.00 SEE SHEET NO. 4

MATCHLINE -L1- STA. 12+50.00 SEE SHEET NO. 6

MATCHLINE -Y2- STA. 13+60.00 SEE SHEET NO. 12

-L1- ST 9+40.719

-L1- STA. 10+63.620
-Y2- STA. 12+64.092

-Y2- PT 12+14.501

-Y2- PC 13+07.220

-L1- N 41° 17' 43.0" W

N 23° 42' 18.3" E

R= 42-23-45

R = 30-9-30

03 John C. Hatcher DB 1114 PG 341

05 Charles W. Stephens DB 1267 PG 1341

06 Ozena Oates Wilson DB 1068 PG 190

Clark Stephens DB 1261 PG 1768

07 James W. Oates DB 1078 PG 565

14 Catherine O. Bule DB 15-V PG 468

15 Fred W. Oates DB 7-N PG 354

BL-4 PINC 9+73.443 (-L1- Sta. 9+73.855 0.013 Rt)

BL-5 PINC 10+41.508

BL-6 PINC 11+20.333 (-L1- Sta. 11+20.657 3.76 Rt)

BL-7 PINC 11+91.026 -L1- Sta 11+89.390 12.776 Lt)

BY2-4 PINC 7+39.747 (-Y2- Sta. 12+51.099 17.920 Lt)

-BL- POT 10+82.350 = -BY2- POT 7+62.653 (-L1- Sta 10+82.716 1.982 Rt)

-L1- +40.719 23.000m (75.46')

-L1- +20.000 23.000m (75.46')

-L1- +88.106 23.000m (75.46')

-L1- +35.000 23.000m (75.46')

-L1- +15.50 23.000m (75.46')

-L1- +67.000 23.000m

-L1- +40.719 23.000m (75.46')

-L1- +58.337 23.000m (75.46')

-Y2- +14.501 12.000m (39.37')

-Y2- +15.763 14.381m

-Y2- +80.853 17.730m (58.17')

-Y2- +80.000 17.000m

-Y2- +60.000 15.500m

-Y2- +40.000 18.000m (59.05')

-Y2- +46.017 32.951m (108.11')

-Y2- +12.689 36.990m (121.36')

+80.000 17.000m

+40.000 25.000m

+20.000 24.500m

+03.69

+01.17

+157.12

+65.00

+58.52

20m TAPER TYP

80m TAPER

90m UNIFORM TRANSITION (BOTH SIDES)

15 m

9m

45 45

CHORD

PROP R/W

EXIST R/W

REM.

GRADE TO DRAIN

ABANDON WELL AND SEAL

ISFD

HTR

Woods

1.2m PS

375 RCP

450 RCP

250 mm

300 mm CONC

2-GI

FSL

FSR

23m R/W

18m R/W

27 GR

345 foot family access easement

N68°-15'-59"W 101.251' R/W-COR

N68°-49'-01"W 75.324' R/W-COR

N68°-49'-01"W 70.930' EIP-COR

N21°-17'-59"E 40.706' EIP-COR

N21°-17'-59"E 40.286' EIP-COR

N68°-15'-59"W 70.932' EIP-COR

S68°-28'-01"W 39.722' EIP-EIP

S68°-28'-01"W 19.727' EIP-EIP

S68°-28'-01"W 90.680' R/W-EIP

S68°-28'-01"W 7.714' EIP-R/W

S68°-28'-01"W 4.334' EIP-R/W

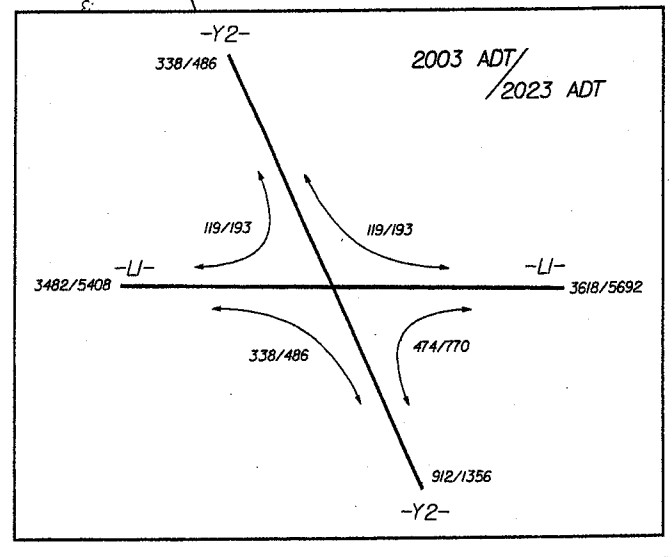
S68°-28'-01"W 10.712' EIP-R/W

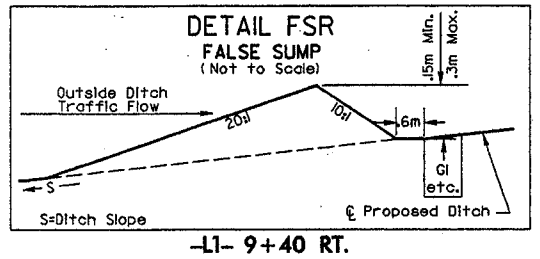
S68°-28'-01"W 132.358' EIP-EIP

S68°-28'-01"W 132.358' EIP-EIP

S68°-28'-01"W 19.727' EIP-EIP

S68°-28'-01"W 39.722' EIP-EIP





-L1- 9+40 RT.

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-L1- 13+40 TO 14+00 RT.

DETAIL F
LATERAL BASE DITCH
(Not to Scale)

Type of Liner = CLASS I
b = 1.5m
B = 0.6m
Min. D = 0.3m
Fabric Max. d = 0.3m

-L1- 15+50 TO 15+78 RT.

DETAIL G
LATERAL 'V' DITCH
(Not to Scale)

b = 1.5 m
Min. D = 0.3 m

-L1- 15+78 TO 16+00 RT.

DETAIL H
0.6m LATERAL BASE DITCH
(Not to Scale)

b = 1.5 m
B = 0.6 m
Min. D = 0.5 m

MATCHLINE -L1- STA. 16+00 SEE SHEET NO.7

MATCHLINE -L1- STA. 12+50 SEE SHEET NO. 5

See SHEET Nos.17 & 18 for -L1- PROFILE

600 CSP w/2-ELBOWS

150 RCP CL. IV

1500 RCP CL. IV

METHOD 'B' INSTALLATION

12m PS

-L- N 41° 17' 43.0" W

PROP R/W

FLOW

DIXON BRANCH

Woods

CONC

CONC MON

CLASS I RIPRAP
EST. 10 MTN
EST. 19 SM FF

CLASS I RIPRAP
EST. 7 MTN
EST. 13 SM FF

CLASS I RIPRAP
EST. 37 MTN
EST. 63 SM FF

0.6m LAT. BASE DITCH
SEE DETAIL F
EST. 145 MTN
EST. 265 SM FF
DDE = 480 CM

LAT. BASE DITCH
SEE DETAIL H
TOTAL LATERAL DITCH
DDE = 600 CM

LAT. V-DITCH
SEE DETAIL G

BL-8
PINC 13+18.043
(-L1- S+d 13+15.464
2.671R+)

BL-9
PINC 14+38.355
(-L1- S+d 14+35.768
1.397 R+)

BL-10
PINC 14+96.953
(-L1- S+d 14+94.363
0.672 R+)

BL-11
PINC 15+55.321
(-L1- S+d 15+52.722
0.325 L+)

-L- +30000 330.00m (1082.7')
-L- +40000 230.00m (754.6')
-L- +46500 450.00m (1476.0')
-L- +47200 325.00m (1065.3')
-L- +48000 290.00m (951.4')
-L- +05000 230.00m (754.6')
-L- +05445 230.00m (754.6')
-L- +11811 362.95m (992.2')
-L- +58000 400.00m (1312.3')
-L- +58000 500.00m (1640.4')
-L- +58858 320.00m (1049.8')
-L- +70858 320.00m (1049.8')
-L- +70858 260.00m (853.7')
-L- +73038 500.00m (1640.4')
-L- +73038 320.00m (1049.8')
-L- +50000 240.00m (787.4')
-L- +50000 253.67m (832.2')

Charles W. Stephens
DB 1267 PG 1343
(16)

Fred W. Oates
DB 7-N PG 354
(15)

Thomas D. Brown
DB 1190 PG 1529
(09)

John C. Hatchner
DB 1114 PG 341
(03)

Robert W. Moss Sr.
DB 11-D PG 242
(17)

N25°59'38"E 1500.08'

S55°59'38"E 1500.08'

S64°49'49"E 1737.95'

S56°49'49"E 1737.95'

S64°29'27"E 393.73'

S53°09'58"E 1521.26'

S50°09'58"E 1521.26'

S40°04'39"E 3302.02'

S39°04'39"E 3302.02'

NAD 1983

PROJECT REFERENCE NO.	SHEET NO.
R-2625A	6

ROADWAY DESIGN ENGINEER

HYDRAULIC DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14160 ENGINEER DOUGLAS B. SHOUMEKER

NORTH CAROLINA PROFESSIONAL SEAL 23983 ENGINEER MICHAEL L. DEDRICK

11/21/02

R/W REV.

CONST. REV.

SCALE 5m 0 10m

METRIC

THE LPA GROUP
TRANSPORTATION CONSULTANTS
4904 PROFESSIONAL COURT, SUITE 201
RALEIGH, NORTH CAROLINA 27609
(919) 954-1244

TRANSITE CONSULTING
ENGINEERS, INCORPORATED
1300 Pedders Drive, Suite G-10
Raleigh, N.C. 27609

PROJECT REFERENCE NO.	SHEET NO.
R-2625A	7

THE LPA GROUP LPA TRANSPORTATION CONSULTANTS
NCBELS PROFESSIONAL COURT, SUITE 201 RALEIGH, NORTH CAROLINA 27609 (919) 954-1244

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1900 Paddock Drive, Suite G-10 Raleigh, N.C. 27609

METRIC 5m 0 10m SCALE

CONST. REV.

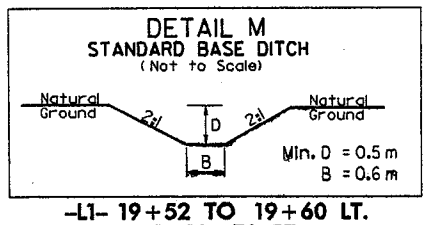
R/W REV.

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 23813 ENGINEER CHRISTOPHER T. DOMIAN — 1/15/03

HYDRAULIC DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 14180 ENGINEER DOUGLAS B. SAUNDERS — 1.13.05

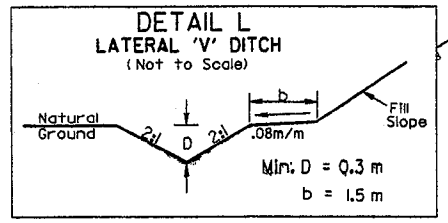
See SHEET No.s 18 & 19 for -L1- PROFILE
See SHEET No. 25 for -Y3- PROFILE NC 216
See SHEET Nos. S-1 Thru. S-30 for STRUCTURE PLANS

DETAIL M
STANDARD BASE DITCH
(Not to Scale)



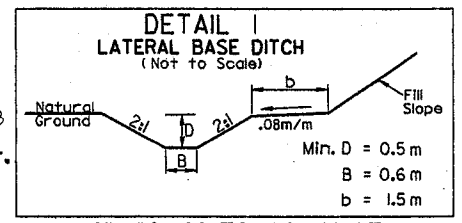
-L1- 19+52 TO 19+60 LT.
-L1- 18+70 RT.

DETAIL L
LATERAL 'V' DITCH
(Not to Scale)



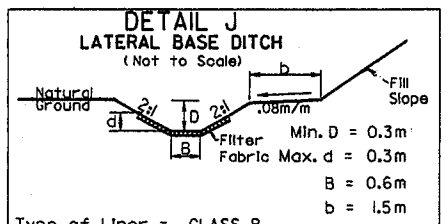
-L1- 18+31 TO 18+65 RT.
-L1- 18+77 TO 19+03 RT.
-L1- 19+67 TO 19+70 LT.
-Y3- 15+02 TO 15+80 LT.

DETAIL I
LATERAL BASE DITCH
(Not to Scale)



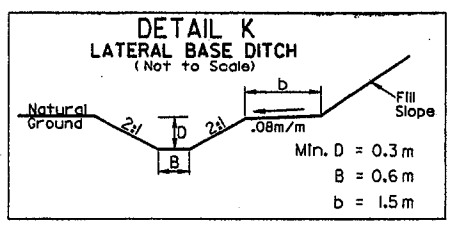
-L1- 16+00 TO 16+08 RT.

DETAIL J
LATERAL BASE DITCH
(Not to Scale)

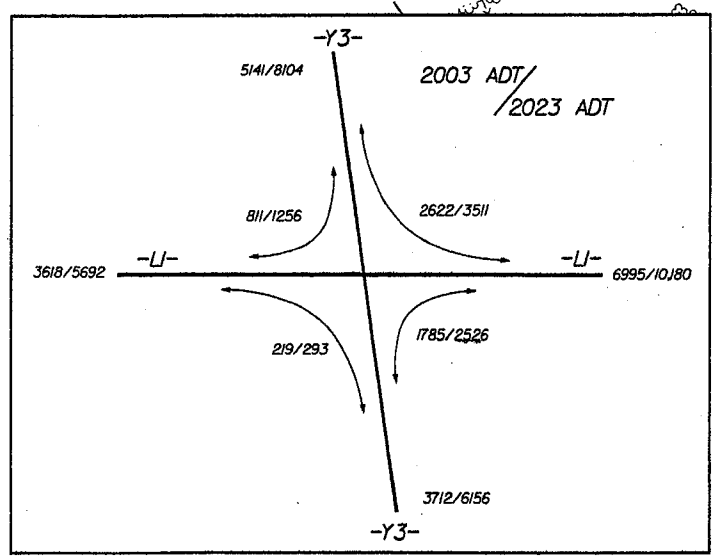


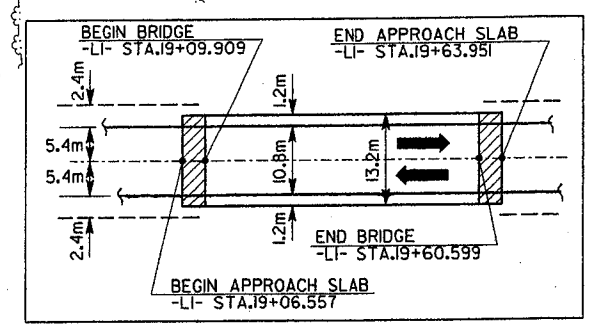
-L1- 16+08 TO 17+00 RT.

DETAIL K
LATERAL BASE DITCH
(Not to Scale)



-L1- 17+00 TO 17+77 RT.





SKETCH SHOWING RELATIONSHIP OF BRIDGE TO PAVEMENT AND SHOULDER

PLOTTED: 1/06/03
FILE: R2625A_07.PSH

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TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite 9-10
Raleigh, N.C. 27609

THE LPA GROUP TRANSPORTATION CONSULTANTS
4904 PROFESSIONAL COURT, SUITE 201
RALEIGH, NORTH CAROLINA 27609
(919) 854-1844

METRIC
5m 0 10m
SCALE

PROJECT REFERENCE NO.
R-2625A
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 23653 ENGINEER S. DOUGLAS

CONST. REV.
R/W REV.

PINC 22+43.831
(-L1- Sta 22+41.925
0.289 Rt)

MATCHLINE -Y4- STA. 12+70 SEE SHEET NO. 15

MATCHLINE -L1- STA. 19+70 SEE SHEET NO. 7

MATCHLINE -L1- STA. 23+50 SEE SHEET NO. 9

-LI- TS 20+19.884

-LI- SC 20+91.884

-LI- STA. 20+97.266
-Y4- PINC STA. 13+19.887

BL-16
-BL- PINC 20+95.124 =
-BY6- PINC 8+01.053
(-LI- 20+92.606 1.298 Rt)
(-Y4- 13+21.979 4.356 Rt)

34 Dennis Conner
DB 1213 PG 2317

35 Ruth M. Hoyle
DB 15-A PG 285

35 Ruth M. Hoyle
DB 13-V PG 701

36 Herman Keith Cobb
DB 1190 PG 609

Cleveland County Sanitary District
DB 1138 PG 2097

CLASS I RIPRAP
EST. 7 MTN
EST. 13 SM FF

CLASS B RIPRAP
EST. 3 MTN
EST. 9 SM FF

0.6m BASE DITCH
SEE DETAIL O
DDE = 35 CM

LAT. V-DITCH
SEE DETAIL P
DDE = 160 CM

LAT. V-DITCH
SEE DETAIL N
DDE = 200 CM

TIE TO EXISTING FENCE

REMOVE AND RESET GATE

PROPOSED 5 STRAND BARBED WIRE FENCE

80m UNIFORM TRANSITION

35.90m UNIFORM TRANSITION

90m UNIFORM TRANSITION

90 m UNIFORM TRANSITION (BOTH SIDES)

80m TAPER

15m FULL

14.4m GRAU-350

CAT-1

1.2m PS

600 RCP

1200 mm TSBW

1500 mm CMP & 3SBW

375 mm RCP

450 mm CMP

NAD 83

END CONSTRUCTION
-Y4- POT 15+00.000

-Y4- POT 15+14.940

Pls Sta 20+67.893
Θs = 3° 33' 22.6"
Ls = 72.000
LT = 48.010
ST = 24.009

PI Sta 23+49.434
Δ = 47° 53' 14.8" (RT)
L = 484.760
T = 257.550
R = 580.000
e = .05
V = 80 km/hr

Pls Sta 26+00.652
Θs = 3° 33' 22.6"
Ls = 72.000
LT = 48.010
ST = 24.009

DETAIL N
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, .08m/m, Fill Slope
Min. D = 0.3 m
b = 1.5 m

-L1- 19+70 TO 20+60 RT.

DETAIL Q
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, .08m/m, Fill Slope, B
Min. D = 0.3 m
B = 0.6 m
b = 1.5 m

-Y4- 11+02 TO 12+72 RT.

DETAIL O
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Natural Ground, B
Min. D = 0.9 m
B = 0.6 m

-L1- 21+28 LT.
-L1- 21+27 RT.

DETAIL P
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, .08m/m, Fill Slope
Min. D = 0.4 m
b = 1.5 m

-L1- 21+17 TO 21+65 RT.
-Y4- 13+40 TO 14+40 LT.

DETAIL FSR
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 20:1, 10:1, 6m, .15m Min., .3m Max., S
S=Ditch Slope
℄ Proposed DI

-L1- 22+00 RT.

See SHEET No.s 19 & 20 for -L1- P
See SHEET No. 26 for -Y4- PROFILE

-Y4-
2003 ADT/
/2023 AD
3356/5578
930/1448
1785/2526
-LI-
6995/10,180
556/778
1567/2233
2764/4615
-Y4-

PLOTTED: 11/21/02
FILE: R2625A_08.PSH

PLOTTED: 11/21/02
FILE: R2625A_09.PSH

MATCHLINE -L1- STA. 23+50 SEE SHEET NO. 8

MATCHLINE -L1- STA. 27+35 SEE SHEET NO. 10

-L1- N. 13°42' 17" E.

-L1- ST

-L1- CS

-L1- 24+20 TO 24+45 RT.

DETAIL S
SPECIAL CUT DITCH
(Not to Scale)

-L1- 23+65 TO 24+09 RT.

DETAIL R
LATERAL 'V' DITCH
(Not to Scale)

-L1- 27+14 TO 27+35 RT.

DETAIL TT
BERM 'V' DITCH
(Not to Scale)

-L1- 25+73 TO 26+00 RT.

DETAIL T
BERM 'V' DITCH
(Not to Scale)

-L1- 23+60 RT.
-L1- 24+20 RT.
-L1- 27+16 RT.

DETAIL FSR
FALSE SUMP
(Not to Scale)

-L1- 26+20 RT.

DETAIL V
STANDARD BASE DITCH
(Not to Scale)

-L1- 26+00 TO 26+20 RT.

DETAIL U
LATERAL 'V' DITCH
(Not to Scale)

-L1- 26+30 LT.

DETAIL W
STANDARD BASE DITCH
(Not to Scale)

-L1- 23+50 LT.

DETAIL FSL
FALSE SUMP
(Not to Scale)

-L1-
PIs Sta 20+67.893
Gs = 3°33'.22&"
Ls = 7200.0
ST = 24.009

PI Sta 23+49.434
Δ = 47°53'.14&" (RT)
L = 4847.601
T = 2575.502
R = 5800.000
Es = 03°33'.22&"
Ls = 720
V = 80 km/hr

PIs Sta 26+00.652
Gs = 3°33'.22&"
Ls = 7200.0
LT = 4801.0
ST = 24.009

e = .05
V = 80 km/hr

PROPOSED 5 STRAND BARBED WIRE FENCE

Ruth M. Hoyle
DB 15-A Pg 285

(35)

Ruth M. Hoyle
DB 13-V Pg 101

(35)

Peggy R. Carter
PB 1268 Pg 1329

(41A)

Clyde Huffman
PB 1247 Pg 689

LOGAN PARK INC.
PB 20 Pg 8

(41)

LOGAN PARK INC.
PB 995 Pg 47

(41)

Laura M. Houser
DB 1094 Pg 2247

(43)

Jeanne Warge
DB 13-Z Pg 236

(44)

Ruth M. Hoyle
DB 15-A Pg 285

(35)

PROPOSED 5 STRAND BARBED WIRE FENCE

CLASS 1 RIPRAP
EST. 19 MTN
EST. 33 SM FF

CLASS B RIPRAP
EST. 20 MTN
EST. 60 SM FF

CLASS B RIPRAP
EST. 2 MTN
EST. 6 SM FF

CLASS 1 RIPRAP
EST. 7 MTN
EST. 13 SM FF
DDE = 30 CM

0.6m BASE DITCH
SEE DETAIL W

0.6m BASE DITCH
EST. 55 SM FF
EST. 15 MTN
SEE DETAIL V

BERM V-DITCH
SEE DETAIL T
EST. 30 MTN
EST. 80 SM FF

BERM V-DITCH
SEE DETAIL TT

LAT. V-DITCH
SEE DETAIL U

LAT. V-DITCH
SEE DETAIL R
EST. 45 MTN
EST. 125 SM FF
DDE = 75 CM

SPEC. CUT DITCH
SEE DETAIL S

TOTAL DITCH
DDE = 95 CM

400 CSP
w/ 2-ELBOWS

2-GI

375 RCP

600 RCP

1050 RCP

375 RCP

FSR

FSL

FCH

HW

END FENCE

CONC

WD DECK

ISBD

CARPORT

TRENCH

ISFD

12m PS

ADELE LANE TO EST

EXIST R/W

PROP R/W

23m R/W

-L1- 4+00.000 (25.00m)
-L1- 4+80.000 (25.00m)
-L1- 4+70.500 (23.500m)
-L1- 4+20.000 (23.500m)
-L1- 4+00.000 (25.33m)
-L1- 4+48.644 (23.000m)
-L1- 4+76.644 (23.000m)
-L1- 4+70.000 (23.000m)
-L1- 4+30.000 (22.63m)
-L1- 4+45.500 (22.98m)

BY7-12
PINC 5+31.616

BY7-13
POT 6+38.195

BL-19
-BL- PINC 25+62.663 =
-BY7- POT 5+00.000
(-L1- Sta 25+62.170
0.344 Rt)

BL-20
PINC 26+61.592
(-L1- Sta 26+61.041
0.950 Lt)

BL-18
PINC 24+42.545
(-L1- Sta 24+41.753
0.455 Rt)

S85°52'52"E 282.609 -OSB-RB-OSB-

S87°05'19"W 79.921 R/W-CSR

S87°05'19"W 93.567 EIP-CSR

S87°05'19"W 82.158 EIP-CSR

S87°05'19"W 80.859 EIP-CSR

S87°05'19"W 73.396 EIP-CSR

N89°46'35"W 30.456 COR-COR

N89°46'35"W 30.435 COR-COR

N89°46'35"W 30.098 COR-COR

N89°46'31"W 30.045 COR-COR

N87°02'52"E 3.345 COR-COR

S30°25'59"W 102.779 EIP-EIP

S35°57'50"W 285.049 CSR-CSR

S35°57'50"W 40.995 CSR-CSR

S87°05'19"W 4.172 CSR-CSR

N35°57'50"E 4.172 CSR-CSR

N87°02'52"E 3.345 COR-COR

S85°52'52"E 282.609 -OSB-RB-OSB-

NAD 83

THE LPA GROUP
TRANSPORTATION CONSULTANTS
6501 MORRISROAD, SUITE 201
RALEIGH, NORTH CAROLINA 27606
(919) 854-1264

TRANSITE CONSULTING
ENGINEERS, INCORPORATED
1309 Paddock Drive, Suite G-10
Raleigh, N.C. 27609

METRIC

SCALE
5m 0 10m

CONST. REV.

R/W REV.

PROJECT REFERENCE NO. R-2625A
SHEET NO. 9

ROADWAY DESIGN ENGINEER
HYDRAULIC DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 14160 DOUGLAS B. DOUGHERS
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23950 CAROL J. DOUGLAS
11/21/02

See SHEET No.s 20 & 21 for -L1- PROFILE

MATCHLINE -L- STA. 28+80 SEE SHEET NO. 11

MATCHLINE -L- STA. 27+35 SEE SHEET NO. 9

-L- N 13°42'08"E

-L- POT 29+07.215 LB = -L- POT 26+80.000 LA

-L- PC 28+00.000

-L- PT 29+07.633 = -BL- PT 29+07.633 = (R2625B) (SET BY OTHERS)

-L- 29+07.559 0.064 RT.

-L- 28+80 RT.

-L- 28+70 RT.

-L- 28+10 RT.

-L- 28+03 RT.

-L- 28+08 LT.

-L- 28+00 TO 28+95 LT.

-L- 28+40 TO 29+20 RT.

-L- 29+00 TO -L- 28+03 RT.

-L- 27+35 TO 27+60 RT.

-L- 28+03 TO 28+40 RT.

-L- +98225 22500M (7382')

-L- +98428 23000M (7546')

-L- +98969 22500M (7382')

-L- +98043 23000M (7546')

-L- +70000 23000M (7546') 31000M (10171')

-L- +80000 24000M (7546') 31000M (10171')

-L- +60000 25500M (8358')

-L- +65000 23000M (7546')

-L- +38000 23000M (7546')

-L- +49000 25500M (8282') 25000M (8202')

-L- +40000 25500M (7382') 26000M (8530')

-L- +11000 25500M (7382') 26000M (8530')

-BL- PC 27+92.156 (-LI- Sta 27+92.282 0.016 LT)

-BL- PT 29+07.633 = -L- PT 29+07.559 0.064 RT. (R2625B) (SET BY OTHERS)

BL-21
PINC 27+92.156
(-LI- Sta 27+92.282
0.016 LT)

BL-22

0.6m BASE DITCH
SEE DETAIL Z
DDE = 265 CM

TOTAL LATERAL DITCH

0.6m BASE DITCH
SEE DETAIL Z
DDE = 6 CM

0.6m BASE DITCH
SEE DETAIL Y
EST. 20 MTN
EST. 55 SM FF
DDE = 6 CM

LAT. V-DITCH
SEE DETAIL EE
EST. 160 MTN
EST. 550 SM FF

LAT. V-DITCH
SEE DETAIL X
DDE = 85 CM

BERM V-DITCH
SEE DETAIL AA

BERM V-DITCH
SEE DETAIL AAI

BERM V-DITCH
SEE DETAIL UU

CLASS B RIPRAP
EST. 3 MTN
EST. 6 SM FF

CLASS B RIPRAP
EST. 5 MTN
EST. 12 SM FF

CLASS B RIPRAP
EST. 20 MTN
EST. 60 SM FF

CLASS I RIPRAP
EST. 10 MTN
EST. 19 SM FF

37.5 RCP

2-CI

12m PS

FSR

PROP R/W

EXIST. R/W

PLANTED ORCHARD

PLANTED ORCHARD

PLANTED ORCHARD

PLANTED ORCHARD

PLANTED ORCHARD

PLANTED ORCHARD

PLANTED ORCHARD

PLANTED ORCHARD

28+00

27+00

28+00

28+00

NAD 83

(43) Laura M. Houser DB 1094 PG 2247

(44) Jeanne Ware DB 17-C PG 560

(44) Jeanne Ware DB 13-Z PG 236

DETAIL FSR
FALSE SUMP
(Not to Scale)

DETAIL Y
STANDARD BASE DITCH
(Not to Scale)

DETAIL E
LATERAL 'V' DITCH
(Not to Scale)

DETAIL AAI
BERM 'V' DITCH
(Not to Scale)

DETAIL UU
BERM 'V' DITCH
(Not to Scale)

DETAIL X
LATERAL 'V' DITCH
(Not to Scale)

DETAIL Z
STANDARD BASE DITCH
(Not to Scale)

DETAIL AA
BERM 'V' DITCH
(Not to Scale)

See SHEET Nos. 21 & 22 for -LI- & -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2625A	10

ROADWAY DESIGN ENGINEER

HYDRAULIC DESIGN ENGINEER

R/W REV.

CONST. REV.

SCALE 5m 0 10m

METRIC

TRANSITE CONSULTING
ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite 0-10
Raleigh, N.C. 27609

THE LPA GROUP
TRANSPORTATION CONSULTANTS
4824 PARKWOOD COURT, SUITE 201
RALEIGH, NORTH CAROLINA 27609
(919) 854-1246

PROJECT REFERENCE NO.	SHEET NO.
R-2625A	11

THE LPA GROUP TRANSPORTATION CONSULTANTS 4824 PROFESSIONAL COURT, SUITE 201 RALEIGH, NORTH CAROLINA 27609 (919) 954-1244

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1300 Paddock Drive, Suite G-10 Raleigh, N.C. 27609

METRIC

5m 0 10m

SCALE

CONST. REV.

R/W REV.

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 28853 ENGINEER THOMAS S. DANIGAN 11/21/02

HYDRAULIC DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14160 ENGINEER DOUGLAS R. SAUNDERS 11/25/02

See SHEET No.22 for -L- PROFILE

MATCHLINE -L- STA. 28+80 SEE SHEET NO. 10

NAD 83

PLANTED ORCHARD

44 Jeanne Ware DB 17-C PG 560

29+00 30+00 31+00

+00.000 22.500m

+40.000 25.000m

+80.000 24.000m

+93.000 22.500m

EXIST. R/W

61 450 RCP 4.9m

12m PS

-L- N 13° 42' 17.0" E

62 450 RCP 4.9m

63 2-GI FSL

64 2-GI FSR

37m RCP

F 90m UNIFORM TRANSITION (BOTH SIDES)

65 600MM RCP

+75.00

1050 RCP

154.02 m

150.0 m

45.0 m

136.36

CLASS 'B' RIPRAP EST. 2 MTN EST. 6 SM FF

LAT. V-DITCH SEE DETAIL CC

V-DITCH SEE DETAIL EE

TOTAL DITCH DDE = 95 CM

-L- +20.000 22.500m (73.82')

-L- +45.900 34.000m (111.55')

CLASS I RIPRAP EST. 19 MTN EST. 33 SM FF

1.2m BASE DITCH SEE DETAIL FF

-L- 32+037.45 28.500m (93.50')

EXIST. 1.0m BASE DITCH W/ RIPRAP

EXIST. GUARDRAIL

EXIST. V-DITCH

EXIST. R/W

POND

CLASS 'I' RCP

PWFER ROAD SR 2256

FLOW PDE TDE HW DIRT

BERM V-DITCH SEE DETAIL BB

-L- +20.000 30.000m (98.42')

-L- +30.000 22.500m (73.82')

+23.957 26.500m

+40.000 26.500m

+00.000 22.500m

PLANTED ORCHARD

-L- +15.000 22.500m (73.82') 27.500m (90.22')

-L- +50.000 22.500m (73.82') 27.500m (90.22')

1.2m LAT. BASE DITCH SEE DETAIL DD EST. 70 MTN EST. 170 SM FF DDE = 75 CM

STA. 32+27.090 -L- END PAVEMENT AND MATCH EXISTING

Orchard

WIDENING FOR TURN LANE

EXTEND 450 RCP

450 RCP

PIPE COLLAR

STA. 32+27.090 -L- END STATE PROJECT R-2625A

Orchard

DETAIL BB
BERM 'V' DITCH
(Not to Scale)

Natural Ground 2:1 D 2:1 b 2:1 RDWY

Min. D = 0.35 m
b = 1.5 m

-L- 28+40 TO 29+20 RT.

DETAIL CC
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground 2:1 D 2:1 .08m/m Fill Slope b

Min. D = 0.3 m
b = 1.5 m

-L- 30+90 TO 31+60 LT.

DETAIL EE
STANDARD 'V' DITCH
(Not to Scale)

Natural Ground 2:1 D 2:1 Natural Ground

Min. D = 0.3 m

-L- 31+50 LT.

DETAIL DD
LATERAL BASE DITCH
(Not to Scale)

Natural Ground d 2:1 D 2:1 .08m/m Fill Slope b B

Filter Fabric Max. d = 0.6m
Min. D = 0.6m
B = 1.2 m
b = 1.5m

Type of Liner = CLASS B

-L- 31+18 TO 31+49 RT.

DETAIL FF
LATERAL BASE DITCH
(Not to Scale)

Natural Ground 2:1 D 2:1 .08m/m Fill Slope b B

Min. D = 0.9 m
B = 1.2 m
b = 1.5m

-L- 31+60 TO 32+02 LT.

DETAIL FSR
FALSE SUMP
(Not to Scale)

.15m Min. .3m Max.

Outside Ditch Traffic Flow 20:1 10:1 .6m GI etc.

S=Ditch Slope ℄ Proposed Ditch

-L- 30+70 RT.

DETAIL FSL
FALSE SUMP
(Not to Scale)

.15m Min. .3m Max.

Outside Ditch Traffic Flow 10:1 20:1 .6m GI etc.

S=Ditch Slope ℄ Proposed Ditch

-L- 30+80 LT.

PLOTTED: 11/21/02
FILE: R2625A_11.PSH

MicroStation V8 DGN File: 11/21/02 12:51:11 User: R2625A_11.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2625A	13
ROADWAY DESIGN ENGINEER	HYDRAULIC DESIGN ENGINEER

THE LPA GROUP TRANSPORTATION CONSULTANTS 4904 PROFESSIONAL COURT, SUITE 201 RALEIGH, NORTH CAROLINA 27609 (919) 954-1244

TRANSITE CONSULTING ENGINEERS, INCORPORATED 1300 Paddock Drive, Suite G-10 Raleigh, N.C. 27609

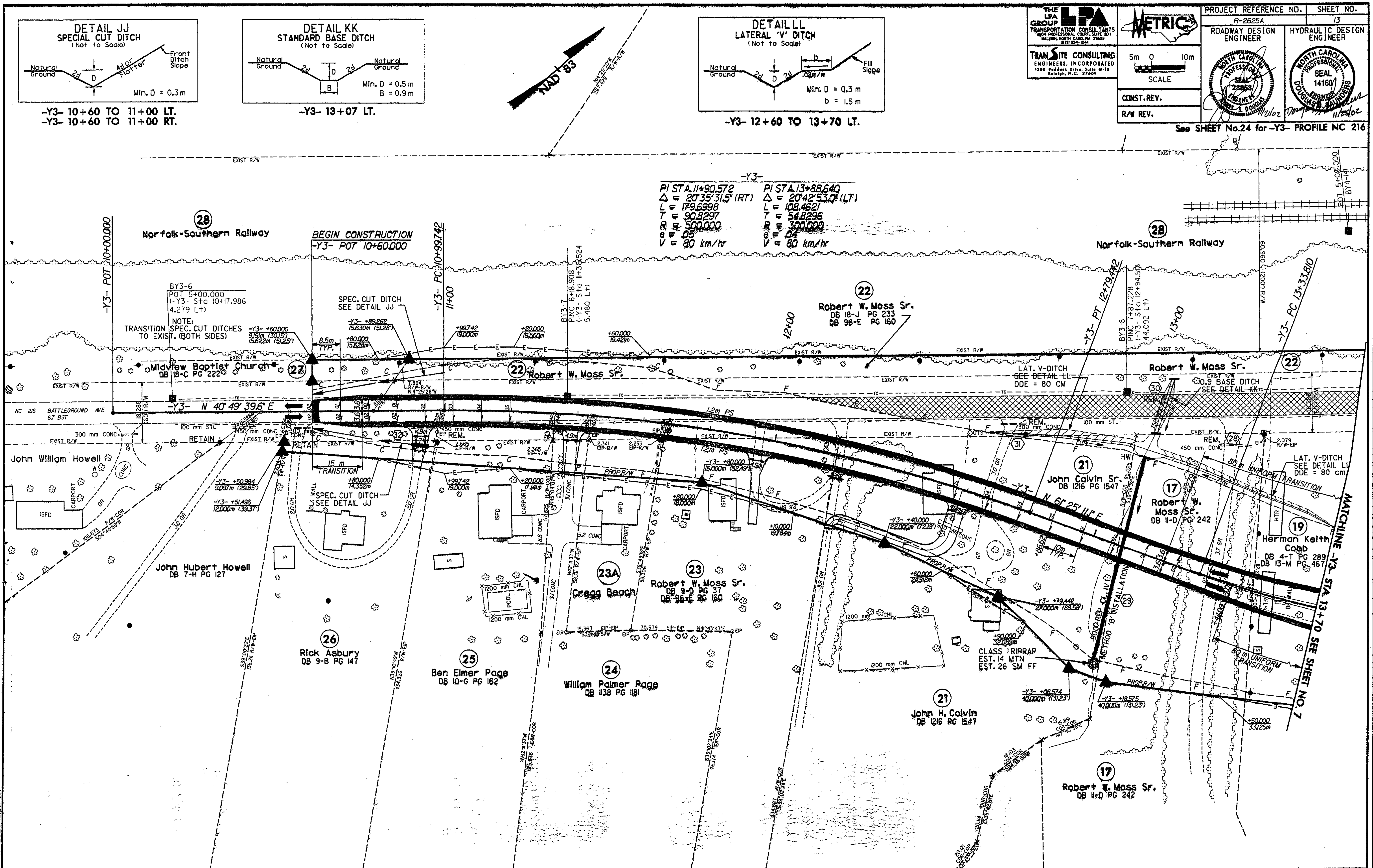
METRIC

SCALE 5m 0 10m

CONST. REV.

R/W REV.

See SHEET No.24 for -Y3- PROFILE NC 216



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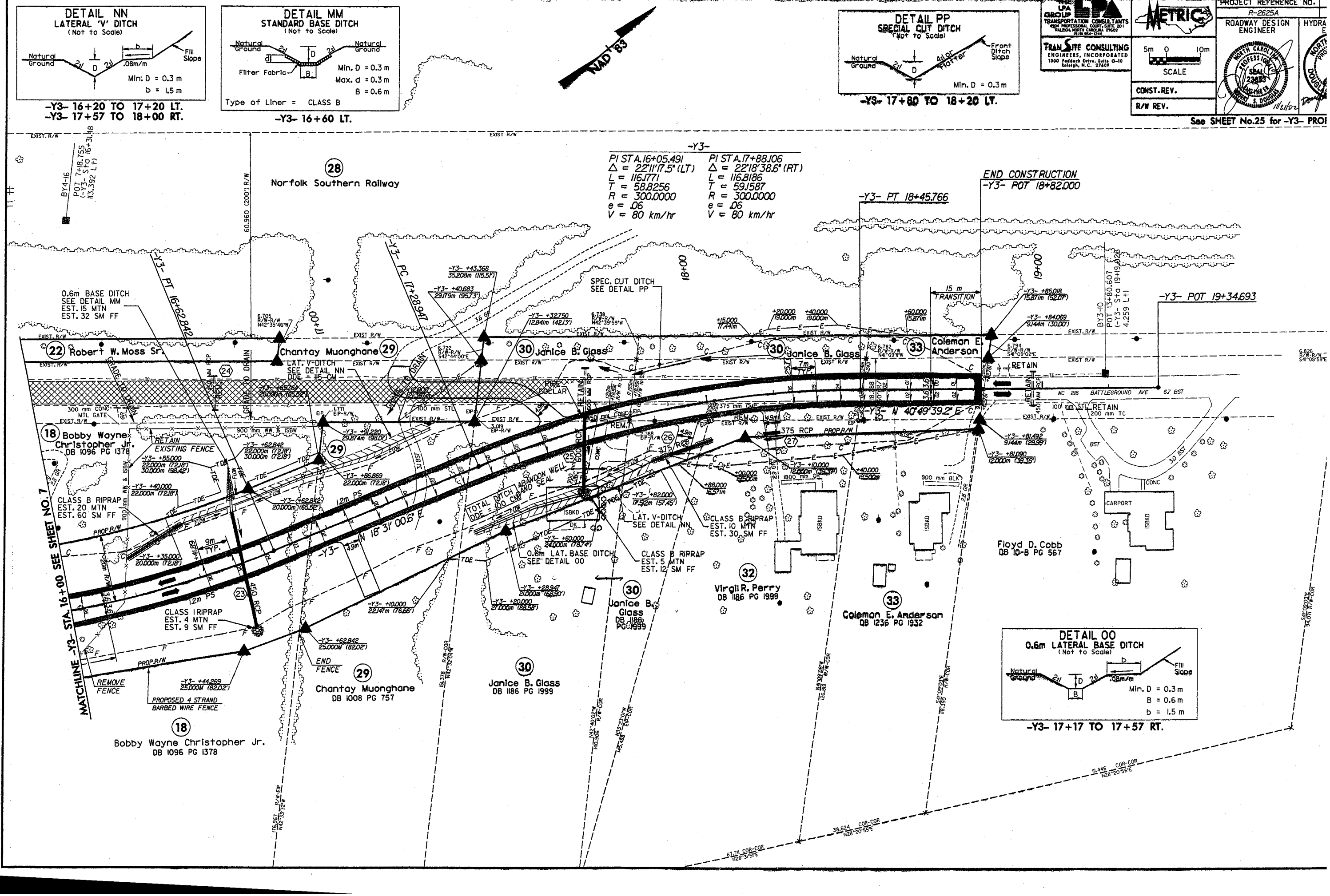
DETAIL NN
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
2:1
D
2:1
b
.08m/m
Fill Slope
Min. D = 0.3 m
b = 1.5 m
-Y3- 16+20 TO 17+20 LT.
-Y3- 17+57 TO 18+00 RT.
DETAIL MM
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
2:1
d
D
2:1
Natural Ground
Filter Fabric
B
Min. D = 0.3 m
Max. d = 0.3 m
B = 0.6 m
Type of Liner = CLASS B
-Y3- 16+60 LT.
NAD 83
DETAIL PP
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
2:1
D
4:1 or flatter
Front Ditch Slope
Min. D = 0.3 m
-Y3- 17+80 TO 18+20 LT.
LPA GROUP INCORPORATED
TRANSPORTATION CONSULTANTS
4509 PROFESSIONAL COURT, SUITE 201
RALEIGH, NORTH CAROLINA 27609
(919) 954-1244
TRANSITE CONSULTING
ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609
METRIC
5m 0 10m
SCALE
CONST. REV.
R/W REV.
PROJECT REFERENCE NO.
R-2625A
ROADWAY DESIGN ENGINEER
HYDRA E
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23933 JOHN S. DOUGLAS
11/21/02
See SHEET No.25 for -Y3- PROF
-Y3-
PI STA 16+05.491
Δ = 22°11'17.5" (LT)
L = 116.1771
T = 58.8256
R = 300.0000
e = .06
V = 80 km/hr
PI STA 17+88.106
Δ = 22°18'38.6" (RT)
L = 116.8186
T = 59.1587
R = 300.0000
e = .06
V = 80 km/hr
END CONSTRUCTION
-Y3- POT 18+82.000
-Y3- PT 18+45.766
-Y3- POT 19+34.693
-Y3- PT 16+62.842
-Y3- PC 17+28.947
-Y3- N 40°49'39.2" E
-Y3- N 18°31'00.6" E
MATCHLINE -Y3- STA. 16+00 SEE SHEET NO. 7
BY4-16
POT 7+18.755 (-Y3- Sta 16+31.98 13.392 L+t)
BY3-10
POT 13+80.607 (-Y3- Sta 19+19.028 4.259 L+t)
28 Norfolk Southern Railway
22 Robert W. Moss Sr.
29 Chantay Muonghane
DB 1008 PG 757
30 Janice B. Glass
DB 1186 PG 1999
33 Coleman E. Anderson
DB 1236 PG 1932
32 Virgil R. Perry
DB 1186 PG 1999
18 Bobby Wayne Christopher Jr.
DB 1096 PG 1378
Floyd D. Cobb
DB 10-B PG 567
0.6m BASE DITCH SEE DETAIL MM EST. 15 MTN EST. 32 SM FF
SPEC. CUT DITCH SEE DETAIL PP
LAT. V-DITCH SEE DETAIL NN
CLASS B RIPRAP EST. 20 MTN EST. 60 SM FF
CLASS I RIPRAP EST. 4 MTN EST. 9 SM FF
CLASS B RIPRAP EST. 10 MTN EST. 30 SM FF
CLASS B RIPRAP EST. 5 MTN EST. 12 SM FF
0.6m LAT. BASE DITCH SEE DETAIL OO
TOTAL DITCH ABANDON WELL AND SEAL
RETAIN EXISTING FENCE
REMOVE FENCE
PROPOSED 4 STRAND BARBED WIRE FENCE
END FENCE
15 m TRANSITION
NC 216 BATTLEGROUND AVE
DETAIL OO
0.6m LATERAL BASE DITCH
(Not to Scale)
Natural Ground
2:1
D
2:1
b
.08m/m
Fill Slope
B
Min. D = 0.3 m
B = 0.6 m
b = 1.5 m
-Y3- 17+17 TO 17+57 RT.
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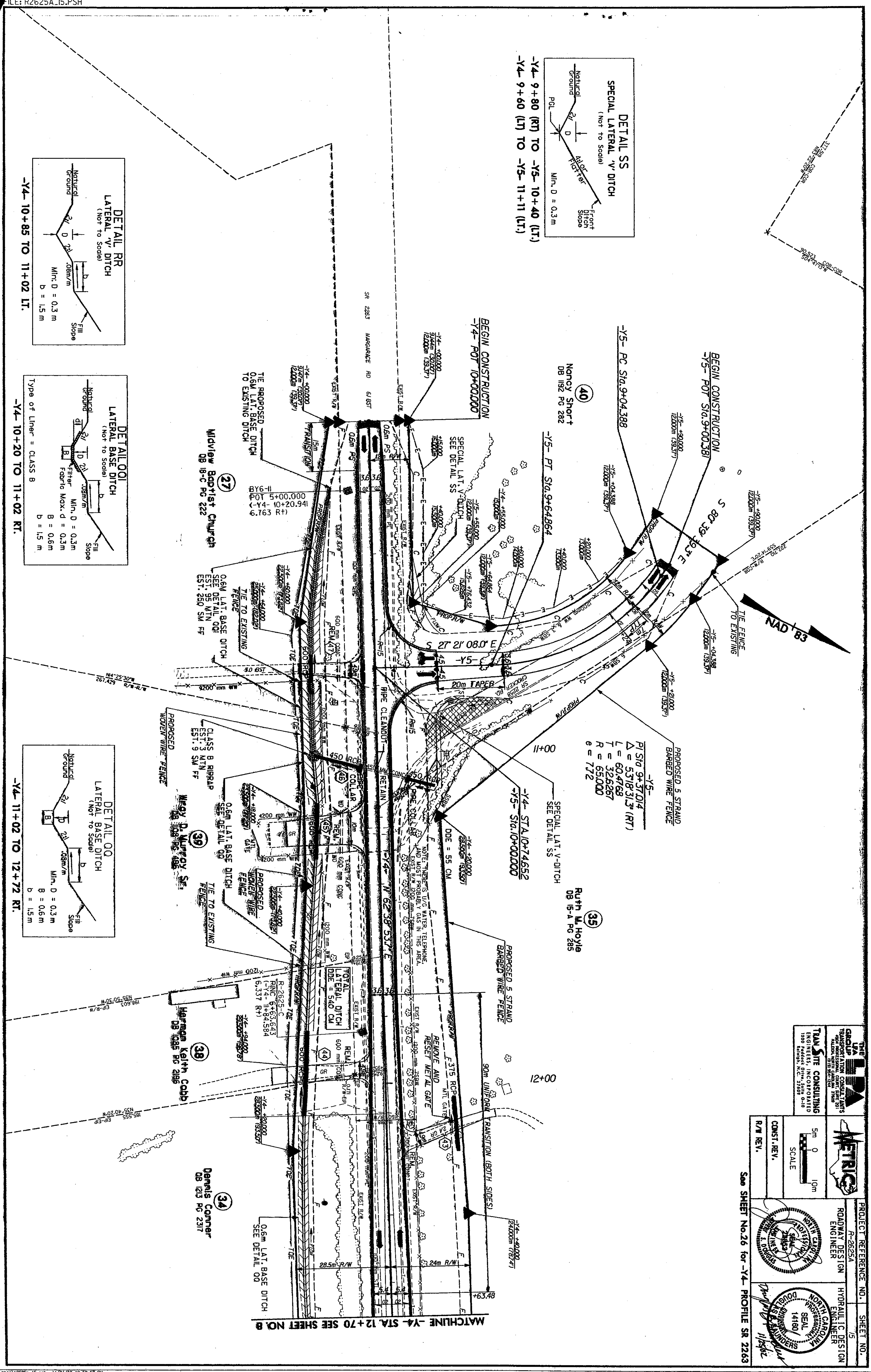
PLOTTED: 11/21/02
FILE: R2625A_15.PSH



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06/12/2003

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

12/5
Cynthia -
Please review. Do you agree no need for detailed analysis (I agree)?
Jef

November 21, 2002

MEMORANDUM

TO: John Dorney, Supervisor
Wetlands/401 Certification Unit, DWQ

FROM: Ann Steedly, P.E., Public Involvement and Community Studies AS

SUBJECT: Final ICE Report for TIP No. R-2625A, Project No. 82800801, New Route from N of I-85/SR 2283 (Dixon School Rd) Interchange to S of SR 2256 (Phifer Rd) SW of Kings Mountain, FA Project No. STP-2283 (1)

MESSAGE:

Attached is the final Indirect and Cumulative Effects report for TIP No. R-2625A, Project No. 82800801, New Route from N of I-85/SR 2283 (Dixon School Rd) Interchange to S of SR 2256 (Phifer Rd) SW of Kings Mountain, FA Project No. STP-2283 (1).

Please let me know if we may be of further assistance.

Attachment

AS/*sg*

cc: Jeff Burleson, Natural Systems Permit Specialist, PDEA
Alice Gordon, Regulatory Affairs Coordinator, PDEA (no report)

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PUBLIC INVOLVEMENT UNIT
1583 MAIL SERVICE CENTER
RALEIGH NC 27699-1583

TELEPHONE: 919-250-4092
FAX: 919-250-4208

WEBSITE: WWW.NCDOT.ORG

LOCATION:
CENTURY CENTER COMPLEX
BUILDING A
1000 BIRCH RIDGE DRIVE
RALEIGH NC

INDIRECT AND CUMULATIVE IMPACT ASSESSMENT

TIP R-0625A

Cleveland County, North Carolina

Prepared for

North Carolina Department of Transportation

Office of Human Environment

Prepared by

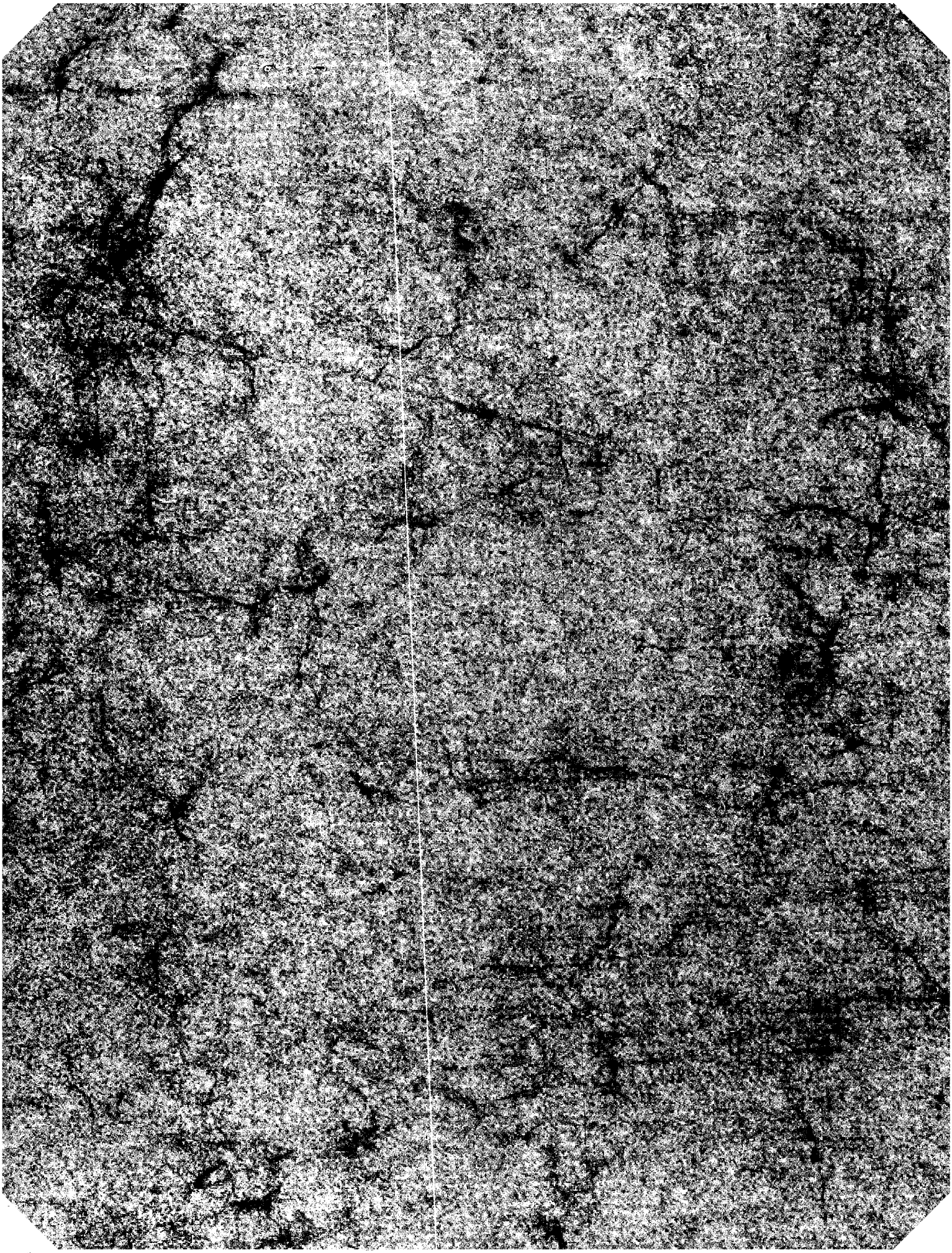
HNTB North Carolina, P.C.

2108 South Boulevard

Suite 108

Charlotte, North Carolina 28203

November 5, 2002



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North Carolina Department of Transportation
Office of Human Environment

Preliminary Indirect and Cumulative Impact Assessment

Attention:	Karen Capps, PDEA Engineer, NCDOT
From:	Susan Fisher, Planner, HNTB and Robert Deaton, Community Planner, NCDOT
Through:	Carl Goode, Office of Human Environment, NCDOT
Contract:	A303954
RE:	TIP R-2625A, New Route, Cleveland County

I. EXECUTIVE SUMMARY

A two-lane highway on new alignment is proposed in Cleveland County from north of I-85 and SR 2283 (Dixon School Road) to US 74 Business at SR 2031 (Elam Road), a proposed length of approximately 2.9 miles. Part A is the portion of the new route that is proposed from north of I-85 and Dixon School Road to SR 2256 (Phifer Road). Part B is the portion of the new route that was already constructed from Phifer Road to US 74 Business. This report is intended to provide a preliminary analysis of the indirect and cumulative impacts associated with TIP R-2625A, and to provide information requested by the North Carolina Department of Environment and Natural Resources (DENR), Division of Water Quality (DWQ). The information requested relates to downstream water quality impacts that may occur as a result of indirect and cumulative effects of the proposed TIP project and Section 401 Water Quality certification.

Growth and Development

Kings Mountain, like the remainder of Cleveland County, typically has low population growth rates when compared to North Carolina as a whole. This trend is expected to remain consistent over the next two decades. Local planners predict that the majority of future development in Kings Mountain (and its extraterritorial jurisdiction) will be concentrated north of US 74 Business and south of Interstate 85. Much of the vacant land in this area is in these two locations and already has good access to I-85.

Existing Water Quality

According to the Project Environmental Consultation Form, there are no High Quality Waters (HQW), Water Supplies (WS-I or WS-II), or Outstanding Resource Waters (ORW) within one mile of the TIP R-2625A. In addition, there are no 303(d) streams in the area of potential impact.

Environmental Regulations

The Sedimentation and Erosion Control Act requires that any person planning to disturb more than one acre of land must submit a Sedimentation and Erosion Control Plan to the North Carolina Division of Land Resources. Local governments may enforce the Sedimentation and Erosion Control Plan within their jurisdiction. Additionally, the City of Kings Mountain prohibits development in the floodway and limits it in the flood fringe. Each person developing a lot must complete a flood study before obtaining a permit for development. The construction of TIP R-2625A would comply with these rules and regulations.

There are no water supply watersheds in the southeastern portion of Cleveland County, and no regulations regarding the protection of any water supply watersheds will apply to land within the impact area.

