



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

November 9, 2007

US Army Corps of Engineers
Raleigh Field Office
6508 Falls of Neuse Road, Suite 120
Raleigh, NC 27615-6814

ATTENTION: Eric Alsmeyer
NCDOT Coordinator

Dear Sir:

Subject: **Application for Section 404 Nationwide 33 Permit, Section 401 Water Quality Certification, and Tar-Pamlico Riparian Buffer Authorization** for the replacement of Bridge No. 84 over the Tar River on SR 1141 (Moriah Road), Granville County. Federal Aid Project Number BRZ-11141 (10), WBS No. 33477.1.1, State Project No. 8.2371301, Division 5, T.I.P No. B-4124
Debit WBS No. 33477.1.1 \$240.00.

The North Carolina Department of Transportation (NCDOT) proposes to replace the 179-foot Bridge No. 84 over the Tar River with a new 3 span bridge approximately 232 feet in length. The new structure will be a 3-span 54-inch pre-stressed concrete girder bridge that will span the Tar River. The project will replace the current bridge with a new bridge slightly north of the existing bridge, while using an offsite detour to maintain traffic during construction. A temporary access road and workpad will be constructed to provide access for demolition of the old bridge and construction of the new bridge.

Please see the enclosed copies of the pre-construction notification (PCN), permit drawings, half size plan sheets, Categorical Exclusion (CE) document, Ecosystem Enhancement Program (EEP) letter, and Rapanos form.

IMPACTS TO WATERS OF THE UNITED STATES

The project is located in the Tar-Pamlico River Basin (subbasin 03-02-01). This area is part of Hydrologic Cataloging Unit 03020101 of the South Atlantic-Gulf Coast Region. The Tar River, DWQ Index # 28-(1), is the only water resource within the project area. The Tar River is assigned a Best Usage Classification of WS-IV NSW. No designated Outstanding Resource Waters (ORW), High Quality Waters (HQW), Water Supply I (WS-I), or Water Supply (WS-II), waters occur within 1.0 mile of the study corridor. This section of the Tar River is not listed as a 303(d) stream according to the Final 2006 303(d) list for the Tar-Pamlico River Basin nor does it drain into any 303(d) waters within 1-mile of the project.

MAILING ADDRESS:

NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
NATURAL ENVIRONMENT UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-715-1334 or
919-715-1335

FAX: 919-715-5501

WEBSITE: WWW.NCDOT.ORG

LOCATION:

2728 CAPITAL BLVD, SUITE 240
RALEIGH NC 27604

Permanent Impacts

There are no permanent impacts to streams or wetlands located within the project area.

Temporary Impacts

There will be 0.01 acres (32 feet) of surface water impacts resulting from the construction of a causeway that will provide a workpad to be used for removal of the interior bent located in the river. The workpad will be located between the stream bank and the interior bent and will be removed upon completion of construction.

Utility Impacts

There are no utility impacts associated with this project.

Bridge Demolition

The existing 5-span bridge was constructed in 1958 and is 179 feet in length. The superstructure consists of an asphalt-wearing surface, timber deck on steel I-beams supported by timber end bents and timber piles with concrete caps. The substructure is composed entirely of timber except for the concrete sills at the base of two of the three interior bents. One of the interior bents is located in the stream, one in the floodplain, and one adjacent to the stream. The interior bent located in the floodplain that does not have a monolithic concrete sill will be removed by sawing the timber piles flush with the existing ground. The two remaining interior bents have timber piles on concrete footings. One is located adjacent to the stream embankment. The other bent is located in the channel. The interior bent adjacent to the stream embankment will be removed by sawing the timber piles at the footing and leaving the footing in place. The interior bent located in the river may be removed by sawing the timber piles off at the base of the footing. The contractor will utilize a rock causeway (workpad) or timber matting between the stream bank and the interior bent for removal (Project Commitment, 10/07).

There is a small potential for components of Bridges No. 84 to be dropped into Waters of the United States during bridge removal. The maximum potential temporary fill is 25 cubic yards that will be immediately removed. The contractor may use a tarp placed around the interior bent to further minimize debris in the water (Project Commitments, 10/2007). Best Management Practices for Bridge Demolition and Removal will be implemented during demolition and construction.

IMPACTS TO TAR-PAMLICO RIPARIAN BUFFER

Construction of the new bridge and approaches will result in impacts to the buffers of the Tar River. Buffer impacts are described in Table 1 below. Under the Tar-Pamlico Buffer Rules: Site 1- impacts to buffers resulting from the construction of bridges are allowable and impacts resulting from construction of the approaches fall under road crossing impacts and are allowable due to the impacts being less than 150 feet or 1/3 of an acre. Sites 2 and 3 are impacts other than road crossings and require mitigation.

Table 1. Tar-Pamlico Buffer Impacts

	Bridge	Road Crossing*	Impacts other than Road Crossing
Zone 1 Impact (ft ²)	7052	0	1400
Zone 2 Impact (ft ²)	4995	260	3260
Mitigation requirements	Allowable	Allowable	Allowable with mitigation

*Road Crossing impacts total less than 1/3 acre

An existing roadbed will be used as a temporary access road for conveying construction equipment through the buffer to the causeway on the southeast side of the existing bridge (Project Commitments, 10/2007). On the northwest side of the existing bridge, a temporary road will be constructed to set the steel I-beams for the new bridge. Impacts occurring from the temporary road, on the northwest side of bridge, are included in the bridge construction buffer impacts.

This bridge has been determined to be structurally deficient. The replacement of this inadequate structure will result in safer and more efficient traffic operations. Because this bridge needs to be replaced, impacts to the riparian buffers are unavoidable. Compensatory mitigation for these buffer impacts will be provided through the EEP.

Utility Impacts to Riparian Buffers

A new overhead power and telephone pole line shall be installed further left of the existing overhead power and telephone pole line. This work will cross buffer zones 1 & 2 and will not be a perpendicular crossing of the buffers. No poles will be installed inside the buffers. The work will involve non-mechanical clearing of vegetation. The existing overhead power and telephone pole line will be dismantled and removed after the new line is put into service. Trees that are felled will be cut into 10-foot sections and left onsite. Trunks and limbs 8 inches or greater in diameter will be left in place. Any material less than this will be hauled out by hand.

Both crossings (Sites 1 and 2) fall under the exempt category for overhead electric line that are other than perpendicular crossings and the criteria for non-perpendicular crossing will be followed.

RESTORATION PLAN

Following construction of the bridge, all material used in the construction of the structure will be removed. The impact area associated with the bridge is expected to recover naturally, since the natural streambed and plant material will not be removed. NCDOT does not propose any additional planting in this area. Class II riprap and filter fabric will be used for bank stabilization. Pre-project elevations will be restored.

Following construction of the bridge, all material used in the construction of the structure will be removed. Class II riprap and filter fabric will be used for bank stabilization. Pre-project elevations will be restored.

REMOVAL AND DISPOSAL PLAN

The contractor will be required to submit a reclamation plan for the removal of and disposal of all material off-site at an upland location. The contractor will use excavation equipment for removal of any earthen material. Heavy-duty trucks, dozers, cranes and various other pieces of mechanical equipment necessary for construction of roadways and bridges will be used on site. The contractor will have the option of reusing any of the materials that the engineer deems suitable in the construction of project. After the erosion control devices are no longer needed, all temporary materials will become the property of the contractor.

MITIGATION OPTIONS

Avoidance and Minimization and Compensatory Mitigation

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining,

unavoidable jurisdictional impacts. Avoidance measures were taken during the planning and NEPA compliance stages; minimization measures were incorporated as part of the project design.

According to the Clean Water Act (CWA) §404(b)(1) guidelines, NCDOT must avoid, minimize, and mitigate, in sequential order, impacts to waters of the US. The following is a list of the project's jurisdictional stream and Tar-Pamlico Buffer avoidance/minimization activities proposed or completed by NCDOT:

Avoidance/Minimization

- Design Standards in Sensitive Watersheds will be implemented (Project Commitments, 10/2007).
- Best Management Practices for Protection of Surface Waters and for Demolition and Removal will be implemented.
- Traffic will be detoured offsite.
- Where possible, steeper fill slopes were used to reduce the footprint of the project reducing impacts to riparian buffers.
- Two preformed scour holes will be constructed on the northwest and northeast side of the bridge.
- No bents will be placed in the channel.
- A longer bridge will be constructed, which will allow for better floodplain access.
- Removal of the existing bents will take place when water flow level is at a minimum point allowable within the project schedule and will be done in such a manner to minimize disturbance to the streambed.
- Install special sediment control fence along the top of the stream bank. (Project Commitments, 10/07).
- Embankment construction and grading shall be managed in such a manner to prevent surface runoff/drainage from discharging in the riparian buffer at all times. All interim surfaces will be graded to drain to temporary erosion control devices. Temporary berms, ditches, etc. will be incorporated as necessary to prevent temporary runoff from discharging into the riparian buffer (Project Commitments, 10/07).

Compensatory Mitigation:

The project will only permanently impact riparian buffers. Compensatory mitigation is required for the 1,400 ft² of impact to Buffer Zone 1 and 3,260 ft² of impacts to Buffer Zone 2 categorized as "allowable with mitigation." Compensatory mitigation will be provided through the EEP (see attached letter dated 10/8/07). The offsetting mitigation will derive from an inventory of assets already in existence within the same 8-digit cataloguing unit.

FEDERALLY PROTECTED SPECIES

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE), and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. The United States Fish and Wildlife Service (USFWS) lists four species for Granville County. Table 2 lists the species and their federal status.

Table 2. Federally Protected Species in Granville County, NC

Common Name	Scientific Name	Federal Status*	Biological Conclusion	Habitat Present
Bald eagle	<i>Haliaeetus leucocephalus</i>	Delisted	N/A	No
Harperella	<i>Ptilimnium nodosum</i>	E	No Effect	Yes
Dwarf wedgemussel	<i>Alasmidonta heterodon</i>	E	May Affect Likely to Adversely Affect	Yes
Smooth Coneflower	<i>Echinacea laevigata</i>	E	No Effect	Yes

*E= endangered

Biological conclusions of “No Effect” were issued for the harperella and smooth coneflower based on marginal habitat, but no species of either plant were found. Marginal habitat is located within the project area for harperella along the edges of rocky shoals and for smooth coneflower along the roadside of Moriah Road. The most recent surveys were completed on August 9, 2006. No specimens of harperella or smooth coneflower were observed during survey, therefore, the biological conclusion of “No Effect” remains valid.

The bald eagle has been delisted as of August 8, 2007 and is not subject to Section 7 consultation and a biological conclusion is not required. However, the bald eagle remains protected by the Bald and Golden Eagle Protection Act. No nesting or foraging habitat for bald eagles is present.

A Biological Assessment (BA) was sent to the USFWS on September 4, 2007. The BA discusses the impacts of the bridge replacement project to the dwarf wedgemussel (DWM) and the avoidance and minimization measures that will be incorporated into the design and replacement of the bridge. In the BA, NCDOT concludes that the appropriate biological conclusion for the DWM is May Affect, Likely to Adversely Affect. The conclusion is based on documented occurrences of the DWM within the Tar River, unsuccessful attempts in locating DWM in the project area in 2004 and 2007 during surveys, and incorporation of the avoidance and minimization measures listed in the BA. The Biological Opinion (BO) was received on November 7, 2007 from the USFWS. The USFWS did agree with the BA and stated that the project, as proposed, is not likely to jeopardize the continued existence of the DWM. Copies of the BO have been provided to the USACE and North Carolina Wildlife Resources (NCWRC). Additional copies will be provided upon request.

NCDOT will complete a pre-construction mussel survey approximately 1-2 months prior to let. Any federally protected mussel species will be moved out of the project footprint (Project Commitments, 10/07).

SCHEDULE

The project calls for a letting of February 19, 2008 (review date of January 1, 2008) with a date of availability of April 1, 2008. It is expected that the contractor will choose to start construction in April.

REGULATORY APPROVALS

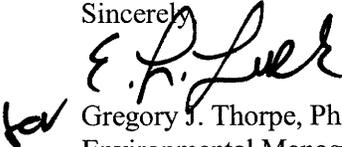
Section 404 Permit: Application is hereby made for the Department of Army Section 404 for the issuance of a Nationwide Permit 33 for the above-described activities

Section 401 Permit: We anticipate a 401 General Certification number 3688 will apply to this project. This project will also impact Tar-Pamlico Riparian Buffers, therefore written concurrence will be

required. In accordance with 15A NCAC 2H 0.0501(a) and 15A NCAC 2B 0.200 we are providing five copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, for review. In compliance with Section 143-215.3D(e) of the NCAC we will provide \$240.00 to act as payment for processing the Section 401 permit application.

Buffer Certification: The project has been designed to comply with the Tar-Pamlico Riparian Buffer Regulations (15A NCAC 2B.0212). NCDOT requests a Tar-Pamlico Riparian Buffer Authorization from the Division of Water Quality.

A copy of this permit application will be posted on the NCDOT Website at: <http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>. If you have any questions or need additional information, please call Deanna Riffey at (919) 715-1409.

Sincerely

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

W/attachment

Mr. John Hennessy, NCDWQ (5 Copies)
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS

W/o attachment (see Permits Website referenced above for copies of attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, Project Services Unit
Mr. J. Wally Bowman, PE, Division Engineer
Mr. Chris Murray, DEO
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Mr. Tracy Walters, PDEA
Ms. Beth Harmon, EEP
Mr. Todd Jones, NCDOT External Audit Branch

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 checked="" 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: NW 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: 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: 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. 84 over the Tar River on SR 1141
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4124
3. Property Identification Number (Tax PIN): N/A
4. Location
County: Granville Nearest Town: Berea
Subdivision name (include phase/lot number): _____
Directions to site (include road numbers/names, landmarks, etc.): see map in permit drawings
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.)
Decimal Degrees (6 digits minimum): 36.3103 °N 78.7509 °W
6. Property size (acres): N/A
7. Name of nearest receiving body of water: Tar River
8. River Basin: Tar-Pamilco
(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 land use in the surrounding area consists primarily of residential development with some forested areas.

10. Describe the overall project in detail, including the type of equipment to be used: Bridge No. 84 will be replaced slightly north of the existing location. Traffic will be detoured offsite during construction. Heavy duty excavation equipment will be used such as trucks, dozers, cranes and other various equipment necessary for roadway construction.

11. Explain the purpose of the proposed work: To replace a deteriorating 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. N/A

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.

N/A

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: see cover letter

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)
None					
Total Wetland Impact (acres)					

3. List the total acreage (estimated) of all existing wetlands on the property: _____
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 Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
Site 1	Tar River	Temporary Fill	P	40	32	0.01
Total Stream Impact (by length and acreage)					32	0.01

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)
Total Open Water Impact (acres)				

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

Stream Impact (acres):	0.01
Wetland Impact (acres):	0
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	0
Total Stream Impact (linear feet):	32

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. Please refer to the attached cover letter

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, 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.

Mitigation will be provided through EEP.

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://h2o.enr.state.nc.us/wrp/index.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): NA
Amount of buffer mitigation requested (square feet): 4,660
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 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 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 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 Tar-Pamilco)? Yes No
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	1400	3 (2 for Catawba)	4200
2	3260	1.5	4890
Total	4660		9090

* 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. Mitigation will be provided through EEP.

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. N/A

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)

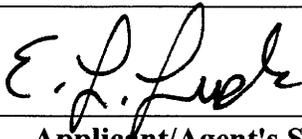
Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes No

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/nwetlands>. 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).

None



11.8.07

Applicant/Agent's Signature

Date

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

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: B-4124

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: NC County/parish/borough: Granville City: Berea
Center coordinates of site (lat/long in degree decimal format): Lat. 36.3103° N, Long. 78.7509° W
Universal Transverse Mercator:

Name of nearest waterbody: Tar River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Tar River

Name of watershed or Hydrologic Unit Code (HUC): Tar-Pamlico

- Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
 Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date:
 Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

- Waters subject to the ebb and flow of the tide.
 Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
 Wetlands adjacent to TNWs
 Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
 Non-RPWs that flow directly or indirectly into TNWs
 Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
 Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
 Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
 Impoundments of jurisdictional waters
 Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: 124 linear feet: 40 width (ft) and/or acres.
Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: Established by OHWM.

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain:

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: **Tar River**.

Summarize rationale supporting determination: Tar River is a navigable water of the US.

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: **Pick List**

Drainage area: **Pick List**

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵:

Tributary stream order, if known:

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):

Average width: feet
Average depth: feet
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover:
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: Pick List

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: Pick List

Estimate average number of flow events in review area/year: Pick List

Describe flow regime: .

Other information on duration and volume: .

Surface flow is: Pick List. Characteristics: .

Subsurface flow: Pick List. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: _____ acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N) Size (in acres) Directly abuts? (Y/N) Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 TNWs: 124 linear feet 40 width (ft), Or, acres.
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
 Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

- Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
 Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
 which are or could be used for industrial purposes by industries in interstate commerce.
 Interstate isolated waters. Explain: .
 Other factors. Explain: .

