



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

March 11, 2004

US Army Corps of Engineers
6508 Falls of the Neuse Road, Suite 120
Raleigh, North Carolina 27615

ATTENTION: Mr. Eric Alsmeyer
Regulatory Project Manager

Dear Sir:

SUBJECT: Application for Nationwide Permits 23 and 33 for the proposed replacement of Bridge No. 149 on SR 2699 over Fiddler's Creek, in Forsyth County; NCDOT Division 9. Federal Project No. BRZ-2699 (2), State Project No. 8.2624601; WBS Element 32996.1.1, TIP No. B-3332.

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 149 on SR 2699 over Fiddler's Creek [DWQ Index # 12-94-13-3]. Bridge No. 149 will be replaced with an 85-foot long bridge in approximately the same location and roadway elevation as the existing bridge. The cross section of the new bridge will include two 12-foot lanes with 8-foot offsets. Approach work will consist of resurfacing and tying into the existing alignment for approximately 260 feet on the south approach and 255 feet on the north approach of the bridge. Guardrail will be installed where warranted. Traffic will be detoured along surrounding roads during construction.

IMPACTS TO WATERS OF THE UNITED STATES

The project is located in the Yadkin River Basin (03-07-04 sub basin). Three surface water resources occur in the project area: Fiddler's Creek and its two unnamed tributaries. The project will result in permanent impacts to 146 linear feet of Fiddler's Creek due to stream relocation. Stream relocation is necessary to ensure a more stable bridge. Moving the stream will prevent the undercutting of the bents.

In addition, there will be temporary impacts totaling 0.06 acre to surface waters from dewatering during culvert installation. When the project is completed, the channel change in phase 2 should be retained and used as the new stream alignment. NCDOT's Best Management Practices for Protection of Surface Waters will be implemented as applicable. No jurisdictional wetlands are present in the project area. We do not anticipate a mitigation requirement.

Bridge Demolition

Bridge No. 149 contains one span totaling 51 feet in length. The bridge is composed of steel planking on steel I-beam with a timber substructure. Therefore, Bridge No. 149 will be removed without dropping any of its components into Waters of the United States.

Stream Relocation Phasing

This relocation will be constructed in two phases. The first phase (Phase I) is as follows:

1. Construct causeway, filling in 0.03 acre of existing stream.
2. Excavate 300 cu. yd. of temporary channel change (section A-A) as depicted on sheet 6 of 14.
3. Create a temporary channel 5 ft. deep with a 9 ft. base (section A-A).
4. Line temporary channel with class B rip rap and filter fabric.

The second phase (Phase II) is as follows:

1. Construct causeway, filling in 0.03 acre of existing stream.
2. Excavate 475 cu. yd. for section B-B of channel change as depicted on sheet 8 of 14.
3. Create a temporary channel 5 ft. deep with a 9 ft. base (section B-B).
4. Line temporary channel with class B rip rap and filter fabric.
5. Upon completion of Phase II, the channel change for Phase II should be retained and used as the new stream alignment. No rip rap is to be placed in the base of the new channel (see Proposed Stream Realignment Section B-B permit drawing sheet 12 of 14).

Restoration Plan: No permanent fill will result from the subject activity. The materials used as temporary fill in the construction of the causeways will be removed. The temporary fill areas will be graded back to the original contours. Revegetation will occur with native species. Elevations and contours in the vicinity of the proposed causeways are available from the field survey notes.

Removal and Disposal: The causeways will be removed within 90 days of the removal of the interior bent. The temporary rock causeways will be removed by the Contractor using excavating equipment. All materials placed in the stream by the Contractor will be removed. The Class II riprap that is removed may be used on end slopes where Class II riprap is required at the discretion of the Engineer. All other materials removed by the Contractor will be disposed of at an off site upland location.

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 of the Endangered Species Act of 1973, as amended.

As of January 29, 2003 the U.S. Fish and Wildlife Service (FWS) lists three federally protected species for Forsyth County (Table 1): bog turtle, red-cockaded woodpecker, and small-anthered bittercress. No species have been added to or deleted from this list since the completion of the referenced CE. The bog turtle is listed as Proposed Threatened due to similarity of appearance to other rare species that are listed for protection. This species is not biologically endangered or threatened and is not subject to Section 7 consultation. Therefore, no biological conclusion is required. The red-

cockaded woodpecker and the small-anthered bittercress were given biological conclusions of “No Effect” based on the lack of suitable habitat within the project area. Additionally, a review of the Natural Heritage Program database (last updated on April 8, 2003) revealed no occurrences of red-cockaded woodpecker or small-anthered bittercress within 1.0 mile (1.6 km) of the project study area. The biological conclusion of “No Effect” for these species remains valid.