Potential for Induced Development and Impacts to Water Quality

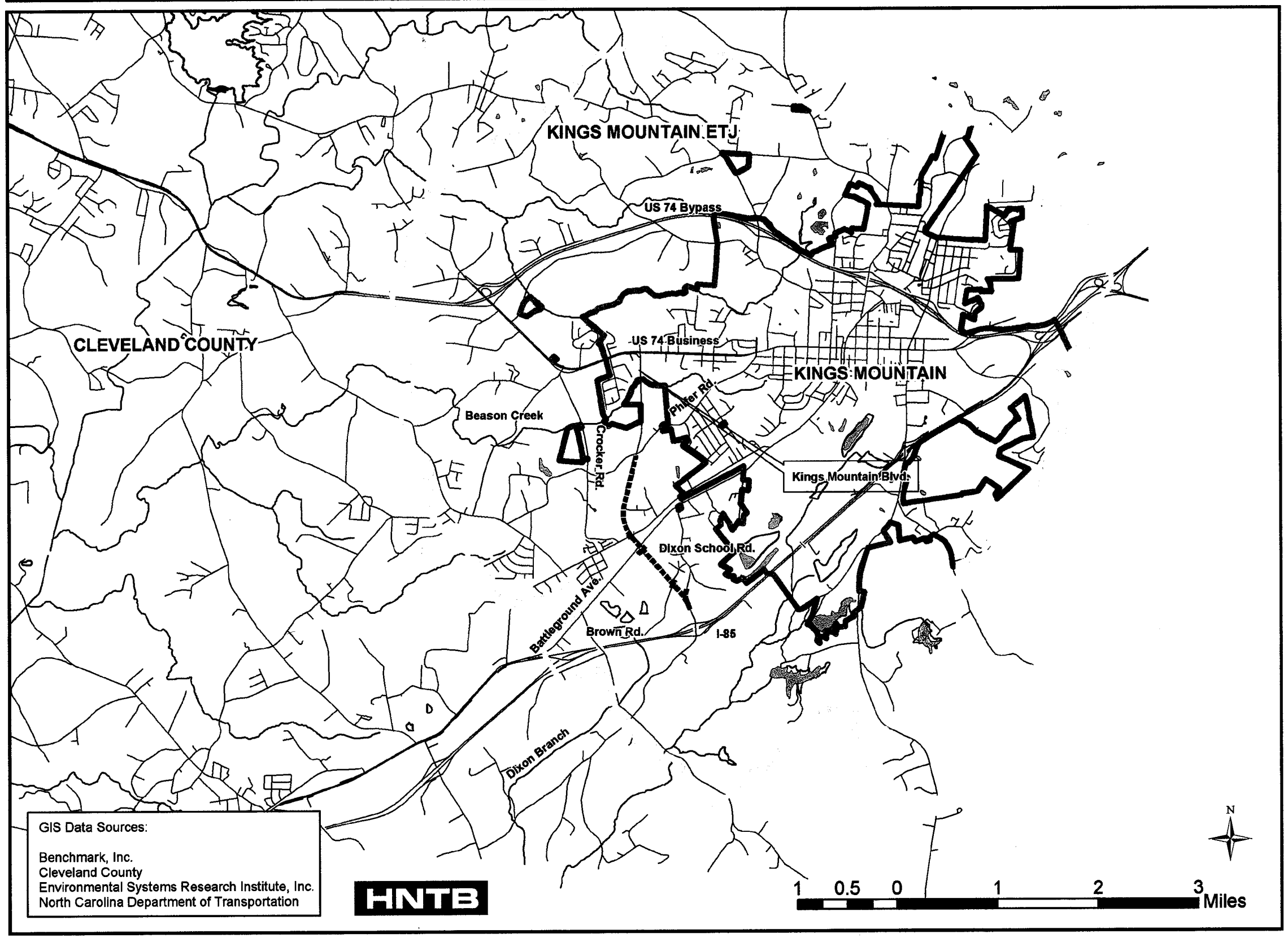
Development induced by TIP R-2625A will be concentrated primarily along the southern portion of existing Kings Mountain Boulevard, Phifer Road near the intersection with the proposed highway, and the area between Phifer Road and the southern terminus of the project (Dixon School Road). The evaluation of potential development that could be induced by the new road, local regulations and water quality management plans indicate that new development induced as a result of TIP R-2625A will not substantially deteriorate water quality in Beason Creek, Dixon Branch or the Broad River Basin.

II. PROJECT DESCRIPTION

The North Carolina Department of Transportation (NCDOT) plans to construct a two-lane highway in Cleveland County from north of I-85 and SR 2283 (Dixon School Road) to US 74 Business at SR 2031 (Elam Road). Construction of the new facility has been divided into two phases. Part A, or TIP R-2625A, is the portion of the new route that is proposed from north of I-85 and Dixon School Road to SR 2256 (Phifer Road) and is scheduled for construction in Fiscal Year 2002 (see Figure I). Part A will include a grade separated crossing of the Norfolk-Southern Railroad and a crossing of Dixon Branch Creek. It will also incorporate the realignment or extension of intersecting roads including Dixon School Road, SR 2305 (Brown Road) and NC 216 (Battleground Road). Part B has been constructed and is the portion of the new route from Phifer Road to US 74 Business. This portion of the new road, named Kings Mountain Boulevard, was built in 1998 (approximately) and included the construction of a box culvert at Beason Creek. The total length of this TIP R-2625 project (Parts A and B) is estimated to be 2.9 miles.

TIP R-2625A completes the north-south connection between I-85 and US 74 Business just west of Kings Mountain, North Carolina. According to the *Finding of No Significant Impact* report prepared by the Federal Highway Administration and the NCDOT, the

FIGURE I. TIP R-2625 ALIGNMENT

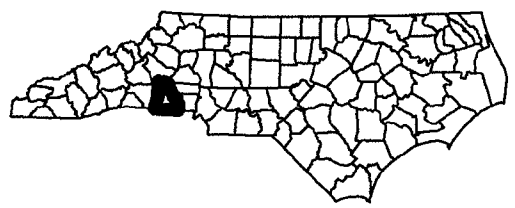


LEGEND

- KINGS MOUNTAIN - ETJ
- KINGS MOUNTAIN CITY LIMITS
- TIP R-2625A ALIGNMENT
- STREETS
- RIVERS AND STREAMS
- LAKES

Legend

- North Carolina Counties
- Cleveland County



project will result in the relocation of approximately two businesses and nine residences, and approximately 61 acres will be acquired to construct the entire TIP project.

III. STUDY AREA AND AREA OF POTENTIAL IMPACT

Identification of Study Area

The majority of TIP R-2625 and all of Part A is located in the extraterritorial jurisdiction of Kings Mountain in Cleveland County. The extreme northern portion of Part B is located within the Kings Mountain City Limits. Cleveland County is situated in the western Piedmont Region of North Carolina.

The initial study area was established as a three-mile radius around Part A of R-2625 (see Figure II). Portions of Potts Creek, Beason Creek, Long Branch, Dixon Branch and Kings Creek are within this three-mile radius. The study area includes much of incorporated Kings Mountain and is located primarily within Cleveland County. However, small portions of the study area are located in Gaston County, North Carolina and Cherokee and York Counties in South Carolina. The methodology used to conceive the three-mile radius was based on professional judgement. The study area will not be used for specific analysis, but to determine the area of potential impact.

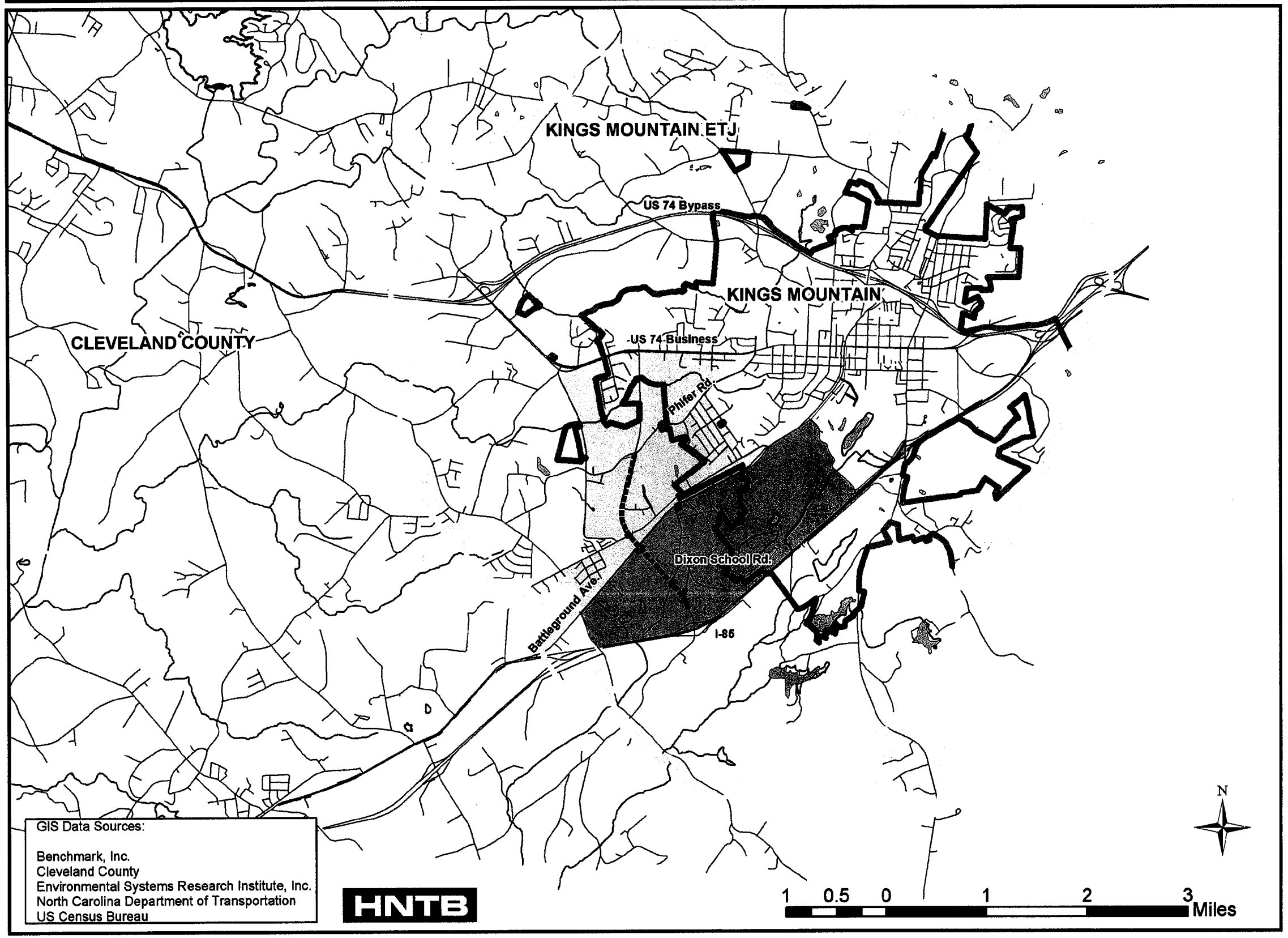
Identification of Area of Potential Impact

The area of potential impact was created by removing the undevelopable lands from the study area and identifying those areas that would benefit from the time-savings of a direct connection between I-85 and US 74 Business. The undevelopable lands include urbanized or previously built-up areas of Kings Mountain and the 100-year floodplains as shown in Figure II. I-85 also serves as a boundary, as induced development from TIP R-2625A is not expected to occur south of the interstate. The field study and discussions with local planners revealed that there are no protected farmlands or water supply watersheds in the area of potential impact.

Demographics and Community Description

The demographic area, as shown in Figure III, includes 1990 Census Tracts 9504 (Block Groups 6 and 7) and Census Tract 9505 (Block Groups 4 and 5). It appears that Census Tract 9505, Block Groups 4 and 5 are equivalent to the 2000 Census Tract 9505, Block Group 3. Tract 9504 Block Groups 6 and 7 appear to be the same in 1990 and 2000. Portions of these Block Groups fall within the area of potential impact and serves to illustrate the demographic characteristics of the local population. As evidenced by the data in Table I, Kings Mountain and Cleveland County typically have low population growth rates as compared to North Carolina. This trend is expected to remain consistent over the next two decades. Between 1990 and 2000, the demographic area experienced a rate of growth even less than that of Kings Mountain. However, the local planners feel that growth will be concentrated in the northern portion of the Kings Mountain ETJ and in the southwestern portion of the ETJ near I-85.

FIGURE III. DEMOGRAPHIC AREA



LEGEND

- KINGS MOUNTAIN - ETJ
- KINGS MOUNTAIN CITY LIMITS
- TIP R-2625A ALIGNMENT
- STREETS
- RIVERS AND STREAMS
- LAKES

1990 US CENSUS BLOCK GROUPS

- Tract 9504, Block Group 6
- Tract 9504, Block Group 7
- Tract 9505, Block Group 4
- Tract 9505, Block Group 5

Legend

- North Carolina Counties
- Cleveland County

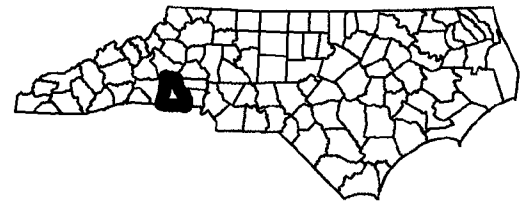
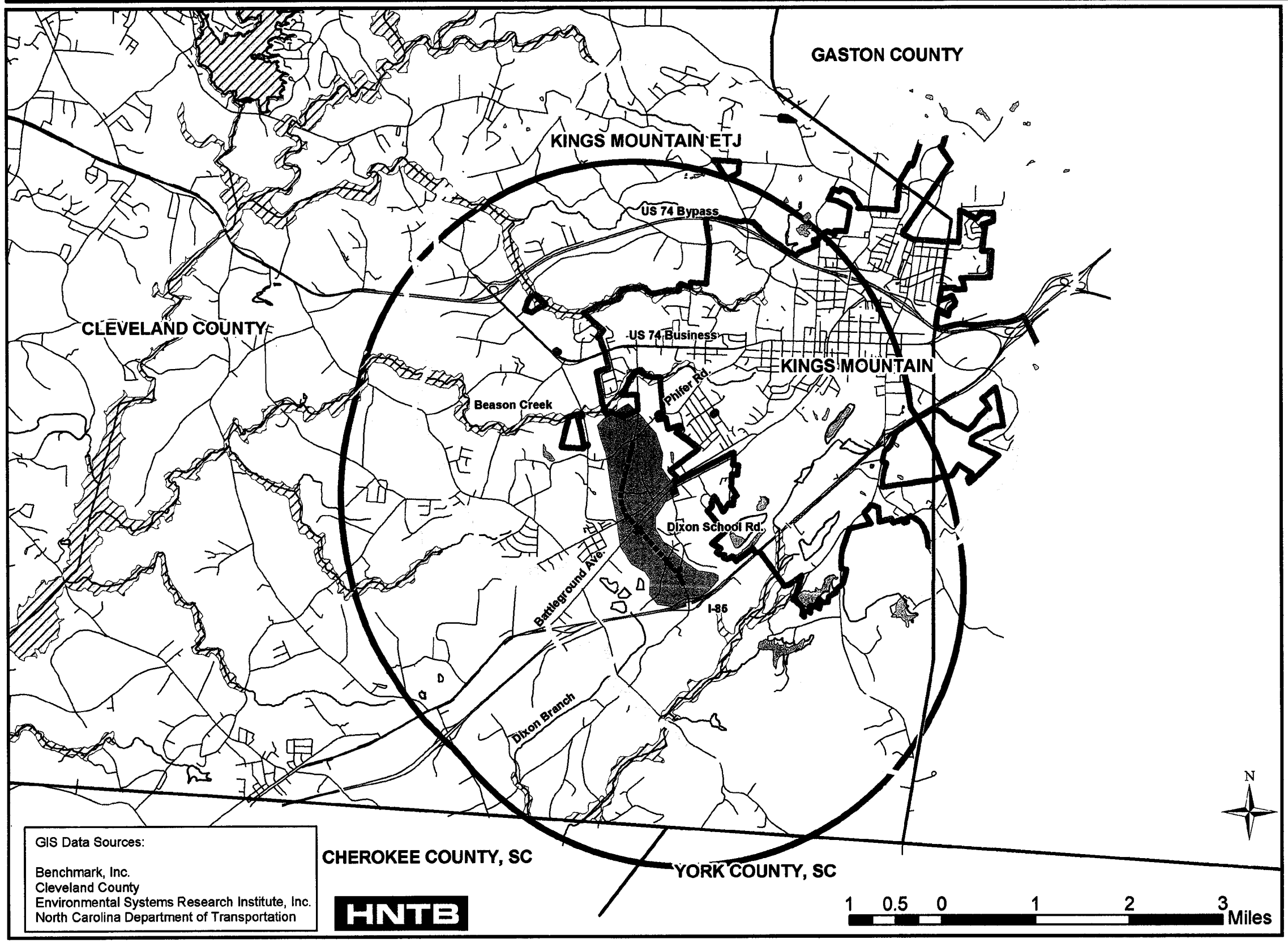


FIGURE II. AREA OF POTENTIAL IMPACT



GIS Data Sources:

Benchmark, Inc.
Cleveland County
Environmental Systems Research Institute, Inc.
North Carolina Department of Transportation

HNTB

LEGEND

- KINGS MOUNTAIN - ETJ
- KINGS MOUNTAIN CITY LIMITS
- TIP R-2625A ALIGNMENT
- STREETS
- RIVERS AND STREAMS
- FLOODPLAINS
- LAKES
- STUDY AREA
- AREA OF POTENTIAL IMPACT
- COUNTY BOUNDARIES

Legend

- North Carolina Counties
- Cleveland County

Therefore, the growth rate in the demographic area may be more than 5.2% as experienced between 1990 and 2000, but it will most likely not exceed the projected growth rate of Cleveland County. Cleveland County is expected to grow at a rate of 10.6% between 2000 and 2010 and 9.9% between 2010 and 2020.

Table I. Population Estimates and Projections, 1980-2020

	Demographic Area	Kings Mountain	Cleveland County	North Carolina
Population:				
1980	N/A	9,080	83,435	5,880,095
1990	3,335	8,763	84,714	6,632,448
Percentage growth 1980-1990	*N/A*	*-3.5%*	*1.5%*	*12.8%*
2000	3,507	9,693	96,287	8,049,313
Percentage growth 1990-2000	*5.2%*	*10.6%*	*13.7%*	*21.4%*
Population Projections:				
2010	N/A	N/A	106,530	9,491,374
Percentage growth 2000-2010	*N/A*	*N/A*	*10.6%*	*17.9%*
2020	N/A	N/A	117,092	10,966,138
Percentage growth 2010-2020	*N/A*	*N/A*	*9.9%*	*15.5%*

Sources: The City of Kings Mountain Land Development Plan, US Census Bureau, NC Office of State Planning

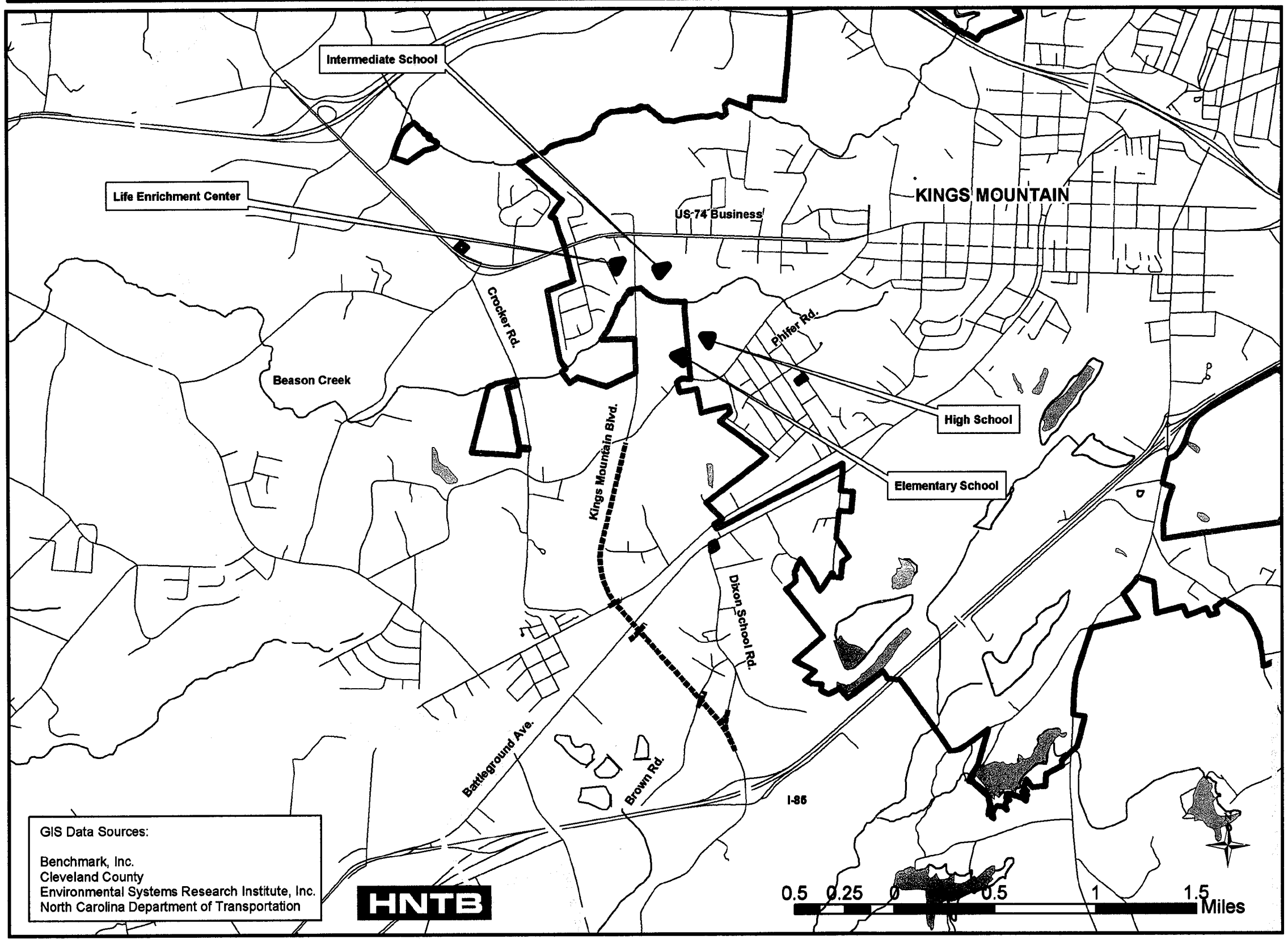
Growth and Development

Cleveland County and Kings Mountain have been experiencing relatively slow rates of growth (population) in the last decade. It appears that the majority of growth in and around Kings Mountain would be concentrated in the northern parts of the extraterritorial jurisdiction (north of US 74 Business) and in the extraterritorial jurisdiction south of I-85. Most of the vacant land in this area is in these two locations, and already has good access to I-85. Kings Mountain is located approximately 30 miles from the City of Charlotte, which is experiencing rapid population growth and development. Over time, some of this development may filter into parts of Kings Mountain and Cleveland County.

There are a number of development proposals at the time of this study. Streets and public facilities are shown in Figure IV.

- The Life Enrichment Center, an adult care center which has been approved for construction on the West Side of Kings Mountain Boulevard across from the new Intermediate School
- A 58-unit apartment complex, which has been proposed for construction across from the Intermediate School
- Crocker Ridge, which has been proposed for construction along Crocker Road and would consist of approximately 100 single-family homes
- A 99-unit single-family development, which has been proposed for construction near the high school on Phifer Road
- A hotel, which is proposed for construction at the interchange of I-85 and Dixon School Road

FIGURE IV. PUBLIC FACILITIES



LEGEND

- FACILITIES
- KINGS MOUNTAIN - ETJ
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- STREETS
- RIVERS AND STREAMS
- LAKES

Legend

- North Carolina Counties
- Cleveland County

IV. EXISTING PLANS AND REGULATIONS

Current Transportation Plans

NCDOT Transportation Improvement Program
At the time of adoption of *The City of Kings Mountain Land Development Plan* in 1995, the existing NCDOT Transportation Improvement Program included only two projects in Kings Mountain. One of these projects was R-2625, and the other was the installation of an automatic railroad warning device at Hawthorne Road and the Southern Railroad Crossing[1]. The 2004-2010 TIP (Draft) includes two projects that are located within several miles of R-2625A. One is the proposed replacement of the bridge and interchange improvements at NC 216 and I-85/US 29. The other is a proposed four-lane divided highway (US 74 Bypass) in Shelby, North Carolina. Neither of these projects are located in the area of potential impact, and neither will impact this project or be impacted by the completion of TIP R-2625.

1996 Thoroughfare Plan for Kings Mountain
TIP R-2625 was also included in the *Thoroughfare Plan for Kings Mountain*. It was recommended that the proposed new two-lane highway be widened to four lanes from I-85 to US 74 Business at a later point in the planning period. The amount of right-of-way acquired for initial construction should be enough to allow for a multi-lane facility in the future. A two-lane extension to NC 216 and SR 2013 (Goforth Road), north of US 74 Business and Bypass is also recommended. The Plan also included a recommendation to widen Phifer Road east of the proposed new highway in order to alleviate congestion turning into the schools.

Based on anticipated population changes, development trends, regulations and ordinances, availability of infrastructure and environmental features, the Statewide Planning Branch of the DOT in cooperation with the City of Kings Mountain forecasted housing and employment growth for the year 2020. The planning area was divided into traffic zones, and Figure 7 of the *Thoroughfare Plan for Kings Mountain* showed those zones for which high growth was anticipated. Only one zone near the area of potential impact indicated a high level of housing or employment growth. This zone made up the area between Battleground Avenue and I-85, and more than 150 new jobs were expected between 1990 and 2020.

Local Land Use and Zoning Plans

1995 Land Development Plan: The City of Kings Mountain
Because TIP R-2625A is located entirely within the extraterritorial jurisdiction of the City or within the City Limits of Kings Mountain, the *1995 Land Development Plan* serves as a decision-making guide for future growth in and around the City. This plan recommends that development be directed to those areas that are readily serviced by public water and sewer. Furthermore, the "Kings Mountain Community Plan" or Future Land Plan map shows the vast majority of the project corridor as residential. There are

[1] The City of Kings Mountain, Land Development Plan (Kings Mountain, 1995).

some institutional uses (schools) on Phifer Road and adjacent to the existing part of Kings Mountain Boulevard. In addition, a Community Mixed Use Center is proposed for the intersection of US 74 Business and Kings Mountain Boulevard, while a Neighborhood Mixed Use Center is proposed for the intersection of Battleground Avenue.

The residential uses as designated on the map recommend 0-4 dwelling units per acre. Higher density residential development (4-8 du/acre) is also allowed in this category, but this type of development is typically only appropriate in the following situations[2]:

- within approximately ½-mile of a commercial and/or employment center,
- within approximately ½-mile of a public park,
- where development clustering preserves environmental features,
- adjacent to a major or minor thoroughfare, or
- where public utilities are available

The Community Mixed Use Center consists of up to one million square feet of retail and office space and can include such things as general merchandise stores, grocery stores, and restaurants. The Neighborhood Mixed Use Center may have up to 700,000 square feet of retail uses for the purpose of selling convenience goods or services[3].

A Thoroughfare Protection Overlay exists for Kings Mountain Boulevard, and was completed as an amendment to the *1995 Land Development Plan*. The overlay covers an approximate 125-foot corridor along the proposed route from Dixon School Road to US 74 Business. Most of the corridor is proposed for mixed-density residential. An additional Community Mixed Use Center was recommended at the I-85 interchange, and an additional Neighborhood Mixed Use Center was recommended at the intersection of the new highway and Phifer Road.

2002 Zoning Ordinance for the City of Kings Mountain

According to the Kings Mountain Zoning Map, dated July 15, 2002, there are seven different zoning districts along the proposed new highway from Dixon School Road to US 74 Business. Heavy Industrial (H-I) uses are concentrated along Dixon School Road. Light Industrial (L-I) uses are concentrated near the I-85 interchange, between the Norfolk Southern Railroad and Margrace Avenue, and also along the eastern side of Crocker Road. The L-I district has industrial related uses that are relatively compatible with other land uses, while the H-I or heavy industrial district contains those industrial uses that are less compatible with other land uses. The General Business (G-B) districts are located near the major intersections or interchanges. The G-B district offers a place for those businesses that typically serve a broader area than neighborhood businesses.

Residential uses dominate the portion of the northern portion of the corridor. Most of the residential land is zoned R-10, and is primarily made up of single-family residential uses. The minimum lot area is 10,000 sq.ft. for lots services by water and sewer, 15,000 sq.ft.

[2] The City of Kings Mountain, Land Development Plan (Kings Mountain, 1995).
[3] Ibid.

for lots serviced by one of these public utilities, and 20,000 sq.ft. for lots serviced by neither utility. A small R-06 or R-6 (Conditional Use) district is located on the West Side of the newly constructed Kings Mountain Boulevard. This district serves single-family, two-family and multi-family residential uses. Lots must be at least 6,000 sq.ft. for single-family uses, 9,000 sq.ft. for two-family units and progressively larger for multi-family uses. An R-20 district is located near Dixon School Road, and an R-20 (Conditional Use) district is located on the West Side of existing Kings Mountain Boulevard. The R-20 district requires a minimum lot area of 20,000 sq.ft. for single-family units and 30,000 sq.ft. for two-family units. This district permits low-density residential development when public water and sewer services are not presently available. The Conditional Use districts are identical to the regular R-6 or R-20 districts, however a conditional use permit is required prior to any development. These zones are shown in Figure V.

The City of Kings Mountain provides water service to the area between I-85 and Battleground Avenue, as well as near Phifer Road and US 74 Business. The Upper Cleveland County Sanitary District provides water service to some areas between Battleground Avenue and Phifer Road. Water lines could be extended to any parcels within the area of potential impact. Sewer service is provided along US 74 and Phifer Road, and there is a pump station at Tin Mine Road. The existing sewer lines could be tapped to provide service south of Compact Road. Existing lines can also be tapped along Crocker Road as development occurs. The area between Phifer Road and Compact School Road does not have sewer service, and service is not proposed in the near future. Septic tanks would be required in lieu of sewer service in these areas.

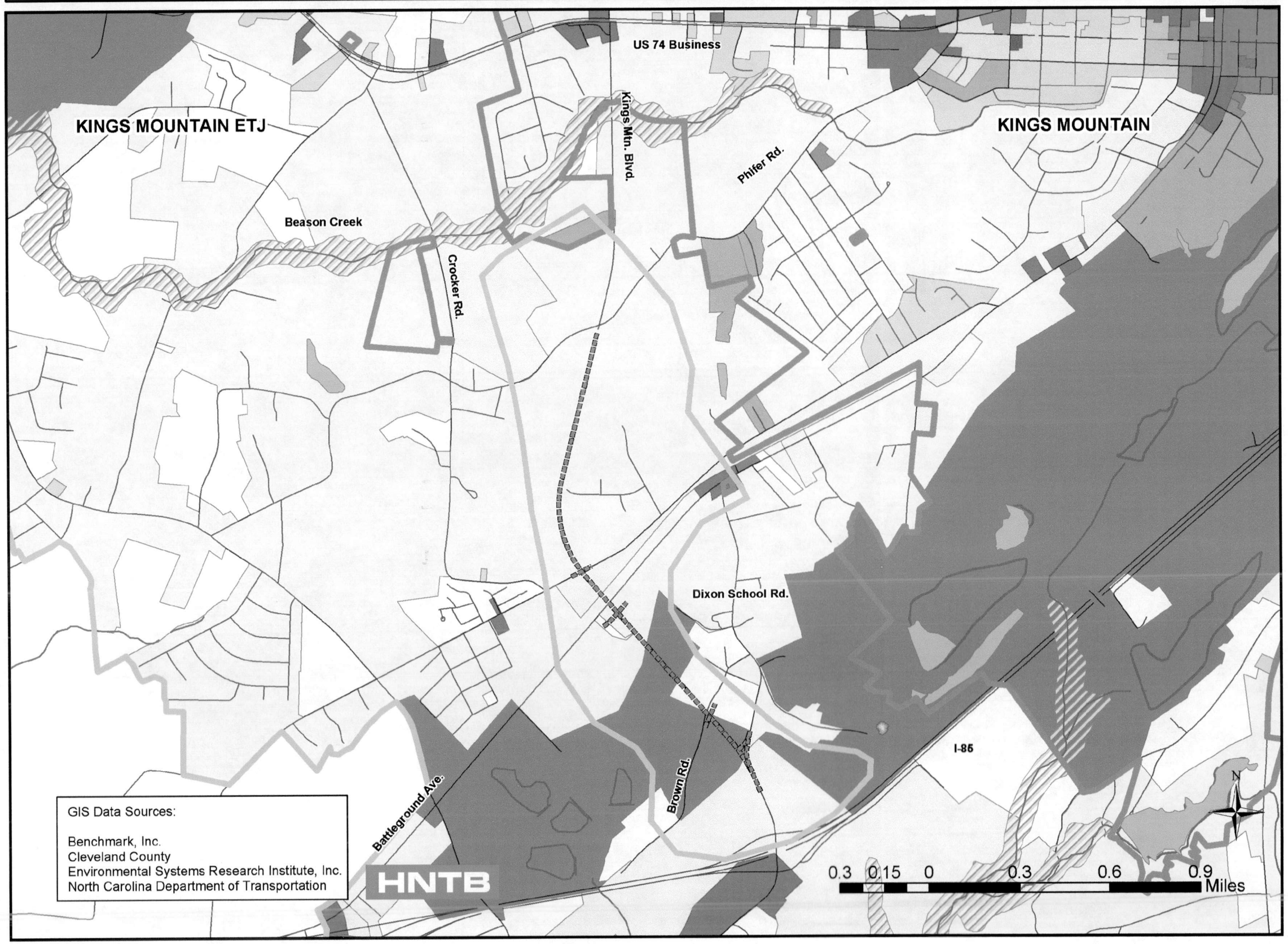
Environmental Regulations

The Broad River flows from Rutherford County, through the western portion of Cleveland County, to South Carolina. Its watershed encompasses the whole of Cleveland County. The North Carolina Division of Water Quality prepared a *Broad River Basinwide Water Quality Management Plan* in 1998 in an effort to create long-term water quality management strategies for local and state officials. This Plan, like the Plans for the other major rivers in the state, will be updated every five years. The purpose of these Plans is threefold. The DWQ wishes to identify and restore full use to impaired waters, identify and protect high value resource waters, and manage pollutants in the basin while accommodating a reasonable amount of economic growth.

The area of potential impact is located entirely within the Broad River basin. The Broad River Basinwide Water Quality Management Plan states that use support ratings were determined for 96% of over 1,400 miles of streams and rivers, of which only 3% (four waters) were determined to be partially supporting and impaired. Walnut Creek, Catheys Creek, Beaverdam Creek and Lick Branch were monitored from 1992 to 1996 and deemed impaired waters of the Broad River Basin[4]. Lick Branch, a tributary of Buffalo

[4] North Carolina Department of Natural Resources, Division of Water Quality on-line, Broad River Basinwide Water Quality Management Plan (July 1998); Available from http://h2o.enr.state.nc.us/basinwide/Broad/broad_basinwide_water_quality_ma.htm; Internet, accessed 16 September 2002.

FIGURE V. ZONING



LEGEND

- AREA OF POTENTIAL IMPACT
- KINGS MOUNTAIN - ETJ
- KINGS MOUNTAIN CITY LIMITS
- TIP R-2625A ALIGNMENT
- STREETS
- RIVERS AND STREAMS
- FLOODPLAINS
- LAKES
- C-B
- G-B
- H-I
- L-I
- N-B
- O
- R-00
- R-06
- R-08
- R-10
- R-20
- RS-06
- RS-08

Legend

- North Carolina Counties
- Cleveland County

Creek, is the only one of these impaired creeks that is located within approximately five miles of the project site. It is located outside of the area of potential impact however.

Six water bodies were included on North Carolina's most recent 303(d) list (2000). This list is a product of the Clean Water Act, which requires states to identify those waters that do not meet water quality standards or which have impaired uses. If control strategies for point and nonpoint source pollution exist for impaired waters, they may be excluded from the 303(d) list. Again, of the water bodies listed in the Broad River Basin, only Lick Branch (from its source to Buffalo Creek) is located in close proximity to the project. The cause of impairment is sedimentation based on biological impairment from industrial point sources or agricultural uses[5]. As mentioned before, Lick Branch is located outside of the area of potential impact. There appear to be no impaired waters in the area of potential impact.

Land disturbing activities such as agricultural uses and land development (including highway construction, residential subdivisions and commercial centers) often cause degradation of water quality due to increased sedimentation. Numerous government agencies have implemented programs to limit soil loss and protect water quality related to sedimentation. The Sedimentation and Erosion Control Act, administered by the North Carolina Division of Land Resources, requires that any person planning to disturb more than one acre of land must submit a Sedimentation and Erosion Control Plan to the Division. Local governments may review and enforce the program within their jurisdiction, but the program has to be as strict as the Division of Land Resources program[6]. The construction of the proposed improvements would comply with these rules and regulations.

In 1998, the Division of Water Quality and the Department of Transportation were in the process of finalizing a stormwater management permitting system. The permits would address pollution from stormwater runoff caused by roadway construction, maintenance and other DOT activities. Requirements would include the creation of a comprehensive stormwater management program, monitoring programs and an annual report that details the effectiveness of the program. At the time of the study (1998), no municipalities in the Broad River Basin required permits for stormwater runoff caused by urban development[7].

No water supply watersheds are located in the southeastern portion of Cleveland County. Therefore, no regulations regarding the protection of any water supply watersheds will apply to land within the impact area.

Regulations do exist that protect both Beason Creek and Dixon Branch. The local governmental agencies could provide only very limited information related to the floodplains, floodways and the flood fringe. The existing floodplain ordinances are in the

[5] North Carolina Department of Natural Resources, Division of Water Quality on-line, Broad Basinwide Water Quality Management Plan (July 1998); Available from http://h2o.enr.state.nc.us/basinwide/Broad/broad_basinwide_water_quality_ma.htm; Internet, accessed 16 September 2002.
[6] Ibid.
[7] Ibid.

process of being updated, and accurate maps are unavailable. Development is prohibited in the floodway, and limited in the flood fringe. At this point in time, the City of Kings Mountain requires each person developing a lot to complete a flood study before obtaining a permit for development.

V. EXISTING REPORTS

Previous Conclusions

Environmental Assessment
The Environmental Assessment (EA) dated February 28, 1996 described the proposed project as having two design alternatives for a new, two-lane highway from Dixon School Road near I-85 to US 74 Business west of Kings Mountain. The project was also described as including a grade-separated crossing of the Norfolk Southern Railroad and construction of a box culvert at Beason Creek. The completed facility will provide a more direct north-south connection between the Interstate and US 74 Business, which should result in reduced travel times, user cost savings and more efficient vehicle operations. Indirect and cumulative impacts do not appear to have been addressed in detail. However, a statement was made in the EA that suggests an economic benefit from secondary development resulting from the proposed improvements. The evaluation presented in the final section of this report, "Potential for Induced Development", will augment the indirect and cumulative impacts referred to in the EA.

Finding of No Significant Impact
This document was prepared and signed on August 27, 1996. Based on the EA for the same project, and upon comments from other governmental agencies, the NCDOT and the Federal Highway Administration determined that the project "would have no significant impacts to natural, ecological, cultural, or scenic resources are expected. No known Section 4(f) properties are involved, no wetlands are impacted, no significant impact on air or water quality is expected, and no effects on federally listed threatened and endangered species are anticipated." It was therefore resolved that no Environmental Impact Statement or other environmental analysis would be necessary.

Project Environmental Consultation Form
The environmental documents were reevaluated by NCDOT on September 8, 2000, and it was determined that the expected impacts were accurately described with one exception. The NCDOT discovered an intermittent tributary of Dixon Branch crosses the proposed alignment and will be impacted by construction of the new highway. Nonpoint source pollution and stormwater runoff will be minimized through management programs. The memo also stated that neither High Quality Waters (HQW), Water Supplies (WS-I or WS-II), nor Outstanding Resource Waters (ORW) occur within one mile of the TIP R-2625A.

VI. POTENTIAL FOR INDUCED DEVELOPMENT

The development induced by TIP R-2625A will be concentrated primarily along the southern portion of existing Kings Mountain Boulevard, Phifer Road near the intersection with the proposed highway, and the area between Phifer Road and the southern terminus of the project (Dixon School Road). According to local planners, the major benefit of TIP R-2625A is more efficient access to existing institutional and residential uses around the project site. While this road will provide a more direct route between I-85 and US 74 Business, it is not necessarily being constructed to serve future growth. The growth rates in Cleveland County are expected to be lower than the State average, and based on historical trends, it is reasonable to assume that the growth rate in the demographic area will be more similar to that of Cleveland County.

The area of potential impact should be relatively small because there are a number of factors that hinder any development induced by the construction of TIP R-2625A. The urbanized or previously developed areas of Kings Mountain serve as a barrier to development that occurs because of this TIP project. US 74 Business is already an established residential and commercial corridor. There are several institutional uses along the newly constructed Kings Mountain Boulevard, and residential uses currently exist along much of Dixon School Road, Battleground Avenue, Margrace Avenue, Phifer Road and Crocker Road. It also appears that quarries are located along the East Side of Tin Mine Road (near I-85) and the West Side of Dixon School Road. Any development that occurs in the urbanized areas of Kings Mountain will most likely be a result of existing development trends and existing infrastructure. It is also unlikely that induced development from this project will occur south of the interstate, as no travel timesavings will result in that area from the proposed project. Furthermore, induced development will be regulated along Beason Creek and Dixon Branch Creek.

Most of the vacant land within the area of potential impact is zoned R-10 for single-family residential uses. It appears that much of the R-10 district (within the area of potential impact) has water service or access to waterlines while sewer service is limited. The minimum lot area for a lot serviced by water only is 15,000 sq.ft. The minimum lot area is 20,000 sq.ft. if neither water nor sewer is available. Therefore, the potential residential densities of any induced development would be approximately 2-3 units per acre. There also be some vacant land near Compact Road and the I-85/Dixon School Road that is zoned for industrial uses. Because the project will be built to relieve congestion near existing institutional and residential uses as well as providing a more direct route between I-85 and US 74 Business, a large population and development boom is unlikely. The growth rates in Cleveland County are expected to be lower than the State average, and The North Carolina Division of Land Resources requires that any person planning to disturb more than one acre of land must submit a Sedimentation and Erosion Control Plan. In addition, each person developing a lot in Kings Mountain is required to complete a flood study to obtain a permit for development.

Since this will be a new road through undeveloped land and will not be access controlled, there will be new development that occurs. However, because of the requirements

instituted by the Division of Land Resources and the studies required by the City of Kings Mountain, this development should not have any impact on water quality in the area. The evaluation of local regulations and water quality management plans indicate that new development induced as a result of TIP R-2625A will not substantially deteriorate water quality in Beason Creek, Dixon Branch or the Broad River Basin.

North Carolina
Department of Environment and Natural Resources

Michael F. Easley, Governor
William G. Ross Jr., Secretary

NCDENR

November 20, 2002

Mr. Gregory Thorpe
NC Department of Transportation
P D and E A Branch
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Thorpe:

Subject: TIP #: R – 2625A
County: Cleveland

The purpose of this letter is to notify you that the North Carolina Wetlands Restoration Program (NCWRP) will accept payment for stream impacts associated with the subject project. Wetland impacts will be mitigated in accordance with the Memorandum of Understanding between the N.C. Department of Environment and Natural Resources and the U.S. Army Corps of Engineers dated November 4, 1998.

Based on the information supplied by you in a letter dated November 5, 2002, the stream restoration that is necessary to satisfy the compensatory mitigation requirements for this project is summarized in the following table. The maximum amount of mitigation that the NCWRP will accept for this project is also indicated in this table.

	Stream (linear feet)	Wetlands (riparian)	Wetlands (non-riparian)
Impact	822		
Mitigation Max.	1644		

As requested, the NCWRP will provide stream mitigation as specified in the 401 Water Quality Certification and/or Section 404 Permit for impacts associated with the subject project in Cataloging Unit 03050105 of the Broad River Basin.

If you have any questions or need additional information, please contact Valerie Mitchener at (919) 733-5208.

Sincerely,

Ronald E. Ferrell,
Program Manager

cc: Cyndi Karoly, Wetlands/401 Unit
Steve Lund, USACOE-Asheville
Mike Parker, DENR Regional Office-Mooresville
file

Wetlands Restoration Program 1619 Mail Service Center Raleigh, NC 27699-1619
(919) 733-5208 Fax: (919) 733-5321

Department of Environment, Health, and Natural Resources
Office of Legislative and Intergovernmental Affairs
Project Review Form

☐ Project located in 7th floor library

Project Number:	County:	Date:	Date Response Due (firm deadline):
97-0255	Cleveland	10/9	10/31/96

This project is being reviewed as indicated below:

Regional Office/Phone	Regional Office Area	In-House Review	
☐ Asheville	☐ All R/O Areas	☐ Soil and Water	☐ Marine Fisheries
☐ Fayetteville	☒ Air	☐ Coastal Management	☐ Water Planning
☒ Mooresville	☒ Water	☐ Water Resources	☒ Environmental Health
☐ Raleigh	☒ Groundwater	☒ Wildlife	☐ Solid Waste Management
☐ Washington	☒ Land Quality Engineer	☒ Forest Resources	☐ Radiation Protection
☐ Wilmington	☐ Recreational Consultant	☒ Land Resources	☐ David Foster
☐ Winston-Salem	☐ Coastal Management Consultant	☒ Parks and Recreation	☐ Other (specify)
	☐ Others	☒ Environmental Management	
	PWS	Monica Swihart	

Manager Sign-Off/Region:	Date:	In-House Reviewer/Agency:
	Oct 24/96	Eric Galamb

Response (check all applicable)

Regional Office response to be compiled and completed by Regional Manager.

☐ No objection to project as proposed

FAXED
OCT 25 1996

☐ No Comment

☐ Insufficient information to complete review

☐ Approve

☐ Permit(s) needed (permit files have been checked)

☐ Recommended for further development with recommendations for strengthening (comments attached)

☐ Recommended for further development if specific & substantive changes incorporated by funding agency (comments attached/authority(ies) cited)

In-House Reviewer complete individual response.

☐ Not recommended for further development for reasons stated in attached comments (authority(ies) cited)

☐ Applicant has been contacted

☐ Applicant has not been contacted

☐ Project Controversial (comments attached)

☐ Consistency Statement needed (comments attached)

☐ Consistency Statement not needed

☐ Full EIS must be required under the provisions of NEPA and SEPA

☒ Other (specify and attach comments)

The 401 Certification may be denied if impacts to Wetlands and waters are not minimized to the maximum extent practicable.

RETURN TO:

Melba McGee, Office of Legislative and Intergovernmental Affairs

PS-104

Environmental Review Tracking Sheet

DWQ - Water Quality Section

11387

10/11/96

MEMORANDUM

TO:

Env. Sciences Branch
- * Wetlands
  - ☐ John Dorney
  - ☑ Eric Galamb (DOT)
  - ☐ Greg Price (airports, COE)
  - ☐ Steve Kroeger (utilities)
  - ☐ _____
- * Bio. Resources, Habitat, End. Species
  - ☐ Trish MacPherson
  - ☐ Kathy Herring (forest/ORW/HQW)
  - ☐ _____
- * Toxicology
  - ☐ Larry Ausley
  - ☐ _____

Planning Branch
- ☐ _____

Technical Support Branch
- ☐ Coleen Sullins, P&E
- ☐ Dave Goodrich, P&E, NPDES
- ☐ Carolyn McCaskill, P&E, State
- ☐ Bradley Bennett, P&E, Stormwater
- ☐ Ruth Swanek, Instream Assess. (modeling)
- ☐ Carla Sanderson, Rapid Assess.
- ☐ _____

Operations Branch
- ☐ Dianne Wilburn, Facility Assessment
- ☐ Tom Poe, Pretreatment
- ☐ Lisa Martin, Water Supply Watershed

Regional Water Quality Supervisors
- ☐ Asheville ☐ Mooresville ☐ Washington
- ☐ Fayetteville ☐ Raleigh ☐ Wilmington
- ☐ Winston-Salem

FROM: Michelle Suverkrubbe, Planning Branch

RE: 97-0255 ; EA/FONSI — I-85/Dixon School Rd. ~~Interchange~~ - New Project

Attached is a copy of the above document. Subject to the requirements of the North Carolina Environmental Policy Act, you are being asked to review the document for potential significant impacts to the environment, especially pertinent to your jurisdiction, level of expertise or permit authority. Please check the appropriate box below and return this form to me along with your written comments, if any, by the date indicated.

Melba's deadline

RESPONSE DEADLINE: 10/31/96

☐ NO COMMENT ☐ COMMENTS ATTACHED

Name:

Date:

Thank you for your assistance. Suggestions for streamlining and expediting this process are greatly appreciated!

Notes: _____

You can reach me at:
phone: (919) 733-5083, ext. 567 fax: (919) 715-5637 e-mail: michelle@dem.ehnr.state.nc.us

Cleveland County
New Route, from North of the I-85 / SR 2283 (Dixon School Road) Interchange
To US 74 Business (Shelby Road)
Federal Aid Project No. STP-2283(1)
State Project No. 8.2800801
T.I.P. No. R-2625

Administrative Action

Finding of No Significant Impact

U. S. Department of Transportation

Federal Highway Administration

and

N. C. Department of Transportation

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

8-27-96 Luke V. Pruett
Date for H. Franklin Vick, P. E., Manager
Planning and Environmental Branch, NCDOT

8/27/96 Nancy L. Shelton
Date Nicholas L. Graf, P. E., Division Administrator
Federal Highway Administration, FHWA

Cleveland County
New Route, from North of the I-85 / SR 2283 (Dixon School Road) Interchange
To US 74 Business (Shelby Road)
Federal Aid Project No. STP-2283(1)
State Project No. 8.2800801
T.I.P. No. R-2625

Administrative Action

Finding of No Significant Impact

August, 1996

Documentation prepared in Planning and Environmental Branch by:

Ed Lewis
Project Planning Engineer

J. Wilson Stroud
Project Planning Unit Head

Lubin V. Prevatt 8-27-96
Lubin V. Prevatt, P. E., Assistant Manager,
Planning and Environmental Branch

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Cleveland County
New Route, from North of the I-85 / SR 2283 (Dixon School Road) Interchange
To US 74 Business (Shelby Road)
Federal Aid Project No. STP-2283(1)
State Project No. 8.2800801
T.I.P. No. R-2625

FINDING OF NO SIGNIFICANT IMPACT

Prepared by the Planning and Environmental Branch
Division of Highways
North Carolina Department of Transportation
in Consultation with
the Federal Highway Administration

I. TYPE OF ACTION

This is a Federal Highway Administration (FHWA) administrative action, Finding of No Significant Impact (FONSI).

The FHWA has determined this project will not have any significant impact on the human environment. This FONSI is based on the Environmental Assessment, which has been independently evaluated by the FHWA and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. The Environmental Assessment provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The FHWA takes full responsibility for the accuracy, scope, and content of the Environmental Assessment.

II. DESCRIPTION OF PROPOSED ACTION

The North Carolina Department of Transportation proposes to construct a new two-lane highway on multi-lane right of way on new location from 0.3 mile (0.5 km) north of the Interstate 85/SR 2283 (Dixon School Road) interchange to US 74 Business at SR 2031 (Elam Road) west of Kings Mountain. The project also calls for realigning and/or extending SR 2283, SR 2305, NC 216, SR 2256, and SR 2315 where the proposed facility will intersect with these roads. Also, a grade separation will be constructed to carry the proposed facility over the Norfolk-Southern Railroad, and a box culvert will be constructed at the Beason Creek crossing.

The project lies west of Kings Mountain in the southeastern part of Cleveland County and is approximately three miles from the South Carolina border. The project vicinity is shown in Figure 1, and the proposed improvements are shown in Figure 2.

The subject project is included in the NCDOT 1997-2003 Transportation Improvement Program (TIP). In the TIP, the total funding for the project is $7,710,000 which includes $860,000 for right of way and $6,850,000 for construction. The estimated project cost is $9,067,500 including $6,850,000 for construction and $2,217,500 for right of way. There is a funding shortfall of $1,357,500 in the TIP for this project. The project is divided into two parts for programming purposes. Part A starts just north of the Interstate 85 interchange and ends at Phifer Road (SR 2256). Part B starts at Phifer Road and ends at US 74 Business. Part A is scheduled for right of way in Fiscal Year 2000 and construction in Fiscal Year 2002. Part B is scheduled for right of way in Fiscal Year 1997 and construction in Fiscal Year 1998.

The recommended right of way width in order to construct the project is 150 feet (46 m). This width will accommodate widening the proposed new route to a multi-lane facility if such widening becomes necessary in the future. The approximate proposed right of way limits are shown in Figure 2.

III. SUMMARY OF SPECIAL PROJECT COMMITMENTS

A. PERMITS

In accordance with provisions of Section 404 of the Clean Water Act (33 U.S.C., 1344), a permit will be required from the COE for the discharge of dredged of fill material into "Waters of the United States". Based upon site location and estimated acreage involved, it is anticipated that for recommended improvements the crossing of Beason Creek will be authorized by Nationwide Permit [(33 CFR 330.5) (a) (14)]. Nationwide #14 allows for road crossing fills of non-tidal "Waters of the United States", provided that no more than a total of 200 linear ft (61 linear meters) of the fill for the roadway can occur in special aquatic sites, including wetlands, and that the fill is limited to a filled area of no more than 0.3 acre (0.1 ha).

A 401 Water Quality Certification administered through the N.C. Department of Environment, Health, and Natural Resources, Division of Water Quality will be required. This certificate is issued for any activity which may result in a discharge into waters for which a federal permit is required.

B. RAILROAD COORDINATION

The subject project crosses Norfolk-Southern Railroad just north of NC 216. A railroad agreement will be obtained for this crossing.

C. HAZARDOUS MATERIALS

Based on a reconnaissance survey, no operational or non-operational facilities with the potential for underground storage tank (UST) involvement exist within the project study corridors. The files of the Solid Waste Section, Division of Solid Waste Management and the Hazardous Waste Section, Division of Solid Waste Management were consulted. There are no landfills located in this section of Cleveland County that will affect the project. In addition, no unregulated dump sites or other potentially contaminated properties exist within the proposed project limits. Based on these records and the EPA's Superfund list, there are no potential hazardous material sites that should affect this project.

D. UTILITIES

NCDOT expects the degree of utility involvement to be low. Any relocation of public utilities along the project will be coordinated with the appropriate utility or local government.

E. SECTION 4(f) PROPERTIES

No impacts to Section 4(f) properties will result from the subject project.

Two abandoned historic period farmsteads (31CL20** and 31CL21**), determined by FHWA and NCDOT to be potentially eligible for listing on the National Register of Historic Places, are located outside the area of potential effect of the project. However, in the event that the alignment is shifted, these sites will be evaluated to determine if they will be affected by the construction of the subject project and if they are eligible for nomination to the National Register of Historic Places.

F. WATER QUALITY

Beason Creek will likely receive impacts from the subject project. The proposed culvert installation will reduce the linear feet of natural stream channel. Other potential impacts are increased sedimentation from construction and/or erosion; increased concentration of toxic compounds from highway runoff and/or toxic spills; scouring of stream beds due to the channelization of streams; alterations of water level due to interruptions or additions to surface water and/or groundwater flow; and changes in light incidence due to the removal of vegetative cover. Best Management Practices will be stringently employed during the construction phase of this project to lessen impacts to aquatic systems.

G. DESIGN EXCEPTIONS

There are no anticipated design exceptions.

H. FEDERALLY PROTECTED SPECIES ISSUES

In case of an alignment shift, the new right of way will be investigated for the possible presence of the federally protected species, the dwarf-flowered heartleaf.

I. CULVERT DESIGN

During the design phase of the project, NCDOT will investigate the feasibility of placing the box culvert one foot (0.3 m) below the natural stream bed.

IV. SUMMARY OF BENEFICIAL AND ADVERSE ENVIRONMENTAL IMPACTS

The primary benefits of the project are economic in nature. The proposed new route will provide a more direct north-south corridor and reduce travel time between US 74 Business in Kings Mountain and Interstate 85 to the south. This will reduce road user costs for motorists. Currently, the travel distance from US 74 Business at SR 2031 (Elam Road) to Interstate 85 at Dixon School Road using the existing road network is 5.2 miles (8.3 km). The proposed improvement will decrease this travel distance to approximately 2.9 miles (4.7 km). In addition, traffic on SR 2352 currently using a one-lane, substandard underpass of the Norfolk-Southern Railroad between NC 216 and Margrace Road (SR 2263) will be provided with an alternate grade-separated crossing. This will improve access between Interstate 85 and US 74 Business, benefiting the community and the region. Also, the Kings Mountain Schools located on Phifer Road will have more direct access to US 74, NC 216 and Interstate 85.

The project area is zoned; therefore, consideration of farmland impacts are not required based on guidelines in the Farmland Protection Policy Act. No federally protected threatened or endangered species will be impacted. No recreational facilities or sites eligible for the National Register of Historic Places will be involved. No jurisdictional wetlands will be filled as a result of the project. The proposed improvements will not cause significant negative impacts to air quality.

The project will relocate approximately 9 residences and 2 businesses. A total of approximately 61 acres (24.7 ha) of right of way will be acquired in order to construct the proposed improvements.

It is predicted that approximately 39 receptors will experience traffic noise impacts. Based on traffic noise analysis, one receptor is anticipated to be impacted by a substantial increase in future noise levels and one receptor is anticipated to approach the FHWA noise abatement criteria. The following table shows the predicted maximum extent of the 72 and 67 dBA noise level contours:

TABLE 1 72 dBA and 67 dBA Noise Contour Levels

Project Segment	Maximum Predicted Leq Noise Levels dBA 15 m	30 m	60 m	Maximum Contour Distances (meters) 72 dBA	67 dBA
Beginning of Project to NC 216	66	61	56	<10	14
NC 216 to SR 2256	66	61	56	<10	14
SR 2256 to US 74 Business	64	60	54	<10	11

Notes: 1. 15 m, 30 m, and 60 m distances are measured from the center of the nearest travel lane.
2. The 72 dBA and 67 dBA contour distances are measured from the center of the proposed roadway.

This information was included in Table N5 on page A13 of the Appendix to the Environmental Assessment and is shown here to assist local authorities in exercising land use control over the remaining undeveloped lands adjacent to the roadway within local jurisdictions.

In accordance with the NCDOT Traffic Noise Abatement Policy, the Federal/State governments are no longer responsible for providing noise abatement measures for new development for which building permits are issued within the noise impact area of a proposed highway after the Date of Public Knowledge. The Date of Public Knowledge of the location of a proposed highway project will be the approval date of CE's, FONSI's, ROD's, or the Design Public Hearing, whichever comes later. For development occurring after this public knowledge date, local governing bodies are responsible to insure that noise compatible designs are utilized along the proposed facility.

V. COORDINATION AND COMMENTS

A. CIRCULATION OF THE ENVIRONMENTAL ASSESSMENT

The Environmental Assessment was approved by the NC Division of Highways and the FHWA on February 28, 1996. The approved Environmental Assessment was circulated to the following federal, state, and local agencies for review and comments. An asterisk (*) indicates a written response was received from the agency. Copies of the correspondence received are included in the Appendix (pages A-1 through A-13) of this document.

Federal Emergency Management Administration
*U.S. Army Corps of Engineers
*U.S. Department of the Interior-Fish and Wildlife Service
U.S. Geological Survey
*N.C. Department of Administration - State Clearinghouse
N.C. Department of Environment, Health, and Natural Resources -
*Division of Forest Resources
*Division of Land Resources
*N.C. Wildlife Resources Commission
*Division of Environmental Management
*Mooresville Regional Office
N.C. Department of Cultural Resources
N.C. Division of Parks and Recreation - Natural Heritage Program
Isothermal Planning and Economic Development Commission
Cleveland County
City of Kings Mountain
Kings Mountain District Schools

B. COMMENTS RECEIVED ON THE ENVIRONMENTAL ASSESSMENT

U.S. Army Corps of Engineers

Comment: "From a review of Panel 300 of the July 1991 Cleveland County Flood Insurance Map, the new roadway would cross Beason Creek, an approximate study stream. We suggest that the crossing be designed so as not to increase the upstream 100-year flood elevation by more than one foot."

Response: NCDOT will design the proposed crossing of Beason Creek so as not to increase the upstream 100-year flood elevation by more than one foot.

Comment: "When final plans are complete, including the extent and location of any work within waters of the United States and wetlands, our Regulatory Branch would appreciate the opportunity to review those plans for a project-specific determination of Department of the Army permit requirements."

Response: During the permit phase of the project, NCDOT will formally apply to the U.S. Army Corps of Engineers for permit authorization pursuant to Section 404 of the Clean Water Act of 1977, as amended. Detailed plans and drawings will be included in the permit application package.

United States Department of the Interior - Fish and Wildlife Service

Comment: "The Service has no objection to this project and believes the project will not result in significant environmental impacts. However, we encourage the implementation of the following measures in order to minimize

impacts to aquatic resources in Beason Creek associated with culvert construction: (1) riparian vegetation should be maintained wherever possible (i.e., reduce canopy removal in or near streams); (2) stringent erosion control measures should be implemented during all construction activities to minimize downstream effects; (3) construction of the culvert should allow for continuous flow in the creek and should be accomplished so that wet concrete does not contact water entering or flowing in the stream to reduce the likelihood of fish kills. Finally, the culvert length should be minimized and should be placed below the grade of stream channel to allow for re-establishment of natural substrate in the culvert."