Identify water body and summarize rationale supporting determination:

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters: .
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

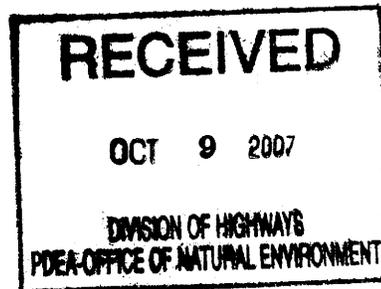
- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: .
- USDA Natural Resources Conservation Service Soil Survey. Citation: .
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): .
or Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD:



PROGRAM
October 8, 2007

Mr. Eric Alsmeyer
U. S. Army Corps of Engineers
Raleigh Regulatory Field Office
6508 Falls of the Neuse Road, Suite 120
Raleigh, North Carolina 27615

Dear Mr. Alsmeyer:

Subject: EEP Mitigation Acceptance Letter:

B-4124, Replace Bridge Number 84 on SR 1141 over the Tar River,
Granville County; Tar-Pamlico River Basin (Cataloging Unit 03020101);
Central Piedmont (CP) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the buffer mitigation for the unavoidable impact associated with the above referenced project. As indicated in the NCDOT's mitigation request dated October 3, 2007, buffer mitigation from EEP is required for 1,400 sq.ft. in Zone 1 and 3,260 sq.ft. in Zone 2.

Buffer mitigation associated with this project will be provided in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the N. C. Department of Environment and Natural Resources, the N. C. Department of Transportation, and the U. S. Army Corps of Engineers fully executed on March 8, 2007 (Tri-Party MOA). EEP commits to implement sufficient buffer credits to offset the impacts associated with this project by the end of the MOA year in which this project is permitted. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

William D. Gilmore, P.E.
EEP Director

cc: Mr. Gregory J. Thorpe, Ph.D., NCDOT-PDEA
Mr. John Hennessy, Division of Water Quality, Wetlands/401 Unit
File: B-4124



October 8, 2007

Mr. Gregory J. Thorpe, Ph.D.
Environmental Management Director
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

B-4124, Replace Bridge Number 84 on SR 1141 over the Tar
River, Granville County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the subject project. Based on the information supplied by you on October 3, 2007, the impacts are located in CU 03020101 of the Tar-Pamlico River Basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Buffer Zone 1:	1,400 sq.ft.
Buffer Zone 2:	3,260 sq.ft.

During the review of this request, it was noted the buffer in Zone 2 has increased from 2,459 sq.ft. to 3,260 sq.ft. EEP will provide the requested buffer mitigation.

EEP commits to implementing sufficient compensatory mitigation to offset the impacts associated with this project by the end of the MOA Year in which this project is permitted, in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, fully executed on March 8, 2007. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

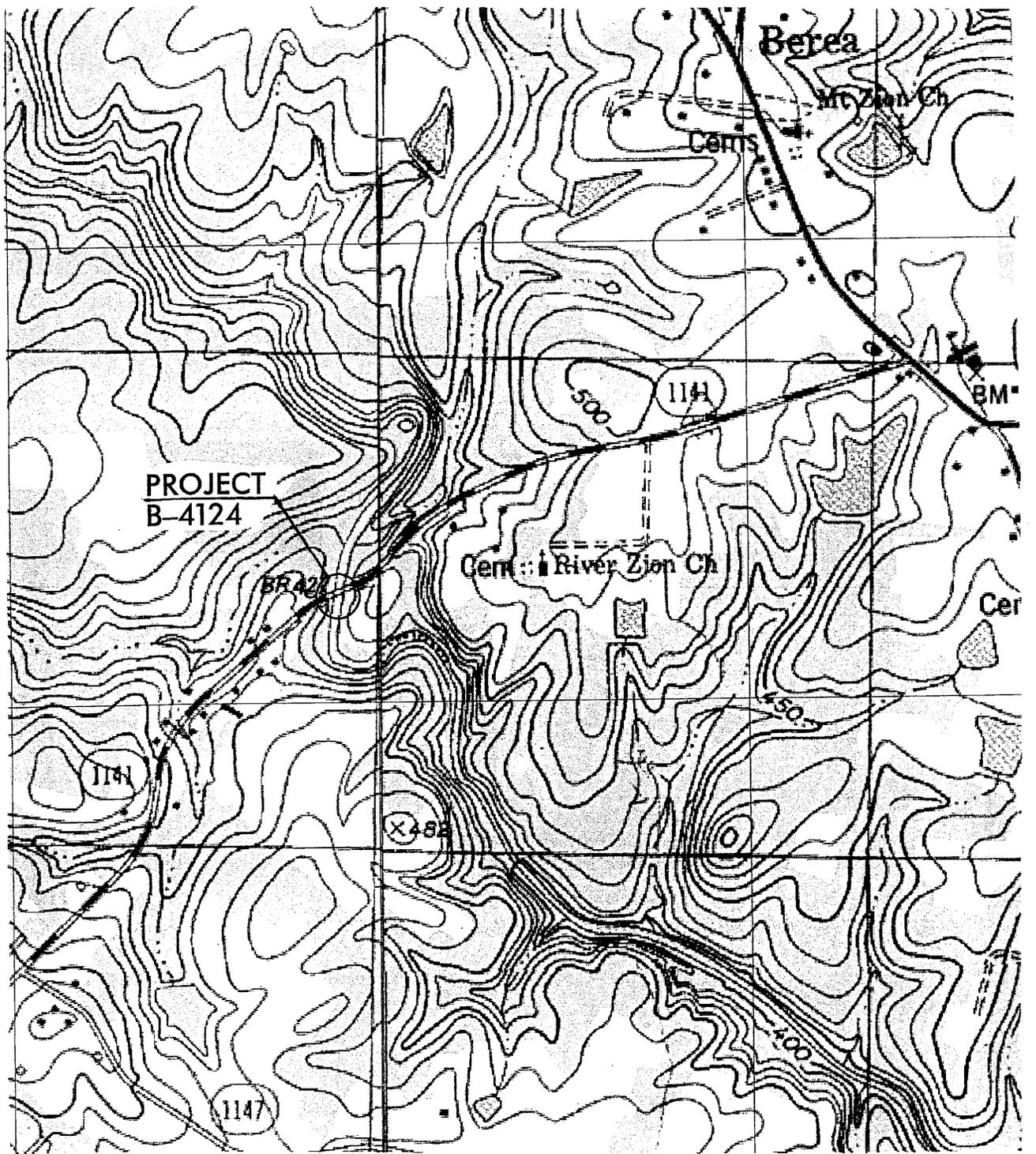
If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

A handwritten signature in black ink, appearing to read "William D. Gilmore". The signature is fluid and cursive, with a large initial "W" and a long, sweeping tail.

William D. Gilmore, P.E.
EEP Director

cc: Mr. Eric Alsmeyer, USACE – Raleigh
Mr. John Hennessy, Division of Water Quality, Wetlands/401 Unit
File: B-4124



TOPO MAP

SCALE: 1" : 1000'

NCDOT

DIVISION OF HIGHWAYS

GRANVILLE COUNTY

PROJECT: (B-4124)

BRIDGE NO. 84 OVER ON
SR 1141 OVER TAR RIVER

SHEET 2 OF 8

12 / 27 / 05

PROPERTY OWNERS

NAMES AND ADDRESSES

REFERENCE NO.	NAMES	ADDRESSES
1.	Edwin W. Melvin	3613 Dade St. Raleigh, NC 27612
2.	R.E. Pendergrass	5340 Tomahawk Rd. Harrells, NC 28444
3.	David Sanderson	P.O. Box 110 Harrells, NC 28444
4.	Norman Watson	3613 Dade St. Raleigh, NC 27612
5.	Josette Wessel	209 Bogue Landing Court Newport, NC 28570

NCDOT

DIVISION OF HIGHWAYS
GRANVILLE COUNTY
PROJECT: (B-4124)

BRIDGE NO.84 OVER ON
SR 1141 OVER TAR RIVER

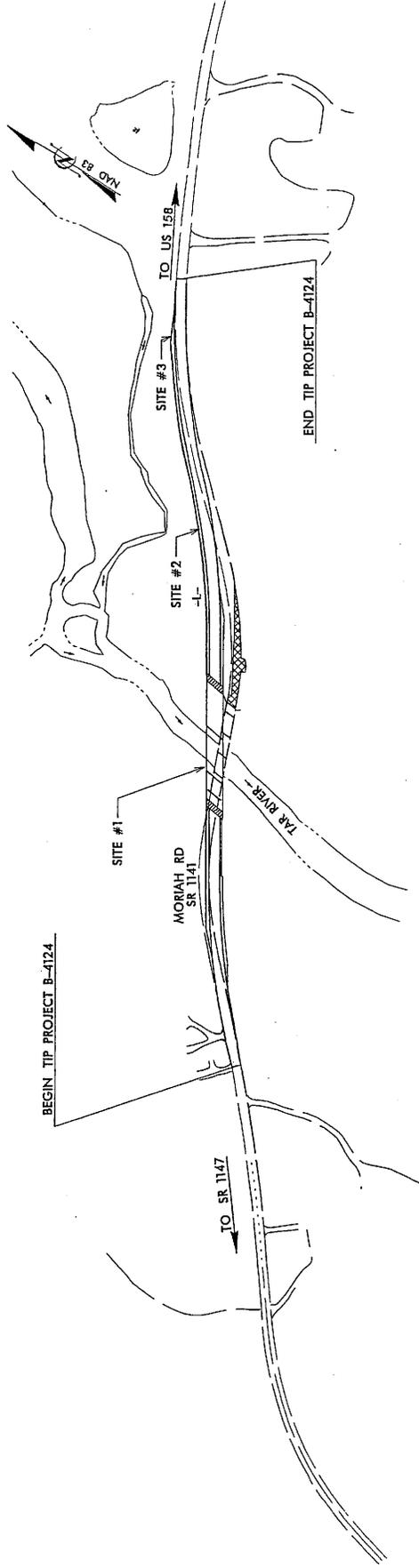
SHEET

3

OF

8

12 / 27 / 05



NCDOT

DIVISION OF HIGHWAYS
 GRANVILLE COUNTY
 PROJECT: (B-4124)

BRIDGE NO. 84 OVER ON
 SR 1141 OVER TAR RIVER

SITE MAP
 NOT TO SCALE

SHEET 4 OF 8

12 / 27 / 05

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)		
1	20+02 to 20+36	CAUSEWAY								0.01			32	
TOTALS:										0.01			32	

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 GRANVILLE COUNTY
 WBS - 33477.1.1 (B-4124)
 SHEET 5 OF 8 9/28/2007

STREAM & WETLAND IMPACTS

ENGLISH

 DENOTES TEMPORARY FILL IN SURFACE WATERS
 EXCAVATION OF ROADWAY FILL

CAUSEWAY QUANTITIES
 VOLUME OF CLASS II RIP RAP BELOW ORDINARY HIGH WATER = 22 YD³

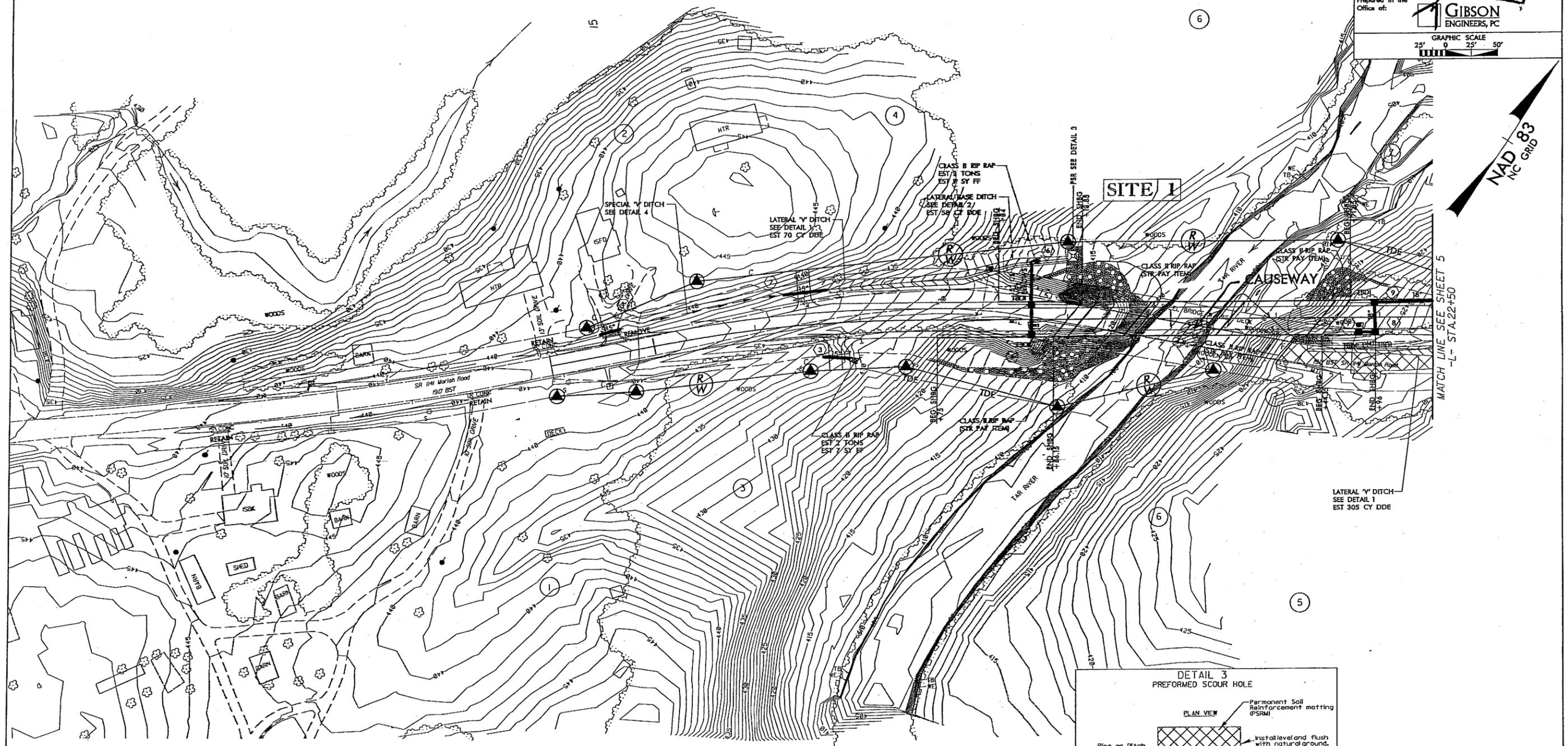
ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 7 of 8

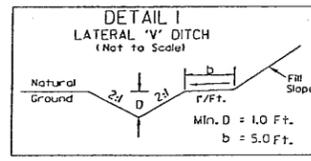
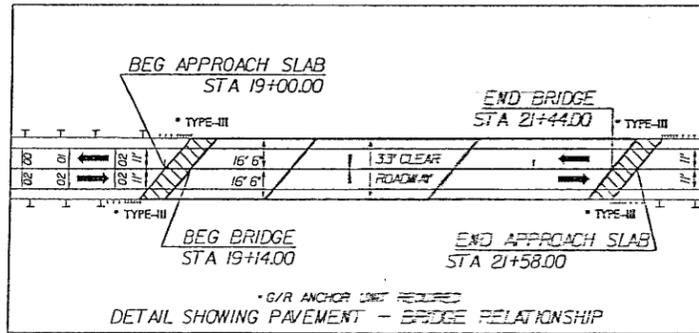
Prepared in the Office of: **GIBSON ENGINEERS, PC**

GRAPHIC SCALE
25' 0 25' 50'

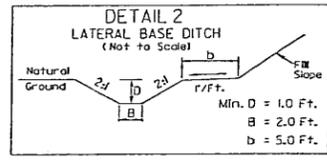


NAD 83
N.C. GRID

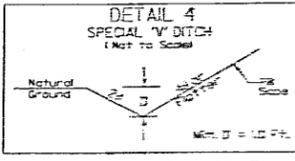
MATCH LINE SEE SHEET 5
-L- STA. 22+50



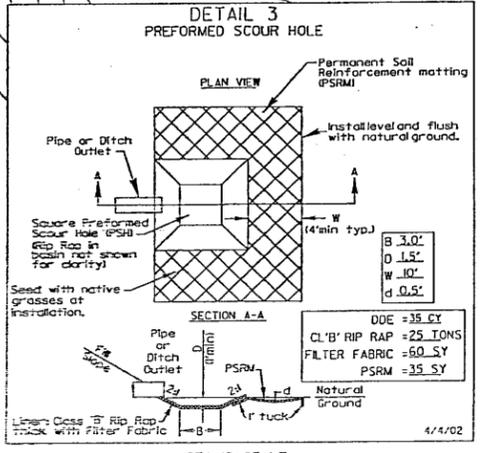
STA. 16+50 LT. TO STA. 18+00 LT.
STA. 21+30 RT. TO STA. 24+50 RT.



STA. 18+00 LT. TO STA. 19+00 LT.



