STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

May 20, 2004

U.S. Army Corps of Engineers
Raleigh Field Office
6508 Falls of the Neuse Road
Suite 120
Raleigh, NC 27615

ATTENTION: Mr. John Thomas
NCDOT Coordinator

Dear Sir:

SUBJECT: **Application for Nationwide Permit 23 & 33** for proposed replacement of Bridge No. 85 over North Hyco Creek on SR 1767 (Gunn Poole Rd.) in Caswell County, Fed. Project No. BRZ-1767(1), State Project No. 82481801, WBS Element 33422.1.1, Division 7, TIP B-4058.

The proposed project calls for the replacement of Bridge No. 85 on SR 1767 (Gunn Poole Road) in Caswell County, North Carolina. The project crosses North Hyco Creek approximately 14 miles upstream of Hyco Lake. The existing 51-foot bridge is composed of a full timber structure and substructure with a two-lane shoulder cross-section and 60-foot ROW. Replacement will be at approximately the same location with a new reinforced concrete structure bridge approximately 90 feet in length and 28 feet in width. The deck of the new bridge will be constructed approximately 4 feet higher than the existing bridge in order to provide an improved hydraulic opening. The new bridge will have a 22-foot travelway. The offset of the bridge will be 3 feet on each side.

The paved approach roadway will be 22 feet in width. Turf shoulders will be 5 feet in width. Shoulder width will be increased by at least 3 feet where guardrail is warranted. Traffic will be detoured over existing secondary roads. No utility impacts are anticipated with this project.

Waters of the United States

North Hyco Creek is a perennial stream that comprises the single water resource within the project area. The stream is located within the Roanoke River Drainage Basin and is designated as Subbasin 03-02-05 according to the NC Department of Water Quality (NCDWQ) system for cataloging drainage basins, and USGS Hydrologic Unit 03010104 according to the federal system for cataloging drainage basins.

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

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW. NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

There are three wetland communities with anticipated impacts located within the project area. These communities include a freshwater marsh, bottomland hardwood forest, and successional scrub/shrub wetland (NCDHENR 1996). All three wetlands have been mapped previously according to the National Wetlands Inventory (NWI) program. Wetland boundaries were verified by Mr. John Thomas, the Jurisdictional Determination is attached. A combined total of 0.21 acre of wetlands will be permanently impacted at this site. This impact is due to 0.12 acre mechanized clearing (Method III) and 0.09 acre of fill. A total of 0.02 acre of temporary impacts will occur. This impact is due to 0.004 acre of temporary fill in wetlands and 0.02 acre of temporary fill in surface water from the work pad (see Permit Drawing Sheet 12 of 12).

Restoration Plan: A temporary work pad will be used for this project. The existing bridge will be replaced by a cored slab bridge, which needs to be lifted in to place. This lifting necessitates the use of a crane and the work pad is needed to support the crane. Upon completion of the bridge, temporary fill from the work pad will be removed and graded to adjacent wetland elevation. All stream and wetland impacts will be temporary.

Schedule: All steps will be taken to minimize stream impacts for North Hyco Creek. The project schedule calls for a production letting of 12/21/04 with a date of availability of 02/01/05.

Removal and Disposal Plan: The Contractor will be required to submit a reclamation plan for the removal of and disposal of all materials off-site at an upland location. The Contractor will use excavating equipment to remove any materials from the stream. Heavy-duty trucks, dozers, cranes and various other pieces of mechanical equipment necessary for construction of roadways and culverts will be used on site. All material placed in the stream will be removed upon completion of the bridge. The Contractor will have the option of reusing any of the materials that the Engineer deems suitable in the construction of the project.

Bridge Demolition

Bridge No. 85 is a 51-foot long by 20-foot wide structure composed of an asphalt surface on a full timber deck and substructure. Bridge demolition will occur by removing the asphalt surface prior to removal of the bridge structure. The remainder of the timber components will be removed without dropping them into North Hyco Creek. Consequently, there will be no temporary fill resulting from bridge demolition. Because of the stream's silt and sand substrate, it is recommended that turbidity curtains be used during bridge demolition.

Avoidance, Minimization and Mitigation

Despite the minimization strategies employed for the proposed project, this project will permanently impact a total of 0.21 acre of non-coastal wetlands. Consequently, the project will require compensatory mitigation. NCDOT formally requested mitigation from the NC Ecological Enhancement Program (EEP) on April 19, 2004 (see attached letter).

Unavoidable impacts to aquatic communities within and immediately downstream of the project area will be minimized to the fullest degree practicable through strict adherence to

NCDOT's *Best Management Practices for the Protection of Surface Waters* (NCDOT 1997). Means by which impacts will be minimized include (1) using construction methods that will limit in-stream activities as much as practicable, (2) using silt curtains during bridge construction, (3) restoring stream beds as needed, and (4) revegetating stream banks within 30 days following the completion of grading.

Based upon the agreements stipulated in the "Memorandum of Agreement Among the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U.S. Army Corps of Engineers, Wilmington District (MOA)", it is understood that the EEP, will assume responsibility for satisfying the Section 404 compensatory mitigation requirements for NCDOT projects that are listed in Exhibit 1 of the subject MOA during the EEP transition period, which ends on July 1, 2005.

The offsetting mitigation will derive from an inventory of assets already in existence within the same Ecoregion and the same 8-digit cataloging unit. We have avoided and minimized the impacts to jurisdictional resources to the greatest extent possible as described above. The remaining unavoidable impacts to 0.21 acre of jurisdictional wetlands will be offset by compensatory mitigation provided by the EEP program.

Federally-Protected Species

Plants and animals with federal classifications of Endangered, Threatened, Proposed Endangered, and Proposed Threatened are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of January 29, 2003, the United States Fish and Wildlife Service lists one federally protected species for Caswell County. A Biological Conclusions of "No Effect" was found for the James spinymussel (*Pleurobema collina*). A survey for James spinymussel was conducted on April 3, 2003 by NCDOT biologists Mary Frazer, Karen Lynch and Sharon Snider. Given the survey results and lack of suitable habitat, it is apparent that the James spinymussel does not occur in the project footprint nor does it occur three miles downstream. In conclusion, project construction will not affect this species.

Regulatory Approvals

It is anticipated that the temporary work pad will be authorized under Section 404 Nationwide Permit 33. We are, therefore requesting the issuance of a Nationwide Permit 33 for these activities. All other aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR§ 771.115(b). The NCDOT requests that these activities be authorized by a Nationwide Permit 23 (FR number 10, pages 2020-2095; January 15, 2002). We anticipate that 401 General Water Quality Certification (WQC) numbers 3403 and 3366 will apply to this project. Since all WQC general conditions will be met, the NCDOT is not requesting written concurrence from the NC DWQ. Rather, in accordance with 15A NCAC 2H .0501(a), we are providing two copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, for their records.

Thank you for your assistance with this project. If you have any questions or need additional information please call Ms. Cheryl Knepp at (919) 715-1489.

Sincerely,

Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

Cc:

Mr. John Hennessy, Division of Water Quality
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Jay Bennett, P.E., Roadway Design
Mr. Omar Sultan, Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Dennis Pipkin, P.E., Project Planning Engineer
Mr. John F. Sullivan, III, FHWA
Mr. J. M. Mills, P.E.
Mr. Jerry Parker, DEO
Mr. David Franklin, USACE, Wilmington
Mr. Bill Gilmore, EEP

Office Use Only: Form Version May 2002

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:
   - ☒ Section 404 Permit
   - ☐ Section 10 Permit
   - ☐ 401 Water Quality Certification
   - ☐ Riparian or Watershed Buffer Rules
   - ☐ Isolated Wetland Permit from DWQ

2. Nationwide, Regional or General Permit Number(s) Requested: NW 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 Wetlands Restoration Program (NCWRP) is proposed for mitigation of impacts (verify availability with NCWRP prior to submittal of PCN), 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.
   Mailing Address: 1548 Mail Service Center
   Raleigh, NC 27699-1548
   Telephone Number: (919)733-3141 Fax Number: (919)733-9794
   E-mail Address: gthorpe@dot.state.nc.us

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: N/A
   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: Replacement of bridge no. 85 over N. Hyco Creek on SR 1767

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4058

3. Property Identification Number (Tax PIN): _____

4. Location
   County: Caswell Nearest Town: Hightowers
   Subdivision name (include phase/lot number): _____
   Directions to site (include road numbers, landmarks, etc.): _____
   Bridge no. 85 over N. Hyco Creek on SR 1767

5. Site coordinates, if available (UTM or Lat/Long): UTM 17 656117E / 4017237N
   (Note – If project is linear, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)

6. Property size (acres): 1.10

7. Nearest body of water (stream/river/sound/ocean/lake): N. Hyco Creek

8. River Basin: Roanoke River Basin
   (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: The project vicinity is rural in nature and surrounding landuse includes a mixture of residential, agricultural and commercial use.

10. Describe the overall project in detail, including the type of equipment to be used: The North Carolina Department of Transportation proposes to replace Bridge No. 85 on SR 1767 over N. Hyco Creek (DWQ Index # 22-58-1). The existing bridge is composed of a full timber structure and substructure with a two-lane shoulder cross-section and 60-foot ROW. Replacement will be at approximately the same location with a new reinforced concrete structure bridge approximately 90 feet in length and 28 feet in width. The deck of the new bridge will be constructed approximately 4 feet higher than the existing bridge in order to provide an improved hydraulic opening. The new bridge will have a 22-foot travelway. The offset of the bridge will be 3 feet on each side. Traffic will be detoured along surrounding roads during construction. Equipment will include bulldozers, earthmovers, pile drivers, crane, and a backhoe.

11. Explain the purpose of the proposed work: Replace obsolete bridge.

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.

Jurisdictional determination issued September 9, 2003. USACE Action ID # 200220661

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 future request anticipated.

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. The applicant must also provide justification for these impacts in Section VII below. All proposed impacts, permanent and temporary, must be listed herein, and must be clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) must 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: Temporary fill in surface water impacts: 0.021 ac Permanent fill in surface water impacts: 0.212 ac Temporary fill in wetland impact: 0.004.

2. Individually list wetland impacts below:

Wetland Impact Site Number (indicate on map)	Type of Impact*	Area of Impact (acres)	Located within 100-year Floodplain** (yes/no)	Distance to Nearest Stream (linear feet)	Type of Wetland***
1 15+00 TO 16+56 L-LT-RT	Fill in wetlands	0.042	Yes	10-20	Successional shrub/scrub
1 15+00 TO 16+56 L-LT-RT	Temp. fill in Wetlands	0.004	Yes	10-20	Successional shrub/scrub
1 15+00 TO 16+56 L-LT-RT	Mechanized Clearing Method III	0.046	Yes	10-20	Successional shrub/scrub
1 17+23 TO 19+22 L-LT-RT	Fill in Wetlands	0.049	Yes	10-20	Bottomland Hardwood
1 17+23 TO 19+22 L-LT-RT	Mechanized Clearing III	0.075	Yes	10-20	Bottomland Hardwood

* List each impact separately and identify temporary impacts. 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.

** 100-Year floodplains are identified through the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM), or FEMA-approved local floodplain maps. Maps are available through the FEMA Map Service Center at 1-800-358-9616, or online at http://www.fema.gov.

*** List a wetland type that best describes wetland to be impacted (e.g., freshwater/saltwater marsh, forested wetland, beaver pond, Carolina Bay, bog, etc.) Indicate if wetland is isolated (determination of isolation to be made by USACE only).

List the total acreage (estimated) of all existing wetlands on the property: 1.07
Total area of wetland impact proposed: 0.21 permanent, 0.02 temporary

3. Individually list all intermittent and perennial stream impacts below:

Stream Impact Site Number (indicate on map)	Type of Impact*	Area of Impact (acres)	Stream Name**	Average Width of Stream Before Impact	Perennial or Intermittent? (please specify)
1	Temp. fill in SW	0.021 ac.	N. Hyco Creek	45 ft.	perennial

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: culverts and associated rip-rap, dams (separately list impacts due to both structure and flooding), relocation (include linear feet before and after, and net loss/gain),

stabilization activities (cement wall, rip-rap, crib wall, 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.

** Stream names can be found on USGS topographic maps. If a stream has no name, list as UT (unnamed tributary) to the nearest downstream named stream into which it flows. USGS maps are available through the USGS at 1-800-358-9616, or online at www.usgs.gov. Several internet sites also allow direct download and printing of USGS maps (e.g., www.topozone.com, www.mapquest.com, etc.).

Cumulative impacts (acres) to all streams on site: 0.02 temporary

4. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.) below:

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

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: fill, excavation, dredging, flooding, drainage, bulkheads, etc.

5. 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.):_____

_____

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.

Best Management Practices for Bridge Demolition and Removal will be used for this project. Components of the superstructure will be removed without dropping them into Waters of the United States. Since the substructure consists of timber, this will also be removed without dropping any portion into Waters of the US. In stream construction activities will be scheduled to avoid and minimize impacts to aquatic resources/organisms. Temporary construction impacts due to erosion will be minimized through implementation of erosion control schedule and the use of BMPs. These measures include: the use of dikes, berms, silt basins, and other containment measures to control runoff and elimination of construction staging areas in floodplains and

adjacent waterways. Disturbed sites will be revegetated with herbaceous cover after any temporary construction impacts.

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 March 9, 2000, 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 NCWRP 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, available at http://h2o.enr.state.nc.us/ncwetlands/strmgide.html.

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.
   EEP

2. Mitigation may also be made by payment into the North Carolina Wetlands Restoration Program (NCWRP). Please note it is the applicant's responsibility to contact the NCWRP at (919) 733-5208 to determine availability and to request written approval of mitigation prior to submittal of a PCN. For additional information regarding the application process for the NCWRP, check the NCWRP website at http://h2o.enr.state.nc.us/wrp/index.htm. If use of

the NCWRP is proposed, please check the appropriate box on page three 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)

Does the project involve an expenditure of public (federal/state) funds or the use of public (federal/state) land?

Yes ☒ No ☐

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 ☒ No ☐

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 ☒ 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.

Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify_____)?

Yes ☐ No ☒ If you answered "yes", provide the following information:

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
N/A			

Total			

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

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

XI. Stormwater (required by DWQ)

Describe impervious acreage (both 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.

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.

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. 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).