Response: As noted on page 23 of the Environmental Assessment , Beason Creek has been modified by channelization resulting in steep and vertical banks. These banks have little natural vegetation due to the presence of a power line crossing with its associated right of way clearing practices. However, NCDOT, where feasible, will limit canopy removal at the proposed crossing. Best Management Practices will be stringently employed during the construction phase of this project to lessen impacts to aquatic systems. During the design phase of the project, the culvert dimensions will be determined and the feasibility of placing the culvert one foot (0.3 m) below the natural stream channel will be investigated.

Division of Forest Resources

Comment: "Standing remaining trees outside of construction limits should be protected from any construction damage."

Response: All construction activities will take place inside the project's construction limits.

N.C. Wildlife Resources Commission

Comment: "No wetlands will be impacted by this project. Our site visit indicated that land use in the project area consists of agricultural, residential, and industrial areas. This project should have minimal impacts on fisheries and wildlife resources; therefore, we concur with the findings of the EA and would concur with a Finding of No Significant Impact."

Response: Comments noted.

Division of Environmental Management

Comment: "The subject project will not impact wetlands and did not quantify impacts to waters."

Response: As noted on page 22 of the Environmental Assessment, the crossing of Beason Creek will be authorized by Nationwide Permit [(33 CFR 330.5) (a) (14)]. In addition, a 401 Water Quality Certification will requested during the permit application phase of the project.

C. COMMENTS RECEIVED DURING AND FOLLOWING THE PUBLIC HEARING

Following the circulation of the Environmental Assessment, a formal public hearing was held at the Kings Mountain High School in Kings Mountain on May 21, 1996. Both alternatives studied in the Environmental Assessment were presented at the hearing, with Alternative 1 shown as the preferred alternative. A copy of the public hearing notice and a copy of the handout presented at the public hearing are shown in the Appendix of this report (pages A-14 through A-23). Interested citizens were given a formal presentation of the project and then given the opportunity to ask questions and make comments. Approximately 70 people attended the public hearing. Preferences by the public were evenly split between Alternatives 1 and 2. The following is a list of comments received during and following the public hearing, along with NCDOT's responses:

Comment: What is the proposed right of way width, what type of access will be provided to adjacent properties, and is the location of the road fixed?

Response: The proposed right of way width is 150 feet and no control of access is proposed. Final design of the project will be performed on more detailed mapping, but any revisions to the proposed alignment are expected to be minor.

Comment: Are there any future plans to extend the proposed facility northward from US 74 Business to the US 74 Bypass? Can the alignment be shifted further west to tie into US 74 Bypass at an existing interchange?

Response: The Kings Mountain Thoroughfare Plan shows the proposed facility being extended to the US 74 Bypass. As shown on the thoroughfare plan, the extended facility would intersect SR 2034 just east of its interchange with the US 74 Bypass..

Comment: How will Compact School Road be affected?

Response: Under Alternative 1 (Recommended), Compact School Road will be relocated to intersect with the proposed Dixon School Road Extension. Under Alternative 2, Compact School Road would be extended to intersect with the proposed facility east of the Compact School Road / Dixon School Road intersection.

Comment: Will the project cross the irrigation pond at the proposed intersection of Phifer Road (SR 2256) and proposed Dixon School Road? If so, the alignment should be shifted away from the pond because the soil conditions in the pond area will not support truck traffic.

Response: The proposed facility crosses the irrigation pond; therefore, the pond will be drained in order to accommodate the proposed construction. During final design, the soil conditions around the pond, as well as along the entire project, will be investigated. Any soil found to be unsuitable for roadway construction purposes will be removed and replaced with suitable borrow material.

Comment: Will a traffic signal be provided at the Phifer Road / Proposed Dixon School Road intersection?

Response: During final design of the project, studies will be performed to determine if traffic signals are warranted at each intersection location.

Comment: Will outdoor advertising be allowed along the project.

Response: NCDOT has in effect the Outdoor Advertising Control Program which controls outdoor advertising along federal aid primary routes designated as such prior to June 1, 1991 and along roads which are part of the National Highway System (NHS). The proposed facility does not meet either of these criteria, so the Outdoor Advertising Control program will not be in effect for this proposed facility. However, no outdoor advertising will be allowed to encroach onto NCDOT right of way.

Comment: Can the proposed intersection of Phifer Road and the proposed facility be shifted to the west?

Response: Phifer Road is to be realigned in the vicinity of the proposed facility to provide a more desirable intersection angle and, therefore, to provide better sight distance. Shifting either road may result in the relocation of additional homes and is not recommended.

Comment: Will there be detailed mapping showing the exact location of the proposed alignment in relation to my property?

Response: Detailed design mapping will be available for review once right of way plans have been prepared. The NCDOT Right of Way Branch will contact affected property owners once the right of way plans are complete.

Comment: Can the proposed alignment be shifted west in the Compact School Road area in order to avoid two residences?

Response: Realignment of Dixon School Road in this area was investigated. This realignment would require the relocation of 4 residences in the vicinity of the proposed crossing at NC 216 and is therefore not recommended.

Comment: With a two year time period between parts A and B of the project being constructed, how will that affect traffic on Phifer Road, especially during drop off and pick up times at the schools on Phifer Road? Will traffic increase? Instead of building the proposed facility, why not widen Phifer Road?

Response: Phifer Road will operate at LOS C when the project is opened to traffic, and it will operate at LOS D in the design year (2015). The two year time period for construction between parts A and B will not cause the traffic on Phifer Road to be more than what is estimated for Phifer Road if parts A and B were constructed and completed at the same time. Phifer Road is a two-lane road with a left turn lane provided at each school. NCDOT has recommended the construction of a right turn only lane for school traffic as part of the thoroughfare plan planning process, and that proposal will be included in the updated plan. Widening Phifer Road does not meet the purpose and need of providing a good north-south connector between US 74 Business and Interstate 85. The purpose and need for widening Phifer Road would have to be identified and addressed under another project study.

Comment: It appears a driveway connection to the relocated Battleground Avenue may be located too close to the proposed railroad bridge.

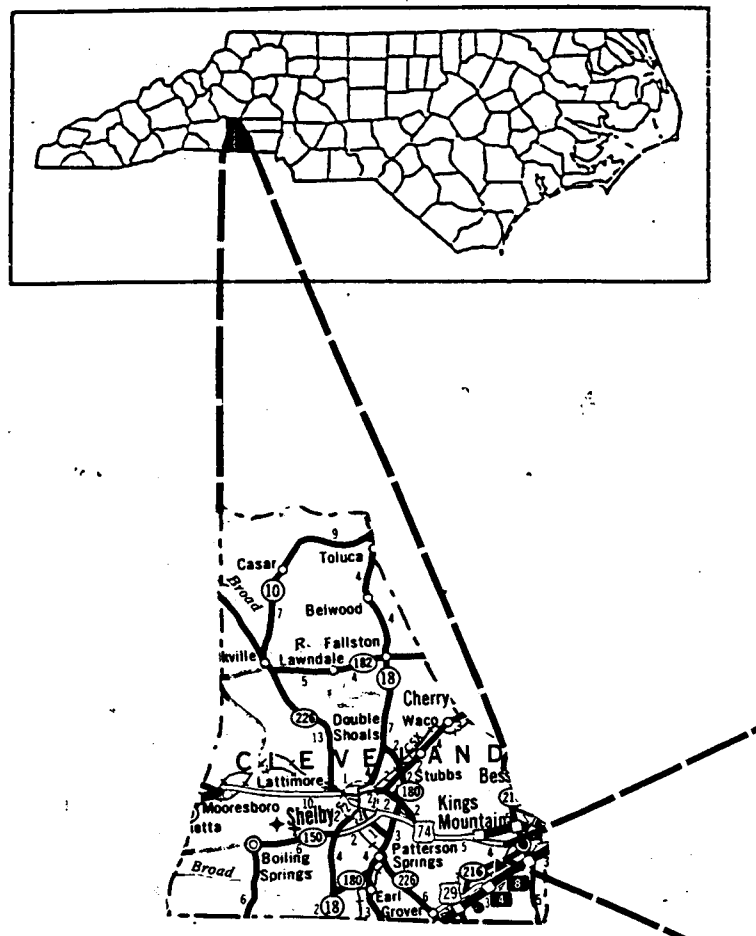
Response: Based on preliminary design, the driveway access currently shown allows for adequate sight distance. During final design, NCDOT will review the relocated driveway connections to insure there is adequate sight distance.

VI. REVISIONS TO THE ENVIRONMENTAL ASSESSMENT

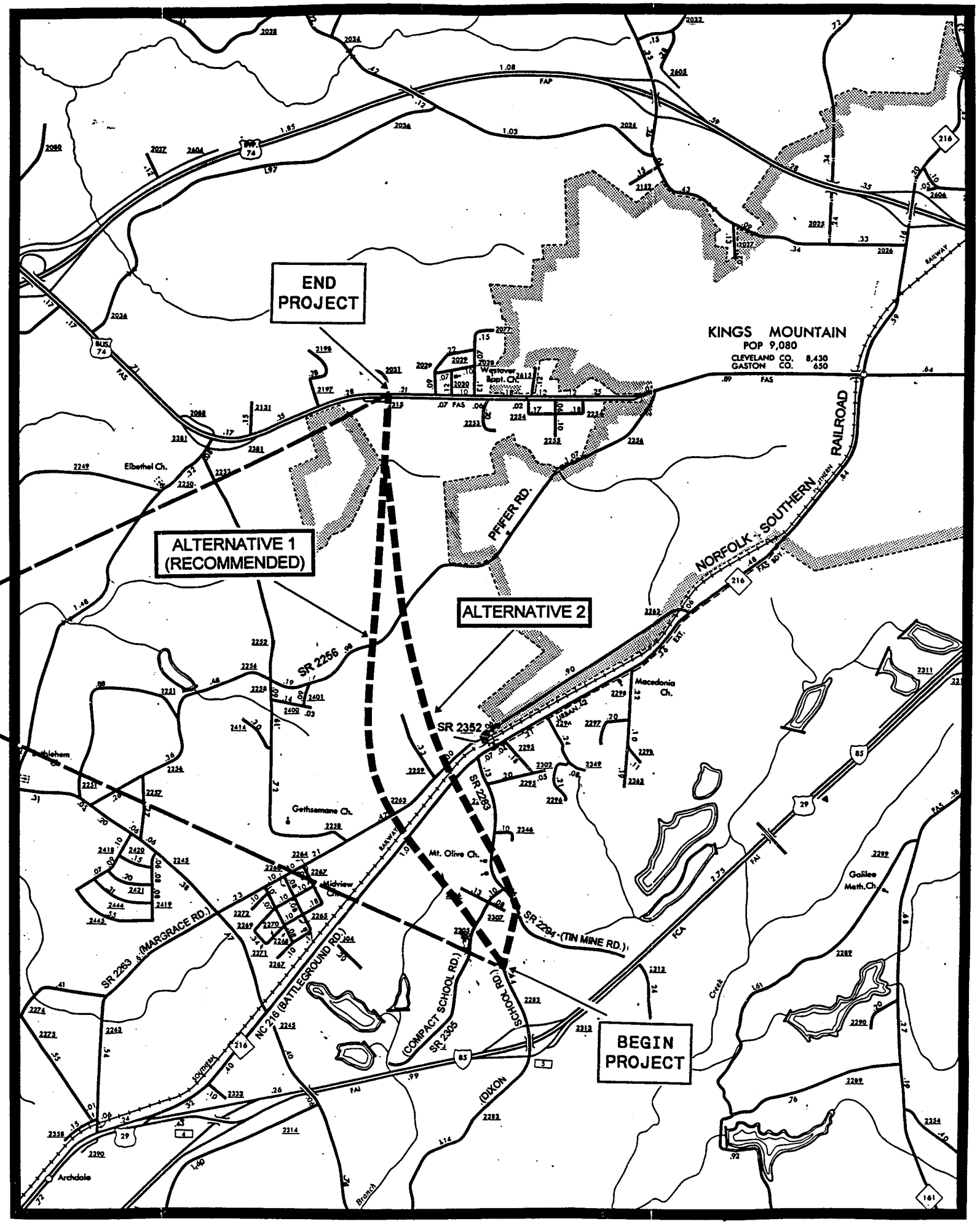
There are no revisions to the Environmental Assessment.

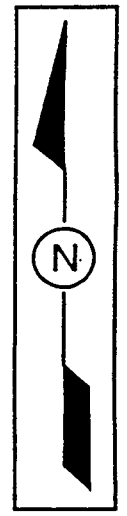
VII. ONLY PRACTICABLE ALTERNATIVE WETLAND FINDING

There are no impacts to wetlands as a result of the project. It is anticipated that a Nationwide Permit number 14 (minor road crossings) will be applicable at the proposed crossing of Beason Creek.



CLEVELAND COUNTY

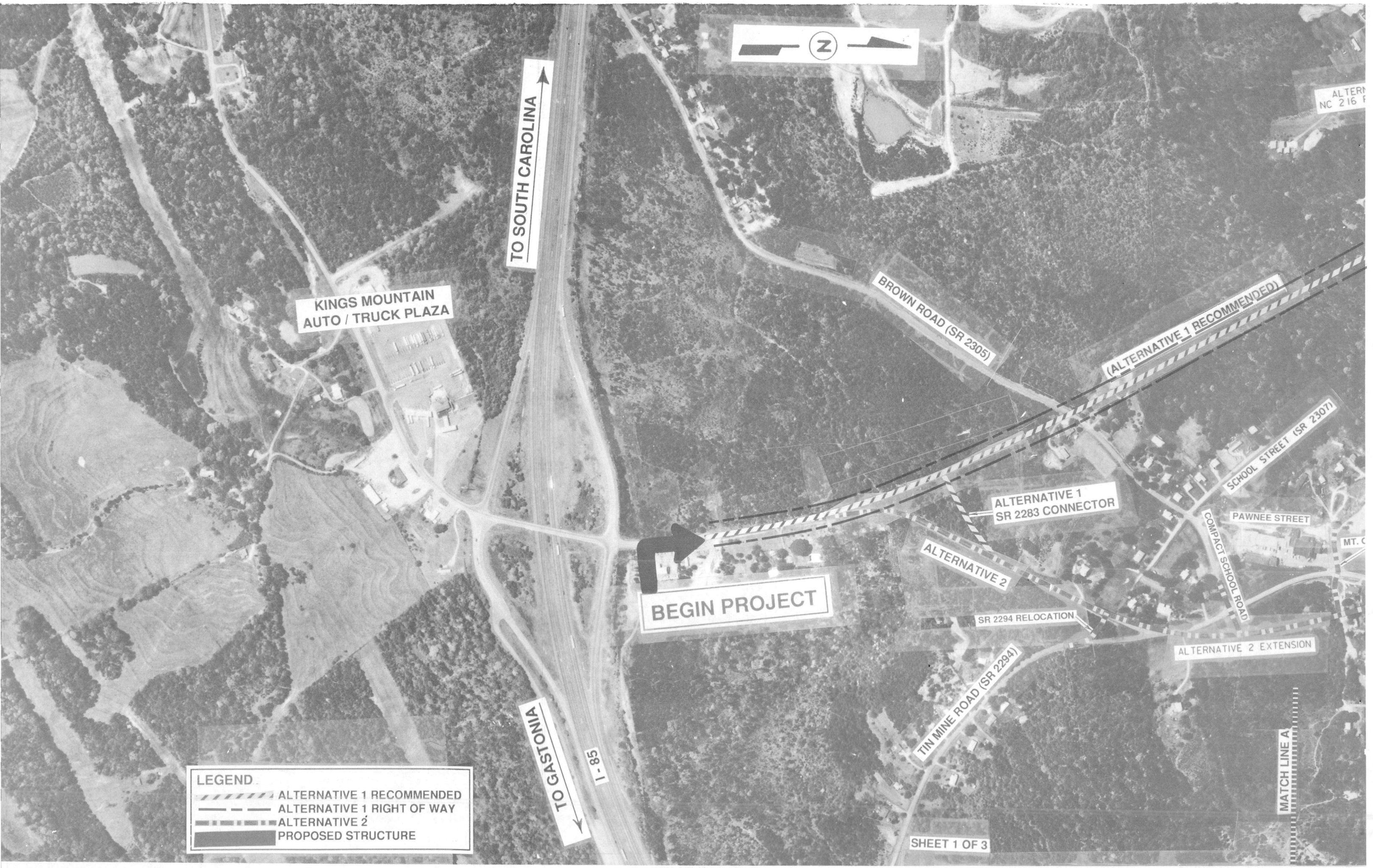




NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

NEW ROUTE, FROM NORTH OF THE I-85/SR 2283 (DIXON SCHOOL ROAD) INTERCHANGE TO US 74 BUSINESS (SHELBY ROAD)
CLEVELAND COUNTY
TIP PROJECT R-2625

FIG. 1


N
TO SOUTH CAROLINA
KINGS MOUNTAIN
AUTO / TRUCK PLAZA
BROWN ROAD (SR 2305)
(ALTERNATIVE 1 RECOMMENDED)
ALTERNATIVE 1
SR 2283 CONNECTOR
ALTERNATIVE 2
BEGIN PROJECT
SR 2294 RELOCATION
ALTERNATIVE 2 EXTENSION
SCHOOL STREET (SR 2307)
PAWNEE STREET
COMPACT SCHOOL ROAD
TIN MINE ROAD (SR 2294)
TO GASTONIA
I-85
MATCH LINE A
SHEET 1 OF 3
LEGEND
ALTERNATIVE 1 RECOMMENDED
ALTERNATIVE 1 RIGHT OF WAY
ALTERNATIVE 2
PROPOSED STRUCTURE

N

ALTERNATIVE 1
NC 216 RELOCATION

BATTLE GROUND ROAD

PROPOSED BRIDGE

NC 216

NORFOLK - SOUTHERN RAILROAD

MARGRACE ROAD (SR 2263)

(ALTERNATIVE 1 RECOMMENDED)

PHIFER ROAD (SR 2256)

ALTERNATIVE 1
SR 2256 RELOCATION

POND

RECOMMENDED)

ALTERNATIVE 2
NC 216 RELOCATION

BAIN ROAD (SR 2259)

ALTERNATIVE 2

T (SR 2307)

SCHOOL STREET (SR 230

ALTERNATIVE 2
SR 2256 RELOCATION

PAWNEE STREET

Mt. OLIVE CHURCH

COMPACT SCHOOL ROAD

MT. OLIVE CHURCH RD.

ALTERNATIVE 2
SR 2263 CONNECTOR

SR 2283 RELOCATION

ERNATIVE 2 EXTENSION

GOODALL DR. (SR 2346)

DIXON SCHOOL ROAD (SR 2283)

BRIDGE NO. 406

SR 2352

MATCH LINE A

MATCH LINE B

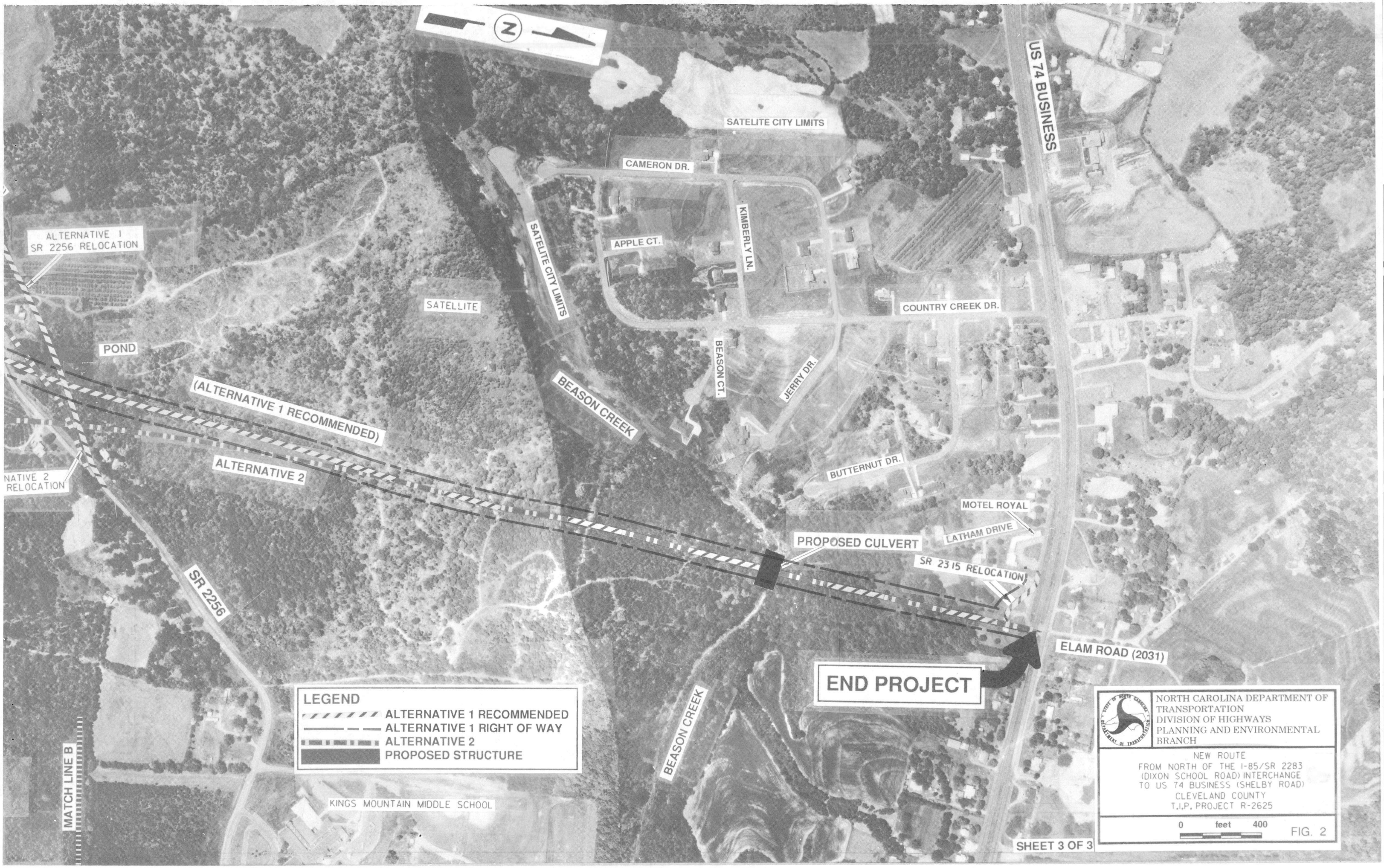
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

NEW ROUTE
FROM NORTH OF THE I-85/SR 2283
(DIXON SCHOOL ROAD) INTERCHANGE
TO US 74 BUSINESS (SHELBY ROAD)
CLEVELAND COUNTY
T.I.P. PROJECT R-2625

0 feet 400

FIG. 2

SHEET 2 OF 3



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

NEW ROUTE
FROM NORTH OF THE I-85/SR 2283 (DIXON SCHOOL ROAD) INTERCHANGE
TO US 74 BUSINESS (SHELBY ROAD)
CLEVELAND COUNTY
T.I.P. PROJECT R-2625

0 feet 400

FIG. 2

SHEET 3 OF 3

Lewis

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

REPLY TO
ATTENTION OF

May 14, 1996

Special Studies and
Flood Plain Services Section

Mr. H. Franklin Vick, P.E., Manager
Planning and Environmental Branch
North Carolina Division of Highways
Post Office Box 25201
Raleigh, North Carolina 27611-5201

Dear Mr. Vick:

This is in response to your letter of March 8, 1996, requesting our comments on the "Federal Environmental Assessment for Cleveland County, New Route, from North of the I-85/SR 2283 (Dixon School Road) Interchange to US 74 Business (Shelby Road), Federal Aid Project Number STP-2283(1), State Project Number 8.2800801, TIP Project R-2625" (Regulatory Branch Action I.D. No. 199600976).

Our comments involve impacts to flood plains and jurisdictional resources, which include waters, wetlands, and U.S. Army Corps of Engineers projects. There are no Corps projects which would be impacted by the proposed improvements. Enclosed are our comments on the other issues.

We appreciate the opportunity to comment on this project. If we can be of further assistance, please contact us.

Sincerely,

for C. E. Shuford, Jr., P.E.
Acting Chief, Engineering
and Planning Division

Enclosure

Copies Furnished (with enclosure
and incoming correspondence):

Mr. Nicholas L. Graf
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601-1442

Mr. David Cox
North Carolina Wildlife Resources Commission
Post Office Box 118
Northside, North Carolina 27564-0118

U.S. ARMY CORPS OF ENGINEERS, WILMINGTON DISTRICT, COMMENTS ON:

"Federal Environmental Assessment for Cleveland County, New Route, from North of the I-85/SR 2283 (Dixon School Road) Interchange to US 74 Business (Shelby Road), Federal Aid Project Number STP-2283(1), State Project Number 8.2800801, TIP Project R-2625" (Regulatory Branch Action I.D. No. 199600976)

1. **FLOOD PLAINS: POC - Bobby L. Willis, Special Studies and Flood Plain Services Section, at (910) 251-4728**

As noted on page 23 of the Environmental Assessment, Cleveland County does not participate in the National Flood Insurance Program, but has Flood Insurance Rate Maps and Study prepared by the Federal Emergency Management Agency in anticipation of future participation. From a review of Panel 300 of the July 1991 Cleveland County Flood Insurance Rate Map, the new roadway would cross Beason Creek, an approximate study stream. We suggest that the crossing be designed so as not to increase the upstream 100-year flood elevation by more than one foot.

2. **WATERS AND WETLANDS: POC - Mr. Steve Chapin, Asheville Field Office, Regulatory Branch, at (704) 271- 4014**

All work restricted to existing high ground will not require prior Federal permit authorization. However, Department of the Army (DA) permit authorization pursuant to Section 404 of the Clean Water Act of 1977, as amended, will be required for the discharge of excavated or fill material in waters of the United States or any adjacent and/or isolated wetlands in conjunction with your proposed project, including disposal of construction debris. Specific permit requirements will depend on design of the project, extent of fill work within streams and wetlands areas (dimensions, fill amounts, etc.), construction methods, and other factors.

It has been verified by a site visit that no wetlands appear to be involved, but the crossing of Beason Creek will involve waters of the United States. At this point in time, construction plans are not available for review. When final plans are complete, including the extent and location of any work within waters of the United States and wetlands, our Regulatory Branch would appreciate the opportunity to review those plans for a project-specific determination of DA permit requirements. Any questions concerning DA permits should be directed to Mr. Chapin.

Lewis

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

April 5, 1996

Mr. H. Franklin Vick, P.E., Manager
Planning and Environmental Branch
Division of Highways
North Carolina Department of Transportation
P.O. Box 25201
Raleigh, North Carolina 27611-5201

Dear Mr. Vick:

Subject: Federal Environmental Assessment for the proposed construction of a new two-lane highway from north of the I-85/SR 2283 (Dixon School Road) Interchange to US 74 Business (Shelby Road), Cleveland County, North Carolina, TIP No. R-2625

In your letter of March 8, 1996, you requested our comments on the subject document. The following comments are provided in accordance with the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e), and Section 7 of the Endangered Species Act, as amended (16 U.S.C. 1531-1543) (Act).

According to the environmental assessment, this project will involve constructing a new two-lane highway from north of the I-85/SR 2283 interchange to US 74 Business at SR 2031 west of Kings Mountain for a distance of 2.9 miles. Two construction alternatives are evaluated--the eastern and western alternatives. The western alternative is preferred by the North Carolina Department of Transportation since it will displace fewer residences and cost less than the eastern alternative. Neither alternative will involve impacts to jurisdictional wetlands; however, both alternatives involve impacts to jurisdictional waters of the United States associated with the construction of a reinforced box culvert over Beacon Creek. Neither alternative will involve stream modifications or channel changes. The western alternative will result in the loss of approximately 26.6 acres of upland habitat; the eastern alternative will result in the loss of approximately 22.0 acres of upland habitat. The purpose of the project is to improve safety, accommodate current and projected traffic volumes, and provide a more direct north-south route between I-85 and US 74 Business on the western side of Kings Mountain. The U.S. Fish and Wildlife Service (Service) conducted a site visit on April 2, 1996.

The Service has no objection to this project and believes the project will not result in significant environmental impacts. However, we encourage the implementation of the following measures in order to minimize impacts to aquatic resources in Beacon Creek associated with culvert construction: (1) riparian vegetation should be maintained wherever possible (i.e., reduce canopy removal in or near streams); (2) stringent erosion control measures should be implemented during all construction activities to minimize downstream effects; (3) construction of the culvert should allow for continuous flow in the creek and should be accomplished so that wet concrete does not contact water entering or flowing in the stream to reduce the likelihood of fish kills. Finally, the culvert length should be minimized and should be placed below the grade of stream channel to allow for the reestablishment of natural substrate in the culvert.

The Service appreciates the fact that a survey was conducted for federally listed species along the preferred alignment and concurs with the "no effect" determination made regarding this project and potential impacts to the federally threatened dwarf-flowered heartleaf (Hexastylis naniflora). In view of this, we believe the requirements of Section 7(c) of the Act are fulfilled. However, obligations under Section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect endangered or threatened species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the action.

We appreciate the opportunity to provide these comments. If you have any questions regarding our comments, please contact Ms. Janice Nicholls of our staff at 704/258-3939, Ext. 227. In any future correspondence concerning this project, please reference our Log Number 4-2-93-055.

Sincerely,

Nora A. Murdock
Acting Field Supervisor

cc:
Ms. Stephanie Goudreau, North Carolina Wildlife Resources Commission, 320 S. Garden Street, Marion, NC 28752

Lewis

FM208

04-16-96

NORTH CARCLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
116 WEST JONES STREET
RALEIGH NORTH CAROLINA 27603-8003

INTERGOVERNMENTAL REVIEW COMMENTS

MAILED TO:

N.C. DEPT. OF TRANSPORTATION
WHIT WEBB
PROGRAM DEV. BRANCH
TRANSPORTATION BLDG./INTER-OFF

FROM:

MRS. CHRYS BAGGETT
DIRECTOR
N C STATE CLEARINGHOUSE

PROJECT DESCRIPTION:

ENV. ASSESS. - PROPOSED NEW ROUTE, FROM NORTH OF THE I-85/SR 2283 (DIXON SCHOOL RD.) INTERCHANGE TO US 74 BUSINESS (SHELBY RD.)
TIP #R-2625

SAI NO 96E42200595 PROGRAM TITLE - ENV. ASSESS.

THE ABOVE PROJECT HAS BEEN SUBMITTED TO THE NORTH CAROLINA INTERGOVERNMENTAL REVIEW PROCESS. AS A RESULT OF THE REVIEW THE FOLLOWING IS SUBMITTED: ( ) NO COMMENTS WERE RECEIVED

(X) COMMENTS ATTACHED

SHOULD YOU HAVE ANY QUESTIONS, PLEASE CALL THIS OFFICE (919) 733-7232.

C.C. REGION C

State of North Carolina
Department of Environment,
Health and Natural Resources
Legislative & Intergovernmental Affairs

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Henry M. Lancaster II, Director

DEHNR

APR 17 1996

MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee
Environmental Review Coordinator

RE: 96-0 New Route From I-85 and Dixon School Road to US 74 Near Kings Mountain, Cleveland County

DATE: April 10, 1996

The Department of Environment, Health, and Natural Resources has reviewed the proposed information. The attached comments are for your consideration.

Thank you for the opportunity to review.

attachments

RECEIVED
APR 10 1996
N.C. STATE CLEARINGHOUSE

P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-4984

DIVISION OF FOREST RESOURCES
DIVISION OF FORESTRY

Clayton, N.C.
March 27, 1996

MEMORANDUM

TO: Melba McGee - Office of Leg. Affairs

FROM: Don H. Robbins - Staff Forester DHR

SUBJECT: DOT EA for New Route From I-85 and Dixon School Road to US 74 Near Kings Mountain in Cleveland County, N.C.

PROJECT: #96-0595 and TIP # R-2625

DUE DATE: 4-4-96

We have reviewed the above subject document dated February 1996 and have the following comments:

1. Their recommended Alternative #1 will impact 26.7 acres of mixed pine/hardwoods.

2. It is hoped that the ROW Contractor will attempt salvaging of all wood products to include pulpwood, chips, sawtimber and mulch.

3. Standing remaining trees outside of construction limits should be protected from any construction damage.

pc: Warren Boyette - CO
Howard Williams - D12
File

State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Land Resources

James G. Martin, Governor
William W. Cobey, Jr., Secretary

Charles H. Gardner
Director

PROJECT REVIEW COMMENTS

Project Number: 96-0595 County: Cleveland

Project Name: _____

Geodetic Survey

_____ This project will impact ____ geodetic survey markers. N.C. Geodetic Survey should be contacted prior to construction at P.O. Box 27687, Raleigh, N.C. 27611 (919) 733-3836. Intentional destruction of a geodetic monument is a violation of N.C. General Statute 102-4.

✓ This project will have no impact on geodetic survey markers.

_____ Other (comments attached)

For more information contact the Geodetic Survey office at (919) 733-3836.

C. Mac Stanback
Reviewer

3-22-96
Date

Erosion and Sedimentation Control

_____ No comment

_____ This project will require approval of an erosion and sedimentation control plan prior to beginning any land-disturbing activity if more than one (1) acre will be disturbed.

_____ If an environmental document is required to satisfy Environmental Policy Act (SEPA) requirements, the document must be submitted as part of the erosion and sedimentation control plan.

_____ If any portion of the project is located within a High Quality Water Zone (HQW), as classified by the Division of Environmental Management, increased design standards for sediment and erosion control will apply.

✓ The erosion and sedimentation control plan required for this project should be prepared by the Department of Transportation under the erosion control program delegation to the Division of Highways from the North Carolina Sedimentation Control Commission.

_____ Other (comments attached)

For more information contact the Land Quality Section at (919) 733-4574.

David Ward
Reviewer

3/22/96
Date

P.O. Box 27687 • Raleigh, N.C. 27611-7687 • Telephone (919) 733-3833

North Carolina Wildlife Resources Commission

512 N. Salisbury Street, Raleigh, North Carolina 27604-1188, 919-733-3391
Charles R. Fullwood, Executive Director

MEMORANDUM

TO: Melba McGee, Legislative and Intergovernmental Affairs
Dept. of Environment, Health, and Natural Resources

FROM: Stephanie E. Goudreau, Mt. Region Coordinator
Habitat Conservation Program Stephanie E. Goudreau

DATE: April 1, 1996

SUBJECT: State Clearinghouse Project No. 96-0595, Environmental Assessment for New Route from I-85/SR 2283 Interchange to US 74 Business, Cleveland County, TIP #-2625.

This correspondence responds to a request by you for our review and comments on the Environmental Assessment (EA) regarding the proposed new route from north of the I-85/SR 2283 (Dixon School Road) interchange to US 74 Business (Shelby Road). Biological field staff of the North Carolina Wildlife Resources Commission conducted a site visit on 11 February 1993. These comments are provided in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d.) and the National Environmental Policy Act (42 U.S.C. 4332(2)(c)).

The North Carolina Department of Transportation proposes to construct a new two-lane, 2.9-mile highway to provide a more direct north-south route between I-85 and US 74 Business on the western side of Kings Mountain. Approximately 26.6 acres of mixed pine and hardwood forest, 19.1 acres of man-dominated lands, and 0.1 acre of riparian forest will be impacted by this project. A double barrel reinforced concrete box culvert is proposed for the crossing at Beason Creek. No wetlands will be impacted by this project.

Our site visit indicated that land use in the project area consists of agricultural, residential, and industrial areas. This project should have minimal impacts on fisheries and wildlife resources; therefore, we concur with the findings of the EA and would concur with a Finding of No Significant Impact.

Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at 704/652-4257.

cc: Ms. Janice Nicholls, USFWS, Asheville

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Environmental Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

April 8, 1996

MEMORANDUM

To: Melba McGee

From: Eric Galamb

Subject: EA for Dixon School Road Extension
Cleveland County
State Project DOT No. 8.2800801, TIP # R-2625
EHNR # 96-0595, DEM # 11209

The subject document has been reviewed by this office. The Division of Environmental Management (DEM) is responsible for the issuance of the Section 401 Water Quality Certification for activities which impact waters of the state including wetlands. The subject project will not impact wetlands and did not quantify impacts to waters.

DOT is reminded that the 401 Certification could be denied unless water quality concerns are satisfied. Questions regarding the 401 Certification should be directed to Eric Galamb (733-1786) in DEM's Water Quality Environmental Sciences Branch.

cc: Asheville COE
Monica Swihart

dixon.ea

P.O. Box 29535, Raleigh, North Carolina 27626-0535 Telephone 919-733-7015 FAX 919-733-2496

State of North Carolina
Department of Environment, Health, and Natural Resources

Project Number:	Due Date:
96-0595	4-4-96

INTERGOVERNMENTAL REVIEW — PROJECT COMMENTS

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

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
	Permit to construct & operate wastewater treatment facilities, sewer system extensions, & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts On-site inspection. Post-application technical conference usual	30 days (90 days)
	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES Reply time. 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15A NCAC 21H.0600	N/A	60 days (90 days)
✓	Any open burning associated with subject proposal must be in compliance with 15A NCAC 2D.0520.	N/A	60 days (90 days)
	Demolition or renovations of structures containing asbestos material must be in compliance with 15A NCAC 2D.0525 which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-733-0820.		
	Complex Source Permit required under 15A NCAC 2D.0800.		
	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Sect.) at least 30 days before beginning activity. A fee of $30 for the first acre and $20.00 for each additional acre or part must accompany the plan		20 days (30 days)
	The Sedimentation Pollution Control Act of 1973 must be addressed with respect to the referrenced Local Ordinance:		(30 days)
	Mining Permit	On-site inspection usual. Surety bond filed with EHNR. Bond amount varies with type mine and number of acres affected land. Any area mined greater than one acre must be permited. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.D. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual burn is planned."	1 day (N/A)
	Oil Refining Facilities	N/A	90-120 days (N/A)
	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans. Inspect construction, certify construction is according to EHNR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of $200.00 must accompany the application. An additional processing fee based on a percentage or the total project cost will be required upon completion.	30 days (60 days)

Continued on reverse

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to drill exploratory oil or gas well	File surety bond of $5,000 with EHNR running to State of N.C. conditional that any well opened by drill operator shall, upon abandonment, be plugged according to EHNR rules and regulations.	10 days (N/A)
☐	Geophysical Exploration Permit	Application filed with EHNR at least 10 days prior to issue of permit Application by letter. No standard application form.	10 days (N/A)
☐	State Lakes Construction Permit	Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.	15-20 days (N/A)
☐	401 Water Quality Certification	N/A	60 days (130 days)
☐	CAMA Permit for MAJOR development	$250.00 fee must accompany application	55 days (150 days)
☐	CAMA Permit for MINOR development	$50.00 fee must accompany application	22 days (25 days)
☐	Several geodetic monuments are located in or near the project area. If any monuments need to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687, Raleigh, N.C. 27611		
☑	Abandonment of any wells, if required, must be in accordance with Title 15A, Subchapter 2C.0100.		
☑	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
☐	Compliance with 15A NCAC 2H.1000 (Coastal Stormwater Rules) is required.		45 days (N/A)
*	Other comments (attach additional pages as necessary, being certain to cite comment authority): WQ - No objections, DRG GW - No objections Mar LQ - no objection ZSL Let them follow their own Erosion Control Plan.		

REGIONAL OFFICES

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

☐ Asheville Regional Office
59 Woodfin Place
Asheville, NC 28801
(704) 251-6208

☑ Mooresville Regional Office
919 North Main Street, P.O. Box 950
Mooresville, NC 28115
(704) 663-1699

☐ Washington Regional Office
1424 Carolina Avenue
Washington, NC 27889
(919) 946-6481

☐ Fayetteville Regional Office
Suite 714 Wachovia Building
Fayetteville, NC 28301
(919) 486-1541

☐ Raleigh Regional Office
3800 Barrett Drive, Suite 101
Raleigh, NC 27609
(919) 733-2314

☐ Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405
(919) 395-3900

☐ Winston-Salem Regional Office
8025 North Point Blvd.
Suite 100
Winston-Salem, NC 27106
(919) 896-7007

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.
GOVERNOR

P.O. BOX 25201, RALEIGH, N.C. 27611-5201

GARLAND B. GARRETT JR.
SECRETARY

April 23, 1996

MEMORANDUM

TO: Secretary Garland B. Garrett, Jr.

FROM: L. L. Hendricks
Public Hearing Officer
Citizens Participation Unit

SUBJECT: Notice of a Public Hearing on Proposed New Route West of Kings Mountain From North Of The I-85/Dixon School Road Interchange To US 74 Business (Shelby Road)

The following Notice is furnished for your information:

R-2625: It is proposed to construct a two-lane highway on multi-lane right of way on new location.

LLH:jp
cc: Mrs. Ann H. Gaither, Board of Transportation Member
Mr. Larry R. Goode, P.E., Ph.D.
Mr. J. D. Goins, P.E.
Mr. B. G. Jenkins, Jr., P.E.
Mr. J. B. Williamson, Jr.
Mr. D. R. Morton, P.E.
Mr. C. W. Leggett, P.E.
Mr. L. K. Barger, P.E.
Mr. D. E. Burwell, Jr., P.E.
Mr. H. F. Vick, P.E.
Mr. G. T. Shearin, P.E.
Mr. W. R. Brown, P.E.
Mr. J. M. Lynch, P.E.
Mr. Bob Pearson, P.E.
Mr. Robert Mathes
Mr. Danny Rogers
Ms. Pauline Wright
Mr. Everett Ward
Mr. Ron Poole, P.E., Ph.D.
Mr. Dean Bridges, Right of Way Agent
FHWA

NOTICE OF A PUBLIC HEARING
ON PROPOSED NEW ROUTE WEST OF KINGS MOUNTAIN
FROM NORTH OF THE I-85/DIXON SCHOOL ROAD INTERCHANGE
TO US 74 BUSINESS (SHELBY ROAD)

Project 8.2800801 **R-2625** **Cleveland County**

The North Carolina Department of Transportation will hold the above public hearing on Tuesday, May 21, 1996 at 7:00 p.m. in the Kings Mountain High School Auditorium located at 500 Phifer Road in Kings Mountain.

The hearing will consist of an explanation of the proposed corridor alternatives, design, and right of way requirements/procedures. The hearing will be open to those present for statements, questions, comments, and/or submittal of material pertaining to the proposed project. Additional material may be submitted for a period of 10 days from the date of the hearing to: L. L. Hendricks, NCDOT, Citizens Participation Unit, P. O. Box 25201, Raleigh, NC 27611.

It is proposed to construct a two-lane highway on multi-lane right of way on new location from north of the I-85/Dixon School Road interchange to US 74 Business (Shelby Road) - a distance of approximately 2.8 miles. The project includes the realigning and/or extending several intersecting roads with the proposed facility. A bridge will be constructed over the Norfolk-Southern Railroad. Additional right of way and the relocation of homes and businesses will be required for this project.

Representatives of the Department of Transportation will be available to discuss the proposed project with those attending the public hearing. Anyone desiring additional information may contact Mr. Hendricks at the above mailing address, by FAX at (919) 250-4208, or by telephone at (919) 250-4092.

Maps setting forth Alternate 1 - the preferred location and design - and Alternate 2 are available for public review in the Kings Mountain City Hall Lobby located at 101 West Gold Street in Kings Mountain. A copy of the environmental document - Environmental Assessment - is also available.

NCDOT will provide auxiliary aids and services for disabled persons who wish to participate in the hearing. To receive special services, please call Mr. Hendricks at the above number to give adequate notice prior to the date of the hearing.

DIXON SCHOOL ROAD EXTENSION

FROM NORTH OF I-85/ DIXON SCHOOL ROAD INTERCHANGE TO US 74 BUSINESS (SHELBY ROAD)

PROJECT 8.2800801
TIP NO. R-2625
CLEVELAND COUNTY

COMBINED PUBLIC HEARING
KINGS MOUNTAIN HIGH SCHOOL
MAY 21, 1996

PURPOSE OF PROJECT

The proposed project will provide motorists a more direct north-south route between I-85 and US 74 Business on the west side of Kings Mountain. This will allow more efficient vehicle operation and reduced travel times, resulting in road user cost savings. In addition, a grade separated crossing will be provided over the Norfolk-Southern Railroad as a safety feature.

PURPOSE OF PUBLIC HEARING

Tonight's hearing is one step in the Department of Transportation's procedure for making you, the public, a part of the planning process. The Department of Transportation is soliciting your views on the two alternate locations and designs of the Dixon School Road Extension project being presented this evening.

The Department of Transportation's views on the above project are set forth in the environmental document - Environmental Assessment. A copy of this report is available for review in the Kings Mountain City Hall, City Clerk's Office, located at 101 West Gold Street in Kings Mountain.

YOUR PARTICIPATION

Now that the opportunity is here, you are urged to participate by making your comments and/or questions a part of the Official Public Hearing Transcript. This may be done by having them recorded tonight, writing them on the comment sheet and leaving it in the designated location or by submitting them in writing during the 10 days following the Public Hearing.

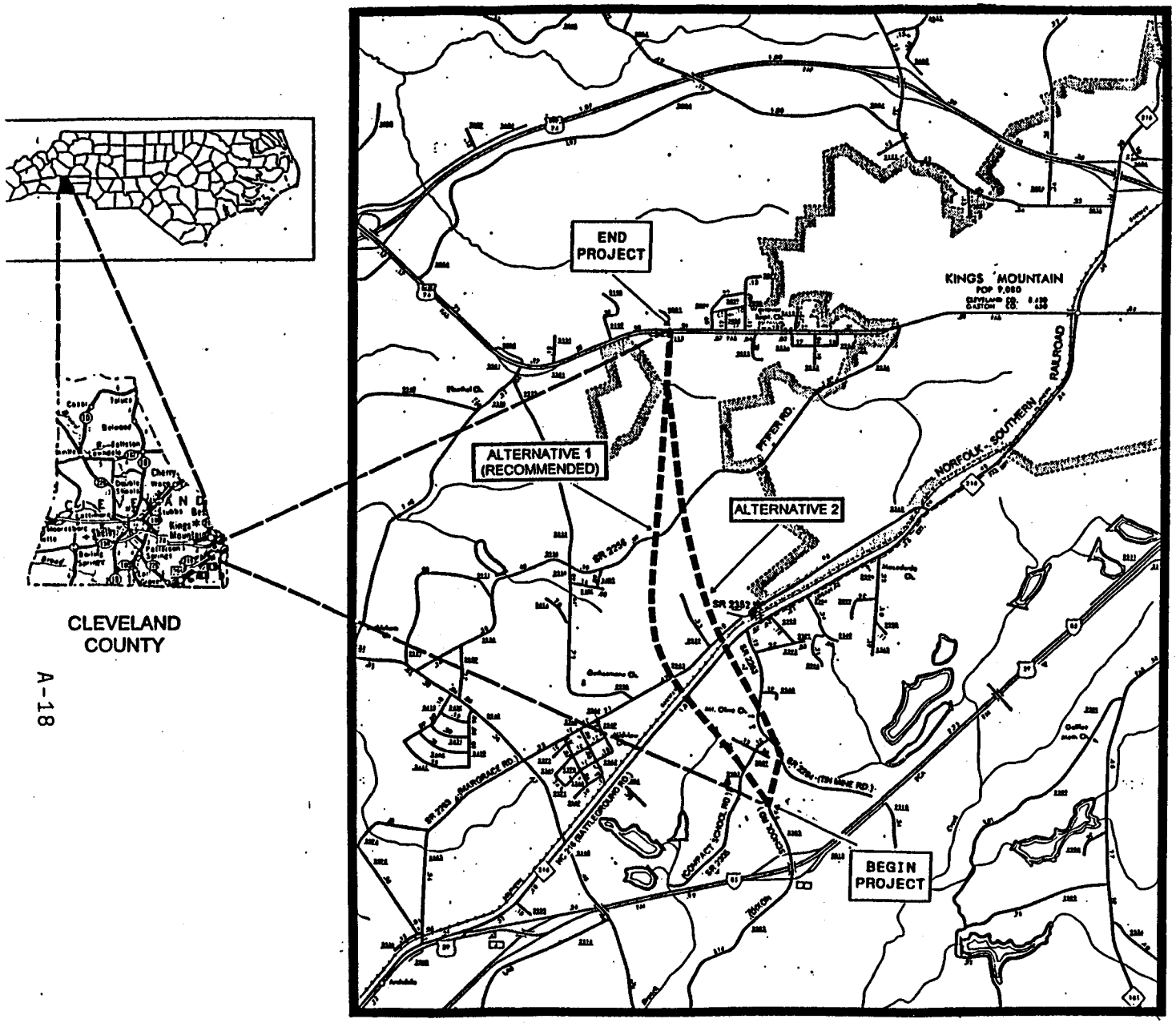
Those wishing to submit written material may do so to:

Mr. L. L. Hendricks
Public Hearing Officer
Division of Highways
P. O. Box 25201
Raleigh, NC 27611

Everyone present is urged to participate in the proceedings. It is important, however, that **THE OPINIONS OF ALL INDIVIDUALS BE RESPECTED REGARDLESS OF HOW DIVERGENT THEY MAY BE FROM YOUR OWN.** Accordingly, debates, as such, are out of place at public hearings. Also, the public hearing is not to be used as a POPULAR REFERENDUM to determine the alignment and design by a majority vote of those present.

WHAT IS DONE WITH THE INPUT?

All input received through the public involvement process will be reviewed and considered by the Administrative and Engineering staffs of the Division of Highways for recommendations prior to final decisions being made.



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

NEW ROUTE, FROM NORTH OF THE I-85/SR 2283 (DIXON SCHOOL ROAD) INTERCHANGE TO US 74 BUSINESS (SHELBY ROAD)
CLEVELAND COUNTY
TIP PROJECT R-2625

PROJECT INFORMATION

Length : 2.8 Miles

Typical Section : Two Lanes; Each 12 Feet Wide;
Shoulders - 8 Feet Wide - 4 Feet Paved

Right of Way : Minimum 150 Feet

Relocatees :

ALTERNATE 1	ALTERNATE 2
Residences - 10	Residences - 20
Businesses - 1	Businesses - 2

Estimated Cost :

	ALTERNATE 1	ALTERNATE 2
Right of Way:	$ 860,000	$ 1,076,000
Construction:	6,850,000	6,700,000
TOTAL	$ 7,710,000	$ 7,776,000

Tentative Schedule :

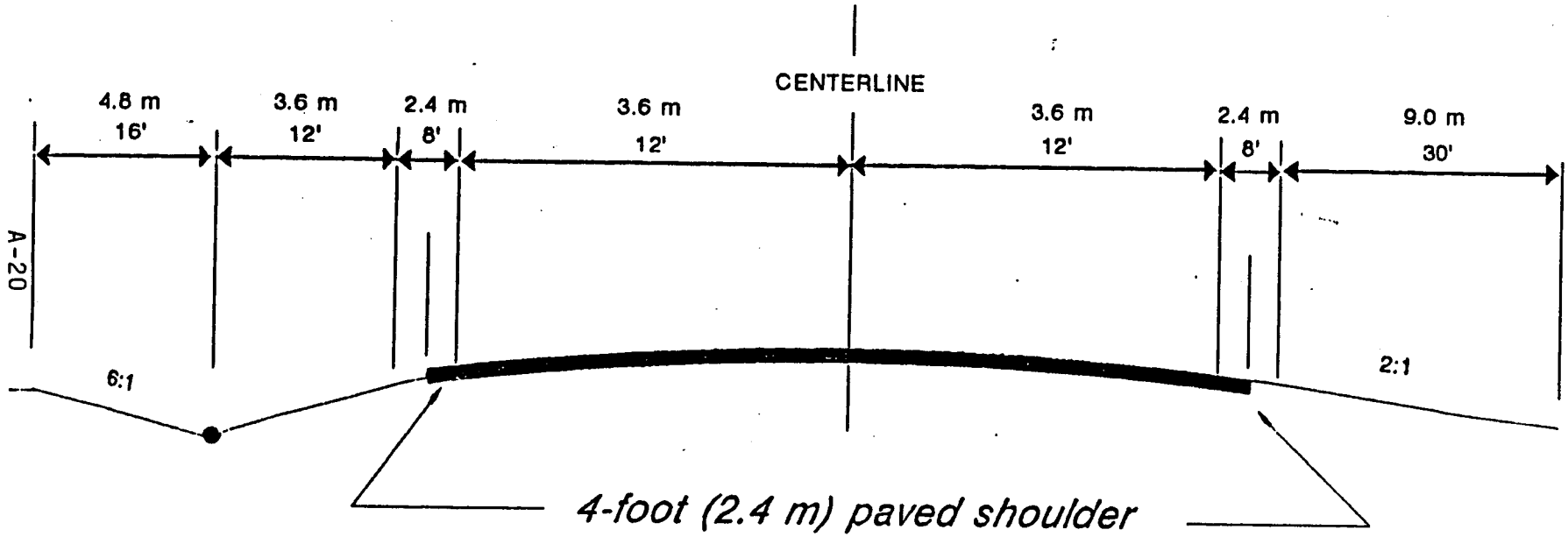
	B FROM US 74 BUSINESS WEST OF KINGS MOUNTAIN TO PHIFER ROAD	A FROM PHIFER ROAD TO 0.3 MILE NORTH OF I-85 INTERCHANGE
Right of Way:	June, 1997	October, 1998
Construction:	June, 1998	October, 2000

STATE-FEDERAL RELATIONSHIP

This proposed project is a Federal-Aid Highway Project and thus will be constructed under the State-Federal Aid Highway Program. Financing of this project will be 80% Federal Funds and 20% State Funds. The Board of Transportation is responsible for the selection and scheduling of projects on the Federal Aid System, their location, design, and construction. The Board is responsible for 100% of the project's maintenance cost after construction. The Federal Highway Administration is responsible for the review and approval of the previously mentioned activities to ensure that each Federal Aid Project is designed, constructed, and maintained to Federal Aid Standards.

TIP PROJECT R-2625

TYPICAL SECTION FOR THE PROPOSED TWO-LANE ROADWAY



Not to Scale

Public Involvement Opportunities in the Highway Development Process

(This is a typical example for a major project. The actual process and public involvement opportunities are established at an appropriate level for each project based on its complexity, and may vary in accordance with federal and state legal requirements.) ● – *indicates typical public participation opportunities (varies depending upon specific project)*

I. Develop Local Area Thoroughfare Plan

Study Initiation

- Conduct initial field trip
- Meet with local policy boards and technical staff
- ● – Conduct goals and objectives survey
- ● – Establish local steering committee (upon local request)

Data Collection

- Collect socio-economic data (land use, population, traffic volumes and employment data)
- Collect transportation network data
- Research environmental and cultural concerns
- ● – Receive input from various local area sources (needs, problems, concerns, etc.)
- ● – Local area develops future year socio-economic forecasts

Data Analysis

- Model existing transportation network
- Generate design year transportation information
- Conduct deficiency analysis

Discuss Findings with Local Area Policy Boards, Technical Staff, and Public

- ● – Discuss deficiencies with local area
- ● – Discuss possible alternative solutions

Plan Development

- Develop alternative plans
- Review project impacts
- Conduct cost-benefit analyses
- Discuss alternatives with local area staff and policy boards
- ● – Conduct public information workshop(s)
- Discuss and resolve public comments with local staff
- Select recommended plan in cooperation with local staff and policy boards

Plan Adoption

- ● – Local government conducts public hearing(s)
- ● – Present plan for adoption by local government and the North Carolina Board of Transportation

Plan Implementation

- Local government enforces land use controls
- ● – Present project requests through TIP process

II. Develop Transportation Improvement Program (TIP)

- ● – Local governments select priorities to include in TIP
- ● – Board of Transportation holds annual public meetings statewide to update the previous year's TIP
- Transcribe comments and material received at public meetings, and submit to Transportation Board
- Transportation Board members work with NCDOT staff to update TIP
- ● – Release draft Transportation Improvement Program to the press, public and governments for review.
- Finalize TIP following comments
- Board of Transportation adopts state TIP
- ● – Metropolitan Planning Organizations receive public comment and approve local TIP
- Secretary of Transportation approves local TIPs

III. Develop Environmental Documents

Notify Public and Government Agencies of Project Study

- ● – Hold citizen information workshops
- Evaluate comments received at workshops
- ● – Form citizen's advisory group to get local citizens involved (upon local request)

Select corridors to be studied

- Identify feasible corridors and evaluate costs and environmental impacts
- ● – Hold information workshop on selected corridors
- NCDOT staff uses recommendations from local citizens, governments and state agencies to prepare a draft Environmental Impact Statement (EIS) or Environmental Assessment (EA)

Prepare Draft Environmental Document

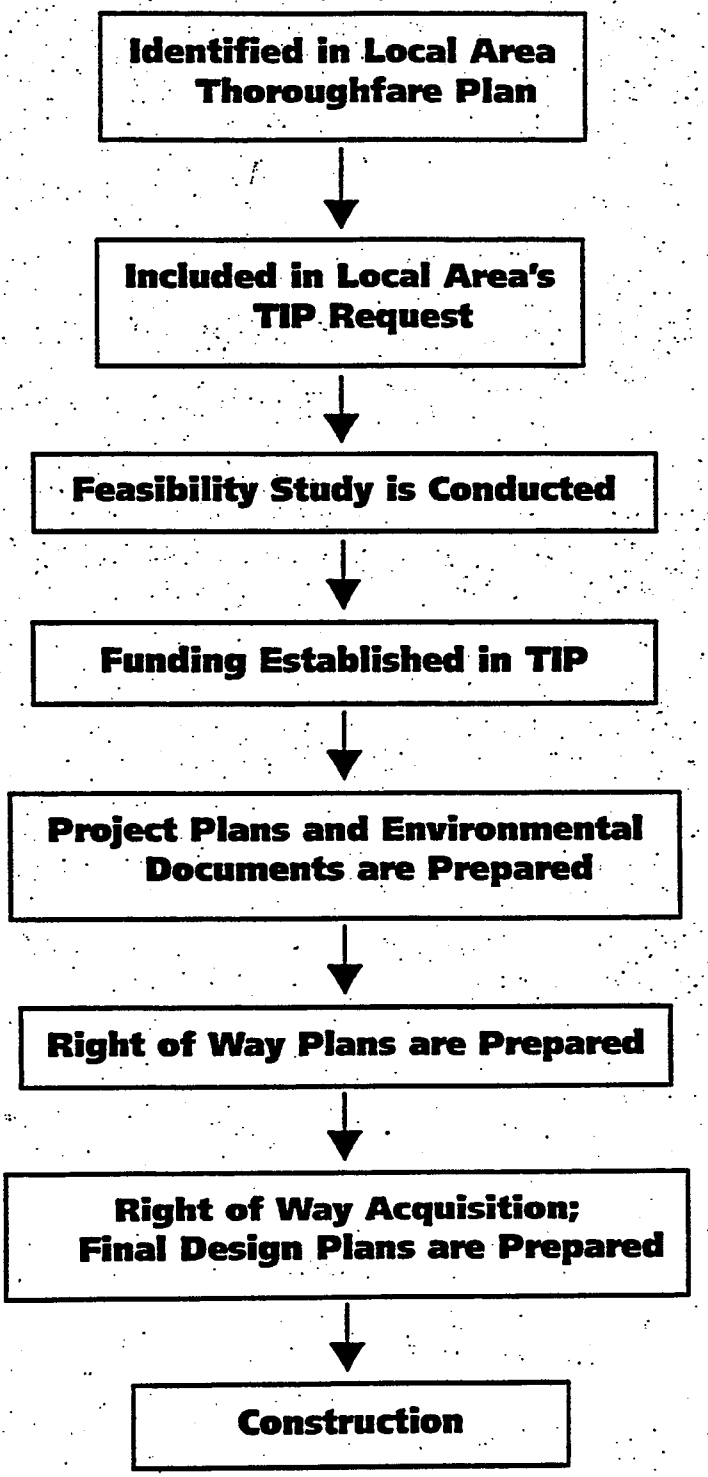
- ● – Make draft EIS or EA, which addresses the impacts of each corridor, available to public and send to review agencies and local officials for comment
- ● – Hold public hearing on location of corridor (10-day comment period follows public hearing)
- NCDOT holds post hearing meeting and a corridor is recommended using technical data and information received in conjunction with the public hearing
- Notify public of selected corridor

Prepare Final Environmental Document

- Begin preliminary design of highway in selected corridor {1}
- If final EIS/Finding of No Significant Impact (FONSI) required, send to State Clearinghouse (N.C. Dept of Administration) and federal agencies for 30-day comment period
- Send notification of Final EIS to Review Agencies and Federal Register
- Publish record of decision on preliminary design using comments from public, review agencies and the FHWA
- ● – Hold public hearing on project design (10-day public comment period follows public hearing) {1}
- Hold post hearing meeting where any changes in design are made if necessary.