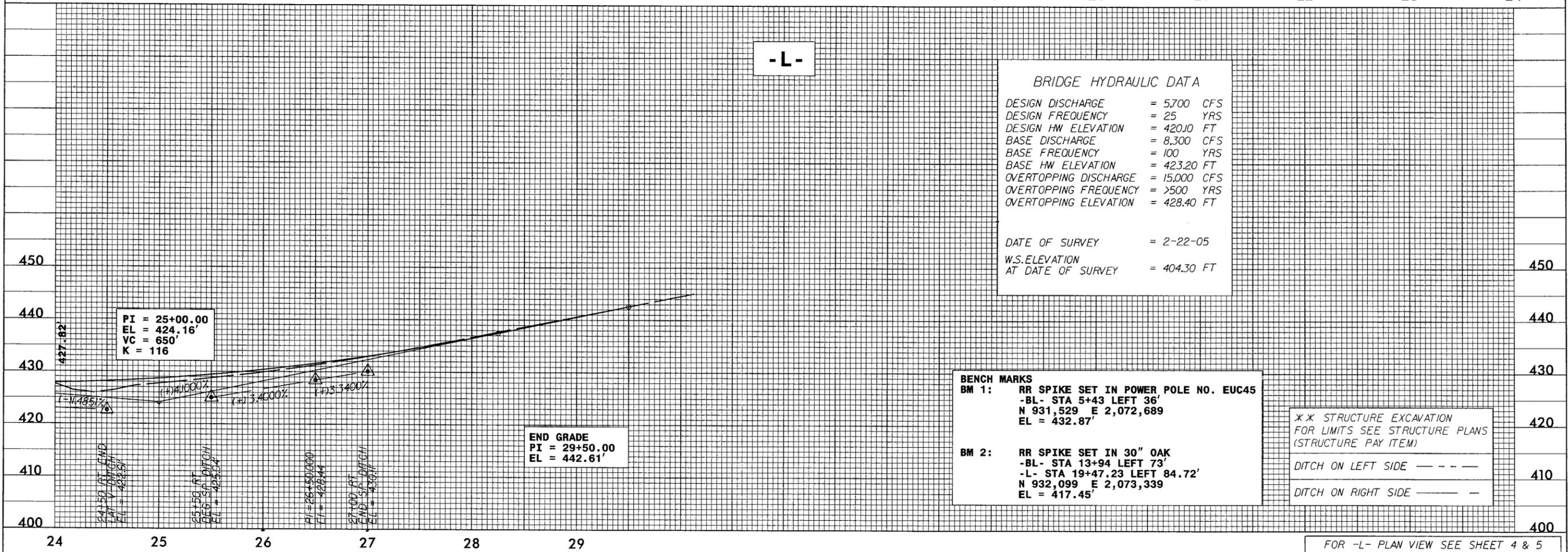
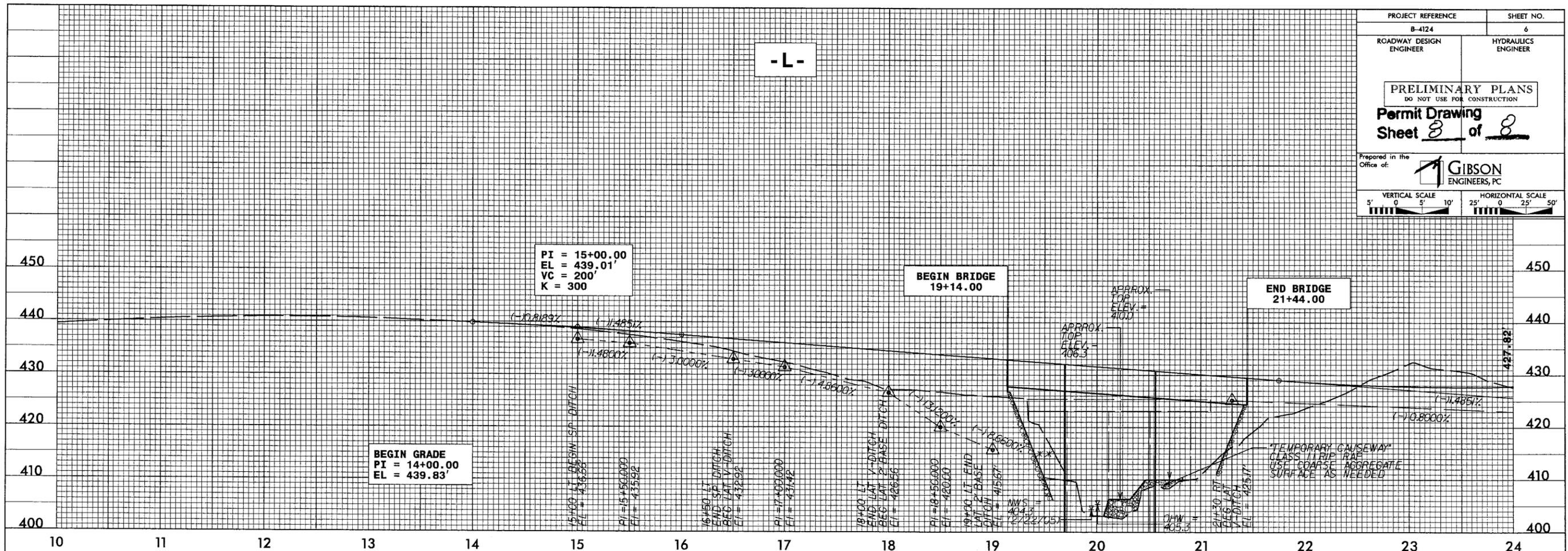
STA. 15+00 LT. TO STA. 16+50 LT.



STA. 19+05 LT.

NOTES:
 1) TAPER SHOULDERS PARALLEL TO GUARDRAIL WITH 3' OFFSET ON ALL FOUR CORNERS OF BRIDGE.
 2) SHBG DENOTES SHOULDER BERM GUTTER.

FOR -L- PROFILE SEE SHEET 6



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 5,700 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 420.10 FT
BASE DISCHARGE	= 8,300 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 423.20 FT
OVERTOPPING DISCHARGE	= 15,000 CFS
OVERTOPPING FREQUENCY	= >500 YRS
OVERTOPPING ELEVATION	= 428.40 FT

DATE OF SURVEY	= 2-22-05
W.S. ELEVATION AT DATE OF SURVEY	= 404.30 FT

BENCH MARKS

BM 1: RR SPIKE SET IN POWER POLE NO. EUC45
 -BL- STA 5+43 LEFT 36'
 N 931,529 E 2,072,689
 EL = 432.87'

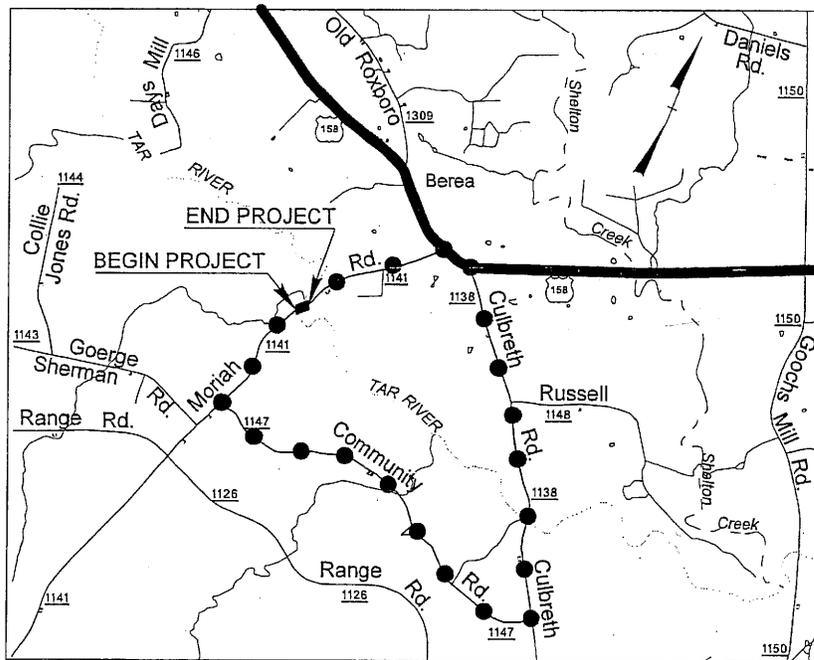
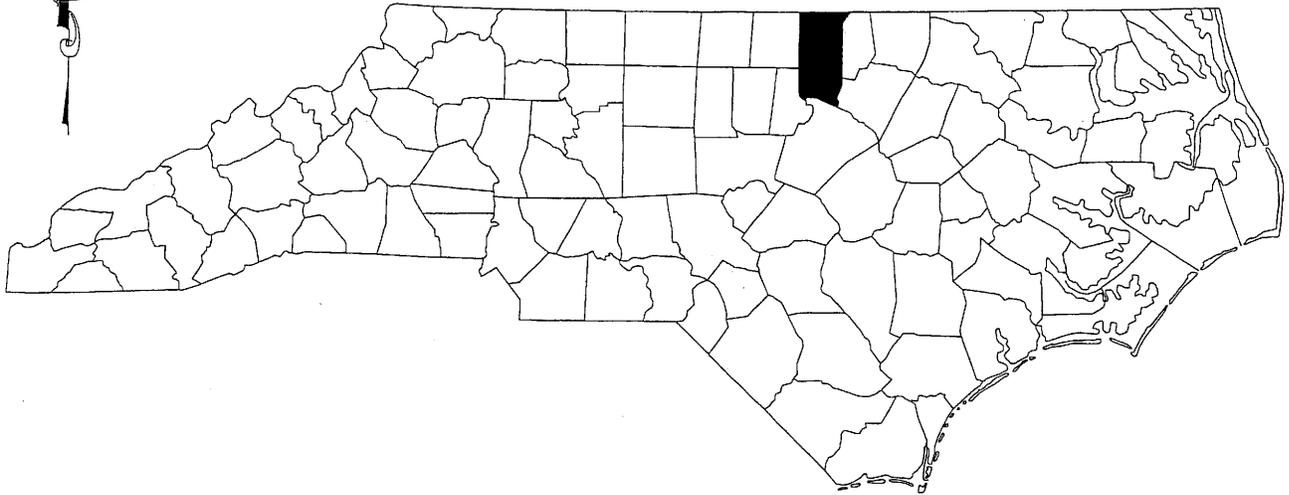
BM 2: RR SPIKE SET IN 30" OAK
 -BL- STA 13+94 LEFT 73'
 -L- STA 19+47.23 LEFT 84.72'
 N 932,099 E 2,073,339
 EL = 417.45'

XX STRUCTURE EXCAVATION FOR LIMITS SEE STRUCTURE PLANS (STRUCTURE PAY ITEM)

DITCH ON LEFT SIDE - - - - -

DITCH ON RIGHT SIDE - - - - -

NORTH CAROLINA



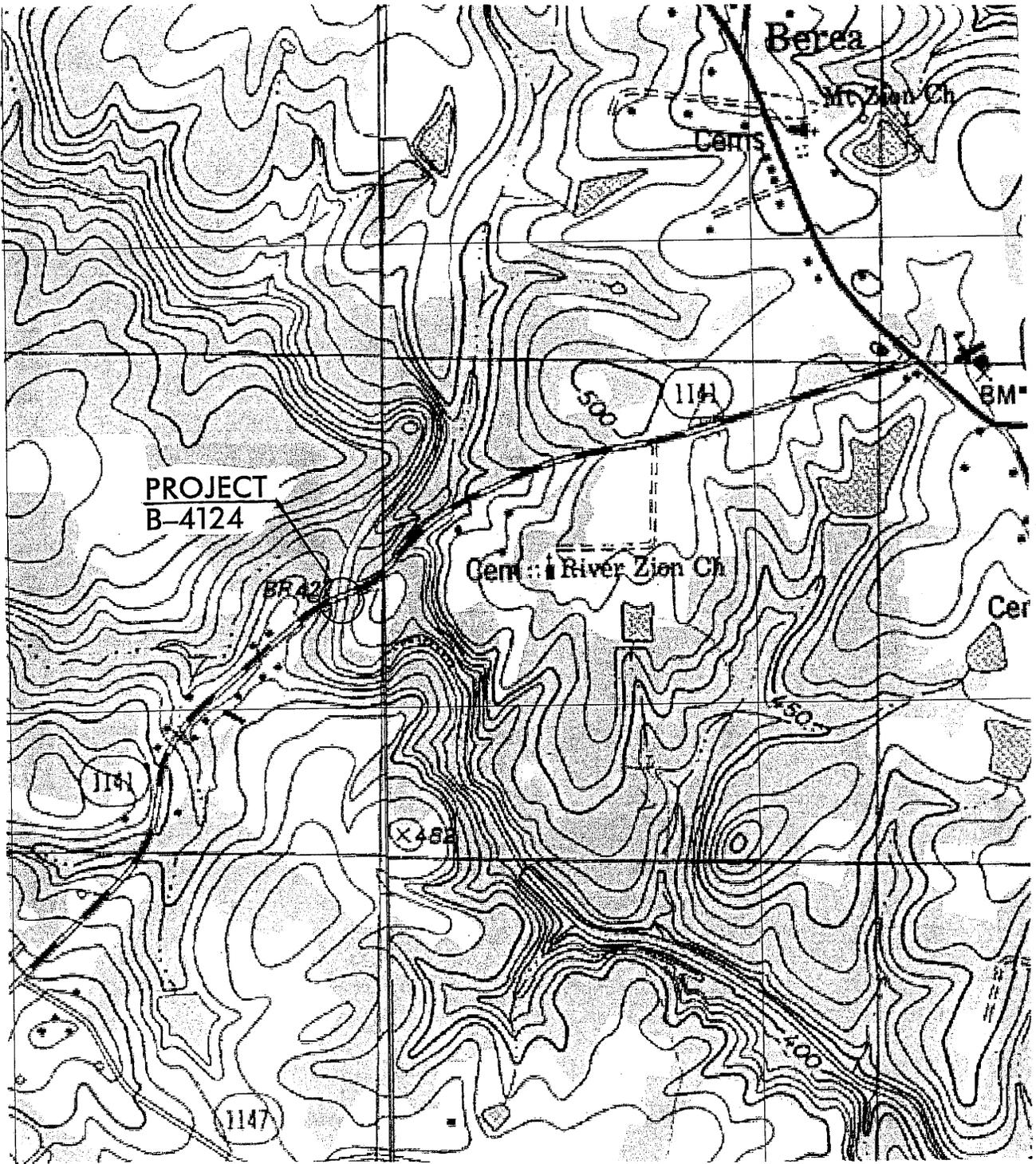
OFF-SITE DETOUR

(NOT TO SCALE)

BUFFER
VICINITY
MAPS

NCDOT
DIVISION OF HIGHWAYS
GRANVILLE COUNTY
PROJECT: (B-4124)

BRIDGE NO. 84 OVER ON
SR 1141 OVER TAR RIVER



TOPO MAP

SCALE: 1" : 1000'

NCDOT

DIVISION OF HIGHWAYS
 GRANVILLE COUNTY
 PROJECT: (B-4124)

BRIDGE NO. 84 OVER ON
 SR 1141 OVER TAR RIVER

PROPERTY OWNERS

NAMES AND ADDRESSES

REFERENCE NO.	NAMES	ADDRESSES
1.	Edwin W. Melvin	3613 Dade St. Raleigh, NC 27612
2.	R.E. Pendergrass	5340 Tomahawk Rd. Harrells, NC 28444
3.	David Sanderson	P.O. Box 110 Harrells, NC 28444
4.	Norman Watson	3613 Dade St. Raleigh, NC 27612
5.	Josette Wessel	209 Bogue Landing Court Newport, NC 28570

NCDOT

DIVISION OF HIGHWAYS

GRANVILLE COUNTY

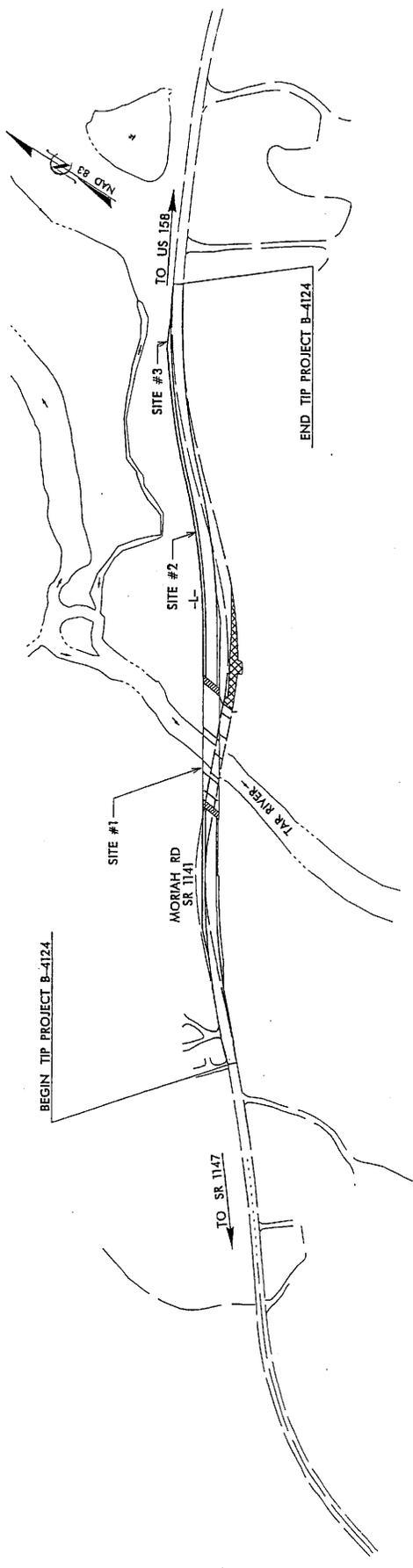
PROJECT: (B-4124)

BRIDGE NO.84 OVER ON
SR 1141 OVER TAR RIVER

SHEET

3 OF 7

12 / 27 / 05



NCDOT

DIVISION OF HIGHWAYS
 GRANVILLE COUNTY
 PROJECT: (B-4124)