Applicant/Agent's Signature **Date**
(Agent's signature is valid only if an authorization letter from the applicant is provided.)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

April 19, 2004

Mr. William D. Gilmore, P.E.
EEP Transition Manager
Ecosystem Enhancement Program
1652 Mail Service Center
Raleigh, NC 27699-1652

Dear Sir:

Subject: Proposed replacement of Bridge No. 85 over North Hyco Creek on SR 1767 (Gunn Poole Rd.) in Caswell County, Fed. Project No. BRZ-1767(1), State Project No. 82481801, TIP B-4058, WBS Element 33422.1.1.

The purpose of this letter is to request that the North Carolina Ecosystem Enhancement Program (EEP) provide confirmation that the EEP is willing to provide compensatory mitigation for the project in accordance with the Memorandum of Agreement (MOA) signed July 22, 2003 by the USACE, the NCDENR and the NCDOT.

The proposed project calls for the replacement of Bridge No. 85 on SR 1767 (Gunn Poole Road) in Caswell County, North Carolina. The project crosses North Hyco Creek approximately 14 miles upstream of Hyco Lake. The existing bridge is composed of a full timber structure and substructure with a two-lane shoulder cross-section and 60-foot ROW. The proposed bridge will consist of a 90-foot reinforced concrete structure with a two-lane shoulder cross-section and 60-foot ROW. The project length is approximately 350 feet. One alternative is being considered for the bridge replacement. This alternative consists of replacing the bridge on the existing alignment with an off-site traffic detour.

RESOURCES UNDER THE JURISDICTION OF SECTION 404 AND 401 OF THE CLEAN WATER ACT.

We have avoided and minimized the impacts to jurisdictional resources to the greatest extent possible as described in the permit application. The remaining impacts to jurisdictional resources will be compensated for by mitigation provided by the EEP program. We estimate that 0.212 acres of wetlands will be impacted.

The project is located in the Piedmont Physiographic Province in Caswell County in the Roanoke River basin in Hydrological Cataloguing Unit 03010104.

- The wetland impacts, summarized in Table 1, total 0.212 acre of bottomland hardwood forests and freshwater marsh. We propose to provide compensatory mitigation for the wetland impacts by using the EEP for the 0.212 acre of impacts.

Table 1: Summary of Jurisdictional Impacts

Section	Permanent Wetlands (ac)	
	Riverine	Non riverine
B-4058	0.212	N/A
TOTAL	0.212	N/A

*N/A-denotes non-applicable

Please send the letter of confirmation to John Thomas (USACE Coordinator) at U. S. Army Corps of Engineers Raleigh Regulatory Field Office, 6508 Falls of Neuse Rd., Suite 120 Raleigh, NC 27615-6814. Mr. Thomas' FAX number is (919) 876-5823. The current let date for the project is (12/21/04).

In order to satisfy regulatory assurances that mitigation will be performed; the NCDWQ requires a formal letter from EEP indicating their willingness and ability to provide the mitigation work requested by NCDOT. The NCDOT requests such a letter of confirmation be addressed to Mr. John Hennessy of NCDWQ, with copies submitted to NCDOT.

If you have any questions or need additional information please call Cheryl Knepp at (919) 469-4581.

Sincerely,

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

cc: w/attachment

Mr. John Hennessy, Division of Water Quality
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Jay Bennett, P.E., Roadway Design
Mr. Omar Sultan, Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Dennis Pipkin, P.E., PDEA Project Planning Engineer
Mr. John F. Sullivan, III, FHWA
Mr. J. M. Mills, P.E.
Mr. Jerry Parker, DEO
Mr. David Franklin, USACE, Wilmington

BF

U.S. ARMY CORPS OF ENGINEERS
Wilmington District

Action ID: 200220661 County: Caswell

Notification of Jurisdictional Determination

Property Owner NC DOT
Heather Montague
Address 1548 Mail Service Center
Raleigh, NC 27699-1548
Telephone Number 919 715-1451

Authorized Agent Hayes, Seay, Mattern & Mattern, Inc.
C/o Eric Black
Address 1305 Navaho Drive, Suite 303
Raleigh, NC 27609
Telephone Number 919 878-5250

Size and Location of Property (waterbody, Highway name/number, town, etc.) NC DOT bridge no. 85 located on SR 1767 (TIP B-4058), adjacent to North Hyco Creek, southeast of Yanceyville, in Caswell County, North Carolina. This JD is modified to include additional areas added in the project review area; confirmed field inspections conducted on September 9, 2003, by John Thomas of the Raleigh Regulatory Field Office.

Indicate Which of the Following apply:

◊ There are wetlands on the above described property which we strongly suggest should be delineated and surveyed. The surveyed wetland lines must be verified by our staff before the Corps will make a final jurisdictional determination on your property.

◊ Because of the size of your property and our present workload, our identification and delineation of your wetlands cannot be accomplished in a timely manner. You may wish to obtain a consultant to obtain a more timely delineation of the wetlands. Once the consultant has flagged a wetland line on the property, Corps staff will review it, and, if it is accurate, we strongly recommend that you have the line surveyed for final approval be the Corps. The Corps will not make a final jurisdictional determination on your property without an approved survey.

X ***The wetlands on your property have been delineated (limits were flagged in the field), and the limits of the Corps jurisdiction have been explained to you. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.***

◊ There are no wetlands present on the above described property which are subject to the permit requirements of section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

◊ The project is located in one of the 20 Coastal Counties. You should contact the nearest State Office of Coastal Management to determine their requirements.

Placement of dredged or fill material in wetlands on this property without a Department of the Army permit is in most cases a violation of Section 301 of the Clean Water Act (33 USC 1311). A permit is not required for work on the property restricted entirely to existing high ground. If you have any questions regarding the Corps of Engineers regulatory program, please contact

John Thomas **at** 919 - 876 - 8441 extension 25.

Project Manager Signature _____

Date September 9, 2003 **Expiration Date** September 9, 2008

SURVEY PLAT OR FIELD SKETCH OF DESCRIBED PROPERTY AND THE WETLAND DELINEATION FORM MUST BE ATTACHED TO THE YELLOW (FILE) COPY OF THIS FORM.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Heather Montague / NCDOT 1548 Mail Service Center, Raleigh, N.C. 27699-1548	File Number: Action ID. 200220661 TIP B-4058	Date: September 9, 2003
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
XX	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

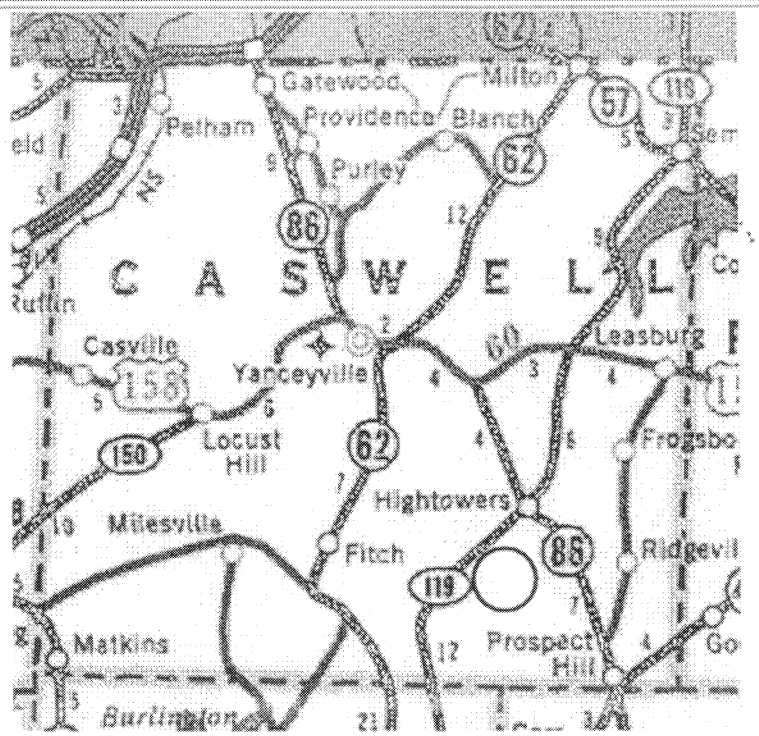
If you have questions regarding this decision and/or the appeal process you may contact:
Raleigh Regulatory Field Office
C/o John Thomas
6508 Falls of Neuse Rd., Suite 120
Raleigh, North Carolina 27615
Telephone: (919) 876-8830 ext. 25

If you only have questions regarding the appeal process you may also contact:
Mr. Arthur Middleton, Administrative Appeal Review Officer
CESAD-ET-CO-R
U.S. Army Corps of Engineers, South Atlantic Division
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:
_____		

DIVISION ENGINEER:
Commander
U.S. Army Engineer Division, South Atlantic
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-3490



PROJECT SITE

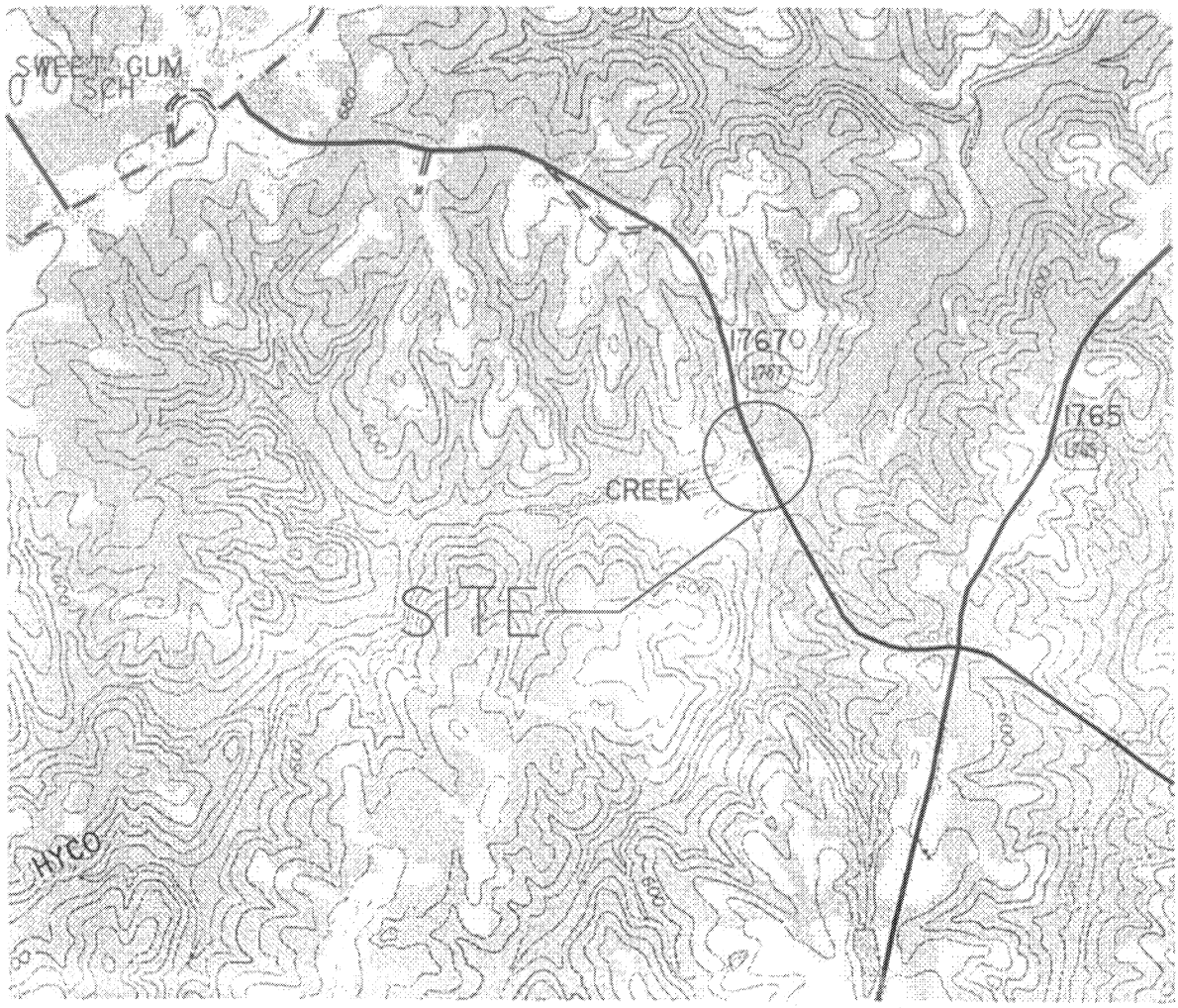
VICINITY MAPS

NCDOT

DIVISION OF HIGHWAYS
CASWELL COUNTY
PROJECT: 33422.1.1 (B-4058)

REPLACE BRIDGE NO. 85
OVER NORTH HYCO CREEK
ALONG SR 1767 (GUNN POOLE RD.)