Table 1. Federally Protected Species Listed for Forsyth County, NC.

Common Name	Scientific Name	Status	Biological Conclusion
Bog turtle	<i>Clemmys muhlenbergii</i>	T(S/A)	NA
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	No Effect
Small-anthered bittercress	<i>Caradamine micranthera</i>	E	No Effect

“ T (S/A)” - denotes Threatened Due to Similarity of Appearance.

(A species similar in appearance to another rare species and listed for its protection).

“E” - denotes Endangered

(A species that is in danger of extinction throughout all or a significant portion of its range).

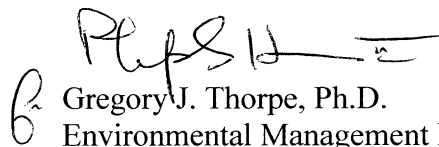
Summary

Section 404 Permit: It is anticipated that the construction of the temporary causeways will be authorized under Section 404 Nationwide Permit 33 (Temporary Construction Access and Dewatering). We are, therefore, requesting the issuance of a Nationwide Permit 33 authorizing construction of the causeway. All other aspects of this project are being processed by the Federal Highway Administration as a “Categorical Exclusion” in accordance with 23 CFR 771.115(b). Therefore, we do not anticipate requesting an individual permit, but propose to proceed under a Nationwide 23 as authorized by a Nationwide Permit 23 (FR number 10, pages 2020-2095; January 15, 2002).

Section 401 Permit: We anticipate 401 General Certifications numbers 3403 and 3366 will apply to this project. The NCDOT will adhere to all general conditions of these certifications. Therefore, written concurrence will not be required from the NCDWQ. In accordance with 15A NCAC 2H .0501(a) we are providing two copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, for their records.

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

Sincerely,


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

w/attachment

Mr. John Hennessy, Division of Water Quality
 Ms. Marla Chambers, NCWRC
 Ms. Marella Buncick, USFWS
 Mr. Greg Perfetti, P.E., Structure Design

Mr. Jay Bennett, P.E., Roadway Design
 Mr. Omar Sultan, Programming and TIP
 Mr. Art McMillan, P.E., Highway Design
 Mr. David Chang, P.E., Hydraulics
 Mr. Mark Staley, Roadside Environmental
 Mr. S. P. Ivey, P.E., Division Engineer
 Ms. Diane Hampton, P.E. DEO Division 9
 Ms. Stacy Harris, P.E., Project Planning Engineer

w/o attachment

Mr. David Franklin, USACE, Wilmington

Office Use Only:

Form Version May 2002

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

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

I. Processing

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

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

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

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

4. If payment into the North Carolina Wetlands Restoration Program (NCWRP) is proposed for mitigation of impacts (verify availability with NCWRP prior to submittal of PCN), complete section VIII and check here:

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

II. Applicant Information

1. Owner/Applicant Information

Name: Gregory J. Thorpe, Ph.D.
Mailing Address: 1548 Mail Service Center
Raleigh, NC 27699-1548

Telephone Number: (919)733-3141 Fax Number: (919)733-9794
E-mail Address: gthorpe@dot.state.nc.us

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

Name: _____
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. 49 over Fiddler's Creek on SR 2699
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-3332
3. Property Identification Number (Tax PIN): _____
4. Location
County: Forsyth Nearest Town: Winston-Salem
Subdivision name (include phase/lot number): _____
Directions to site (include road numbers, landmarks, etc.): _____
Bridge no. 49 over Fiddler's Creek on SR 2699
5. Site coordinates, if available (UTM or Lat/Long): UTM 17 574596E / 3990756N
(Note – If project is linear, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
6. Property size (acres): 13.3 ac
7. Nearest body of water (stream/river/sound/ocean/lake): Fiddler's Creek
8. River Basin: Yadkin
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: The project vicinity is rural in nature and surrounding landuse includes a mixture of residential, agricultural and commercial use.

