



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 27, 2008

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

ATTENTION: Mr. David Baker
NCDOT Coordinator

SUBJECT: **Application for Nationwide Permits 13, 23, 33 and Section 401 Water Quality Certifications** for the proposed replacement of Bridge No. 238 over Garden Creek on SR 1506 (Garden Creek Church Road) in McDowell County, Division 13, Federal Aid Project No. BRZ-1506(2), State Project No. 8.2872401, WBS Element 33543.1.1, **TIP No. B-4196.**

Dear Sir:

Please see the enclosed PCN, permit drawings, utility drawings, and design plans. A Categorical Exclusion was completed for this project in June 2006 and distributed shortly thereafter. Additional copies are available upon request. NCDOT proposes to replace the existing 37-foot long Bridge No. 238 with a three-barrel 11-foot wide by 8-foot high reinforced concrete box culvert. This would create an improved horizontal alignment at the intersection of SR 1506 and US 70/US 221B. Improvements to the roadway will be required for a distance of approximately 200 feet to the east and 40 feet to the west of the new structure. There will be 151 linear feet of permanent stream impacts and 0.03 acre of temporary stream impacts incurred from the construction of this project. In addition, there will be 5 feet of temporary stream impacts as a result of utility relocation. Traffic will be detoured off-site during construction.

IMPACTS TO WATERS OF THE UNITED STATES

General Description:

The single water resource located in the project area is Garden Creek (referred to in the CE as an unnamed tributary to the Catawba River). Garden Creek has not been assigned a DWQ Stream Index Number. The nearest designated water resource is the Catawba River, which is located approximately 1,100 feet downstream of the project area. The Catawba River downstream of the project area is designated by DWQ as Stream Index Number 11-(1) and has been assigned a primary water resource classification of "C" and a supplemental water resource classification of "Tr". It is located in the Catawba River Basin (Division of Water Quality (DWQ)) subbasin

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-715-1501

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PARKER LINCOLN BUILDING,
2728 CAPITAL BLVD., SUITE 240
RALEIGH NC 27604

03-08-30. There are no High Quality Waters (HQW), Water Supplies (WS-I or WSII), or Outstanding Resource Waters (ORW) within 1.0 mile of the project study area. Garden Creek does not appear on the North Carolina DWQ 303(d) List (updated 2006). There are no 303(d) streams within 1.0 mile downstream of project area. There are no jurisdictional wetlands within the project area.

Permanent Impacts:

There will be 151 linear feet of permanent stream impacts that include 81 feet from the installation of the reinforced concrete box culvert and 70 feet for bank stabilization, as depicted on permit drawing 5 of 5 "Enlargement".

Temporary Impacts:

There will be 0.03 acre (86 linear feet) of temporary stream impacts associated with improvements to the approaching roadways. These temporary impacts will include removal of the existing bridge and pavement, culvert excavation, low-flow channel excavation, stream realignment and dewatering as depicted on permit drawing sheet 4 of 5.

Utility Impacts:

The existing sanitary sewer will be in conflict with the proposed culvert bottom slab. The proposed crossing of Garden Creek is shown on the utility drawing sheet 2 of 3. This new line will be installed by conventional open cut construction. A profile of the ductile iron gravity sanitary sewer line is shown on the profile and detail sheet UC-3 of utility drawing sheet 3 of 3. The new pipe is to be encased in concrete similar to the existing line. Concrete anti-seepage collars will be placed at each end of the concrete pipe encasement. During construction of the box culvert, the contractor is to plug the ends of the existing 18' sanitary sewer pipe. There will be 5 feet of temporary impacts due to the installation of the new the sanitary sewer pipe beneath the stream bed.

Bridge Demolition

Bridge No. 238 is a one-span structure that consists of a timber floor on I-beams and channels with an asphalt-wearing surface. The end bents consist of abutments: timber caps on timber posts and sills. The possibility exists that demolition materials (such as asphalt, concrete rubble, or portions of the deck timbers) could fall into Garden Creek during demolition. Should this occur, such materials would be removed as soon as possible. Utilizing best management practices, the planned removal of this bridge using current bridge demolition methods and guidelines should result in no temporary fill. There are no interior bents associated with this structure further reducing the potential for temporary fill.

PROJECT SCHEDULE

The project schedule calls for an August 19, 2008 let date with a review date of July 1, 2008.

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. As of January 16, 2008, the United States Fish and Wildlife Service (USFWS) lists four federally protected species for Burke

County (Table 1). It should be noted that the Bald Eagle was previously listed as “Threatened”, however it was delisted August 8, 2007.

Table 1. Federally Protected Species for McDowell County.

COMMON NAME	SCIENTIFIC NAME	STATUS	HABITAT	BIOLOGICAL CONCLUSION
Bog turtle	<i>Clemmys muhlenbergii</i>	T(S/A)	No	N/A
Bald eagle	<i>Haliaeetus leucocephalus</i>	Delisted	No	N/A
Carolina northern flying squirrel	<i>Glaucomys sabrinus coloratus</i>	E	No	No Effect
Mountain golden-heather	<i>Hudsonia montana</i>	T	No	No Effect
Small-whorled pagonia	<i>Isotria medeoloides</i>	T	No	No Effect

The bald eagle has been delisted from the Endangered Species Act as of August 8, 2007. It is still protected under the Bald and Golden Eagle Protection Act. A survey was conducted in July 2001. No suitable habitat was observed.

AVOIDANCE, MINIMIZATION AND MITIGATION

Avoidance and Minimization:

Avoidance examines all appropriate and practicable possibilities of averting impacts to “Waters of the United States.” The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional stages; minimization measures were incorporated as part of the project design. The use of best management practices for construction should reduce impacts to plant communities. The following avoidance and minimization measures will apply to this project.

- Traffic will be detoured off-site during construction. This eliminates the need for a temporary on-site detour.
- Water will not be directly discharged into Garden Creek via deck drains.
- There will be 2-foot sills in the outer barrels to accommodate for low flow.

In addition, Best Management Practices will be followed as outlined in “NCDOT’s Best Management Practices for Construction and Maintenance Activities”.

Compensatory Mitigation:

The NCDOT proposes no mitigation for the 81 feet of minimal impacts associated with this project. There are no HQW, ORW, or Water Supplies and 70 feet of bank stabilization does not result in loss of waters.

REGULATORY APPROVALS

Section 404 Permit:

It is anticipated that the stream re-alignment will be authorized under Section 404 Nationwide Permits 13 and 33 (Bank Stabilization and Temporary Construction Access and Dewatering). We are, therefore, requesting the issuance of Nationwide Permits 13 and 33. All other aspects of this

project are being processed by the Federal Highway Administration as a "Categorical Exclusion". The NCDOT requests that these activities be authorized by a Nationwide Permit 23.

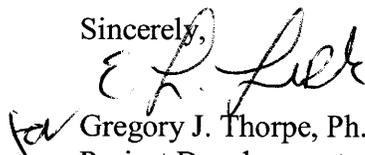
Section 401 Permit:

We anticipate 401 General Certification numbers 3689, 3701 and 3688 will apply to this project. We are hereby requesting a water quality certification from DWQ. We are submitting five copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their review and approval.

This project is located in a trout county; therefore comments from the North Carolina Wildlife Resources Commission (NCWRC) will be required prior to authorization by the Corps of Engineers. By copy of this letter and attachment, NCDOT hereby requests NCWRC review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers and the NCDOT within 30 calendar days of receipt of this application.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Jeremy T. Leamer at jtleamer@dot.state.nc.us or (919) 715-7726.

Sincerely,



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

W/attachment

Mr. Brian Wrenn, NCDWQ (5 Copies)
Ms. Marella Buncick, USFWS
Ms. Marla Chambers, NCWRC

W/o attachment (see website for attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. J.J. Swain, P.E., Div. 13 Division Engineer
Mr. Roger Bryan, Div. 13 DEO
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P.E., Program.
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Ms. Beth Harmon, EEP
Mr. Todd Jones, NCDOT External Audit Branch
Ms. Natalie Lockheart, PDEA Engineer

Office Use Only:

Form Version March 05

USACE Action ID No. _____ **DWQ No.** _____

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

I. Processing

1. Check all of the approval(s) requested for this project:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Section 404 Permit | <input type="checkbox"/> Riparian or Watershed Buffer Rules |
| <input type="checkbox"/> Section 10 Permit | <input type="checkbox"/> Isolated Wetland Permit from DWQ |
| <input checked="" type="checkbox"/> 401 Water Quality Certification | <input type="checkbox"/> Express 401 Water Quality Certification |

2. Nationwide, Regional or General Permit Number(s) Requested: 23/ 33

3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here:

4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here:

5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here:

II. Applicant Information

1. Owner/Applicant Information

Name: Gregory J. Thorpe, Ph.D., Environmental Management Director

Mailing Address: NC DOT - PDEA

1598 Mail Service Center, Raleigh, NC 27699-1548

Telephone Number: (919) 733-3141

Fax Number: (919) 733-9794

E-mail Address: _____

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: _____

Company Affiliation: _____

Mailing Address: _____

Telephone Number: _____

Fax Number: _____

E-mail Address: _____

III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: N/A
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4196
3. Property Identification Number (Tax PIN): N/A
4. Location
County: McDowell Nearest Town: Marion
Subdivision name (include phase/lot number): _____
Directions to site (include road numbers/names, landmarks, etc.): _____
Bridge # 238 On SR 1506 over Garden Creek.
5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
One water body: Garden Creek
Decimal Degrees (6 digits minimum): 354216 °N 0820210 °W
6. Property size (acres): N/A
7. Name of nearest receiving body of water: Catawba River
8. River Basin: Upper Headwaters of Catawba
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: Bridge No. 238 is located at the intersection of SR 1506 and US 70/ US 221 Business in the town of Marion. The bridge was constructed in 1957 and is posted to restrict weight limits to 17 tons for single vehicles.

10. Describe the overall project in detail, including the type of equipment to be used: _____
Bridge removal project involving heavy construction equipment and manual labor to install a
3-barrel concrete box culvert.

11. Explain the purpose of the proposed work: Public transportation improvement project.

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. No prior permits have been issued/ withdrawn for this project.

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.
No.

VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: There will be 151 linear feet of permanent surface water impacts associated with the culvert installation and bank stabilization. Temporary impacts for stream channel re-alignment, pavement removal, culvert excavation and dewatering will result in 86 linear feet of surface water impacts.

2. Individually list wetland impacts. Types of impacts include, but are not limited to mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
Total Wetland Impact (acres)					

3. List the total acreage (estimated) of all existing wetlands on the property: 0

4. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included. To calculate acreage, multiply length X width, then divide by 43,560.

Stream Impact Designation (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
S	Garden Creek	permanent	perennial	15'	151	0.05
TS	Garden Creek	temporary	perennial	15'	86	0.03
TS	Garden Creek	temporary	perennial	15'	5	.0015
Total Stream Impact (by length and acreage)					237	0.0815

5. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

Open Water Impact Site Number (indicate on map)	Name of Waterbody (if applicable)	Type of Impact	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)	Area of Impact (acres)
N/A				
Total Open Water Impact (acres)				

6. List the cumulative impact to all Waters of the U.S. resulting from the project:

Stream Impact (acres):	0.08
Wetland Impact (acres):	N/A
Open Water Impact (acres):	N/A
Total Impact to Waters of the U.S. (acres) Permanent	0.05
Total Impact to Waters of the U.S. (acres) Temporary	0.03
Total Stream Impact (linear feet) Permanent	151
Total Stream Impact (linear feet) Temporary	86
Total Stream Impact (linear feet) Temporary Utility	5

7. Isolated Waters

Do any isolated waters exist on the property? Yes No

Describe all impacts to isolated waters, and include the type of water (wetland or stream) and the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.

8. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply): uplands stream wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): _____

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.): _____

Current land use in the vicinity of the pond: _____

Size of watershed draining to pond: _____ Expected pond surface area: _____

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts. Alternative 1 was not chosen because it does not result in the necessary roadway improvements. Alternative 2 was chosen due to significant roadway improvements, yet still resulting in an off-site detour. The “do-nothing”

alternative was not considered due to it eliminating the use of SR 1506 and closing the bridge. Impacts will be minimized by constructing a 3-barrel concrete reinforced box culvert and surficial bridge runoff will not be directed into Garden Creek via deck drains.

VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina (see DWQ website for most current version.).

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.
-
-
-

2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at

(919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at <http://www.nceep.net/pages/inlieureplace.htm>. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

Amount of stream mitigation requested (linear feet): _____
 Amount of buffer mitigation requested (square feet): _____
 Amount of Riparian wetland mitigation requested (acres): _____
 Amount of Non-riparian wetland mitigation requested (acres): _____
 Amount of Coastal wetland mitigation requested (acres): _____

IX. Environmental Documentation (required by DWQ)

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes x No
2. If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?
 Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.
 Yes x - A Categorical Exclusion dated January 2007 has been submitted. No
3. If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter. Yes x No

X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify _____)? Yes No x
2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
-------	----------------------	------------	---------------------

1		3 (2 for Catawba)	
2		1.5	
Total			

* Zone 1 extends out 30 feet perpendicular from the top of the near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260. _____
- _____
- _____

XI. Stormwater (required by DWQ)

Describe impervious acreage (existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level. Impervious acreage is not expected to significantly increase as a result of this bridge replacement project. Deck drains will not be used.

XII. Sewage Disposal (required by DWQ)

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.
N/A

XIII. Violations (required by DWQ)

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?

Yes No

Is this an after-the-fact permit application? Yes No

XIV. Cumulative Impacts (required by DWQ)

Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes No

If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at <http://h2o.enr.state.nc.us/ncwetlands>. If no, please provide a short narrative description: _____

XV. Other Circumstances (Optional):

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

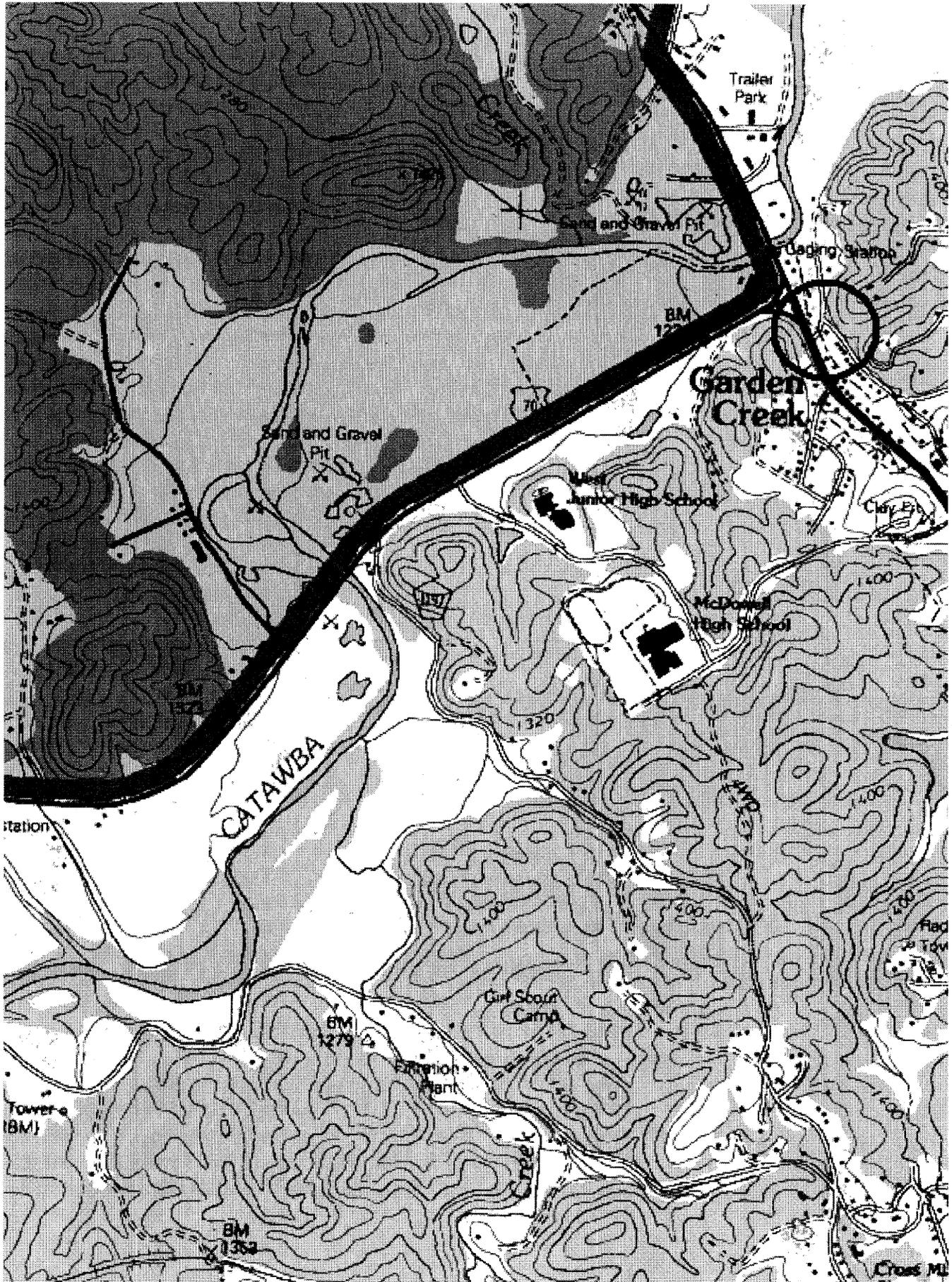
E. F. Just

2.27.08

Applicant/Agent's Signature

Date

(Agent's signature is valid only if an authorization letter from the applicant is provided.)



WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS						SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)	
	-L- 11+13	3@11'x8' RCBC							0.03	0.03	81	86	
	-L- 11+13	Bank Stabilization						0.02		70			
TOTALS:									0.05	0.03	151	86	



**Permit Drawing
Sheet 3 of 5**

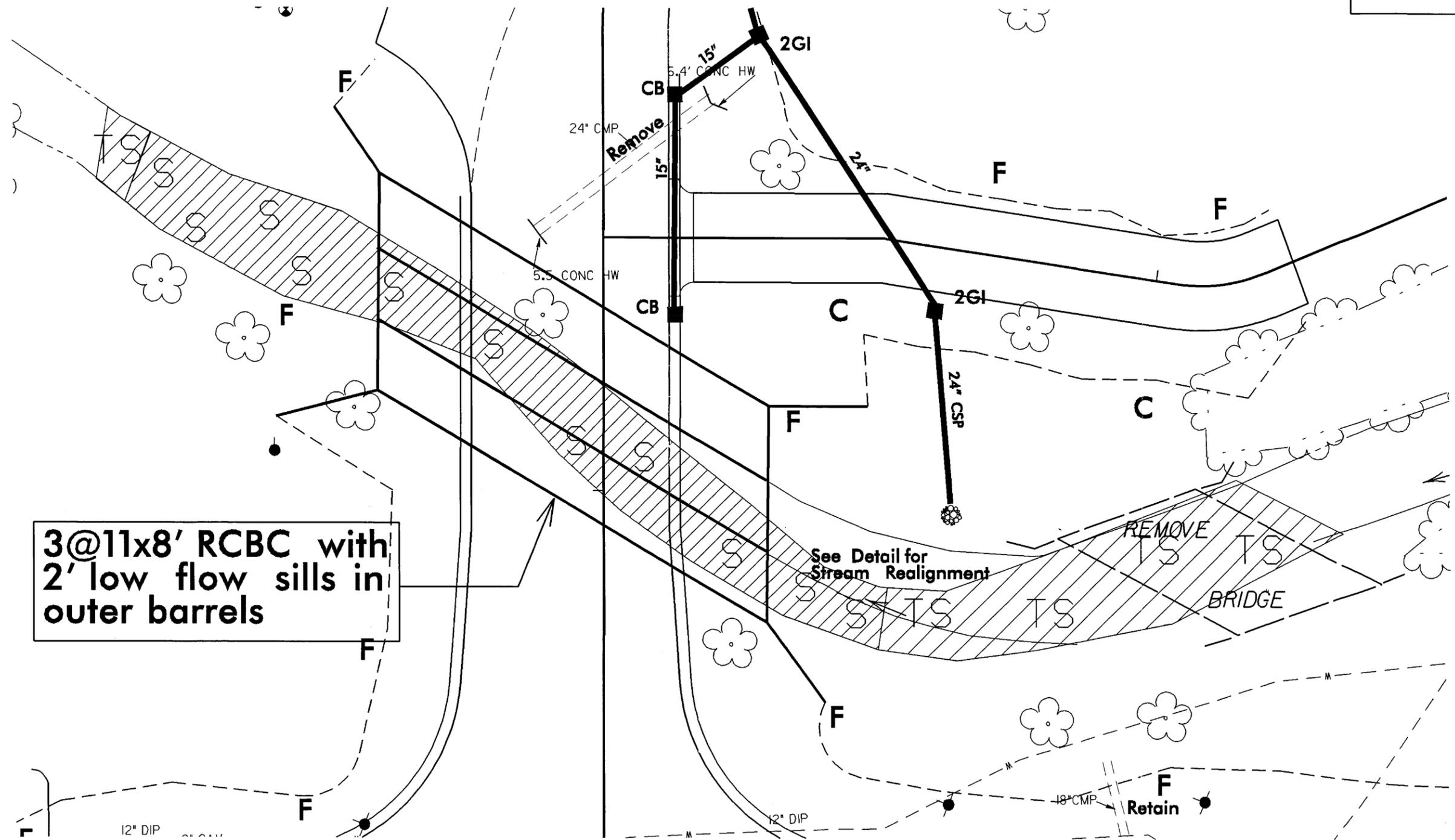
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

MCDOWELL COUNTY
WBS - 33570.1.1 (B-4196)

SHEET 2/11/2008

PERMIT DRAWINGS (ENLARGEMENT)

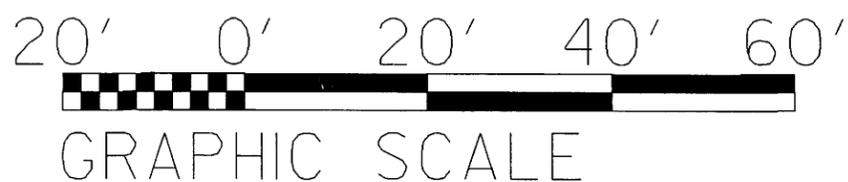
SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	



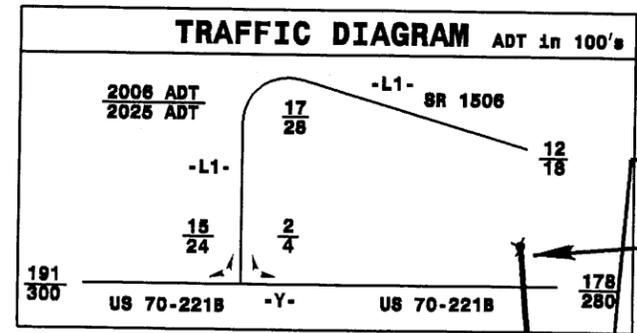
**3@11x8' RCBC with
2' low flow sills in
outer barrels**