BRIDGE NO. 84 OVER ON
 SR 1141 OVER TAR RIVER

SITE MAP
 NOT TO SCALE

SHEET 4 OF 7

12/27/05

BUFFER IMPACTS

-  DENOTES IMPACTS TO BUFFER ZONE 1 (ALLOWABLE)
-  DENOTES IMPACTS TO BUFFER ZONE 2 (ALLOWABLE)
-  DENOTES IMPACTS TO BUFFER ZONE 2 (MITIGABLE)
-  EXCAVATION OF ROADWAY FILL

ENGLISH

B-4124

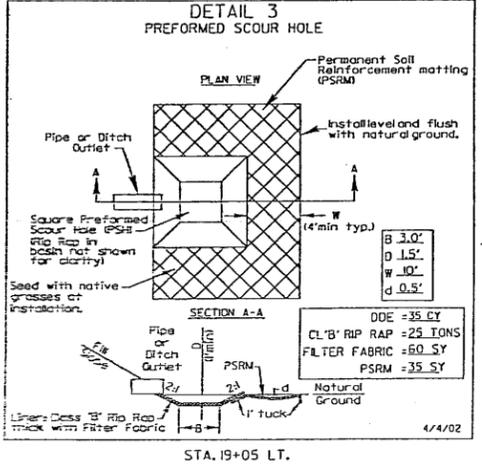
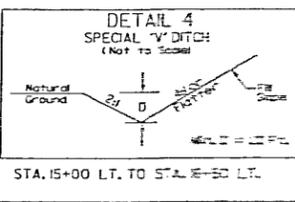
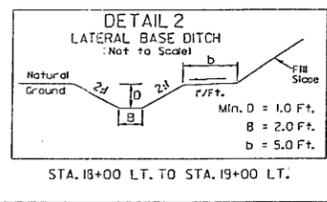
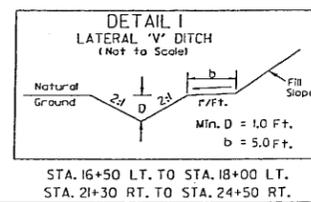
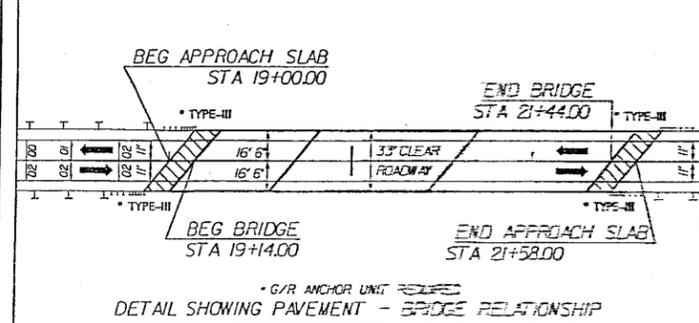
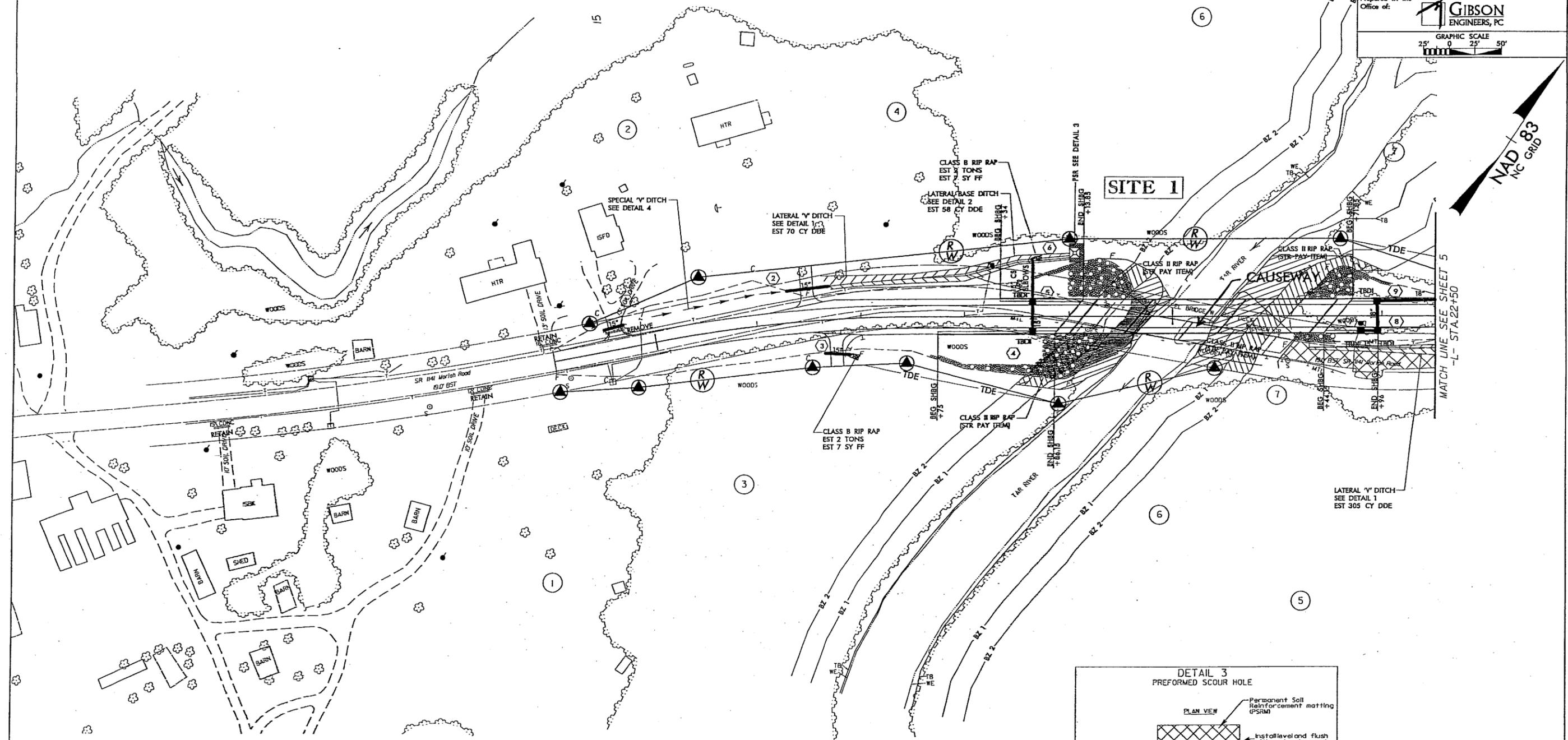
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Buffer Drawing
Sheet 6 of 7

Prepared in the Office of:
GIBSON ENGINEERS, PC

GRAPHIC SCALE
25' 0 25' 50'



NOTES:
1) TAPER SHOULDERS PARALLEL TO GUARDRAIL WITH 3' OFFSET ON ALL FOUR CORNERS OF BRIDGE.
2) SHBG DENOTES SHOULDER BERM GUTTER.

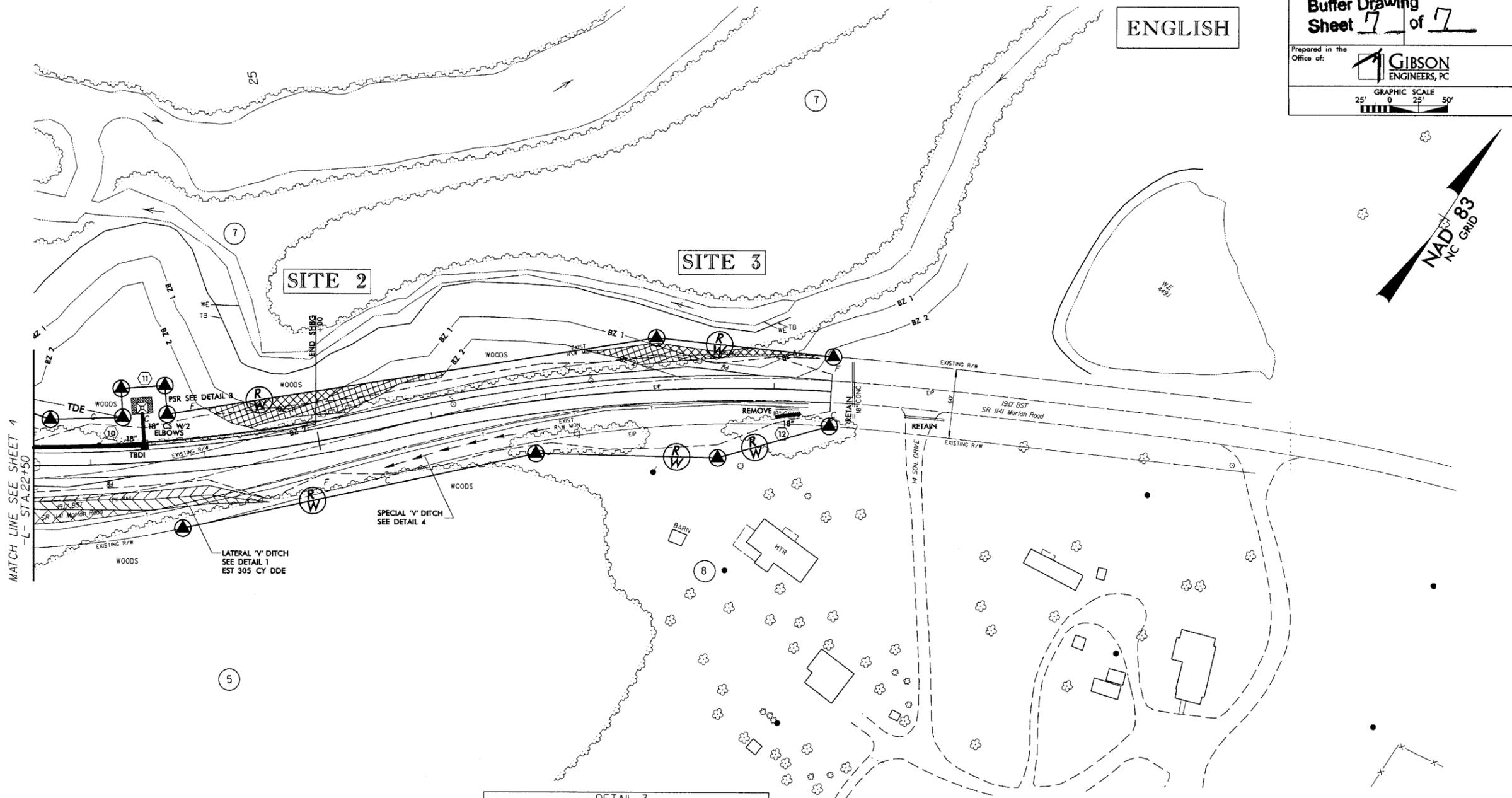
FOR -L- PROFILE SEE SHEET 6

BUFFER IMPACTS

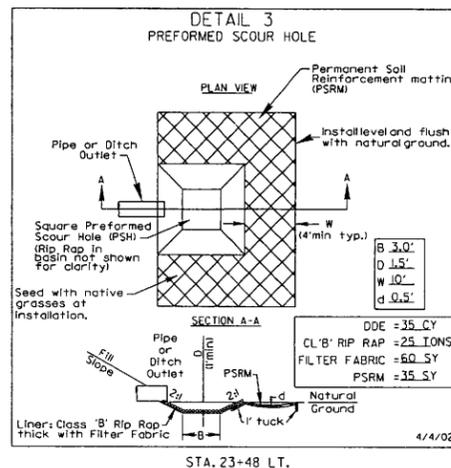
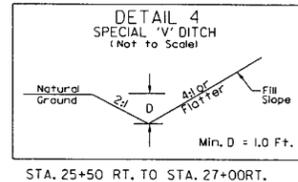
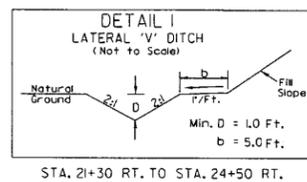
 DENOTES IMPACTS TO BUFFER ZONE 1 (MITIGABLE)
 DENOTES IMPACTS TO BUFFER ZONE 2 (MITIGABLE)

PROJECT REFERENCE	SHEET NO.
B-4124	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
Buffer Drawing Sheet 7 of 7	
Prepared in the Office of:	
	
GRAPHIC SCALE 25' 0 25' 50'	

ENGLISH



MATCH LINE SEE SHEET 4 -L- STA. 22+50



NOTE: SHBG DENOTES SHOULDER BERM GUTTER.

FOR -L- PROFILE SEE SHEET 6

09/08/99

SEE SHEET 1-A FOR INDEX OF SHEETS
SEE SHEET 1-B FOR CONVENTIONAL SYMBOLS

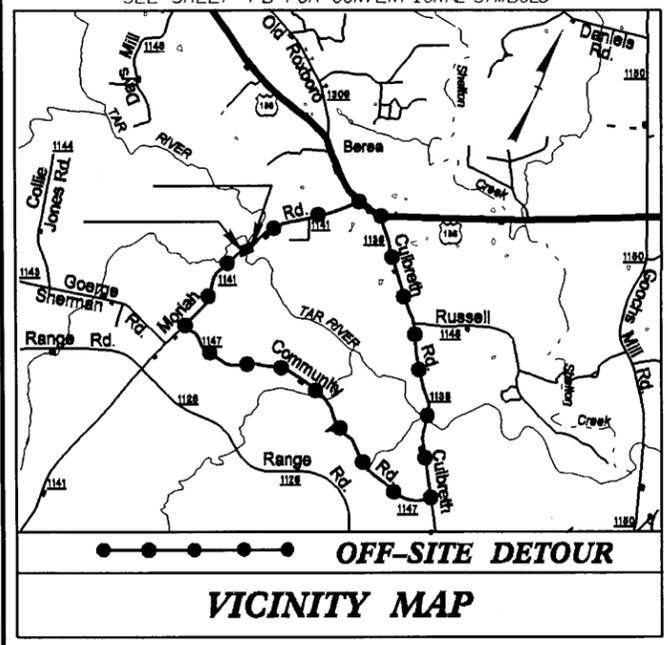
T.I.P. NO.	SHEET NO.
B-4124	P-01

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

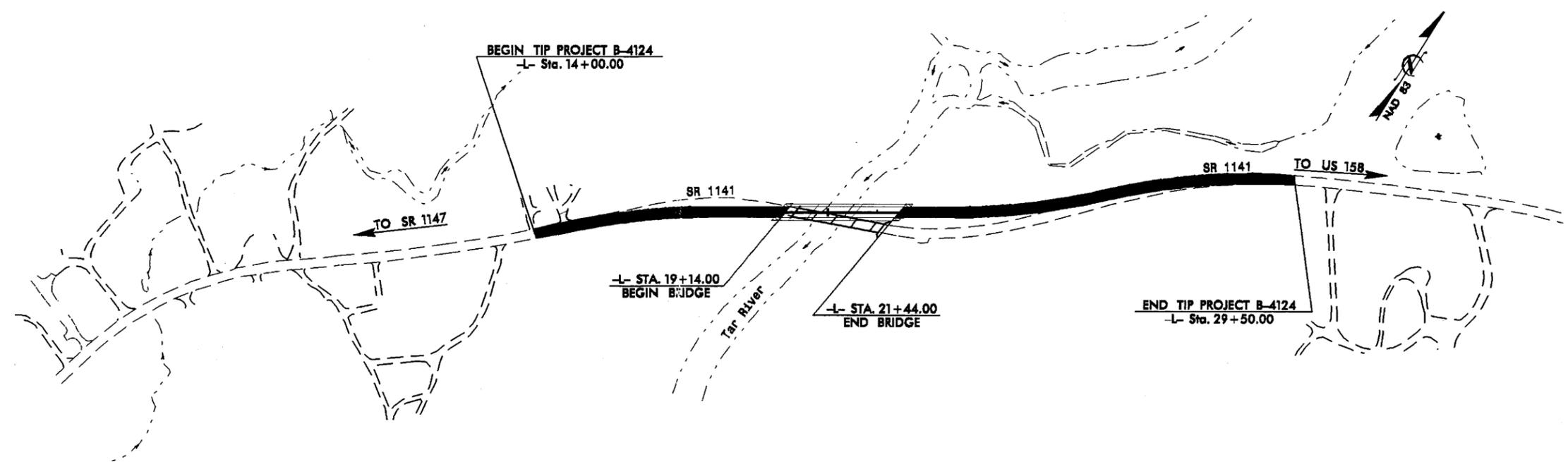
PERMIT DRAWING
GRANVILLE COUNTY

LOCATION: BRIDGE NO. 84 ON SR 1141 OVER
TAR RIVER

TYPE OF WORK: UTILITIES



TIP B-4124



12-MAR-2007 11:16
I:\GIS\Projects\proj\B4124_ut_title_uol_psh_pds.dgn
USER:RAME \$\$\$

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
P-01	TITLE SHEET
P-02 THRU P-03	PERMIT DRAWINGS