10. Describe the overall project in detail, including the type of equipment to be used: The North Carolina Department of Transportation proposes to replace Bridge No. 149 on SR 2699 over Fiddler's Creek (DWQ Index # 12-94-13-3). Bridge No. 149 will be replaced with an 85-foot long bridge in approximately the same location and roadway elevation as the existing bridge. The cross section of the new bridge will include two 12-foot lanes with 8-foot offsets. Approach work will consist of resurfacing and tying into the existing alignment for approximately 260 feet on the south approach and 255 feet on the north. Guardrail will be installed where warranted. Traffic will be detoured along surrounding roads during construction. Equipment will include bulldozers, earthmovers, pile drivers, crane, and a backhoe.
11. Explain the purpose of the proposed work: Bridge No. 149 has a sufficiency rating of 17.6 out of a possible 100. Therefore, the bridge needs to be replaced. Rehabilitation is not practical due to the age of the structure and the timber substructure.
-

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.

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.

No future request anticipated.

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

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. The applicant must also provide justification for these impacts in Section VII below. All proposed impacts, permanent and temporary, must be listed herein, and must be clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) must be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream

mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: Temporary fill in surface water impacts: 0.06 ac Permanent existing channel impacted 146 linear feet.

2. Individually list wetland impacts below:

Wetland Impact Site Number (indicate on map)	Type of Impact*	Area of Impact (acres)	Located within 100-year Floodplain** (yes/no)	Distance to Nearest Stream (linear feet)	Type of Wetland***
N/A					

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.
 ** 100-Year floodplains are identified through the Federal Emergency Management Agency’s (FEMA) Flood Insurance Rate Maps (FIRM), or FEMA-approved local floodplain maps. Maps are available through the FEMA Map Service Center at 1-800-358-9616, or online at <http://www.fema.gov>.
 *** List a wetland type that best describes wetland to be impacted (e.g., freshwater/saltwater marsh, forested wetland, beaver pond, Carolina Bay, bog, etc.) Indicate if wetland is isolated (determination of isolation to be made by USACE only).

List the total acreage (estimated) of all existing wetlands on the property: N/A
 Total area of wetland impact proposed: N/A

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

Stream Impact Site Number (indicate on map)	Type of Impact*	Length of Impact (linear feet)	Stream Name**	Average Width of Stream Before Impact	Perennial or Intermittent? (please specify)
1	Perm. channel impacts	146 ft.	Fiddler’s Creek	15 ft.	perennial
1	Temp. fill in SW (for work pad)	0.06 ac	Fiddler’s Creek	15 ft.	Perennial

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: culverts and associated rip-rap, dams (separately list impacts due to both structure and flooding), relocation (include linear feet before and after, and net loss/gain), stabilization activities (cement wall, rip-rap, crib wall, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included.
 ** Stream names can be found on USGS topographic maps. If a stream has no name, list as UT (unnamed tributary) to the nearest downstream named stream into which it flows. USGS maps are available through the USGS at 1-800-358-9616, or online at <http://www.usgs.gov>.

www.usgs.gov. Several internet sites also allow direct download and printing of USGS maps (e.g., www.topozone.com, www.mapquest.com, etc.).

Cumulative impacts (linear distance in feet) to all streams on site: none

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

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

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

5. Pond Creation

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

Pond to be created in (check all that apply): uplands stream wetlands
 Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): _____

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

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

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts.

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

VIII. Mitigation

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

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on March 9, 2000, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCWRP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

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

Since the impacts are temporary, no mitigation is proposed

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

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

IX. Environmental Documentation (required by DWQ)

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

Yes No

If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?
 Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.

Yes No

If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter.

Yes No

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

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

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

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

Identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
N/A			
Total			

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

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

XI. Stormwater (required by DWQ)

Describe impervious acreage (both existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property.

XII. Sewage Disposal (required by DWQ)

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

XIII. Violations (required by DWQ)

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

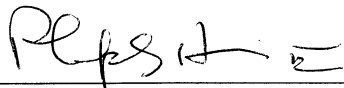
Yes No

Is this an after-the-fact permit application?