{1} *These steps are combined with corridor location for most smaller projects.*

Development Process For A New Highway



COMMENT SHEET

Dixon School Road Extension
From North of I-85/Dixon School Road Interchange
To US 74 Business West of Kings Mountain

May 21, 1996

R-2625 Cleveland County Project 8.2800801

NAME: _____

ADDRESS: _____

COMMENTS AND/OR QUESTIONS:

Comments may be mailed to:
L. L. Hendricks, Public Hearing Officer
N. C. Department of Transportation, Division of Highways
P. O. Box 25201
Raleigh, NC 27611
Telephone: (919) 250-4092
FAX: (919) 250-4208

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Environmental Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

April 8, 1996

MEMORANDUM

To: Melba McGee

From: Eric Galamb

Subject: EA for Dixon School Road Extension
Cleveland County
State Project DOT No. 8.2800801, TIP # R-2625
EHNR # 96-0595, DEM # 11209

The subject document has been reviewed by this office. The Division of Environmental Management (DEM) is responsible for the issuance of the Section 401 Water Quality Certification for activities which impact waters of the state including wetlands. The subject project will not impact wetlands and did not quantify impacts to waters.

DOT is reminded that the 401 Certification could be denied unless water quality concerns are satisfied. Questions regarding the 401 Certification should be directed to Eric Galamb (733-1786) in DEM's Water Quality Environmental Sciences Branch.

cc: Asheville COE
Monica Swihart

dixon.ea

FAXED
APR 0 8 1996

P.O. Box 29535, Raleigh, North Carolina 27626-0535 Telephone 919-733-7015 FAX 919-733-2496

Department of Environment, Health, and Natural Resources
Office of Legislative and Intergovernmental Affairs
Project Review Form

☐ Project located in 7th floor library
11209

Project Number:	County:	Date:	Date Response Due (firm deadline):
96-0595	Cleveland	3/20/96	4/4/96

DOT - EA New Route from North of I-85/Dixon School Road Interchange to US 74 Business, TIP # R-2625 (Broad 03-08-05)

This project is being reviewed as indicated below:

Regional Office/Phone	Regional Office Area	In-House Review
☐ Asheville	☐ All R/O Areas	☐ Soil and Water
☐ Fayetteville	☒ Air	☐ Coastal Management
☒ Mooresville	☒ Water	☐ Water Resources
☐ Raleigh	☒ Groundwater	☒ Wildlife
☐ Washington	☒ Land Quality Engineer	☒ Forest Resources
☐ Wilmington	☐ Recreational Consultant	☒ Land Resources
☐ Winston-Salem	☐ Coastal Management Consultant	☒ Parks and Recreation
	☐ Others	☒ Environmental Management
	PWS	Monica Swihart
		☐ Marine Fisheries
		☐ Water Planning
		☐ Environmental Health
		☐ Solid Waste Management
		☐ Radiation Protection
		☐ David Foster
		☐ Other (specify)

RECEIVED
MAR 26 1996
ENVIRONMENTAL SCIENCES BRANCH

Manager Sign-Off/Region:	Date:	In-House Reviewer/Agency:

Response (check all applicable)

Regional Office response to be compiled and completed by Regional Manager.

☐ No objection to project as proposed

☐ No Comment

☐ Insufficient information to complete review

☐ Approve

☐ Permit(s) needed (permit files have been checked)

☐ Recommended for further development with recommendations for strengthening (comments attached)

☐ Recommended for further development if specific & substantive changes incorporated by funding agency (comments attached/authority(ies) cited)

In-House Reviewer complete individual response.

☐ Not recommended for further development for reasons stated in attached comments (authority(ies) cited)

☐ Applicant has been contacted

☐ Applicant has not been contacted

☐ Project Controversial (comments attached)

☐ Consistency Statement needed (comments attached)

☐ Consistency Statement not needed

☐ Full EIS must be required under the provisions of NEPA and SEPA

☐ Other (specify and attach comments)

RETURN TO:

Melba McGee, Office of Legislative and Intergovernmental Affairs

FS-104

Cleveland County
New Route, from North of the I-85/SR 2283 (Dixon School Road) Interchange
To US 74 Business (Shelby Road)
Federal Aid Project Number STP-2283(1)
State Project Number 8.2800801
TIP Project R-2625

Administrative Action

Environmental Assessment

U. S. Department of Transportation

Federal Highway Administration

and

N. C. Department of Transportation

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

2-28-96 Zak V. Brewster
Date for H. Franklin Vick, P. E., Manager,
Planning and Environmental Branch, NCDOT

2/28/96 Roy C Shelton
Date Nicholas L. Graf
for Division Administrator, FHWA

Cleveland County
New Route, from North of the I-85/SR 2283 (Dixon School Road) Interchange
To US 74 Business (Shelby Road)
Federal Aid Project Number STP-2283(1)
State Project Number 8.2800801
TIP Project R-2625

Environmental Assessment

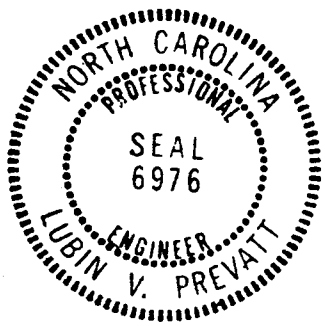
February, 1996

Documentation Prepared in Planning and Environmental Branch By:

Ed Lewis
Project Planning Engineer

J. Wilson Stroud
Project Planning Unit Head

Lubin V. Prevatt 2-28-96
Lubin V. Prevatt, P. E., Assistant Manager
Planning and Environmental Branch



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Cleveland County
New Route, from North of the I-85/SR 2283 (Dixon School Road) Interchange
To US 74 Business (Shelby Road)
Federal Aid Project Number STP-2283(1)
State Project Number 8.2800801
TIP Project R-2625

SUMMARY

Type of Action

This is a Federal Highway Administration Action, Environmental Assessment.

Description of Action

The proposed project involves constructing a new, two-lane highway from north of the Interstate 85/SR 2283 (Dixon School Road) interchange to US 74 Business at SR 2031 (Elam Road) west of Kings Mountain, a distance of approximately 2.9 miles (4.6 km) (see Figure 1).

The project is included in the North Carolina Department of Transportation's 1996-2002 Transportation Improvement Program (TIP) and is scheduled for right of way acquisition to begin in fiscal year 1997 and construction to begin in fiscal year 1998.

The proposed action will provide a 24-foot (7.2 m) roadway on new location with 8-foot (2.4 m) shoulders (4 feet (1.2 m) paved) and minor realignments of intersecting roads. A grade separation will be constructed for the proposed crossing of the Norfolk-Southern Railroad. A double-barrel 10-foot (3.0 m) by 7-foot (2.1 m) reinforced concrete box culvert is proposed for the crossing of Beason Creek. The proposed right of way width is 150 feet (46 m), which will accommodate future widening to multilanes if such widening becomes necessary.

The total cost of the improvements recommended in this document is $7,710,000, which includes $6,850,000 for construction and $860,000 for right of way acquisition. The TIP includes a total funding for this project of $5,860,000 which includes $5,000,000 for construction and $860,000 for right of way acquisition.

Summary of Beneficial and Adverse Environmental Impacts

The new facility will provide motorists a more direct north-south route between Interstate 85 and US 74 Business on the western side of Kings Mountain. This will allow more efficient vehicle operation and reduced travel times, resulting in road user cost savings. In addition, a grade separated crossing will be provided over the Norfolk-Southern Railroad which will physically separate vehicles and trains.

The project area is zoned; therefore, consideration of farmland impacts are not required based on guidelines in the Farmland Protection Policy Act. No jurisdictional wetlands will be filled as a result of the project.

The project will relocate approximately 10 residences and one business. See page A-1 through A-4 in the Appendix for a description of the NCDOT's Relocation Policy and the relocation report. A total of approximately 61 acres (24.7 ha) of right of way will be acquired in order to construct the proposed improvements.

Alternatives Considered

The nature of this action, the construction of a new two-lane highway approximately 2.9 miles (4.6 km) in length, limits viable build alternatives to a narrow corridor. Alternatives considered for this action included:

Alternative 1 (Recommended) - This is the westernmost alternative considered. Starting approximately 0.3 mile (0.5 km) north of the Interstate 85/Dixon School Road interchange, the proposed new route will follow Dixon School Road for 0.1 mile (0.2 km) before proceeding to the northwest on new location. The new route will cross SR 2305 (Compact School Road), NC 216 (Battleground Road), the Norfolk-Southern Railway, SR 2263 (Margrace Road), SR 2256 (Phifer Road), and Beason Creek before terminating at US 74 Business (Shelby Road) at SR 2031 (Elam Road). See Figure 2.

Alternative 2 - This is the easternmost alternative considered. Starting at the same point as Alternative 1, the proposed new route would follow Dixon School Road for 0.7 mile (1.1 km) and would include improving the poor horizontal alignment. The proposed new route would then proceed on new location to the northwest just south of the Dixon School Road/Goodall Drive (SR 2346) intersection. The proposed new route would then cross NC 216, the Norfolk-Southern Railway, SR 2263, SR 2256, and Beason Creek before terminating at US 74 Business at SR 2031 (see Figure 2).

Postponement of Proposed Action - Construction of the proposed route will provide a more direct north-south corridor and reduce travel time between Interstate 85 and US 74 Business just west of Kings Mountain. Postponement of the project would not achieve these goals. Therefore, this alternative is not recommended.

Alternate Modes of Transportation - No alternate mode of transportation is considered to be a practical alternative. Highway transportation is the dominant mode of transportation in the project area, and the project involves constructing a new road. Thus, this alternative is not recommended.

Thoroughfare Plan Alignment - The alignment shown in the Proposed Revised Thoroughfare Plan was eliminated from serious study due to the higher right of way impacts and costs associated with improving existing Dixon School Road from I-85 to NC 216. Such improvements

would be necessary due to the poor horizontal alignment along Dixon School Road (see Figure 4). For these reasons, this alternative is not recommended.

Do-Nothing Alternative - Although this alternative would avoid the limited adverse environmental impacts that are anticipated to result from the project, it would not provide a more direct north-south route between Interstate 85 and US 74 Business on the western side of Kings Mountain. There would be no positive effect on the traffic capacity of roadways in the area or improvements in traffic safety. For these reasons, this alternative is not recommended.

Coordination

The following federal, state and local agencies and officials were consulted regarding this project:

U.S. Department of the Army (Corps of Engineers)
U.S. Department of Agriculture (Soil Conservation Service)
U.S. Department of the Interior (Fish and Wildlife Service)
U.S. Environmental Protection Agency
Federal Emergency Management Administration
N.C. Department of Administration - State Clearinghouse
N.C. Department of Cultural Resources
N.C. Department of Environment, Health, and Natural Resources
N.C. Department of Public Instruction
Isothermal Planning and Economic Development Commission
Cleveland County Board of Commissioners
The Cleveland County Planner
The Mayor of Kings Mountain

Actions Required By Other Agencies

It is anticipated the proposed improvements can be performed under a Department of the Army Nationwide Permit for Minor Road Crossing Fills.

Anticipated Design Exceptions

There are no anticipated design exceptions.

Summary of Environmental Commitments

All standard procedures and measures will be implemented to avoid or minimize environmental impacts. No jurisdictional wetlands are located in the project area. A Nationwide Permit (33 CFR 330.5)(a)(14) will be required from the U.S. Army Corps of Engineers for the crossing of Beason Creek in accordance with the provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344). A 401 Water Quality Certification administered through the N.C. Department of Environment, Health, and Natural Resources will also be required.

Two abandoned historic period farmsteads (31CL20** and 31CL21**) were found near the project area. These sites were determined to be potentially eligible for listing on the National Register. The Phifer Homestead (31CL20**) lies 700 feet (213 m) south of the APE (Area of Potential Effect), and the Black Homestead (31CL21**) is located 300 feet (91 m) north of the APE. Neither of these sites will be impacted by the construction of the subject project; therefore, no further investigation of the sites is recommended. However, if the proposed alignment is shifted, additional studies will be required to determine whether these sites will be affected by the project and whether they are eligible for listing on the National Register of Historic Places.

Also, in case of an alignment shift, the new right of way will be surveyed for the presence of the protected species, the dwarf-flowered heartleaf.

Further Information

The following persons can be contacted for additional information:

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NOTE: "**" is a SHPO designation which identifies archaeological sites as historic rather than prehistoric in nature.

Cleveland County
New Route, from North of the I-85/SR 2283 (Dixon School Road) Interchange
To US 74 Business (Shelby Road)
Federal Aid Project Number STP-2283(1)
State Project Number 8.2800801
TIP Project R-2625

I. NEED FOR THE PROPOSED PROJECT

A. General Description of Project

The North Carolina Department of Transportation proposes to construct a new two-lane highway on multi-lane right of way on new location from 0.3 mile (0.5 km) north of the Interstate 85/SR 2283 (Dixon School Road) interchange to US 74 Business at SR 2031 (Elam Road) west of Kings Mountain. The project also calls for realigning and/or extending SR 2283, SR 2305, NC 216, SR 2256, and SR 2315 where the proposed facility will intersect with these roads. Also, a grade separation will be constructed to carry the proposed facility over the Norfolk-Southern Railroad, and a box culvert will be constructed at the Beason Creek crossing.

The project lies west of Kings Mountain in the southeastern part of Cleveland County and is approximately three miles from the South Carolina Border. The project vicinity is shown in Figure 1, and the proposed improvements are shown in Figure 2.

B. Project Status and Historical Resume

The proposed relocation and extension of Dixon School Road is included in the North Carolina Department of Transportation's 1996-2002 Transportation Improvement Program (TIP), and is scheduled for right of way acquisition to begin in fiscal year 1997 and construction to begin in fiscal year 1998.

The total cost of the improvements recommended in this document is $7,710,000, which includes $6,850,000 for construction and $860,000 for right of way acquisition. The TIP includes a total funding for this project of $5,860,000, which includes $5,000,000 for construction and $860,000 for right of way acquisition.

The purpose of this project is to provide motorists a more direct north-south route between Interstate 85 and US 74 Business on the western side of Kings Mountain. Currently, motorists must travel approximately 5 miles (8.1 km) along mostly secondary roads and through a 9-foot (2.7 m) high by 18-foot (5.4 m) wide, one-lane, two way railroad underpass (via SR 2352) in order to get from US 74 business to Interstate 85. The proposed improvements will reduce the travel distance to approximately 2.9 miles (4.7 km), and the proposed grade separation will provide a better crossing of the railroad. See also Section I. H., Benefits to the State, Region, and Community.

C. Existing Conditions

1. General Description

Currently, the most direct route between Interstate 85 and US 74 Business in the project area consists mainly of a network of secondary roads. From Interstate 85, motorists travel north along Dixon School Road to NC 216, turn east and then north onto SR 2352 under the railroad. Motorists then turn to the west on SR 2263 and travel for less than a mile before turning north onto SR 2258 (Ware Road). Motorists travel for about one mile (1.6 km) before either continuing on SR 2252 (Ware Road) or taking SR 2256 (Phifer Road) to get to US 74 Business. This gives a total travel distance of approximately 4.5 to 5.5 miles (7.2 to 8.9 km) between Interstate 85 and US 74 Business. These roads are two-lane facilities with poor horizontal alignment with posted speeds of 35 to 55 mph (60 to 90 km/h) (see Figures 1 and 4).

The length of the proposed new route, which is described in detail in Sections II and III, is 2.9 miles (4.7 km). Photographs of existing conditions along the studied corridors are shown in Figures 3A, 3B, and 3C.

2. Existing Roads Connecting Interstate 85 and US 74 Business

Dixon School Road (SR 2283) between Interstate 85 and NC 216 (Battleground Road) is a two-lane road consisting of a 22-foot (6.6 m) roadway and 6-foot (1.8 m) grassed shoulders. The existing right of way width along Dixon School Road is 40 feet (12.0 m) and it is symmetrical about the roadway centerline. From Interstate 85 to Tin Mine Road (SR 2294), Dixon School Road has a posted speed of 45 miles per hour (mph) (70 km/h), while the rest of Dixon School Road up to NC 216 is posted 35 mph (60 km/h). Dixon School Road has four substandard horizontal curves located between Interstate 85 and NC 216. Development along Dixon School Road is mainly residential in nature.

NC 216 (Battleground Road) is an east-west route. It is a two-lane road with a 22-foot (6.6 m) pavement and 6-foot (1.8 m) grassed shoulders. NC 216 has good horizontal and vertical alignment and a 55 mph (90 km/h) speed limit. Development along this section of NC 216 is a mixture of small business and residential.

SR 2352 is a short, north-south route which connects NC 216 with SR 2283 (Margrace Road). It crosses under the Norfolk-Southern Railroad and is basically a one-lane, two-way road.

SR 2263 (Margrace Road) roughly parallels NC 216 on the north side of the Norfolk-Southern Railway in the project area. It has a two-lane, 21-foot (6.3 m) pavement with 8- to 10-foot (2.4 to 3.0 m) grassed shoulders and good alignment. The speed limit along this road is an unposted 55 mph (90 km/h). Development along this route is primarily small residential.

SR 2256 (Phifer Road) roughly bisects the project in an east/west direction. The Kings Mountain Middle and Senior High Schools are located on Phifer Road just east of the proposed highway crossing. These schools have a combined enrollment of 2100 students. The remaining development along this route is primarily commercial near US 74, residential near the schools, and sparse residential to the west. Phifer Road has an existing 2-lane pavement (18 feet (5.5 m) wide) in the project area and has 8-foot (2.4 m) grassed shoulders. Phifer Road has a speed limit of 35 mph (60 km/h) inside and 55 mph (90 km/h) outside the city limits.

SR 2258 and SR 2252 together are Ware Road. Ware Road is a two-lane road which runs north-south and connects US 74 Business to Margrace Road (SR 2263). It is rural in nature with some residences located along it. The posted speed is 55 miles per hour (90 km/h). It crosses Phifer Road approximately midway between US 74 Business and Margrace Road.

3. Railroad Crossings

The subject project crosses Norfolk-Southern Railroad just north of NC 216. This section of the Norfolk-Southern Railroad is part of a rail line which was constructed between 1873 and 1877 to connect Atlanta, Georgia to Richmond, Virginia. In the vicinity of the project, this line consists of two tracks which parallel NC 216 and SR 2263. The Hudson Switch Station is located in the vicinity of the proposed crossing, along with two railroad signal structures. This rail line carries 17 trains per day, including two Amtrak passenger trains traveling at speeds in excess of 75 mph (120 km/h).

The grade separated railroad crossing of SR 2352 is located approximately 400 feet (122 m) east of the existing intersection of Dixon School Road and NC 216. Bridge Number 406 is the Norfolk-Southern Railroad structure built in 1917 to carry the railroad over SR 2352. This bridge has an estimated remaining life of 5 years, and it is not scheduled for improvements in the NCDOT Transportation Improvement Program. SR 2352 crosses under the railroad and connects NC 216 with SR 2263. The vertical clearance is 9 feet (2.7 m), and the horizontal clearance is 18 feet (5.5 m). This crossing is shown in Figures 3B and 3C. It is the only grade separated crossing within two miles in both directions for the Norfolk-Southern Railroad. This crossing will remain open under the subject project.

4. Route Classification

Dixon School Road (SR 2283) is a Federal Aid Secondary Route. It is designated as a Major Thoroughfare in the Kings Mountain Thoroughfare Plan adopted by the City in 1980.

5. School Bus Data

The proposed highway crosses Phifer Road (SR 2256). The Kings Mountain Middle and Senior High Schools are located on Phifer Road just east of the proposed highway crossing. Phifer Road is the primary route to and from the middle and high schools. School

buses from these schools are expected to use the proposed Dixon School Road extension. Completion of the project will provide an additional route for students, teachers, and parents coming from the western and southern sections of Kings Mountain.

D. Traffic Data

Projected traffic volumes along the project for the year 1995 range from 2600 vehicles per day (vpd) at the northern project terminal to 5600 vpd between NC 216 and SR 2263. Year 2015 volumes at these locations are 5,000 vpd and 8,600 vpd, respectively. Truck traffic will comprise 6 percent of the volumes. The design hour volume (DHV) is 10 percent of the shown average daily volumes. Traffic volumes and turning movements are shown in Figure 5.

E. Capacity Analysis

Mainline capacity analyses were not performed for the existing two-lane roads that connect Interstate 85 with US 74 Business or the entire two-lane highway proposed in this report. The capacity of the proposed highway is a function of the level of service provided at each intersection associated with this proposed route due to the proximity of the intersections to each other. A mainline capacity analysis was performed only for the estimated highest traffic section of the proposed new route (between NC 216 and SR 2263). This section will operate at LOS "C" in 2015.

The construction of the proposed route will create six new intersections. Capacity analyses were performed for each new intersection, except for SR 2305, which has nominal traffic. The analyses were performed with proposed improvements in place for year 2015. The proposed new route is assumed to be the north-south route and the intersecting routes are assumed to run east-west. All intersections are assumed to be under stop sign control, except for US 74 Business, which will be signalized. The results of these studies are shown in Table 1 (see page 5). Each intersection is projected to operate at LOS C or better in the year 2015.

F. Accident Analysis

An accident analysis was not performed on this yet to be built facility. However, the proposed new route will provide better alignment and wider lanes which will provide greater safety. An improved grade-separated crossing will be provided at the Norfolk-Southern Railroad.

G. Project Terminals

The southern project terminal is located approximately 0.3 mile (0.5 km) north of Interstate 85 along Dixon School Road. The section of Dixon School Road from Interstate 85 to the beginning of the project has a 24-foot (7.2 m) pavement with 8- to 10-foot (2.4 to 3.0 m) grassed shoulders.

TABLE 1 INTERSECTION CAPACITY ANALYSIS (2015)

INTERSECTIONS WITH THE PROPOSED HIGHWAY	DIR	LANE GROUP*	LANE GROUP LOS	INTERSECTION LOS
		2015 LOS		
1. SR 2283 (Dixon School Road)	SB	LT	A	
	WB	LT	B	A
		RT	A	
2. NC 216 (Battleground Road)	NB	LT	A	
	SB	LT	A	
	EB	LT	F	D
	WB	LT	C	
3. SR 2263 (Margrace Road)	NB	LT	A	
	SB	LT	A	
	EB	LT	C	
		TH	C	C
		RT	A	
	WB	LT	D	
		TH	C	
		RT	A	
4. SR 2256 (Phifer Road)	NB	LT-TH-RT	A	
	SB	LT-TH-RT	A	
	EB	LT	C	
		TH	C	C
		RT	A	
	WB	LT	D	
		TH	B	
		RT	A	
5. US 74 Business (Shelby Road)/ SR 2031 (Elam Road)	NB	LT	C	
		TH	D	
		RT	B	
	SB	LT-TH-RT	D	
	EB	LT	D	C
		TH	B	
		RT	B	
	WB	LT	D	
		TH-RT	B	

* LT - Left turn, RT - Right turn, TH - through.

The proposed northern project terminal is located on US 74 Business west of Kings Mountain at SR 2031 (Elam Road). At its intersection with the proposed facility, US 74 Business (Shelby Road) is a four-lane divided facility surrounded by a mixture of commercial, residential, and industrial development. The speed limit on this road is 55 mph (90 km/h). US 74 Business consists of two 24-foot (7.2 m) pavements, 10-foot (3.0 m) grassed shoulders, and a 30-foot (9.0 m) grassed median.

Based on this analysis, the new route will operate at LOS D or better through the design year.

H. Thoroughfare Plan

The most recent thoroughfare plan for Kings Mountain was approved by the town on August 26, 1966. Since then, the thoroughfare plan study area has been extended to include the proposed extension of Dixon School Road from NC 216 to US 74 Bypass. At this time, no formal adoption by state or local officials of an updated version of the thoroughfare plan has occurred. The Proposed Revised Thoroughfare Plan for Kings Mountain, prepared in October 1979, is shown in Figure 4. This plan shows the proposed Dixon School Road extension located east of Alternatives 1 and 2 as presented in this document. It is anticipated that the thoroughfare plan will be updated to show the new facility recommended in this document rather than the proposed Dixon School Road extension from NC 216 to US 74.

The proposed Dixon School Road extension reflected in the Proposed Revised Thoroughfare Plan does not include construction of a new highway between I-85 and NC 216. Based on that proposal, existing Dixon School Road would carry traffic between I-85 and the proposed Dixon School Road extension. Under that proposal, it would be desirable to improve existing Dixon School Road between I-85 and NC 216, which would result in greater impacts to existing development and higher right of way costs. For this reason, improving existing Dixon School Road between I-85 and NC 216 and extending Dixon School Road from that point to US 74 Business is not recommended.

I. Benefits to the State, Region, and Community

The primary benefits of the project are economic in nature. The proposed new route will provide a more direct north-south corridor and reduce travel time between US 74 Business in Kings Mountain and Interstate 85 to the south. This will reduce road user costs for motorists. Currently, the travel distance from US 74 Business at SR 2031 to Interstate 85 at Dixon School Road using the existing road network is 5.2 miles (8.3 km). The proposed improvement will decrease this travel distance to approximately 2.9 miles (4.7 km). In addition, traffic on SR 2352 currently using a one-lane, substandard underpass of the Norfolk-Southern Railroad between NC 216 and Margrace Road (SR 2263) will be provided with an alternate grade separated crossing. This will improve access between Interstate 85 and US 74 Business, benefitting the community and the region. Also, the Kings Mountain Schools located on Phifer Road will have more direct access to US 74, NC 216, and Interstate 85.

II. PROPOSED IMPROVEMENTS

A. General Description

It is recommended that a new two-lane facility with a grade separation over the Norfolk-Southern Railroad be constructed from north of the Interstate 85 interchange with SR 2283 (Dixon School Road) to US 74 Business at SR 2031 (Elam Road) west of Kings Mountain. The proposed improvements (Recommended Alternative 1) are shown in Figure 2.

B. Length of Project

The length of the project is approximately 2.9 miles (4.7 km). This length includes approximately 0.1 mile (0.2 km) of existing Dixon School Road to be widened just north of Interstate 85 and 2.8 miles (4.5 km) of construction on new location from north of Interstate 85 to US 74 Business.

C. Cross Section

It is recommended a two-lane, 24-foot (7.2 m) pavement with 8-foot (2.4 m) shoulders (4 feet (1.2 m) paved) be provided for the new location segment of the project, as well as for the segment of existing Dixon School Road to be widened (see Figure 7). The bridge over the Norfolk-Southern Railroad will have a clear roadway width of 32 feet (9.6 m), which will provide two 12-foot (3.6 m) lanes and 4-foot (1.2 m) shoulders.

D. Design Speed

A design speed of 60 mph (100 km) is recommended.

E. Right of Way

The recommended right of way width in order to construct the project is 150 feet (46 m). This width will accommodate widening the proposed new route to a multi-lane facility if such widening becomes necessary in the future. The approximate proposed right of way limits are shown in Figure 2.

F. Access Control

No control of access is proposed.

G. Intersection/Interchange Treatment

All roadway intersections will be at-grade. The intersection at US 74 Business will be the only intersection with signal control. Left and right turn lanes will be provided at intersections where necessary. As shown in Figure 2, a half-mile long realignment of NC 216 (Battleground Road) is recommended in the vicinity of the new route to allow an at-grade intersection to be constructed at the junction of these roads. A grade separation will be provided at the Norfolk-Southern Railroad crossing. A 1500-foot (457 m) section of Phifer Road (SR 2256) will also be relocated to provide a better crossing with the proposed new route. SR 2283, SR 2305, and SR 2315 will be extended and/or realigned to tie into the proposed highway.

The project begins north of the Interstate 85/Dixon School Road Interchange and will not include improvements to that interchange.

The project ends at US 74 Business across from SR 2031 (Elam Road). SR 2315, located southwest of this proposed intersection, will be relocated south to tie into the proposed new route away from the proposed intersection (see Figure 2).

H. Bridges and Drainage Structures

There is one major stream crossing along the recommended alignment, which occurs at Beason Creek, just south of US 74 Business. Based on preliminary hydraulic analysis, the recommended structure is a double barrel 10 foot (3.0 m) by 7 foot (2.1 m) reinforced concrete box culvert. The recommended structure size may be increased or decreased to accommodate peak design discharges as determined by detailed hydrologic analysis during final design.

A grade separation will be constructed where proposed Dixon School Road crosses the railroad. A bridge 150 feet (46 m) long, 32 feet (9.6 m) wide (clear roadway width), and with a vertical clearance of 23.5 feet (7.1 m) from the railroad bed to the bottom of the bridge structure is proposed.

I. Railroad and Airport Involvement

The section of the Norfolk-Southern Railroad that crosses the project is the southern extension of a proposed high speed rail corridor. This extension, the Piedmont Crescent Subcorridor, is part of the Mid-Atlantic High Speed Rail Corridor.

Based on the design year average daily traffic volumes on the proposed new route (8600 vpd) multiplied by the 17 train crossings per day, there is a calculated exposure index of 146,200. This exceeds the minimum exposure index of 15,000 needed to justify providing a grade separated facility.

For the reasons stated above, a grade separation is recommended at the Norfolk-Southern Railroad crossing.

There are no airports in the vicinity of the project.

J. Project Terminals

The proposed improvements begin 0.3 mile (0.5 km) north of Interstate 85. In this area, existing Dixon School Road will be relocated to intersect with the proposed new route in a "T" - type intersection. It will be a stop sign-controlled intersection, with the proposed facility having preferred right of way.

The proposed improvements will end at US 74 Business across from SR 2031 on the west side of Kings Mountain. The "four-legged" intersection will be controlled by a signal light.

K. Special Permits Required

A permit will be required from the US Army Corps of Engineers in accordance with the provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344). Based upon site location and the estimated acreage of wetland involvement, it is anticipated the crossing of Beason Creek will be authorized by Nationwide Permit (33 CFR 330.5)(a)(14). A 401 Water Quality Certification administered through the N.C. Department of Environment, Health, and Natural Resources will also be required.

L. Changes in the State Highway System

A change in the state highway system will result due to the construction of the proposed new highway.

M. Multiple Use of Space

There are no plans to utilize the right of way for any other purposes except public utilities, which will be allowed use of the right of way within certain limitations.

N. Bikeways

The need for special accommodations for bicycles along the project has not been identified.

O. Sidewalks

The need for sidewalks along the project has not been identified.

P. Noise Barriers

Noise barriers are not recommended for this project (see Section IV.7. of this report).

Q. Anticipated Design Exceptions

There are no anticipated design exceptions.

R. Degree of Utility Conflicts

The degree of utility conflicts for the proposed project is expected to be low.

S. Cost Estimates

Estimated costs of the studied alternatives are as follows:

	Alternative 1 (Recommended)	Alternative 2
Structures	$ 568,100	$ 878,600
Roadway	$ 5,386,900	$ 4,951,400
Engineering & Contingencies	$ 895,000	$ 870,000
Total Construction	$ 6,850,000	$ 6,700,000
Right of Way, Utilities	$ 860,000	$ 1,076,000
Total	$ 7,710,000	$ 7,776,000

The difference in costs can be attributed to the longer bridge needed and the greater number of relocatees displaced under Alternative 2. Under Alternative 1 (Recommended), roadway costs are higher, as expected, due to more of the proposed facility being on new location.

T. Other Proposed Highway Improvements in the Area

Currently, there is one other TIP project in the area, a bridge replacement project (TIP Project B-2817), which is located 1.Z miles (2.7 km) south of the Interstate 85/Dixon School Road interchange on SR 2245 over Kings Creek. TIP Project B-2817 is scheduled for right of way acquisition and construction to begin in fiscal year 1996 and 1997, respectively, and will have no effect on the subject project.

III. ALTERNATIVES TO THE PROPOSED ACTION

A. Recommended Improvements (Alternative 1)

The proposed project involves constructing a two-lane highway on new location from north of the Interstate 85/SR 2283 (Dixon School Road) Interchange to US 74 Business at SR 2031 (Elam Road) west of Kings Mountain, a distance of approximately 2.9 miles (4.7 km) (see Figures 1 and 2).

Starting on Dixon School Road approximately 0.3 mile (0.5 km) north of Interstate 85, NCDOT proposes to widen 0.1 mile of existing Dixon School Road to a two-lane, 24-foot (7.2 m) wide roadway with 8-foot (2.4 m) shoulders (4 feet (1.2 m) paved) within a 150 foot (46 m) right of way (this will allow for future multilane widening). The proposed route will veer to the west and north on new location for 2.8 miles (4.5 km) until it terminates at US 74 Business west of Kings Mountain. This proposed route will intersect with SR 2305 (Compact School Road), NC 216 (Battleground Road), SR 2263 (Margrace Road), SR 2256 (Phifer Road), and SR 2315. The project also calls for realigning and/or extending SR 2283, NC 216, SR 2256, and SR 2315 where those roads intersect the proposed facility.

A bridge 150 feet (46 m) long and 32 feet (9.6 m) wide (clear roadway width) is planned to carry the proposed route over the Norfolk-Southern Railroad, and a double barrel 10 foot (3.0 m) by 7 foot (2.1 m) reinforced concrete box culvert will carry the proposed route over Beason Creek.

No wetlands will be impacted by this alternative. Approximately 61 acres of right of way will be acquired under this alternative. One business and 10 residential relocatees are anticipated under this alternative. The total cost of this alternative is $7,710,000, which includes $6,850,000 for construction and $860,000 for right of way.

Consideration was given to shifting the alignment in the area of SR 2305 to the west to avoid impacts to a nearby residential neighborhood. Currently, it is anticipated that two residences in this area will be relocated as a result of the subject project. This shift in alignment would utilize less of existing Dixon School Road at the beginning of the project and would shift the project terminal to the south. This would increase costs, as well as introducing a sharper curve at the beginning of the project than what is proposed. The shift in alignment would also introduce a more skewed crossing of the Norfolk-Southern Railroad which would require a slightly longer bridge. This alignment would also relocate four residences in the Battleground Road (NC 216) area. Shifting the alignment to avoid the neighborhood in the area of SR 2305 would introduce more impacts to other areas of the project and increase costs; therefore, no further consideration was given to shifting the alignment.

B. Design Alternative (Alternative 2)

Alternative 2 is generally located east of Alternative 1. Starting on Dixon School Road approximately 0.3 mile (0.5 km) north of Interstate 85, this alternative would widen Dixon School Road to a two-lane, 24-foot (7.2 m) wide roadway with 8-foot (2.4 m) shoulders (4 feet (1.2 m) paved) within a 150 foot right of way (this would allow for future multilane widening). This alternative would follow Dixon School Road for approximately 0.7 mile (1.1 km) to SR 2294 (Tin Mine Road) and would include improving the existing poor horizontal alignment. At SR 2294, this alternative would veer to the northeast, cross existing Dixon School Road south of SR 2346 then veer to the northwest on new location for 2.1 miles (3.4 km) until it terminates at US 74 Business west of Kings Mountain to give a total project length of 2.8 miles (4.5 km). This alternative would intersect NC 216 (Battleground Road), SR 2263 (Margrace Road), and SR 2256 (Phifer Road) on new location. SR 2294 (Tin Mine Road), NC 216 (Battleground Road), SR 2256 (Phifer Road) and SR 2315 would be realigned, and Compact School Road and Mt. Olive Church Road would be extended, to intersect this facility. The proposed route would cross over the Norfolk-Southern Railroad and SR 2263 by means of a grade separated structure 250 feet (76.2 m) long and 32 feet (9.6 m) wide (clear roadway width). A two-lane, two-way road would be constructed for access between the new highway and SR 2263. Under this alternative, a double barrel 10 foot (3.0 m) by 7 foot (2.1 m) reinforced concrete box culvert would carry the proposed route over Beason Creek. See Figure 2 for a map of the proposed improvements under Alternative 2.

No wetlands would be impacted by this alternative. Approximately 57 acres of right of way would be acquired under this alternative. There are 2 business relocatees and 20 residential relocatees under this alternative. The total cost of this alternative is $7,776,000, which includes $6,700,000 for construction and $1,076,000 for right of way.

Alternative 2 is not recommended because it would displace more residents, cost more to build, and affect a more disproportionate number of minorities (see relocatee reports for Alternatives 1 and 2 on pages A-1 and A-2).

C. Postponement of Proposed Action

Construction of the proposed route will provide a more direct north-south corridor and reduce travel time between Interstate 85 and US 74 Business just west of Kings Mountain. Postponement of the project would not achieve these goals. Therefore, this alternative is not recommended.

D. "Do Nothing" Alternative

Although this alternative would avoid the limited adverse environmental impacts that are anticipated to result from the project, it would not provide a more direct north-south route between I-85 and US 74 Business on the western side of Kings Mountain. There would be no positive effect on the traffic capacity of the area or improvements in traffic safety. For these reasons, this alternative is not recommended.

E. Alternate Modes of Transportation

No alternate mode of transportation is considered to be a practical alternative. Highway transportation is the dominant mode of transportation in the project area, and the project involves constructing a new road. Thus, this alternative is not recommended.

F. Thoroughfare Plan Alignment

The alignment shown in the Proposed Revised Thoroughfare Plan was eliminated from serious study due to the higher right of way impacts and costs associated with improving existing Dixon School Road from I-85 to NC 216. Such improvements would be necessary due to the poor horizontal alignment along Dixon School Road (see Figure 4). For these reasons, this alternative is not recommended.

IV. SOCIAL, ECONOMIC, AND ENVIRONMENTAL EFFECTS

A. Social Effects

1. Land Use

a. Existing Land Use

The proposed roadway extension is located in an area in slow transition from rural to suburban development. Pockets of residential subdivisions are scattered throughout agricultural

fields and forested areas. A middle school and senior high school are located just east of the project area on Phifer Road (SR 2256). At the southern end of the project is a residential community centered around Mt. Olive Church and accessed from SR 2283. Land use along NC 216 in the vicinity of the two design alternatives includes low density residential uses fronting the roadway. Other developed areas include a small residential development along SR 2259, just west of Alternative 2.

Both alternatives will impact large fruit tree orchards located along SR 2256.

b. Existing Zoning

The proposed extension is located within the planning and zoning jurisdiction of the City of Kings Mountain. The City adopted the Kings Mountain Land Use Plan in May 1995. The City worked with the Centralina Council of Governments to update their original plan, which was adopted in 1974. The City also enforces a zoning ordinance and subdivision regulations, which were also revised after adoption of the new land use plan.

Virtually the entire project area, including both alternatives, is zoned R-20, a low density residential district. The only exception is a General Business district at the project's northern terminus at US 74 Business.

c. Proposed Land Use

The section of the project north of Phifer Road is designated for future residential development in the 1995 land use plan. Otherwise, according to local planning officials, the project area is expected to remain primarily rural residential and agricultural uses.

d. Relation of Project and Proposed Land Use

Although the proposed project may adversely affect some individual businesses and undeveloped properties in the project vicinity, it is anticipated the project will not have a detrimental effect on the existing land use, in general. Development may be encouraged by improved accessibility.

2. Neighborhood Characteristics

The proposed project is in Cleveland County. Cleveland County is in the southwestern section of the state and is bounded by the State of South Carolina and Rutherford, Burke, Lincoln, and Gaston Counties. It has a population of 84,714 (taken from 1990 US Census). The racial composition of Cleveland County consists of 66,362 whites compared to 18,352 nonwhites. It has a population density (persons per square mile) of 182.44.

The proposed project is near the town of Kings Mountain. The 1990 US Census indicates that Kings Mountain has a population of 8,763.

Alternative 1 begins on the north side of Interstate 85 on Dixon School Road. Alternative 1 follows Dixon School Road for 0.1 mile (0.2 km), then heads northwesterly on new location. In the area of SR 2305, Alternative 1 crosses the western edge of a minority neighborhood. An old farm exists on NC 216 in the vicinity of Alternative 1. Alternative 1 bridges over the Norfolk-Southern Railroad as it makes its way to the north while curving gently to the east, running in a northeasterly direction on new location through woodlands until it comes to the end of the proposed action at US 74 Business.

Alternative 2 begins at the same place as Alternative 1 on Dixon School Road. It follows Dixon School Road until Dixon School Road intersects with SR 2294. Alternative 2 then goes on new location, curving to the north and crossing through and impacting a minority neighborhood as it crosses Dixon School Road just south of SR 2346. Alternative 2 bridges over the Norfolk-Southern Railroad and continues to go in a northerly direction across woodlands until it reaches the northern project terminal at US 74 Business.

3. Relocatees

Alternative 1 (Recommended) is anticipated to displace 10 residences and 1 business. Nine of the relocatees are owners; three are minorities. Alternative 2 is anticipated to displace 20 residences and 2 businesses. Thirteen of the relocatees are owners; nine are minorities.

Neither Alternative 1 (Recommended) nor Alternative 2 will displace any farm or farm operation, schools, churches, public buildings, or other institutional structures.

It is anticipated adequate replacement housing will be available for homeowners, and the proposed improvements will not cause a shortage of rental property in the area. No special relocation services are expected to be necessary for the displacees as no large families, elderly or disabled persons, or low income groups will be affected. Based on the local real estate market, multiple listing service, and the area newspaper listings, sufficient replacement housing is anticipated to be available for all displacees in the project area. The opportunity exists for rentals to become available and for tenants to become owners. Compensation will be made available to qualified tenants who wish to purchase instead of rent property.

Relocation reports for Alternatives 1 and 2 are included in the Appendix (see pages A-1 and A-2) .

For a review of the NCDOT Relocation Assistance Programs, refer to the Appendix, pages A-3 and A-4.

4. Effects on Social Groups

In compliance with Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low Income 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. The investigation found the project will not disproportionately impact any minority populations. Reliable income levels for persons affected by the proposed improvements were not available.

The 1990 Census data reflects Cleveland County's population as predominately white (78.3%), with 21.7% being of minority descent. Alternative 2 would require the relocation of nine minorities, or 41% of the total relocatees, which is a disproportionate number. Alternative 1 (Recommended) will require the relocation of three minorities, or 27% of the total relocatees. Alternative 1 (Recommended) displaces fewer minorities than Alternative 2 and is more proportionate based on the existing population make-up of Cleveland County.

The 1990 Census data also reflected that 11% of persons in Cleveland County were living at or below the poverty level. Based on U. S. Government figures, a family of three whose yearly income is $12,072 or less is considered to be at the poverty level. Although the relocation reports included in the Appendix show estimated relocatee income levels, no yearly income figures are available for those residents affected by the proposed project. Alternative 1 (Recommended) impacts fewer persons than Alternative 2.

5. Public Facilities

Public facilities in the project area include several schools, several churches, and a county-operated recycling center located on Margrace Road. They will not be adversely impacted by the proposed action.

6. Social Impacts

The proposed project will have a positive overall impact in that it will provide a more direct route between I-85 and US 74 Business. The economy could grow because of secondary development that could result from this new highway facility. In addition, existing businesses in the area will benefit from improved access.

The subject project also will provide a more direct and safer route for school buses and emergency vehicles.

7. Historic and Cultural Resources

a. Architectural/Historical Resources

Numerous brick and frame bungalows and cottages, dating from the 1920s and 1930s, are located on the south side of Battleground Road (NC 216) and the north and south sides of Shelby Road (US 74 Business). Only one structure, the McSwain House, predates the bungalows. Located at 1708 Shelby Road, the McSwain House is an early twentieth century, two-story, frame, gable-roofed dwelling with weatherboard siding, two exterior chimneys, and six-over-six windows. The house and two outbuildings are located on the north side of Shelby Road.

The McSwain House and the bungalows are not eligible for the National Register because they are not significant examples of the forms that they represent. The McSwain House has numerous additions to the rear and an integrity-reducing attached front porch. The bungalows are lackluster representatives of the Craftsman style which was popular in the 1920s, or they are Recovery era houses which have less stylistic elements than the 1920s houses such as the reduced roof eaves, ornamentation, and paucity of materials.

The NCDOT and the FHWA have determined that there are several structures older than fifty years of age within the Area of Potential Effect (APE) of the project, but that they are not eligible for listing on the National Register of Historic Places. The State Historic Preservation Office reviewed the project and concurred with this finding (see Appendix, page A-25). No further compliance with Section 106 of the National Historic Preservation Act or Section 4(f) of the Department of Transportation Act is required.

b. Archaeological Resources

An archaeological survey of the proposed construction areas was completed by an NCDOT archaeologist on February 23-24 and March 1-2, 1993. Survey work consisted of surface reconnaissance and shovel testing at 50-75 ft (15-23 m) intervals within the project corridor. This inspection resulted in the location of one twentieth century site (31CL19**) located within the APE. An archaeological assessment of this site determined that information potential of this site is limited and that this site is not eligible for listing on the National Register of Historic Places; therefore, no further work is required.

Two abandoned historic period farmsteads (31CL20** and 31CL21**) were also found near the project area. The Phifer Homestead (31CL20**) lies 700 ft (213 m) south of the APE, and the Black Homestead (31CL21**) is located 300 ft (91 m) north of the APE. Both sites were determined by FHWA and NCDOT to be potentially eligible for listing on the National Register of Historic Places; however, both are outside the area of potential effect of the project. Therefore, no further investigation of the sites is recommended. Sites 31CL20** and 31CL21** are associated with early settlement in Kings Mountain and may have the potential to contain significant information about this period of time in the western Piedmont Region of North Carolina. If the alignment of the proposed alternative changes, these sites will need to be evaluated to determine if they will be affected by construction of the subject project and if they are eligible for nomination to the National Register of Historic Places.

No further compliance with Section 106 of the National Historic Preservation Act or Section 4(f) of the Department of Transportation Act is required for the archaeological resources. The State Historic Preservation Office reviewed the findings and concurred (see Appendix, page A-24).

8. Section 4(f) Resources

No impacts to Section 4(f) properties will result from the subject project.

B. Economic Effects

According to the NC State Employment Security Commission, in the month of August 1994, Cleveland County had a total labor force of 45,320. Out of that total, 42,910 persons were gainfully employed. This left an unemployment total of 2,410, or 5.3 percent.

The proposed new highway will have positive impacts on the economy: it will provide a direct route from I-85 to US 74 Business. This means that service and goods can be transported between the two major highway facilities with improved safety and efficiency. The subject project could encourage economic growth for the general area.

The proposed new highway will probably have a positive economic impact on employment and the construction and trade industries during its construction. There is a possibility that some of the construction workers will be hired from Kings Mountain and Cleveland County. In addition, it can also be surmised that some of the materials to be used in the construction process will come from Cleveland County. These factors will help to boost the economy of Cleveland County.

C. Environmental Effects

1. Biological Resources

Major vegetative associations and land-use patterns are defined in an integrated ecosystem approach which includes floral, mammalian, avian, reptilian, fish, and amphibian components. Distribution and composition of three biotic communities throughout the project area reflect the topographic positioning, hydrologic influences, and past and present land use practices.

a. Terrestrial Communities

Three biotic communities were identified in the project area: Man-dominated, Mixed Pine/Hardwood, and Riparian Fringe. The following profile descriptions, where applicable, have been adopted and modified from the NCNHP classification scheme (Schafale and Weakley 1990). Fauna sighted in the study area is denoted by an asterisk.

Man-Dominated

Man-dominated lands are intensively managed where man's structures or activities preclude natural plant succession. Peach orchards, fallow fields, and residential and commercial development comprise this community type.

Roadside shoulders, maintained by mowing, give rise to a rich assemblage of herbaceous plants. Lawn grass (Festuca spp.) is prevalent with some encroachment of Queen Anne's lace (Daucus carota), chickory (Cichorium intybus), and dandelion (Taraxacum officinale). These same herbaceous plants may be found in fallow fields and along the edges of peach orchards.

Man-dominated communities adjacent to forested tracts provide rich ecotones for foraging, while the forests provide forage and cover. Common mammals tied to ecotones are the woodchuck (Marmota monax), least shrew (Crypototis parva), southern short-tailed shrew (Blarina carolinensis), hispid cotton rat (Sigmodon hispidus), and eastern cottontails (Sylvilagus floridanus).

Rural, open areas and adjacent forested areas support a myriad of bird life. Carolina wren (Thryothorus ludovicianus), robin (Turdus migratorious), wood thrush (Hylocichla mustelina), northern cardinal (Cardinal cardinalis), common grackle (Quiscula quiscula), turkey vulture (Cathartes aura), and red-tailed hawk (Buteo jamaicensis) are birds sighted in the study area. Although red-tailed hawks prefer to feed in upland habitats, they frequently nest in flood plains. Other common inhabitants are the mourning dove (Zenaida macroura), common flicker (Colaptes auratus), Carolina chickadee (P. carolinensis), tufted titmouse (P. bicolor), and American goldfinch (Carduelis tristis).

The eastern fence lizard (Sceloporus undulatus) inhabits open, sunny situations, such as building sites, and fence rows. American toad (Bufo americanus) and box turtle (Terrapene caroline) are very common reptiles that may inhabit man-dominated areas, while the slimy salamander (Plethodon glutinosus) is the most likely amphibian to be found under logs, stones, and leaf litter.

Mixed Pine-Hardwood Forest

Large tracts of Mixed Pine-Hardwood forest make up the study area, interspersed with hardwood pockets. Virginia pine (Pinus virginiana), loblolly pine (P. serotina), and some scattered white pine (Pinus strobus) share the canopy with tulip tree (Liriodendron tulipifera), white oak (Quercus alba), red oak (Q. rubra), scarlet oak (Q. coccinea), and black oak (Q. velutina). The understory consists of dogwood (Cornus florida), blueberry (Vaccinium sp.), sourwood (Oxydendron arboreum), bladdernut (Staphylea trifolia), and red cedar (Juniperus virginiana). The herbaceous layer supports pipsissewa (Chimaphila maculata), ebony spleenwort (Asplenium platyneuron), braken fern (Pteridium aquilinum), and poison ivy (Toxicodendron radicans). Japanese honeysuckle (Lonicera japonica) and Virginia creeper (Parthenocissus quinquefolia) are the most common vines present.

Upland forests of the area are fragmented and are adjacent to man-dominated areas; thus, the faunal component is similar to what occurs in man-dominated areas. Species more frequently associated with upland forests are the white-tail deer (Odocoileus virginianus), gray squirrel (Sciurus carolinensis pennsylvanicus), white-footed mouse (Peromyscus leucopus), and eastern chipmunks (Tamias striatus). Numerous eastern box turtles were noted.

Riparian Fringe

Narrow strips of riparian forest border the banks of many of the small creeks in the study area. Dominant canopy species found here include box elder (Acer negundo), sycamore (Platanus occidentalis), hickory (Carya sp.), and black locust (Robinia pseudo-acacia). The mid-story and shrub layer are composed primarily of saplings of the canopy species. Blackberry (Rubus sp.) is also prevalent. The herb layer is sparse due to season, but the following weedy species were noted: poison ivy, bittercress (Cardamine sp.), pokeweed (Phytollaca americana), and chickweed (Stellaria media).

Riparian communities provide a variety of opportunities for wildlife. Such mammals as beaver (Castor canadensis), mink (Mustela vison), and raccoons (Procyon lotor) inhabit these sites, as well as mammals forced from upland sites due to development pressures. Commonly occurring reptiles and amphibians are the spring peeper (Hyla crucifer), green frog (Rana clamitans), pickerel frog (R. palustris), northern dusky salamander (Desmognathus fuscus), two-lined salamander (Eurycea bislineata), and rat snake (Elaphe obsoleta).

b. Aquatic Communities

The primary waterbody in the project area is Beason Creek. Fish likely to be found in these cool waters and tributaries are the rosyside dace (Clinostomus funduloides), bluehead chub (Nocomis leptocephalus), fieryblack shiner (Notropis pyrrhomelas), yellowfin shiner (N. lutipinnis), creek chub (Semotilus atromaculatus), white sucker (Catostomus commersoni), redbreast sunfish (Lepomis auritus), and bluegill (L. macrochirus) (pers. comm. Chris Goudreau, NCWRC Fisheries Biologist).

Amphibians, in particular, are highly water-dependent for completion of larval stages in their life cycle. Some species are totally aquatic. Some water dependant salamanders likely to occur in the project area are the northern dusky salamander (Desmognathus opacum), two-lined salamander (Eurycea bislineata), and the three-lined salamander (Eurycea guttolineata). Tadpoles and adult bullfrogs (Rana catesbeiana), greenfrogs, and spring peepers are common in and along streams, as are snapping turtles (Chelydra serpentina) and painted turtles (Chrysemys picta).

Calculated impacts to natural communities reflect the relative abundance of each system present in the study corridors. Table 1 summarizes potential losses which could result from the two alternatives studied. Calculations are based on a right of way width of 150 feet (46 m). Values are reported in hectares (acres).

Table 2. ANTICIPATED BIOTIC COMMUNITY IMPACTS

BIOTIC COMMUNITY	ALTERNATIVE	
	1	2
	ha / (ac)	ha / (ac)
Man-dominated	7.7 (19.1)	4.9 (12.3)
Mixed Pine/Hardwood	10.8 (26.6)	8.9 (22.0)
Riparian Fringe	<0.1 (0.1)	<0.1 (0.1)
Total	18.6 (45.8)	13.9 (34.4)

Impacts due to the proposed widening will result in the creation of new habitat and in the alteration and elimination of previously existing habitat. Subterranean, burrowing, and slow moving organisms will be eliminated. Larger, faster animals are vulnerable to displacement. Creation of a "highway barrier" can affect both short-term migrations (diurnal, nocturnal) and long term migrations (seasonal) of animal populations, depending on individual species' requirements for food, water, and cover. Animal migrations may also be interrupted due to vehicular noise. Road-kills will decrease numbers of individuals of certain species.

Dredging, filling, pile-driving operations, slope stabilization, and land clearing are construction activities which can result in the direct loss of benthic organisms due to an increase in silt load. The removal of benthic organisms reduces the potential food supply for fish and other vertebrates. Siltation has many adverse impacts on fish and benthos in that it: decreases the depth of light penetration; inhibits plant and algal growth (food sources); clogs the filtration apparatus of filter-feeding benthos and the gills of fish; buries benthic organisms on the bottom, cutting them off from a food source; adversely effects preferred benthic substrate; and spoils downstream spawning beds for fish. Stringent employment of Best Management Practices is highly advocated during the construction phase of this project to lessen impacts to aquatic organisms.

c. Federally Protected Species

Federal law requires that any species federally classified as Endangered (E), Threatened (T), Proposed Endangered (PE) and Proposed Threatened (PT), is protected from any action which has

the potential to have a detrimental impact to the survival and well being of said species under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. The FWS lists the federally Threatened dwarf-flowered heartleaf (Hexastylis naniflora) for Cleveland County as of March 28, 1995.

Hexastylis naniflora (dwarf-flowered heartleaf) T Plant
Family: Aristolochiaceae
Federally Listed: April 14, 1989
Flowers Present: mid-March - mid-May
Distribution in N.C.: Burke, Catawba, Cleveland, Lincoln, and Rutherford Counties.

The dwarf-flowered heartleaf is found only in eight southern piedmont counties in North Carolina and the adjacent portions of South Carolina.

This plant has heart-shaped leaves, supported by long thin petioles that grow from a subsurface rhizome. It rarely exceeds 15 cm in height. The leaves are dark green in color, evergreen, and leathery. Flowers are small, inconspicuous, jugshaped, and dark brown in color. They are found near the base of the petioles. Fruits mature from mid-May to early July.

Dwarf-flowered heartleaf populations are found along bluffs and their adjacent slopes, in boggy areas next to streams and creekheads, and along slopes of nearby hillsides and ravines. It grows in acidic soils in regions with a cool moist climate. Regional vegetation is described as upper piedmont oak-pine forest and as part of the southeastern mixed forest.

BIOLOGICAL CONCLUSION: No Effect. Suitable habitat is present along much of Alternatives 1 and 2. Two parallel line transects, spaced approximately 50 feet (15 m) apart, were conducted within the proposed right of way limits (150 feet (46 m) in width) for each studied alternative. No Hexastylis species were encountered. The subject project will not impact this species.
If the alignment of the proposed alternative changes, the proposed right of way will need to be surveyed again to determine if the species is present.

d. Federal Candidate Species

No federal Candidate species are listed by the FWS for Cleveland County.

e. State Protected Species

In North Carolina, protection of plant species falls under N.C. General statutes (G.S.) 106-202.12 to 106-202.19 of 1979. These species may or may not be federally protected.

The dwarf-flowered heartleaf (Hexastylis naniflora) is a federally Threatened species which has a state protected status of Endangered. A search of the NCNHP files reveal no known occurrences of this or other state protected species in the project area. As noted above, because of this species' federal status, scientific surveys were conducted. No plants were found.

2. Soils

Cleveland County occurs in the Piedmont Physiographic province located in the Felsic Crystalline Soil System. The topography in this system is extremely variable. Broad, gently sloping uplands are common, as are moderately to steeply sloping areas. The bedrock is granite, granite gneiss, mica gneiss, and mica schist.

Generally, the subject project occurs in the Tatum-Nason Association. An association consists of one or more major soils and at least one minor soil that occur together in a characteristic and repeating pattern. The Tatum-Nason Association consists of well drained soils with mostly silt loam surfaces and moderately permeable silty clay loam subsoils on gently sloping ridge tops with strongly sloping and moderately steep sides. This association is formed from the weathering of schist and is underlain by hard rock at depths of 40 to 60 inches (1 to 2 m). Minor soils make up 20 percent of this association. The micaceous clayey Madison soils make up most of the minor soils in this association.

3. Wetlands

Surface waters and their associated wetlands fall under the broad category of "Waters of the United States" as defined in 33 CFR 328.3. The US Army Corps of Engineers (COE) takes jurisdiction over the discharge of dredged or fill material into these waters as authorized by Section 404 of the Clean Water Act.

Potential wetland communities were assessed in the project corridor on the basis of low soil chroma values (hydric soils), hydrophytic vegetation, and the presence of hydrology or hydrological indicators, such as stained, matted vegetation, high water marks on trees, buttressed tree bases, and surface roots. No jurisdictional wetlands are located in the project area.

a. Permits

In accordance with provisions of Section 404 of the Clean Water Act (33 U.S.C 1344), a permit will be required from the COE for the discharge of dredged or fill material into "Waters of the United States". Based upon site location and estimated acreage involved, it is anticipated that for Alternatives 1 and 2, the crossing of Beason Creek will be authorized by Nationwide Permit (33 CFR 330.5) (a) (14)]. Nationwide #14 allows for road crossing fills of non-tidal "Waters of the United States", provided that no more than a total of 200 linear ft (61 linear meters) of the fill for the roadway can occur in special

aquatic sites, including wetlands, and that the fill is limited to a filled area of no more than 0.3 acre (0.1 ha).