SHEET 1 OF 12 3/5/04



(NOT TO SCALE)

N

TOPOGRAPHIC MAPS

NCDOT

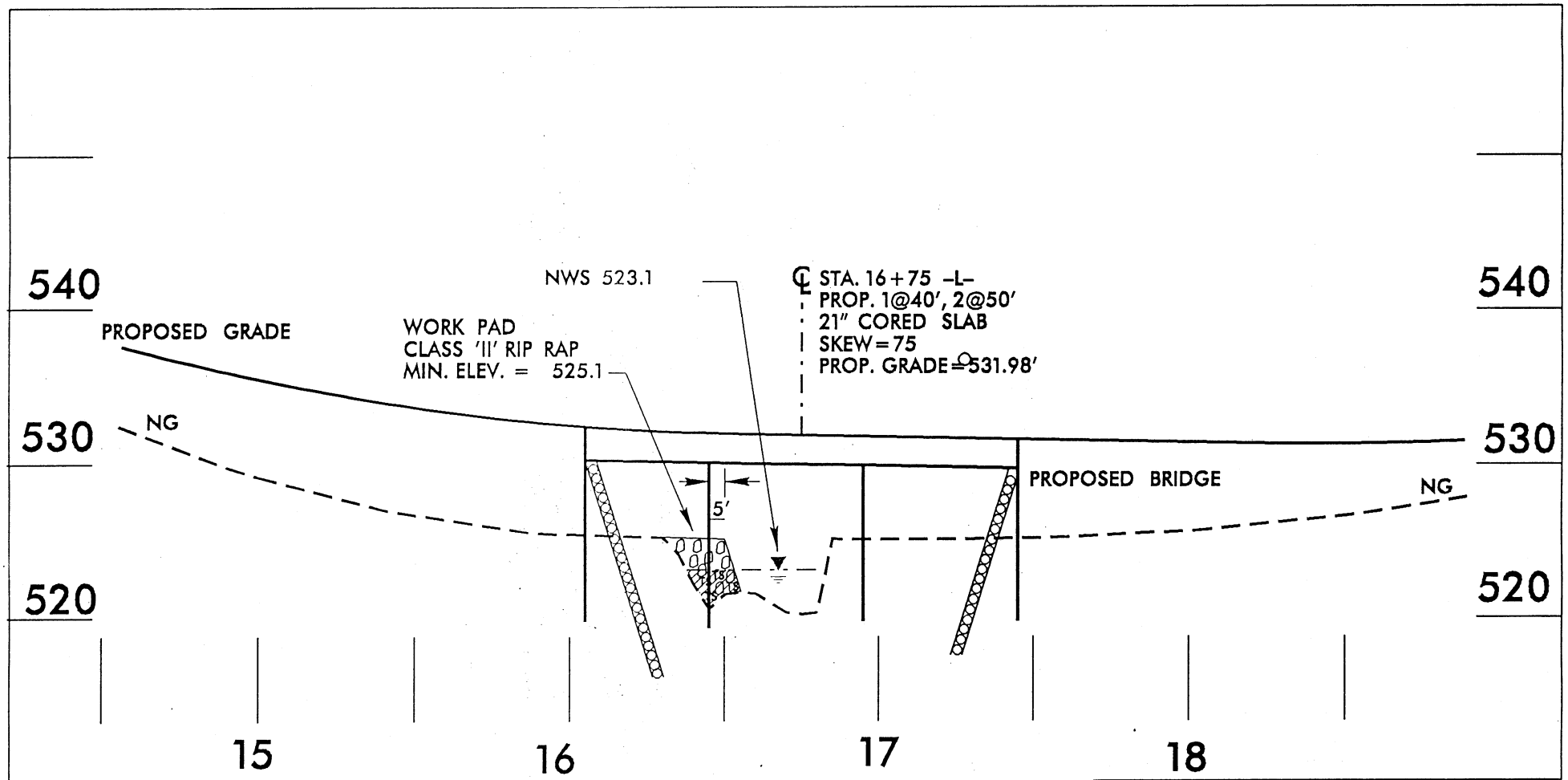
DIVISION OF HIGHWAYS

CASWELL COUNTY

PROJECT: 33422.1.1 (B-4058)

REPLACE BRIDGE NO. 85
OVER NORTH HYCO CREEK
ALONG SR 1767 (GUNN POOLE RD.)

SHEET 2 OF 12 3/5/04



PROFILE

WORK PAD
CLASS 'II' RIP RAP

SITE 1

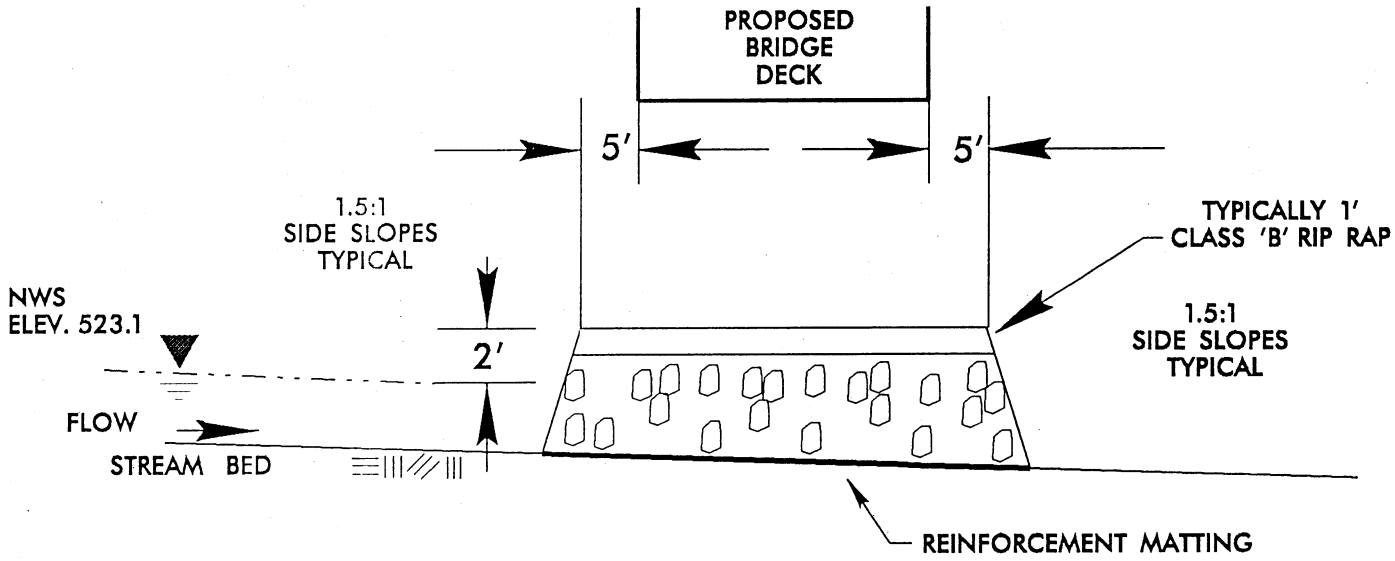
TS TS DENOTES TEMPORARY FILL IN SURFACE WATERS (NATURAL) BELOW O.H.W.

NCDOT

DIVISION OF HIGHWAYS
CASWELL COUNTY
PROJECT: 33422.1.1 (B-4058)
REPLACE BRIDGE NO. 85
OVER NORTH HYCO CREEK
ALONG SR 1767 (GUNN POOLE RD.)

SHEET 3 OF 12 3/5/04

SITE I



TYPICAL SECTION

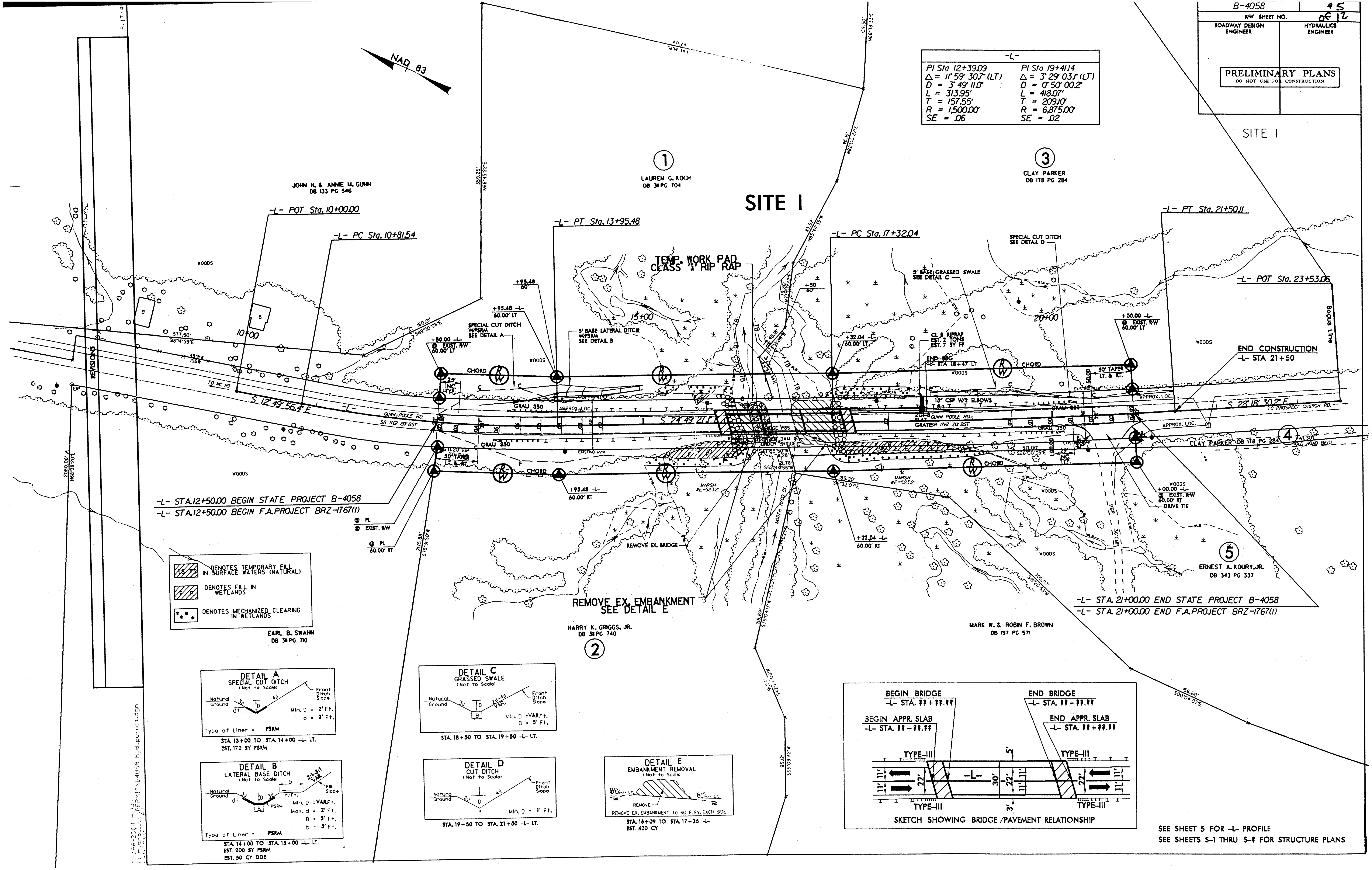
DETAIL
WORK PAD
CLASS 'II' RIP RAP
(NOT TO SCALE)

QUANTITIES OF ESTIMATES

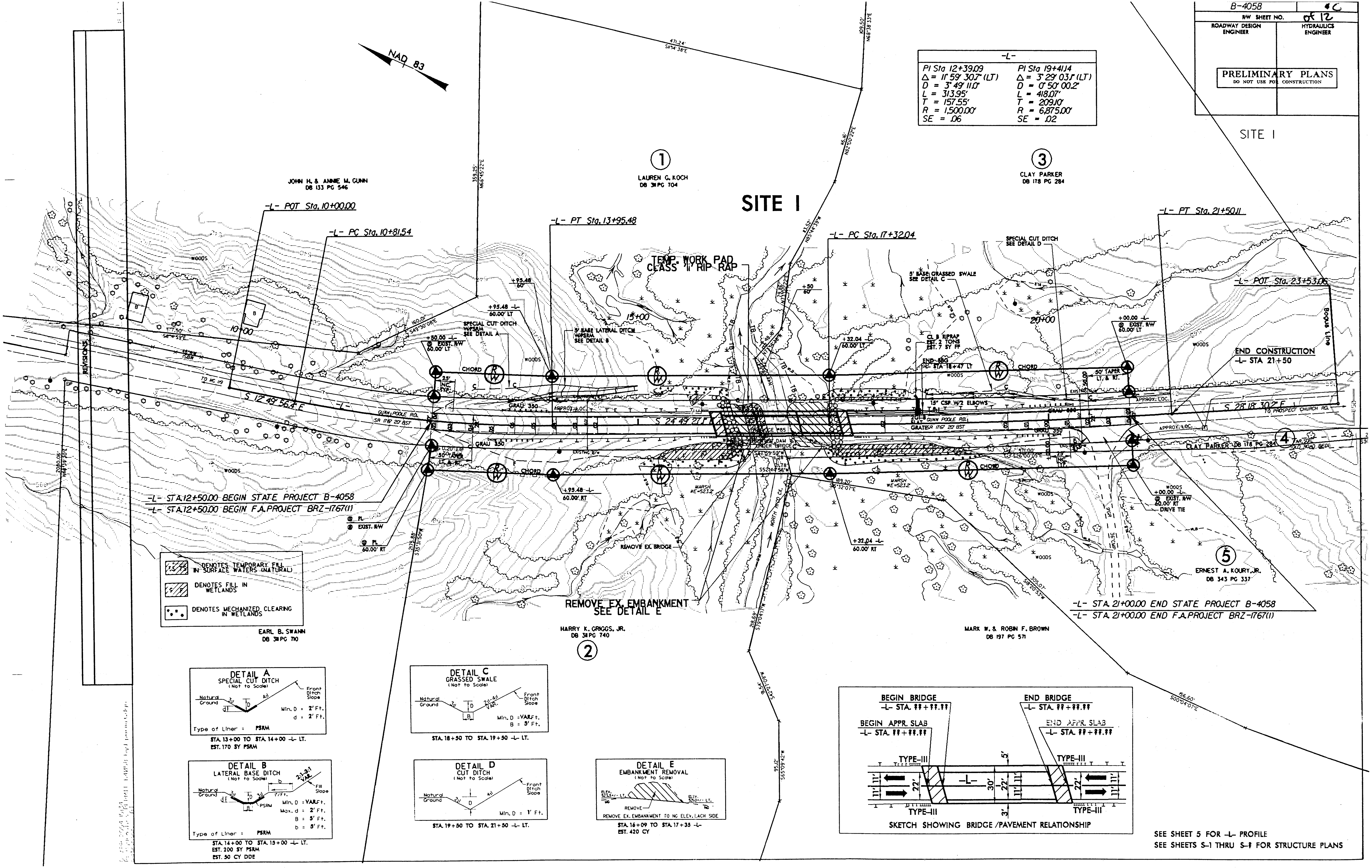
VOLUME OF CLASS 'II' RIP RAP BELOW O.H.W. = 205 yds.^{3}
AREA OF CLASS 'II' RIP RAP BELOW O.H.W. = 0.021 ac.
ESTIMATE 111 TONS CLASS 'II' RIP RAP BELOW O.H.W.

NCDOT
DIVISION OF HIGHWAYS
CASWELL COUNTY
PROJECT: 33422.1.1 (B-4058)
REPLACE BRIDGE NO. 85
OVER NORTH HYCO CREEK
ALONG SR 1767 (GUNN POOLE RD.)