Yes No

XIV. Other Circumstances (Optional):

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

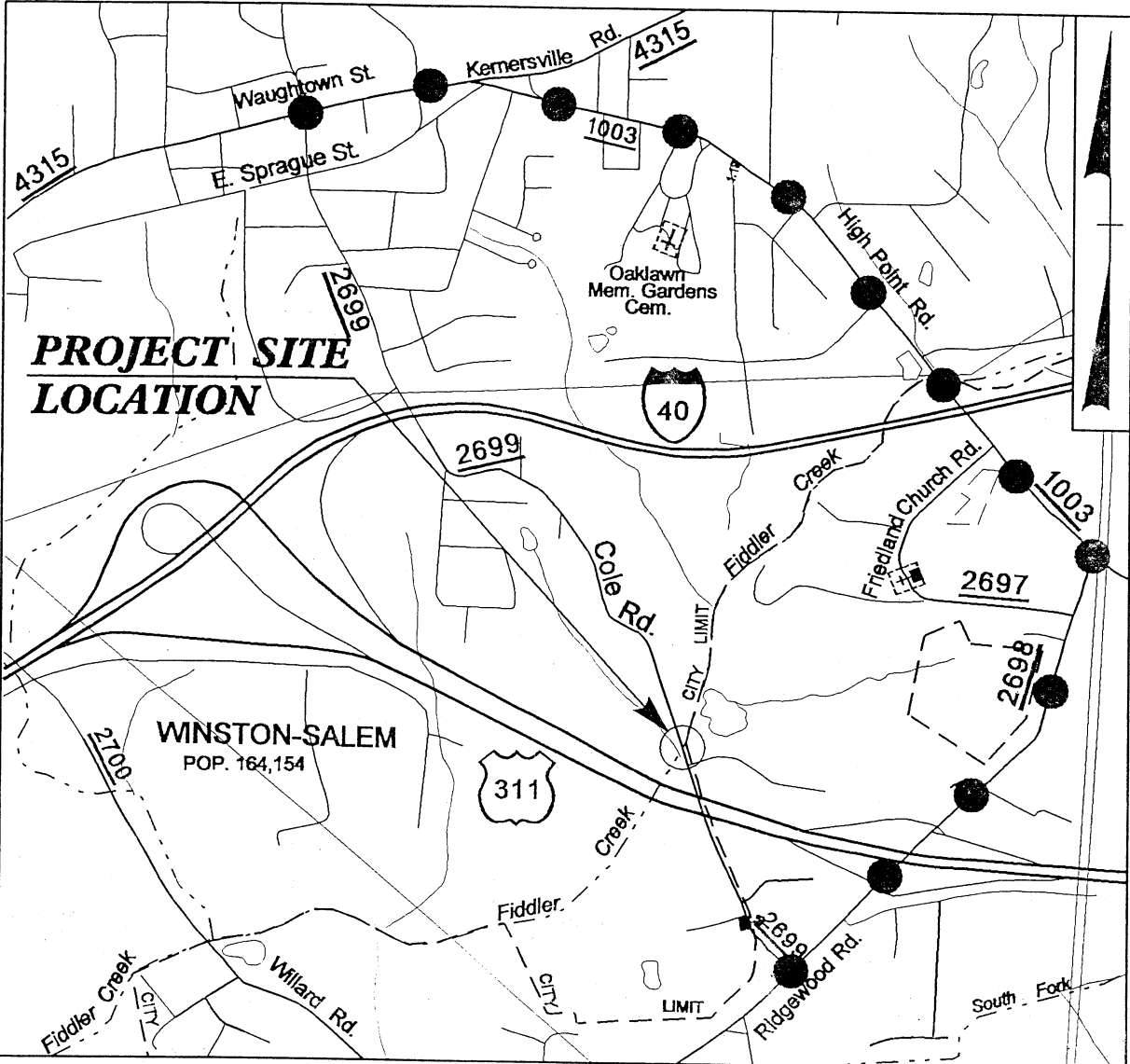


Applicant/Agent's Signature

3/9/04

Date

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



**PROJECT SITE
LOCATION**

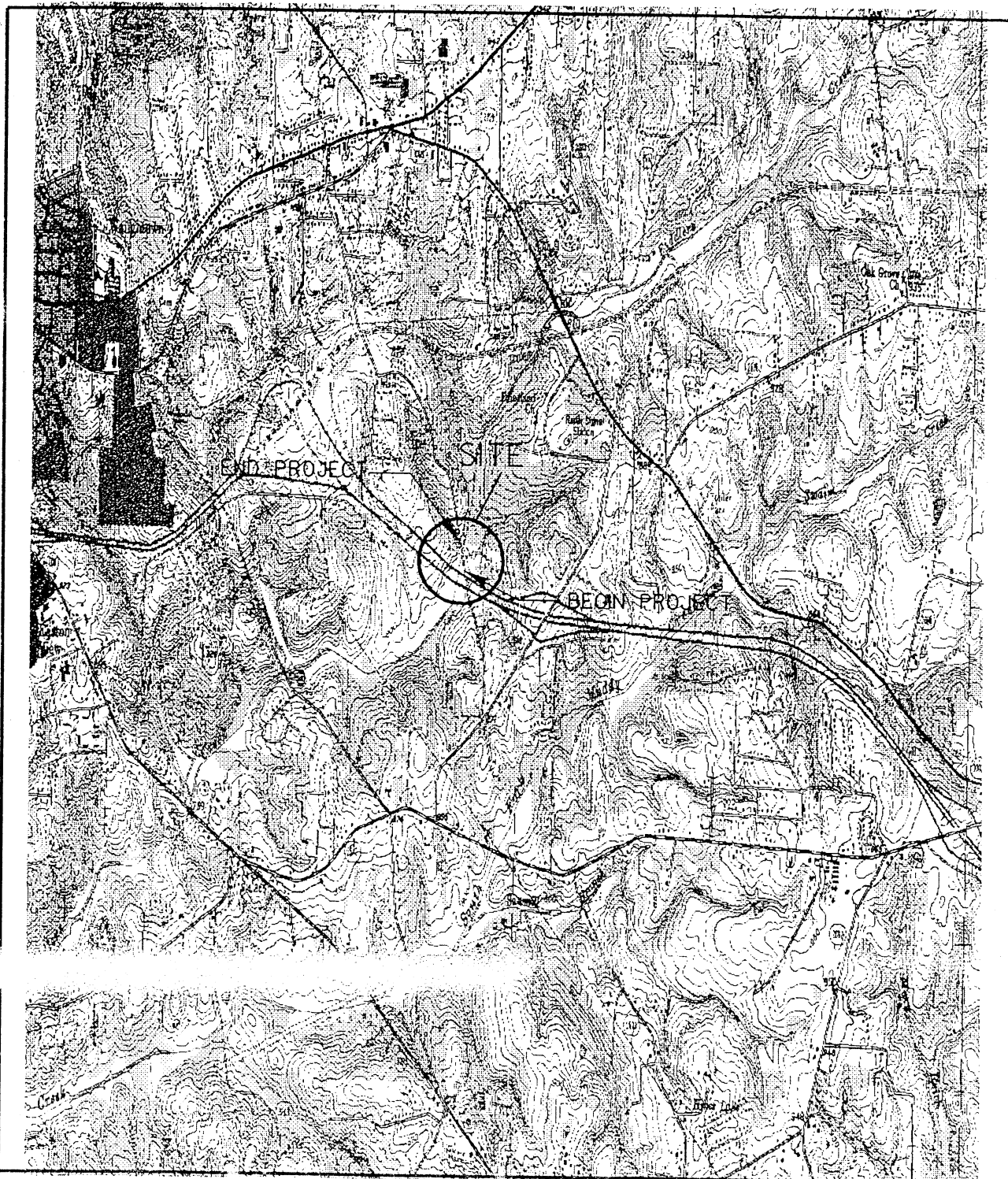
VICINITY MAP

● ● ● ●
DETOUR ROUTE

**THIS PROJECT IS WITHIN THE MUNICIPAL
BOUNDARIES OF WINSTON-SALEM**

VICINITY
MAP

NCDOT
DIVISION OF HIGHWAYS
FORSYTH COUNTY
PROJECT: 8.2624601 (B-3532)
BRIDGE NO.149 OVER FIDDLERS
CREEK ON SR2699.



SITE
MAP

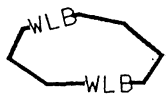
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
FORSYTH COUNTY
PROJECT: 8.2624601 (B-5352)

BRIDGE NO. 149 OVER FIDDLER'S
CREEK ON SR2699.