A 401 Water Quality Certification administered through the N.C. Department of Environment, Health, and Natural Resources will be required. This certificate is issued for any activity which may result in a discharge into waters for which a federal permit is required.

b. Mitigation

Compensatory mitigation is not required where Nationwide permits or General permits are authorized, according to the Memorandum of Agreement (MOA) between the Environmental Protection Agency (EPA) and the COE. Final discretionary authority in these matters rests with the COE.

4. Flood Hazard Evaluation

Cleveland County does not participate in the National Flood Insurance Regular Program. However, a Flood Insurance Map and study have been prepared by the Federal Emergency Management Agency (FEMA) in the anticipation that Cleveland County may participate in the future. Beason Creek is not included in the detailed flood study. The floodplain in the vicinity of this crossing is rural and wooded and does not include any buildings. Construction of this project will not adversely affect the existing floodplain. Figure 6 shows the approximate limits of the 100-year floodplain.

5. Water Quality

The subject project traverses Beason Creek (EHNR index no. 9-53-8), which lies within the Broad River Basin. This creek is tributary to Buffalo Creek, which joins the Broad River in South Carolina. Beason Creek is located at the northern end of the project area. It parallels both alternatives approximately 1200 feet (366 m) to the west, before crossing the alignments at a right angle. Beason Creek measures approximately 10 to 12 feet (3 to 4 m) across with a water depth of approximately 1 foot (0.3 m) deep at the time of field visit. The creek bottom is characterized by a sand/cobble substrate, and the flow rate was moderate. This creek has been modified by channelization, resulting in steep, vertical banks. Little natural vegetation is left along the banks, due to a power line crossing.

"Best usage" classifications are assigned to the waters of North Carolina by the Division of Environmental Management (DEM). A "best usage" water classification of C has been assigned to Beason Creek. Class C designates waters suitable for secondary recreation, aquatic life propagation, and survival, fishing, wildlife, and agriculture.

The Benthic Macroinvertebrate Ambient Network (BMAN) (NC-DEHNR, Division of Environmental Management) addresses long term trends in water quality at fixed monitoring sites by the sampling for selected benthic macroinvertebrates. These organisms are sensitive to very subtle changes in water quality. Biological data has been collected from Buffalo Creek and its tributaries, including Beason Creek. A biological sampling site is located within one kilometer of the

project area on Beason Creek at SR 2252 and within two kilometers at SR 2246. Bioclassification data collected in 3/86 and 6/87 indicates good/fair conditions at both sampling sites.

Neither High Quality Waters, Outstanding Resource Waters, nor waters classified as WS-I and WS-II are located in the study area, or within one mile downstream. No National Pollutant Discharge Elimination System permits have been issued for the immediate project area.

Beason Creek will likely receive impacts from the subject project. Both Alternatives 1 and 2 cross this waterbody. The proposed culvert installation will reduce the linear feet of natural stream channel. Other potential impacts are increased sedimentation from construction and/or erosion; increased concentration of toxic compounds from highway runoff and/or toxic spills; scouring of stream beds due to the channelization of streams; alterations of water level due to interruptions or additions to surficial and/or groundwater flow; and changes in light incidence due to the removal of vegetative cover. Best Management Practices will be stringently employed during the construction phase of this project to lessen impacts to aquatic systems.

6. 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. These soils are designated by the US Soil Conservation Service, based on crop yield and other factors. Land that is developed, or planned for development through the planning and zoning authority of the local government jurisdiction, is exempt from consideration under the Act. The project area is planned for development, as shown in the Kings Mountain zoning ordinance and Land Use Plan. Therefore, no further consideration of farmland impacts is required.

7. Highway Traffic Noise/Construction Noise Analysis

This analysis was performed to determine the effect of the proposed building of Dixon School Road Extension on noise levels in the immediate project area. This investigation includes an inventory of existing noise sensitive land uses and a field survey of ambient (existing) noise levels in the study area. It also includes a comparison of the predicted noise levels and the ambient noise levels to determine if traffic noise impacts can be expected resulting 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 for reducing or eliminating the noise impacts must be considered.

a. Characteristics of Noise

Noise is basically defined as unwanted sound. It is emitted from many sources including airplanes, factories, railroads, power generation plants, and highway vehicles. Highway noise, or traffic noise, is usually a composite of noises from engine exhaust, drive train, and tire-roadway interaction.

The magnitude of noise is usually described by its sound pressure. Since the range of sound pressure varies greatly, a logarithmic scale is used to relate sound pressures to some common reference level, usually the decibel (dB). Sound pressures described in decibels are called sound pressure levels and are often defined in terms of frequency weighted scales (A, B, C, or D).

The weighted-A decibel scale is used almost exclusively in vehicle noise measurements because it places the most emphasis on the frequency range to which the human ear is most sensitive (1,000-6,000 Hertz). Sound levels measured using a weighted-A decibel scale are often expressed as dBA. Throughout this report, all noise levels will be expressed in dBA's. Several examples of noise pressure levels in dBA are listed in Table N1 (see Appendix, page A-5).

Review of Table N1 indicates that most individuals in urbanized areas are exposed to fairly high noise levels from many sources as they go about their daily activities. The degree of disturbance or annoyance of unwanted sound depends essentially on three things:

1) The amount and nature of the intruding noise.

2) The relationship between the background noise and the intruding noise.

3) The type of activity occurring where the noise is heard.

In considering the first of these three factors, it is important to note that individuals have different sensitivity to noise. Loud noises bother some more than others, and some individuals become riled if an unwanted noise persists. The time patterns of noise also enter into an individual's judgement of whether or not a noise is offensive. For example, noises occurring during sleeping hours are usually considered to be more repugnant than the same noises in the daytime.

With regard to the second factor, individuals tend to judge the annoyance of an unwanted noise in terms of its relationship to noise from other sources (background noise). The blowing of a car horn at night when background noise levels are approximately 45 dBA would generally be more objectionable than the blowing of a car horn in the afternoon when background noises might be 55 dBA.

The third factor is related to the interference of noise with activities of individuals. In a 60 dBA environment, normal conversation would be possible, while sleep might be difficult. Work activities requiring high levels of concentration may be interrupted by loud noises, while activities requiring manual effort may not be interrupted to the same degree.

Over time, particularly if the noises occur at predicted intervals and are expected, individuals tend to accept the noises which intrude into their lives. Attempts have been made to regulate many of these types of noises, including airplane noise, factory noise, railroad noise, and highway traffic noise. In relation to highway traffic noise, methods of analysis and control have developed rapidly over the past few years.

b. Noise Abatement Criteria

In order to determine whether highway noise levels are or are not 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 the aforementioned Federal reference (Title 23 CFR Part 772). A summary of the noise abatement criteria for various land uses is presented in Table N2 (see Appendix, page A-6). 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.

c. Ambient Noise Levels

Ambient noise measurements were taken in the vicinity of the project to determine the existing background 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 level along the corridors for the two alternatives as measured at 50 feet (15 m) from the roadway ranged from 53.4 to 67.7 dBA. The ambient measurement sites and measured exterior Leq noise levels are presented in Figure N1 and Table N3, respectively (see Appendix, pages A-7 and A-8).

The existing roadway and traffic conditions were used with the most current traffic noise prediction model in order to calculate existing noise levels for comparison with noise levels actually measured. The calculated existing noise levels were within 0.1 to 3.5 dBA of the measured noise levels for the locations where noise measurements were obtained. Differences in dBA levels can be attributed to "bunching" of vehicles, low traffic volumes, and actual vehicle speeds versus the computer's "evenly-spaced" vehicles and single vehicular speed.

d. Procedure for Predicting Future Noise Levels

In general, the traffic situation is composed of a large number of variables which describe different cars driving at different speeds through a continually changing highway configuration and surrounding terrain. Due to the complexity of the problem, certain assumptions and simplifications must be made to predict highway traffic noise.

The procedure used to predict future noise levels in this study was the Noise Barrier Cost Reduction Procedure, STAMINA 2.0 and OPTIMA (revised March, 1983). The BCR (Barrier Cost Reduction) procedure is based upon the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108). The BCR traffic noise prediction model uses the number and type of vehicles on the planned roadway, their speeds, the physical characteristics of the road (curves, hills, depressed, elevated, etc.), receptor location and height, and, if applicable, barrier type, barrier ground elevation, and barrier top elevation.

In this regard, it is to be noted that 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.

The STAMINA 2.0 computer model was utilized in order to determine the number of land uses (by type) which would be impacted during the peak hour of the design year 2015. A land use is considered to be impacted when exposed to noise levels approaching or exceeding the FHWA noise abatement criteria and/or predicted to sustain a substantial noise increase. The basic approach was to select receptor locations such as 25, 50, 100, 200, 400, 800, and 1600 feet (7.6, 15.2, 30.4, 60.8, 121.6, 243.6, and 487.2 meters) from the center of the near traffic lane (adaptable to both sides of the roadway). The location of these receptors were determined by the changes in projected traffic volumes and/or the posted speed limits along the proposed project. The result of this procedure was a grid of receptor points along the project. Using this grid, noise levels were calculated for each identified receptor.

The Leq traffic noise exposures associated with this project for Alternatives 1 and 2 are listed in Table N4 (see Appendix, pages A-9 through A-12). Information included in these tables consist of listings of all receptors in close

proximity to the project, their ambient and predicted noise levels, and the estimated noise level increase for each.

The maximum number of receptors in each activity category that are predicted to become impacted by future traffic noise is shown in Table N5 (see Appendix, page A-13). These are noted in terms of those receptors expected to experience traffic noise impacts by approaching or exceeding the FHWA NAC or by a substantial increase in exterior noise levels. Under Title 23 CFR Part 772, Alternative 1 was determined to impact two residences by highway traffic noise; Alternative 2 is expected to impact six residences. However, it should be noted that five of the impacted receptors under Alternative 2 were caused by greater noise contribution of traffic on US 74 Business (see Appendix, page A-12). Other information included in Table N5 is the maximum extent of the 72 and 67 dBA noise level contours. This information should assist local authorities in exercising land use control over the remaining undeveloped lands adjacent to the roadway within local jurisdiction. For example, with the proper information on noise, the local authorities can prevent further development of incompatible activities and land uses with the predicted noise levels of an adjacent highway.

Table N6 indicates the exterior traffic noise level increases for the identified receptors in each roadway section (see Appendix, page A-14). Predicted noise level increases for this project range from +2 to +15 dBA for Alternative 1 and +0 to +18 for Alternative 2. When real-life noises are heard, it is possible to barely detect noise level changes of 2-3 dBA. A 5 dBA change is more readily noticeable. A 10 dBA change is judged by most people as a doubling or a halving of the loudness of the sound.

e. Traffic Noise Impact Analysis

Traffic noise impacts occur when the predicted traffic noise levels either: [a] approach or exceed the FHWA noise abatement criteria (with "approach" meaning within 1 dBA of the Table N2 value), or [b] substantially exceed the existing noise levels. The NCDOT definition of substantial increase is shown in the lower portion of Table N2. Consideration for noise abatement measures must be given to receptors which fall in either category. Such measures are described below.

Highway Alignment

Highway alignment selection involves the horizontal or vertical orientation of the proposed improvements in such a way as to minimize impacts and costs. The selection of alternative 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. The proposed alignment (Alternative 1) discussed in Section II of

this report has been selected to minimize costs and environmental impacts, while considering the engineering parameters and the scope and purpose of the project.

Traffic System Management Measures

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

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.

The project will require no control of access, meaning most commercial establishments and residences will have direct access connections to the proposed roadway, and all intersections will adjoin the project 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 (15 m) from the barrier would normally require a barrier 400 feet (122 m) long. An access opening of 40 feet (10 percent of the area) would limit its noise reduction to approximately 4 dBA (FUNDAMENTAL AND ABATEMENT OF HIGHWAY TRAFFIC NOISE, Report No. FHWA-HHI-HEV-73-7976-1, USDOT, chapter 5, section 3.2, page 5-27).

In addition, businesses, churches, and other related establishments located along a particular highway normally require accessibility and high visibility. Solid mass, attenuable measures for traffic noise abatement would tend to disallow these two qualities and, thus, would not be acceptable abatement measures in their case.

Conclusions

Based on the above factors, no physical abatement measures are feasible, and none are recommended for this project.

f. "Do Nothing" Alternative

If the proposed project were not constructed, the acoustic environment for the project corridor would experience only a small change by the design year of the project (2015). Only those receptors that are adjacent to existing roadways would be affected by noise level increases due to increased traffic. These receptors could anticipate experiencing an increase in exterior noise levels in the range of 0 to 3 dBA. As previous noted, it is barely possible to detect noise level changes of 2-3 dBA. A 5 dBA change in noise levels is more readily noticed.

g. 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, particularly from paving operations and from the earth moving equipment during grading operations. 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.

h. 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 studies will be performed for this project.

8. Air Quality Analysis

Air pollution originates from various sources. Emissions from industrial and internal combustion engines are the most prevalent sources. Other origins of common outdoor air pollution are solid waste disposal and any form of fire. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving the ambient air conditions. The traffic is the center of concern when determining the impact of a new highway facility or the improvement of an existing highway facility. Motor vehicles emit carbon monoxide (CO), nitrogen oxide (NO), hydrocarbons (HC), particulate matter, sulfur dioxide (SO_2), and lead (Pb) (listed in order of decreasing emission rate). Automobiles are considered to be the major source of CO in the project area. For this reason, most of the analysis presented is concerned with determining expected carbon monoxide levels in the vicinity of the project due to traffic flow.

In order to determine the ambient CO concentration for the receptor closest to the highway project, two concentration components must be used: local and background. The local concentration is defined as the CO emissions from cars operating on highways in the near vicinity (i.e., distances within 328 feet (100 m)) of the receptor location. 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."

In this study, the local concentration was determined by the NCDOT Traffic Noise/Air Quality Staff using line source computer modeling, and the background concentration was obtained from the North Carolina Department of Environment, Health, and Natural Resources (NCDEHNR). Once the two concentration components were resolved, they were added together to determine the ambient CO concentration for the receptor in question and to compare to the National Ambient Air Quality Standards (NAAQS).

Automobiles are regarded as sources of hydrocarbons and nitrogen oxides. Hydrocarbons and nitrogen oxides emitted from cars are carried into the atmosphere, where they react with sunlight to form ozone and nitrogen dioxide. Area-wide automotive emissions of HC and NO are expected to decrease in the future due to the continued installation and maintenance of pollution control devices on new cars. Hence, the ambient ozone and nitrogen dioxide levels in the atmosphere should continue to decrease as a result of the improvements on automobile emissions.

The photochemical reactions that form ozone and nitrogen dioxide require several hours to occur. For this reason, the peak levels of ozone generally occur 6 to 12 miles (10 to 20 km) downwind of the source of hydrocarbon emissions. Urban areas as a whole are regarded as sources of hydrocarbons, not individual streets and highways. The emissions of all sources in an urban area mix together in the atmosphere, and in the presence of sunlight, the mixture reacts to form ozone, nitrogen dioxide, and other photochemical oxidants. The best example of this type of air pollution is the smog which forms in Los Angeles, California.

Automobiles are not regarded as significant sources of particulate matter and sulfur dioxide. Nationwide, highway sources account for less than 7 percent of particulate matter emissions and less than 2 percent of sulfur dioxide emissions. Particulate matter and sulfur dioxide emissions are predominantly the result of non-highway sources (e.g., industrial, commercial, and agricultural). Because emissions of particulate matter and sulfur dioxide from automobiles are very low, there is no reason to suspect that traffic on the project will cause air quality standards for particulate matter and sulfur dioxide to be exceeded.

Automobiles without catalytic converters can burn regular gasoline. The burning of regular gasoline emits lead as a result of regular gasoline containing tetraethyl lead, which is added by refineries to increase the octane rating of the fuel. Newer cars

with catalytic converters burn unleaded gasoline eliminating lead emissions. Also, the United States Environmental Protection Agency (EPA) has required the reduction in the lead content of leaded gasolines. The overall average lead content of gasoline in 1974 was 2 grams per gallon. By 1989, this composite average had dropped to 0.01 grams per gallon. In the future, lead emissions are expected to decrease as more cars use unleaded fuels and as the lead content of leaded gasoline is reduced. The Clean Air Act Amendments of 1990 make the sale, supply, or transport of leaded gasoline or lead additives unlawful after December 31, 1995. Because of these reasons, it is not expected that traffic on the proposed project will cause the NAAQS for lead to be exceeded.

A microscale air quality analysis was performed to determine future CO concentrations resulting from the proposed highway improvements. "CAL3QHC - A Modeling Methodology For Predicting Pollutant Concentrations Near Roadway Intersections" was used to predict the CO concentration at the nearest sensitive receptor to the project.

Inputs into the mathematical model to estimate hourly CO concentrations consisted of a level roadway under normal conditions with predicted traffic volumes, vehicle emission factors, and worst-case meteorological parameters. The traffic volumes are based on the annual average daily traffic projections. The traffic volume used for the CAL3QHC model was the highest volume within any alternative. Carbon monoxide vehicle emission factors were calculated for the year 1995 and the design year (2015) using the EPA publication "Mobile Source Emission Factors" and the MOBILE 5A mobile source emissions computer model.

The background CO concentration for the project area was estimated to be 1.9 parts per million (ppm). Consultation with the Air Quality Section, Division of Environmental Management, North Carolina Department of Environment, Health, and Natural Resources indicated that an ambient CO concentration of 1.9 ppm is suitable for most suburban/rural areas.

The worst-case air quality receptor was determined to be receptor #5 at a distance of 80 feet (24 m) from the centerline of the proposed highway. The "build" one-hour CO concentrations for the nearest sensitive receptor for the years 1995 and 2015 are shown in Table 3.

Table 3 - One Hour CO Concentrations (PPM)*

Nearest Sensitive Receptor	Build		No-Build	
	1995	2015	1995	2015
R-5	4.8	4.8	4.8	4.8

* Parts Per Million

Comparison of these predicted CO concentrations with the NAAQS maximum permitted (1-hour averaging period = 35 ppm and 8-hour averaging period = 9 ppm) indicates no violation of these standards. Since the results of the worst-case 1-hour CO analysis is less than 9 ppm, it can be concluded that the 8-hour CO level does not exceed the standard. See pages A-15 and A-16 in the Appendix (Tables A1 and A2) for output.

The project is located within the jurisdiction for air quality of the Mooresville Regional Office of the N.C. Department of Environment, Health, and Natural Resources. The ambient air quality for Cleveland County has been determined to be in compliance with the National Ambient Air Quality Standards. This project is not anticipated to create any adverse effect on the air quality of this attainment area.

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 SIP for air quality in compliance with 15 NCAC 2D.0520. Care will be taken to insure that burning will be done at the greatest practical distance from dwellings and not when atmospheric conditions are such as to create a hazard to the public. Burning will only be utilized under constant surveillance. Also during construction, 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. This evaluation completes the assessment requirements for air quality of the 1990 Clean Air Act Amendments and the NEPA process, and no additional reports are required.

9. Stream Modifications

No stream modifications or channel changes will be required for this project.

10. Hazardous Materials

Based on a reconnaissance survey, no operational or non-operational facilities with the potential for underground storage tank (UST) involvement exist within the project study corridors. The files of the Solid Waste Section, Division of Solid Waste Management and the Hazardous Waste Section, Division of Solid Waste Management were consulted. There are no landfills located in this section of Cleveland County that will affect the project. In addition, no unregulated dump sites or other potentially contaminated properties exist within the proposed project limits. Based on these records and the EPA's Superfund list, there are no potential hazardous material sites that should affect this project.

This is not reflected on p. 29

11. Geotechnical Impacts

The study corridor is located in the Inner Piedmont Physiographic Province. Moderate hills rolling through urbanized land make up the project area. The relief along the project corridor is moderately sloping. Elevations range from a low of slightly less than 900 feet (275 m) at Beason Creek to a high of 1000 feet (305 m) near the southern end of the project. Beason Creek is located at the northern end of the project and flows west-southwesterly into the Broad River and on into South Carolina. Erosion has somewhat altered the topography of the area. Thick mats of residual clays cap the hills.

Mississippian intrusive rock of the Kings Mountain Belt and metamorphic rock of the Inner Piedmont Belt underlie the project. Cherryville granite, which is massive to weakly foliated and contains pegmatites, is the dominant bedrock. There is also a large band of mica schist, which includes garnet and quartz lenses, and there are layers with biotite gneiss, amphibolite, and phyllite. Exposures are common in past road cuts and excavations along the project corridor. Deep residual clays underlain by clayey silts and sandy silts are expected to be found on upland portions of the project. The corridor mainly consists of Cecil sandy loam with 2 to 10 percent slopes that are eroded. Alluvial soils encountered along the corridor are typically 100 to 300 feet (30 to 91 m) wide and 5 to 20 feet (1 to 6 m) deep and consist of variable layers of sands, silts, clays, and gravel. Hard rock is expected in cuts deeper than 25 feet (7.6 m) throughout the area, with shallow rock in areas of granite bedrock. Engineering properties of this soil for use in fill sections is fair with moderate shrink-swell potential. The soil profile for this project is shown in the Soil Conservation Service county soils manual to be well drained and to include A-4, A-5, and A-7 soils of the AASHTO soils classification system.

There are no known mineral resources in the vicinity of this proposed construction.

12. Construction Impacts

To minimize potential adverse effects caused by construction, the following measures, along with those already mentioned, will be enforced during the construction phase:

a. Waste and debris will be disposed of in areas outside of the right of way and provided by the contractor, unless otherwise required by plans or Special Provision by the Engineer. Disposal of waste and debris in active public waste or disposal areas will not be permitted without prior approval by the Engineer. Such approval will not be permitted when, in the opinion of the Engineer, it will result in excessive siltation or pollution.

b. Borrow pits and all ditches will be drained insofar as possible to alleviate breeding areas for mosquitos.

c. An extensive rodent control program will be established if structures are to be removed or demolished.

d. Care will be taken not to block existing drainage ditches.

e. Several water lines are located in the vicinity of the proposed project. The contractor will prepare a work schedule which minimizes possible damage to or rupture of the water lines and interruption of water service. The contractor will consult appropriate water system officials in preparing this schedule.

f. 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 North Carolina State Implementation Plan for Air Quality. Care will be taken to insure burning will be done at the greatest distance practicable from dwellings and not when atmospheric conditions are such as to create a hazard to the public. Burning will be performed under constant surveillance.

g. An erosion control schedule will be devised by the contractor before work is started. The schedule will show the time relationship between phases of the work which must be coordinated to reduce erosion and shall describe construction practices and temporary erosion control measures which will be used to minimize erosion. In conjunction with the erosion control schedule, the Contractor will be required to follow those provisions of the plans and specifications which pertain to erosion and siltation. Temporary erosion control measures such as the use of berms, dikes, dams, silt basins, etc. will be used as needed.

h. Prior to the approval of any borrow source developed for use on this project, the Contractor shall obtain a certification from the State Department of Cultural Resources certifying the removal of material from the borrow source will have no effect on any known district, site, building, structure, or object that is included or eligible for inclusion on the National Register of Historic Places. A copy of this certification shall be furnished to the Engineer prior to performing any work on the proposed borrow source.

i. Traffic service in the immediate project area may be subjected to brief disruption during construction of the project. Every effort will be made to insure that the transportation needs of the public will be met both during and after construction.

V. COMMENTS AND COORDINATION

A. Comments Received from Federal, State, and Local Agencies

Comments were received from the following Federal, State and local agencies. These comments have been taken into consideration in the planning of this project and the preparation of this document.

U.S. Department of the Interior (Fish and Wildlife Service)
State Clearinghouse
N.C. Department of Cultural Resources
N.C. Department of Environment, Health, and Natural Resources
Division of Soil and Water Conservation
Division of Land Resources
Mooresville Regional Office
Wildlife Resources Commission

Copies of the comments received are included in the Appendix (see pages A-17 through A-32).

B. Citizens Informational Workshop

A Citizens Informational Workshop was held on Monday, May 3, 1993, from 4:00 pm to 8:00 pm in the Kings Mountain City Hall. Officials from the City were present. Representatives from the Division Office, the Roadway Design Unit, and the Planning and Environmental Branch of the North Carolina Department of Transportation were present to explain the project, receive comments, and answer questions. A copy of the news release advertising the workshop is included in the Appendix (see page A-33).

An aerial photograph showing the proposed extension of Dixon School Road was displayed at the meeting. A handout containing general project information, a vicinity map, and a comment sheet was available for each participant (see pages A-34 through A-39 in the Appendix). Each participant was given the opportunity to review the aerial photograph and ask questions or comment on the project.

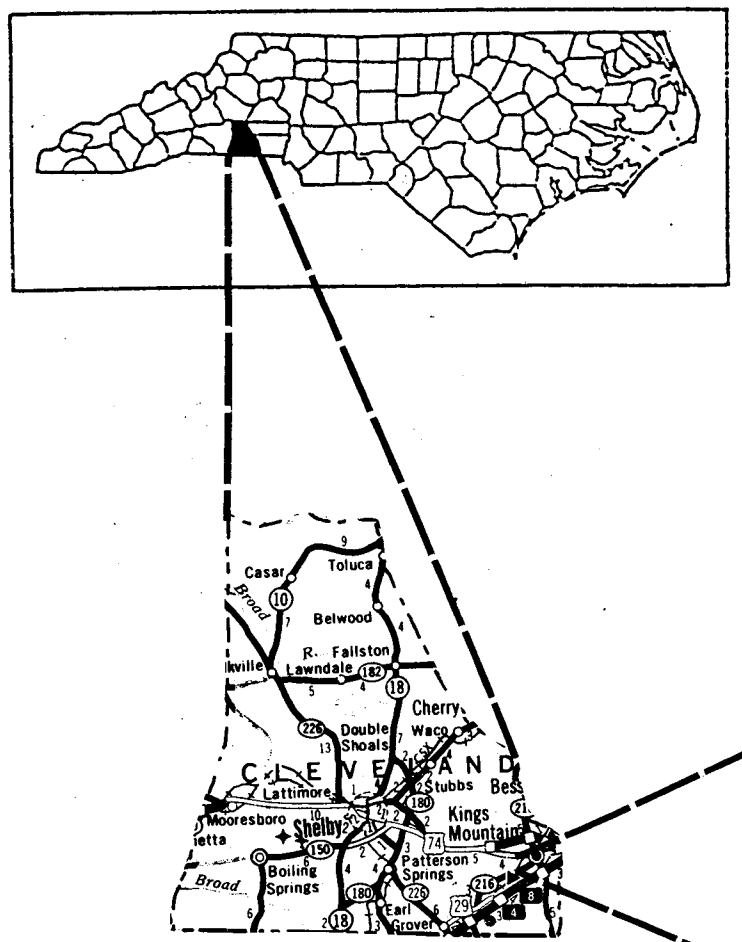
Approximately 50 to 60 people attended the workshop and reviewed the aerial mapping of the two alternatives for the proposed highway. Most people preferred Alternative 1 over Alternative 2. Many expressed concern over how the project would affect homes and when the project would be constructed. Many participants recognized the need for the road.

Other concerns were raised at the workshop. The parking problem and congestion problem (just before and after school hours) along Phifer Road (SR 2256) were mentioned. Concern over the increase in traffic and noise was also brought up. Questions were asked regarding the amount of right of way needed and the right of way acquisition process. Other citizens asked whether there are any future plans to extend Dixon School Road northward to US 74 Bypass (not currently included in the TIP). A newspaper article covering the workshop is in the Appendix (see pages A-40 and A-41).

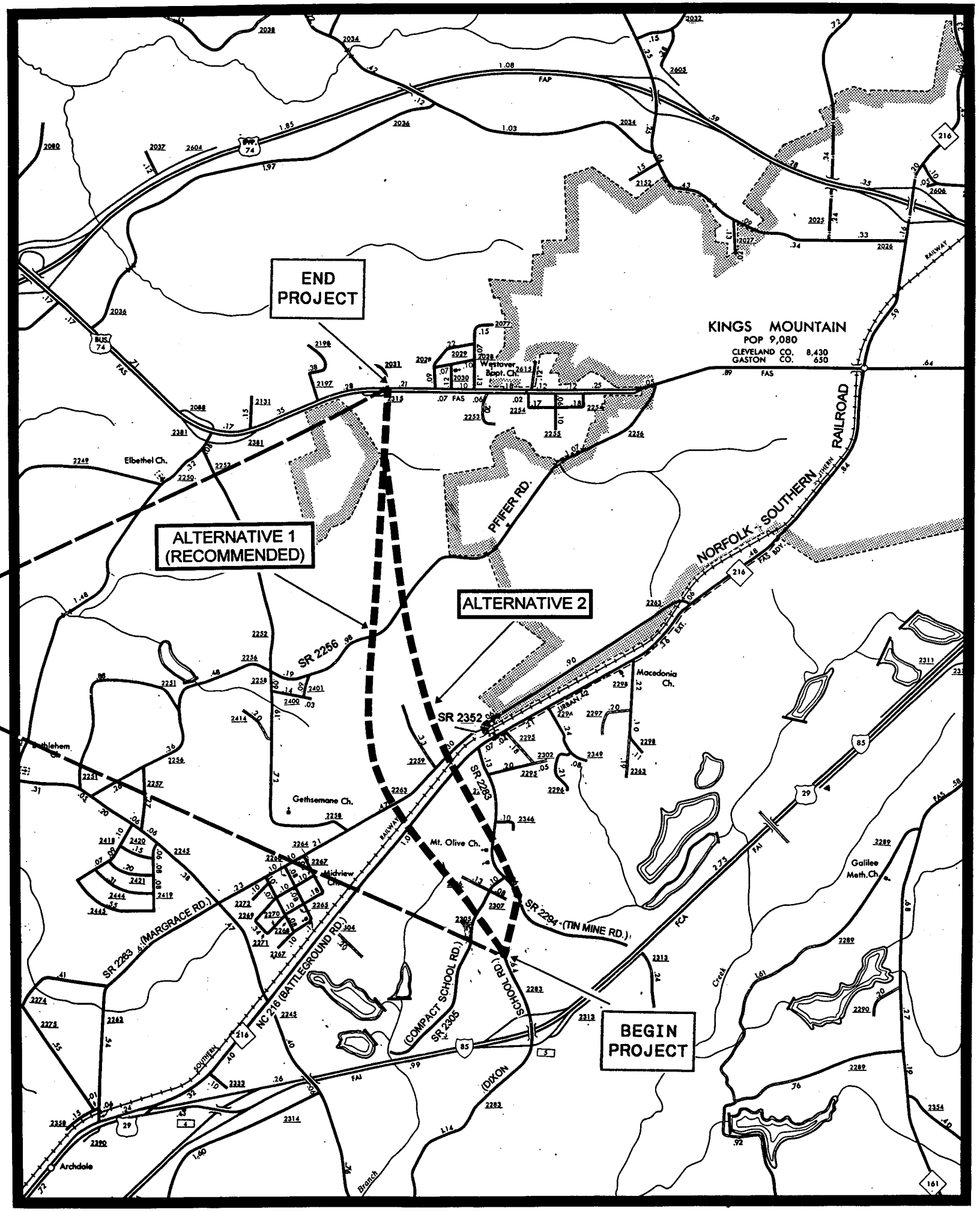
C. Public Hearing

A public hearing will be held following circulation of this report to provide more detailed information on the project to local citizens and to receive additional comments on the project.

EFL/tp



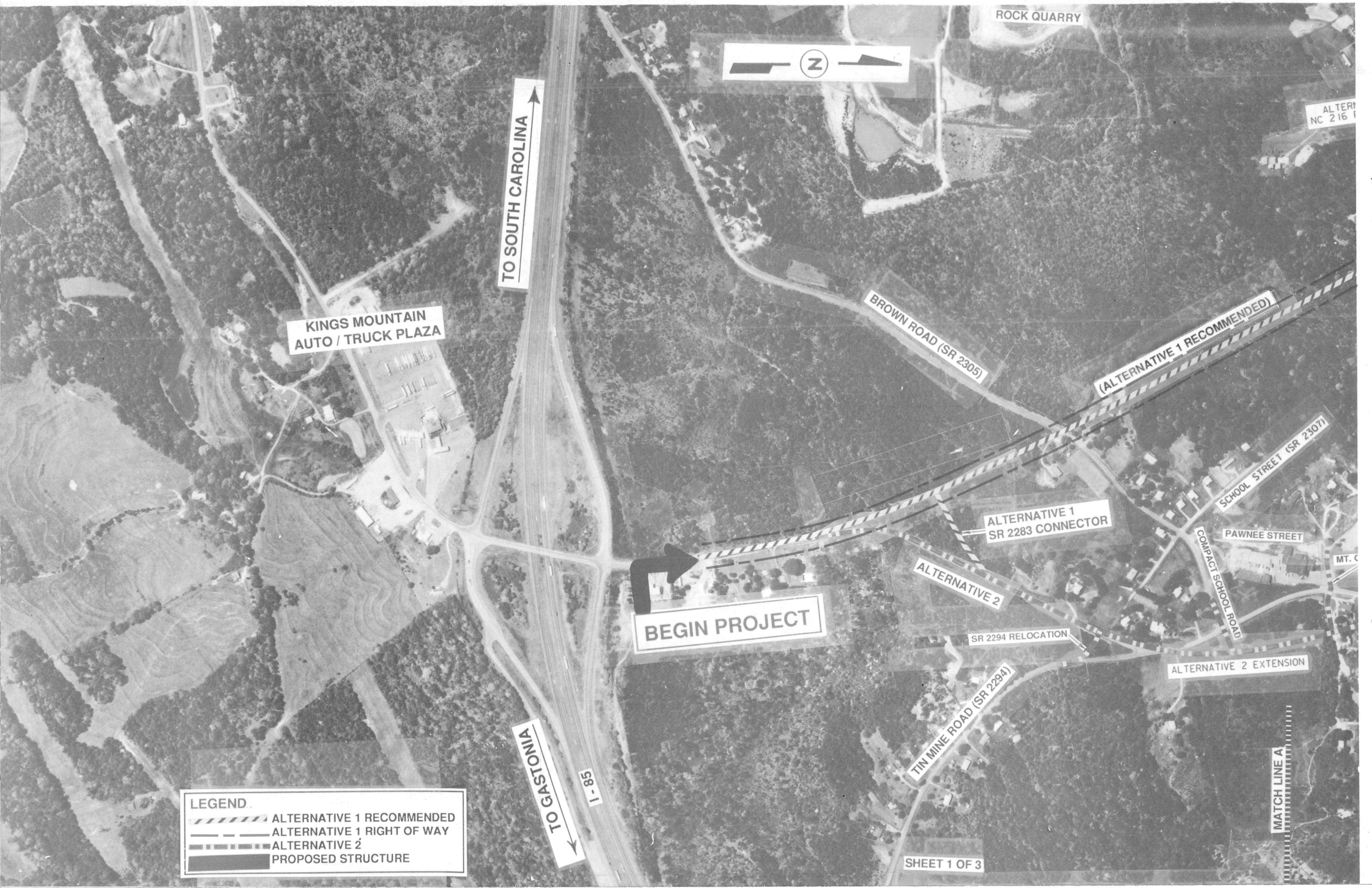
CLEVELAND COUNTY

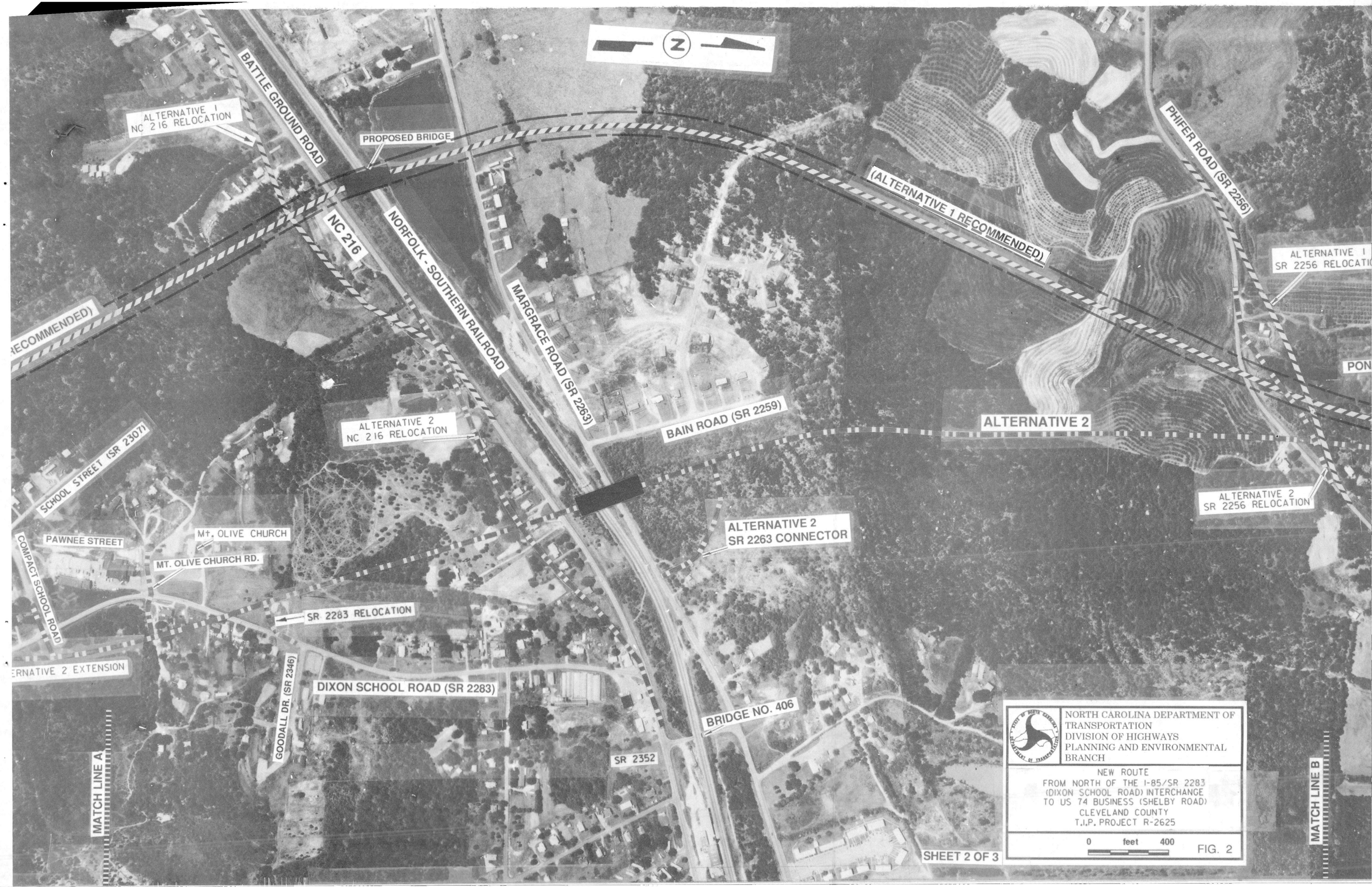


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

NEW ROUTE, FROM NORTH OF THE I-85/SR 2283 (DIXON SCHOOL ROAD) INTERCHANGE TO US 74 BUSINESS (SHELBY ROAD)
CLEVELAND COUNTY
TIP PROJECT R-2625

FIG. 1


N
TO SOUTH CAROLINA
KINGS MOUNTAIN
AUTO / TRUCK PLAZA
ROCK QUARRY
BROWN ROAD (SR 2305)
(ALTERNATIVE 1 RECOMMENDED)
ALTERNATIVE 1
SR 2283 CONNECTOR
ALTERNATIVE 2
BEGIN PROJECT
SR 2294 RELOCATION
ALTERNATIVE 2 EXTENSION
TIN MINE ROAD (SR 2294)
SCHOOL STREET (SR 2307)
PAWNEE STREET
COMPACT SCHOOL ROAD
MATCH LINE A
TO GASTONIA
I - 85
LEGEND
ALTERNATIVE 1 RECOMMENDED
ALTERNATIVE 1 RIGHT OF WAY
ALTERNATIVE 2
PROPOSED STRUCTURE
SHEET 1 OF 3



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

NEW ROUTE
FROM NORTH OF THE I-85/SR 2283 (DIXON SCHOOL ROAD) INTERCHANGE
TO US 74 BUSINESS (SHELBY ROAD)
CLEVELAND COUNTY
T.I.P. PROJECT R-2625

0 feet 400

FIG. 2

N

ALTERNATIVE 1
SR 2256 RELOCATION

SATELLITE

POND

(ALTERNATIVE 1 RECOMMENDED)

ALTERNATIVE 2

NATIVE 2
RELOCATION

SR 2256

MATCH LINE B

KINGS MOUNTAIN MIDDLE SCHOOL

SATELITE CITY LIMITS

CAMERON DR.

APPLE CT.

KIMBERLY LN.

SATELITE CITY LIMITS

BEASON CREEK

BEASON CT.

JERRY DR.

US 74 BUSINESS

COUNTRY CREEK DR.

BUTTERNUT DR.

MOTEL ROYAL

LATHAM DRIVE

PROPOSED CULVERT

SR 2315 RELOCATION

ELAM ROAD (2031)

END PROJECT

BEASON CREEK

LEGEND

- ALTERNATIVE 1 RECOMMENDED
- ALTERNATIVE 1 RIGHT OF WAY
- ALTERNATIVE 2
- PROPOSED STRUCTURE

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

NEW ROUTE
FROM NORTH OF THE I-85/SR 2283 (DIXON SCHOOL ROAD) INTERCHANGE
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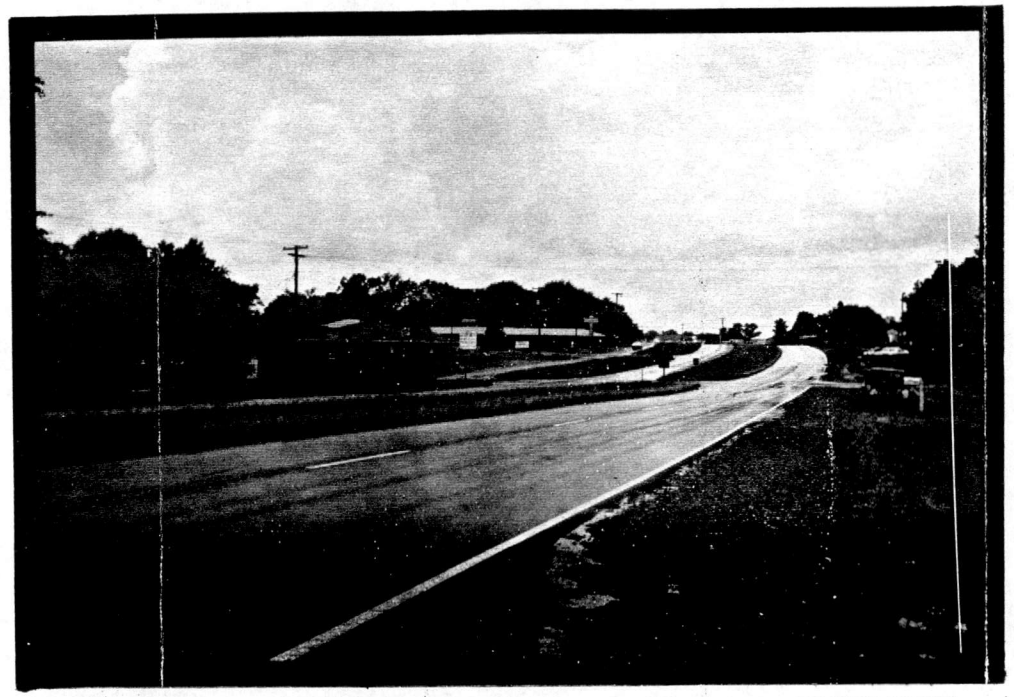
CLEVELAND COUNTY
T.I.P. PROJECT R-2625

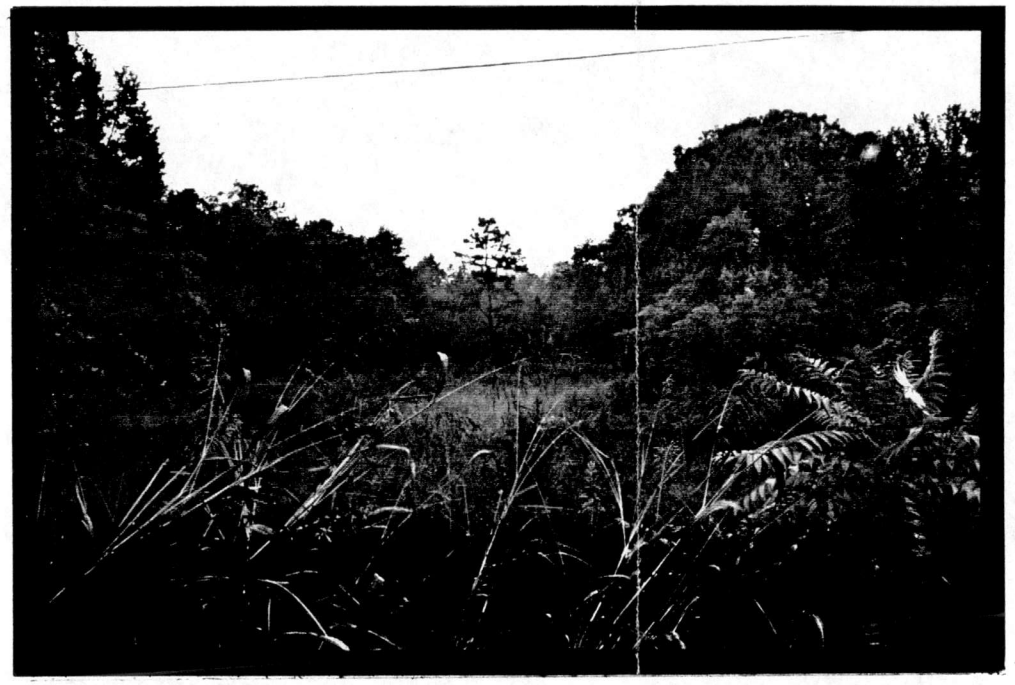
0 feet 400

FIG. 2

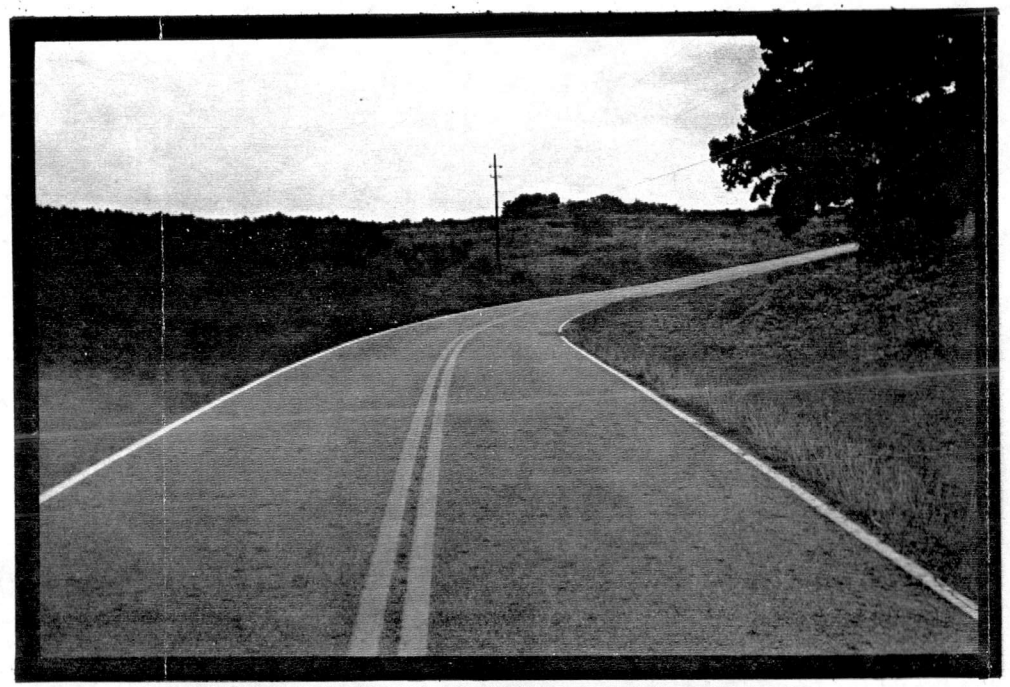
SHEET 3 OF 3



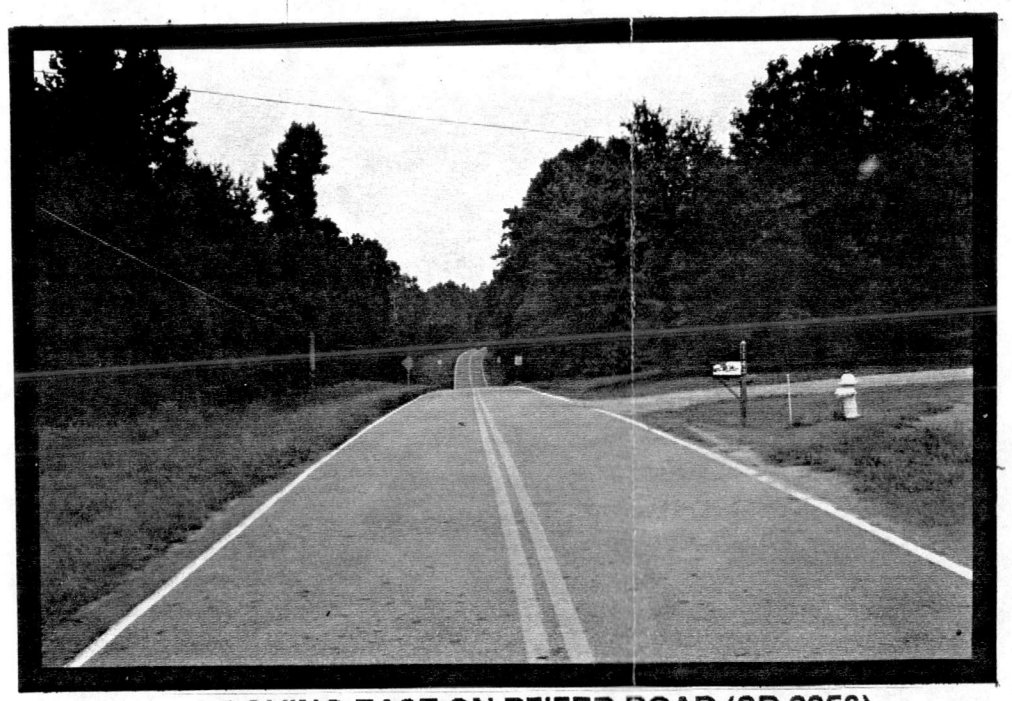
NORTH TERMINUS OF PROJECT ALONG US 74 BUSINESS
LOOKING WEST



LOOKING SOUTH TOWARDS PROPOSED CORRIDOR
FROM US 74 BUSINESS



LOOKING WEST ON PFIFER ROAD (SR 2256)
IN THE VICINITY OF THE PROPOSED
CROSSING FOR ALTERNATIVES 1 & 2



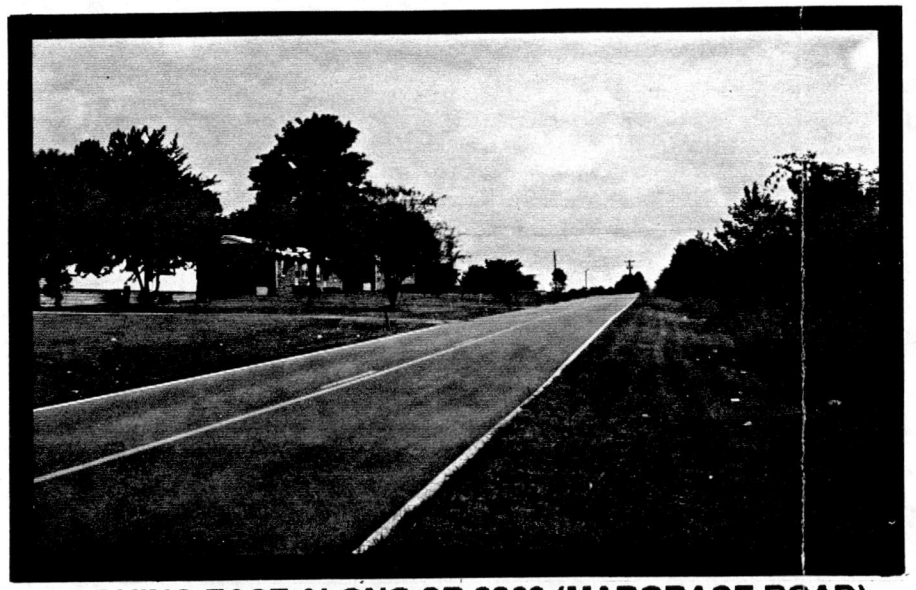
LOOKING EAST ON PFIFER ROAD (SR 2256)
IN THE VICINITY OF THE PROPOSED
CROSSING FOR ALTERNATIVES 1 & 2

NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL
BRANCH

PHOTOS OF
EXISTING CONDITIONS
R - 2625

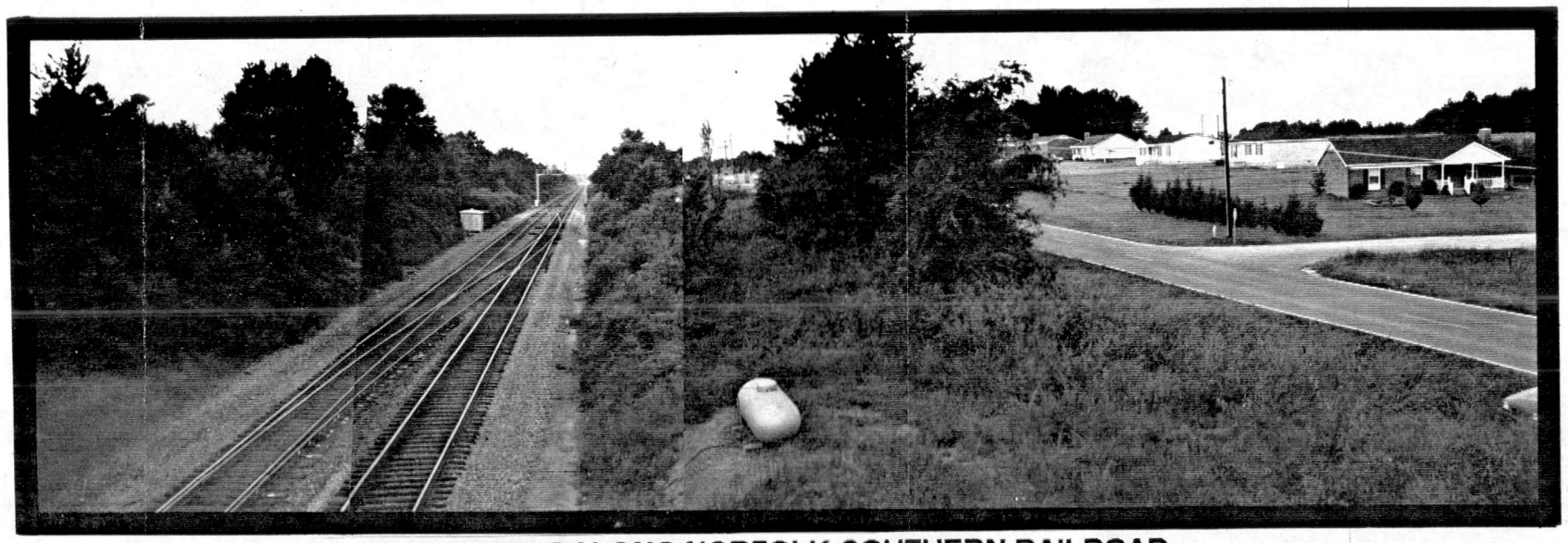
FIG. 3A

LOOKING WEST ALONG SR 2263 (MARGRACE ROAD)
AT THE PROPOSED CROSSING UNDER ALTERNATIVE 2

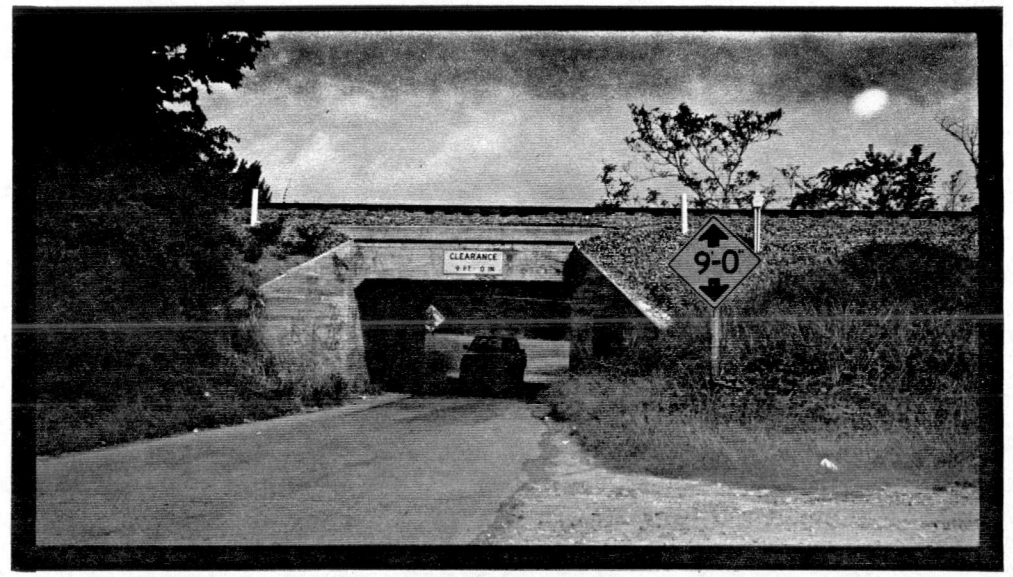


LOOKING EAST ALONG SR 2263 (MARGRACE ROAD)
AT THE PROPOSED CROSSING UNDER
RECOMMENDED ALTERNATIVE 1

LOOKING WEST ALONG NC 216
AT THE PROPOSED CROSSING
UNDER RECOMMENDED ALTERNATIVE 1



LOOKING WEST ALONG NORFOLK-SOUTHERN RAILROAD
AND SR 2263 (MARGRACE ROAD) JUST
EAST OF SR 2259 (BAIN ROAD)

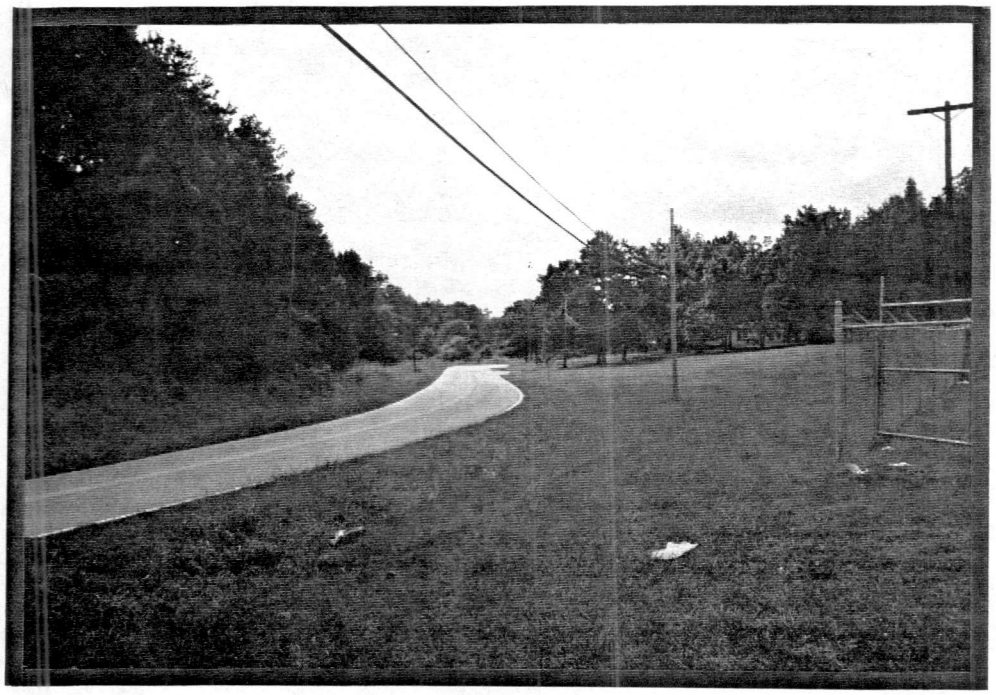


EXISTING RAILROAD UNDERPASS ON SR 2352
BETWEEN NC 216 AND SR 2263

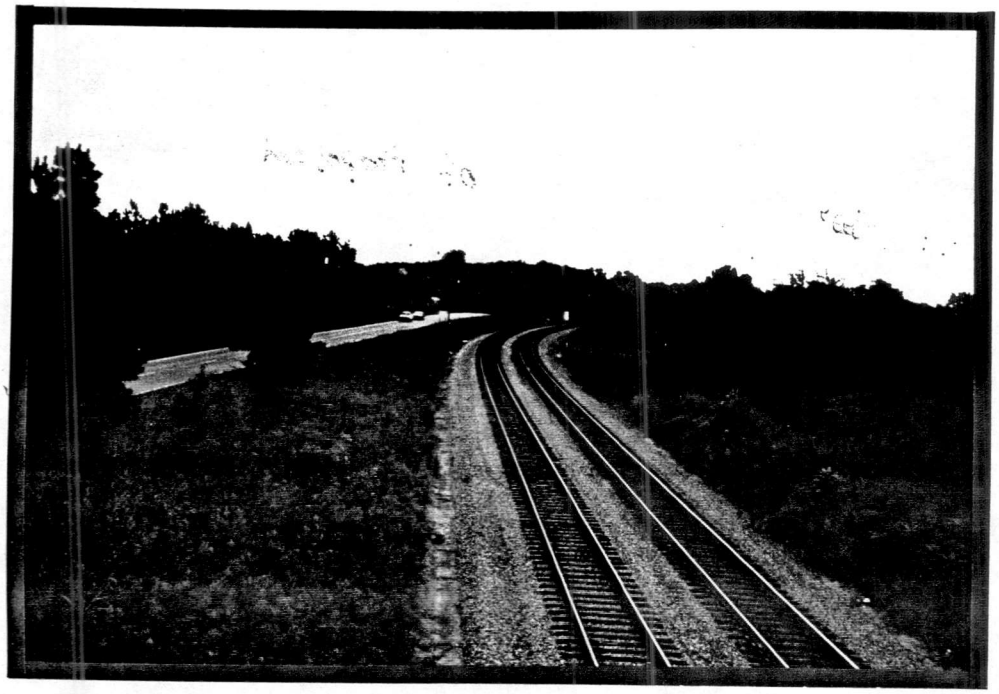
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

PHOTOS OF
EXISTING CONDITIONS
R - 2625

FIG. 3B



Looking South near the Southern Project Terminus



Looking East along Railroad Tracks near Proposed Crossing under Alternative 2
SR 2263 is to the Left

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

PHOTOS OF EXISTING CONDITIONS R - 2625

FIG. 3C

FIGURE 4

PROPOSED REVISED THOROUGHFARE PLAN

OCTOBER 17, 1979

LEGEND

	EXISTING	PROPOSED
MAJOR THOROUGHFARES		
FREEWAY		
OTHER		
MINOR THOROUGHFARES		
INTERCHANGE		
GRADE SEPARATION		

ADOPTED BY CITY OF KINGS MOUNTAIN ON _____.