UTILITY OWNERS ON PROJECT
(1) PROGRESS ENERGY
(2) SPRINT



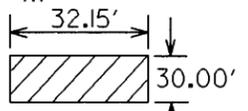
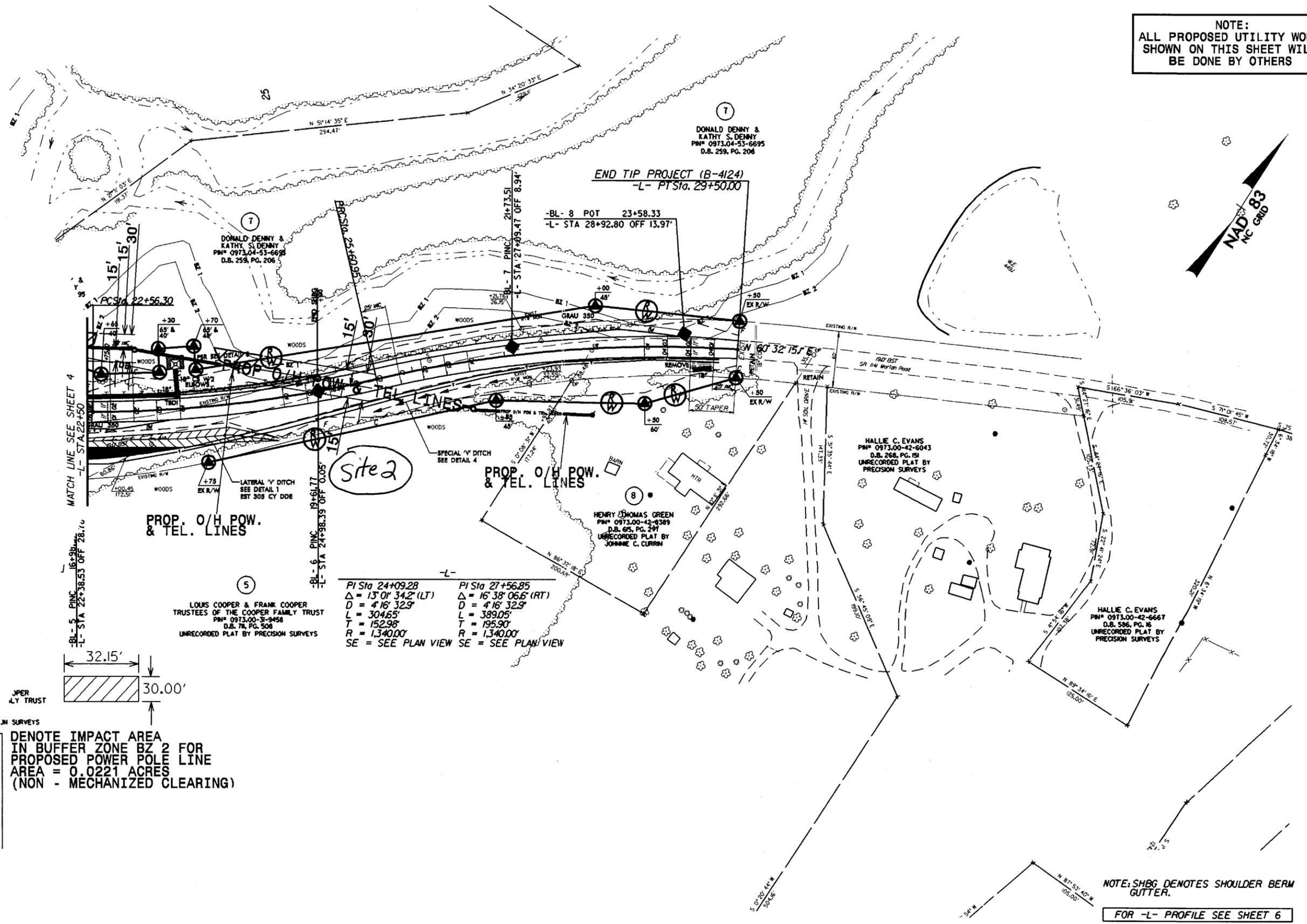
PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
DESIGN SERVICES
UTILITY SECTION

1501 MAIL SERVICES CENTER
RALPHIGH NC 27699-1501
PHONE (919) 254-4124
FAX (919) 254-4119

<u>Roger Worthington, P.E.</u>	UTILITIES SECTION ENGINEER
<u>Steve Mches, P.E.</u>	UTILITIES SQUAD LEADER PROJECT ENGINEER
<u>Alonza Yancy</u>	UTILITIES PROJECT DESIGNER

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS



IN SURVEYS
DENOTE IMPACT AREA
IN BUFFER ZONE BZ 2 FOR
PROPOSED POWER POLE LINE
AREA = 0.0221 ACRES
(NON - MECHANIZED CLEARING)

PI Sta 24+09.28 Δ = 13° 0' 34.2" (LT) D = 4' 16" 32.9" L = 304.65' T = 152.98' R = 1,340.00'	PI Sta 27+56.85 Δ = 16° 38' 06.6" (RT) D = 4' 16" 32.9" L = 389.05' T = 195.90' R = 1,340.00'
SE = SEE PLAN VIEW	SE = SEE PLAN VIEW

5/14/03
 r:\nu\27-jun-2007_07h13_1b-h124_rdy-p.sh5.pds.dgn

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJECT REFERENCE B-4124	SHEET NO. 1-A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Prepared in the Office of:	
	

GENERAL NOTES: 2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-18-06

**GRADE LINE:
GRADING AND SURFACING:**

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE Carolina Power & Light, and Carolina Telephone & Telegraph.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

EFF. 07-18-06
REV. 01-02-07

2006 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
816.01	Concrete Pads - for Shoulder Drain Installation
816.04	Markers for Drainage Structure and Concrete Pad
840.00	Concrete Base Pad for Drainage Structures
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drainage Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARDS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	TYPICAL SECTIONS, AND PAVEMENT SCHEDULE
2-A	ANCHORAGE FOR FRAMES DETAIL
3	SUMMARY OF QUANTITIES
3-A	EARTHWORK, PAVEMENT REMOVAL, AND GUARDRAIL SUMMARIES
3-B	DRAINAGE SUMMARY
3-C	PARCEL INDEX SHEET
4-5	PLAN SHEETS
6	PROFILE SHEET
TCP-1 THRU TCP-	TRAFFIC CONTROL PLANS
PM-1 THRU PM-	PAVEMENT MARKING PLANS
EC-1 THRU EC-	EROSION CONTROL PLANS
UO-1 THRU UO-	UTILITIES BY OTHERS PLANS
X-1A	CROSS SECTION SUMMARY SHEET
X-1 THRU X-9	CROSS SECTIONS
S-1 THRU S-	STRUCTURE PLANS

Note: Not to Scale

*S.U.E. = *Subsurface Utility Engineering*

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	_____
County Line	_____
Township Line	_____
City Line	_____
Reservation Line	_____
Property Line	_____
Existing Iron Pin	_____ 
Property Corner	_____ 
Property Monument	_____ 
Parcel/Sequence Number	_____ 
Existing Fence Line	_____ 
Proposed Woven Wire Fence	_____ 
Proposed Chain Link Fence	_____ 
Proposed Barbed Wire Fence	_____ 
Existing Wetland Boundary	_____ 
Proposed Wetland Boundary	_____ 
Existing Endangered Animal Boundary	_____ 
Existing Endangered Plant Boundary	_____ 

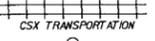
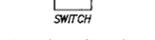
BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	_____ 
Sign	_____ 
Well	_____ 
Small Mine	_____ 
Foundation	_____ 
Area Outline	_____ 
Cemetery	_____ 
Building	_____ 
School	_____ 
Church	_____ 
Dam	_____ 

HYDROLOGY:

Stream or Body of Water	_____
Hydro, Pool or Reservoir	_____ 
Jurisdictional Stream	_____ 
Buffer Zone 1	_____ 
Buffer Zone 2	_____ 
Flow Arrow	_____ 
Disappearing Stream	_____ 
Spring	_____ 
Wetland	_____ 
Proposed Lateral, Tail, Head Ditch	_____ 
False Sump	_____ 

RAILROADS:

Standard Gauge	_____ 
RR Signal Milepost	_____ 
Switch	_____ 
RR Abandoned	_____ 
RR Dismantled	_____ 

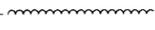
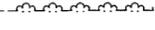
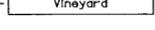
RIGHT OF WAY:

Baseline Control Point	_____ 
Existing Right of Way Marker	_____ 
Existing Right of Way Line	_____ 
Proposed Right of Way Line	_____ 
Proposed Right of Way Line with Iron Pin and Cap Marker	_____ 
Proposed Right of Way Line with Concrete or Granite Marker	_____ 
Existing Control of Access	_____ 
Proposed Control of Access	_____ 
Existing Easement Line	_____ 
Proposed Temporary Construction Easement	_____ 
Proposed Temporary Drainage Easement	_____ 
Proposed Permanent Drainage Easement	_____ 
Proposed Permanent Utility Easement	_____ 

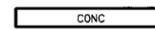
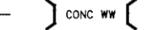
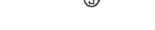
ROADS AND RELATED FEATURES:

Existing Edge of Pavement	_____
Existing Curb	_____
Proposed Slope Stakes Cut	_____ 
Proposed Slope Stakes Fill	_____ 
Proposed Wheel Chair Ramp	_____ 
Proposed Wheel Chair Ramp Curb Cut	_____ 
Curb Cut for Future Wheel Chair Ramp	_____ 
Existing Metal Guardrail	_____ 
Proposed Guardrail	_____ 
Existing Cable Guiderail	_____ 
Proposed Cable Guiderail	_____ 
Equality Symbol	_____ 
Pavement Removal	_____ 

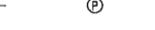
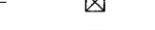
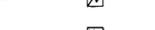
VEGETATION:

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

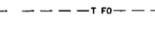
EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	_____ 
Bridge Wing Wall, Head Wall and End Wall	_____ 
MINOR:	
Head and End Wall	_____ 
Pipe Culvert	_____ 
Footbridge	_____ 
Drainage Box: Catch Basin, DI or JB	_____ 
Paved Ditch Gutter	_____ 
Storm Sewer Manhole	_____ 
Storm Sewer	_____ 

UTILITIES:

POWER:	
Existing Power Pole	_____ 
Proposed Power Pole	_____ 
Existing Joint Use Pole	_____ 
Proposed Joint Use Pole	_____ 
Power Manhole	_____ 
Power Line Tower	_____ 
Power Transformer	_____ 
U/G Power Cable Hand Hole	_____ 
H-Frame Pole	_____ 
Recorded U/G Power Line	_____ 
Designated U/G Power Line (S.U.E.*)	_____ 

TELEPHONE:

Existing Telephone Pole	_____ 
Proposed Telephone Pole	_____ 
Telephone Manhole	_____ 
Telephone Booth	_____ 
Telephone Pedestal	_____ 
Telephone Cell Tower	_____ 
U/G Telephone Cable Hand Hole	_____ 
Recorded U/G Telephone Cable	_____ 
Designated U/G Telephone Cable (S.U.E.*)	_____ 
Recorded U/G Telephone Conduit	_____ 
Designated U/G Telephone Conduit (S.U.E.*)	_____ 
Recorded U/G Fiber Optics Cable	_____ 
Designated U/G Fiber Optics Cable (S.U.E.*)	_____ 

WATER:

Water Manhole	_____ 
Water Meter	_____ 
Water Valve	_____ 
Water Hydrant	_____ 
Recorded U/G Water Line	_____ 
Designated U/G Water Line (S.U.E.*)	_____ 
Above Ground Water Line	_____ 

TV:

TV Satellite Dish	_____ 
TV Pedestal	_____ 
TV Tower	_____ 
U/G TV Cable Hand Hole	_____ 
Recorded U/G TV Cable	_____ 
Designated U/G TV Cable (S.U.E.*)	_____ 
Recorded U/G Fiber Optic Cable	_____ 
Designated U/G Fiber Optic Cable (S.U.E.*)	_____ 

GAS:

Gas Valve	_____ 
Gas Meter	_____ 
Recorded U/G Gas Line	_____ 
Designated U/G Gas Line (S.U.E.*)	_____ 
Above Ground Gas Line	_____ 

SANITARY SEWER:

Sanitary Sewer Manhole	_____ 
Sanitary Sewer Cleanout	_____ 
U/G Sanitary Sewer Line	_____ 
Above Ground Sanitary Sewer	_____ 
Recorded SS Forced Main Line	_____ 
Designated SS Forced Main Line (S.U.E.*)	_____ 

MISCELLANEOUS:

Utility Pole	_____ 
Utility Pole with Base	_____ 
Utility Located Object	_____ 
Utility Traffic Signal Box	_____ 
Utility Unknown U/G Line	_____ 
U/G Tank; Water, Gas, Oil	_____ 
A/G Tank; Water, Gas, Oil	_____ 
U/G Test Hole (S.U.E.*)	_____ 
Abandoned According to Utility Records	_____ 
End of Information	_____ 

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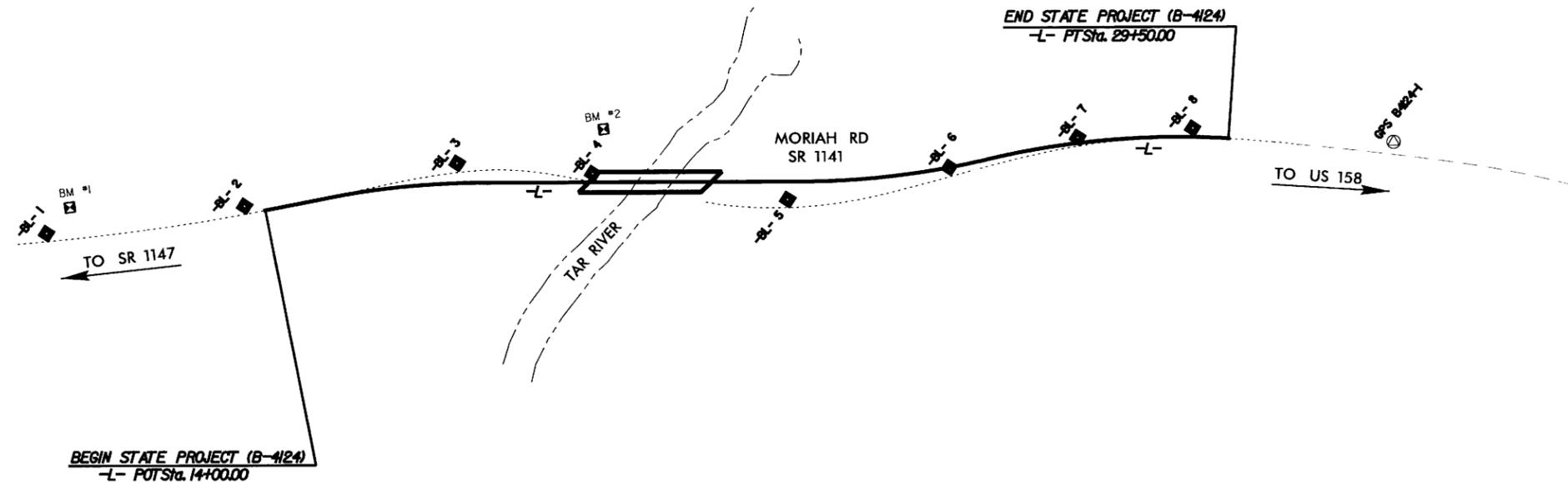
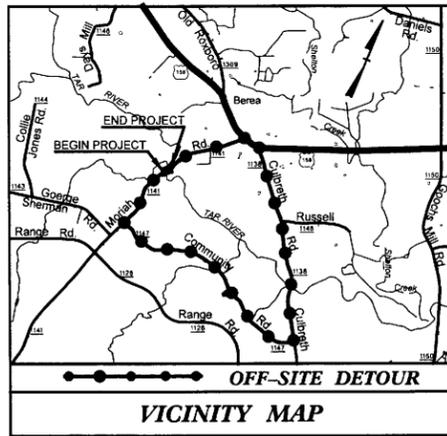
SURVEY CONTROL SHEET B-4124

GRANVILLE COUNTY

BRIDGE NO. 84 ON SR 1141 OVER TAR RIVER

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

B-4124



.....
 BM1 ELEVATION = 432.87
 N 931529 E 2072689
 L STATION 10+90 51 LEFT

 BM2 ELEVATION = 417.45
 N 932099 E 2073339
 L STATION 19+47 85 LEFT

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1		931473.6169	2072679.5628	439.88	10+47.56	13.37 LT
2	BL-2		931682.6208	2072921.9542	439.19	13+68.93	12.81 LT
3	BL-3		931925.4484	2073170.6827	432.84	17+12.51	31.87 LT
4	BL-4		932029.5206	2073362.3727	424.87	19+28.90	13.75 LT
5	BL-5		932162.8423	2073645.0431	426.67	22+38.53	28.78 RT
6	BL-6		932346.3617	2073834.0651	427.67	24+98.39	0.05 LT
7	BL-7		932498.3341	2073981.4992	432.99	27+09.47	8.94 LT
8	BL-8		932610.5470	2074128.3526	448.12	28+92.80	13.97 LT

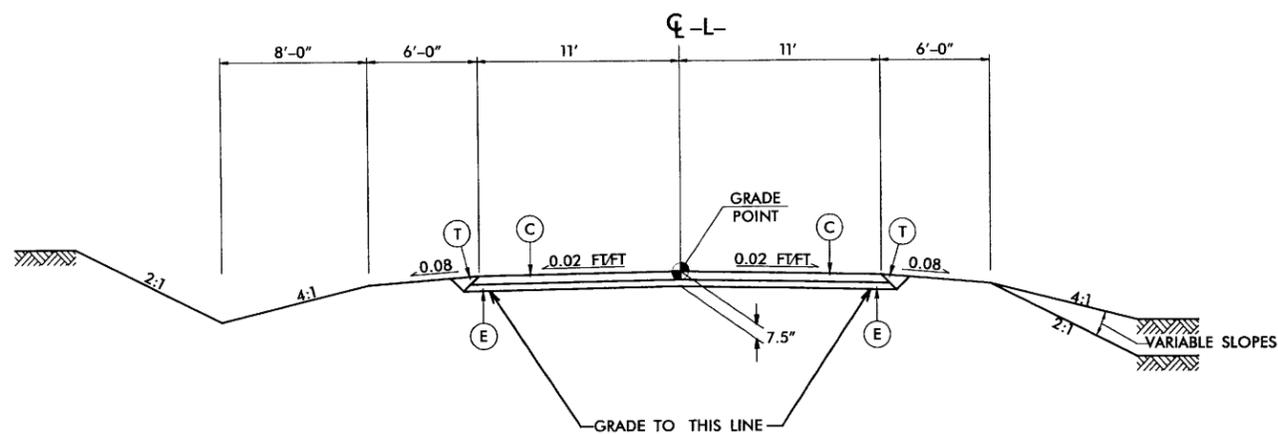
DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4124-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 932767.0779(11) EASTING: 2074411.4614(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00002631 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4124-1" TO L- STATION 14+00 IS S 53°40'23.2"W, 1810.04' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTES:

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/B4124_LS_CONTROL_0503023.TXT](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/B4124_LS_CONTROL_0503023.TXT)
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
 ⊕ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING USER SERVICE (OPUS)
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

5/2/95
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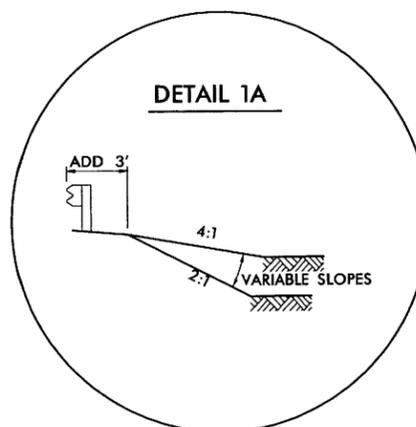


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1:

- L- STA 14+00.00 TO 19+14.00 (BEG. BRIDGE)
- L- STA 21+44.00 (END BRIDGE) TO 29+50.00

NOTE: FOR VARIABLE SLOPES SEE CROSS SECTIONS.