DENOTES IMPACTS IN SURFACE WATER

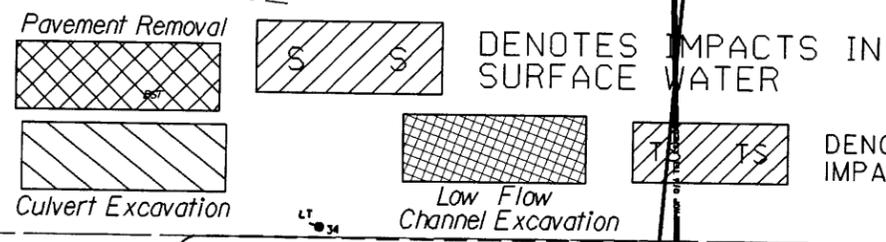
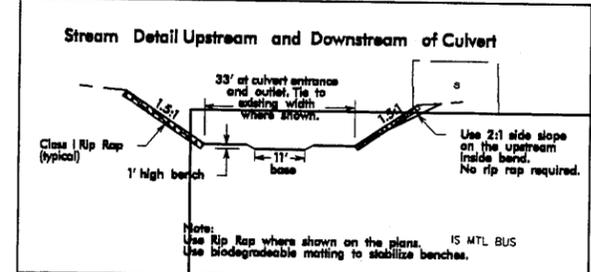
DENOTES TEMPORARY IMPACTS IN SURFACE WATER



Note: Many items turned off for clarity



PERMIT DRAWINGS



PROP - 169 LF 18" SANITARY GRAVITY SEWER
 1 - 4' DIAMETER UTILITY MANHOLE
 1 - 4' DIAMETER FALSE BOTTOM MANHOLE
 6 CY - CLASS "B" CONCRETE FOR ENCASEING UTILITY LINES
 100 LF - 8" SANITARY GRAVITY SEWER
 33 LF - 4" SANITARY GRAVITY SEWER
 2 - SANITARY SEWER CLEAN-OUT

PROP - 66 LF ABANDON 18" UTILITY PIPE
 56 LF - ABANDON 12" UTILITY PIPE
 1 - ABANDON UTILITY MANHOLE

SEE SHEET 6 FOR L1 AND Y1 PROFILE
 SEE SHEET 7 FOR Y PROFILE
 SEE C-1 THRU C-? FOR CULVERT PLANS

REVISIONS
 Construction Revision JCL 6/14/07
 Added through lane to -Y- and added Parcels 6.7 and 8
 22-OCT-2007 ih06 \vac-permits\sewer\4196_hyd\perm_psh04.dgn

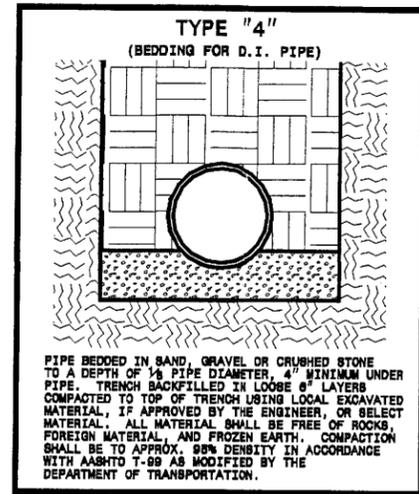
Utility Permit Drawing Sheet 2 of 3

Match Line to Sheet 5

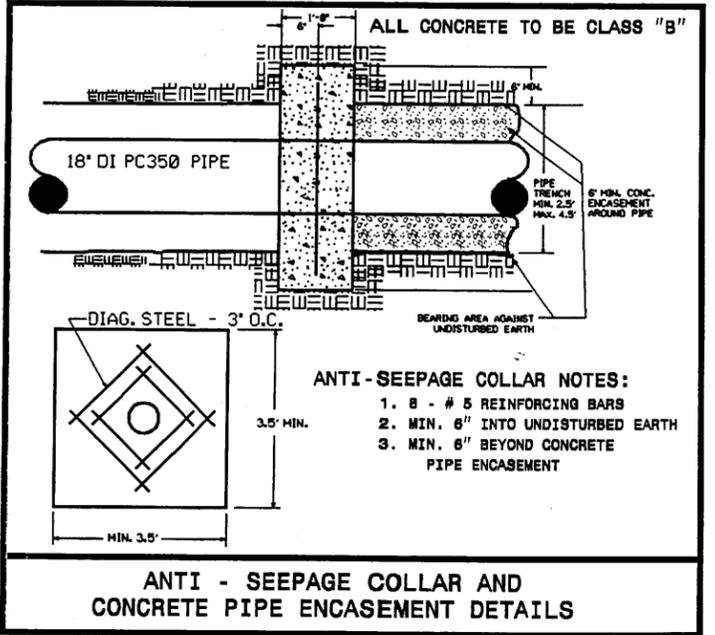
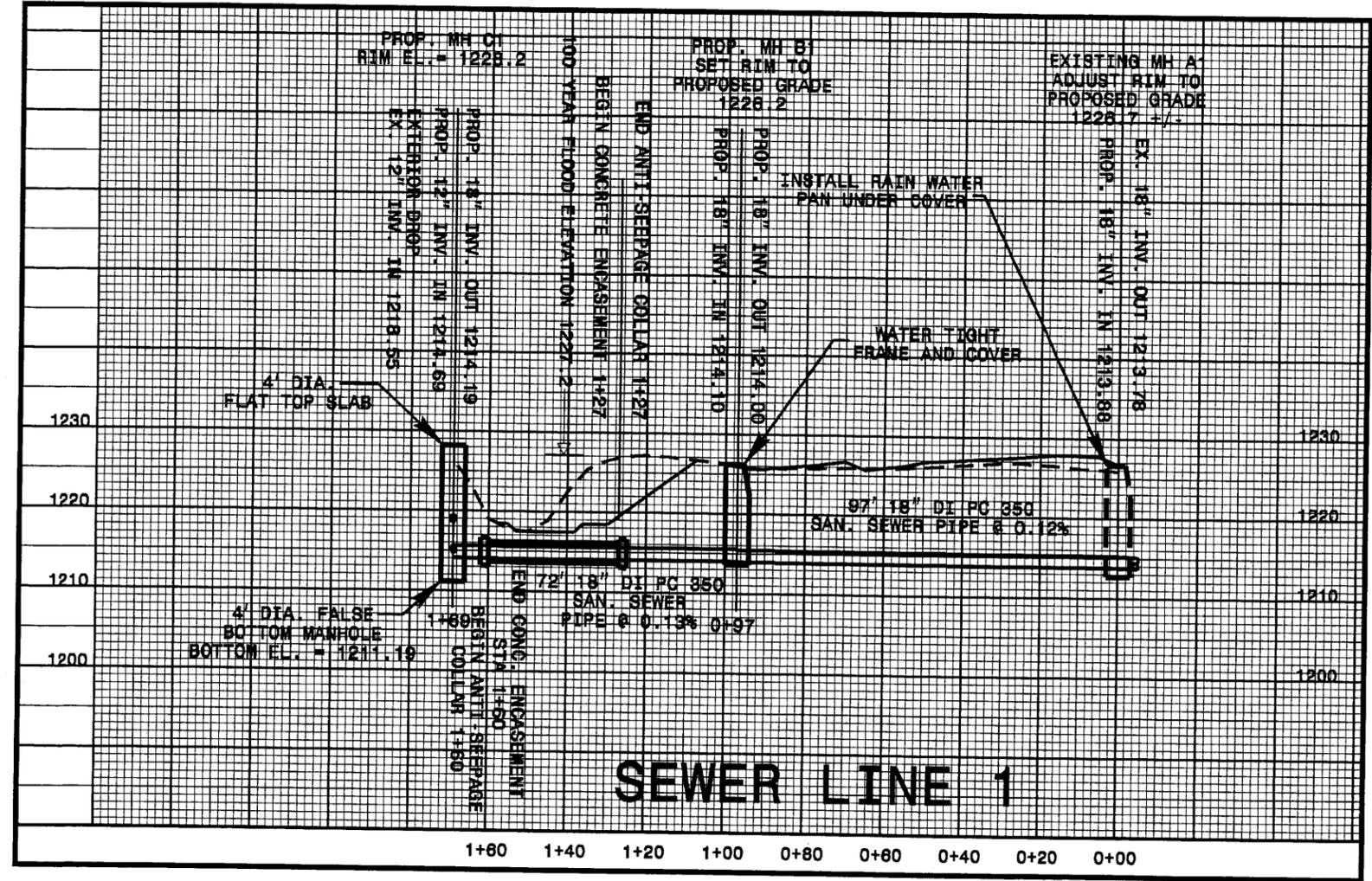
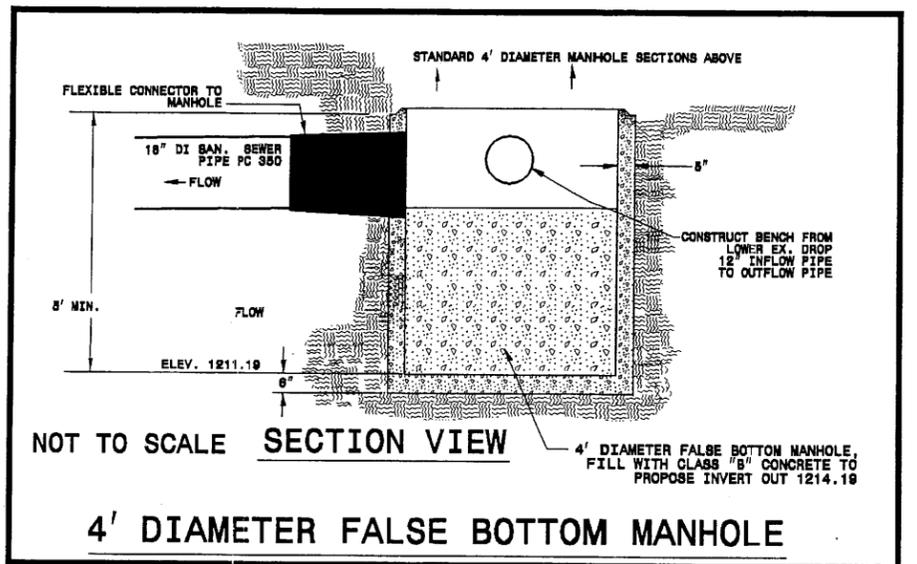
8/17/99

PERMIT DRAWINGS

PROJECT REFERENCE NO. B-4196	SHEET NO. UC-3
DESIGNED BY: JAN	
DRAWN BY: JAN	
CHECKED BY: RBW	
APPROVED BY: RBW	
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	
DEPARTMENT OF TRANSPORTATION	
DESIGN SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	



NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		



Utility
Permit Drawing
Sheet 3 of 3

22-001-2007 17103
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05/08/99

See Sheet 1-A For Index of Sheets

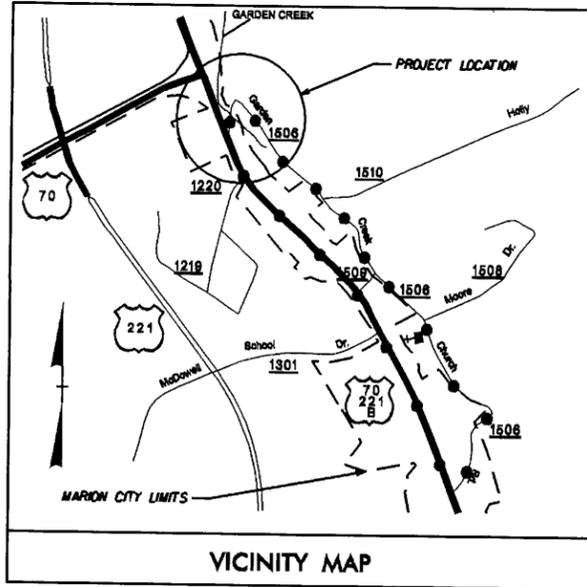
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