SHEET 4 OF 12 3/5/04



B-4058
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
SITE 1
NAD 83
-L-
PI Sta 12+39.09
Δ = 11° 59' 30.7" (LT)
D = 3° 49' 11.0"
L = 313.95'
T = 157.55'
R = 1,500.00'
SE = .06
PI Sta 19+41.14
Δ = 3° 29' 03.1" (LT)
D = 0° 50' 00.2"
L = 418.07'
T = 209.10'
R = 6,875.00'
SE = .02
SITE 1
1
LAUREN G. KOCH
DB 31 PG 704
2
HARRY K. GRIGGS, JR.
DB 31 PG 740
3
CLAY PARKER
DB 178 PG 284
4
CLAY PARKER DB 178 PG 284
5
ERNEST A. KOURY, JR.
DB 343 PG 337
JOHN H. & ANNIE M. GUNN
DB 133 PG 546
EARL B. SWANN
DB 31 PG 710
MARK W. & ROBIN F. BROWN
DB 197 PG 571
-L- POT Sta. 10+00.00
-L- PC Sta. 10+81.54
-L- PT Sta. 13+95.48
-L- PC Sta. 17+32.04
-L- PT Sta. 21+50.11
-L- POT Sta. 23+53.06
TEMP. WORK PAD
CLASS "I" RIP RAP
SPECIAL CUT DITCH
SEE DETAIL D
5' BASE GRASSED SWALE
SEE DETAIL C
SPECIAL CUT DITCH
W/PSRM
SEE DETAIL A
5' BASE LATERAL DITCH
W/PSRM
SEE DETAIL B
CL B RIPRAP
EST. 2 TONS
EST. 7 SY FF
15" CSP W/2 ELBOWS
END CONSTRUCTION
-L- STA 21+50
Bogue Line
WOODS
CHORD
GRAU 350
GUNN POOLE RD.
SR 1767 20' BST
S 12° 49' 56.4" E
S 24° 49' 21.1" E
S 28° 18' 30.2" E
TO NC 119
TO PROSPECT CHURCH RD.
MARSH
WE=523.2
NORTH PROD CR.
REMOVE EX. BRIDGE
REMOVE EX. EMBANKMENT
SEE DETAIL E
-L- STA.12+50.00 BEGIN STATE PROJECT B-4058
-L- STA.12+50.00 BEGIN F.A. PROJECT BRZ-1767(1)
-L- STA. 21+00.00 END STATE PROJECT B-4058
-L- STA. 21+00.00 END F.A. PROJECT BRZ-1767(1)
REVISIONS
DENOTES TEMPORARY FILL IN SURFACE WATERS (NATURAL)
DENOTES FILL IN WETLANDS
DENOTES MECHANIZED CLEARING IN WETLANDS
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
Front Ditch Slope
Min. D = 2' Ft.
d = 2' Ft.
Type of Liner = PSRM
STA. 13+00 TO STA. 14+00 -L- LT.
EST. 170 SY PSRM
DETAIL B
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D = VAR. Ft.
Max. d = 2' Ft.
B = 5' Ft.
b = 5' Ft.
Type of Liner = PSRM
STA. 14+00 TO STA. 15+00 -L- LT.
EST. 200 SY PSRM
EST. 50 CY DDE
DETAIL C
GRASSED SWALE
(Not to Scale)
Natural Ground
Front Ditch Slope
Min. D = VAR. Ft.
B = 5' Ft.
STA. 18+50 TO STA. 19+50 -L- LT.
DETAIL D
CUT DITCH
(Not to Scale)
Natural Ground
Front Ditch Slope
Min. D = 1' Ft.
STA. 19+50 TO STA. 21+50 -L- LT.
DETAIL E
EMBANKMENT REMOVAL
(Not to Scale)
REMOVE
REMOVE EX. EMBANKMENT TO NG ELEV. EACH SIDE
STA. 16+09 TO STA. 17+35 -L-
EST. 420 CY
BEGIN BRIDGE
END BRIDGE
BEGIN APPR. SLAB
END APPR. SLAB
TYPE-III
SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP
SEE SHEET 5 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-# FOR STRUCTURE PLANS



B-4058
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
SITE I
-L-
PI Sta 12+39.09
Δ = 11° 59' 30.7" (LT)
D = 3° 49' 11.0"
L = 313.95'
T = 157.55'
R = 1,500.00'
SE = .06
PI Sta 19+41.14
Δ = 3° 29' 03.1" (LT)
D = 0° 50' 00.2"
L = 418.07'
T = 209.10'
R = 6,875.00'
SE = .02
NAD 83
SITE I
① LAUREN G. KOCH DB 31 PG 704
③ CLAY PARKER DB 118 PG 284
JOHN H. & ANNIE M. GUNN DB 133 PG 546
-L- POT Sta. 10+00.00
-L- PC Sta. 10+81.54
-L- PT Sta. 13+95.48
-L- PC Sta. 17+32.04
-L- PT Sta. 21+50.11
-L- POT Sta. 23+53.06
TEMP. WORK PAD CLASS 'I' RIP RAP
SPECIAL CUT DITCH SEE DETAIL D
5' BASE GRASSED SWALE SEE DETAIL C
SPECIAL CUT DITCH W/PSRM SEE DETAIL A
5' BASE LATERAL DITCH W/PSRM SEE DETAIL B
CL. B RIPRAP EST. 2 TONS EST. 7 SY FF
15" CSP W/2 ELBOWS
END CONSTRUCTION -L- STA 21+50
S 12° 49' 56.4" E
S 24° 49' 21" E
S 28° 18' 30.2" E
GUNN POOLE RD. SR 1767 20' BST
TO PROSPECT CHURCH RD.
④ CLAY PARKER DB 118 PG 284
-L- STA.12+50.00 BEGIN STATE PROJECT B-4058
-L- STA.12+50.00 BEGIN F.A. PROJECT BRZ-1767(1)
REMOVE EX. BRIDGE
REMOVE EX. EMBANKMENT SEE DETAIL E
⑤ ERNEST A. KOURY, JR. DB 343 PG 337
-L- STA. 21+00.00 END STATE PROJECT B-4058
-L- STA. 21+00.00 END F.A. PROJECT BRZ-1767(1)
DENOTES TEMPORARY FILL IN SURFACE WATERS (NATURAL)
DENOTES FILL IN WETLANDS
DENOTES MECHANIZED CLEARING IN WETLANDS
EARL B. SWANN DB 31 PG 710
② HARRY K. GRIGGS, JR. DB 31 PG 740
MARK W. & ROBIN F. BROWN DB 197 PG 571
DETAIL A SPECIAL CUT DITCH (Not to Scale)
Type of Liner = PSRM
STA. 13+00 TO STA. 14+00 -L- LT. EST. 170 SY PSRM
DETAIL B LATERAL BASE DITCH (Not to Scale)
Type of Liner = PSRM
STA. 14+00 TO STA. 15+00 -L- LT. EST. 200 SY PSRM EST. 50 CY DDE
DETAIL C GRASSED SWALE (Not to Scale)
STA. 18+50 TO STA. 19+50 -L- LT.
DETAIL D CUT DITCH (Not to Scale)
STA. 19+50 TO STA. 21+50 -L- LT.
DETAIL E EMBANKMENT REMOVAL (Not to Scale)
REMOVE EX. EMBANKMENT TO NG ELEV. EACH SIDE
STA. 16+09 TO STA. 17+35 -L- EST. 420 CY
BEGIN BRIDGE
END BRIDGE
BEGIN APPR. SLAB
END APPR. SLAB
TYPE-III
SKETCH SHOWING BRIDGE /PAVEMENT RELATIONSHIP
SEE SHEET 5 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

B4058 X-1 7 OF 12

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

540 535 530 525

0.0200 0.0200

2:1 2:1

526.78

15+50.00

540 535 530 525

0.0200 0.0200

2:1 2:1

529.28

3:1 3:1

DITCH ELEV. = 525.20'

15+00.00

"QUANTITIES ARE APPROXIMATE ONLY. THE RESIDENT ENGINEER WILL RECROSS-SECTION THE WORK ACCURATELY WHEN THE PROJECT IS STAKED OUT. THESE CROSS-SECTION NOTES WILL BE USED IN COMPUTING THE FINAL QUANTITIES FOR WHICH THE CONTRACTOR WILL BE PAID."

S.S. 524985

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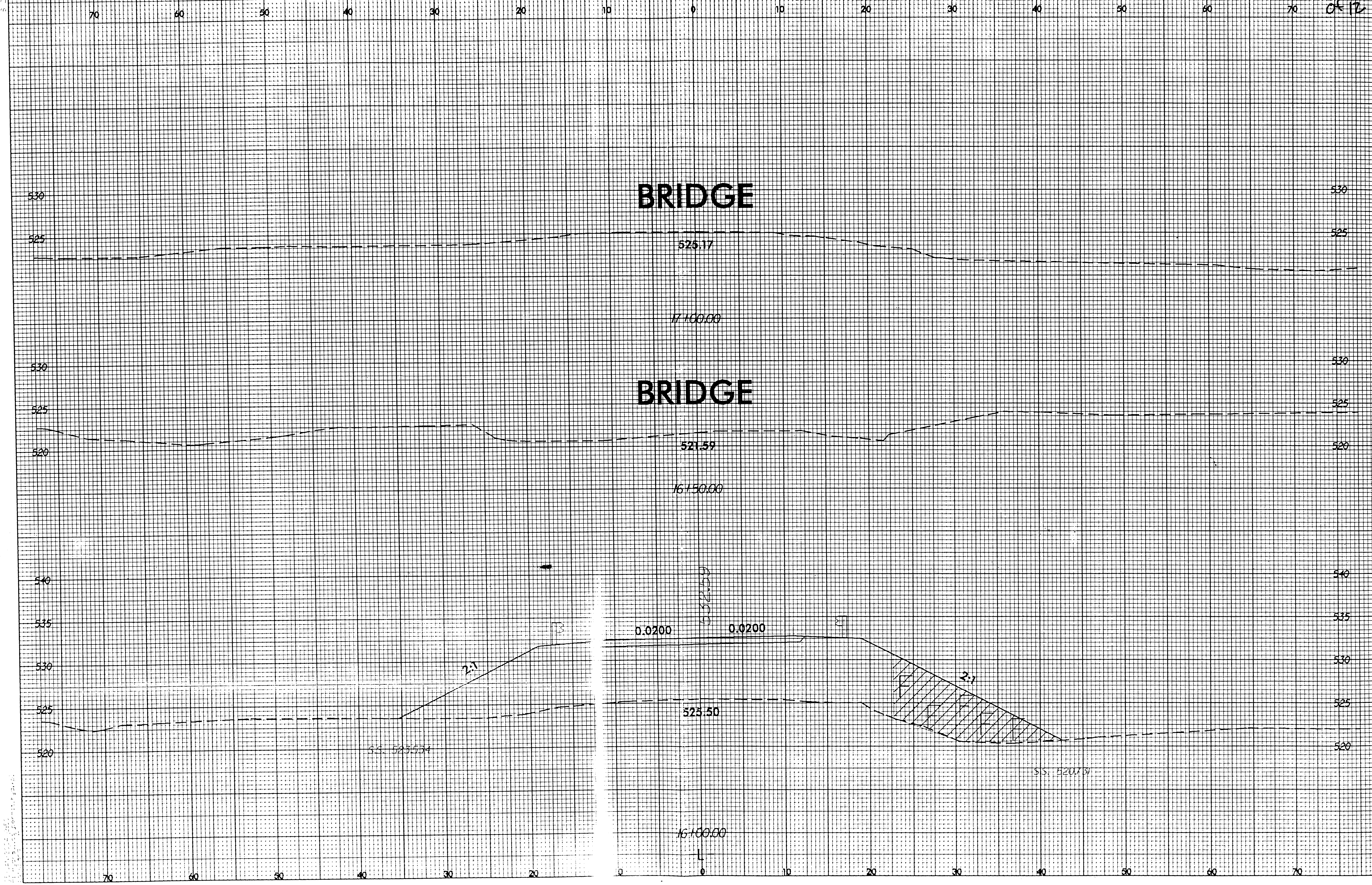
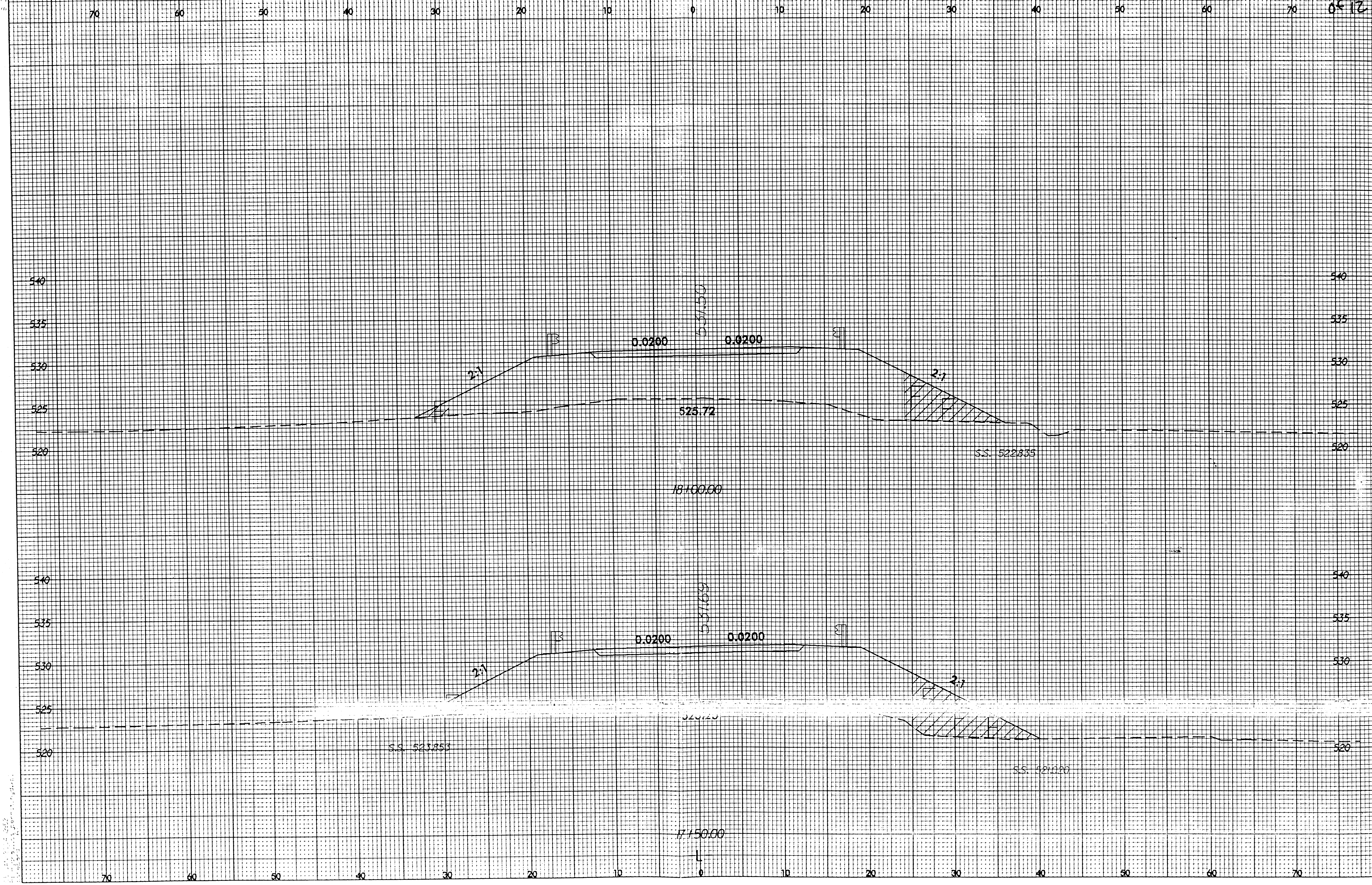
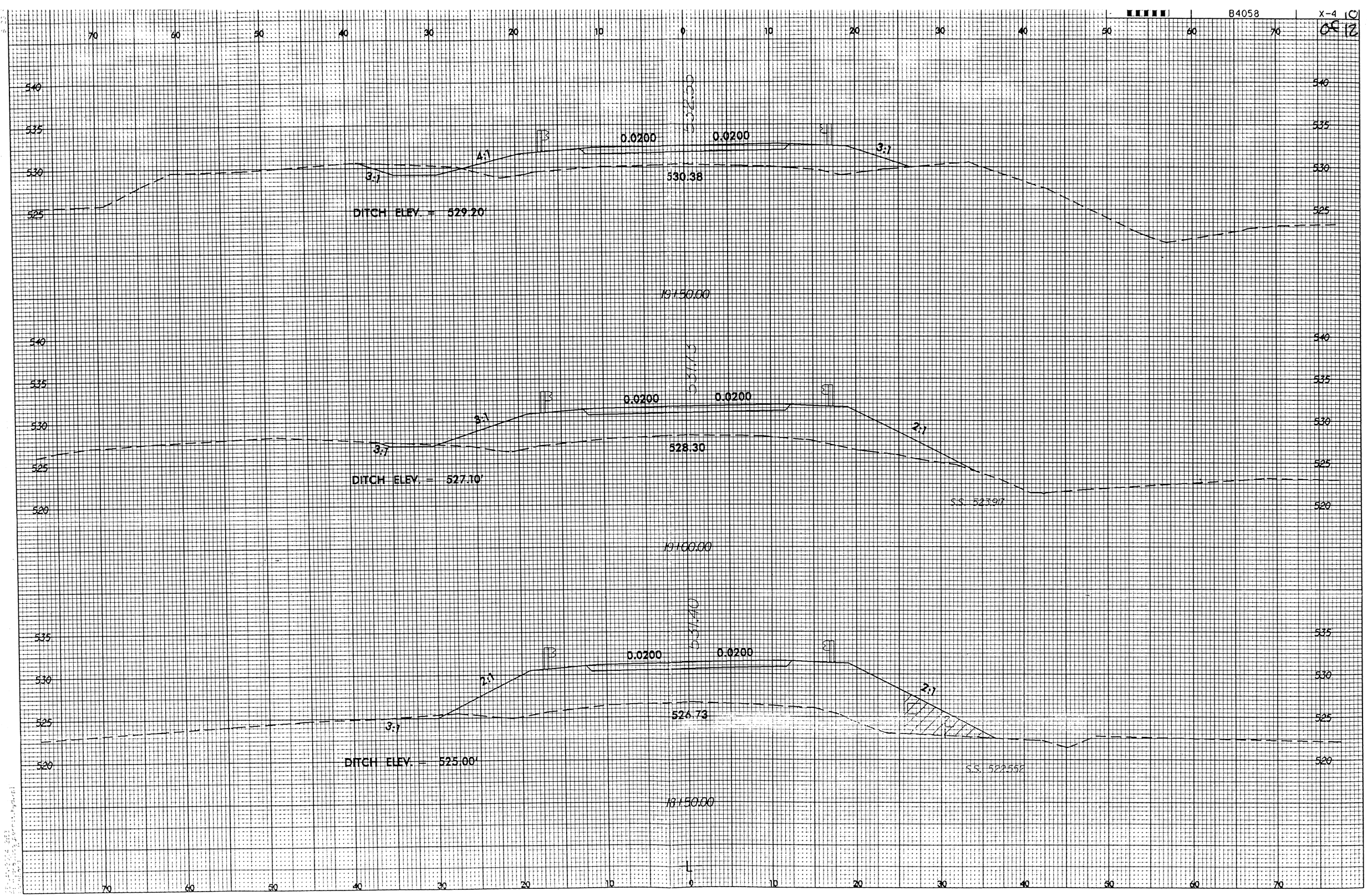