SHEET 2 OF 4 11/26/05


WETLAND LEGEND

 WETLAND BOUNDARY

 WETLAND

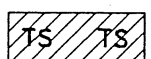
 DENOTES FILL IN WETLAND

 DENOTES FILL IN SURFACE WATER

 DENOTES FILL IN SURFACE WATER (POND)

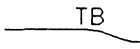
 DENOTES TEMPORARY FILL IN WETLAND

 DENOTES EXCAVATION IN WETLAND

 DENOTES TEMPORARY FILL IN SURFACE WATER

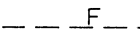
 DENOTES MECHANIZED CLEARING


 FLOW DIRECTION

 TOP OF BANK


 EDGE OF WATER

 PROP. LIMIT OF CUT

 PROP. LIMIT OF FILL

 PROP. RIGHT OF WAY

 NATURAL GROUND

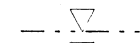
 PROPERTY LINE

 TEMP. DRAINAGE EASEMENT


 PERMANENT DRAINAGE EASEMENT


 EXIST. ENDANGERED ANIMAL BOUNDARY

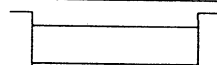
 EXIST. ENDANGERED PLANT BOUNDARY

 WATER SURFACE


 LIVE STAKES


 BOULDER

 COIR FIBER ROLLS

 PROPOSED BRIDGE

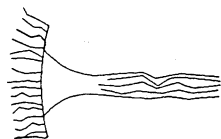
 PROPOSED BOX CULVERT

 PROPOSED PIPE CULVERT
 (DASHED LINES DENOTE EXISTING STRUCTURES)
 12"-48" PIPES
 54" PIPES & ABOVE


 SINGLE TREE

 WOODS LINE

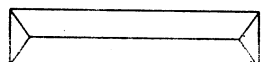
 DRAINAGE INLET

 ROOTWAD

 RIP RAP

 ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE

 PREFORMED SCOUR HOLE

 LEVEL SPREADER (LS)

 DITCH / GRASS SWALE

NCDOT

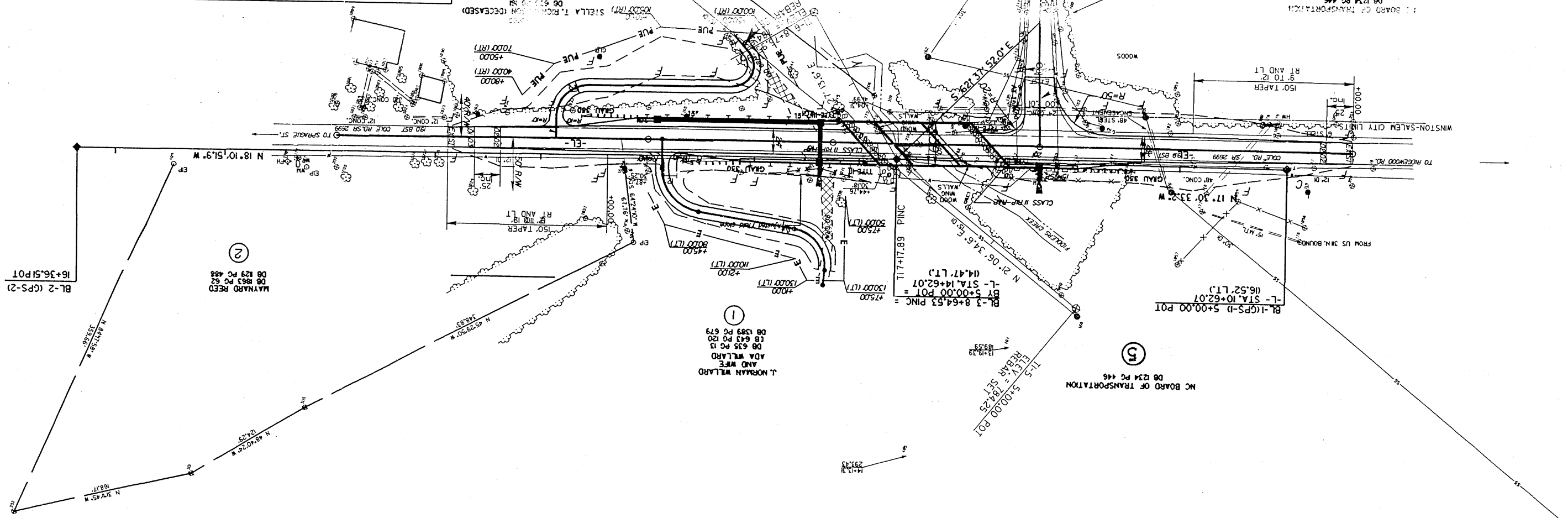
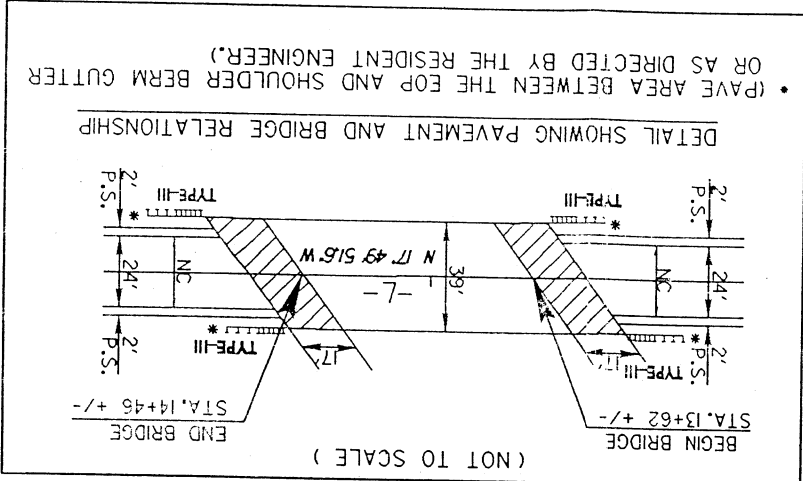
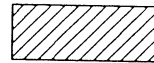
DIVISION OF HIGHWAYS
 FORSYTH COUNTY