McDOWELL COUNTY

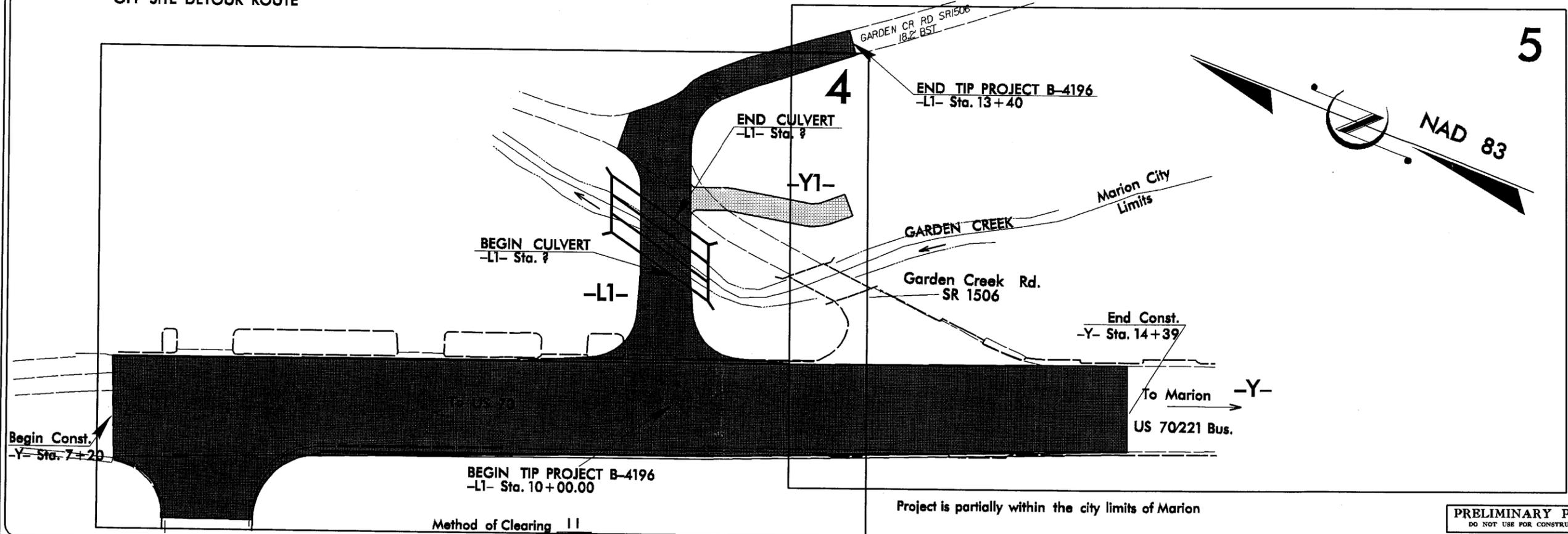
LOCATION: Bridge No. 238 over Garden Creek on
SR 1506, Garden Creek Road
in Marion

TYPE OF WORK: Grading, Paving, Drainage, Guardrail
Curb and Gutter and Culvert

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4196	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
33543.1.1	BRZ-1506(2)	PE	
33543.2.1	BRZ-1506(2)	RW & UTILITIES	



OFF SITE DETOUR ROUTE



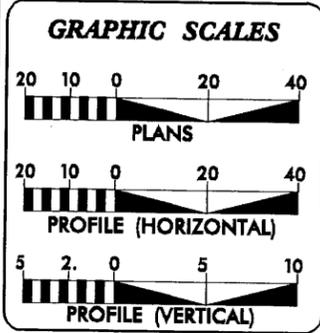
Method of Clearing 11

Project is partially within the city limits of Marion

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT: C201895 **TIP PROJECT: B-4196**

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 \$\$\$USERNAME\$\$\$



DESIGN DATA

ADT 2006 =	1850 ADT
ADT 2025 =	2800 ADT
DHV =	12 %
D =	55 %
T =	3 % *
V =	25 MPH
* TTST 1%	* DUAL 2%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4196 =	mi
LENGTH STRUCTURE TIP PROJECT B-4196 =	mi
TOTAL LENGTH TIP PROJECT B-4196 =	0.064 mi

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh, NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: March 27, 2007

LETTING DATE: August 19, 2008

James Speer, PE
PROJECT ENGINEER

John Lansford, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

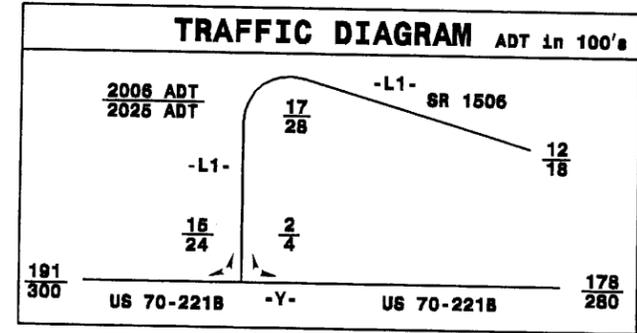
SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

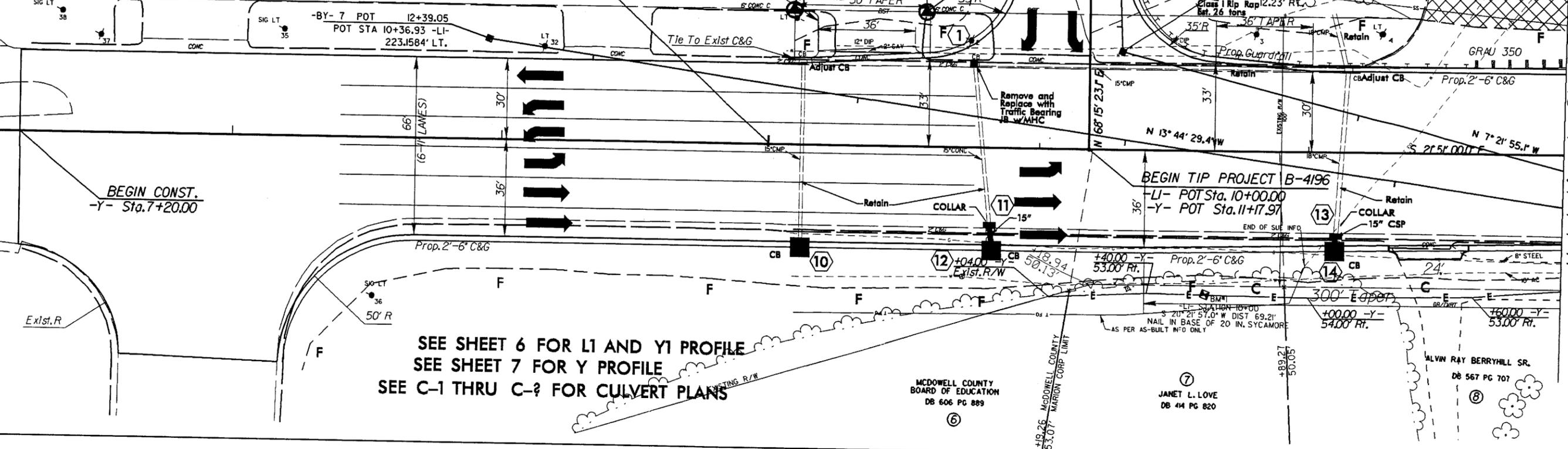
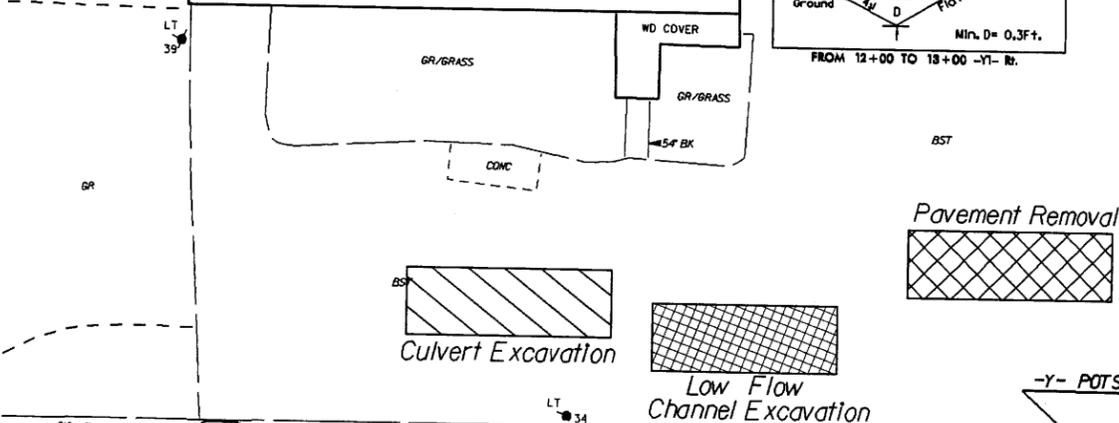
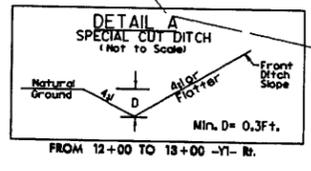
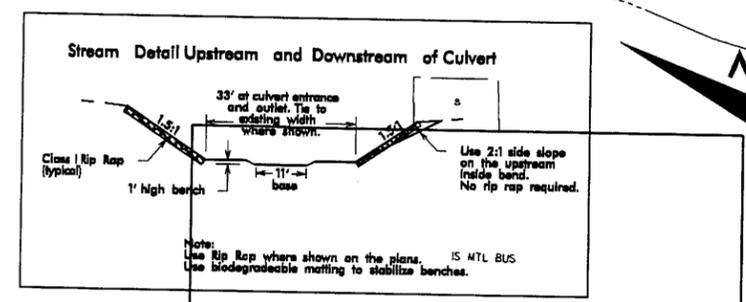
SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER



-LI-	-LI-	-LI-	-YI-
PI Sta 12+14.65 Δ = 66° 30' 53.3" (RT) D = 119' 59" 59.8" L = 55.43' T = 31.31' R = 47.75' SE = 0.04 RO = SEE PLANS	PI Sta 12+61.73 Δ = 7° 47' 44.2" (RT) D = 16' 59" 59.8" L = 45.86' T = 22.96' R = 337.04' SE = 0.04 RO = SEE PLANS	PI Sta 13+92.85 Δ = 2° 19' 01.2" (LT) D = 2° 00' 00.0" L = 115.85' T = 57.93' R = 2,864.79' SE = EXIST	PI Sta 11+12.11 Δ = 31° 21' 46.6" (LT) D = 190° 59' 09.4" L = 16.42' T = 8.42' R = 30.00' SE = NC