BRIDGE
525.17
17+00.00
BRIDGE
521.59
16+50.00
0.0200
0.0200
532.59
2:1
2:1
525.50
16+00.00



70 60 50 40 30 20 10 0 10 20 30 40 50 60 70
540
535
530
525
520
531.50
0.0200
0.0200
2:1
2:1
525.72
S.S. 522.835
18+00.00
531.69
0.0200
0.0200
2:1
2:1
S.S. 523.853
S.S. 521.020
17+50.00


540
535
530
525
520
70 60 50 40 30 20 10 0 10 20 30 40 50 60 70
0.0200
0.0200
4:1
3:1
3:1
530.38
DITCH ELEV. = 529.20
19+50.00
3:1
3:1
0.0200
0.0200
2:1
528.30
DITCH ELEV. = 527.10'
S.S. 523917
19+00.00
2:1
2:1
3:1
526.73
DITCH ELEV. = 525.00'
S.S. 522552
18+50.00

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	LAUREN G. KOCH	6307 PIPKETON ST. ORLANDO, FLA. 32810
2	HARRY K. GRIGGS, JR. GARY M. GRIGGS	1713 COURTLAND DST. REIDSVILLE, N.C. 27320
3	CLAY PARKER	5827 NC HWY 119 NORTH REIDSVILLE, N.C. 27215
4	CLAY PARKER	5827 NC HWY 119 NORTH REIDSVILLE, N.C. 27215
5	ERNEST A. KOURY, JR.	P.O. BOX 850 BURLINGTON, N.C. 27215

NCDOT

DIVISION OF HIGHWAYS

CASWELL COUNTY

PROJECT: 33422.1.1 (B-4058)

REPLACE BRIDGE NO. 85

OVER NORTH HYCO CREEK

ALONG SR 1767 (GUNN POOLE RD.)

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation In Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing (Method III) (ac)	SURFACE WATER IMPACTS: Fill In SW (Natural) (ac)	SURFACE WATER IMPACTS: Fill In SW (Pond) (ac)	SURFACE WATER IMPACTS: Temp. Fill In SW (ac)	SURFACE WATER IMPACTS: Existing Channel Impacted (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
1	15+00 TO	BRIDGE	0.042	0.004	0.00	0.046	0.00	0.00	0.021	0.00	0.00
	16+56 -L- LT-RT										
	AND										
	17+23 TO	BRIDGE	0.049	0.00	0.00	0.075	0.00	0.00	0.00	0.00	0.00
	19+22 -L- LT-RT										
TOTALS:			0.091	0.004	0.00	0.121	0.00	0.00	0.021	0.00	0.00

SITE 1 INCLUDES IMPACTED AREA FOR TEMPORARY WORK PAD (TEMPORARY FILL IN SW)

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CASWELL COUNTY
PROJECT: 33422.1.1 (B-4058)

SHEET 12 of 12 3/5/04

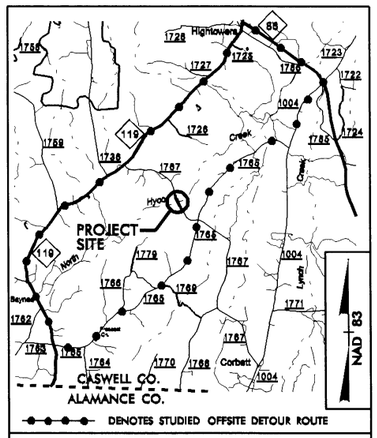
Form Revised 3/22/01

09/08/99

TIP PROJECT: B-4058

CONTRACT: C201121 TIP PROJECT: B-4058

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Symbology Sheet
See Sheet 1-C For Survey Control Sheet



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CASWELL COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4058	1	

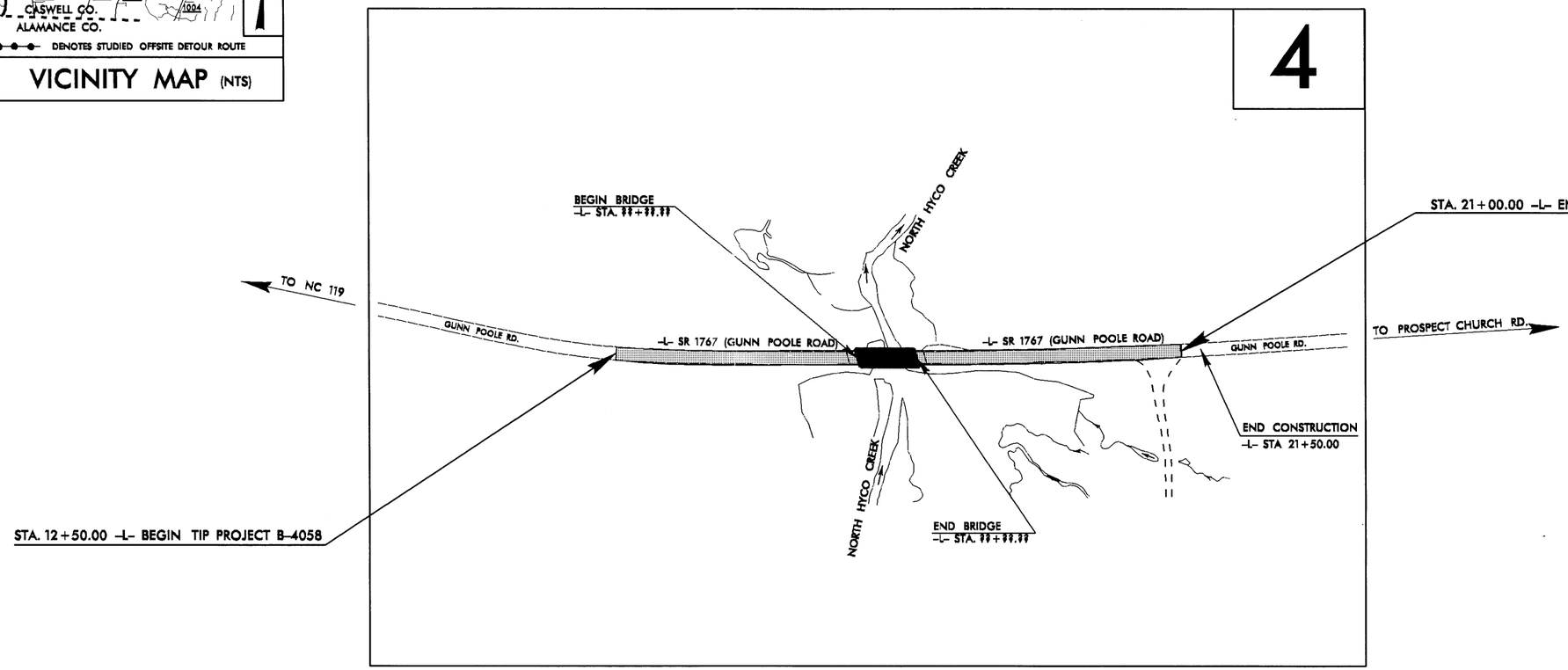
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33422.1.1	BRZ-1767(1)	P.E.
33422.2.1	BRZ-1767(1)	R/W & UTILITIES

LOCATION: BRIDGE NO. 85 OVER NORTH HYCO CREEK ON SR 1767 (GUNN POOLE ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, GUARDRAIL, AND STRUCTURE

NAD 83

4



** DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVES, MAXIMUM GRADE, AND STOPPING SIGHT DISTANCES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT IS NOT WITHIN THE MUNICIPAL BOUNDARIES OF YANCEYVILLE.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2004 = 625
ADT 2025 = 800
DHV = 13 %
D = 60 %
T = 3 % *
V = 55 MPH
* TTST 1% DUAL 2%
FUNC. CLASS = LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4058 = ____ MILES
LENGTH STRUCTURE TIP PROJECT B-4058 = ____ MILES
TOTAL LENGTH OF TIP PROJECT B-4058 = 0.161 MILES

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

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: DECEMBER 22, 2003

LETTING DATE: DECEMBER 21, 2004

JAMES A. SPEER, PE
PROJECT ENGINEER

DANNY GARDNER
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER P.E.