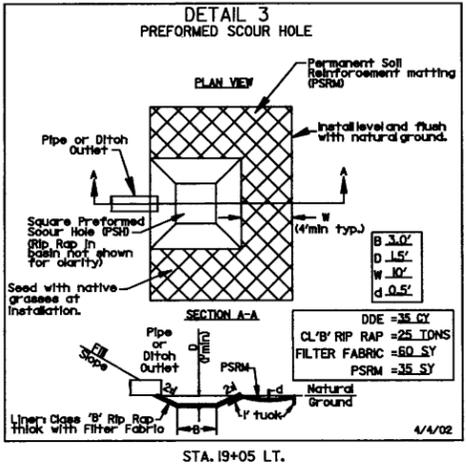
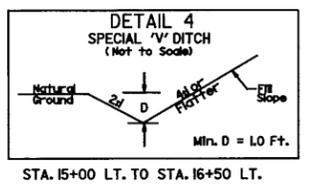
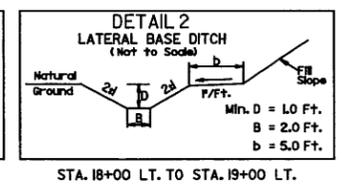
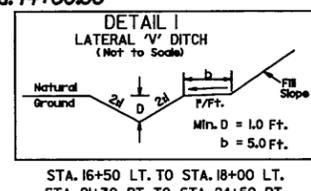
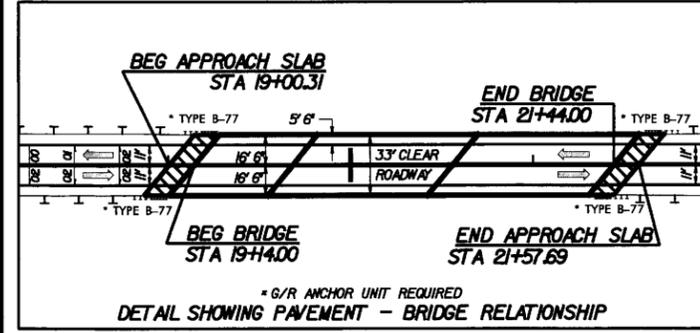
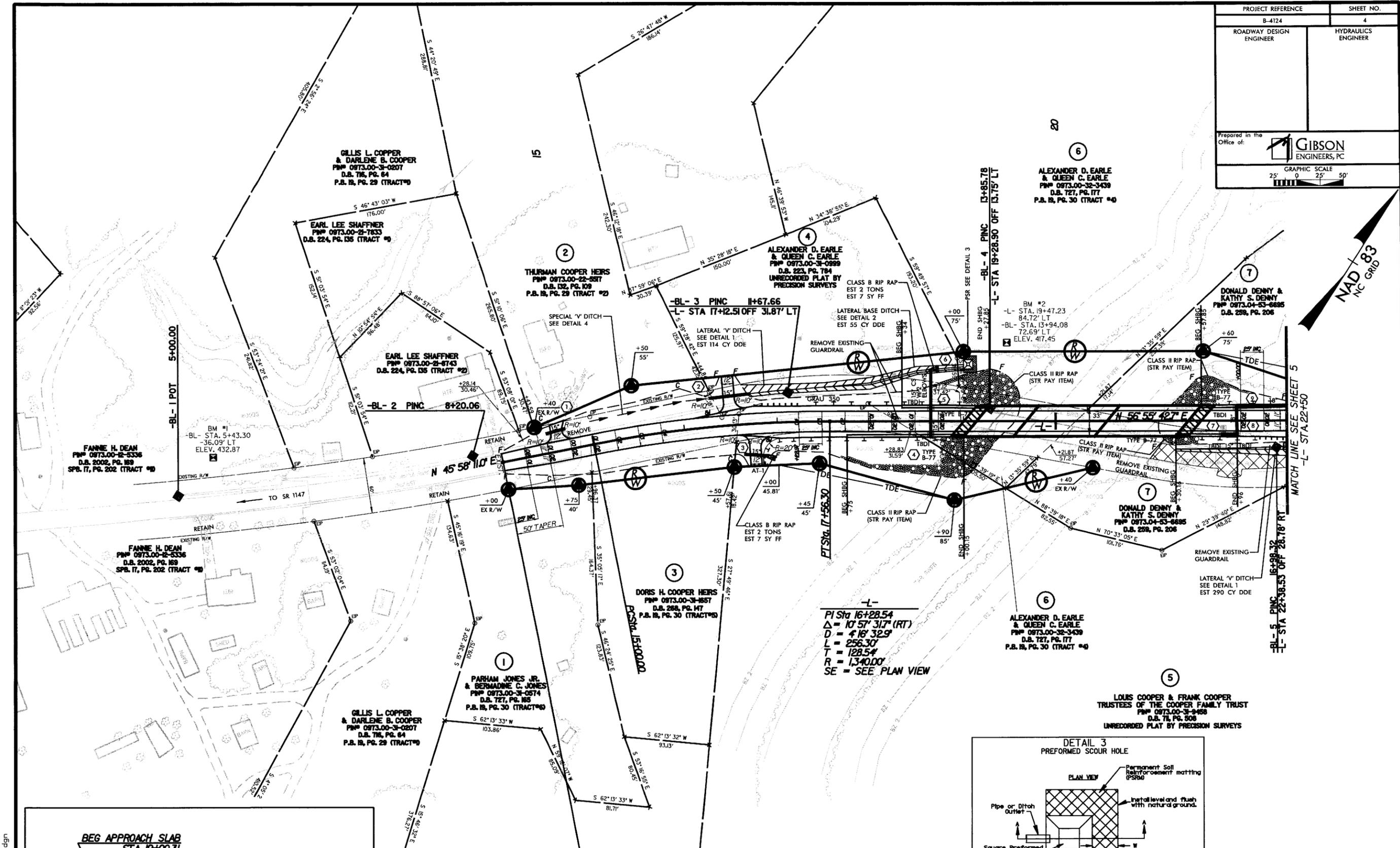
DETAIL 1A
USE AT GUARDRAIL LOCATIONS FROM FACE OF PROPOSED GUARDRAIL

PAVEMENT SCHEDULE	
C	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
E	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
T	EARTH MATERIAL.

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

PROJECT REFERENCE	SHEET NO.
B-4124	3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Prepared in the Office of: 	



NOTES:

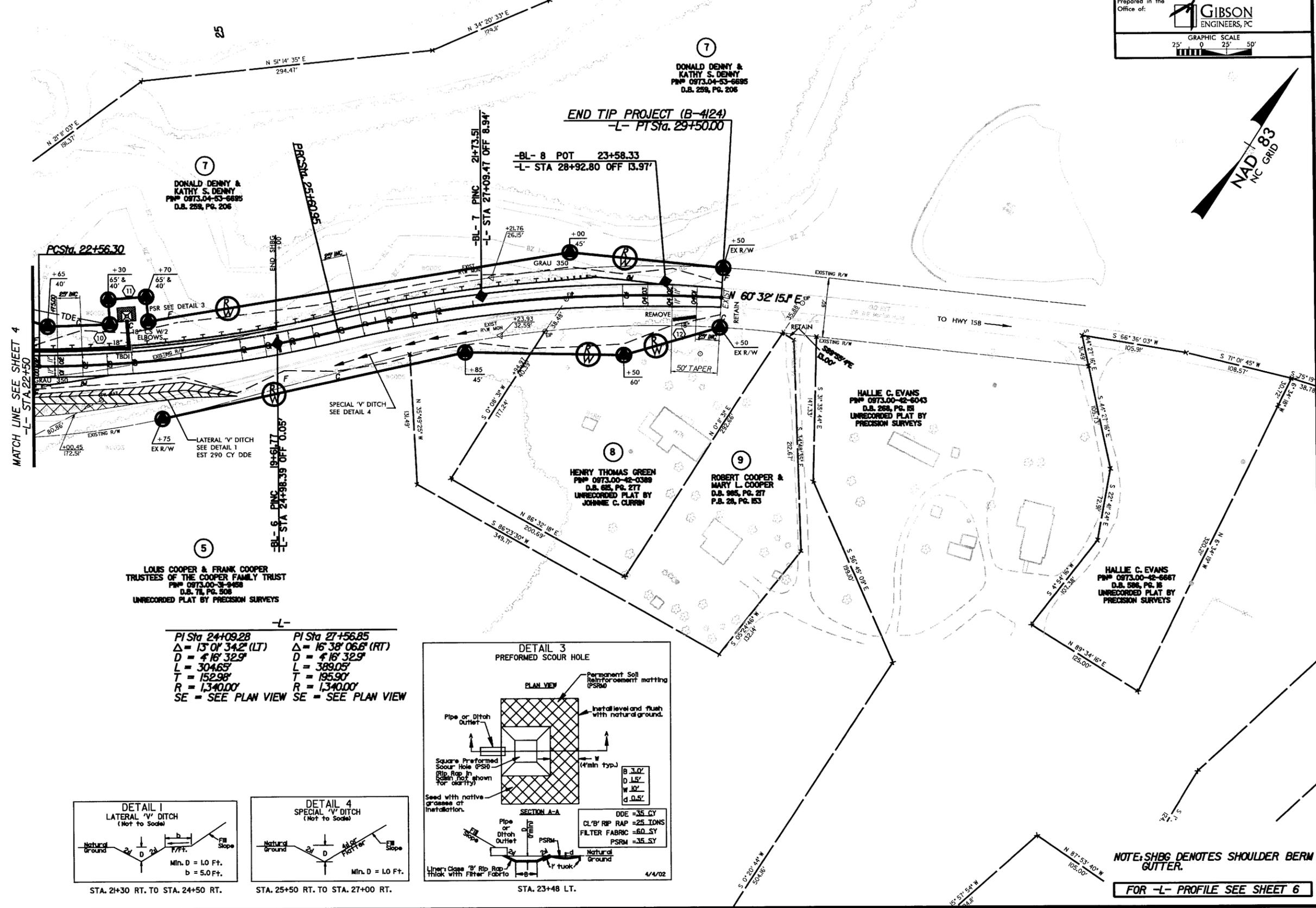
TAPER SHOULDERS PARALLEL TO GUARDRAIL 3' OFFSET BETWEEN FACE OF GUARDRAIL AND SHOULDER POINT.

SHBG DENOTES SHOULDER BERM GUTTER.

FOR -L- PROFILE SEE SHEET 6

FOR STRUCTURE PLANS SEE SHEET S-1 THRU S-

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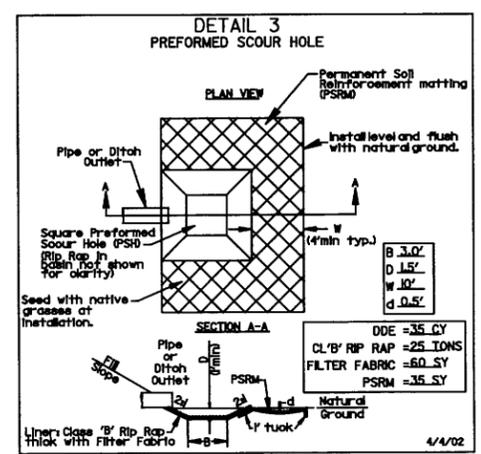
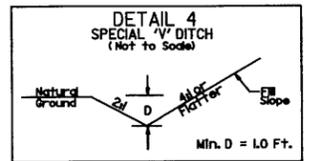
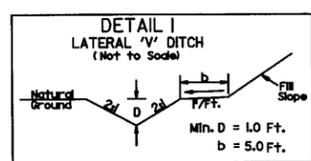
5
LOUIS COOPER & FRANK COOPER
 TRUSTEES OF THE COOPER FAMILY TRUST
 P.N.P. 0973.00-3-9468
 D.B. 78, PG. 508
 UNRECORDED PLAT BY PRECISION SURVEYS

8
HENRY THOMAS GREEN
 P.N.P. 0973.00-42-0389
 D.B. 65, PG. 277
 UNRECORDED PLAT BY JOHNNIE C. CURRIN

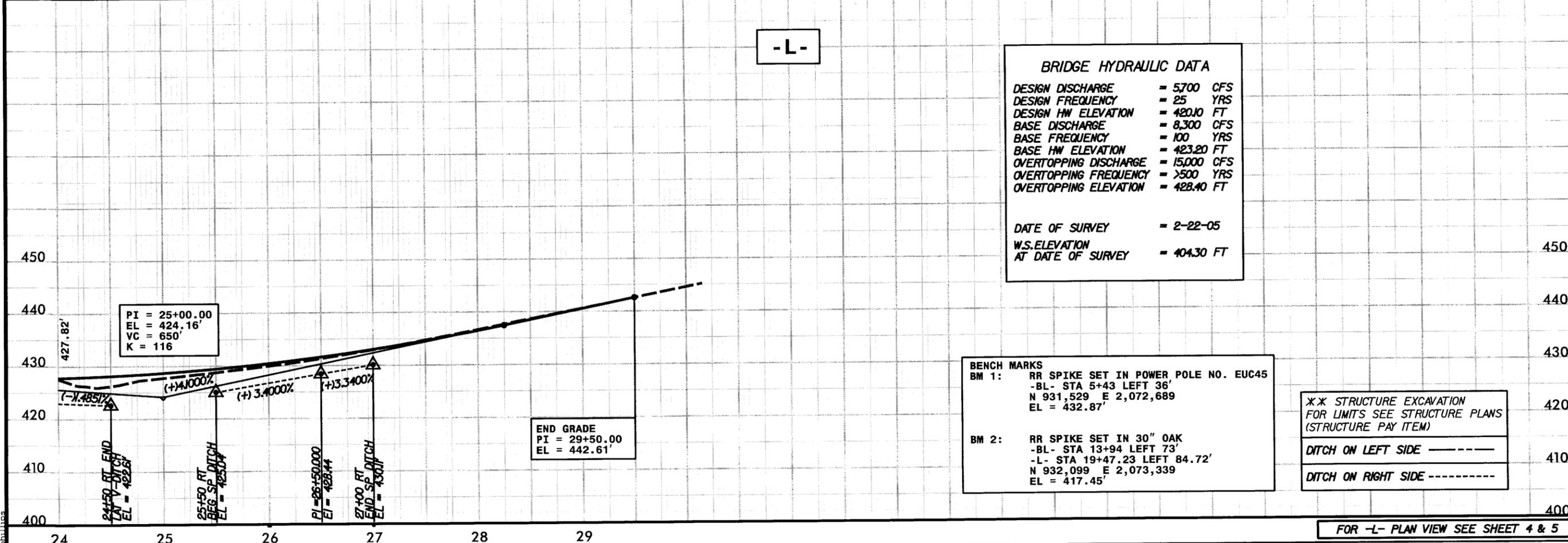
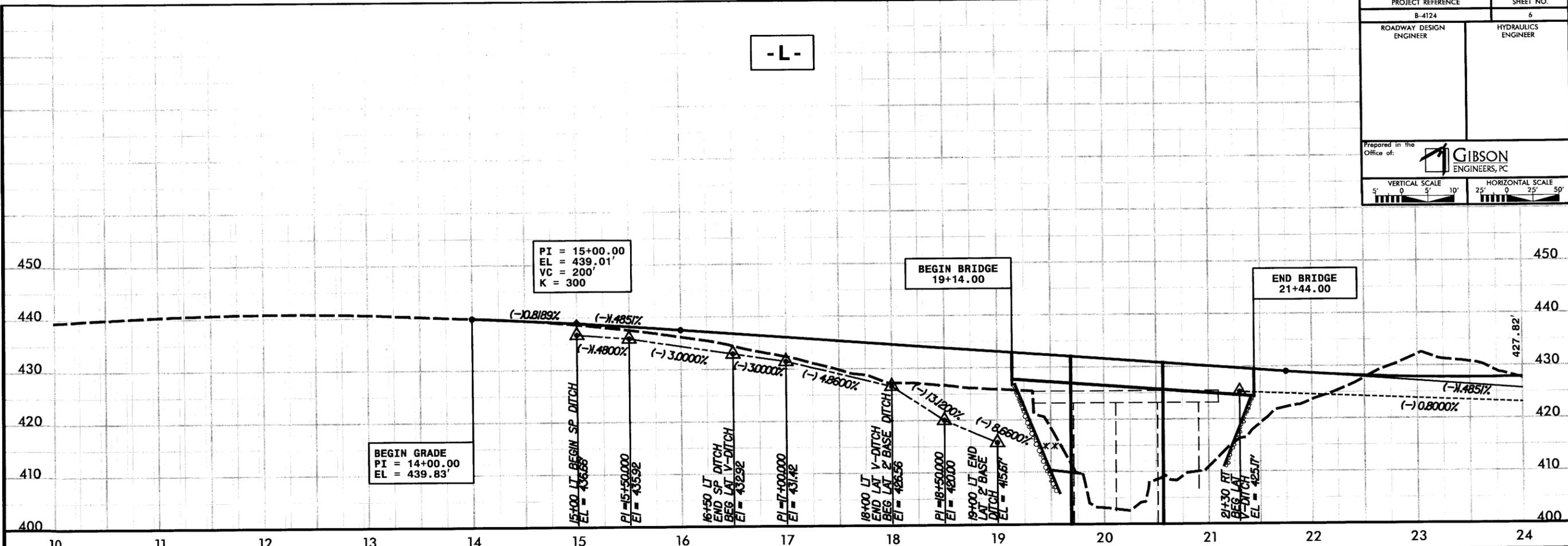
9
ROBERT COOPER & MARY L. COOPER
 D.B. 985, PG. 27
 P.S. 28, PG. 153