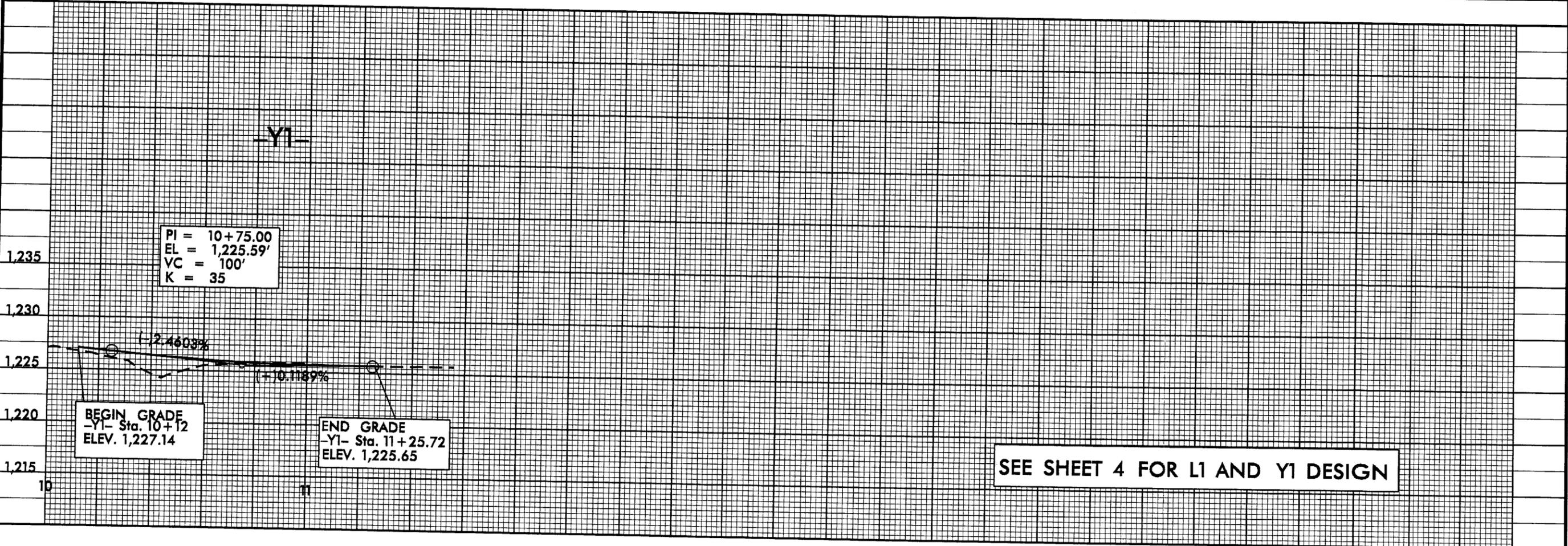
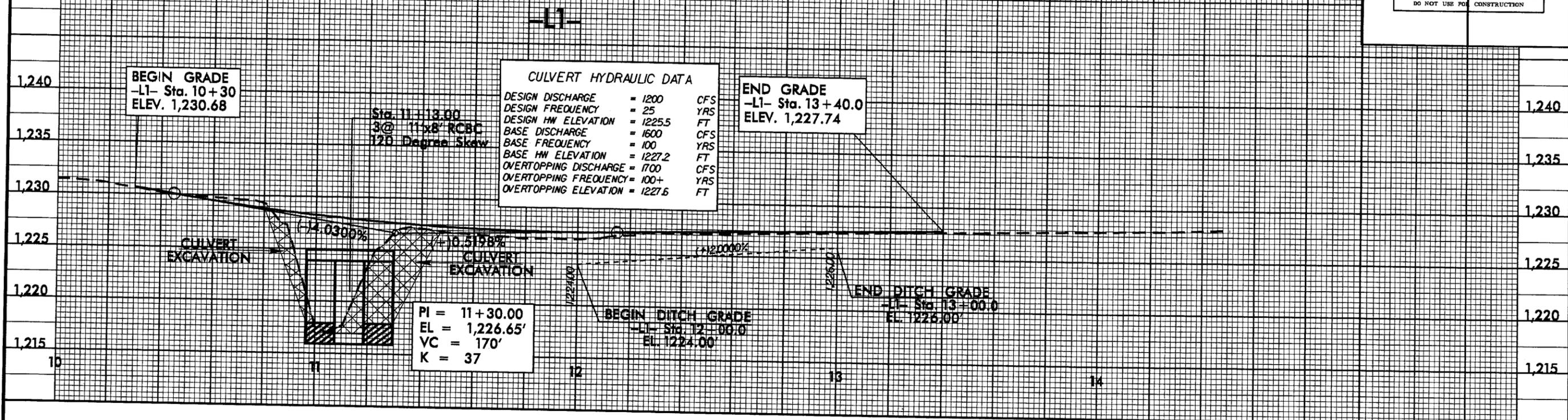


REVISIONS
 Construction Revision JCL 6/14/07
 Added through lane to -Y- and added Parcels 6, 7 and 8

Match Line to Sheet 5

52899

PROJECT REFERENCE NO. B-4196	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SEE SHEET 4 FOR L1 AND Y1 DESIGN

25-OCT-2007 13:37
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5/14/99

PROJECT REFERENCE NO. B-496	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	

BM1 ELEV. 1,234.90' N 725,296.0 E 1,100,054.0
 -Y- Sta. 11+61.79 53.15' RT. NAIL IN BASE OF 20" SYCAMORE

BM2 ELEV. 1,231.67' N 725,200.0 E 1,100,523.0
 NAIL IN BASE OF 20" POPLAR
 -Y- Sta. 14+25.73 346.29 LT

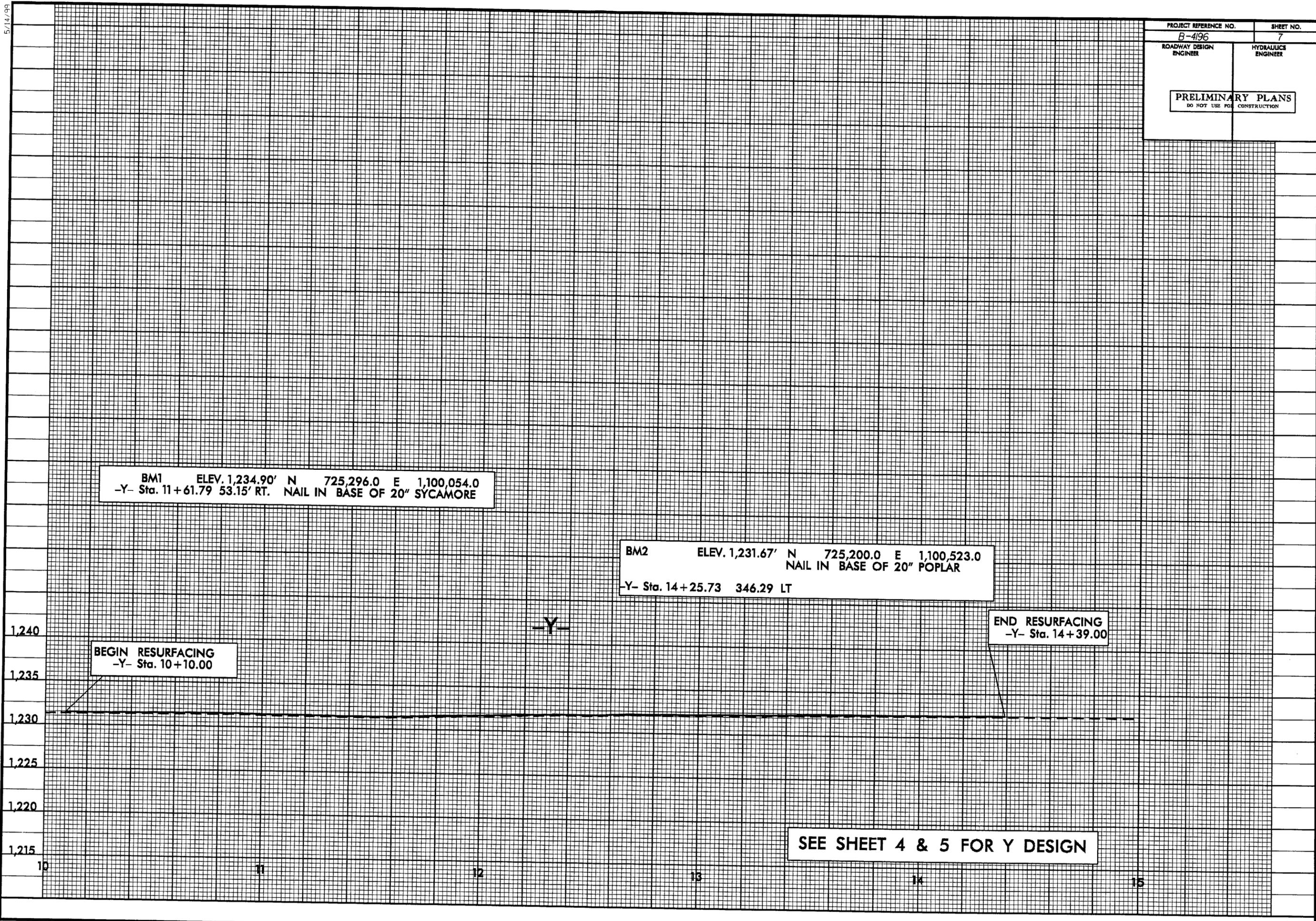
BEGIN RESURFACING
 -Y- Sta. 10+10.00

END RESURFACING
 -Y- Sta. 14+39.00

-Y-

SEE SHEET 4 & 5 FOR Y DESIGN

25-OCT-2007 13:37
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McDowell County
Bridge No. 238 on SR 1506 (Garden Creek Church Road)
Over Garden Creek
Federal Aid Project No. BRZ-1506(2)
W.B.S. No. 33543.1.1
State Project No. 8.2872401
T.I.P. No. B-4196

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

6/8/06
DATE

Gregory J. Thorpe, PhD
for Gregory J. Thorpe, PhD,
Environmental Management Director, PDEA

6/19/06
DATE

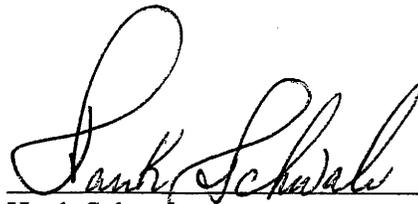
John F. Sullivan, III
for John F. Sullivan, III, Division Administrator
Federal Highway Administration

McDowell County
Bridge No. 238 on SR 1506 (Garden Creek Church Road)
Over Garden Creek
Federal Aid Project No. BRZ-1506(2)
W.B.S. No. 33543.1.1
State Project No. 8.2872401
T.I.P. No. B-4196

CATEGORICAL EXCLUSION

Documentation Prepared in
Project Development and Environmental Analysis Branch By:

6/6/06
DATE



Hank Schwab
Project Planning Engineer
Bridge Project Development Unit

6/06/06
DATE



Bryan Kluchar, PE
Project Engineer
Bridge Project Development Unit

PROJECT COMMITMENTS:

**McDowell County
Bridge No. 238 on SR 1506
(Garden Creek Church Road)
Over an unnamed creek
Federal Aid Project No. BRZ-1506(2)
State Project No. 8.2872401
W.B.S. No. 33543.1.1
T.I.P. No. B-4196**

Commitments Created Through Project Development and Design

Division 13 Construction – In order to allow Emergency Management Services (EMS) adequate time to prepare for road closure, the NC DOT Resident Engineer will notify the McDowell County EMS, at (828) 652 3982, thirty days prior to bridge removal and road closure.

Division 13 Construction – In order to allow the McDowell County Division of School Transportation time to prepare for road closure, the NC DOT Resident Engineer will notify the Transportation Director, at (828) 652 7610, thirty days prior to bridge removal and road closure.

McDowell County
Bridge No. 238 on 1506 (Garden Creek Church Road)
over Garden Creek
Federal Aid Project No. BRZ-1506(2)
W.B.S. No. 33543.1.1
State Project No. 8.2872401
T.I.P. No. B-4196

INTRODUCTION: Bridge No. 238 is included in the latest approved North Carolina Department of Transportation (NCDOT) Transportation Improvement Program (TIP) and is eligible for the Federal-Aid Bridge Replacement Program. The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal “Categorical Exclusion”.

I. PURPOSE AND NEED STATEMENT

The NCDOT Bridge Maintenance Unit records for 2004 indicate Bridge No. 238 has a sufficiency rating of 49.3 out of a possible 100 for a new structure as a result of temporary rehabilitation. In 2000 the bridge had a sufficiency rating of 39.2 out of a possible 100. The bridge is considered functionally obsolete due to a deck geometry appraisal of 3 out of 9 for new bridges and Bridge No. 238 also has a structural appraisal of 4 out of a possible 9 for new bridges. These ratings are according to Federal Highway Administration (FHWA) standards. Therefore, it is eligible for FHWA’s Highway Bridge Replacement Program.