RECOMMENDED APPROVAL BY PLANNING AND RESEARCH BRANCH ON _____.

ADOPTED BY NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ON _____.

PUBLIC HEARING ON _____.

N

S

KINGS MOUNTAIN

AND VICINITY

GASTON AND CLEVELAND COUNTIES

NORTH CAROLINA

SCALE

0 .1 .2 .3 .4 .5 .6 .7 .8 .9 1.0 MILE

0 1000 2000 FEET

LEGEND:

PROPOSED DIXON SCHOOL ROAD (THOROUGHFARE PLAN)

PROPOSED DIXON SCHOOL ROAD (RECOMMENDED ALT. 1)

DIXON SCHOOL ROAD EXTENSION (SR 2283)
FROM NORTH OF I-85 TO US 74 BUSINESS
ESTIMATED 1995 / 2015 ADT IN HUNDREDS
CLEVELAND COUNTY, R-2625
RECOMMENDED IMPROVEMENT (ALTERNATIVE 1)

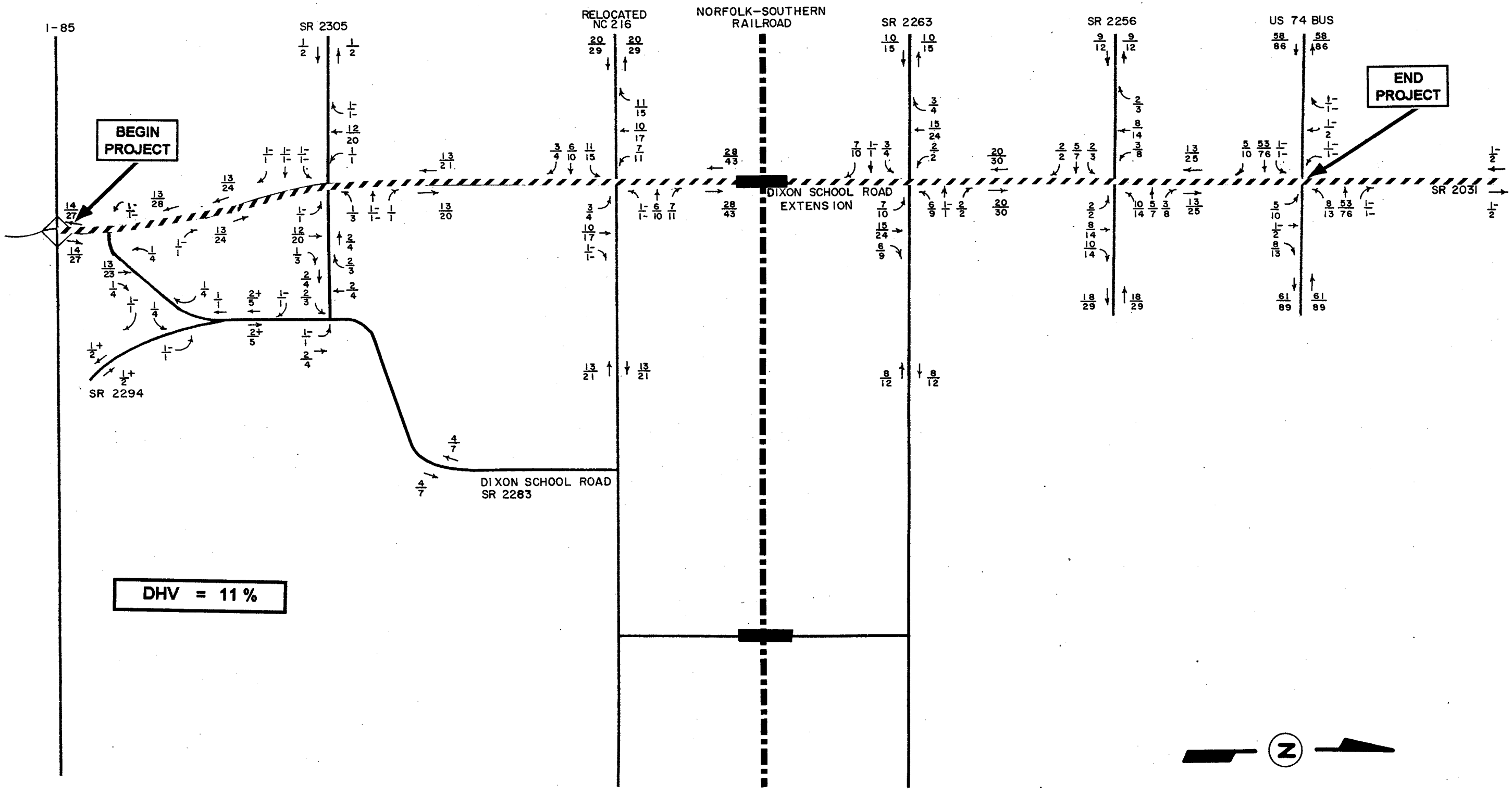
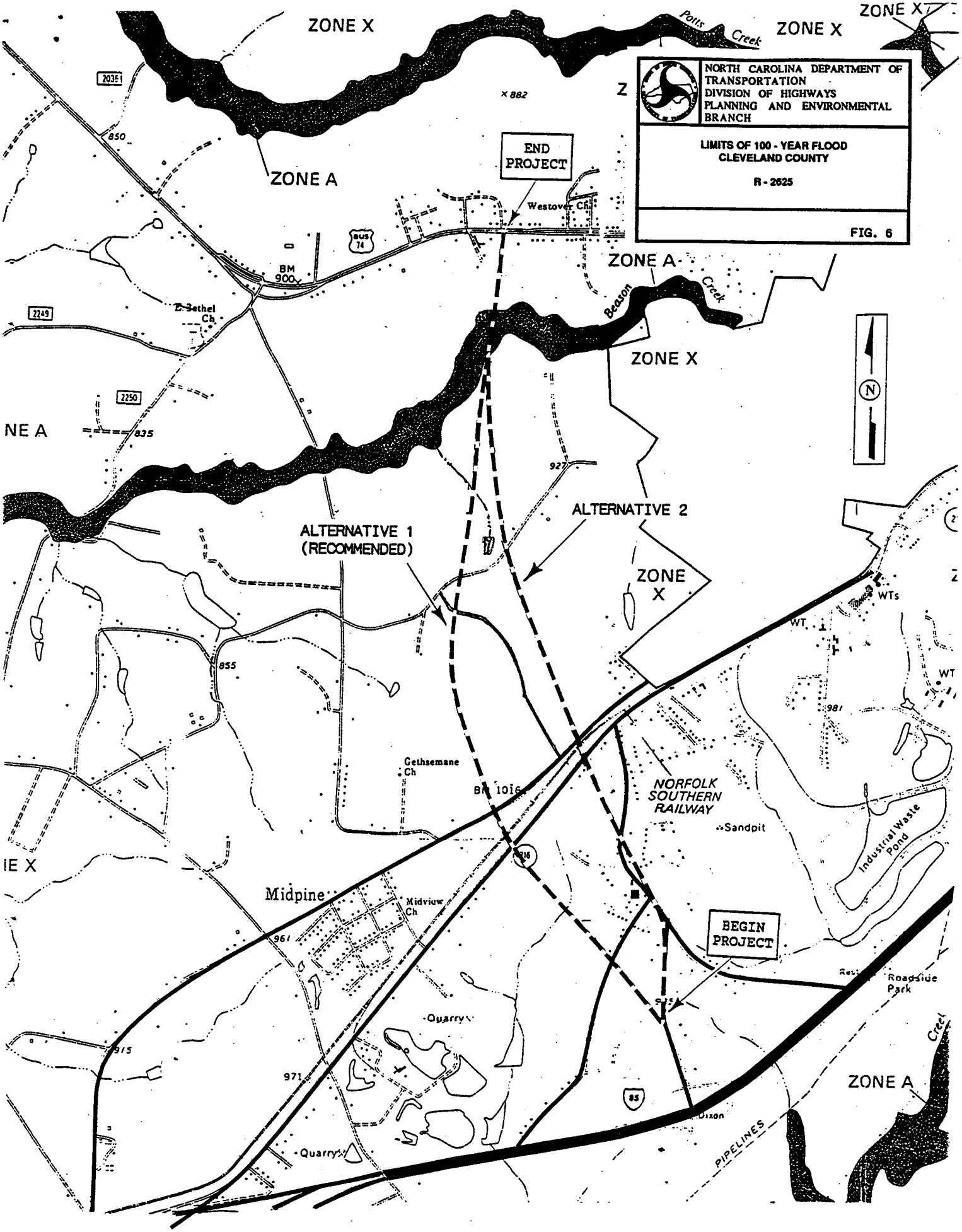


FIGURE 5


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH
LIMITS OF 100 - YEAR FLOOD
CLEVELAND COUNTY
R - 2525
FIG. 6
ZONE X
ZONE A
ZONE X
ZONE X
ZONE A
ZONE X
ZONE A
ZONE X
Polls Creek
Beason Creek
END PROJECT
BEGIN PROJECT
ALTERNATIVE 1 (RECOMMENDED)
ALTERNATIVE 2
Westover Ch
Bethel Ch
Gethsemane Ch
Midview Ch
Midpine
NORFOLK SOUTHERN RAILWAY
Sandpit
Industrial Waste Pond
Roadside Park
Quarry
Quarry
PIPELINES
Dixon
BM 900
2035
2249
2250
BUS 74
85
N

TIP PROJECT R-2625

TYPICAL SECTION FOR THE PROPOSED TWO-LANE ROADWAY

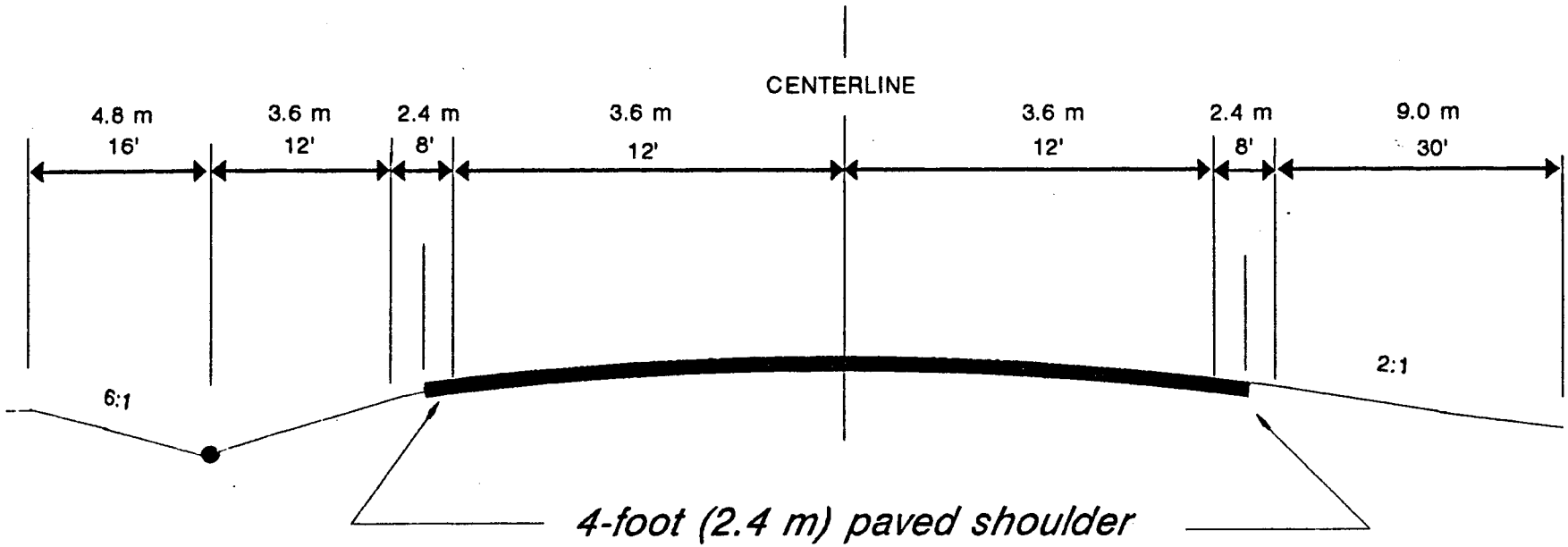


FIGURE 7
Not to Scale

RELOCATION REPORT

North Carolina Department of Transportation
AREA RELOCATION OFFICE

[X] E.I.S. [ ] CORRIDOR [ ] DESIGN

RECOMMENDED ALTERNATIVE

PROJECT:	8.2800801	COUNTY	Cleveland	Alternate 1 of 2 Alternate	
I.D. NO.:	R-2625	F.A. PROJECT	STP-2283(1)		
DESCRIPTION OF PROJECT:	New route from I-85 interchange with SR 2283 (Dixon School Road) to US 74 Business				

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	8	2	10	3
Businesses	1	0	1	0
Farms	0	0	0	0
Non-Profit	0	0	0	0

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
5	4	1	0	0

VALUE OF DWELLING

Owners		Tenants	
0-20M	3	$ 0-150	0
20-40M	2	150-250	2
40-70M	3	250-400	0
70-100M	0	400-600	0
100 UP	0	600 UP	0
TOTAL	8		2

DSS DWELLING AVAILABLE

For Sale		For Rent	
0-20M	3	$ 0-150	0
20-40M	35	150-250	2
40-70M	60	250-400	12
70-100M	70	400-600	2
100 UP	69	600 UP	1
TOTAL	237		17

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? 12 months

REMARKS (Respond by Number)

3. **Yes, no permanent displacement of businesses.**

4. **Jean's Antiques**
2200 square feet, two employees, no minorities.
Setzer's Discount Auto Parts
1800 square feet, two employees, no minorities.

6. **Home & Land Publications, newspapers, MLS, Realtors®.**

8. **Last resort housing will be administered in accordance with the State law.**

11. **Section 8 is available.**

12. **Given current housing trends comparable housing should be available during relocation period.**

14. **Same as number six.**

Monica Jones — 11-16-95
Relocation Agent — Date

D. R. Vick — 11-17-95
Approved by — Date

Form 15.4 Revised 02/95-d

Original & 1 Copy: State Relocation Agent
2 Copy Area Relocation Office

RELOCATION REPORT

North Carolina Department of Transportation
AREA RELOCATION OFFICE

[X] E.I.S. [ ] CORRIDOR [ ] DESIGN

PROJECT:	8.2800801	COUNTY	Cleveland	Alternate 2 of 2 Alternate	
I.D. NO.:	R-2625	F.A. PROJECT	STP-2283(1)		
DESCRIPTION OF PROJECT:	New route from I-85 interchange with SR 2283 (Dixon School Road) to US 74 Business				

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	12	8	20	9
Businesses	1	1	2	0
Farms	0	0	0	0
Non-Profit	0	0	0	0

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
8	6	5	1	0

VALUE OF DWELLING

Owners		Tenants	
0-20M	1	$ 0-150	0
20-40M	5	150-250	0
40-70M	5	250-400	8
70-100M	1	400-600	0
100 UP	0	600 UP	0
TOTAL	12		8

DSS DWELLING AVAILABLE

For Sale		For Rent	
0-20M	3	$ 0-150	0
20-40M	35	150-250	2
40-70M	60	250-400	12
70-100M	70	400-600	2
100 UP	69	600 UP	1
	237		17

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? 12 months

REMARKS (Respond by Number)

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14. **Same as number six.**

MANAGER OF RIGHT OF WAY
NOV 17 1995

Relocation Agent	11-16-95 Date	Approved by	11-17-95 Date

Form 15.4 Revised 02/95 d

Original & 1 Copy: State Relocation Agent
2 Copy Area Relocation Office

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.

TABLE N1

HEARING: SOUNDS BOMBARDING US DAILY

DECIBELS		
140	Shotgun blast, jet 100 ft away at takeoff	PAIN
	Motor test chamber	HUMAN EAR PAIN THRESHOLD
130		
	Firecrackers	
120	Severe thunder, pneumatic jackhammer	
	Hockey crowd	
	Amplified rock music	UNCOMFORTABLY LOUD
110		
	Textile loom	
100	Subway train, elevated train, farm tractor	
	Power lawn mower, newspaper press	
	Heavy city traffic, noisy factory	LOUD
90		
	Diesel truck 40 mph 50 ft. away	
80	Crowded restaurant, garbage disposal	
	Average factory, vacuum cleaner	
	Passenger car 50 mph 50 ft. away	MODERATELY LOUD
70		
	Quiet typewriter	
60	Singing birds, window air-conditioner	
	Quiet automobile	
	Normal conversation, average office	QUIET
50		
	Household refrigerator	
	Quiet office	VERY QUIET
40		
	Average home	
30	Dripping faucet	
	Whisper 5 feet away	
20	Light rainfall, rustle of leaves	
		AVERAGE PERSON'S THRESHOLD OF HEARING
	Whisper	JUST AUDIBLE
10		
0		THRESHOLD FOR ACUTE HEARING

Sources: World Book, Rand McNally Atlas of the Human Body, Encyclopedia Americana, "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

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 is 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

DEFINITION OF 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
$\leq$ 50	$\geq$ 15
> 50	$\geq$ 10

Source: North Carolina Department of Transportation Noise Abatement Guidelines.

FIGURE N1 - NOISE MEASUREMENT SITES

Dixon School Road Extension
Cleveland County
South of NC 216 to US 74
TIP # R-2625 State Project # 8.2800801

1 NOISE MEASUREMENT SITE

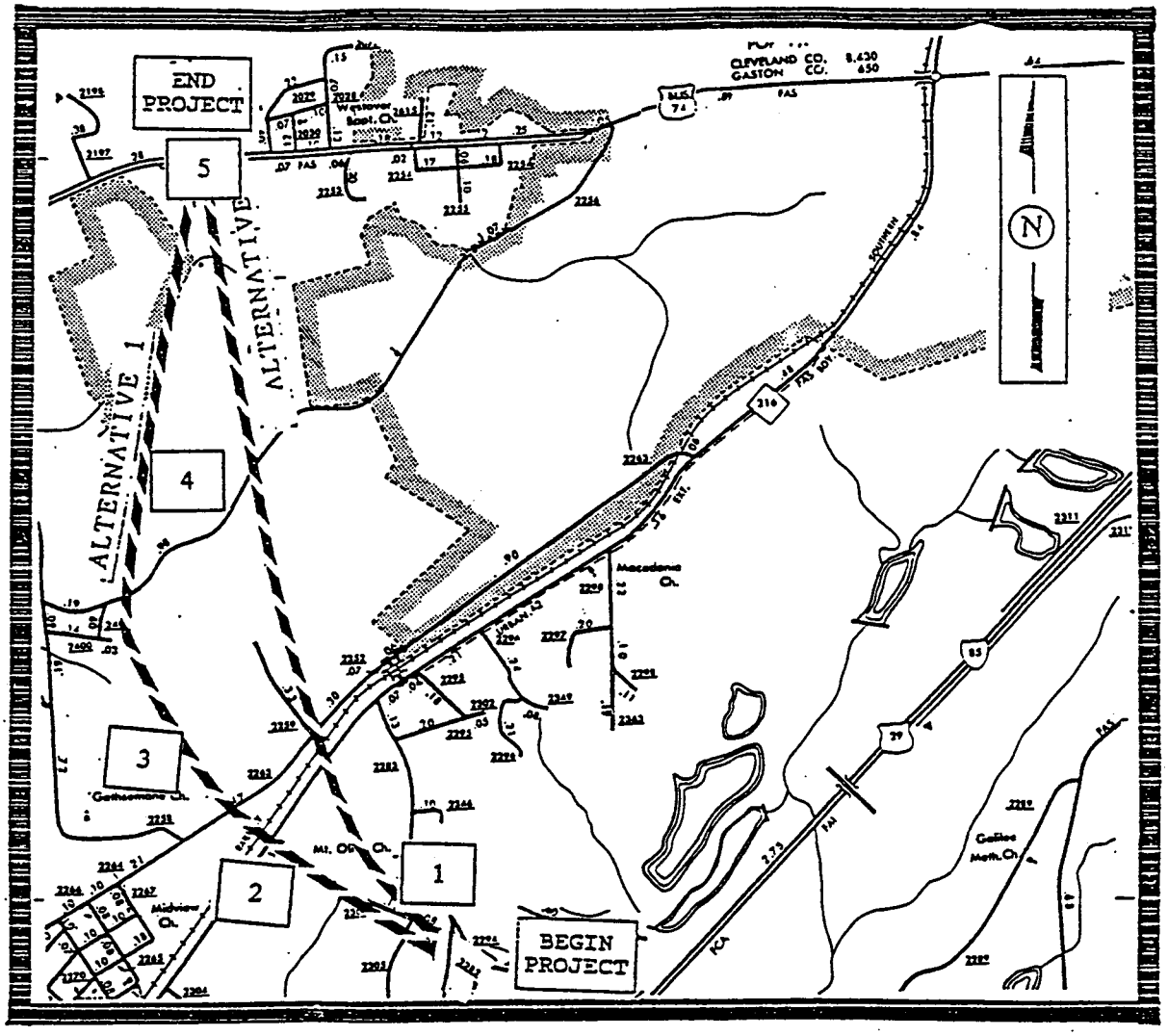


TABLE N3

AMBIENT NOISE LEVELS
(Leq)

Dixon School Road Extension
South of NC 216 to US 74
Cleveland County
TIP# R-2625 State Project# 8.2800801

SITE	LOCATION	DESCRIPTION	NOISE LEVEL (dBA)
1.	SR 2283, .46 Mile South of NC 216	Grassy	58
2.	NC 216, .58 Mile South East of SR 2283	Grassy	64
3.	SR 2263, 300 Feet East of SR 2258	Grassy	60
4.	SR 2256, .50 Mile North West of SR 2258	Grassy	53
5.	US 74 Business, Across from SR 2031	Grassy	67

Note:
The ambient noise level sites were measured at 50 feet from the center of the nearest lane of traffic.

TABLE N4

Leq TRAFFIC NOISE EXPOSURES

Dixon School Road Extension
South of NC 216 to US 74, Cleveland County
TIP# R-2625 State Project# 8.2800801

ALTERNATIVE 1

RECEPTOR INFORMATION ID #	LAND USE	CATEGORY	NEAREST ROADWAY NAME	DISTANCE(ft)		AMBIENT NOISE LEVEL	NEAREST PROPOSED ROADWAY NAME	DISTANCE(ft)		PREDICTED NOISE LEVELS -L-	-Y-	MAXIMUM	NOISE LEVEL INCREASE
From Beginning of Project to NC 216													
1	Residence	B	SR 2283	220	R	47	-L- LINE	220	R	-	-	55	+ 8
2	Business	C	"	250	R	46	"	250	R	-	-	53	+ 7
3	Residence	B	SR 2305	165	L	50	"	150	R	-	-	58	+ 8
4	Business	C	"	60	L	57	"	55	R	----------R/W----------			
5	Residence	B	"	80	R	55	"	100	R	-	-	62	+ 7
From NC 216 to SR 2256													
6	Residence	B	NC 216	835	L	45	-L- LINE	155	L	58.4	45.0	58	+ 13
7	Residence	B	"	660	L	45	"	120	L	60.6	45.9	60	* + 15
8	Residence	B	"	430	L	46	"	250	L	53.9	49.1	55	+ 9
9	Residence	B	"	365	L	48	"	255	L	53.7	52.9	56	+ 8
10	Residence	B	"	320	L	49	"	270	L	53.1	53.8	56	+ 7
11	Residence	B	"	225	L	53	"	280	L	52.7	56.1	57	+ 4
12	Residence	B	"	175	L	55	"	370	L	49.7	59.5	59	+ 4
13	Residence	B	"	70	L	63	"	365	L	49.8	65.7	65	+ 2
14	Residence	B	"	190	L	55	"	100	L	62.1	59.0	63	+ 8
15	Residence	B	"	85	L	61	"	350	R	50.3	64.8	64	+ 3
16	Residence	B	"	390	L	47	"	485	L	46.4	52.5	53	+ 6
From SR 2256 to US 74 Business													
32	Residence	B	US 74 BUS	755	L	43	-L- LINE	510	L	44.6	49.9	51	+ 8
33	Residence	B	"	600	L	46	"	350	L	49.2	51.5	53	+ 7
34	Residence	B	"	350	L	52	"	280	L	51.6	58.0	58	+ 6
35	Business	C	"	100	L	63	"	300	L	50.8	68.5	68	+ 5
36	Business	C	"	140	L	61	"	140	L	58.2	65.3	66	+ 5
37	Residence	B	"	160	L	60	"	45	R	----------R/W----------			
38	Residence	B	"	150	L	60	"	250	R	52.8	64.9	65	+ 5
39	Residence	B	"	120	L	62	"	400	R	47.7	66.2	* 66	+ 4

NOTE: Distances are from center of the existing or proposed roadways. -L-=> Proposed roadway's noise level contribution.
All noise levels are hourly A-weighted noise levels. -Y-=> Noise level from other contributing roadways.
Category E noise levels shown as exterior/interior (58/48). * => Traffic noise impact (per 23 CFR Part 772).

TABLE N4

Leq TRAFFIC NOISE EXPOSURES

Dixon School Road Extension
South of NC 216 to US 74, Cleveland County
TIP# R-2625 State Project# 8.2800801

ALTERNATIVE 2

RECEPTOR INFORMATION ID #	LAND USE	CATEGORY	NEAREST ROADWAY NAME	DISTANCE(ft)		AMBIENT NOISE LEVEL	NEAREST PROPOSED ROADWAY NAME	DISTANCE(ft)		PREDICTED NOISE LEVELS -L-	-Y-	MAXIMUM	NOISE LEVEL INCREASE
Beginning of Project to NC 216													
1	Residence	B	SR 2283	220	R	47	-L- LINE	220	R	-	-	55	+ 8
2	Residence	B	"	250	R	46	"	250	R	-	-	53	+ 7
3	Residence	B	"	150	L	51	"	150	L	-	-	58	+ 7
4	Residence	B	"	130	L	52	"	130	L	-	-	59	+ 7
5	Residence	B	"	75	L	56	"	75	L	----------R/W----------			
6	Residence	B	"	135	L	51	"	135	L	-	-	59	+ 8
7	Residence	B	"	300	L	45	"	300	L	-	-	51	+ 6
8	Residence	B	"	390	L	45	"	390	L	-	-	49	+ 4
9	Residence	B	"	475	L	45	"	475	L	-	-	46	+ 1
10	Residence	B	"	260	L	45	"	260	L	-	-	53	+ 8
11	Residence	B	"	85	L	55	"	85	L	-	-	63	+ 8
12	Residence	B	"	115	L	53	"	180	L	-	-	57	+ 4
13	Business	C	"	310	L	45	"	435	L	-	-	47	+ 2
16	Residence	B	"	60	R	57	"	65	L	----------R/W----------			
17	Residence	B	"	330	R	45	"	330	R	-	-	50	+ 5
18	Residence	B	"	350	R	45	"	350	R	-	-	50	+ 5
19	Church	E	"	250	L	46/<40	"	330	L	-	-	50/<40	+ 4
20	Residence	B	"	210	R	48	"	55	R	----------R/W----------			
21	Residence	B	"	370	R	45	"	260	R	-	-	53	+ 8
22	Residence	B	"	360	R	45	"	380	R	-	-	49	+ 4
23	Residence	B	"	225	R	47	"	175	R	-	-	57	+ 10
24	Residence	B	"	50	R	58	"	40	R	----------R/W----------			
25	Residence	B	"	300	L	45	"	315	L	-	-	51	+ 6
26	Residence	B	"	310	L	45	"	260	L	-	-	53	+ 8
27	Residence	B	"	85	R	55	"	130	R	-	-	59	+ 4
28	Residence	B	"	60	R	57	"	155	R	-	-	58	+ 1
29	Residence	B	"	305	L	45	"	215	L	-	-	55	+ 10
30	Residence	B	"	105	L	54	"	15	R	----------R/W----------			

NOTE: Distances are from center of the existing or proposed roadways. -L-=> Proposed roadway's noise level contribution.
All noise levels are hourly A-weighted noise levels. -Y-=> Noise level from other contributing roadways.
Category E noise levels shown as exterior/interior (58/48). * => Traffic noise impact (per 23 CFR Part 772).

TABLE N4

Leq TRAFFIC NOISE EXPOSURES

Dixon School Road Extension
South of NC 216 to US 74, Cleveland County
TIP# R-2625 State Project# 8.2800801

ALTERNATIVE 2

RECEPTOR INFORMATION ID #	LAND USE	CATEGORY	NEAREST ROADWAY NAME	DISTANCE(ft)		AMBIENT NOISE LEVEL	NEAREST PROPOSED ROADWAY NAME	DISTANCE(ft)		PREDICTED NOISE LEVELS -L-	-Y-	MAXIMUM	NOISE LEVEL INCREASE
From NC 216 to SR 2263													
33	Residence	B	NC 216	595	L	45	-L- LINE	80	R	63.6	46.7	63	* + 18
34	Residence	B	"	630	L	45	"	290	R	52.3	46.3	53	+ 8
35	Residence	B	"	105	L	60	"	440	L	47.6	63.8	63	+ 3
36	Residence	B	"	90	L	61	"	185	L	56.9	64.5	65	+ 4
37	Residence	B	"	125	L	58	"	115	L	61.0	61.5	64	+ 6
38	Residence	B	"	120	L	59	"	105	R	61.7	61.7	64	+ 5
39	Residence	B	"	120	L	59	"	210	R	55.8	61.7	62	+ 3
40	Residence	B	"	80	L	62	"	365	R	49.8	65.1	65	+ 3
From SR 2263 to SR 2256													
40A	Residence	B	SR 2263	105	R	56	-L- LINE	365	L	48.7	59.1	59	+ 3
41	Residence	B	"	160	R	52	"	160	L	57.0	55.3	59	+ 7
42	Residence	B	"	185	R	51	"	185	L	55.8	54.4	58	+ 7
43	Residence	B	"	380	R	45	"	380	L	48.3	48.0	51	+ 6
44	Residence	B	"	410	R	45	"	410	L	47.5	45.0	49	+ 4
45	Residence	B	"	510	R	45	"	510	L	44.6	45.0	47	+ 2
46	Residence	B	"	660	R	45	"	660	L	41.3	45.0	46	+ 1
47	Residence	B	"	740	R	45	"	740	L	39.8	45.0	46	+ 1
48	Residence	B	"	560	R	45	"	560	L	43.4	45.0	47	+ 2
49	Residence	B	"	785	R	45	"	785	L	39.0	45.0	45	+ 0
50	Residence	B	"	850	R	45	"	850	L	38.2	45.0	45	+ 0
51	Residence	B	"	125	R	54	"	125	R	59.2	56.8	61	+ 7
From SR 2256 to US 74 Business													
52	Residence	B	SR 2256	100	L	49	-L- LINE	85	R	-	-	62	+ 13
53	Residence	B	"	100	R	49	"	30	R	----------R/W----------			
56	Residence	B	US 74 BUS	760	L	45	-L- LINE	515	L	44.5	50.1	51	+ 6
57	Residence	B	"	600	L	46	"	615	L	42.2	51.9	52	+ 6
58	Residence	B	"	560	L	47	"	355	L	49.0	52.4	54	+ 7

NOTE: Distances are from center of the existing or proposed roadways. -L-=> Proposed roadway's noise level contribution.
All noise levels are hourly A-weighted noise levels. -Y-=> Noise level from other contributing roadways.
Category E noise levels shown as exterior/interior (58/48). * => Traffic noise impact (per 23 CFR Part 772).

TABLE N4

Leq TRAFFIC NOISE EXPOSURES

Dixon School Road Extension
South of NC 216 to US 74, Cleveland County
TIP# R-2625 State Project# 8.2800801

ALTERNATIVE 2

RECEPTOR INFORMATION ID #	LAND USE CATEGORY		NEAREST ROADWAY NAME	DISTANCE(ft)		AMBIENT NOISE LEVEL	NEAREST PROPOSED ROADWAY NAME	DISTANCE(ft)		PREDICTED NOISE LEVELS -L-	-Y-	MAXIMUM	NOISE LEVEL INCREASE
From SR 2256 to US 74 Business (Cont'd)													
59	Residence	B	US 74 BUS	335	L	53	-L- LINE	275	L	51.8	58.8	59	+ 6
60	Residence	B	"	85	L	64	"	425	L	47.0	70.9	* 70	+ 6
61	Residence	B	"	50	L	68	"	375	L	48.4	74.9	* 74	+ 6
62	Residence	B	"	105	L	63	"	145	L	57.9	69.6	* 69	+ 6
63	Residence	B	"	145	L	61	"	40	L	----------R/W----------			
64	Residence	B	"	130	L	61	"	245	L	53.0	68.3	* 68	+ 7
65	Residence	B	"	90	L	64	"	400	L	47.7	70.6	* 70	+ 6

NOTE: Distances are from center of the existing or proposed roadways. -L-=> Proposed roadway's noise level contribution.
All noise levels are hourly A-weighted noise levels. -Y-=> Noise level from other contributing roadways.
Category E noise levels shown as exterior/interior (58/48). * => Traffic noise impact (per 23 CFR Part 772).

TABLE N5

FHWA NOISE ABATEMENT CRITERIA SUMMARY

Dixon School Road Extension
South of NC 216 to US 74, Cleveland County
TIP# R-2625 State Project# 8.2800801

Description	Maximum Predicted Leq Noise Levels dBA 50'	100'	200'	Contour Distances (Maximum) 72 dBA	67 dBA	Approximate Number of Impacted Receptors According to Title 23 CFR Part 772 A	B	C	D	E
ALTERNATIVE 1										
1. Dixon School Road Extension, Beginning of Project to NC 216	66	61	56	<31'	45'	0	0	0	0	0
2. Dixon School Road Extension, NC 216 to SR 2256	66	61	56	<31'	45'	0	1	0	0	0
3. Dixon School Road Extension, SR 2256 to US 74 Business	64	60	54	<31'	35'	0	1	0	0	0
					TOTALS	0	2	0	0	0
ALTERNATIVE 2										
1. Dixon School Road Extension, Beginning of Project to NC 216	66	61	56	<31'	45'	0	0	0	0	0
2. Dixon School Road Extension, NC 216 to SR 2256	66	61	56	<31'	45'	0	1	0	0	0
3. Dixon School Road Extension, SR 2256 to US 74 Business	64	60	54	<31'	35'	0	5	0	0	0
					TOTALS	0	6	0	0	0

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

TABLE N6

TRAFFIC NOISE LEVEL INCREASE SUMMARY

Dixon School Road Extension
South of NC-216 to US-74, Cleveland County
TIP# R-2625 State Project# 8.2800801

Section	RECEPTOR EXTERIOR NOISE LEVEL INCREASES							Substantial Noise Level Increases(1)	Impacts Due to Both Criteria(2)
	<=0	1-4	5-9	10-14	15-19	20-24	>= 25		
ALTERNATIVE 1									
1. Begin Project to NC 216	0	0	4	0	0	0	0	0	0
2. NC 216 to SR 2256	0	4	5	1	1	0	0	1	0
3. SR 2256 to US 74 Business	0	1	6	0	0	0	0	0	0
TOTALS	0	5	15	1	1	0	0	1	0
ALTERNATIVE 2									
1. Begin Project to NC 216	10	8	13	2	0	0	0	0	0
2. NC 216 to SR 2263	0	4	3	0	1	0	0	1	0
3. SR 2263 to SR 2256	2	6	4	0	0	0	0	0	0
4. SR 2256 to US 74 Business	0	0	9	1	0	0	0	0	0
TOTALS	12	18	29	3	1	0	0	1	0

(1) As defined in Table N2.
(2) As defined by both criteria in Table N2.

TABLE A1

CAL3QHC: LINE SOURCE DISPERSION MODEL - MARCH, 1990 VERSION

JOB: R-2625: Dixon Sch. Rd. Cleveland Co. RUN: Dixon Sch. Rd. 1995 Build 45 MPH
DATE: 03/31/1994 TIME: 09:43:52.79

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 400. M AMB = 1.9 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
1. Far Lane Link	3.7	-804.7	3.7	804.7	1609.	360.	AG	1610.	18.0	.0	9.8		
2. Near Lane Link	.0	804.7	.0	-804.7	1609.	180.	AG	1610.	18.0	.0	9.8		

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. R-5, 80' Rt. CL RES	-22.6	.0	1.8

JOB: R-2625: Dixon Sch. Rd. Cleveland Co. RUN: Dixon Sch. Rd. 1995 Build 45 MPH

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.- 20.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1
MAX	4.8
DEGR.	6

TABLE A2

CAL3QHC: LINE SOURCE DISPERSION MODEL - MARCH, 1990 VERSION

JOB: R-2625: Dixon Sch. Rd. Cleveland Co. RUN: Dixon Sch. Rd. 2015 Build 45 MPH
DATE: 03/31/1994 TIME: 09:44:05.04

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 6 (F) ATIM = 60. MINUTES MIXH = 400. M AMB = 1.9 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
1. Far Lane Link	3.7	-804.7	3.7	804.7	1609.	360.	AG	2840.	10.4	.0	9.8		
2. Near Lane Link	.0	804.7	.0	-804.7	1609.	180.	AG	2840.	10.4	.0	9.8		

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. R-5, 80' Rt. CL RES	-22.6	.0	1.8

JOB: R-2625: Dixon Sch. Rd. Cleveland Co. RUN: Dixon Sch. Rd. 2015 Build 45 MPH

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.- 20.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1
MAX	4.8
DEGR.	5

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Asheville Field Office
330 Ridgefield Court
Asheville, North Carolina 28806

TAKE PRIDE IN AMERICA

March 24, 1993

Mr. L. J. Ward, P.E., Manager
Planning and Environmental Branch
Division of Highways
North Carolina Department of Transportation
P.O. Box 25201
Raleigh, North Carolina 27611-5201

Dear Mr. Ward:

Subject: Scoping for proposed extension of Dixon School Road (SR 2283) from south of NC 216 to US 74 Business, Cleveland County, North Carolina, T.I.P. No. R-2625

In your letter of January 19, 1993 (received January 25, 1993), you requested information that would be pertinent for your use in the preparation of a document evaluating the environmental impacts that could result from the subject project. The following comments are provided in accordance with the provisions of the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e), and Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

According to information provided in your letter, this project will involve the realignment and extension of Dixon School Road from just north of Interstate 85 and terminating at US 74 Business near SR 2031. The extension will be constructed primarily on a new alignment and will consist of a two-lane 24-foot paved road with 8-foot shoulders. Two alternatives--a western and eastern route--are presently under consideration.

The U.S. Fish and Wildlife Service (Service) is particularly concerned about the potential impacts the proposed project could have on stream and wetland ecosystems within the project impact area and on the dwarf-flowered heartleaf (Hexastylis naniflora), a federally threatened plant species known to occur in Cleveland County. Preference should be given to alternative alignments, stream-crossing structures, and construction techniques that avoid and/or minimize encroachment and impacts to these resources.

The dwarf-flowered heartleaf grows in acidic, sandy loam soils along bluffs and nearby slopes, in boggy areas adjacent to creek heads and streams, and along the slopes of hillsides and ravines. Soil type is the

most important habitat requirement, with Pacolet and Madison gravelly sandy loam or Musella fine sandy loam soils recognized as necessary for the growth and survival of this species. The presence or absence of this species in the project impact area should be addressed in the environmental document.

The Service will provide comments on the two alternatives under consideration once the draft environmental document is released. The Service's review of the subject document would be greatly facilitated if the document contained the following information:

(1) A complete analysis and comparison of the available alternatives (the build and no-build alternatives).

(2) A description of the fishery and wildlife resources within the required rights-of-way and any areas, such as borrow areas, that may be affected directly or indirectly by the proposed road extension.

(3) Acreage and description of the creeks, streams, or wetlands that will be filled as a consequence of the proposed road extension. Wetlands affected by the proposed project should be mapped in accordance with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. We recommend contacting the U.S. Army Corps of Engineers, Asheville Regulatory Field Office (704/259-0855), to determine the need for a Section 404 Clean Water Act permit.

(4) Linear feet of any water courses that will be relocated as a consequence of the proposed project.

(5) Acreage of upland habitat, by cover type, that will be eliminated because of the proposed project.

(6) Description of all expected secondary and cumulative environmental impacts associated with this proposed work.

(7) An analysis of any crossing structures considered (i.e., spanning structure, culverts, etc.) and the rationale for choosing the preferred structure(s) for any new crossings.

(8) Mitigation measures that will be employed to avoid, eliminate, reduce, or compensate for habitat value losses associated with any of the proposed project.

We appreciate the opportunity to provide these scoping comments and request that you continue to keep us informed as to the progress of this

project. In any future correspondence concerning this project, please reference our Log Number 4-2-93-052.

Sincerely,

Brian P. Cole
Field Supervisor

cc:
Mr. Randall C. Wilson, Nongame Section Manager, Division of Wildlife Management, North Carolina Wildlife Resources Commission, 512 N. Salisbury Street, Raleigh, NC 27604-1188
Director, North Carolina Natural Heritage Program, P.O. Box 27687, Raleigh, NC 27611
Mr. Cecil Frost, North Carolina Department of Agriculture, Plant Conservation Program, P.O. Box 27647, Raleigh, NC 27611
Mr. Dennis Stewart, Division of Boating and Inland Fisheries, North Carolina Wildlife Resources Commission, 512 N. Salisbury Street, Raleigh, NC 27604-1188

FM208

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
116 WEST JONES STREET
RALEIGH NORTH CAROLINA 27603-8003

03-25-93

INTERGOVERNMENTAL REVIEW COMMENTS

MAILED TO:

N.C. DEPT. OF TRANSPORTATION
L.J. WARD
PLANN. & ENV. BRANCH
HIGHWAY BLDG./INTER-OFFICE

FROM:

MRS. CHRYS BAGGETT
DIRECTOR
N C STATE CLEARINGHOUSE

PROJECT DESCRIPTION:

SCOPING - PROPOSED DIXON SCHOOL ROAD EXTENSION FROM DIXON SCHOOL ROAD (SR 2283) FROM SOUTH OF NC 216 TO US 74 BUSINESS, CLEVELAND COUNTY TIP #R-2625

SAI NO 93E42200613 PROGRAM TITLE - SCOPING

THE ABOVE PROJECT HAS BEEN SUBMITTED TO THE NORTH CAROLINA INTERGOVERNMENTAL REVIEW PROCESS. AS A RESULT OF THE REVIEW THE FOLLOWING IS SUBMITTED: ( ) NO COMMENTS WERE RECEIVED

(X) COMMENTS ATTACHED

SHOULD YOU HAVE ANY QUESTIONS, PLEASE CALL THIS OFFICE (919) 733-0499.

C.C. REGION C

State of North Carolina
Department of Environment, Health, and Natural Resources
512 North Salisbury Street • Raleigh, North Carolina 27604

James B. Hunt, Jr., Governor

Jonathan B. Howes, Secretary

MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee
Project Review Coordinator

RE: 93-0613 Scoping Dixon School Road Extension, Cleveland County

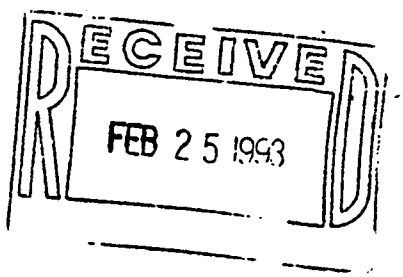
DATE: February 23, 1993

The Department of Environment, Health, and Natural Resources has reviewed the proposed project. The attached comments are a result of this review. More specific comments will be provided during the environmental review process.

Thank you for the opportunity to respond. If during the preparation of the environmental document, additional information is needed, the applicant is encouraged to notify our respective divisions.

attachments

David Foster



P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-4984 Fax # 919-733-0513

North Carolina Department of Cultural Resources

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

Division of Archives and History
William S. Price, Jr., Director

March 23, 1993

MEMORANDUM

TO: L. J. Ward, P.E., Manager
Planning and Environmental Branch
Division of Highways
Department of Transportation

FROM: David Brook
Deputy State Historic Preservation Officer

SUBJECT: Dixon School Road Extension (SR 2283) from south of NC 216 to US 74 Business, Cleveland County, R-2625, 8.2800801, STP-2283(1), CH 93-E-4220-0613

We have received information concerning the above project from the State Clearinghouse.

We have conducted a search of our files and are aware of no structures of historical or architectural importance located within the planning area. However, since a comprehensive historical architectural inventory of Cleveland County has never been conducted, there may be structures of which we are unaware located within the planning area.

We recommend that an architectural historian for the North Carolina Department of Transportation survey the area of potential effect and report the findings to us. Please send photographs, keyed to a map, of all structures over fifty years of age. Also include a brief statement about each strauctures hsitory and explain which National Register criteria it does or does not meet.

There are no known recorded archaeological sites within the project boundaries. However, the project area has never been systematically surveyed to determine the location of significance of archaeological resources.

We recommend that a comprehensive survey be conducted by an experienced archaeologist to identify the presence and significance of archaeological remains that may be damaged or destroyed by the proposed project. Potential effects on unknown resources should be assessed prior to the initiation of construction activities.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966 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: State Clearinghouse
B. Church
T. Padgett
Nicholas Graf

North Carolina Department of Cultural Resources

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

Division of Archives and History
William S. Price, Jr., Director

January 6, 1994

Nicholas L. Graf
Division Administrator
Federal Highway Administration
Department of Transportation
310 New Bern Avenue
Raleigh, N.C. 27601-1442

Re: Dixon School Road extension (SR 2283), Federal-Aid Project STP-2283(1), from north of I-85 to US 74 Business west of Kings Mountain, R-2625, Cleveland County, ER 93-7555, ER 94-7975

Dear Mr. Graf:

Thank you for your letter of December 7, 1993, transmitting the archaeological survey report by Deborah Joy concerning the above project.

Three archaeological sites were recorded during the survey. Two of the sites, 31CL20** and 31CL21**, were judged to be potentially eligible for listing on the National Register of Historic Places. We concur with this assessment. Because both sites are located outside of the area of potential effect, neither will be affected by the project as proposed.

Provided the project plans do not change, we concur with the recommendation for no further work at either site. Should any changes be made in the alignment, please notify us so we can reevaluate the potential effect on 31CL20** and 31CL21**. The third site, 31CL19**, is considered insignificant. We concur.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966 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.

Sincerely,

David Brook

David Brook
Deputy State Historic Preservation Officer

DB:slw

cc: H. F. Vick
T. Padgett

109 East Jones Street • Raleigh, North Carolina 27601-2807

TIP # R-2625 Federal Aid # 8.2800801 County Cleveland

CONCURRENCE FORM
FOR
PROPERTIES NOT ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

Brief Project Description
Dixon School Rd. extension from US 74 Bus. to I-85, west of Kings Mt.

On 8 Dec 1995, representatives of the

- ✓ North Carolina Department of Transportation (NCDOT)
- ✓ Federal Highway Administration (FHwA)
- ✓ North Carolina State Historic Preservation Office (SHPO)
- ____ Other ____

reviewed the subject project at

- ____ A scoping meeting
- ✓ Historic architectural resources photograph review session/consultation
- ____ Other ____

All parties present agreed

- ____ there are no properties over fifty years old within the project's area of potential effect.
- ✓ there are no properties less than fifty years old which are considered to meet Criterion Consideration G within the project's area of potential effect.
- ✓ there are properties over fifty years old (list attached) within the project's area of potential effect, but based on the historical information available and the photographs of each property, properties identified as Houses & Buildings 1 - 37 are considered not eligible for the National Register and no further evaluation of them is necessary.
- ✓ there are no National Register-listed properties within the project's area of potential effect.

Signed:

Mary Pope Furr — 8 Dec 1995
Representative, NCDOT — Date

Joyce Shelton — 12/12/95
FHwA, for the Division Administrator, or other Federal Agency — Date

Debra K. Barrier — 12/8/95
Representative, SHPO — Date

for David Brook, Deputy — 12/15/95
State Historic Preservation Officer — Date

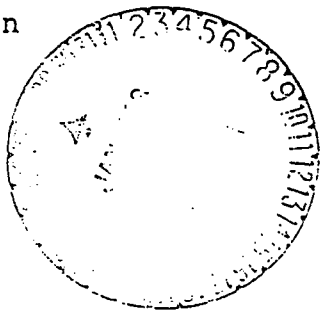
If a survey report is prepared, a final copy of this form and the attached list will be included.

State of North Carolina
Department of Environment, Health, and Natural Resources
512 North Salisbury Street • Raleigh, North Carolina 27604

James B. Hunt, Jr., Governor

Jonathan B. Howes, Secretary

Division of Soil & Water Conservation
January 27, 1993



MEMORANDUM

TO: Melba McGee

FROM: David Harrison DEH

SUBJECT: Dixon School Road Extension, Cleveland County, N.C.
Project No. 93-0613.

The proposal is to extend SR 2283 from NC 216 to US 74 Business. The Environmental Assessment should identify any unique, prime, or important farmlands that would be impacted by the project. A wetlands evaluation should be included.

DH/tl

P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-4984 Fax # 919-733-0513

State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Land Resources

James G. Martin, Governor
William W. Cobey, Jr., Secretary

PROJECT REVIEW COMMENTS

Charles H. Gardner
Director

Project Number: 93-0613 County: CLEVELAND

Project Name: DIXON ROAD EXT.

Geodetic Survey

_____ This project will impact ____ geodetic survey markers. N.C. Geodetic Survey should be contacted prior to construction at P.O. Box 27687, Raleigh, N.C. 27611 (919) 733-3836. Intentional destruction of a geodetic monument is a violation of N.C. General Statute 102-4.

__✓__ This project will have no impact on geodetic survey markers.

_____ Other (comments attached)

For more information contact the Geodetic Survey office at (919) 733-3836.

Cliff A. Klaum
Reviewer

1-28-93
Date

Erosion and Sedimentation Control

_____ No comment

_____ This project will require approval of an erosion and sedimentation control plan prior to beginning any land-disturbing activity if more than one (1) acre will be disturbed.

__✓__ If an environmental document is required to satisfy Environmental Policy Act (SEPA) requirements, the document must be submitted as part of the erosion and sedimentation control plan.

__✓__ If any portion of the project is located within a High Quality Water Zone (HQW), as classified by the Division of Environmental Management, increased design standards for sediment and erosion control will apply.

__✓__ The erosion and sedimentation control plan required for this project should be prepared by the Department of Transportation under the erosion control program delegation to the Division of Highways from the North Carolina Sedimentation Control Commission.

_____ Other (comments attached)

For more information contact the Land Quality Section at (919) 733-4574.

David Ward
Reviewer

01/29/93
Date

P.O. Box 27687 • Raleigh, N.C. 27611-7687 • Telephone (919) 733-3833

State of North Carolina
Department of Environment, Health, and Natural Resources

INTERGOVERNMENTAL REVIEW — PROJECT COMMENTS

Reviewing Office: MRO	
Project Number: 93-0613	Due Date: 2-18-93

After review of this project it has been determined that the EHNR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law.

Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form.

All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to construct & operate wastewater treatment facilities, sewer system extensions, & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts On-site inspection. Post-application technical conference usual	30 days (90 days)
☐	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES Reply time. 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
☐	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
☐	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
☐	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
☐	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15A NCAC 21H.0600	N/A	60 days (90 days)
☑	Any open burning associated with subject proposal must be in compliance with 15A NCAC 2D.0520.		
☐	Demolition or renovations of structures containing asbestos material must be in compliance with 15A NCAC 2D.0525 which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-733-0820.	N/A	60 days (90 days)
☐	Complex Source Permit required under 15A NCAC 2D.0800.		
☐	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Sect.) at least 30 days before beginning activity. A fee of $30 for the first acre and $20.00 for each additional acre or part must accompany the plan		20 days (30 days)
☐	The Sedimentation Pollution Control Act of 1973 must be addressed with respect to the referenced Local Ordinance:		(30 days)
☐	Mining Permit	On-site inspection usual. Surety bond filed with EHNR. Bond amount varies with type mine and number of acres of affected land Any area mined greater than one acre must be permited. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
☐	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
☐	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.D. Division Forest Resources required "If more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual burn is planned."	1 day (N/A)
☐	Oil Refining Facilities	N/A	90-120 days (N/A)
☐	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans. Inspect construction, certify construction is according to EHNR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of $200.00 must accompany the application. An additional processing fee based on a percentage or the total project cost will be required upon completion.	30 days (60 days)

Pb 105

Continued on reverse

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to drill exploratory oil or gas well	File surety bond of $5,000 with EHNR running to State of N.C. conditional that any well opened by drill operator shall, upon abandonment, be plugged according to EHNR rules and regulations.	10 days (N/A)
☐	Geophysical Exploration Permit	Application filed with EHNR at least 10 days prior to issue of permit Application by letter. No standard application form.	10 days (N/A)
☐	State Lakes Construction Permit	Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.	15-20 days (N/A)
☐	401 Water Quality Certification	N/A	60 days (130 days)
☐	CAMA Permit for MAJOR development	$250.00 fee must accompany application	55 days (150 days)
☐	CAMA Permit for MINOR development	$50.00 fee must accompany application	22 days (25 days)
☐	Several geodetic monuments are located in or near the project area. If any monuments need to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687, Raleigh, N.C. 27611		
☐	Abandonment of any wells, if required, must be in accordance with Title 15A, Subchapter 2C.0100.		
☐	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
☐	Compliance with 15A NCAC 2H.1000 (Coastal Stormwater Rules) is required.		45 days (N/A)

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

AQ - No objections 1/28/93

WQ - No objections. DRC

LQ - NONE Jim Cook 4/23.93

REGIONAL OFFICES

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

☐ Asheville Regional Office
59 Woodfin Place
Asheville, NC 28801
(704) 251-6208

☑ Mooresville Regional Office
919 North Main Street, P.O. Box 950
Mooresville, NC 28115
(704) 663-1699

☐ Washington Regional Office
1424 Carolina Avenue
Washington, NC 27889
(919) 946-6481

☐ Fayetteville Regional Office
Suite 714 Wachovia Building
Fayetteville, NC 28301
(919) 486-1541

☐ Raleigh Regional Office
3800 Barrett Drive, Suite 101
Raleigh, NC 27609
(919) 733-2314

☐ Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405
(919) 395-3900

☐ Winston-Salem Regional Office
8025 North Point Blvd.
Suite 100
Winston-Salem, NC 27106
(919) 896-7007

North Carolina Wildlife Resources Commission

512 N. Salisbury Street, Raleigh, North Carolina 27604-1188, 919-733-3391
Charles R. Fullwood, Executive Director

MEMORANDUM

TO: Melba McGee, Planning and Assessment
Dept. of Environment, Health, & Natural Resources

FROM: David Yow, Highway Project Coordinator
Habitat Conservation Program

DATE: February 18, 1993

SUBJECT: Request for information from the N. C. Department of Transportation (NCDOT) regarding fish and wildlife concerns for Dixon School Road Extension from Dixon School Road (SR 2283) south of NC 216 to US 74 Business, Cleveland County, North Carolina, TIP No. R -2625, SCH Project No. 93-0613.

This memorandum responds to a request from Mr. L. J. Ward of the NCDOT for our concerns regarding impacts on fish and wildlife resources resulting from the subject project. The N. C. Wildlife Resources Commission (NCWRC) has reviewed the proposed improvements, and a site inspection was conducted on February 11, 1993. Our comments are provided in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

The proposed work involves re-alignment and extension of Dixon School Road, a two-lane roadway in Cleveland County. Land use in the project area consists of agricultural, residential, and industrial areas. One small stream is crossed by both proposed alternative alignments. Based on preliminary examination of project scope, the NCWRC has no preference between the two alternative corridors.