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR DATE

22-APR-2004 16:25
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DWGardner AT RD212399

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-4058	I-B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

*S.U.E = SUBSURFACE UTILITY ENGINEER

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
- Curb Cut for Future 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
- River Basin Buffer
- 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
- U/G Telephone Cable Hand Hold
- Cable TV Pedestal
- U/G TV Cable Hand Hold
- U/G Power Cable Hand Hold
- Hydrant
- Satellite Dish
- Exist. Water Valve
- Sewer Clean Out
- Power Manhole
- Telephone Booth
- Cellular Telephone Tower
- 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 — EIP
- Property Corner
- Property Monument — ECM
- Property Number — 123
- Parcel Number — 6
- Fence Line
- Existing Wetland Boundaries — WLB
- High Quality Wetland Boundary — HQ WLB
- Medium Quality Wetland Boundaries — MQ WLB
- Low Quality Wetland Boundaries — LQ WLB
- Proposed Wetland Boundaries — WLB
- Existing Endangered Animal Boundaries — EAB
- Existing Endangered Plant Boundaries — EPB

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 — VINEYARD

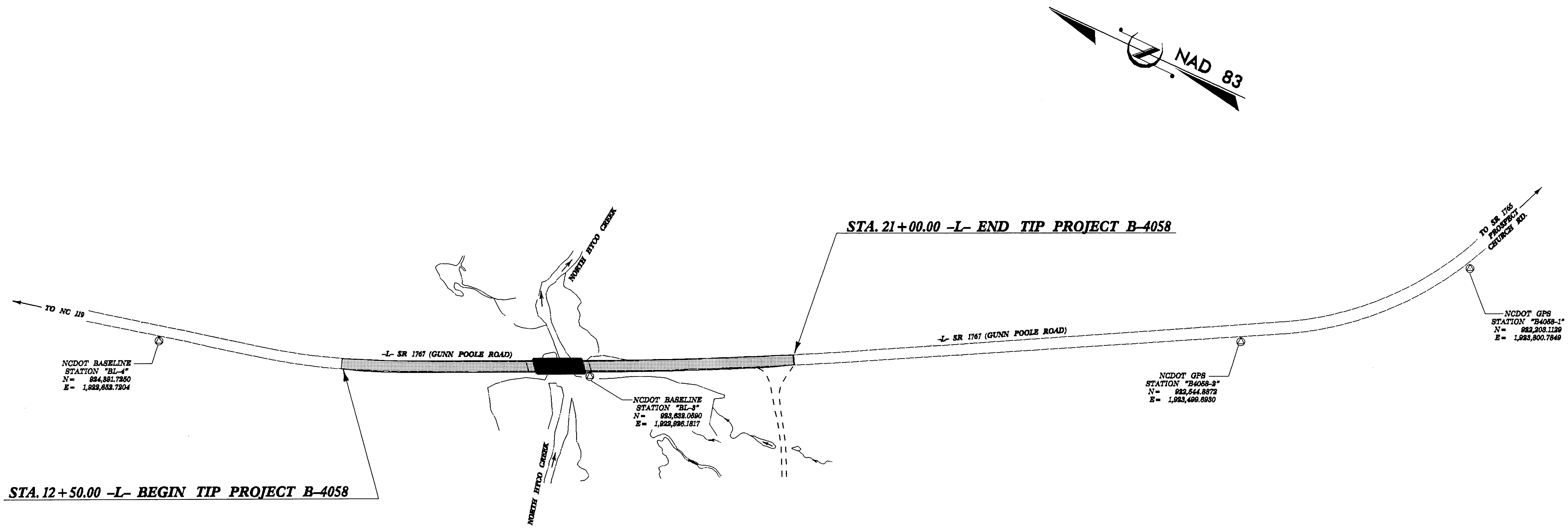
RAILROADS

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

revised 02/02/00

PROJECT REFERENCE NO.	SHEET NO.
B-4058	1-C
LOCATION AND SURVEYS	

B-4058 SURVEY CONTROL SHEET



CONTROL DATA

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
4	BL-4	924391.7250	1922652.7204	578.49	OUTSIDE PROJECT LIMITS	
3	BL-3	923632.0590	1922926.1817	524.50	17+12.96	15.76 RT
2	GPS B4058-2	922544.8872	1923499.6930	598.40	OUTSIDE PROJECT LIMITS	
1	GPS B4058-1	922203.1129	1923800.7849	612.17	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

BM1 ELEVATION = 525.09
N 923651 E 1923071
L STATION 17+57 123 LEFT
RR SPIKE IN BASE OF 30" MAPLE TREE

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4058-2"
WITH NAD 83 STATE PLANE GRID COORDINATES OF
NORTHING: 922544.8872(ft) EASTING: 1923499.6930(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00011190
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4058-2" TO -L- STATION 12+50.00 IS
N 26° 13' 23.2" W 1,690.73 FT.
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:

   HTTP:\WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   FILE: b4058_ls_control_030710.txt

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.
IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

(symbol) INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT. ALL COORDINATES SHOWN ARE LOCALIZED PROJECT COORDINATES.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

NOTE: DRAWING NOT TO SCALE

5/14/99

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ardner AT RD212399

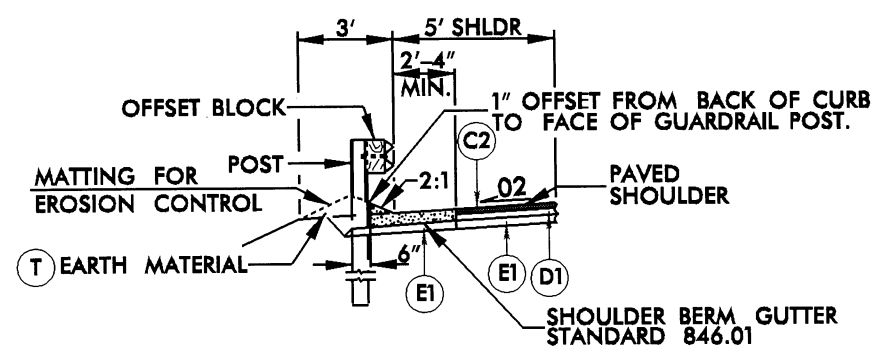
PROJECT REFERENCE NO.	SHEET NO.
B-4058	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

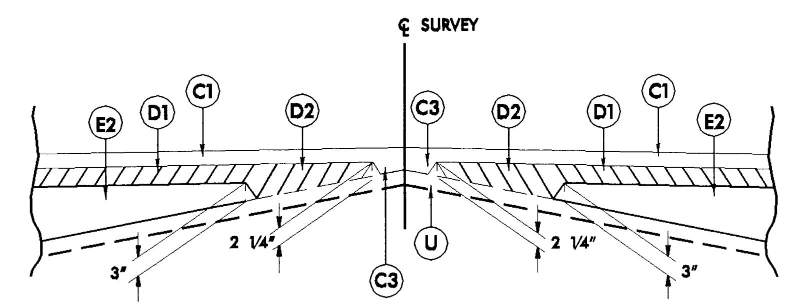
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.	T	EARTH MATERIAL.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2¼" IN DEPTH OR GREATER THAN 4" IN DEPTH.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

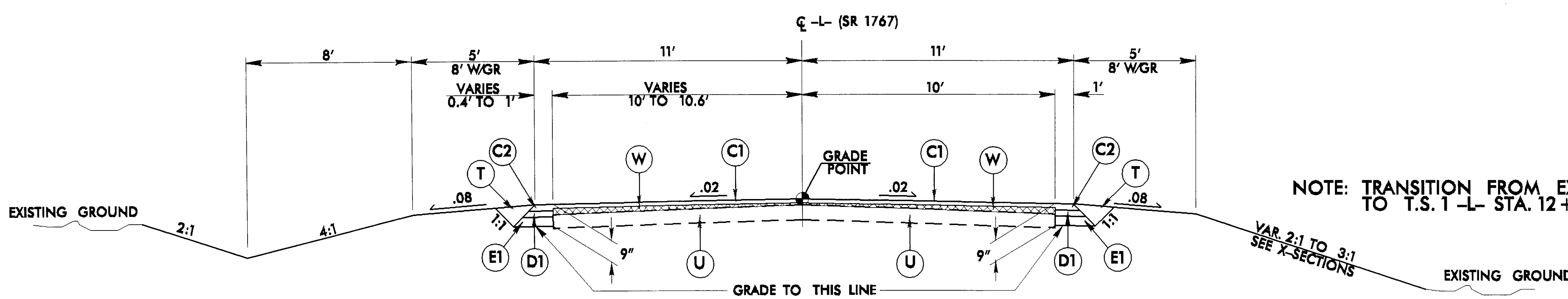
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



DETAIL OF SHOULDER BERM GUTTER
SEE STD. 820.04



Detail Showing Method of Wedging



TYPICAL SECTION NO. 1

NOTE: TRANSITION FROM EXISTING PAVEMENT TO T.S. 1 -L- STA. 12+50.00 TO 13+00.00

USE TYPICAL SECTION NO. 1

-L- STA. 13+00.00 TO STA. 13+25.00
-L- STA. 20+12.00 TO STA. 20+50.00

NOTE: TRANSITION FROM T.S. 1 TO EXISTING PAVEMENT -L- STA. 20+50.00 TO 21+00.00

6/2/99

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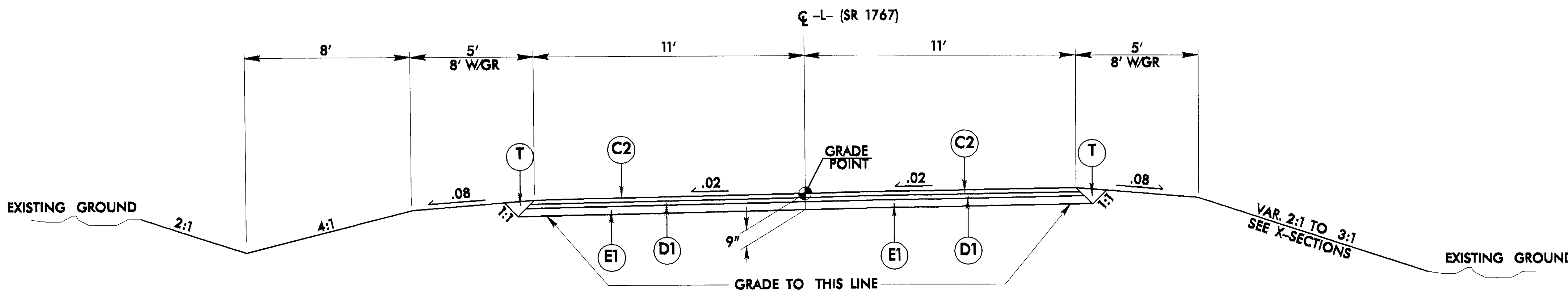
DWGardner AT R0212399

PROJECT REFERENCE NO.	SHEET NO.
B-4058	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

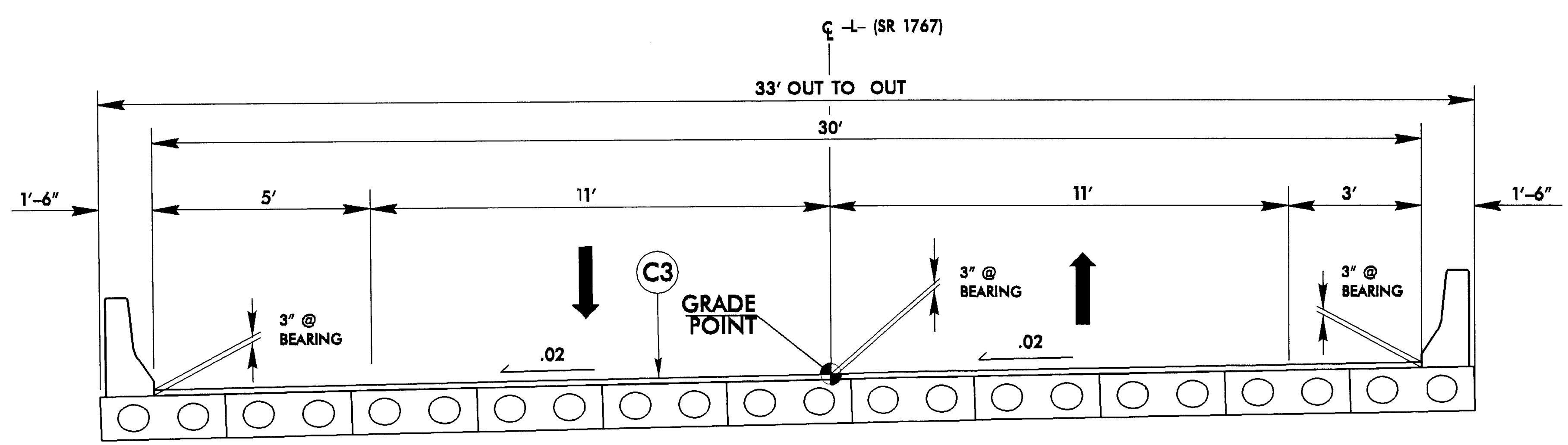
C1	1¼" TYPE SF9.5A
C2	2½" TYPE SF9.5A
C3	VAR. DEPTH TYPE SF9.5A
D1	2½" TYPE I19.0B
D2	VAR. DEPTH TYPE I19.0B
E1	4" TYPE B25.0B
E2	VAR. DEPTH TYPE B25.0B
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-L- STA. 13+25.00 TO STA. ??+??.?? (BEGIN BRIDGE)
-L- STA. ??+??.?? (END BRIDGE) TO STA. 20+12.00



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-L- STA. ??+??.?? (BEGIN BRIDGE) TO STA. ??+??.?? (END BRIDGE)

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DWGardner AT R0212399

9/16/02

COMPUTED BY: ______ DATE: ______
CHECKED BY: ______ DATE: ______

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4058	3-A

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE)								BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE)								15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	ENDWALLS C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. *FT. A 5.0' THRU 10.0'	LIN. *FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATES 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 ELBOWS NO. & SIZE	CONC. COLLARS CL "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN. FT.	REMARKS
SIZE								12"	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	24"	30"	36"	42"	48"																											
THICKNESS OR GAUGE																.064	.064	.064	.064	.079	.079	.109	.109																											
-L- 18+40.00	LT	1	OUT														16												1										1					1		2				
TOTAL																	16												1										1					1		2				

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

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DWGardner AT RD212399

COMPUTED BY: WPB DATE: 9-09-03
CHECKED BY: KEM DATE: 9-10-03

6/4/99

PROJECT REFERENCE NO.	SHEET NO.
B-4058	3-C

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	EMBT+%	BORROW	WASTE
* -L- SUMMARY NO. 1				
-L- 12+50.00 TO -L- 16+05.00 (BEGIN BRIDGE)	183	3494	3311	
TOTAL SUMMARY NO. 1	183	3494	3311	
* -L- SUMMARY NO. 2				
-L- 17+45.00 (END BRIDGE) TO -L- 21+00.00	378	2514	2136	
TOTAL SUMMARY NO. 2	378	2514	2136	
SUMMARY TOTAL	561	6008	5447	
5% TO REPLACE TOPSOIL IN BORROW PIT			273	
PROJECT TOTAL	561		5720	
SAY	600		5800	
* -L- STA 16+09 TO 17+35 (EMBANKMENT REMOVAL)=420 CY (1ST SUMMARY=80 CY) (2ND SUMMARY=340 CY)				
DRAINAGE DITCH EXCAVATION = 50 CY	UNDERCUT = 200 CY			
SELECT GRANULAR MATERIAL = 100 CY				