Bridge No. 238 has timber elements that are forty-nine years old. Timber components have a typical life expectancy of 40 to 50 years due to the natural deterioration rate of wood. Rehabilitation of timber components of a structure is generally practical only when a few members are damaged or prematurely deteriorated. However, past a certain degree of deterioration, timber components become impractical to maintain, and upon eligibility the structures are programmed for replacement. Timber components of both the superstructure and substructure of Bridge No. 238 are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities. Bridge No. 238 is approaching the end of its useful life.

Bridge No. 238 currently carries 1,600 vehicles per day with 2,800 vehicles per day estimated for the year 2025. The substandard clear deck width of 19.2 feet is becoming increasingly unacceptable and replacement of the bridge should result in safer traffic operations.

II. EXISTING CONDITIONS

The project is located at the intersection of SR 1506 (Garden Creek Church Road) and US 70/US 221 Business in McDowell County (See Figure 1). The centerline of the unnamed creek flowing under the existing structure forms a boundary for the City of Marion corporate limits. Development in the area is commercial and residential in nature.

SR 1506 is classified as a Rural Local in the Statewide Functional Classification System and is not a National Highway System Route. SR 1506 is located within the Urban Area Boundary of the Town of Marion. However, it is not a designated Bicycle Route and there is no indication that an unusual number of bicyclists use this roadway at the project site.

SR 1506 has an 18-foot pavement width with 3-foot grass shoulders in the vicinity of the bridge, (See Figure 3). The existing bridge is on a tangent. The roadway crown is situated approximately 9.0 feet above the creek bed.

Bridge No. 238 is a one-span structure that consists of a timber floor on I-beams and channels with an asphalt-wearing surface. The end bents consist of abutments: timber caps on timber posts and sills. The existing bridge (see Figure 3) was constructed in 1957. The overall length of the structure is 37 feet. The deck width is 20.1 feet. The posted weight limit on this bridge is 17 tons for single vehicles (SV's) and 22 tons for truck-tractor semi-trailers (TTST's).

Utilities noted in the vicinity of the bridge include U/G water, gas, and fiber optic lines. There are also aerial power and telephone lines along the east side of US 221 Business. The fiber optic lines are aerial crossing the stream and become underground along the north and east side of SR 1506. There is also a water line along SR 1506 and sanitary sewer near the east end of the bridge. Utility impacts are anticipated to be high.

The current traffic volume of 1,600 vehicles per day (VPD) is expected to increase to 2,800 VPD by the year 2025. The projected volume includes one percent truck-tractor semi-trailer (TTST) and two percent dual-tired vehicles (DT). The speed limit is 25 miles per hour in the project area. One school bus crosses the bridge twice daily on its morning and afternoon routes.

There were two accidents reported in the vicinity of Bridge No. 238 during a prior three-year period. One of the two crashes was associated with the alignment or geometry of the bridge approach at the east end. However, the primary cause of the crash was alleged operator error.

III. ALTERNATIVES

A. Project Description

The proposed replacement of the existing bridge is a triple barrel 11-foot wide by 8-foot high reinforced concrete box culvert. The culvert size is based on preliminary design information and is set by hydraulic requirements. This structure will be of sufficient length to provide for three lanes of traffic with curb and gutter on each side of the road. The roadway grade of the new structure will be approximately the same as the existing grade. The existing roadway will be realigned to create an improved horizontal alignment at the adjacent intersection. Existing grass shoulders will be maintained on each side of the road to the east of the existing structure.

B. Reasonable and Feasible Alternatives

Two alternates for replacing Bridge No. 238 that were studied in detail are described below.

Alternate 1

Alternate 1 involves replacement of the existing structure, utilizing the existing roadway alignment, with a three-barrel 11-foot wide by 8-foot high reinforced concrete box culvert. The culvert size is based on preliminary design information and is set by hydraulic requirements. Improvements to the approach roadways will be required for a distance of approximately 30 feet to the south and approximately 60 feet to the north of the new structure. Two 12-foot lanes would be created on the structure with roadway widening to a variable width at the intersection of SR 1506 and US 70/US 221B. A tapered concrete island would be constructed on SR 1506 at the intersection of SR 1506 and US 70/US 221B separating the entrance and exit lanes of SR 1506. A retaining wall is proposed at the northwest corner of the structure to stabilize the shoulder of SR 1506 at that location. Traffic would be detoured off-site during the construction period.

Alternate 2 (Preferred)

Alternate 2 involves replacement of the existing structure along a new roadway alignment beginning east of the existing structure with a three-barrel 11-foot wide by 8-foot high reinforced concrete box culvert. This would create an improved horizontal alignment at the intersection of SR 1506 and US 70/US 221B. Improvements to the approach roadways will be required for a distance of approximately 200 feet to the east and 40 feet to the west of the new structure. Three 12-foot lanes would be created on the eastern approach to the structure resulting in three 12-foot lanes on the structure terminating in a right and left exit turn lane on SR 1506 and an entrance lane at the intersection of SR 1506 and US 70/US 221B. Traffic would be detoured off-site during the construction period.

NCDOT Guidelines for Evaluation of Off-site Detours for Bridge Replacement Projects considers multiple project variables beginning with the additional time traveled by the average road user as a result of the use of the studied off-site detour. The off-site detour for this project would include SR 1506, and US 70/US 221 Business. The detour for the average road user would result in approximately 2.0 minutes additional travel time (1.2 miles additional travel). Up to a nine-month duration of construction is expected on this project.

Based on the Guidelines, the criteria above indicate that on the basis of delay alone the detour is acceptable. McDowell County Emergency Services and McDowell County Schools Transportation have indicated the detour is acceptable. NCDOT Division 13 has indicated the condition of all roads, bridges, and intersections on the off-site detour are acceptable without improvements and Division 13 concurs with the proposed off-site detour.

C. Alternatives Eliminated From Further Consideration

Replace-in-place with a similar structure was not considered as the culvert may be constructed in a shorter time period, and the culvert is a more cost-effective option.

The “do-nothing” alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by SR 1506.

“Rehabilitation” of the old bridge is not practical due to its age and the overall deteriorated condition of the timber components.

Staged Construction is not feasible for this bridge because an off-site detour is available and more advantageous.

An on-site detour is not feasible for this bridge because an off-site detour is available and more advantageous.

D. Preferred Alternative

Alternate 2 is preferred due to construction and maintenance costs being lower than that of a bridge or Alternate 1. The initial construction cost will be lower, the maintenance cost of the culvert will be lower during the comparable life of the structure, and the culvert has a longer life expectancy than a bridge.

This culvert design creates a shorter structure than Alternate 1 and will not require a retaining wall be constructed as does Alternate 1. Therefore, environmental impacts are reduced. Concerns regarding public safety warrant the construction of the replacement structure and approaches on a new alignment with US 70/US 221 B. NCDOT Division 13 concurs with the selection of Alternate 2 as the preferred alternate.

IV. ESTIMATED COSTS

The estimated costs for the two alternates are shown in Table 1.

Table 1 Estimated Cost Comparison

	Alternate 1	Preferred Alternate 2
Structure	\$ 229,000	\$ 187,000
Roadway Approaches	\$ 142,000	\$ 149,000
Structure Removal	\$ 6,000	\$ 6,000
Misc. & Mob.	\$ 100,000	\$ 97,000
Eng. & Contingencies	\$ 73,000	\$ 62,000
Total Construction Cost	\$ 550,000	\$ 501,000
Right-of-way Costs	\$ 108,000	\$ 122,000
TOTAL PROJECT COST	\$ 658,000	\$ 623,000

V. NATURAL ENVIRONMENT

A. Physical Resources

1. Water Resources

Under the federal system for cataloging drainage basins, the drainage basin containing the project area is designated as USGS Hydrologic Unit 03050101 (the Upper Catawba drainage basin). Under the North Carolina Division of Water Quality (DWQ) system for cataloging drainage basins, the drainage basin containing the project area is designated as Subbasin 03-08-30 (Catawba River Headwaters).

Streams and rivers have been assigned a best usage classification by the North Carolina Division of Water Quality. The assigned best usage classification reflects water quality conditions and potential resource usage. Unnamed tributaries receive the same classification as the named streams to which they flow.

The single water resource located in the project area, an unnamed tributary to the Catawba River, has no designated DWQ Stream Index Number. The nearest designated water resource is the Catawba River, which is located approximately 1,100 feet downstream of the project area. The Catawba River downstream of the project area is designated by DWQ as Stream Index Number 11-(1). The unnamed tributary to the Catawba River in the project vicinity has been assigned no primary water resource classification. The Catawba River downstream of the project area, however, has been assigned a primary water resource classification of "C" and a supplemental water resource classification of "Tr".

Class "C" refers to waters that are protected for secondary recreation, fishing, wildlife, fish and aquatic life propagation and survival, agriculture, and other uses found suitable for Class "C" waters. Secondary recreation includes wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized, or incidental manner. There are no restrictions on watershed development or types of discharges in Class "C" waters.

The surface water classification of "Tr" is a "supplemental classification intended to protect freshwaters for natural trout propagation and survival of stocked trout". As stated in the standards, this designation affects wastewater quality but not the type of discharges, and there are no watershed development restrictions except stream buffer zone requirements of the N. C. Division of Land Resources.

No surface waters classified as High Quality Water (HQW), Water Supplies (WS-1 or WS-11), or Outstanding Resource Waters (ORW) occur within 0.6 mile of the project area. These findings are based on review of the most recently updated state-maintained databases as made available through the date of preparation of this report.

Under the NC Unified Watershed Assessment (UWA) program. The Upper Catawba River Hydrologic Unit (03050101), within the project area, is classified by DWQ as a UWA Category "II" watershed for nonpoint source pollution. Under this classification, the watershed is identified as a watershed "meeting goals, including those needing action to sustain water quality" (North Carolina Department of Environment and Natural Resources (NCDENR) 2000). Currently, Mackey Creek and Corpening Creek are the only two impaired waters listed within Subbasin 03-08-30. Both creeks are located downstream of the project area and neither creek is located within the project vicinity.

To minimize potential impacts to water resources in and downstream of the project area, NCDOT's Best Management Practices for the Protection of Surface Waters will be strictly enforced during the construction phase of the project (NCDOT, 1997).

2. Biotic Resources

Four discernable terrestrial communities are located within the project area. Three of these communities have been altered to the extent that they cannot be classified as a natural community under the Classification of Natural Communities of North Carolina. These altered communities consist of: (1) altered right-of-way communities, (2) landscaped areas, and (3) successional sapling and scrub/shrub communities interspersed with open fields. One community within the project area retains enough of its natural characteristics to be classified under the classification of Natural Communities of North Carolina. This natural community consists of a small remnant of a Piedmont/Mountain Bottomland Forest along the unnamed tributary to the Catawba River just upstream of the existing bridge.

The aquatic community of the project area consists of the unnamed tributary to the Catawba River below the ordinary high water line. The unnamed tributary to the Catawba River ranges in width from approximately 10 to 15 feet. The dominant aquatic habitat within this section of the unnamed perennial stream consists of cobble/boulder substrate. Gravel and cobble substrate was 40 to 80 percent embedded on the day of investigation. No aquatic vegetation was observed below the ordinary high water line of the unnamed perennial stream at the time of the field investigation.

B. Jurisdictional Topics

The following sections provide an inventory of resource areas and species and an assessment of possible impacts for (1) waters of the United States and (2) rare and protected species. Waters of the United States and rare and protected species are of particular significance when assessing impacts because of federal and state mandates that regulate their protection. The following sections address those measures that will be required in order to comply with regulatory permit conditions prior to project construction.