PROJECT: 8.2624601 (B-3532)

BRIDGE NO.149 OVER FIDDLERS
 CREEK ON SR2699.

NOTE: SEE SHEET 5 FOR -L-, -YI-, -DRI-, & -DR2- PROFILE

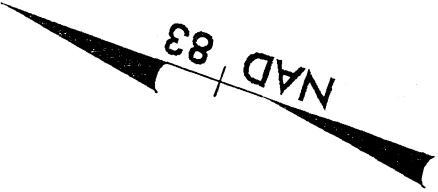
APPROACH SLAB



PROJECT REFERENCE NO.	B-3332
SHEET NO.	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	

DATUM DATA

THE LOCALIZED COORDINATE SYSTEM IS BASED ON THE STATE PLANNING AND DOT FOR NORTH CAROLINA WITH NAD 1983/95 STATE PLANNING NORTHING: 842931294(M) EASING: 10000000 THE AVERAGE COMBINED GRID FROM THIS PROJECT (GROUND TO GRID) IS: 0.58 FEET THE N.C. LAMBERT GRID BEING USED FOR LOCALIZED HORIZONTAL DISTANCE FROM "83332-2" TO -L- STATION 10+62.07 IS S 18 44 52.95 E 1,198.72 (M) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAD 88



1
J. NORMAN WELARD
AND WIFE
ADA WELARD
DB 635 PG 13