Recent NCDOT environmental documents have typically addressed most environmental concerns for projects of this scope. For purposes of reference, our informational needs are listed below:

1. Description of fishery and wildlife resources within the project area, including a listing of federally or state designated threatened, endangered, or special concern species. When practicable, potential borrow areas to be used for project construction should be included in the inventories. A listing of designated plant species can be developed through consultation with:

   The Natural Heritage Program
   N. C. Division of Parks and Recreation
   P. O. Box 27687
   Raleigh, N. C. 27611
   (919) 733-7795

   and,

   Cecil C. Frost, Coordinator
   NCDA Plant Conservation Program
   P. O. Box 27647
   Raleigh, N. C. 27611
   (919) 733-3610

   In addition, the NCWRC's Nongame and Endangered Species Program maintains databases for locations of vertebrate wildlife species. While there is no charge for the list, a service charge for computer time is involved. Additional information may be obtained from:

   Randy Wilson, Manager
   Nongame and Endangered Species Program
   N. C. Wildlife Resources Commission
   512 N. Salisbury Street
   Raleigh, N. C. 27604-1188
   (919) 733-7291.

2. Description of any streams or wetlands affected by the project. The need for channelizing or relocating portions of streams crossed and the extent of such activities.

3. Cover type maps showing wetland acreages impacted by the project. Wetland acreages should include all project-related areas that may undergo hydrologic change as a result of ditching, other drainage, or filling for project construction. Wetland identification may be accomplished through coordination with the U. S. Army Corps of Engineers (COE). If the COE is not consulted, the person delineating wetlands should be identified and criteria listed.

4. Cover type maps showing acreages of upland wildlife habitat impacted by the proposed project. Potential borrow sites should be included.

5. The extent to which the project will result in loss, degradation, or fragmentation of wildlife habitat (wetlands or uplands).

6. Mitigation for avoiding, minimizing or compensating for direct and indirect degradation in habitat quality as well as quantitative losses.

7. A cumulative impact assessment section which analyzes the environmental effects of highway construction and quantifies the contribution of this individual project to environmental degradation.

8. A discussion of the probable impacts on natural resources which will result from secondary development facilitated by the new road construction. These indirect impacts have often been ignored in NCDOT documents, although the possible economic benefits of subsequent development are frequently cited as justification for highway construction. The NCWRC recommends that this and future documents provide a balanced treatment of secondary development impacts, particularly when construction on new alignment is proposed.

Thank you for the opportunity to provide input in the early planning stages for this project. If I can further assist your office, please contact me at (919) 528-9887.

cc Jack Mason, District 8 Wildlife Biologist
Chris Goudreau, District 8 Fisheries Biologist
Randy Wilson, Nongame/Endangered Species Program Mgr.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PUBLIC AFFAIRS DIVISION
P.O. BOX 25201, RALEIGH, N.C. 27611-5201

JAMES B. HUNT, JR.
GOVERNOR

SAM HUNT
SECRETARY

Release: Immediate
Contact: Lara E. Ellington, (919) 733-2522
Release No: 100

Date: April 1, 1993
Distribution: 23

PUBLIC WORKSHOP SET FOR PROPOSED EXTENSION OF DIXON SCHOOL ROAD IN KINGS MOUNTAIN

RALEIGH -- The N.C. Department of Transportation (NCDOT) will hold a public workshop on Monday, May 3 on the proposed extension of Dixon School Road, south of N.C. 216 to U.S. 74 - U.S. 74 Business in Kings Mountain, Cleveland County.

The public workshop will be held between the hours of 4 p.m. and 8 p.m. in the Town Hall Council Chambers, 101 West Gold Street, Kings Mountain.

The proposed project consists of extending Dixon School Road, south of N.C. 216, to U.S. 74 Business west of Kings Mountain. The proposal will include constructing a two-lane road on a new location.

All interested persons are invited to attend this workshop at their convenience during the above stated hours. NCDOT representatives will be available to discuss the proposed project and answer any questions. Anyone desiring additional information on the workshop may contact Mr. Ed Lewis, N.C. Department of Transportation, Planning and Environmental Branch, P.O. Box 25201, Raleigh, N.C. 27611 or at (919) 733-3141.

NCDOT will provide reasonable accommodations, auxiliary aids and services for any qualified disabled person interested in attending the public workshop. To request the above services you may call Mr. Lewis at the above number no later than seven days prior to the date of the meeting.

-end-

PHONE (919) 733-2520 FAX (919) 733-9980

North Carolina Department of Transportation
Planning and Environmental Branch

DIXON SCHOOL ROAD (SR 2283) EXTENSION

FROM NORTH OF I - 85
TO US 74 BUSINESS

CLEVELAND COUNTY
T. I. P. NUMBER R - 2625

MAY 3, 1993

Citizens Informational Workshop

CITIZENS INFORMATIONAL WORKSHOP

Dixon School Road (SR 2283) Extension

From North of Interstate 85
To US 74 Business

Cleveland County

Federal Aid Project STP-2283(1)
State Project 8.2800801
Transportation Improvement Program I-2201

PURPOSE OF THE WORKSHOP

This workshop is being held to review the proposed extension of Dixon School Road (SR 2283) from north of Interstate 85 to US 74 Business west of Kings Mountain. Any comments or questions you may have concerning the proposed improvements will be appreciated.

All comments and suggestions received will be considered in the project study. It is realized that persons who are near the project want to know exact information about the effect on their home or place of business. Exact information is not available at this stage of the project's development. Additional design work is necessary before the actual right-of-way limits can be established. Therefore, it is not possible for representatives of the N. C. Division of Highways to provide exact information about the effect of the project on individual properties at this time. More definite information will be available at a future Public Hearing.

A comment sheet is attached at the back of this information packet for your use. Written comments or requests for additional information should be addressed to:

Mr. L. J. Ward, P. E., Manager
Planning and Environmental Branch
Division of Highways
N. C. Department of Transportation
P. O. Box 25201
Raleigh, N. C. 27611

PROJECT DESCRIPTION

The 1993-1999 Transportation Improvement Program (TIP) calls for extending Dixon School Road from north of Interstate 85 to US 74 Business west of Kings Mountain. The proposed improvements will require the acquisition of right-of-way. The attached map shows the location of the project.

DESCRIPTION OF IMPROVEMENTS

The proposed project involves re-aligning and extending the existing Dixon School Road (SR 2283) from just north of Interstate 85 to US 74 Business west of Kings Mountain, a distance of approximately 2.3 miles (see Figure 1).

The proposed improvements call for a 24-foot roadway on new location with 8-foot useable shoulders and minor re-alignments of intersecting roads. A grade separation will be constructed for the proposed crossing with the Norfolk-Southern Railroad. A 12' X 12' box culvert is proposed for the crossing of Beason Creek. Realignment of NC 216 and some of the secondary roads may be required where the proposed roadway intersects with them.

CURRENT SCHEDULE

A Public Hearing is tentatively scheduled for December of this year. Right-of-way acquisition for the southern part of the project (Interstate 85 to Phifer Road) is scheduled for October, 1999. Construction for the southern part of the project is scheduled for the year 2000.

Right-of-way acquisition for the northern part of the project (Phifer Road to US 74 Business) is scheduled for October, 1994. Construction for the northern part of the project is scheduled for September, 1995.

The above schedules are subject to the availability of funds.

EXISTING FACILITIES

Dixon School Road (SR 2283) is a two-lane road 18 feet wide with minimal unpaved shoulders constructed on poor horizontal alignment through rolling terrain. It connects Interstate 85 to NC 216, and it serves the southwest side of Kings Mountain. Current average daily traffic is 5,300 vehicles per day (vpd), and estimated traffic volume for the design year 2015 is 8,700 vpd.

NC 216 is a two-lane road 22 feet wide with very good horizontal alignment. It connects traffic from Interstate 85 directly into Kings Mountain. Current average daily traffic is 6,300 vehicles per day, and the estimated traffic volume for the design year 2015 is 10,000 vpd.

Margrace Road (SR 2263) parallels NC 216 in the project area on the opposite side of the Norfolk-Southern Railroad. It is a two-lane road 18 feet wide with very good horizontal alignment. Current average daily traffic is 4,600 vpd, and the estimated traffic volume for the design year 2015 is 5,400 vpd.

Running between Margrace Road and NC 216, is the Norfolk-Southern Railroad. This railroad carries 18 trains per day including an Amtrak train. There is a one-lane, substandard underpass of the railroad (located within approximately 500 feet of Dixon School Road) which connects NC 216 and Margrace Road.

Phifer Road (SR 2256) runs east-west in the vicinity of the project. It is a two-lane road 18 feet wide with poor horizontal and vertical curvature. The Kings Mountain Middle, Junior and Senior Schools are located east of the proposed crossing with Dixon School Road. Current average daily traffic is 4,100 vpd, and the estimated traffic volume for the design year 2015 is 8,300 vpd.

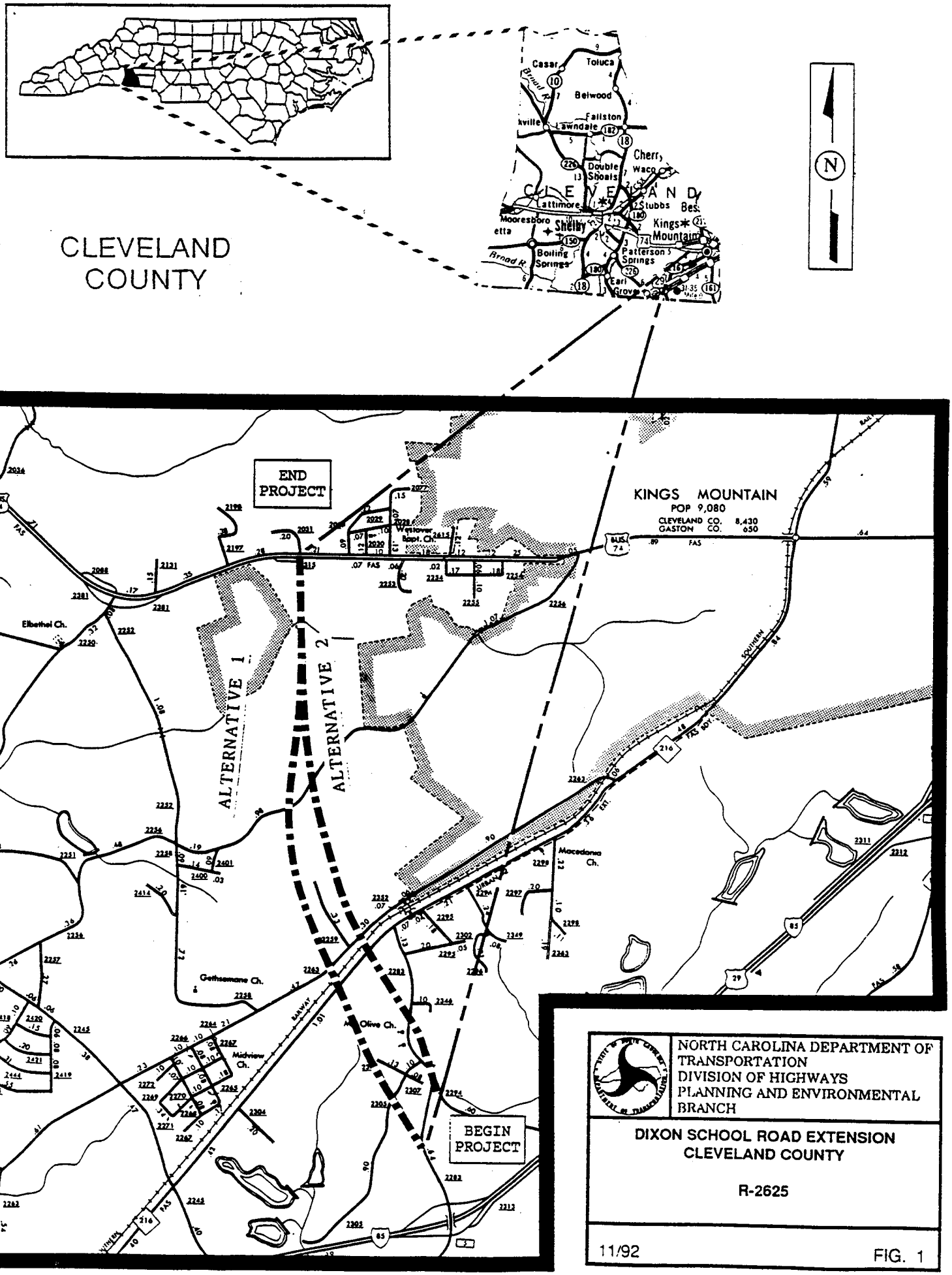
US 74 Business is a four-lane divided road which connects US 74 Bypass to central Kings Mountain. Current average daily traffic is 21,000 vpd, and the estimated traffic volume for the design year 2015 is 35,000 vpd.

ESTIMATED COSTS

Construction -	$5,000,000
Right-of-Way -	$1,000,000
TOTAL -	$6,000,000

These costs should be regarded as preliminary only and are subject to revision in the later stages of planning.

The TIP includes a total funding for this project of $4,100,000 which includes $3,300,000 for construction and $800,000 for right of way acquisition.



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

DIXON SCHOOL ROAD EXTENSION
CLEVELAND COUNTY

R-2625

11/92 FIG. 1

CITIZENS INFORMATIONAL WORKSHOP

DIXON SCHOOL ROAD (SR 2283) EXTENSION

FROM NORTH OF I - 85
TO US 74 BUSINESS
CLEVELAND COUNTY

MAY 3, 1993

COMMENT SHEET

NAME: _____

ADDRESS: _____

COMMENTS AND / OR QUESTIONS: _____

STATEMENTS RELATIVE TO THE PROPOSED PROJECT IMPROVEMENTS MAY ALSO BE MAILED TO: MR. L. J. WARD, P. E., MANAGER OF PLANNING AND ENVIRONMENTAL BRANCH P. O. BOX 25201 RALEIGH, N. C. 27611

DIVISION OF HIGHWAYS

Kings Mtn. Herald 5/6/93

Hal Plonk, Judy Ross, State DOT official Ed Lewis, and school officials Dr. Larry Allen and Dr. Bob McRae look over maps of two alternate proposals for extension of Dixon School Road from north of I-85 to US 74 Business. Public hearing is tentatively set for December.

Citizens support road plan

Local support for one of the two phases of the proposed Dixon School Road (SR 2283) extension was indicated by residents attending a four-hour citizens' informational workshop Monday.

Ed Lewis and John Alford of the State Department of Transportation took comments from 30 citizens living in the area and found some opposed to the second part of the project (Alternate II) which would run through property behind Mount Olive Baptist Church in the Compact Community.

Maps of Alternate I and Alternate II routes are to be posted at City Hall and interested citizens can pinpoint the locations and get more information from city planner Gene White in his second floor office.

Right-of-way acquisition for the northern part of the project, Phifer Road to US 74 Business, is scheduled for October, 1994. Construction is scheduled for September, 1995.

Lewis said that right-of-way acquisition for the southern part of the project, I-85 to Phifer Road, is scheduled for October, 1999. Construction is scheduled for the year 2000.

Local school officials supported the northern route which would help alleviate traffic at already congested Kings Mountain Middle School on Phifer Road.

Judy Ross, whose grandparents live in the Mount Olive Church community, wanted to know more about the southerly route. She said that route could take some of her family's property.

Local realtor Hal Plonk was also interested in how the new road would affect property he owns in the area.

Bill Herndon, whose home is on Grover Road, said if the state plans to redo Highway 216 it will be in the path of the Herndon family farm and other homes in that immediate area located behind the Mount Olive church proper.

Alford said additional design work is necessary before the actual right- of-way limits can be established and exact information about the effect of the project on individual properties won't be available until public hearing tentatively scheduled for December of this year.

The 1993-99 Transportation Improvement Program (TIP) calls for extending Dixon School Road from north of Interstate 85 to US 74 Business west of Kings Mountain.

The proposed project involves realigning and extending the existing Dixon School Road (SR 2283) from just north of I-85 to US 74 Business west of Kings Mountain, a distance of 2.3 miles.

The proposed improvements call for a 24-foot roadway on new location with 8-foot usable shoulders

See Road, 3-A

AD

and minor realignments of intersecting roads. A grade separation will be constructed for the proposed crossing with the Norfolk-Southern Railroad. A 12x12 box culvert is proposed for the crossing of Beason Creek. Realignment of NC 216 and some of the secondary roads may be required where the proposed roadway intersects with them.

Officials pointed out that the schedules are subject to the availability of funds as they pointed out the proposed routes on large maps in the Council Chambers at City Hall.

Current average daily traffic on two-lane 22 feet wide NC 216 is 6,300 vehicles per day and the estimated traffic volume for the design year 2015 is 10,000.

Current average daily traffic on two-lane 18 feet wide Margrace Road, which runs parallel to NC 216, is 4,600 and the estimated traffic volume by the design year 2015 is 5,400.

The railroad running between Margrace Road and NC 216 carries 18 trains per day including an Amtrak train. There is a one lane sub-standard underpass of the railroad 500 feet from Dixon School Road which connects NC 216 and Margrace Road.

Phifer Road runs east-west in the vicinity of the project. It is a two lane road 18 feet wide with poor horizontal and vertical curvature. The KM Middle School and KM High School are east of the proposed crossing with Dixon School Road. Current average daily traffic is 4,100 vehicles and the estimated traffic volume by 2015 is 8,300.

US 74 Business is a four-lane divided road which connects US 74 Bypass to central Kings Mountain. Current average daily traffic is 321,000 vehicles and the estimated traffic volume for the design year 2015 is 35,000 vehicles per day.

Preliminary construction costs are estimated at $5 million with right- of-way costs estimated at $1 million.

The TIP includes a total funding for this project of $4.1 million which includes $3.3 million for construction and $800,000 for right-of-way acquisition.

N. C. DEPARTMENT OF TRANSPORTATION

TRANSMITTAL SLIP	DATE
	1-20-93
TO: Mr. Eric Galamb	REF. NO. OR ROOM, BLDG. DEM-DENR
FROM: Mr. Ed Lewis	REF. NO. OR ROOM, BLDG. P3E

ACTION

☐ NOTE AND FILE	☐ PER OUR CONVERSATION
☐ NOTE AND RETURN TO ME	☐ PER YOUR REQUEST
☐ RETURN WITH MORE DETAILS	☐ FOR YOUR APPROVAL
☐ NOTE AND SEE ME ABOUT THIS	☐ FOR YOUR INFORMATION
☐ PLEASE ANSWER	☐ FOR YOUR COMMENTS
☐ PREPARE REPLY FOR MY SIGNATURE	☐ SIGNATURE
☐ TAKE APPROPRIATE ACTION	☐ INVESTIGATE AND REPORT

COMMENTS:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
P.O. BOX 25201
RALEIGH 27611-5201

JAMES G. MARTIN
GOVERNOR

THOMAS J. HARRELSON
SECRETARY

DIVISION OF HIGHWAYS

WILLIAM G. MARLEY, JR., P.E.
STATE HIGHWAY ADMINISTRATOR

January 15, 1993

MEMORANDUM TO: Mr. Eric Galamb
Department of Environmental Management

FROM: Ed Lewis
Planning and Environmental Branch

SUBJECT: Scoping Meeting Minutes
Dixon School Road Extension from Dixon School Road (SR 2283) south of NC 216 to US 74 Business, Cleveland County, Federal Aid Project STP-2283(1), State Project 8.2800801, TIP Project R-2625

A meeting was held on Tuesday, October 27, 1992 in the Planning and Environmental Branch Conference Room (Room 471) to determine the scope of work of the subject project. The following people were in attendance:

DeWayne Sykes	Roadway Design
Don Bruns	Roadway Design
Jack Matthews	Photogrammetry
Paul Worley	Rail
Jerry Snead	Hydraulics
Eric Galamb	DEHNR-Water Quality
Danny Rogers	Program Development
Bill Waller	Right of Way
Don Wilson	Location and Surveys
Ray Moore	Structure Design
Joe Springer	Planning and Environmental
Schenck Cline	Planning and Environmental
Ed Lewis	Planning and Environmental

Mr. Lewis briefly presented the project, and informed those present that parts A and B would be developed as one project in the planning phase with an EA/FONSI.

It was determined to begin the re-alignment and extension of Dixon School Road approximately 0.3 mile north of Interstate 85. The proposed route will cross NC 216, the Norfolk-Southern Railroad, SR 2263, SR 2256, and will terminate at US 74 Business near SR 2031 (see attached Figure 1). The proposed route will consist of a two-lane, 24-foot paved travelway with 8-foot usable shoulders constructed on 150 feet of right-of-way.

Jerry Snead noted that the one stream crossing would require a single barrel, 12' x 12' box culvert. He said he was not aware of any environmental concerns associated with the stream.

Paul Worley noted that Norfolk-Southern operates 17 trains per day on the dual tracks which includes two Amtrak passenger trains traveling in excess of 75 miles per hour. It was determined that with this number of trains, it would take only Design Year traffic numbering 1000 vehicles per day to exceed the minimum exposure index of 15,000 to justify providing a grade separated facility.

NC 216, the Norfolk-Southern Railroad, and SR 2263 run parallel for approximately 1.1 miles in the vicinity of the proposed crossing. Due to their close proximity, there was much discussion regarding how the proposed facility would cross and/or provide access to the rails and roads. As a result of this discussion, two alternatives were developed and are discussed below.

Alternative 1 is the westernmost alternative. Under this alternative, Dixon School Road south of NC 216 will be relocated. NC 216 will be relocated south of its present location to allow for an at-grade crossing with the proposed route. The proposed route will pass over the railroad by means of a grade separation. Intersections will be constructed where the proposed route crosses SR 2263 and SR 2256. The tentative location of the proposed route under this alternative is shown on the attached Figure 1. The estimated construction cost of this Alternative is $5,000,000.

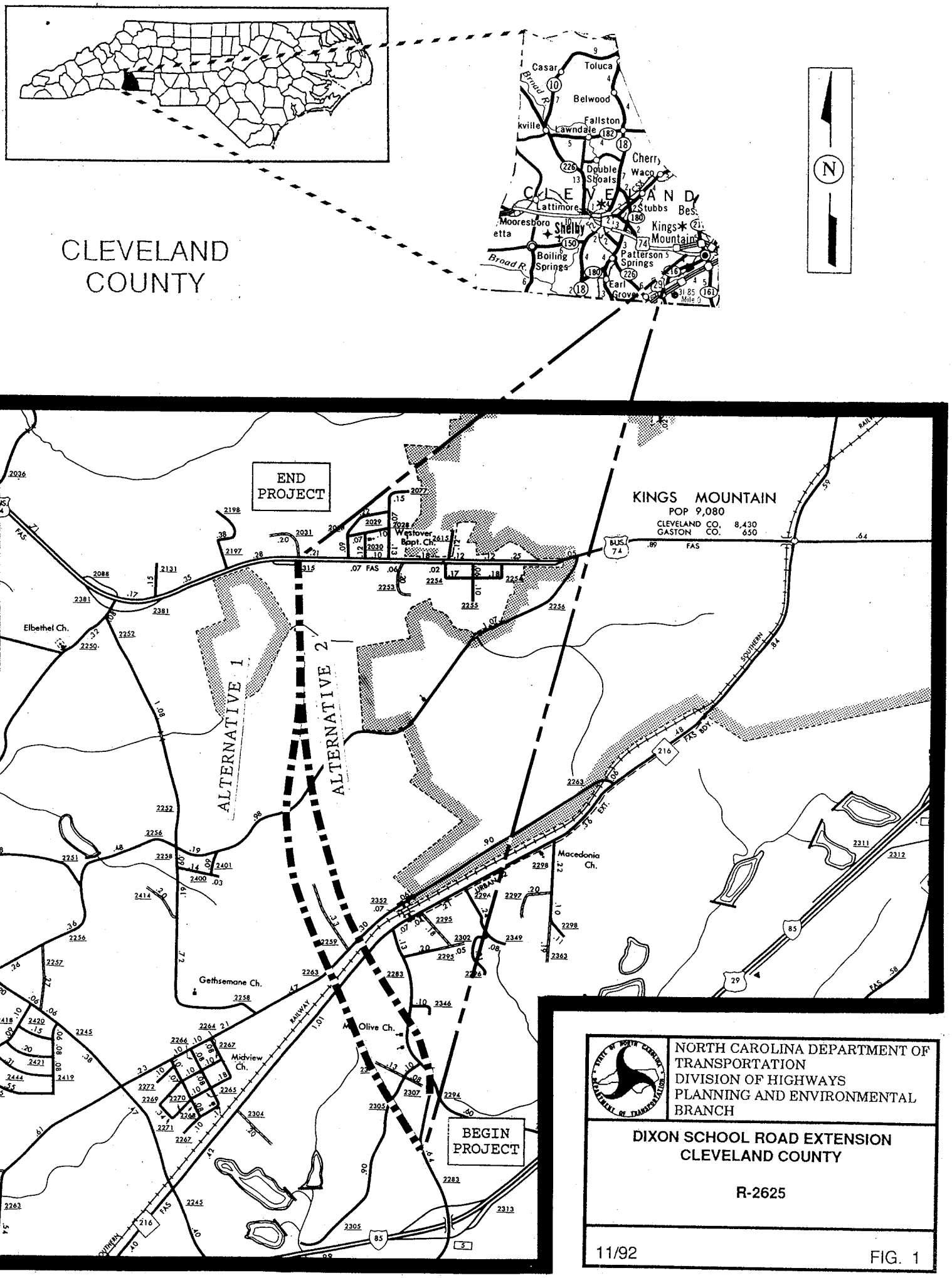
Alternative 2 is the easternmost alternative. Under this alternative, Dixon School Road south of NC 216 will be relocated. NC 216 will be relocated south of its present location to allow for an at-grade crossing with the proposed route. The proposed route will pass over the railroad and SR 2263 by means of a single bridge. A road will be constructed to provide access between SR 2263 and the proposed route. An intersection will be constructed where the proposed route crosses SR 2256. The tentative location of the proposed route under this alternative is shown on the attached Figure 1. The estimated construction cost of this Alternative is $4,950,000.

DeWayne will produce preliminary designs and cost estimates for both alternatives and forward the information to Mr. Lewis to distribute with the scoping minutes memorandum.

Joe Springer said he would try to have traffic estimates by the first week in December (traffic forecast information is still unavailable at this time).

There was no further discussion, so the meeting adjourned. If there are any questions regarding this project, please contact Ed Lewis at (919) 733-3141.

EFL/wp
Attachments



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

DIXON SCHOOL ROAD EXTENSION
CLEVELAND COUNTY

R-2625

11/92

FIG. 1

PROJECT SCOPING SHEET

Date ~~OCTOBER 1992~~ JANUARY 20, 1993
Revision Date _____
Project Development Stage
Programming _____
Planning X
Design _____

TIP # R-2625

Project # S.2800S01

F.A. Project # STP-2283(1)

Division 12

County CLEVELAND

Route NEW ROUTE

Functional Classification TO BE DETERMINED

Length 2.2 MILES

Purpose of Project: TO PROVIDE A NORTH-SOUTH ROUTE ON THE WEST SIDE OF KING'S MOUNTAIN CONNECTING US 74 BUS TO DIXON SCHOOL ROAD 0.3 NORTH OF I-85

Description of project (including specific limits) and major elements of work: TWO-LANE FACILITY FROM US 74 BUSINESS TO DIXON SCHOOL ~~PHIFER~~ ROAD WITH A GRADE SEPARATED CROSSING OF THE CSX RR WHICH PARALLELS NC 216. ~~POSSIBLE INTERCHANGE FOR NC 216.~~ MINOR RELOCATION OF NC 216 AND SECONDARY ROADS

Type of environmental document to be prepared: EA/FONSI

Environmental study schedule: ~~TO BE DETERMINED~~
EA COMPLETE - SEPT 93
FONSI COMPLETE - DEC 93

Will there be special funding participation by municipality, developers, or other? Yes _____ No X

If yes, by whom and amount: ($)_____. or _____ (%)

How and when will this be paid?

PROJECT SCOPING SHEET

Features of Proposed Facility

Type of Facility: TWO-LANE

Type of Access Control: Full ____ Partial ____ None ✓

Type of Roadway:

Interchanges ~~X0~~ Grade Separations ~~0~~1 Stream Crossings 1

Typical Section of Roadway: 24 FEET WITH 8-FOOT SHOULDERS

Traffic: Current NA vpd Design Year NA vpd
% Trucks NA % DHV NA

Design Standards Applicable: AASHTO X 3R ____

Design Speed: 50 MPH

Preliminary Resurfacing Design:

Preliminary Pavement Design:

Current Cost Estimate:

Construction Cost (including engineering and contingencies)	$ 5,000,000
Right of Way Cost (including rel., util., and acquisition)	$
Force Account Items	$
Preliminary Engineering	$
Total Cost	$ 5,000,000

TIP Cost Estimate:

Construction	$ 700.000
Right of Way	$ 300.000
Total Cost	$1.000.0000

List any special features, such as railroad involvement, which could affect cost or schedule of project: ~~GRADE SEPARATION AND INTERCHANGE IN VICINITY OF RR AND NC 216~~

Grade Separation at RR. 12'x12' CULVERT AT CREEK CROSSING.

PROJECT SCOPING SHEET

ITEMS REQUIRED ( )	COMMENTS	COST
___ Estimated Costs of Improvements:		
___ Pavement		
___ Surface		$
___ Base		$
___ Milling & Recycling		$
___ Turnouts		$
___ Shoulders: ___ Paved		$
___ Earth		$
___ Earthwork		$
___ Subsurface Items:		$
___ Subgrade and Stabilization		$
___ Drainage (List any special items)		$
___ Sub-Drainage		$
___ Structures:	Width x Length	
___ Bridge Rehabilitation	____ x ____	$
___ New Bridge	40 x 150	$
___ Widen Bridge	____ x ____	$
___ Remove Bridge	____ x ____	$
___ New Culverts: Size 12X12	Length 80'	$
	Fill Ht. ____	
___ Culvert Extension		$
___ Retaining Walls: Type ____	Ave. Ht. ____ Skew ____	$
___ Noise Walls		$
___ Any Other Misc. Structures		$
___ Concrete Curb & Gutter		$
___ Concrete Sidewalk		$
___ Guardrail		$
___ Fencing: W.W. ____ and/or C.L. ____		$
___ Erosion Control		$
___ Landscape		$
___ Lighting		$
___ Traffic Control		$
___ Signing: ___ New		$
___ Upgrading		$
___ Traffic Signals: ___ New		$
___ Revised		$
___ RR Signals: ___ New		$
___ Revised		$
___ With or Without Arms		$
___ If 3R: ___ Drainage Safety Enhancement		$
___ Roadside Safety Enhancement		$
___ Realignment for Safety Upgrade		$
___ Pavement Markings: Paint ____ Thermo ____	Markers ____	$
___ Delineators		$
___ Other		$
	CONTRACT COST (Subtotal):	$

PROJECT SCOPING SHEET

Contingencies & Engineering . . . . . $ _____
PE Costs. . . . . $ _____
Force Account . . . . . $ _____

Subtotal: $

Right of Way:

Will Contain within Exist Right of Way: Yes ___ No X
Existing Right of Way Width: NA → 150'
New Right of Way Needed: Width ~~80'~~ Est. Cost $ _____
Easements: Type _____ Width _____ Est. Cost $ _____
Utilities: $ _____

Right of Way Subtotal: $

Total Estimated Cost (Includes R/W): $

Prepared By: _____ Date: _____

The above scoping has been reviewed and approved* by:

	INIT.	DATE		INIT.	DATE
Highway Design			Board of Tran. Member		
Roadway			Mgr. Program & Policy		
Structure			Chief Engineer-Precons		
Design Services			Chief Engineer-Oper		
Geotechnical			Secondary Roads Off.		
Hydraulics			Construction Branch		
Loc. & Surveys			Roadside Environmental		
Photogrammetry			Maintenance Branch		
Prel. Est. Engr.			Bridge Maintenance		
Planning & Environ.			Statewide Planning		
Right of Way			Division Engineer		
R/W Utilities			Bicycle Coordinator		
Traffic Engineering			Program Development		
Project Management			FHWA		
County Manager			Dept. of Cult. Res.		
City/Municipality			Dept. of EH & NR		
Others _____					

Scope Sheet for local officials will be sent to Division Engineer for handling.

Comments or Remarks: PROJECT HAS BEEN UPSCOPED FROM US 74 BUSINESS TO DIXON SCHOOL ROAD. FEDERAL FUNDING SOURCE SO EA/FONSI WILL REQUIRED ~~WITH SCHEDULE TO BE DETERMINED.~~

*If you are not in agreement with proposed project or scoping, note your proposed revisions in Comments or Remarks Section and initial and date after comments.

N. C. DEPARTMENT OF TRANSPORTATION

TRANSMITTAL SLIP

DATE: 10/8/92

TO: Mr. Eric Galamb

REF. NO. OR ROOM, BLDG.: Dept. of Env. Mgt

FROM: Ed Lewis

REF. NO. OR ROOM, BLDG.: P&E

ACTION

- ☐ NOTE AND FILE
- ☐ NOTE AND RETURN TO ME
- ☐ RETURN WITH MORE DETAILS
- ☐ NOTE AND SEE ME ABOUT THIS
- ☐ PLEASE ANSWER
- ☐ PREPARE REPLY FOR MY SIGNATURE
- ☐ TAKE APPROPRIATE ACTION
- ☐ PER OUR CONVERSATION
- ☐ PER YOUR REQUEST
- ☐ FOR YOUR APPROVAL
- ☐ FOR YOUR INFORMATION
- ☐ FOR YOUR COMMENTS
- ☐ SIGNATURE
- ☐ INVESTIGATE AND REPORT

COMMENTS:

R-2625

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
P.O. BOX 25201
RALEIGH 27611-5201

JAMES G. MARTIN
GOVERNOR

THOMAS J. HARRELSON
SECRETARY

DIVISION OF HIGHWAYS

WILLIAM G. MARLEY, JR., P.E.
STATE HIGHWAY ADMINISTRATOR

October 2, 1992

MEMORANDUM TO: Mr. Eric Galamb
Department of Environmental Management

FROM: L. J. Ward, P.E., Manager
Planning and Environmental Branch

SUBJECT: Review of Scoping Sheets for Improvements to Dixon School Road Extension from Dixon School Road (SR 2283) south of NC 216 to US 74 Business, Cleveland County, Federal Aid Project STP-2283(1), State Project 8.2800801, TIP Project R-2625

Attached for your review and comments are the scoping sheets for the subject project (see attached map for project location). The purpose of these sheets and the related review procedure is to have an early "meeting of the minds" as to the scope of work that should be performed and thereby enable us to better implement the project. A scoping meeting for this project is scheduled for October 27, 1992 at 9:00 A.M. in the Planning and Environmental Branch Conference Room (Room 470). You may provide us with your comments at the meeting or mail them to us prior to that date (please reference page 4 of the scoping sheet).

Thank you for your assistance in this part of our planning process. If there are any questions about the meeting or the scoping sheets, please call Ed Lewis, Project Planning Engineer, at 733-3141.

EFL/wp

Attachment

PROJECT SCOPING SHEET

Date OCTOBER 1992
Revision Date _____
Project Development Stage
Programming _____
Planning X
Design _____

TIP # R-2625

Project # 8.2800801

F.A. Project # STP-2283(1)

Division 12

County CLEVELAND

Route NEW ROUTE

Functional Classification TO BE DETERMINED

Length 2.2 MILES

Purpose of Project: TO PROVIDE A NORTH-SOUTH ROUTE ON THE WEST SIDE OF KING'S MOUNTAIN CONNECTING US 74 BUS TO DIXON SCHOOL ROAD

Description of project (including specific limits) and major elements of work: TWO-LANE FACILITY FROM US 74 BUSINESS TO PHIFER ROAD WITH A GRADE SEPARATED CROSSING OF THE CSX RR WHICH PARALLELS NC 216. POSSIBLE INTERCHANGE FOR NC 216.

Type of environmental document to be prepared: EA/FONSI

Environmental study schedule: TO BE DETERMINED

Will there be special funding participation by municipality, developers, or other? Yes _____ No X

If yes, by whom and amount: ($)_____, or _____ (%)

How and when will this be paid?

PROJECT SCOPING SHEET

Features of Proposed Facility

Type of Facility: TWO-LANE

Type of Access Control: Full ____ Partial ____ None ____

Type of Roadway:

Interchanges 1 Grade Separations 0 Stream Crossings ?

Typical Section of Roadway: 24 FEET WITH 8-FOOT SHOULDERS

Traffic: Current _____ vpd Design Year _____ vpd
% Trucks _____ % DHV _____

Design Standards Applicable: AASHTO X 3R _____

Design Speed: _____ MPH

Preliminary Resurfacing Design:

Preliminary Pavement Design:

Current Cost Estimate:

Construction Cost (including engineering and contingencies)	$ _____
Right of Way Cost (including rel., util., and acquisition)	$ _____
Force Account Items	$ _____
Preliminary Engineering	$ _____
Total Cost	$ _____

TIP Cost Estimate:

Construction	$ 700,000
Right of Way	$ 300,000
Total Cost	$1,000,0000

List any special features, such as railroad involvement, which could affect cost or schedule of project: GRADE SEPARATION AND INTERCHANGE IN VICINITY OF RR AND NC 216

PROJECT SCOPING SHEET

ITEMS REQUIRED ( )	COMMENTS	COST
___ Estimated Costs of Improvements:		
___ Pavement		
___ Surface		$ _____
___ Base.		$ _____
___ Milling & Recycling		$ _____
___ Turnouts.		$ _____
___ Shoulders: ___ Paved.		$ _____
___ Earth.		$ _____
___ Earthwork		$ _____
___ Subsurface Items:		$ _____
___ Subgrade and Stabilization.		$ _____
___ Drainage (List any special items)		$ _____
___ Sub-Drainage.		$ _____
___ Structures:	Width x Length	
___ Bridge Rehabilitation	_____ x _____ . .	$ _____
___ New Bridge	_____ x _____ . .	$ _____
___ Widen Bridge	_____ x _____ . .	$ _____
___ Remove Bridge	_____ x _____ . .	$ _____
___ New Culverts: Size _____ Length _____ . . . Fill Ht. _____		$ _____
___ Culvert Extension		$ _____
___ Retaining Walls: Type _____ Ave. Ht. _____ Skew _____		$ _____
___ Noise Walls		$ _____
___ Any Other Misc. Structures.		$ _____
___ Concrete Curb & Gutter.		$ _____
___ Concrete Sidewalk		$ _____
___ Guardrail		$ _____
___ Fencing: W.W. _____ and/or C.L. _____. . . .		$ _____
___ Erosion Control		$ _____
___ Landscape		$ _____
___ Lighting.		$ _____
___ Traffic Control		$ _____
___ Signing: ___ New.		$ _____
___ Upgrading.		$ _____
___ Traffic Signals: ___ New		$ _____
___ Revised		$ _____
___ RR Signals: ___ New		$ _____
___ Revised		$ _____
___ With or Without Arms. . . .		$ _____
___ If 3R: ___ Drainage Safety Enhancement. . .		$ _____
___ Roadside Safety Enhancement. . .		$ _____
___ Realignment for Safety Upgrade .		$ _____
___ Pavement Markings: Paint _____ Thermo _____ Markers _____ .		$ _____
___ Delineators		$ _____
___ Other		$ _____
	CONTRACT COST (Subtotal):	$

PROJECT SCOPING SHEET

Contingencies & Engineering . . . . . $ _____
PE Costs. . . . . $ _____
Force Account . . . . . $ _____

Subtotal: $

Right of Way:

Will Contain within Exist Right of Way: Yes ___ No X
Existing Right of Way Width: _____
New Right of Way Needed: Width 80' Est. Cost $ _____
Easements: Type _____ Width _____ Est. Cost $ _____
Utilities: $ _____

Right of Way Subtotal: $

Total Estimated Cost (Includes R/W): $

Prepared By: _____ Date: _____

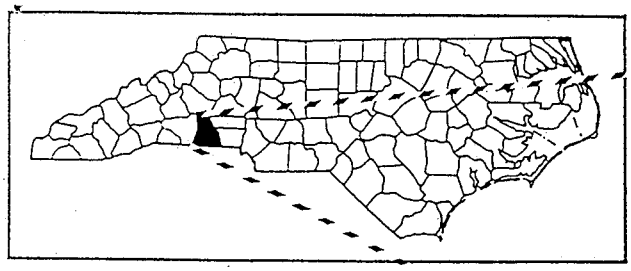
The above scoping has been reviewed and approved* by:

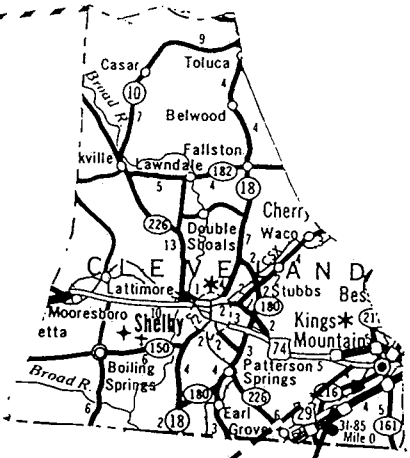
	INIT.	DATE		INIT.	DATE
Highway Design	____	____	Board of Tran. Member	____	____
Roadway	____	____	Mgr. Program & Policy	____	____
Structure	____	____	Chief Engineer-Precons	____	____
Design Services	____	____	Chief Engineer-Oper	____	____
Geotechnical	____	____	Secondary Roads Off.	____	____
Hydraulics	____	____	Construction Branch	____	____
Loc. & Surveys	____	____	Roadside Environmental	____	____
Photogrammetry	____	____	Maintenance Branch	____	____
Prel. Est. Engr.	____	____	Bridge Maintenance	____	____
Planning & Environ.	____	____	Statewide Planning	____	____
Right of Way	____	____	Division Engineer	____	____
R/W Utilities	____	____	Bicycle Coordinator	____	____
Traffic Engineering	____	____	Program Development	____	____
Project Management	____	____	FHWA	____	____
County Manager	____	____	Dept. of Cult. Res.	____	____
City/Municipality	____	____	Dept. of EH & NR	____	____
Others _____	____	____			

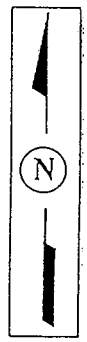
Scope Sheet for local officials will be sent to Division Engineer for handling.

Comments or Remarks: PROJECT HAS BEEN UPSCOPED FROM US 74 BUSINESS TO DIXON SCHOOL ROAD. FEDERAL FUNDING SOURCE SO EA/FONSI WILL REQUIRED WITH SCHEDULE TO BE DETERMINED.

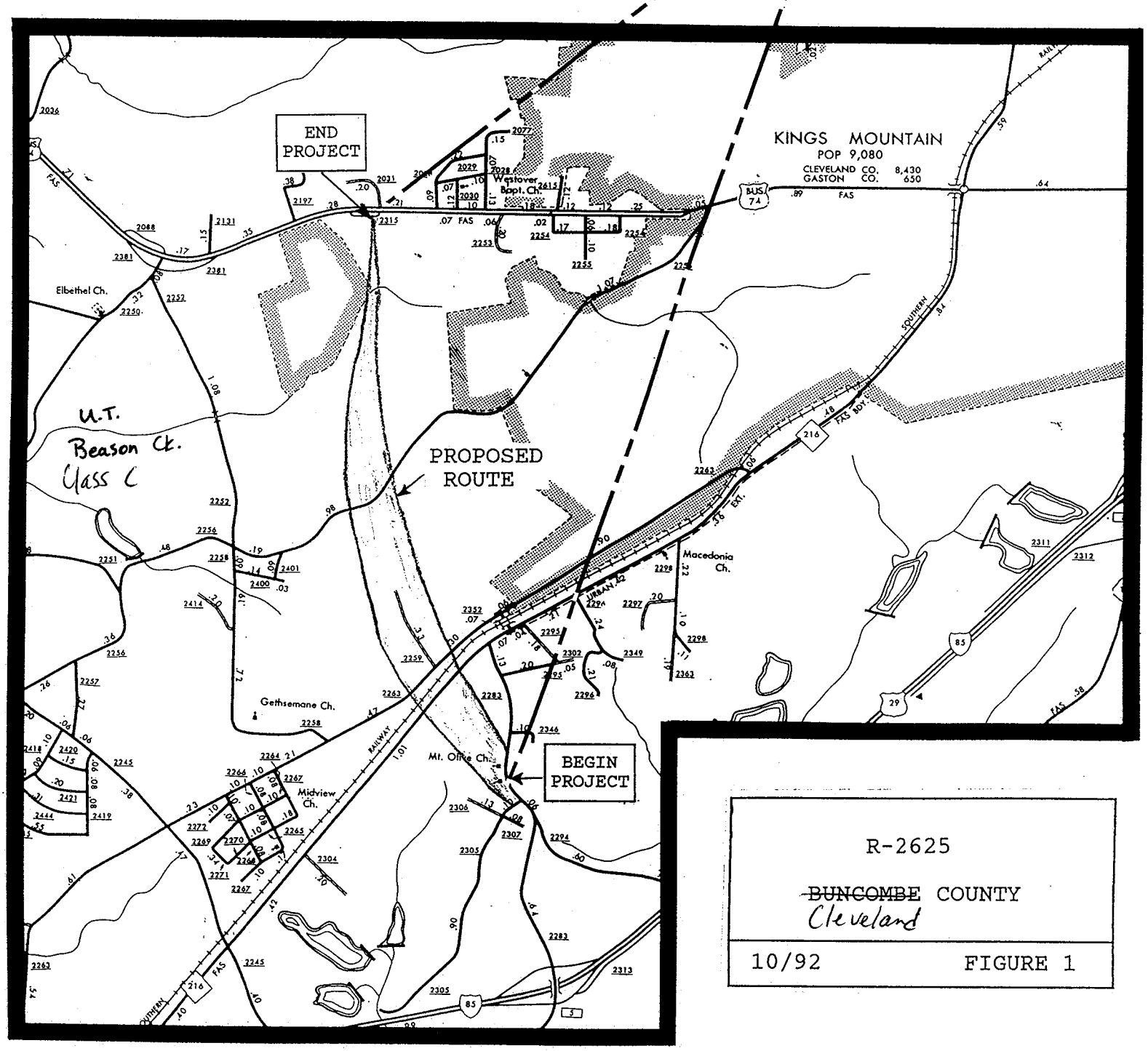
*If you are not in agreement with proposed project or scoping, note your proposed revisions in Comments or Remarks Section and initial and date after comments.







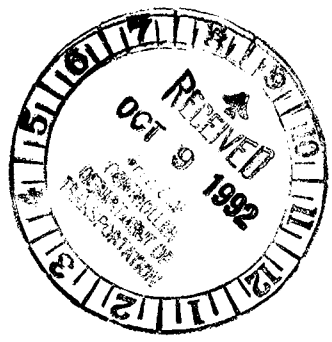
CLEVELAND
COUNTY



R-2625

~~BUNCOMBE~~ COUNTY
Cleveland

10/92 FIGURE 1


RECEIVED
OCT 9 1992

Oct 27/92

R-2625 Cleveland County

- ext. of Dixon School Rd.
- no major N/S route on west side of Kings Mtn
- EA in Oct 93
  FONSI July 94 let 95
- $3.35M for construction
- 12x12 culvert for U.T. to Beason Ck.
- no stream relocation

N. C. DEPARTMENT OF TRANSPORTATION

TRANSMITTAL SLIP	DATE
	1-20-93
TO:	REF. NO. OR ROOM, BLDG.
Mr. Eric Galamb	DEM-DEHNR
FROM:	REF. NO. OR ROOM, BLDG.
Mr. Ed Lewis	P&E

ACTION

☐ NOTE AND FILE	☐ PER OUR CONVERSATION
☐ NOTE AND RETURN TO ME	☐ PER YOUR REQUEST
☐ RETURN WITH MORE DETAILS	☐ FOR YOUR APPROVAL
☐ NOTE AND SEE ME ABOUT THIS	☐ FOR YOUR INFORMATION
☐ PLEASE ANSWER	☐ FOR YOUR COMMENTS
☐ PREPARE REPLY FOR MY SIGNATURE	☐ SIGNATURE
☐ TAKE APPROPRIATE ACTION	☐ INVESTIGATE AND REPORT

COMMENTS:

R-2625

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
P.O. BOX 25201
RALEIGH 27611-5201

JAMES G. MARTIN
GOVERNOR

THOMAS J. HARRELSON
SECRETARY

DIVISION OF HIGHWAYS

WILLIAM G. MARLEY, JR., P.E.
STATE HIGHWAY ADMINISTRATOR

January 19, 1993

MEMORANDUM TO: Mr. Eric Galamb
DEM - DEHNR, 6th Floor

FROM: L. J. Ward, P. E., Manager
Planning and Environmental Branch

SUBJECT: Dixon School Road Extension from Dixon School Road (SR 2283) from south of NC 216 to US 74 Business, Cleveland County, Federal-Aid Project STP-2283(1), State Project 8.2800801, TIP Project R-2625

The Planning and Environmental Branch of the Division of Highways has begun studying the proposed improvements to Dixon School Road (SR 2283). The project is included in the 1993-1999 North Carolina Transportation Improvement Program and is scheduled for right of way in fiscal year 1995 and construction in fiscal year 1995.

It was determined to begin the re-alignment and extension of Dixon School Road approximately 0.3 mile north of Interstate 85. The proposed route will cross NC 216, the Norfolk-Southern Railroad, SR 2263, SR 2256, and will terminate at US 74 Business near SR 2031 (see Attached). The proposed route will consist of a two-lane, 24-foot paved travelway with 8-foot usable shoulders constructed on 150 feet of right-of-way.

Alternative 1 is the westernmost alternative. Under this alternative, Dixon School Road south of NC 216 will be relocated. NC 216 will be relocated south of its present location to allow for an at-grade crossing with the proposed route. The proposed route will pass over the railroad by means of a grade separation. Intersections will be constructed where the proposed route crosses SR 2263 and SR 2256. The tentative location of the proposed route under this alternative is shown on the attached Figure 1.

Alternative 2 is the easternmost alternative. Under this alternative, Dixon School Road south of NC 216 will be relocated. NC 216 will be relocated south of its present location to allow for an at-grade crossing with the proposed route. The proposed route will pass over the railroad and SR 2263 by

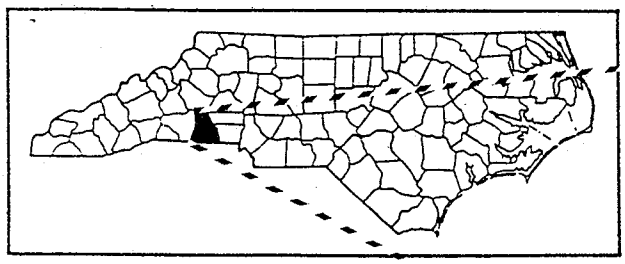
means of a single bridge. A road will be constructed to provide access between SR 2263 and the proposed route. An intersection will be constructed where the proposed route crosses SR 2256. The tentative location of the proposed route under this alternative is shown on the attached Figure 1.

We would appreciate any information you might have that would be helpful in evaluating potential environmental impacts of the project. If applicable, please identify any permits or approvals which may be required by your agency. Your comments will be used in the preparation of a document evaluating environmental impacts of the project. It is desirable that your agency respond by March 26, 1993 so that your comments can be used in the preparation of this document.

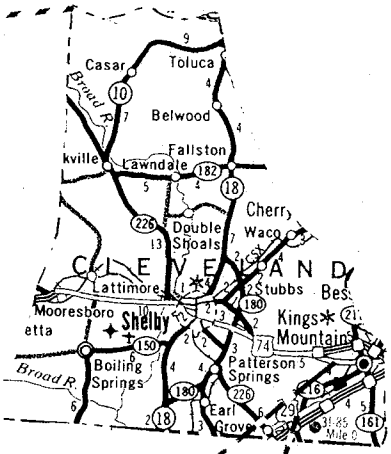
If you have any questions concerning the project, please contact Ed Lewis, Project Planning Engineer, of this Branch at (919) 733-7842.

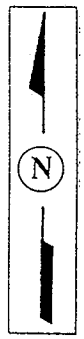
LJW/plr

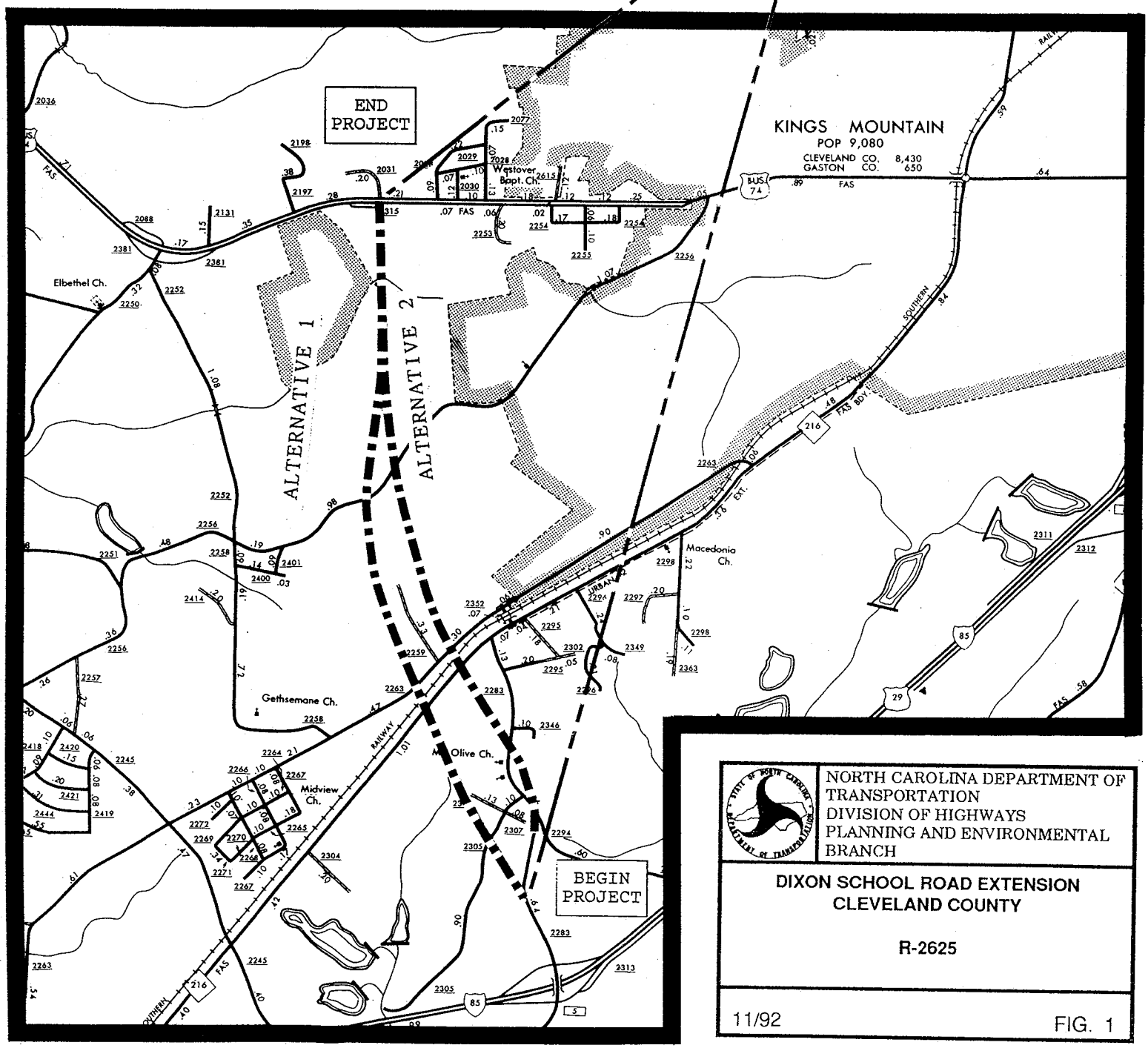
Attachment



CLEVELAND COUNTY







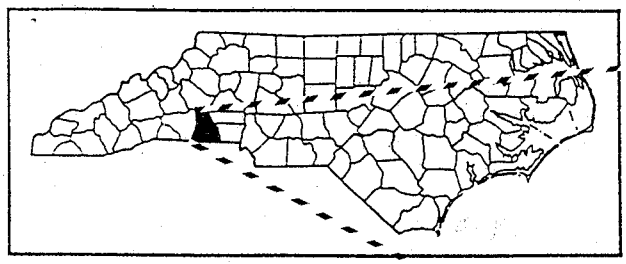
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

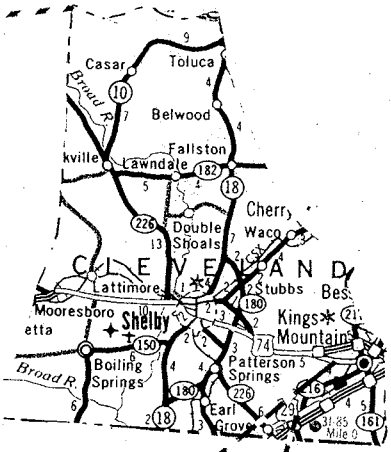
DIXON SCHOOL ROAD EXTENSION
CLEVELAND COUNTY

R-2625

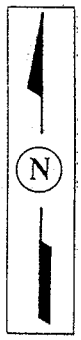
11/92

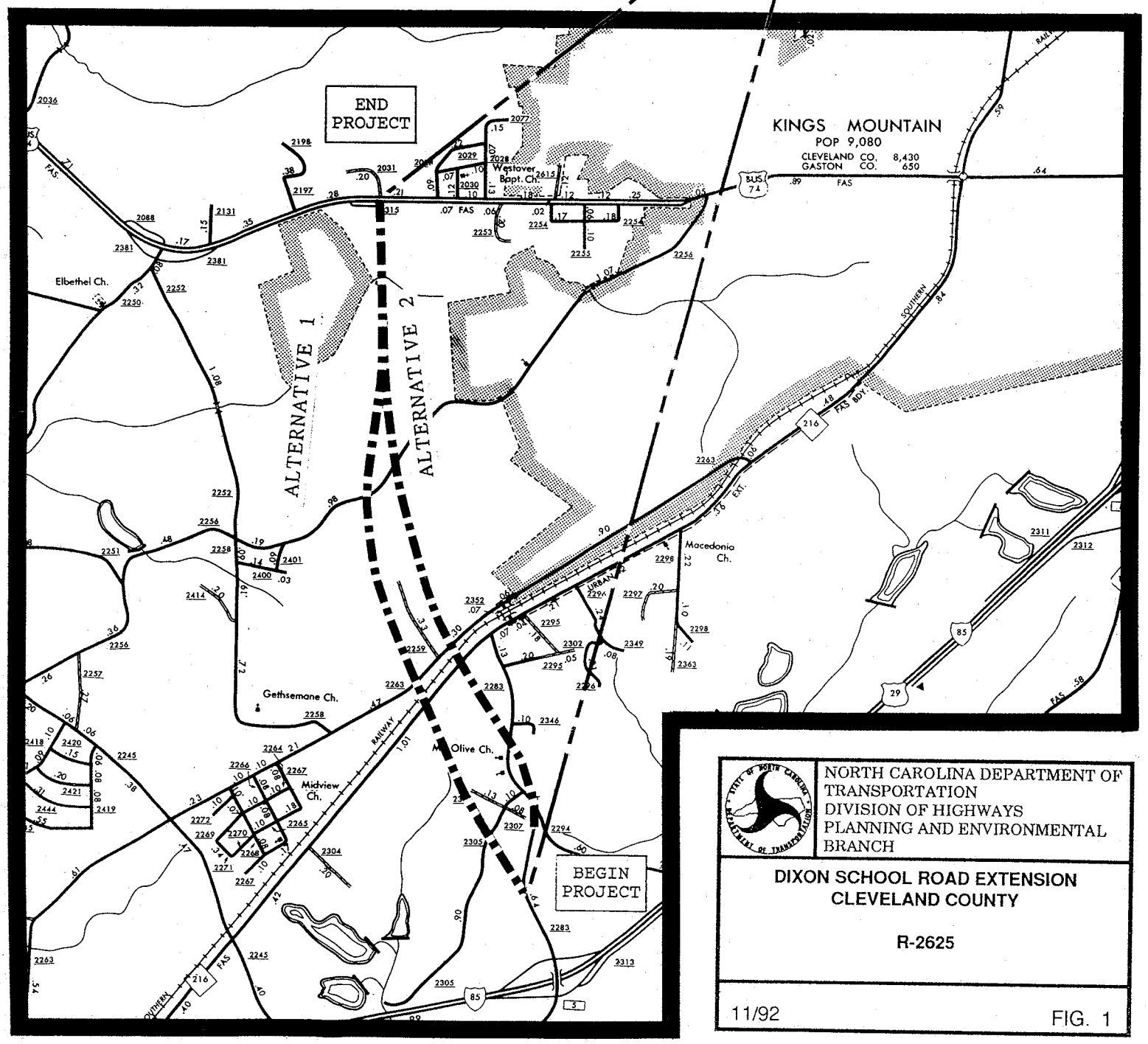
FIG. 1





CLEVELAND COUNTY





	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANNING AND ENVIRONMENTAL BRANCH
	DIXON SCHOOL ROAD EXTENSION **CLEVELAND COUNTY** **R-2625**
11/92	FIG. 1

NOTICE OF A PUBLIC WORKSHOP ON THE PROPOSED EXTENSION OF SR 2283 (DIXON SCHOOL ROAD) SOUTH OF NC 216 TO US 74-US 74 BUSINESS

Project 8.2800801 R-2625 Cleveland County

The above Public Workshop will be held on Monday, May 3, 1993 between the hours of 4:00 p.m. and 8:00 p.m. in the Town Hall Council Chambers, 101 West Gold Street, Kings Mountain.