1. Surface Waters and Wetlands

A small community of hydrophytic vegetation exists on a triangular-shaped terrace (measuring approximately 15 by 10 by 6.0 feet) at the base of the stream bank, just upstream of the existing bridge. This hydrophytic vegetation is associated with intermittently flooded and seasonally saturated, gleyed gravelly soils. It is estimated that .01 acres of wetlands exist within the project area. However, there are no wetland impacts associated with the Preferred Alternate. The unnamed stream is assumed to be classified as R2UBH. Approximately 85 feet of waters of the United States exist within the area of the Preferred Alternate.

2. Permits

This project may be processed as a Categorical Exclusion (CE) under Federal Highway Administration (FHWA) guidelines. US Army Corps of Engineers (USACE) Nationwide Permit 23 is expected to be used to authorize impacts. Potential impacts to waters of the United States resulting from the replacement of this bridge are limited to the footprint of the box culvert and potential fill associated with bridge demolition. The possibility exists that demolition materials (such as asphalt, concrete rubble, portions of the deck timbers, etc.) could be inadvertently dropped into waters of the United States during bridge demolition. Should this occur, such materials would be removed from waters of the United States as soon as possible, where conditions allow. Utilizing best management practices, the planned removal of this bridge using current bridge demolition methods and guidelines should result in no temporary fill in the unnamed creek. There are no interior bents associated with this structure further reducing the potential for temporary fill.

In addition, a 401 Water Quality Certification from the North Carolina Department of Environment and Natural Resources, Division of Water Quality (DWQ) will be required for the project prior to issuance of a Corps of Engineers permit. Section 404 of the Clean Water Act requires that the state issue or deny water quality certification for any federally permitted or licensed activity that may result in a discharge to waters of the United States. Section 401 Certification allows surface waters to be temporarily impacted for the duration of the construction or other land disturbance. The issuance of a 401 Certification from DWQ is a prerequisite to issuance of a Section 404 Permit.

3. Federally Protected Species

Plants and animals with federal classifications of endangered (E), threatened (T), proposed endangered (PE), and proposed threatened (PT) are protected under the provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of 29 March 2006, the USFWS lists five federally protected species for McDowell County (Table 2). A review of the North Carolina Natural Heritage Program (NHP) database of rare species and unique habitats indicates no occurrences of federally protected species in the project area. No individual organisms, populations, or suitable habitat for any of the species listed in Table 2 were observed within the project area at the time of site investigation.

Table 2 Federally Protected Species for McDowell County

Scientific Name	Common Name	Status	Biological Conclusion
Haliaeetus leucocephalus	Bald eagle	Threatened	No Effect
Clemmys muhlenbergii	Bog turtle	Threatened S/A	No Survey Required
Glaucomys sabrinus coloratus	Carolina northern flying squirrel	Endangered	No Effect
Isotria medeoloides	Small whorled pogonia	Threatened	No Effect
Hudsonia montana	Mountain golden heather	Threatened	No Effect

Note:

- "Endangered" denotes a species in danger of extinction throughout all or a significant portion of its range.
- "Threatened" denotes a species likely to become endangered in the foreseeable future throughout all or a significant portion of its range.
- "Threatened (S/A)" denotes a species that is treated as a threatened due to its similarity of appearance to another endangered or threatened species that is listed for protection. Threatened (S/A) species are not biologically endangered or threatened and are not subject to section 7 consultation.

VI. HUMAN ENVIRONMENT

A. Section 106 Compliance Guidelines

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

1. Historic Architecture

The State Historic Preservation Office (SHPO) reviewed the subject project and determined that no surveys are required (see letter dated January 23, 2002).

2. Archaeology

The State Historic Preservation Office (SHPO) reviewed the subject project. There are no known archaeological sites within the proposed project area, and no further archaeological investigations need be conducted (see letter dated February 7, 2006).

B. Community Impacts

No adverse impact on families or communities is anticipated. Right-of-way acquisition will be limited. No relocatees are expected with implementation of the proposed alternative.

No adverse effect on public facilities or services is expected. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

The project is not in conflict with any plan, existing land use, or zoning regulation. No change in land use is expected to result from the construction of the project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impact to prime farmland with all land acquisitions and construction projects. There are no soils classified as prime, unique, or having state or local importance in the vicinity of the project. Therefore, the project will not involve the direct conversion of farmland acreage within these classifications.

The project will not have a disproportionately high and adverse human health and environmental effect on any minority or low-income population.

C. Noise & Air Quality

This project is an air quality “neutral” project, so it is not required to be included in the regional emissions analysis and a project level CO analysis is not required. If vegetation is disposed of by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina State Implementation Plan (SIP) for air quality in compliance with 15 NCAC 2D.0520. Noise levels could increase during construction but will be temporary. This evaluation completes the assessment requirements for highway traffic noise of Title 23, Code of Federal Regulation (CFR), Part 772 and for air quality (1990 Clean Air Act Amendments and the National Environmental Policy Act) and no additional reports are required.

VII. GENERAL ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer traffic operations.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of current North Carolina Department of Transportation standards and specifications.

The proposed project will not require right-of-way acquisition or easement from any land protected under Section 4(f) of the Department of Transportation Act of 1966. An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Environmental Management, Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section revealed no underground storage tanks or hazardous waste sites in the project area.

McDowell County is a participant in the National Flood Insurance Program. The project is located in the Catawba River Basin. The majority of the upstream floodplain consists of urban development. No apparent wetlands were observed in the vicinity of the bridge during the field investigation. Any shift in alignment will result in an impact area of about the same magnitude. It is anticipated the proposed project will not have any adverse impacts on the existing floodplain.

VIII. COORDINATION & AGENCY COMMENTS

NCDOT has sought input from the following agencies as a part of project development: NC Department of Environment and Natural Resources, U.S. Fish & Wildlife Service, NC Wildlife Resources Commission, North Carolina Department of Cultural Resources (North Carolina State Historic Preservation Office).

The N.C. Wildlife Resource Commission and U.S. Fish & Wildlife Service, in standardized letters, stated that they prefer any replacement structure to be a spanning structure.

Response: At smaller stream crossings it is more advantageous to replace bridges with box culverts. The construction cost of a culvert is less than that of a bridge at the same location; culverts require less maintenance throughout their service life than bridges; the useful life of a culvert is longer than that of a bridge. Therefore, where appropriate, NCDOT prefers to use box culverts to replace bridges. As there are no protected resources at this site, the proposed culvert will be designed according to current NCDOT design practices, which include such measures as buried box bottoms to facilitate fish passage, dry cell(s) to allow wildlife passage, and placement to minimize channel widening and realignment.

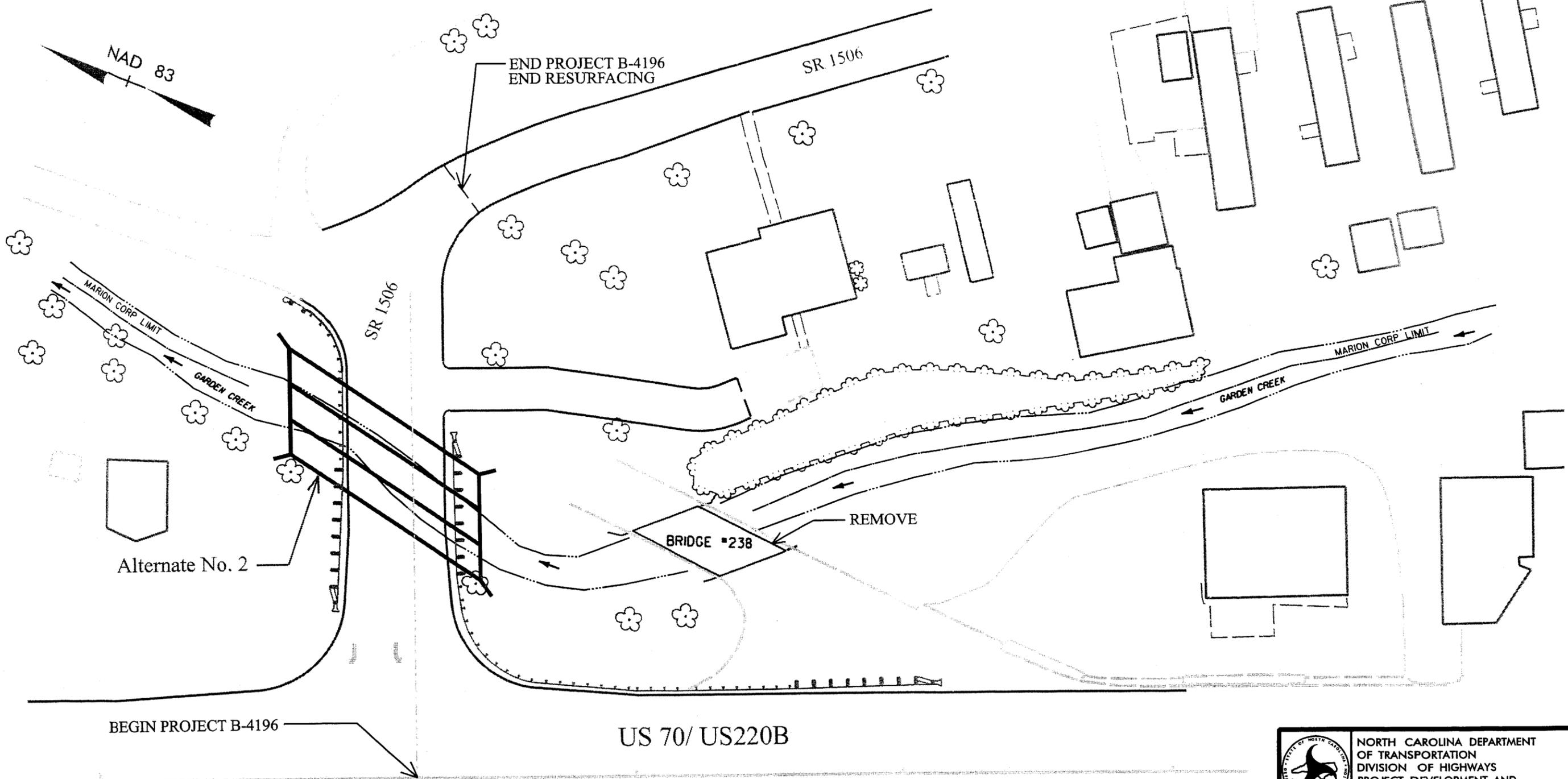
IX. PUBLIC INVOLVEMENT

A letter was sent by the NCDOT Location & Surveys Unit to all property owners who might be directly effected by this project. Property owners were invited to comment. No comments have been received to date.

As a result of the determination that a favorable off-site detour was available, no newsletter was sent to homes and businesses along SR 1506. A Citizen's Informational Workshop was determined to be unnecessary. There is no substantial controversy on social, economic, or environmental grounds concerning the project.