HALLIE C. EVANS
 P.N.P. 0973.00-42-6667
 D.B. 596, PG. 15
 UNRECORDED PLAT BY PRECISION SURVEYS

-L-	
PI Sta 24+09.28	PI Sta 27+56.85
$\Delta = 13^{\circ} 01' 34.2''$ (LT)	$\Delta = 16^{\circ} 38' 06.6''$ (RT)
D = 4' 16' 32.9"	D = 4' 16' 32.9"
L = 304.65'	L = 389.05'
T = 152.98'	T = 195.90'
R = 1,340.00'	R = 1,340.00'
SE = SEE PLAN VIEW	SE = SEE PLAN VIEW



NOTE: SHBG DENOTES SHOULDER BERM GUTTER.
 FOR -L- PROFILE SEE SHEET 6



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 5700 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 420.10 FT
BASE DISCHARGE	= 8,300 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 423.20 FT
OVERTOPPING DISCHARGE	= 15,000 CFS
OVERTOPPING FREQUENCY	= >500 YRS
OVERTOPPING ELEVATION	= 428.40 FT

DATE OF SURVEY	= 2-22-05
W.S. ELEVATION AT DATE OF SURVEY	= 404.30 FT

BENCH MARKS

BM 1:	RR SPIKE SET IN POWER POLE NO. EUC45
	-BL- STA 5+43 LEFT 36'
	N 931,529 E 2,072,689
	EL = 432.87'
BM 2:	RR SPIKE SET IN 30" OAK
	-BL- STA 13+94 LEFT 73'
	-L- STA 19+47.23 LEFT 84.72'
	N 932,099 E 2,073,339
	EL = 417.45'

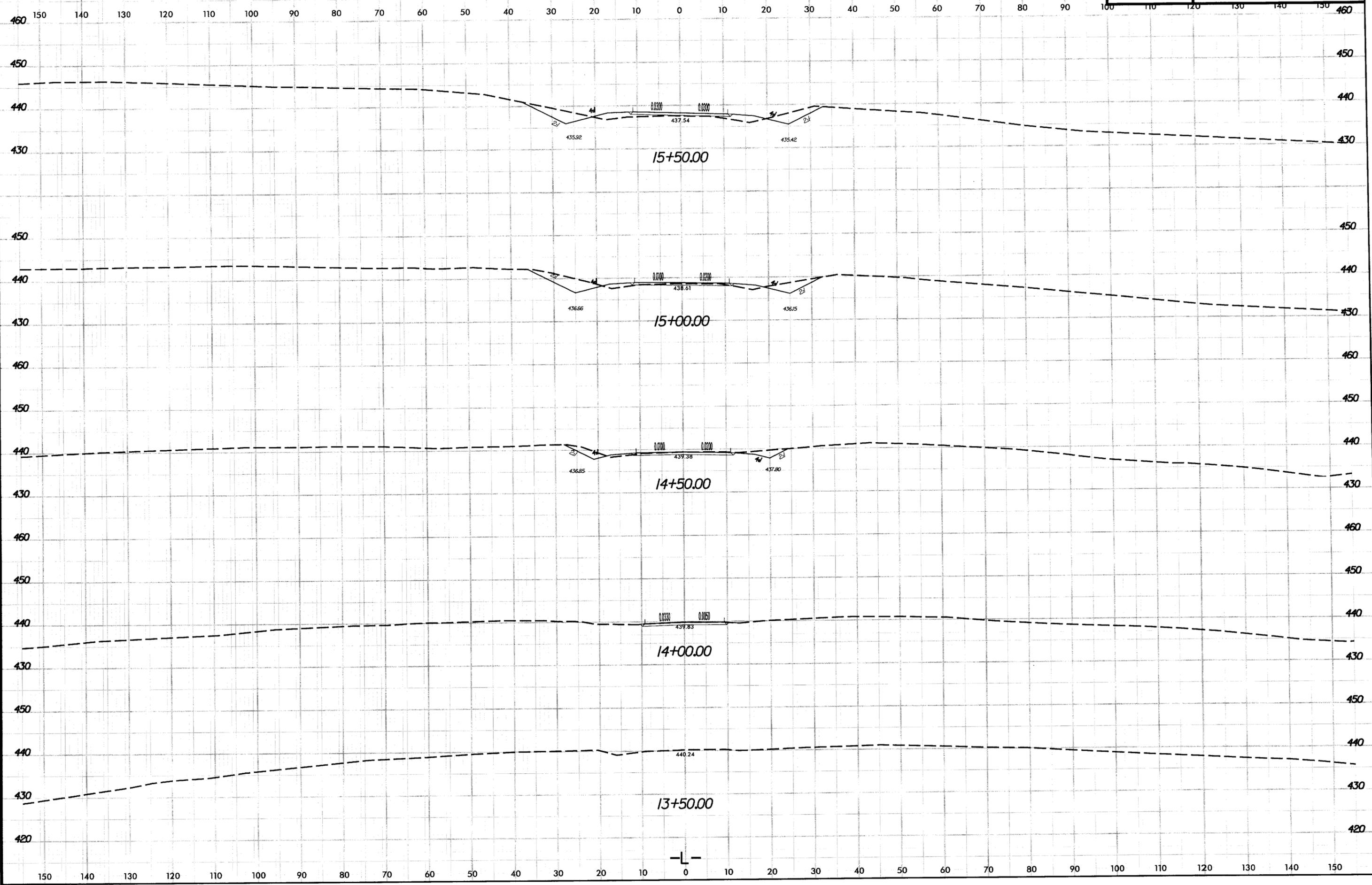
XX STRUCTURE EXCAVATION FOR LIMITS SEE STRUCTURE PLANS (STRUCTURE PAY ITEM)