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, SHOULDER BORROW, FINE GRADING, CLEARING AND GRUBBING BREAKING OF EXISTING PAVEMENT AND REMOVAL OF EXISTING PAYMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING"

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DWGardner AT R02P399

6/16/99

COMPUTED BY: WPB DATE: 5-23-03
CHECKED BY: KEM DATE: 5-30-03

"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.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4058	3-B

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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	TYPE 350	TYPE 111	EA	G	NG	
-L-	13+21.31	15+96.31	RT	275.00			14+50.00		3	8	100		2		1	1				
-L-	17+60.69	20+10.69	RT	250.00				19+00.00	3	8		100		2	1	1				
-L-	17+52.76	20+27.76	LT	275.00			18+50.00		3	8	100		2		1	1				
-L-	13+38.27	15+88.27	LT	250.00				14+50.00	3	8		100		2	1	1				
SUBTOTAL				1050.00											4	4				
		ANCHOR UNIT DEDUCTION																		
		GRAU-350	4 @ 50'	200.00																
		TYPE III	4 @ 18.75'	75																
PROJECT TOTAL				775.00											4	4				
SAY				775.00											4	4				
ADDITIONAL GUARDRAIL POST =	5																			

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rwgardner AT R0212399

PROJECT REFERENCE NO.	SHEET NO.
B-4058	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-	
PI Sta 12+39.09	PI Sta 19+41.14
Δ = 11° 59' 30.7" (LT)	Δ = 3° 29' 03.1" (LT)
D = 3° 49' 11.0"	D = 0° 50' 00.2"
L = 313.95'	L = 418.07'
T = 157.55'	T = 209.10'
R = 1,500.00'	R = 6,875.00'
SE = .06	SE = .02

REVISIONS

8/17/99

NAD 83

JOHN H. & ANNIE M. GUNN
DB 133 PG 546

1 LAUREN G. KOCH
DB 38 PG 704

3 CLAY PARKER
DB 178 PG 284

-BL-4 5+00.00 POT
-L- POT Sta. 10+00.00
-L- PC Sta. 10+81.54
-L- PT Sta. 13+95.48
-L- PC Sta. 17+32.04
-L- PT Sta. 21+50.11
-L- POT Sta. 23+53.06

WOODS
10+00
15+00
20+00
+95.48 -L- 60.00' LT
SPECIAL CUT DITCH W/PSRM SEE DETAIL A
+50.00 -L- @ EXIST. R/W 60.00' LT
5' BASE LATERAL DITCH W/PSRM SEE DETAIL B
BM#1 -BL- STA 13+58.36 136.40' LT ELEV=525.09'
+32.04 -L- 60.00' LT
5' BASE GRASSED SWALE SEE DETAIL C
SPECIAL CUT DITCH SEE DETAIL D
CL B RIPRAP EST. 2 TONS EST. 7 SY FF
END -SB- PC STA 18+47 LT
+00.00 -L- @ EXIST. R/W 60.00' LT
END CONSTRUCTION -L- STA 21+50
50' TAPER LT. & RT.
15" CSP W/2 ELBOWS
GUNN POOLE RD.
GRATES R 1767 20' BST
GRAU 350
APPROX. LOC.
CHORD
25' INC. TYP.
50' TAPER LT. & RT.
EXISTING R/W
TO NC 119
S 12° 49' 56.4" E
S 19° 47' 51.5" E
S 24° 49' 27" E
S 28° 18' 30.2" E
300.95' TO PROSPECT CHURCH RD.
S 27° 48' 46.1" E
NAIL SR 1767 20' BST
NAIL
BRIDGE 185
BEAVER DAM IN UNDER BRIDGE
MARSH WE=523.2'
NORTH PROP. CR.
REMOVE EX. BRIDGE
REMOVE EX. EMBANKMENT SEE DETAIL E
-L- STA.12+50.00 BEGIN STATE PROJECT B-4058
-L- STA.12+50.00 BEGIN F.A.PROJECT BRZ-1767(1)
@ PL
@ EXIST. R/W
@ PL 60.00' RT
+95.48 -L- 60.00' RT
+32.04 -L- 60.00' RT
+00.00 -L- @ EXIST. R/W 60.00' RT DRIVE TIE
-BL-3 13+07.39 PINC = -L- POT STA. 17+12.96 15.76' RT
-L- STA. 21+00.00 END STATE PROJECT B-4058
-L- STA. 21+00.00 END F.A.PROJECT BRZ-1767(1)
471.24' S19°47'51"E
359.95' N69°45'22"E
165.85' N82°00'24"E
109.50' N69°38'35"E
150.01' S49°30'08"E
577.50' S18°14'59"E
48' RW 15BW
2175.88' S75°31'50"W
1353' N85°44'05"W
306.07' S89°20'51"W
265.69' S75°04'11"W
N60°12'26"E 95.12' S65°09'42"W
156.60' S00°04'01"E
S47°59'50"W 128.78'
S52°14'56"W
S26°00'05"E 57.00'
S6°32'01"E 189.20'

2 EARL B. SWANN
DB 38 PG 710

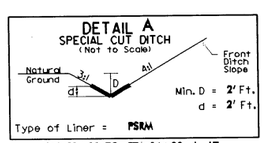
HARRY K. GRIGGS, JR.
DB 38 PG 740

4 CLAY PARKER DB 178 PG 284 (OLD ROAD BED)

5 ERNEST A. KOURY, JR.
DB 343 PG 337

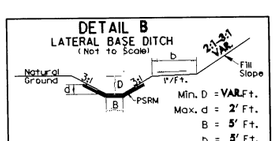
MARK W. & ROBIN F. BROWN
DB 197 PG 571

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



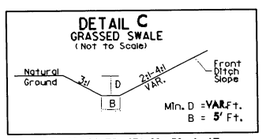
Min. D = 2' Ft.
d = 2' Ft.
Type of Liner = PSRM
STA. 13+00 TO STA. 14+00 -L- LT.
EST. 170 SY PSRM

DETAIL B
LATERAL BASE DITCH
(Not to Scale)



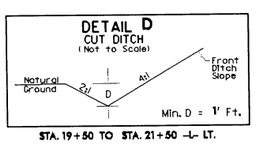
Min. D = VAR Ft.
Max. d = 2' Ft.
B = 5' Ft.
b = 5' Ft.
Type of Liner = PSRM
STA. 14+00 TO STA. 15+00 -L- LT.
EST. 200 SY PSRM
EST. 50 CY DDE

DETAIL C
GRASSED SWALE
(Not to Scale)



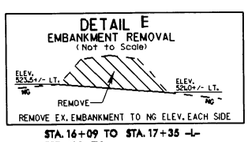
Min. D = VAR Ft.
B = 5' Ft.
STA. 18+50 TO STA. 19+50 -L- LT.

DETAIL D
CUT DITCH
(Not to Scale)

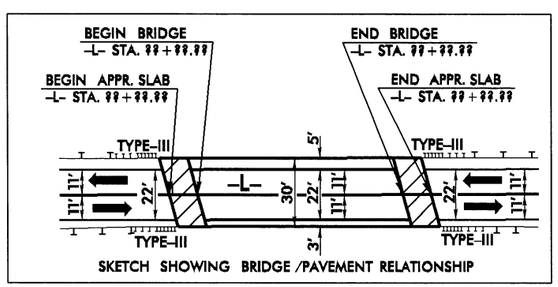


Min. D = 1' Ft.
STA. 19+50 TO STA. 21+50 -L- LT.

DETAIL E
EMBANKMENT REMOVAL
(Not to Scale)



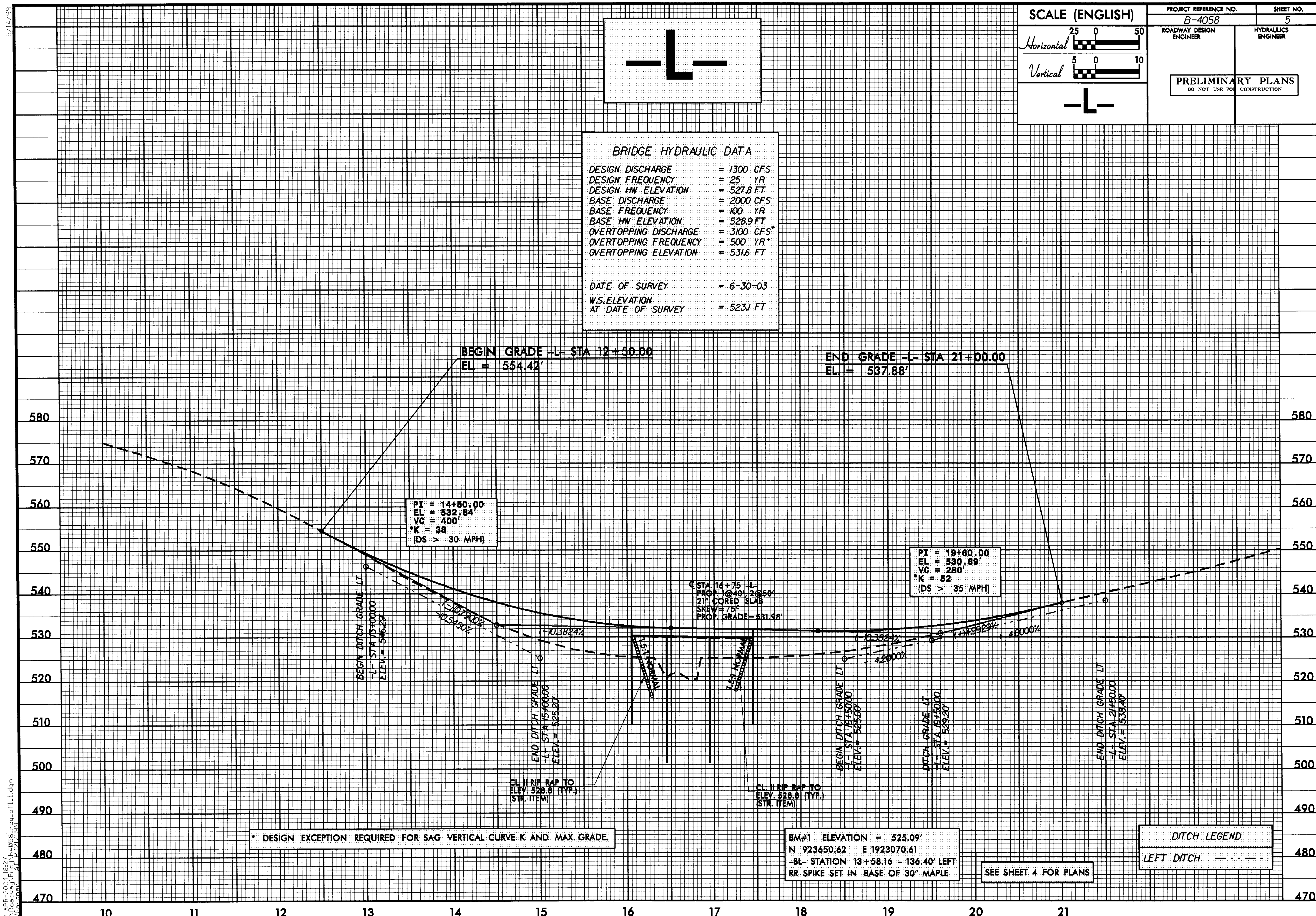
REMOVE EX. EMBANKMENT TO NG ELEV. EACH SIDE
STA. 16+09 TO STA. 17+35 -L-
EST. 420 CY



SKETCH SHOWING BRIDGE /PAVEMENT RELATIONSHIP

SEE SHEET 5 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

22-APR-2004 16:27
R:\Roadway\Proj\b4058_rdy_psh_s04.dgn
mwardrup


SCALE (ENGLISH)
Horizontal 25 0 50
Vertical 5 0 10
-L-
PROJECT REFERENCE NO. B-4058
SHEET NO. 5
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
BRIDGE HYDRAULIC DATA
DESIGN DISCHARGE = 1300 CFS
DESIGN FREQUENCY = 25 YR
DESIGN HW ELEVATION = 527.8 FT
BASE DISCHARGE = 2000 CFS
BASE FREQUENCY = 100 YR
BASE HW ELEVATION = 528.9 FT
OVERTOPPING DISCHARGE = 3100 CFS*
OVERTOPPING FREQUENCY = 500 YR*
OVERTOPPING ELEVATION = 531.6 FT
DATE OF SURVEY = 6-30-03
W.S. ELEVATION AT DATE OF SURVEY = 523.1 FT
BEGIN GRADE -L- STA 12+50.00
EL. = 554.42'
END GRADE -L- STA 21+00.00
EL. = 537.88'
PI = 14+50.00
EL = 532.84'
VC = 400'
*K = 38
(DS > 30 MPH)
PI = 19+60.00
EL = 530.89'
VC = 280'
*K = 52
(DS > 35 MPH)
℄ STA. 16+75 -L-
PROP. 1@40', 2@50'
21" CORED SLAB
SKEW=75°
PROP. GRADE=531.98'
(-)10.7900%
-10.5450%
(-)0.3824%
(-)0.3824%
(+)4.9929%
+ 4.6000%
+ 4.2000%
1.5:1 NORMAL
1.5:1 NORMAL
BEGIN DITCH GRADE LT
-L- STA 13+00.00
ELEV.= 546.29'
END DITCH GRADE LT
-L- STA 15+00.00
ELEV.= 525.20'
BEGIN DITCH GRADE LT
-L- STA 18+50.00
ELEV.= 525.00'
DITCH GRADE LT
-L- STA 19+50.00
ELEV.= 529.20'
END DITCH GRADE LT
-L- STA 21+50.00
ELEV.= 538.40'
CL. II RIP RAP TO ELEV. 528.8 (TYP.) (STR. ITEM)
CL. II RIP RAP TO ELEV. 528.8 (TYP.) (STR. ITEM)
* DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K AND MAX. GRADE.
BM#1 ELEVATION = 525.09'
N 923650.62 E 1923070.61
-BL- STATION 13+58.16 - 136.40' LEFT
RR SPIKE SET IN BASE OF 30" MAPLE
SEE SHEET 4 FOR PLANS
DITCH LEGEND
LEFT DITCH
580
570
560
550
540
530
520
510
500
490
480
470
10
11
12
13
14
15
16
17
18
19
20
21
5/14/99
22-APR-2004 16:27
R:\Roadway\Proj\b4058_rdy_pfl_1.dgn