X. CONCLUSION

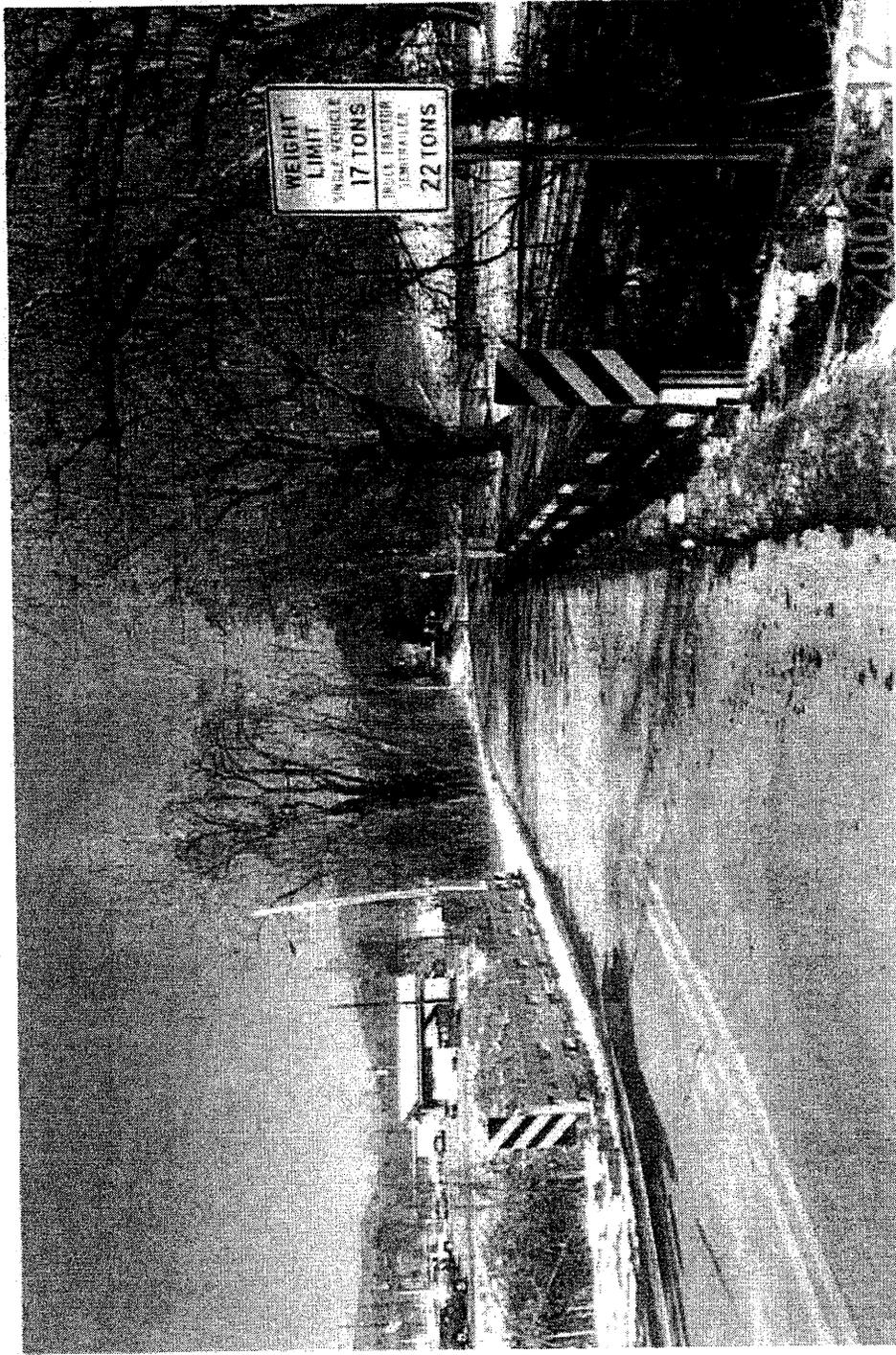
On the basis of the above discussion, it is concluded that no substantial adverse environmental impacts will result from implementation of the project. The project is therefore considered to be a federal "Categorical Exclusion" due to its limited scope and lack of substantial environmental consequences.



	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH</p>
<p>MCDOWELL COUNTY REPLACE BRIDGE NO. 238 ON SR 1506 OVER GARDEN CREEK B-4196</p>	
<p>FIGURE 2</p>	

BRIDGE #580238

MCDOWELL



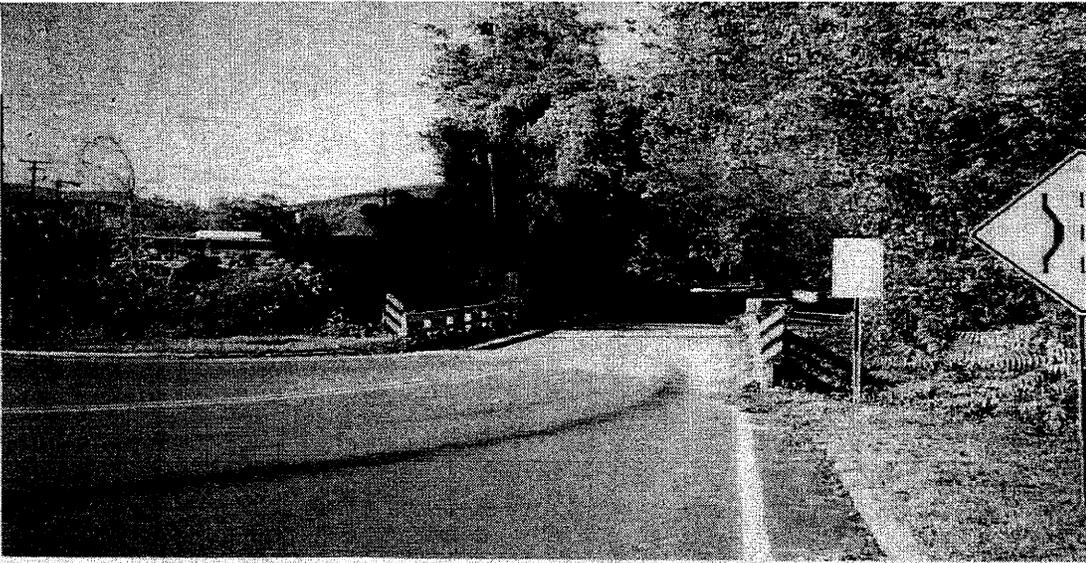
LOOKING SOUTH

Figure 3

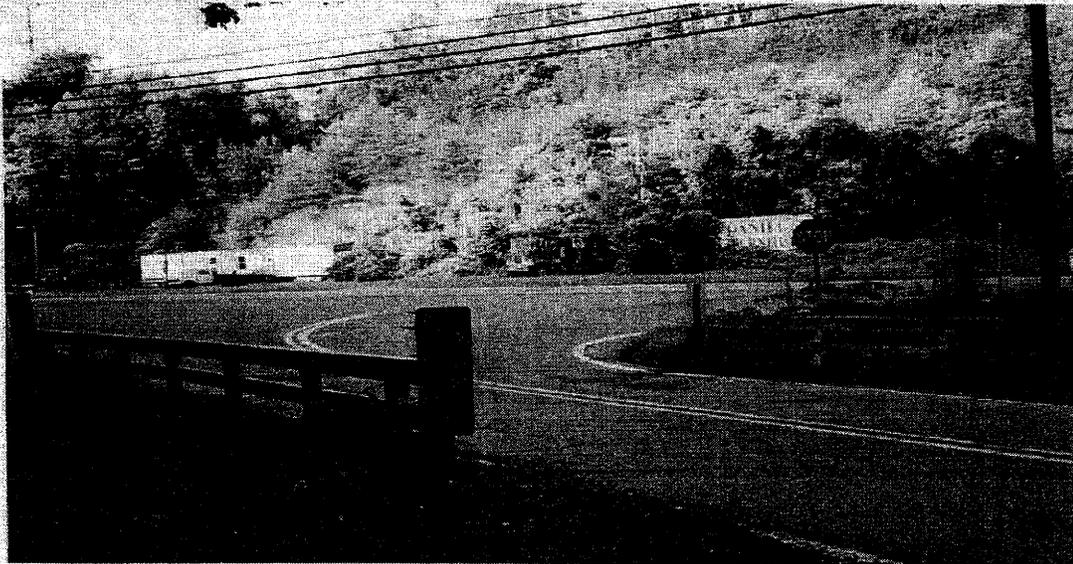


LOOKING DOWNSTREAM (WEST)

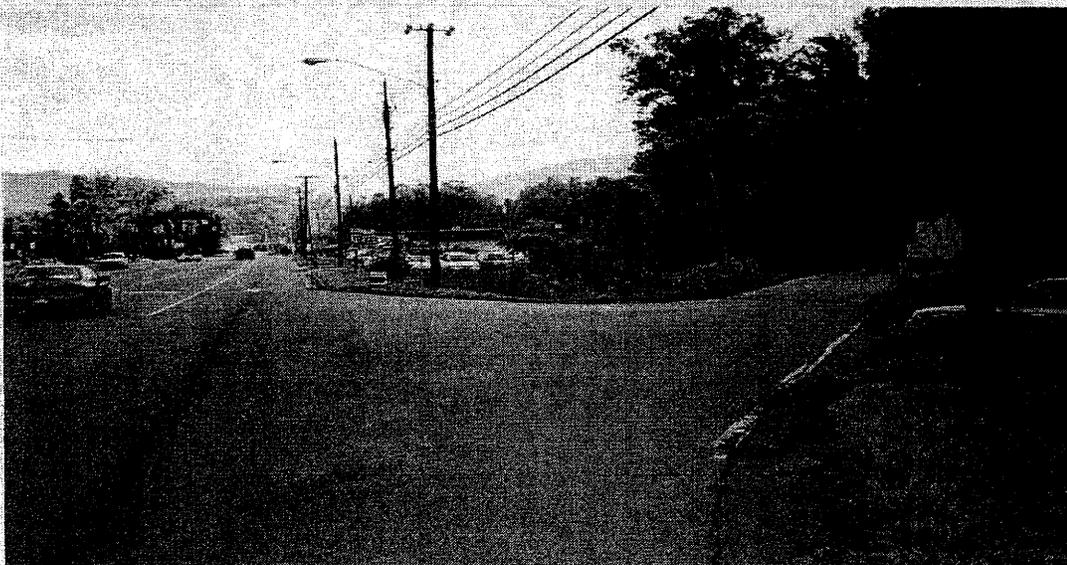
Figure 3



Looking South



Looking North



Looking South

Figure 3



**North Carolina Department of Cultural Resources
State Historic Preservation Office**

David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources
David J. Olson, Director

January 23, 2002

MEMORANDUM

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

FROM: David Brook *for David Brook*

SUBJECT: Replace Bridge No. 238 on SR 1506 over Creek, B-4196, McDowell County, ER 02-8521

Thank you for your letter of September 25, 2001, concerning the above project.

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

There are no known archaeological sites within the project area. Based on our present knowledge of the area, it is unlikely that any archaeological resources which may be eligible for listing in the National Register of Historic Places will be affected by the project construction. We, therefore, recommend that no archaeological investigation be conducted in connection with this project.

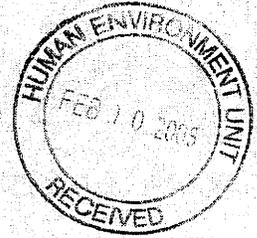
The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

DB:kgc

cc: Mary Pope Furr, NCDOT
Matt Wilkerson, NCDOT

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



**North Carolina Department of Cultural Resources
State Historic Preservation Office**

Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

February 7, 2006

MEMORANDUM

TO: Matt Wilkerson, Archaeology Supervisor
Division of Highways
Department of Transportation

FROM: Peter Sandbeck *PJS for Peter Sandbeck*

SUBJECT: Bridge 238 on SR 1506, TIP B-4196, McDowell County, ER 02-8521

Thank you for your letter of January 12, 2006, transmitting the archaeological survey report by Scott Halvorsen and Shane Petersen. The report meets our office's guidelines and those of the Secretary of the Interior.

During the course of the survey, no sites were located within the project area. The report authors have recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since the project will not involve significant archaeological resources.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Scott Halvorsen and Shane Petersen, NCDOT

	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-4763/733-8653
RESTORATION	515 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-6547/715-4801
SURVEY & PLANNING	515 N. Blount Street, Raleigh, NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-6545/715-4801