DITCH ON LEFT SIDE -----

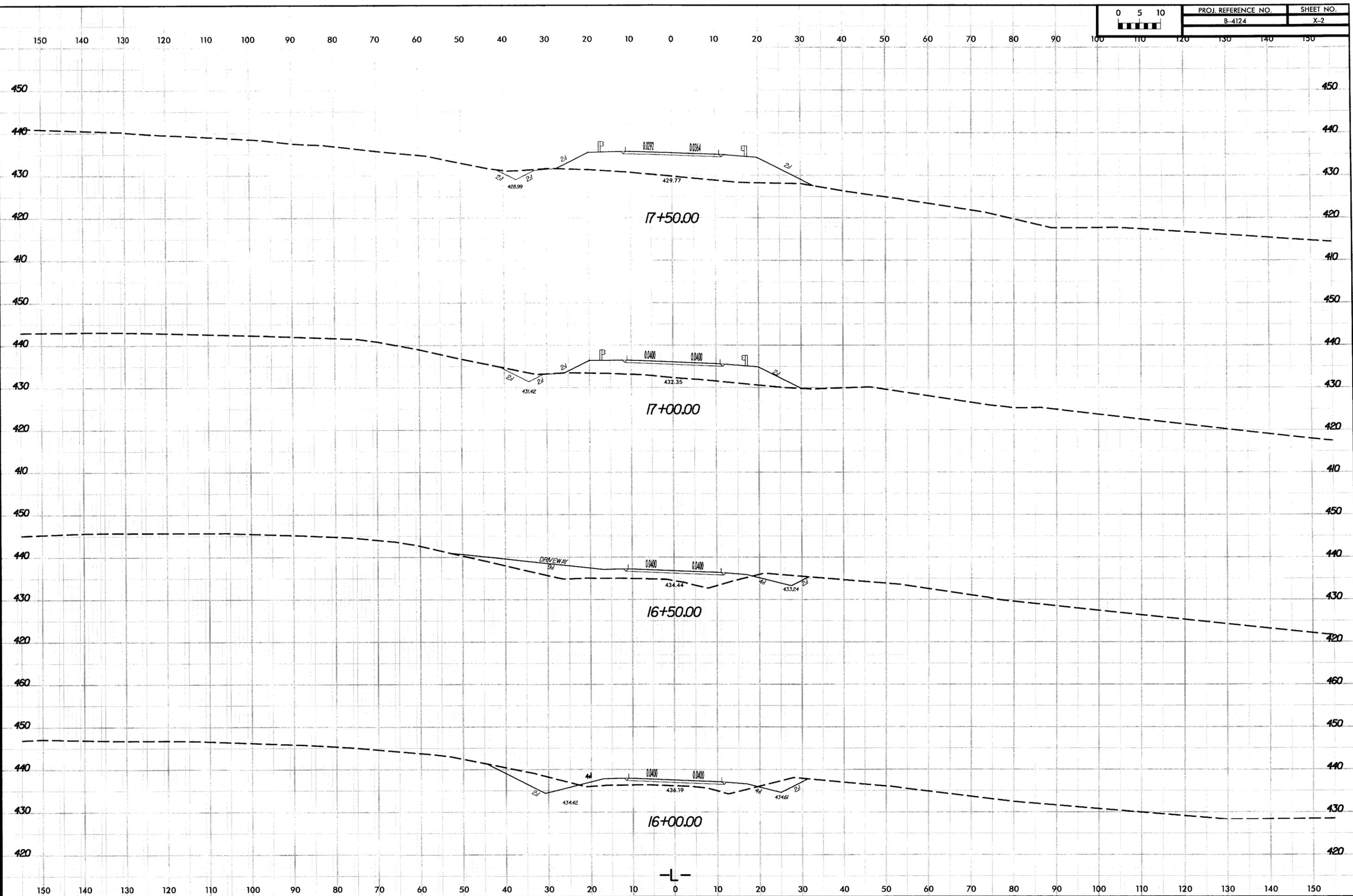
DITCH ON RIGHT SIDE - - - - -

FOR -L- PLAN VIEW SEE SHEET 4 & 5

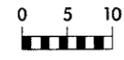
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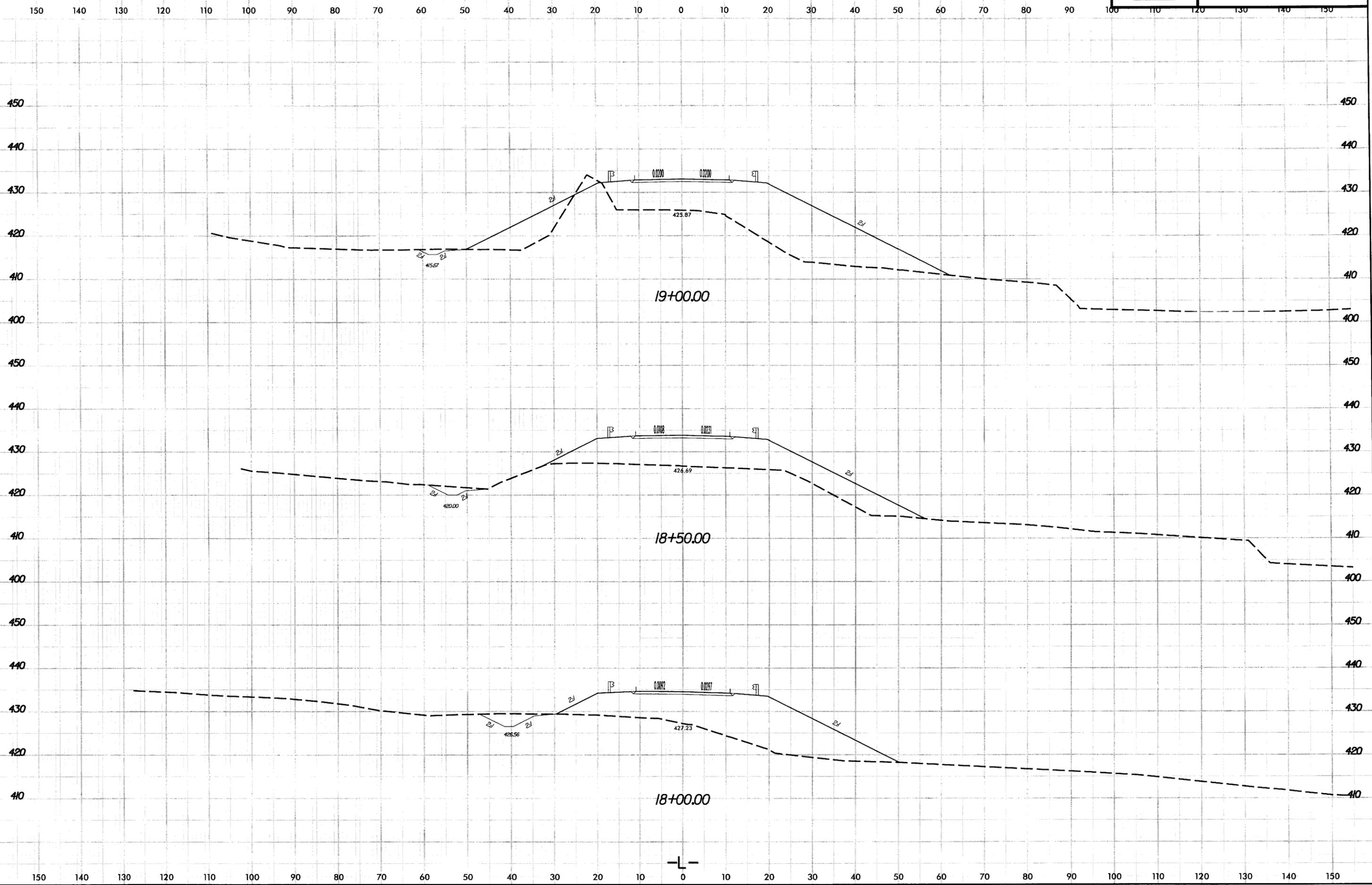
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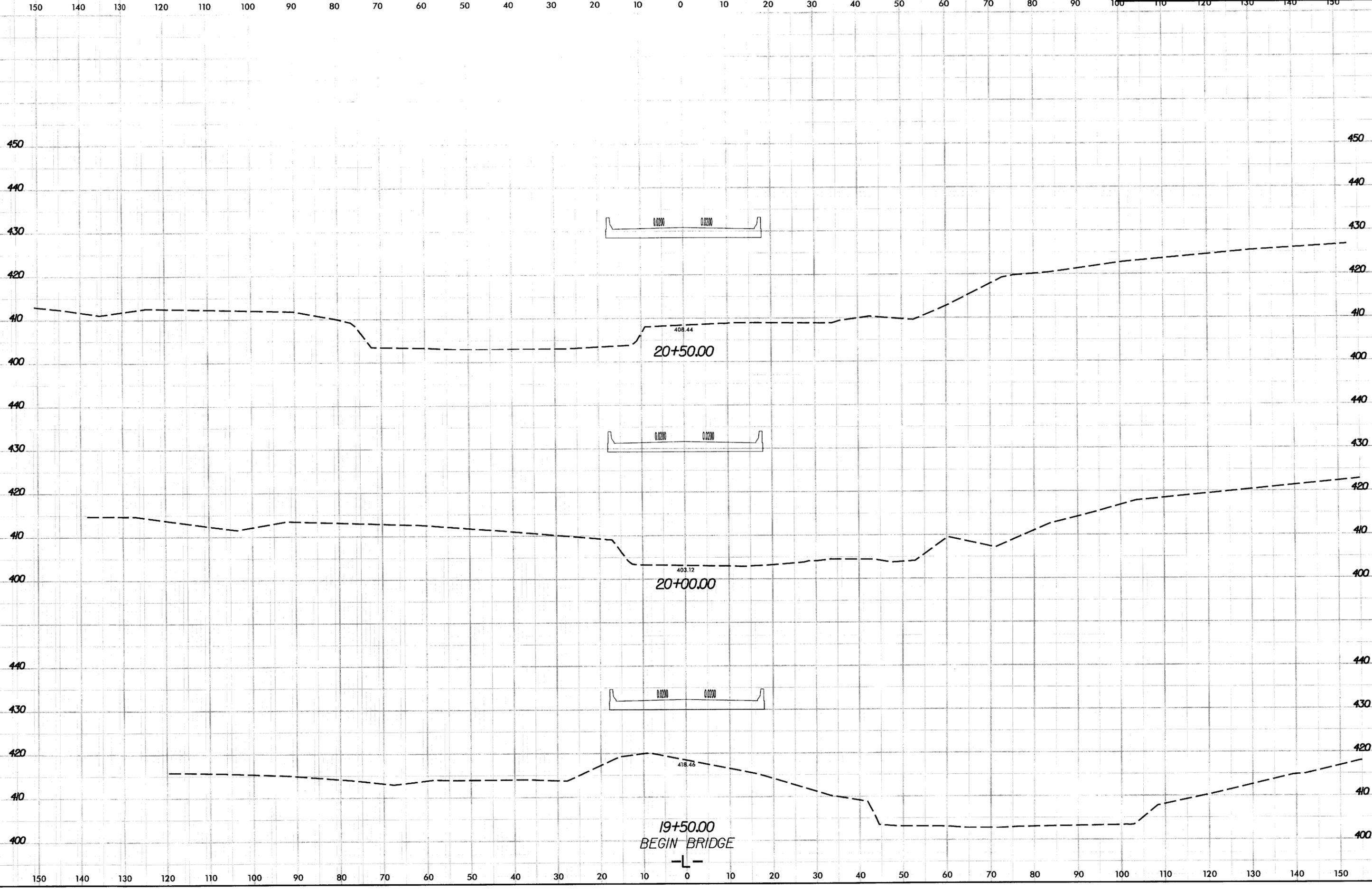
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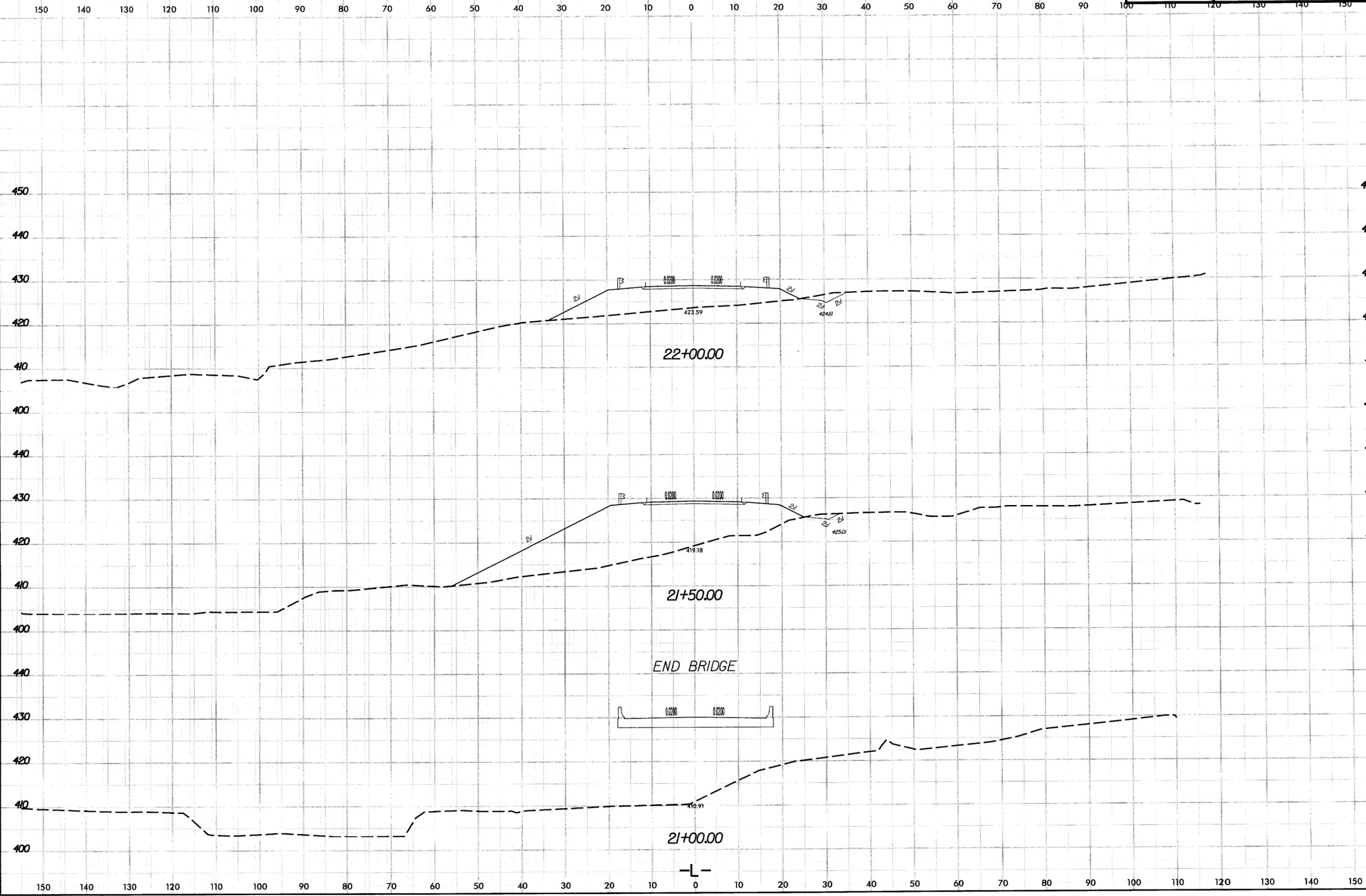
PROJ. REFERENCE NO.	SHEET NO.
B-4124	X-3



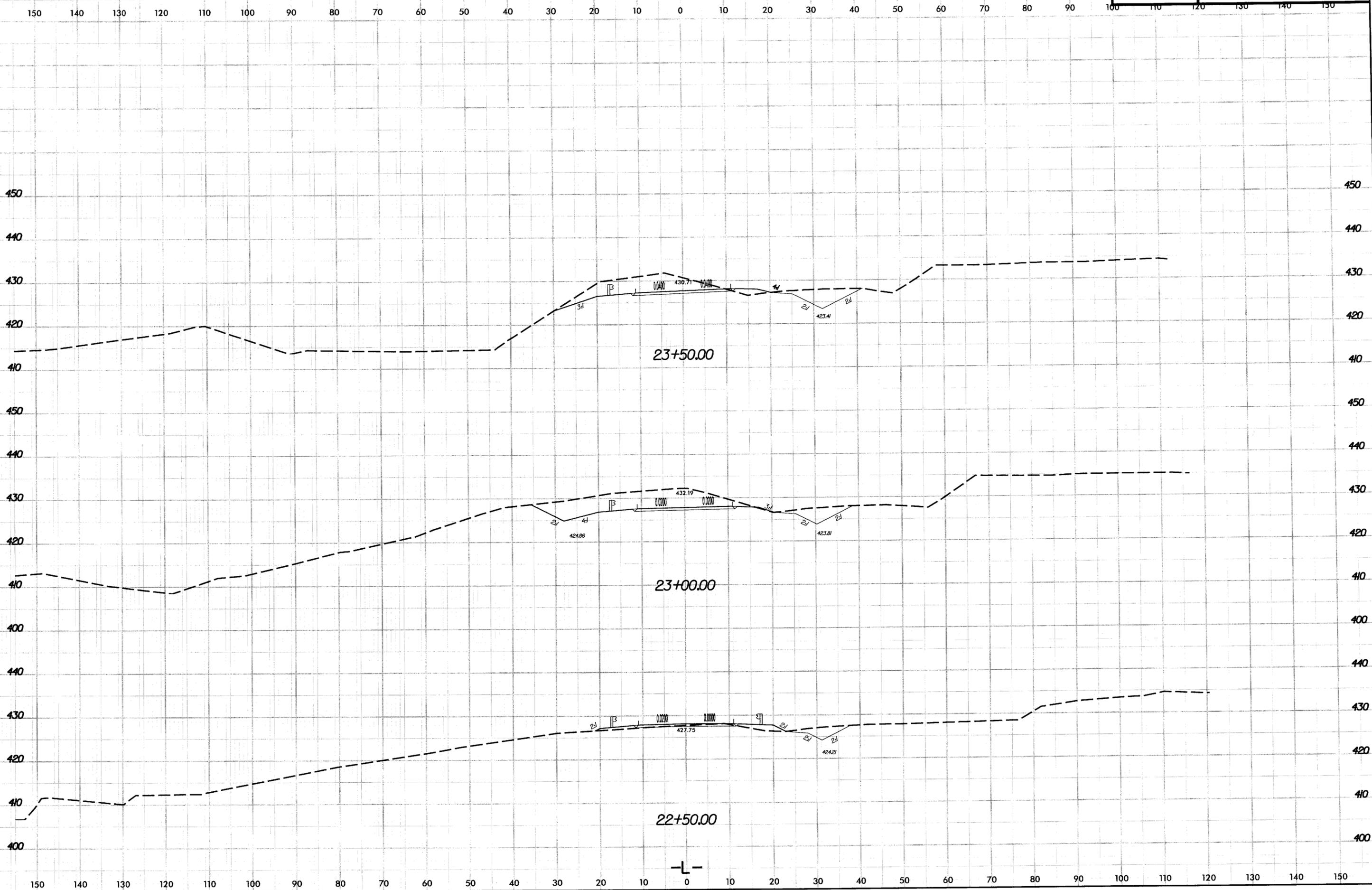
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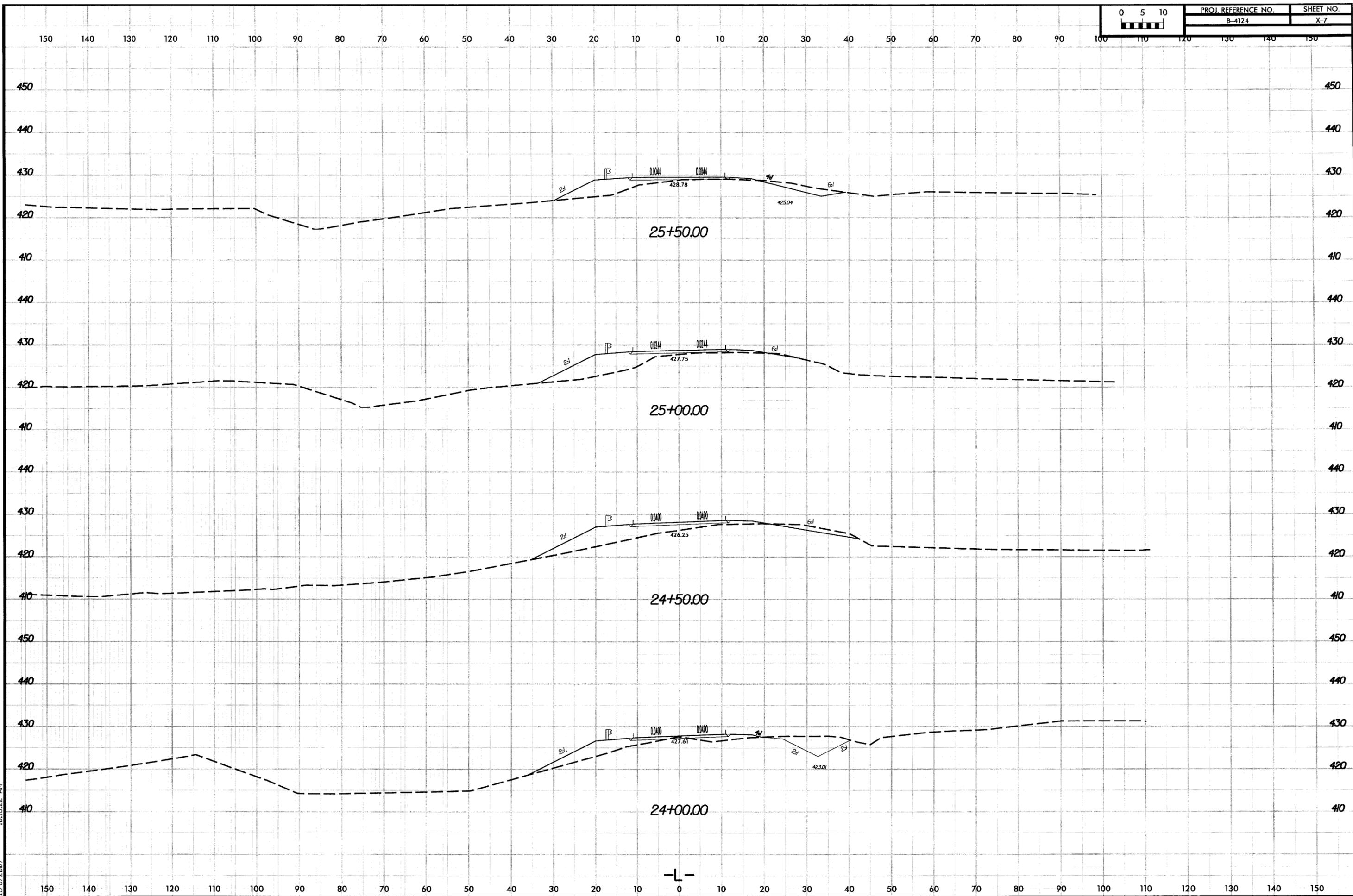
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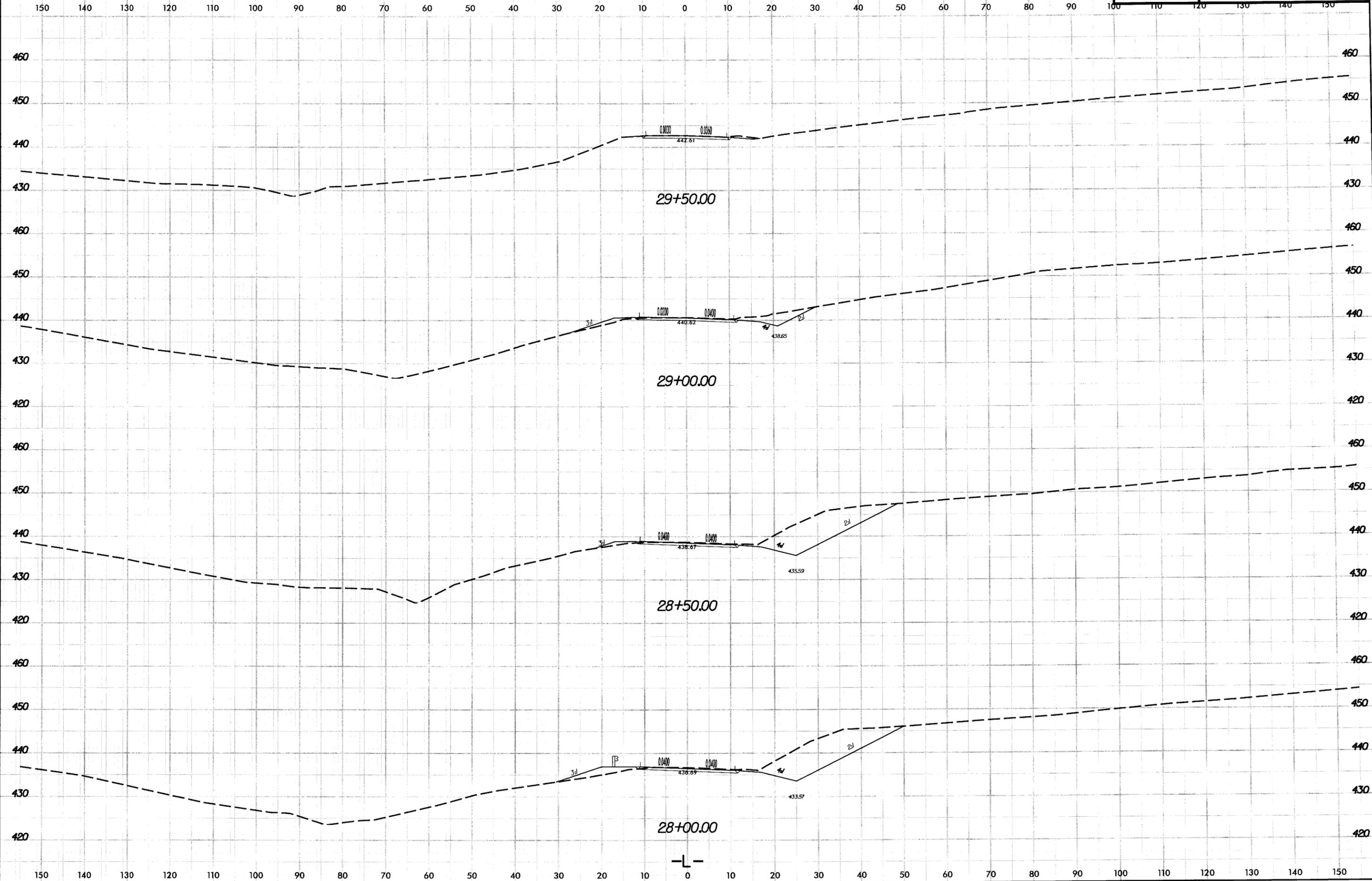


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