8/23/99

0 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4058	X-2

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

545
540

0.0600 0.0600

3:1 4:1 3:1

543.16

DITCH ELEV. = 541.02'

13+50.00

550
545

0.0600 0.0400

3:1 4:1 4:1 2:1

548.91

547.69

DITCH ELEV. = 546.29'

13+00.00

555

554.42

12+50.00

565
560

559.63

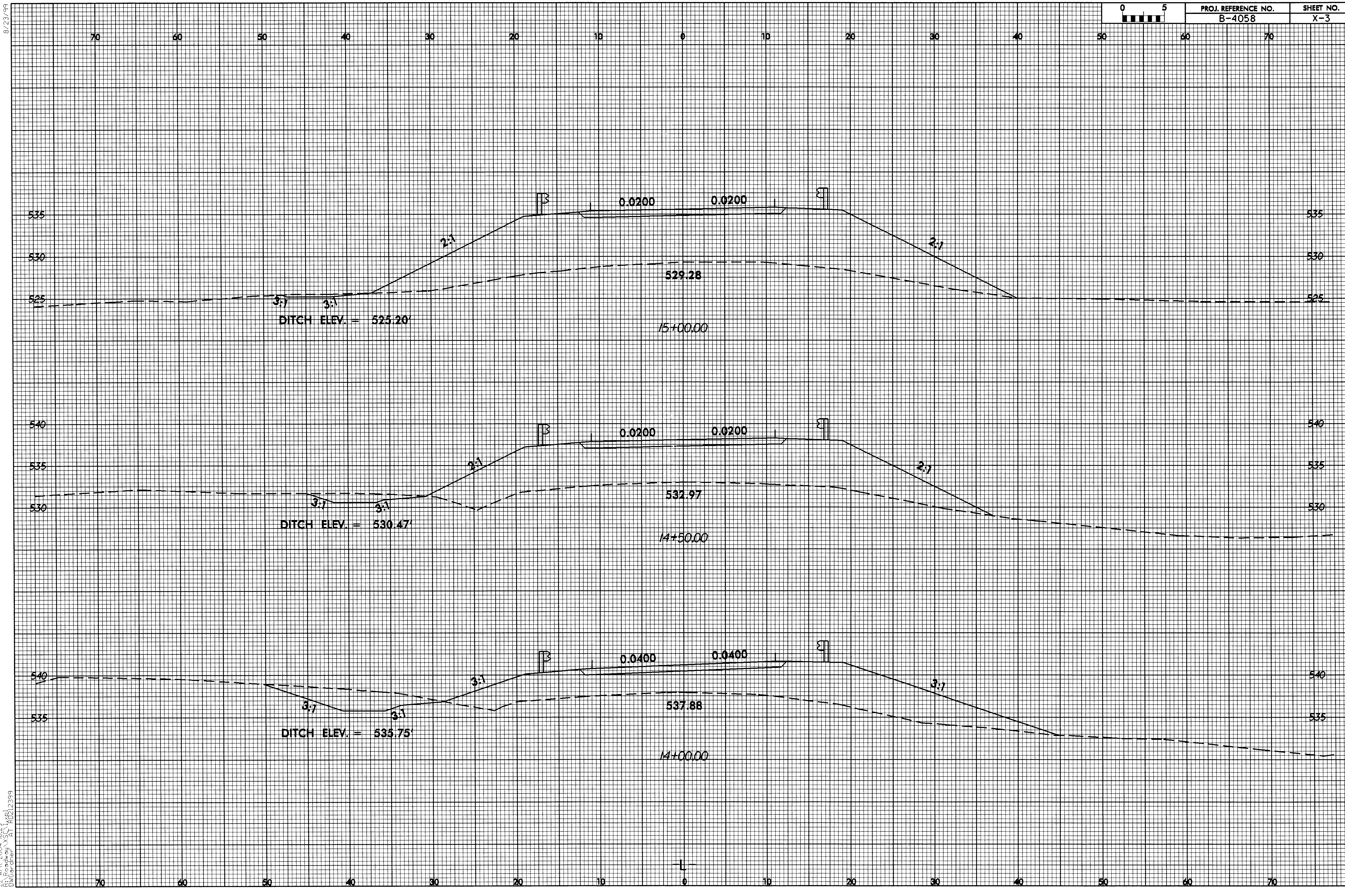
12+00.00

Approximate quantities only. Unclassified excavation, shoulder borrow, fine grading, clearing and grubbing, breaking of existing pavement and removal of existing pavement will be paid for at the contract lump sum price for "Grading".

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

22-APR-2004 16:28
R:\Roadway\XSECT.mpl
DWGardner AT RD21399

PROJ. REFERENCE NO.	SHEET NO.
B-4058	X-3



8/23/99

22-APR-2004 16:29
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DWGardner AT RD212399

8/23/99

0 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4058	X-4

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

BRIDGE

530 525 520

521.59
16+50.00

535 530 525

0.0200 0.0200

2:1 2:1

525.50
16+00.00

535 530 525

0.0200 0.0200

2:1 2:1

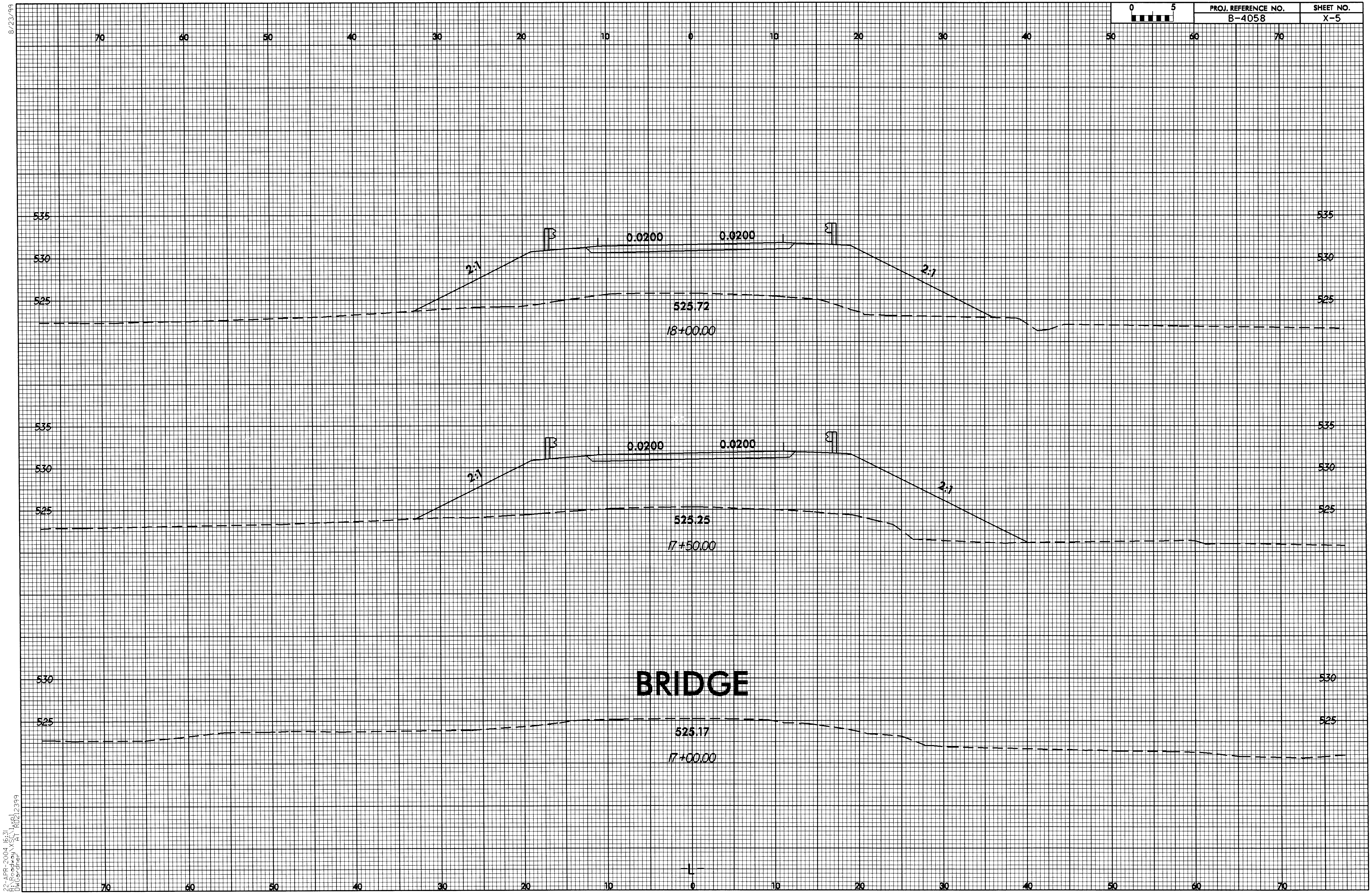
526.78
15+50.00

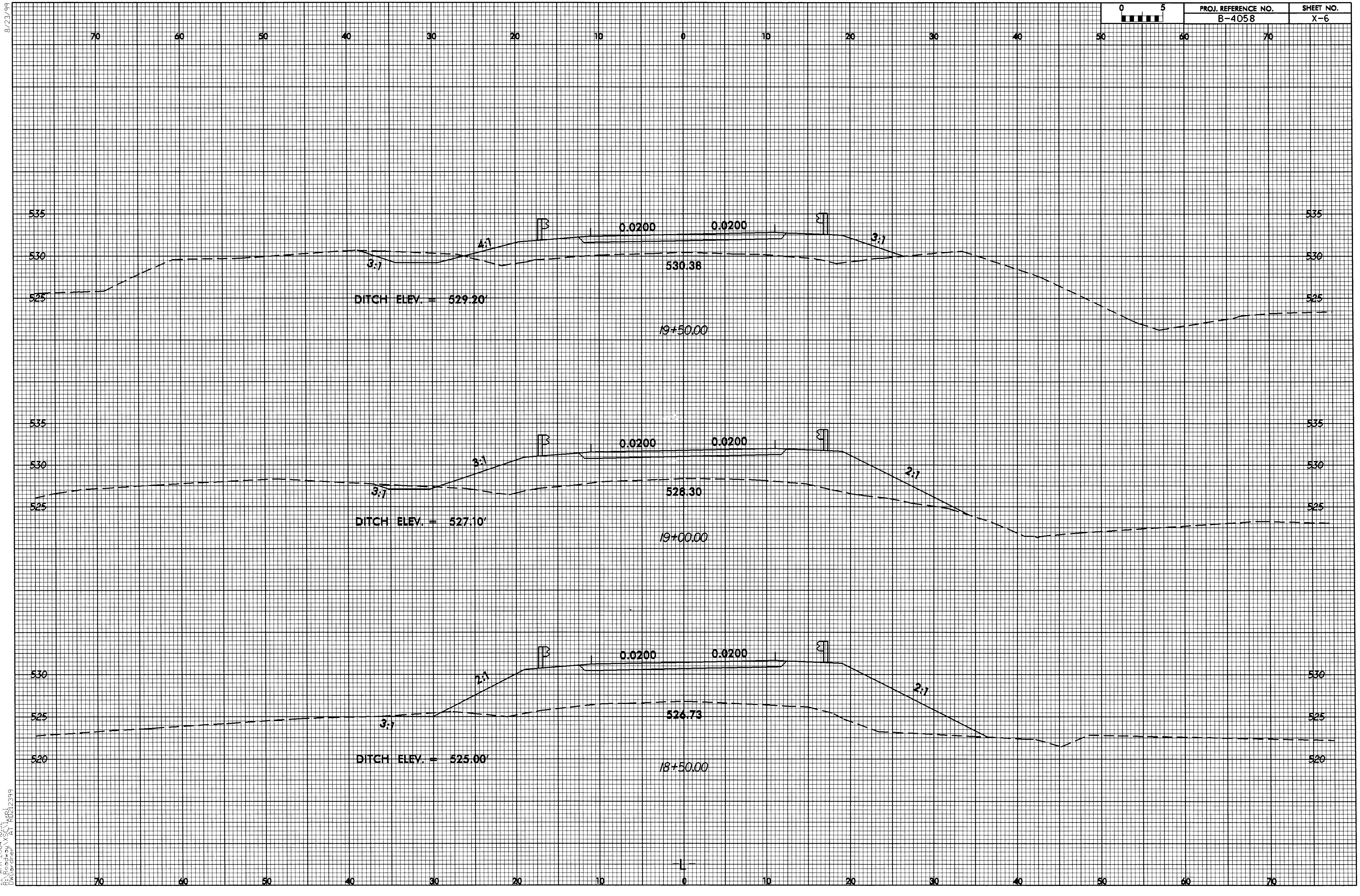
℄

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

22-APR-2004 16:31
R:\Roadway\SE\...\dgn
DWGordner AT RD212399

PROJ. REFERENCE NO.	SHEET NO.
B-4058	X-5





PROJ. REFERENCE NO.
B-4058
SHEET NO.
X-6
0 5
70 60 50 40 30 20 10 0 10 20 30 40 50 60 70
535
530
525
0.0200
0.0200
4:1
3:1
3:1
530.38
DITCH ELEV. = 529.20'
19+50.00
535
530
525
0.0200
0.0200
3:1
2:1
3:1
528.30
DITCH ELEV. = 527.10'
19+00.00
530
525
520
0.0200
0.0200
2:1
2:1
3:1
526.73
DITCH ELEV. = 525.00'
18+50.00
70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

8/23/99

0 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4058	X-7

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

545 540 535 540 535 530

542.60

22+00.00

540.22

DITCH ELEV. = 538.40'

21+50.00

537.88

2:1

DITCH ELEV. = 536.10'

535 530

21+00.00

540 535 530

DRIVE TIE

0.0200 0.0200

4:1

2:1

535.38

DITCH ELEV. = 538.80'

20+50.00

535 530

0.0200 0.0000

4:1

2:1

3:1

532.80

DITCH ELEV. = 531.50'

20+00.00

L

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

22-APR-2004 16:33
R:\Roadway\XSCU1.tpl
DWGardner AT RD212399