The proposed project consists of extending SR 2283 (Dixon School Road) south of NC 216 to US 74 Business west of Kings Mountain. The proposal will include constructing a two-lane road on new location.

Representatives from the Department of Transportation will be available to discuss the proposed project with those attending. All interested persons are urged to attend at their convenience during the scheduled hours. Anyone desiring additional information on the Workshop may contact Mr. Ed Lewis, N. C. Department of Transportation, Planning and Environmental Branch, P. O. Box 25201, Raleigh, NC 27611 or telephone (919) 733-3141.

NCDOT will provide reasonable accommodations, auxiliary aids, and services for any qualified disabled person interested in attending the public workshop. To request the above services you may call Mr. Lewis at the above number **no later than** seven days prior to the date of the meeting.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.
GOVERNOR

DIVISION OF HIGHWAYS
P.O. BOX 25201, RALEIGH, N.C. 27611-5201

GARLAND B. GARRETT JR.
SECRETARY

March 8, 1996

Mr. Eric Galamb
DEHNR - Div. of Environmental Management
Water Quality Lab
4401 Reedy Creek Road
Raleigh, North Carolina 27607

Dear Mr. Galamb:

SUBJECT: Federal Environmental Assessment for Cleveland County, New Route, from North of the I-85/SR 2283 (Dixon School Road) Interchange to US 74 Business (Shelby Road), Federal Aid Project Number STP-2283(1), State Project Number 8.2800801, TIP Project R-2625

Attached is a copy of the Environmental Assessment and a Natural Resources Technical Report for the subject proposed highway improvement. It is anticipated this project will be processed with a "Finding of No Significant Impact"; however, should comments received on the Environmental Assessment or at the public hearing demonstrate a need for preparing a Draft Environmental Impact Statement you will be contacted as part of our scoping process.

Copies of this Assessment are being submitted to the State Clearinghouse, areawide planning agencies, and the counties, towns, and cities involved.

Permit review agencies should note it is anticipated Federal Permits will be required as discussed in the report.

Any comment you have concerning the Environmental Assessment should be forwarded to:

Mr. H. Franklin Vick, P. E., Manager
Planning and Environmental Branch
N. C. Division of Highways
P. O. Box 25201
Raleigh, North Carolina 27611

Your comments should be received by April 26, 1996. If no comments are received by that date we will assume you have none. If you desire a copy of the "Finding of No Significant Impact," please so indicate.

Sincerely,

H. Franklin Vick, P. E., Manager
Planning and Environmental Branch

HFV/plr

RECEIVED
MAR 1 5 1996
ENVIRONMENTAL SCIENCES
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
JAMES B. HUNT JR.
GOVERNOR
DIVISION OF HIGHWAYS
P.O. BOX 25201. RALEIGH. N.C. 27611-5201
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SECRETARY

4 October 1995

MEMORANDUM TO: J. Wilson Stroud, Unit Head
Project Planning Unit

FROM: James W. Hauser, Environmental Biologist JWH
Environmental Unit

SUBJECT: Water resources and protected species update for the Dixon School Road Extension, from Dixon School Road, South of NC 216 to US 74 Business; Cleveland County; TIP No. R-2625; State Project No. 8.2800801; Federal Aid No. STP-2283(1).

ATTENTION: Ed P. Lewis, Project Planning Engineer

REFERENCE(S): (1) Shipley, August 1993. Natural Resources Technical Report R-2625

This construction consultation addresses water resources and federally-protected species potentially impacted by the proposed project. It serves to update the previously submitted Natural Resources Technical Report with respect to these two issues (Reference 1).

Water Resources. Three water bodies, Beason Creek, an unnamed intermittent tributary and an unnamed pond along the tributary, will be impacted by the proposed project. Hydrologic characteristics and existing aquatic communities of Beason Creek have been described in the referenced Natural Resources Technical Report for this project.

Streams have been assigned a Best Usage Classification by the Division of Environmental Management (DEM) which denotes water quality conditions and potential resource usage. The Best Usage Classification of Beason Creek remains unchanged. This stream has been classified as "C" by the DEM (September 1974). Class C designated waters are suitable for aquatic life propagation and survival, fishing, wildlife, secondary recreation and agriculture. The unnamed pond and tributary which flow into Beason Creek are assigned the same water classification of Class C.

Neither High Quality Waters (HQW), Water Supplies (WS-I or WS-II), nor Outstanding Resource Waters (ORW) occur within 1.6 km (1.0 mi) of the project area.

The Benthic Macroinvertebrate Ambient Network (BMAN), managed by the DEM, monitors ambient water quality by sampling at fixed sites for selected benthic macroinvertebrate organisms, which are sensitive

to water quality conditions. A BMAN survey was conducted in March 1986 and June 1987 on Beason Creek at two locations, SR 2252 and SR 2246, within two kilometers of the project area. These surveys indicated a water quality rating of "good/fair" for Beason Creek. No new data regarding BMAN water quality assessment have been published.

Impacts to "Waters of the U.S." will occur at the proposed road crossing at Beason Creek. No jurisdictional wetlands occur within the project area.

Protected Species. Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE), and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended.

Only one federally protected species, the dwarf-flowered heartleaf (Hexastylis naniflora), is listed for Cleveland County by the U.S. Fish and Wildlife Service as of March 28, 1995. This species was surveyed for during the preparation of the original Natural Resources Technical Report and no individuals were found within the project area. The Technical Report provides detailed descriptions and a "No Effect" biological conclusion for the dwarf-flowered heartleaf. According to the N.C. Natural Heritage Program protocols, this biological conclusion remains valid.

No additional species have been listed for federal protection for Cleveland County since the original Natural Resources Technical Report.

cc. V. Charles Bruton, Ph.D.
Hal Bain, Environmental Supervisor
File: R-2625

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT, JR.
GOVERNOR

DIVISION OF HIGHWAYS
P.O. BOX 25201, RALEIGH, N.C. 27611-5201

R. SAMUEL HUNT III
SECRETARY

August 9, 1993

MEMORANDUM TO: Schenck Cline, Unit Head
Project Planning Unit

FROM: Janet L. Shipley, Environmental Biologist
Environmental Unit

SUBJECT: Natural Resource Technical Report for Dixon School Road Extension, from Dixon School Road, South of NC 216 to US 74 Business; Cleveland County; TIP No. R-2625; State Project No. 8.2800801; Federal Aid No. STP-2283(1).

ATTENTION: Ed Lewis, Project Planning Engineer

The following Natural Resources Technical Report and Executive Summary have been prepared following a field survey conducted by Environmental Unit Staff on May 13, 1993. If I may be of additional assistance, please call me at 9770.

cc: V. Charles Bruton, Ph.D
M. Randall Turner
Dennis Pipkin, P.E

EXECUTIVE SUMMARY

Dixon School Road Extension,
from Dixon School Road, South of NC 216
to US 74 Business
Cleveland County

TIP No. R-2625
State Project No. 8.2800801
Federal Aid No. STP-2283(1)

The following summary of R-2625 is prepared for inclusion in a federal EA/FONSI document. It is requested that the Natural Resources Technical Report be submitted in its entirety along with the EA document to reviewing natural resource agencies.

OVERVIEW

No jurisdictional wetlands, nor federally protected species will be impacted by project construction.

BIOTIC COMMUNITIES

Three biotic communities were identified in the project area: Man-dominated, Mixed Pine/Hardwood, and Riparian Fringe. Mixed Pine/Hardwood forest predominates, and comprises between 8 and 10 h of the project area. Large tracts of Mixed Pine-Hardwood forest make up the study area, interspersed with hardwood pockets. Virginia pine, loblolly pine, and some scattered white pine, share the canopy with tulip tree, white oak, red oak, scarlet oak, and black oak. The understory consists of dogwood, blueberry, sourwood, bladdernut, and red cedar. The herbaceous layer supports pipsissewa, ebony spleenwort, braken fern, and poison ivy. Japanese honeysuckle, and Virginia creeper are the most common vines present.

Upland forests of the area are fragmented and are adjacent to man-dominated areas, thus the faunal component is similar to what occurs in man-dominated areas. Species more frequently associated with upland forests are the white-tail deer, gray squirrel, white-footed mouse, and eastern chipmunk. Numerous *eastern box turtles were noted.

AQUATIC COMMUNITY

The primary waterbody in the project area is Beason Creek. Likely fish to be found in these cool waters and tributaries are the rosyside dace, bluehead chub, fieryblack shiner, yellowfin shiner, creek chub, white sucker, redbreast sunfish, and bluegill (pers. comm. Chris Goudreau, NCWRC Fisheries Biologist).

Amphibians, in particular, are highly water-dependent for completion of larval stages in their life cycle. Some species are totally aquatic. Some water dependant salamanders likely to occur in the project area are the northern dusky salamander, two-lined salamander, and the three-lined salamander.

Tadpoles and adult bullfrogs, greenfrogs, and spring peepers are common in and along streams, as are snapping turtles, and painted turtles.

BIOTIC COMMUNITY IMPACTS

Impacts to natural communities reflect of the relative abundance of each system present in the study corridor. Table 1 summarizes potential losses which could result from roadway development. Calculations are based on a right of way width of 46 m (150 feet). Values are reported in hectares and acres.

Table 1. ANTICIPATED BIOTIC COMMUNITY IMPACTS

BIOTIC COMMUNITY	ALTERNATE 1 ha / (ac)	ALTERNATE 2 ha / (ac)
Man-dominated	7.7 (19.1)	4.9 (12.3)
Mixed Pine/Hardwood	10.8 (26.6)	8.9 (22.0)
Riparian Fringe	<0.1 (0.1)	<0.1 (0.1)
Total Hectares	18.6 (45.8)	13.9 (34.4)

For all proposed alternatives, impacts will occur to forested communities. Impacts due to the proposed widening will be reflected in the creation of new habitat and in the alteration and elimination of previously existing habitat. Subterranean, burrowing and slow moving organisms are particularly vulnerable to construction related habitat destruction. Larger, faster animals will simply be displaced. Creation of a "highway barrier" can affect both short-term migrations (diurnal, nocturnal) and long term migrations (seasonal) of animal populations, depending on individual species requirements for food, water and cover. Also, animal migration may be interrupted due to vehicular noise. Road-kills will decrease numbers of individuals of certain species.

WATER RESOURCES

Subject project traverses Beason Creek, which lies within the Broad River Basin. Beason Creek measures

approximately 3 to 4 m (10 to 12') across with a water depth of approximately 0.3 m (1') deep at the time of field visit. The creek bottom is characterized by a sand/cobble substrate and flow rate was moderate. This creek has been modified by channelization, resulting in steep, vertical banks. Little natural vegetation is left along the banks, due to a power line crossing.

"Best usage" classifications are assigned to the waters of North Carolina by the Division of Environmental Management (DEM). A "best usage" water classification of C has been assigned to Beason Creek. Class C designates waters suitable for secondary recreation, aquatic life propagation, and survival, fishing, wildlife and agriculture.

The Benthic Macroinvertebrate Ambient Network (BMAN) (NC-DEHNR, Division of Environmental Management) addresses long term trends in water quality at fixed monitoring sites by sampling for selected benthic macroinvertebrates. A biological sampling site is located within one kilometer of the project area on Beason Creek at SR 2252, and within two kilometers at SR 2246. Bioclassification data collected on 3/86 and 6/87 indicates good/fair conditions at both sampling sites.

Neither High Quality Waters, Outstanding Resource Waters, nor waters classified as WS-I and WS-II are located in the study area, or within one mile downstream. No National Pollutant Discharge Elimination System permits have been issued for the immediate project area.

WATER RESOURCE IMPACTS

Surface waters of Beason Creek will likely receive impacts from subject project. Both alternatives, 1 and 2 cross this waterbody. Culvert installation will reduce the linear feet of natural stream channel. Other potential impacts are increased sedimentation from construction and/or erosion; increased concentration of toxic compounds from highway runoff and/or toxic spills; scouring of stream beds due to the channelization of streams; alterations of water level due to interruptions or additions to surficial and/or groundwater flow; changes in light incidence due to the removal of vegetative cover. Strict adherence to Best Management Practices and Sedimentation Control guidelines are advocated during the construction phase of this project.

JURISDICTIONAL WATERS OF THE UNITED STATES

No jurisdictional wetlands are located in the project area. Surface water impacts to Beason Creek are anticipated.

PERMITS

It is anticipated that the crossing of Beason Creek will be authorized by Nationwide Permit (33 CFR 330.5) (a) (14)]. Nationwide #14 allows for road crossing fills of non-tidal "Waters of the United States", provided that no more than a total of 200 linear feet of the fill for the roadway can occur in special aquatic sites, including wetlands, and that the fill is limited to a filled area of no more than 0.7 ha (0.3 acre).

A 401 Water Quality Certification administered through the N.C. Department of Environment, Health and Natural Resources will be required. This certificate is issued for any activity which may result in a discharge into waters for which a federal permit is required.

MITIGATION

Compensatory mitigation is not required where Nationwide permits or General permits are authorized, according to the Memorandum of Agreement (MOA) between the Environmental Protection Agency (EPA) and the COE. Final discretionary authority in these matters rests with the COE.

FEDERALLY PROTECTED SPECIES

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE) and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. The FWS lists the federally Threatened dwarf-flowered heartleaf (Hexastylis naniflora) for Cleveland County as of July 9, 1993.

Dwarf-flowered heartleaf populations are found along bluffs and their adjacent slopes, in boggy areas next to streams and creekheads, and along slopes of nearby hillsides and ravines. It grows in acidic soils in regions with a cool moist climate. Regional vegetation is described as upper piedmont oak-pine forest and as part of the southeastern mixed forest.

BIOLOGICAL CONCLUSION: No Effect. Suitable habitat is present along much of the alignment. Two parallel line transects, spaced approximately 50 feet apart were conducted within the 150' right-of-way. No Hexastylis species were encountered. Subject project will not impact the species.

Dixon School Road Extension,
from Dixon School Road, South of NC 216
to US 74 Business
Cleveland County

TIP No. R-2625
State Project No. 8.2800801
Federal Aid No. STP-2283(1)

NATURAL RESOURCES TECHNICAL REPORT

R-2625

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH
ENVIRONMENTAL UNIT

JANET L. SHIPLEY
August 1993

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Appendix A - Natural Resource Agency Comments

1.0 INTRODUCTION

The following Natural Resources Technical report is prepared to assist in the preparation of a Federal Environmental Assessment.

1.1 Project Description

The proposed project is the extension of Dixon School Road, from Dixon School Road south of NC 216 to US 74 business. Two alignments on new location have been studied for the proposed 3.7 km (2.3 mile) project (Figure 1). All alternatives consist of a 2-lane, 7.4 m (24 ft) pavement roadway and 2.4 m (8 ft) paved shoulders occurring within 46 m (150 ft) right-of-way. Parallel alignments being studied are a western alternative (Alt 1) and an eastern alternative (Alt 2).

1.2 Purpose

The purpose of this technical report is to describe the natural systems found within the project area and to document probable impacts to these systems.

1.3 Study Area

Subject project is located near the City of Kings Mountain, Cleveland County. Cleveland County lies in the southern Piedmont Physiographic province, and the topography is generally characterized as gently rolling or hilly with several prominent ridges, and small mountain ranges. The immediate project area is gently rolling.

1.4 Methodology

The study area is defined by right-of-way limits of 46 m (150 feet). An ecological survey was conducted May 13, 1993 to identify vegetative communities and wildlife species contained within the project area. Vegetative communities and wildlife species were inventoried and mapped during on-site surveys using aerial photography (1:2400). Wetlands were identified, using methods in the Corps of Engineers Wetlands Delineation Manual (1987).

In-house preparatory work was completed prior to the field visit. Soils information was obtained from the Cleveland County Soil Conservation Service (SCS). The Kings Mountain and Grover NC quadrangle maps, and the hydric soils list for Cleveland County were studied to identify potential wetland sites. The Environmental Sensitivity Base Map for Cleveland County (GIS) was utilized to determine if any sensitive resources are present in the project area. "Classifications and Water Quality Standards assigned to the

Waters of the Catawba River Basin" (NC Dept. of Environment, Health and Natural Resources) was consulted to determine the "best usage classification for area streams. NC Natural Heritage Program (NCNHP) and Fish and Wildlife Service (FWS) files were consulted to determine if any protected flora or fauna occurs in the project area.

2.0 BIOTIC RESOURCES

Major vegetative associations and land-use patterns are defined in an integrated ecosystem approach which includes floral, mammalian, avian, reptilian, fish, and amphibian components. Distribution and composition of three biotic communities throughout the project area reflect the topographic positioning, hydrologic influences, and past and present land use practices.

2.1 Terrestrial Communities

Three biotic communities were identified in the project area: Man-dominated, Mixed Pine/Hardwood, and Riparian Fringe. The following profile descriptions, where applicable, have been adopted and modified from the NCNHP classification scheme (Schafale and Weakley 1990). Fauna sighted in the study area is denoted by an asterisk.

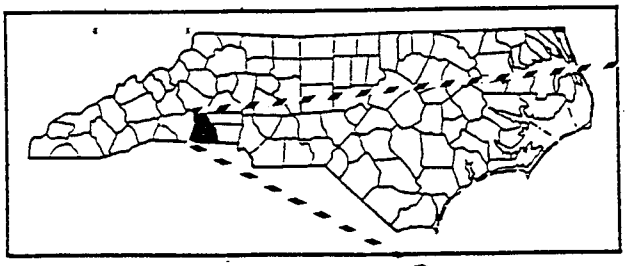
Man-Dominated

Man-dominated lands are intensively managed where man's structures or activities preclude natural plant succession. Peach orchards, fallow fields, residential, and commercial development comprise this community type.

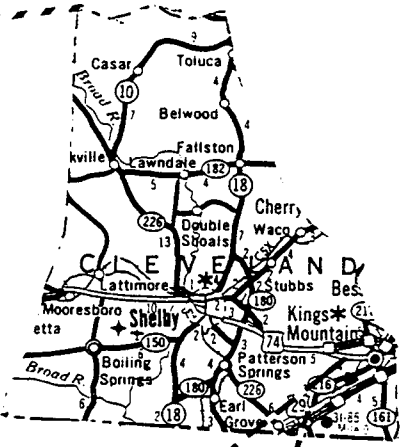
Roadside shoulders, maintained by mowing, give rise to a rich assemblage of herbaceous plants. Lawn grass (Festuca spp.) is prevalent with some encroachment of Queen Anne's lace (Daucus carota), chickory (Cichorium intybus), and dandelion (Taraxacum officinale). These same herbaceous plants may be found in fallow fields and along the edges of peach orchards.

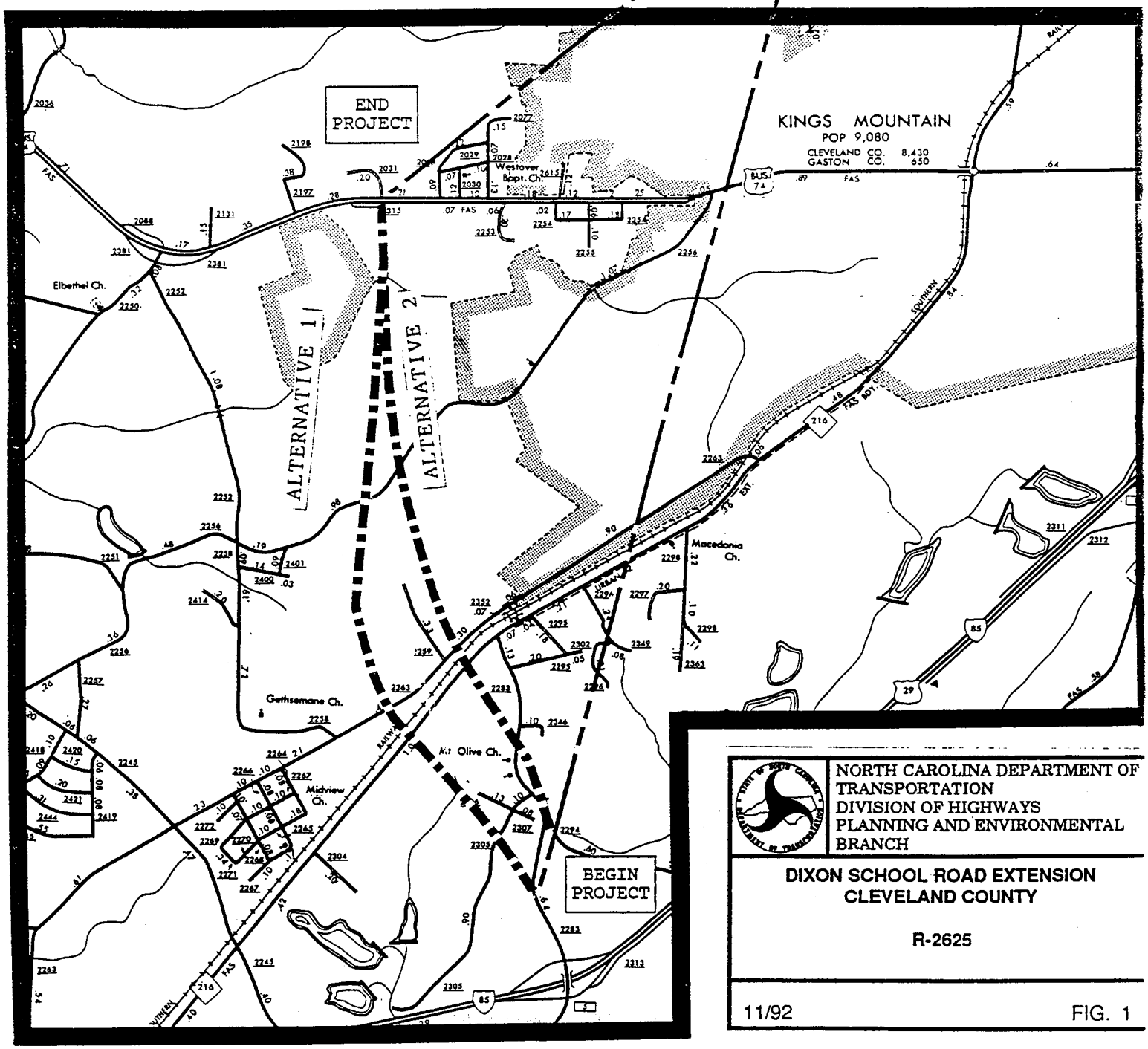
Man-dominated communities adjacent to forested tracts provide rich ecotones for foraging, while the forests provide forage and cover. Common mammals tied to ecotones are the *woodchuck (Marmota monax), least shrew (Crypototis parva), southern short-tailed shrew (Blarina carolinensis), hispid cotton rat (Sigmodon hispidus), and *eastern cottontails (Sylvilagus floridanus).

Rural, open areas and adjacent forested areas support a myriad of bird life. *Carolina wren (Thryothorus ludovicianus), *robin (Turdus migratorious), *wood thrush (Hylocichla mustelina), *northern cardinal (Cardinal cardinalis), *common grackle (Quiscula quiscula), *turkey



CLEVELAND COUNTY





NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL BRANCH

DIXON SCHOOL ROAD EXTENSION
CLEVELAND COUNTY

R-2625

11/92

FIG. 1

vulture (Cathartes aura), and *red-tailed hawk (Buteo jamaicensis) are birds sighted in the study area. Although red-tailed hawks prefer to feed in upland habitats, they frequently nest in flood plains. Other common inhabitants are the *mourning dove (Zenaida macroura), common flicker (Colaptes auratus), black-capped chickadee (Parus atricapillus), Carolina chickadee (P. carolinensis), tufted titmouse (P. bicolor), and American goldfinch (Carduelis tristis).

The eastern fence lizard (Sceloporus undulatus) inhabits open, sunny situations, such as building sites, and fence rows. American toad (Bufo americanus), and *box turtle (Terrapene caroline) are very common reptiles that may inhabit man-dominated areas, while the slimy salamander (Plethodon glutinosus) is the most likley amphibian to be found under logs, stones, and leaf litter.

Mixed Pine-Hardwood Forest

Large tracts of Mixed Pine-Hardwood forest make up the study area, interspersed with hardwood pockets. Virginia pine (Pinus virginiana), loblolly pine (P. serotina), and some scattered white pine (Pinus strobus) share the canopy with tulip tree (Liriodendron tulipifera), white oak (Quercus alba), red oak (Q. rubra), scarlet oak (Q. coccinea) and black oak (Q. velutina). The understory consists of dogwood (Cornus florida), blueberry (Vaccinium sp.), sourwood (Oxydendron arboreum), bladdernut (Staphylea trifolia), and red cedar (Juniperus virginiana). The herbaceous layer supports pipsissewa (Chimaphila maculata), ebony spleenwort (Asplenium platyneuron), braken fern (Pteridium aquilinum), and poison ivy (Toxicodendron radicans). Japanese honeysuckle (Lonicera japonica), and Virginia creeper (Parthenocissus quinquefolia) are the most common vines present.

Upland forests of the area are fragmented and are adjacent to man-dominated areas, thus the faunal component is similar to what occurs in man-dominated areas. Species more frequently associated with upland forests are the white-tail deer (Odocoileus virginianus), gray squirrel (Sciurus carolinensis pennsylvanicus), white-footed mouse (Peromyscus leucopus), and eastern chipmunks (Tamias striatus). Numerous *eastern box turtles were noted.

Riparian Fringe

Narrow strips of riparian forest border the banks of many of the small creeks in the study area. Dominant canopy species found here include box elder (Acer negundo), sycamore (Platanus occidentalis), hickory (Carya sp.), and black locust (Robinia pseudo-acacia). The mid-story and shrub layer are composed primarily of saplings of the canopy

species. Blackberry (Rubus sp.) is also prevalent. The herb layer is sparse due to season, but the following weedy species were noted: poison ivy, bittercress (Cardamine sp.), pokeweed (Phytollaca americana), and chickweed (Stellaria media).

Riparian communities provide a variety of opportunities for wildlife. Such mammals as beaver (Castor canadensis), mink (Mustela vison), and raccoons (Procyon lotor) inhabit these sites, as well as mammals forced from upland sites due to development pressures. Commonly occurring reptiles and amphibians are the spring peeper (Hyla crucifer), green frog (Rana clamitans), pickerel frog (R. palustris), northern dusky salamander (Desmognathus fuscus), two-lined salamander (Eurycea bislineata), and rat snake (Elaphe obsoleta).

2.2 Aquatic Communities

The primary waterbody in the project area is Beason Creek. Fish likely to be found in these cool waters and tributaries are the rosyside dace (Clinostomus funduloides), bluehead chub (Nocomis leptocephalus), fieryblack shiner (Notropis pyrrhomelas), yellowfin shiner (N. lutipinnis), creek chub (Semotilus atromaculatus), white sucker (Catostomus commersoni), redbreast sunfish (Lepomis auritus), and bluegill (L. macrochirus) (pers. comm. Chris Goudreau, NCWRC Fisheries Biologist).

Amphibians, in particular, are highly water-dependent for completion of larval stages in their life cycle. Some species are totally aquatic. Some water dependant salamanders likely to occur in the project area, are the northern dusky salamander (Desmognathus opacum), two-lined salamander (Eurycea bislineata), and the three-lined salamander (Eurycea guttolineata). Tadpoles and adult bullfrogs (Rana catesbeiana), greenfrogs, and spring peepers are common in and along streams, as are snapping turtles (Chelydra serpentina), and painted turtles (Chrysemys picta).

2.3 Biotic Community Impacts

Calculated impacts to natural communities reflect the relative abundance of each system present in the study corridor. Table 1 summarizes potential losses which could result from roadway development. Calculations are based on a right of way width of 110 m (150 feet). Values are reported in hectares (acres).

Table 1. ANTICIPATED BIOTIC COMMUNITY IMPACTS

BIOTIC COMMUNITY	ALTERNATE 1 ha / (ac)	ALTERNATE 2 ha / (ac)
Man-dominated	7.7 (19.1)	4.9 (12.3)
Mixed Pine/Hardwood	10.8 (26.6)	8.9 (22.0)
Riparian Fringe	<0.1 (0.1)	<0.1 (0.1)
Total Hectares	18.6 (45.8)	13.9 (34.4)

Either of the alternatives will impact more land than other communities. Impacts due to the proposed widening will result in the creation of new habitat and in the alteration and elimination of previously existing habitat. Subterranean, burrowing and slow moving organisms will be eliminated. Larger, faster animals are vulnerable to displacement. Creation of a "highway barrier" can affect both short-term migrations (diurnal, nocturnal) and long term migrations (seasonal) of animal populations, depending on individual species' requirements for food, water and cover. Animal migrations may also be interrupted due to vehicular noise. Road-kills will decrease numbers of individuals of certain species.

Dredging, filling, pile-driving operations, slope stabilization and land clearing are construction activities, which can result in the direct loss of benthic organisms due to an increase in silt load. The removal of benthic organisms reduces the potential food supply for fish and other vertebrates. Siltation has many adverse impacts on fish and benthos: decreases the depth of light penetration; inhibiting plant and algal growth, (food sources); clogs the filtration apparatus of filter-feeding benthos and the gills of fish; buries benthic organisms on the bottom, cutting them off from a food source; adversely effects preferred benthic substrate; and spoils downstream spawning beds for fish. Stringent employment of Best Management Practices is highly advocated during the construction phase of this project to lessen impacts to aquatic organisms.

3.0 PHYSICAL RESOURCES

3.1 Soils and Topography

Cleveland County occurs in the Piedmont Physiographic province located in the Felsic Crystalline Soil System. The topography in this system is extremely variable. Broad, gently sloping uplands are common, as are moderately to

steeply sloping areas. The bedrock is granite, granite gneiss, mica gneiss and mica schist.

Generally, subject project occurs in the Tatum-Nason Association. An association consists of one or more major soils and at least one minor soil that occur together in a characteristic and repeating pattern. The Tatum-Nason Association consists of well drained soils with mostly silt loam surfaces and moderately permeable silty clay loam subsoils on gently sloping ridge tops with strongly sloping and moderately steep sides. They are formed from the weathering of schist and are underlain by hard rock at depths of 1 to 2 m (40 to 60 inches). Minor soils make up 20 percent of this association. The micaceous clayey Madison soils make up most of the minor soils in this association.

3.2 Water Resources

Subject project traverses Beason Creek, which lies within the Broad River Basin. This creek is tributary to Buffalo Creek which joins the Broad River in South Carolina. Beason Creek is located at the northern end of the project area. It parallels both alternatives approximately 366 m (1200') to the east, before crossing the alignments at a right angle. Beason Creek measures approximately 3 to 4 m (10 to 12') across with a water depth of approximately 0.3 m (1') deep at the time of field visit. The creek bottom is characterized by a sand/cobble substrate and flow rate was moderate. This creek has been modified by channelization, resulting in steep, vertical banks. Little natural vegetation is left along the banks, due to a power line crossing.

"Best usage" classifications are assigned to the waters of North Carolina by the Division of Environmental Management (DEM). A "best usage" water classification of C has been assigned to Beason Creek. Class C designates waters suitable for secondary recreation, aquatic life propagation, and survival, fishing, wildlife and agriculture.

The Benthic Macroinvertebrate Ambient Network (BMAN) (NC-DEHNR, Division of Environmental Management) addresses long term trends in water quality at fixed monitoring sites by the sampling for selected benthic macroinvertebrates. These organisms are sensitive to very subtle changes in water quality. Biological data has been collected from Buffalo Creek and its tributaries, including Beason Creek. A biological sampling site is located within one kilometer of the project area on Beason Creek at SR 2252, and within two kilometers at SR 2246. Bioclassification data collected in 3/86 and 6/87 indicates good/fair conditions at both sampling sites.

Neither High Quality Waters, Outstanding Resource Waters, nor waters classified as WS-I and WS-II are located in the study area, or within one mile downstream. No National Pollutant Discharge Elimination System permits have been issued for the immediate project area.

3.2.1 Water Resource Impacts

Beason Creek will likely receive impacts from subject project. Both alternatives, 1 and 2 cross this waterbody. Culvert installation will reduce the linear feet of natural stream channel. Other potential impacts are increased sedimentation from construction and/or erosion; increased concentration of toxic compounds from highway runoff and/or toxic spills; scouring of stream beds due to the channelization of streams; alterations of water level due to interruptions or additions to surficial and/or groundwater flow; changes in light incidence due to the removal of vegetative cover. Stringent employment of Best Management Practices is highly advocated during the construction phase of this project to lessen impacts to aquatic systems.

4.0 SPECIAL TOPICS

4.1 Jurisdictional Waters of the United States

Surface waters and their associated wetlands fall under the broad category of "Waters of the United States" as defined in 33 CFR 328.3. The US Army Corps of Engineers (COE) takes jurisdiction over the discharge of dredged or fill material into these waters as authorized by Section 404 of the Clean Water Act.

Potential wetland communities were assessed in the project corridor on the basis of low soil chroma values, hydrophytic vegetation and the presence of hydrology or hydrological indicators, such as stained, matted vegetation, high water marks on trees, buttressed tree bases, and surface roots. No jurisdictional wetlands are located in the project area.

4.1.1 Permits

In accordance with provisions of section 404 of the Clean Water Act (33 U.S.C 1344), a permit will be required from the COE for the discharge of dredged or fill material into "Waters of the United States". Based upon site location and estimated acreage involved, it is anticipated that for alternatives 1 and 2, the crossing of Beason Creek will be authorized by Nationwide Permit (33 CFR 330.5) (a) (14)]. Nationwide #14 allows for road crossing fills of non-tidal "Waters of the United States", provided that no more than a total of 61 linear meters (200 ft) of the fill for the roadway can occur in special aquatic sites, including

wetlands, and that the fill is limited to a filled area of no more than 0.7 ha (0.3 acre).

A 401 Water Quality Certification administered through the N.C. Department of Environment, Health and Natural Resources will be required. This certificate is issued for any activity which may result in a discharge into waters for which a federal permit is required.

4.1.2 Mitigation

Compensatory mitigation is not required where Nationwide permits or General permits are authorized, according to the Memorandum of Agreement (MOA) between the Environmental Protection Agency (EPA) and the COE. Final discretionary authority in these matters rests with the COE.

4.2 Rare and Protected Species

Federal law requires that any action, which has the potential to have a detrimental impact to the survival and well being of any species classified as federally protected, is subject to review by the FWS and/or the National Marine Fisheries Service (NMFS), under the provisions of the Endangered Species Act of 1973, as amended.

In North Carolina, protection of plant species falls under N.C. General statutes (G.S.) 106-202.12 to 106-202.19 of 1979. These species may or may not be federally protected.

4.2.1 Federally Protected Species

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE) and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. The FWS lists the federally Threatened dwarf-flowered heartleaf (*Hexastylis naniflora*) for Cleveland County as of July 9, 1993.

Hexastylis naniflora (dwarf-flowered heartleaf) T
Plant Family: Aristolochiaceae
Federally Listed: April 14, 1989
Flowers Present: mid-March - mid-May
Distribution in N.C.: Burke, Catawba, Cleveland, Lincoln, Rutherford.

The dwarf-flowered heartleaf is found only in eight southern piedmont counties in North Carolina and the adjacent portions of South Carolina.

This plant has heart-shaped leaves, supported by long thin petioles that grow from a subsurface rhizome. It rarely exceeds 15 cm in height. The leaves are dark green in color, evergreen, and leathery. Flowers are small, inconspicuous, jugshaped, and

dark brown in color. They are found near the base of the petioles. Fruits mature from mid-May to early July.

Dwarf-flowered heartleaf populations are found along bluffs and their adjacent slopes, in boggy areas next to streams and creekheads, and along slopes of nearby hillsides and ravines. It grows in acidic soils in regions with a cool moist climate. Regional vegetation is described as upper piedmont oak-pine forest and as part of the southeastern mixed forest.

BIOLOGICAL CONCLUSION: No Effect. Suitable habitat is present along much of the alignment. Two parallel line transects, spaced approximately 50 feet apart were conducted within the 150' right-of-way. No Hexastylis species were encountered. Subject project will not impact the species.

4.2.2 Federal Candidate Species

No federal Candidate species are listed by the FWS for Cleveland County.

4.2.3 State Protected Species

The dwarf-flowered heartleaf (Hexastylis naniflora) is a federally Threatened species which has a state protected status of Endangered. A search of the NCNHP files reveal no known occurrences of this or other state protected species in the project area. Because of it's federal status, scientific surveys were conducted. No plants were found.

5.0 REFERENCES

American Ornithologists' Union. 1983. Checklist of North American Birds. (6th ed.) Allen Press, Inc., Lawrence, Kansas. 877p.

Ehrlich, P.E., D.S. Dobkin and D. Wheye. 1988. The Birders Handbook. A Field Guide to the Natural HIstory of North American Birds. Simon and Schuster, N.Y., N.Y. 785 p.

Depoe, C.E., J.B. Funderburg, and T.L. Quay. 1961. The reptiles and amphibians of North Carolina: a preliminary check-list and bibliography. J. Elisha Mitchell Sci. Soc. 77:125-136

Godfrey, R.K., J.W. Wooten. 1981. Aquatic and Wetland Plants of Southeastern United States, Dicotyledons. The University of Georgia Press, Athens. 933p.

Lee, D.S., Funderburg, J.B. Jr., and M.K. Clark. 1982. A Distributional Survey of North American Mammals. North Carolina State Museum of Natural History, Raleigh, N.C. 70 p.

Martof, B.S., W.M. Palmer, J.R. Bailey and J.R. Harrison 111. 1980. Amphibians and Reptiles of the Carolinas and Virginia. The University of North Carolina Press, Chapel Hill. 264p.

North Carolina Wildlife Resourses Commission. 1974. North Carolina mammalian species with keys to the orders and families. N.C. Wildl. Resour. Comm.,Raleigh.

NCDEHNR-DER. 1992. Classifications and water quality standards assigned to the waters of the Catawba River basin. Division of Environmental Management, Raleigh, N.C. 34p.

Potter, E.F., J.F. Parnell, and R.P. Teulings 1980. Birds of the Carolinas. University of North Carolina Press, Chapel Hill. 408 p.

Radford, A.E., H.E. Ahles and G.R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. The University of North Carolina Press, Chapel Hill. 1183 p.

Scott, S.L. (ed.). 1987. Field Guide to the Birds of North America. National Geographic Society, Washington, D.C. 464
Smith, R.R., J.B. Funderburg and T.L. Quay. 1960. A checklist of North Carolina mammals. N.C. Wildl. Resour. Comm., Raleigh.

The Scientific Council on Freshwater and Terrestrial Mollusks. May 1990. A Report on the Conservation Status of North Carolina's Freshwater and Terrestrial Molluscan Fauna. 246 p.

USDA-SCS Unpublished. Soil survey of Cleveland County, North Carolina. U.S. Government Printing Office, Wahington, D.C.

Webster, W.D., J.F. Parnell and W.C. Biggs. 1985. Mammals of the Carolinas, Virginia and Maryland. The University of North Carolina Press, Chapel Hill. 255 p.

FM208

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
116 WEST JONES STREET
RALEIGH NORTH CAROLINA 27603-8003

03-25-93

INTERGOVERNMENTAL REVIEW COMMENTS

MAILED TO:

N.C. DEPT. OF TRANSPORTATION
L.J. WARD
PLANN. & ENV. BRANCH
HIGHWAY BLDG./INTER-OFFICE

FROM:

MRS. CHRYS BAGGETT
DIRECTOR
N C STATE CLEARINGHOUSE

PROJECT DESCRIPTION:

SCOPING - PROPOSED DIXON SCHOOL ROAD EXTENSION FROM DIXON SCHOOL ROAD (SR 2283) FROM SOUTH OF NC 216 TO US 74 BUSINESS, CLEVELAND COUNTY TIP #R-2625

SAI NO 93E42200613 PROGRAM TITLE - SCOPING

THE ABOVE PROJECT HAS BEEN SUBMITTED TO THE NORTH CAROLINA

INTERGOVERNMENTAL REVIEW PROCESS. AS A RESULT OF THE REVIEW THE FOLLOWING

IS SUBMITTED: ( ) NO COMMENTS WERE RECEIVED

(X) COMMENTS ATTACHED

SHOULD YOU HAVE ANY QUESTIONS, PLEASE CALL THIS OFFICE (919) 733-0499.

C.C. REGION C

State of North Carolina
Department of Environment, Health, and Natural Resources
512 North Salisbury Street • Raleigh, North Carolina 27604

James B. Hunt, Jr., Governor

Jonathan B. Howes, Secretary

MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee
Project Review Coordinator

RE: 93-0613 Scoping Dixon School Road Extension, Cleveland County

DATE: February 23, 1993

The Department of Environment, Health, and Natural Resources has reviewed the proposed project. The attached comments are a result of this review. More specific comments will be provided during the environmental review process.

Thank you for the opportunity to respond. If during the preparation of the environmental document, additional information is needed, the applicant is encouraged to notify our respective divisions.

attachments

David Foster

P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-4984 Fax # 919-733-0513

North Carolina Wildlife Resources Commission

512 N. Salisbury Street, Raleigh, North Carolina 27604-1188, 919-733-3391
Charles R. Fullwood, Executive Director

MEMORANDUM

TO: Melba McGee, Planning and Assessment
Dept. of Environment, Health, & Natural Resources

FROM: David Yow, Highway Project Coordinator
Habitat Conservation Program

DATE: February 18, 1993

SUBJECT: Request for information from the N. C. Department of Transportation (NCDOT) regarding fish and wildlife concerns for Dixon School Road Extension from Dixon School Road (SR 2283) south of NC 216 to US 74 Business, Cleveland County, North Carolina, TIP No. R -2625, SCH Project No. 93-0613.

This memorandum responds to a request from Mr. L. J. Ward of the NCDOT for our concerns regarding impacts on fish and wildlife resources resulting from the subject project. The N. C. Wildlife Resources Commission (NCWRC) has reviewed the proposed improvements, and a site inspection was conducted on February 11, 1993. Our comments are provided in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

The proposed work involves re-alignment and extension of Dixon School Road, a two-lane roadway in Cleveland County. Land use in the project area consists of agricultural, residential, and industrial areas. One small stream is crossed by both proposed alternative alignments. Based on preliminary examination of project scope, the NCWRC has no preference between the two alternative corridors.

Recent NCDOT environmental documents have typically addressed most environmental concerns for projects of this scope. For purposes of reference, our informational needs are listed below:

1. Description of fishery and wildlife resources within the project area, including a listing of federally or state designated threatened, endangered, or special concern species. When practicable, potential borrow areas to be used for project construction should be included in the inventories. A listing of designated plant species can be developed through consultation with:

   The Natural Heritage Program
   N. C. Division of Parks and Recreation
   P. O. Box 27687
   Raleigh, N. C. 27611
   (919) 733-7795

   and,

   Cecil C. Frost, Coordinator
   NCDA Plant Conservation Program
   P. O. Box 27647
   Raleigh, N. C. 27611
   (919) 733-3610

   In addition, the NCWRC's Nongame and Endangered Species Program maintains databases for locations of vertebrate wildlife species. While there is no charge for the list, a service charge for computer time is involved. Additional information may be obtained from:

   Randy Wilson, Manager
   Nongame and Endangered Species Program
   N. C. Wildlife Resources Commission
   512 N. Salisbury Street
   Raleigh, N. C. 27604-1188
   (919) 733-7291.

2. Description of any streams or wetlands affected by the project. The need for channelizing or relocating portions of streams crossed and the extent of such activities.

3. Cover type maps showing wetland acreages impacted by the project. Wetland acreages should include all project-related areas that may undergo hydrologic change as a result of ditching, other drainage, or filling for project construction. Wetland identification may be accomplished through coordination with the U. S. Army Corps of Engineers (COE). If the COE is not consulted, the person delineating wetlands should be identified and criteria listed.

4. Cover type maps showing acreages of upland wildlife habitat impacted by the proposed project. Potential borrow sites should be included.

5. The extent to which the project will result in loss, degradation, or fragmentation of wildlife habitat (wetlands or uplands).

6. Mitigation for avoiding, minimizing or compensating for direct and indirect degradation in habitat quality as well as quantitative losses.

7. A cumulative impact assessment section which analyzes the environmental effects of highway construction and quantifies the contribution of this individual project to environmental degradation.

8. A discussion of the probable impacts on natural resources which will result from secondary development facilitated by the new road construction. These indirect impacts have often been ignored in NCDOT documents, although the possible economic benefits of subsequent development are frequently cited as justification for highway construction. The NCWRC recommends that this and future documents provide a balanced treatment of secondary development impacts, particularly when construction on new alignment is proposed.

Thank you for the opportunity to provide input in the early planning stages for this project. If I can further assist your office, please contact me at (919) 528-9887.

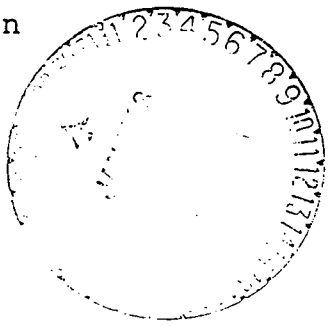
cc Jack Mason, District 8 Wildlife Biologist
Chris Goudreau, District 8 Fisheries Biologist
Randy Wilson, Nongame/Endangered Species Program Mgr.

State of North Carolina
Department of Environment, Health, and Natural Resources
512 North Salisbury Street • Raleigh, North Carolina 27604

James B. Hunt, Jr., Governor

Jonathan B. Howes, Secretary

Division of Soil & Water Conservation
January 27, 1993



MEMORANDUM

TO: Melba McGee

FROM: David Harrison DEH

SUBJECT: Dixon School Road Extension, Cleveland County, N.C.
Project No. 93-0613.

The proposal is to extend SR 2283 from NC 216 to US 74 Business. The Environmental Assessment should identify any unique, prime, or important farmlands that would be impacted by the project. A wetlands evaluation should be included.

DH/tl

P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-4984 Fax # 919-733-0513

State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Land Resources

James G. Martin, Governor
William W. Cobey, Jr., Secretary

PROJECT REVIEW COMMENTS

Charles H. Gardner
Director

Project Number: 93-0613 County: CLEVELAND

Project Name: DIXON ROAD EXT.

Geodetic Survey

_____ This project will impact ____ geodetic survey markers. N.C. Geodetic Survey should be contacted prior to construction at P.O. Box 27687, Raleigh, N.C. 27611 (919) 733-3836. Intentional destruction of a geodetic monument is a violation of N.C. General Statute 102-4.

__✓__ This project will have no impact on geodetic survey markers.

_____ Other (comments attached)

For more information contact the Geodetic Survey office at (919) 733-3836.

Cliff A. Mugnier — 1-28-93
Reviewer — Date

Erosion and Sedimentation Control

_____ No comment

_____ This project will require approval of an erosion and sedimentation control plan prior to beginning any land-disturbing activity if more than one (1) acre will be disturbed.

__✓__ If an environmental document is required to satisfy Environmental Policy Act (SEPA) requirements, the document must be submitted as part of the erosion and sedimentation control plan.

__✓__ If any portion of the project is located within a High Quality Water Zone (HQW), as classified by the Division of Environmental Management, increased design standards for sediment and erosion control will apply.

__✓__ The erosion and sedimentation control plan required for this project should be prepared by the Department of Transportation under the erosion control program delegation to the Division of Highways from the North Carolina Sedimentation Control Commission.

_____ Other (comments attached)

For more information contact the Land Quality Section at (919) 733-4574.

David Ward — 01/29/93
Reviewer — Date

P.O. Box 27687 • Raleigh, N.C. 27611-7687 • Telephone (919) 733-3833

State of North Carolina
Department of Environment, Health, and Natural Resources

INTERGOVERNMENTAL REVIEW — PROJECT COMMENTS

Reviewing Office: MRO

Project Number: 93-0613

Due Date: 2-18-93

After review of this project it has been determined that the EHNR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law.

Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form.

All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to construct & operate wastewater treatment facilities, sewer system extensions, & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts On-site inspection. Post-application technical conference usual	30 days (90 days)
☐	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES Reply time. 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
☐	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
☐	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
☐	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
☐	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15A NCAC 21H.0600	N/A	60 days (90 days)
☑	Any open burning associated with subject proposal must be in compliance with 15A NCAC 2D.0520.	N/A	
☐	Demolition or renovations of structures containing asbestos material must be in compliance with 15A NCAC 2D.0525 which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-733-0820		60 days (90 days)
☐	Complex Source Permit required under 15A NCAC 2D.0800.		
☐	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Sect.) at least 30 days before beginning activity. A fee of $30 for the first acre and $20.00 for each additional acre or part must accompany the plan		20 days (30 days)
☐	The Sedimentation Pollution Control Act of 1973 must be addressed with respect to the referenced Local Ordinance:		(30 days)
☐	Mining Permit	On-site inspection usual. Surety bond filed with EHNR. Bond amount varies with type mine and number of acres of affected land Any area mined greater than one acre must be permited. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
☐	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
☐	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.D. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual burn is planned."	1 day (N/A)
☐	Oil Refining Facilities	N/A	90-120 days (N/A)
☐	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans. inspect construction, certify construction is according to EHNR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of $200.00 must accompany the application. An additional processing fee based on a percentage or the total project cost will be required upon completion.	30 days (60 days)

Continued on reverse

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to drill exploratory oil or gas well	File surety bond of $5,000 with EHNR running to State of N.C. conditional that any well opened by drill operator shall, upon abandonment, be plugged according to EHNR rules and regulations.	10 days (N/A)
☐	Geophysical Exploration Permit	Application filed with EHNR at least 10 days prior to issue of permit Application by letter. No standard application form.	10 days (N/A)
☐	State Lakes Construction Permit	Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.	15-20 days (N/A)
☐	401 Water Quality Certification	N/A	60 days (130 days)
☐	CAMA Permit for MAJOR development	$250.00 fee must accompany application	55 days (150 days)
☐	CAMA Permit for MINOR development	$50.00 fee must accompany application	22 days (25 days)
☐	Several geodetic monuments are located in or near the project area. If any monuments need to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687, Raleigh, N.C. 27611		
☐	Abandonment of any wells, if required, must be in accordance with Title 15A, Subchapter 2C.0100.		
☐	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
☐	Compliance with 15A NCAC 2H.1000 (Coastal Stormwater Rules) is required.		45 days (N/A)

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

AQ - No objections 1/28/93

WQ - No objections. DRC

LQ - NONE Jim Cook 4 FEB. 93

REGIONAL OFFICES

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

☐ Asheville Regional Office
59 Woodfin Place
Asheville, NC 28801
(704) 251-6208

☐ Fayetteville Regional Office
Suite 714 Wachovia Building
Fayetteville, NC 28301
(919) 486-1541

☑ Mooresville Regional Office
919 North Main Street, P.O. Box 950
Mooresville, NC 28115
(704) 663-1699

☐ Raleigh Regional Office
3800 Barrett Drive, Suite 101
Raleigh, NC 27609
(919) 733-2314

☐ Washington Regional Office
1424 Carolina Avenue
Washington, NC 27889
(919) 946-6481

☐ Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405
(919) 395-3900

☐ Winston-Salem Regional Office
8025 North Point Blvd.
Suite 100
Winston-Salem, NC 27106
(919) 896-7007

North Carolina Department of Cultural Resources

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

Division of Archives and History
William S. Price, Jr., Director

March 23, 1993

MEMORANDUM

TO: L. J. Ward, P.E., Manager
Planning and Environmental Branch
Division of Highways
Department of Transportation

FROM: David Brook
Deputy State Historic Preservation Officer

SUBJECT: Dixon School Road Extension (SR 2283) from south of NC 216 to US 74 Business, Cleveland County, R-2625, 8.2800801, STP-2283(1), CH 93-E-4220-0613

We have received information concerning the above project from the State Clearinghouse.

We have conducted a search of our files and are aware of no structures of historical or architectural importance located within the planning area. However, since a comprehensive historical architectural inventory of Cleveland County has never been conducted, there may be structures of which we are unaware located within the planning area.

We recommend that an architectural historian for the North Carolina Department of Transportation survey the area of potential effect and report the findings to us. Please send photographs, keyed to a map, of all structures over fifty years of age. Also include a brief statement about each strauctures hsitory and explain which National Register criteria it does or does not meet.

There are no known recorded archaeological sites within the project boundaries. However, the project area has never been systematically surveyed to determine the location of significance of archaeological resources.

We recommend that a comprehensive survey be conducted by an experienced archaeologist to identify the presence and significance of archaeological remains that may be damaged or destroyed by the proposed project. Potential effects on unknown resources should be assessed prior to the initiation of construction activities.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966 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: State Clearinghouse
B. Church
T. Padgett
Nicholas Graf

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Asheville Field Office
330 Ridgefield Court
Asheville, North Carolina 28806

TAKE PRIDE IN AMERICA

March 24, 1993

Mr. L. J. Ward, P.E., Manager
Planning and Environmental Branch
Division of Highways
North Carolina Department of Transportation
P.O. Box 25201
Raleigh, North Carolina 27611-5201

Dear Mr. Ward:

Subject: Scoping for proposed extension of Dixon School Road (SR 2283) from south of NC 216 to US 74 Business, Cleveland County, North Carolina, T.I.P. No. R-2625

In your letter of January 19, 1993 (received January 25, 1993), you requested information that would be pertinent for your use in the preparation of a document evaluating the environmental impacts that could result from the subject project. The following comments are provided in accordance with the provisions of the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e), and Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

According to information provided in your letter, this project will involve the realignment and extension of Dixon School Road from just north of Interstate 85 and terminating at US 74 Business near SR 2031. The extension will be constructed primarily on a new alignment and will consist of a two-lane 24-foot paved road with 8-foot shoulders. Two alternatives--a western and eastern route--are presently under consideration.

The U.S. Fish and Wildlife Service (Service) is particularly concerned about the potential impacts the proposed project could have on stream and wetland ecosystems within the project impact area and on the dwarf-flowered heartleaf (Hexastylis naniflora), a federally threatened plant species known to occur in Cleveland County. Preference should be given to alternative alignments, stream-crossing structures, and construction techniques that avoid and/or minimize encroachment and impacts to these resources.

The dwarf-flowered heartleaf grows in acidic, sandy loam soils along bluffs and nearby slopes, in boggy areas adjacent to creek heads and streams, and along the slopes of hillsides and ravines. Soil type is the

most important habitat requirement, with Pacolet and Madison gravelly sandy loam or Musella fine sandy loam soils recognized as necessary for the growth and survival of this species. The presence or absence of this species in the project impact area should be addressed in the environmental document.

The Service will provide comments on the two alternatives under consideration once the draft environmental document is released. The Service's review of the subject document would be greatly facilitated if the document contained the following information:

(1) A complete analysis and comparison of the available alternatives (the build and no-build alternatives).

(2) A description of the fishery and wildlife resources within the required rights-of-way and any areas, such as borrow areas, that may be affected directly or indirectly by the proposed road extension.

(3) Acreage and description of the creeks, streams, or wetlands that will be filled as a consequence of the proposed road extension. Wetlands affected by the proposed project should be mapped in accordance with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. We recommend contacting the U.S. Army Corps of Engineers, Asheville Regulatory Field Office (704/259-0855), to determine the need for a Section 404 Clean Water Act permit.

(4) Linear feet of any water courses that will be relocated as a consequence of the proposed project.

(5) Acreage of upland habitat, by cover type, that will be eliminated because of the proposed project.

(6) Description of all expected secondary and cumulative environmental impacts associated with this proposed work.

(7) An analysis of any crossing structures considered (i.e., spanning structure, culverts, etc.) and the rationale for choosing the preferred structure(s) for any new crossings.

(8) Mitigation measures that will be employed to avoid, eliminate, reduce, or compensate for habitat value losses associated with any of the proposed project.

We appreciate the opportunity to provide these scoping comments and request that you continue to keep us informed as to the progress of this

project. In any future correspondence concerning this project, please reference our Log Number 4-2-93-052.

Sincerely,

Brian P. Cole
Field Supervisor

cc:
Mr. Randall C. Wilson, Nongame Section Manager, Division of Wildlife Management, North Carolina Wildlife Resources Commission, 512 N. Salisbury Street, Raleigh, NC 27604-1188
Director, North Carolina Natural Heritage Program, P.O. Box 27687, Raleigh, NC 27611
Mr. Cecil Frost, North Carolina Department of Agriculture, Plant Conservation Program, P.O. Box 27647, Raleigh, NC 27611
Mr. Dennis Stewart, Division of Boating and Inland Fisheries, North Carolina Wildlife Resources Commission, 512 N. Salisbury Street, Raleigh, NC 27604-1188

TIP: ____________ T R A F F I C   C O M P I L A T I O N   S H E E T   PROJECT # ____________

PROJECT: ____

SEC #	DHV %	TTST ADT%	DUAL ADT%	HT (DH)	MT (DH)	L/S °C #/DIP	ADT	DHV/DIR VEH.	# OF HT	# OF MT	# OF AUTOS	ADJ # AUTOS	SPEED MPH	STAM VALUE
DESCRIPTION:														
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DESCRIPTION:														

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
P.O. BOX 25201, RALEIGH, N.C. 27611-5201

JAMES B. HUNT JR.
GOVERNOR

GARLAND B. GARRETT JR.
SECRETARY

23 February 1996

MEMORANDUM TO: Ed Lewis, Planning and Environmental Branch

FROM: Logan Williams, Environmental Biologist LW

SUBJECT: Draft EA Review
New Route, from North of the I-85/SR 2283 (Dixon School Road) Interchange to US 74 Business (Shelby Road); Cleveland County; TIP No. R-2625; State Project No. 8.2800801; Federal Aid Project STP-2283(1).

I have reviewed the natural resources section of the EA, and have very few comments. Overall the natural resources section is adequate. On page 23 the EHNR index no. 9-53-8 should be added. On page 17, it is unlikely that black capped chickadee would be found at this elevation and should be omitted from the list of common bird inhabitants. I took the liberty to verify the Best Usage Classifications and Bman information. Please contact me if you have any concerns regarding these comments.

cc: V. Charles Bruton, Ph.D., Environmental Unit Head
Hal Bain, Environmental Supervisor
File: R-2625