DB 643 PG 120
DB 1389 PG 679

5
NC BOARD OF TRANSPORTATION
DB 1234 PG 446

T-5 5+00.00 P.O.I.
ELEV. 184.25
REAR SET
11+9.39
83.53

4
DONALD LEE SHARPTON
DB 1791 PG 2306

3
SIELLA T. RICHMOND (DECEASED)
DB 511 PG 31

2
MAYNARD FEED
DB 863 PG 62
DB 123 PG 488

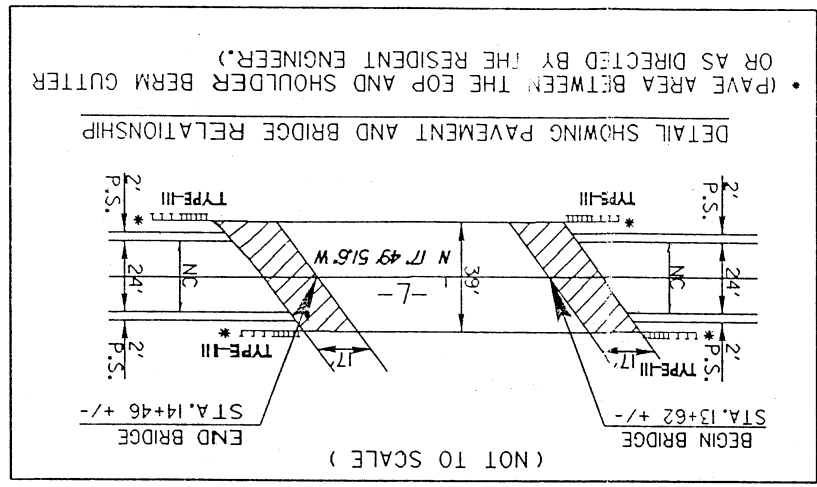
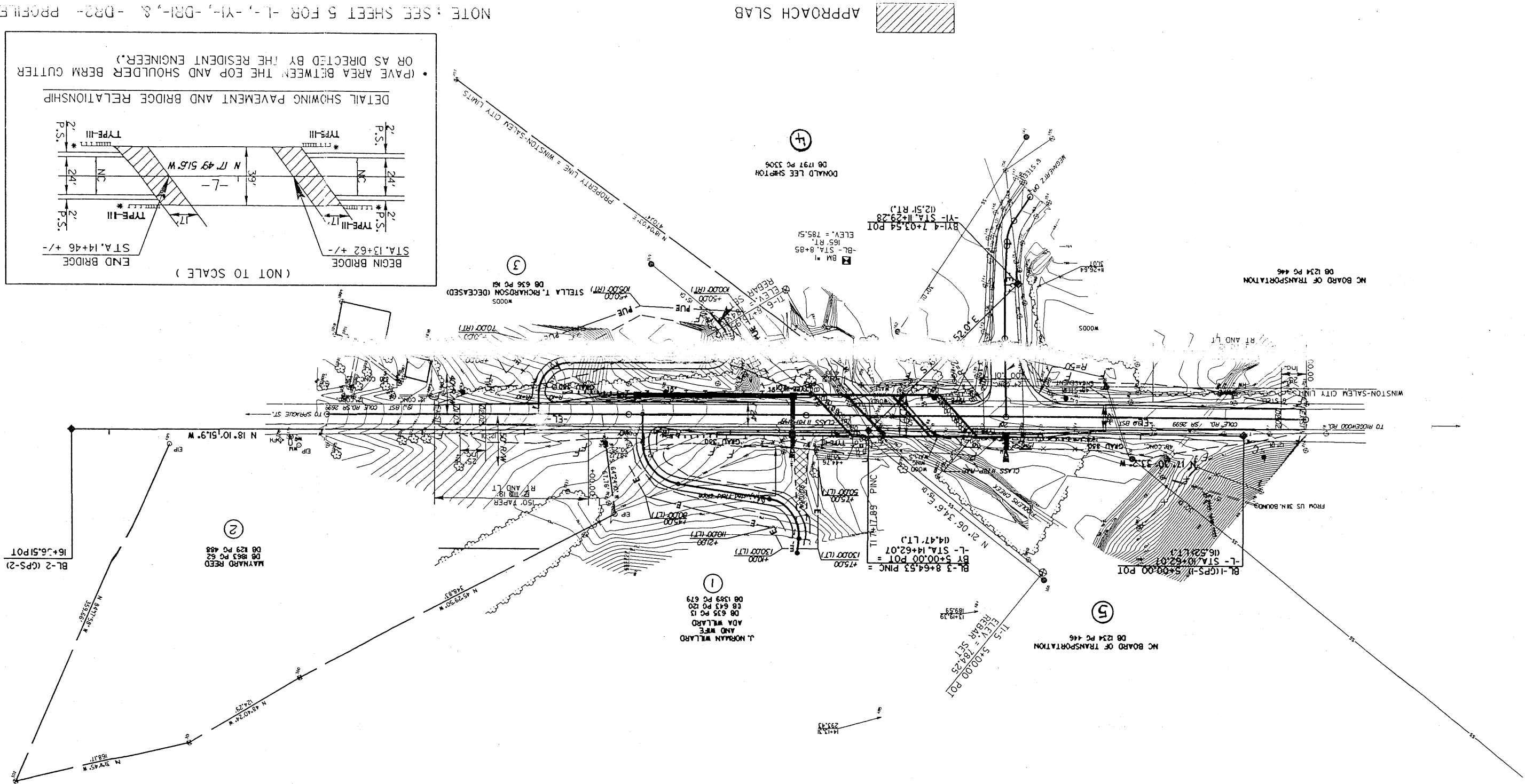
BL-2 (GPS-2)
16+36.51 P.O.I.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDDOT FOR MONUMENT "B3332-2" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 842931294(N) EASTING: 1653429614(E) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99993793 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3332-2" TO I-77 STATION 10+00.00 IS S 18 44 52.95 E 1,1987.2 (11) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAD 88

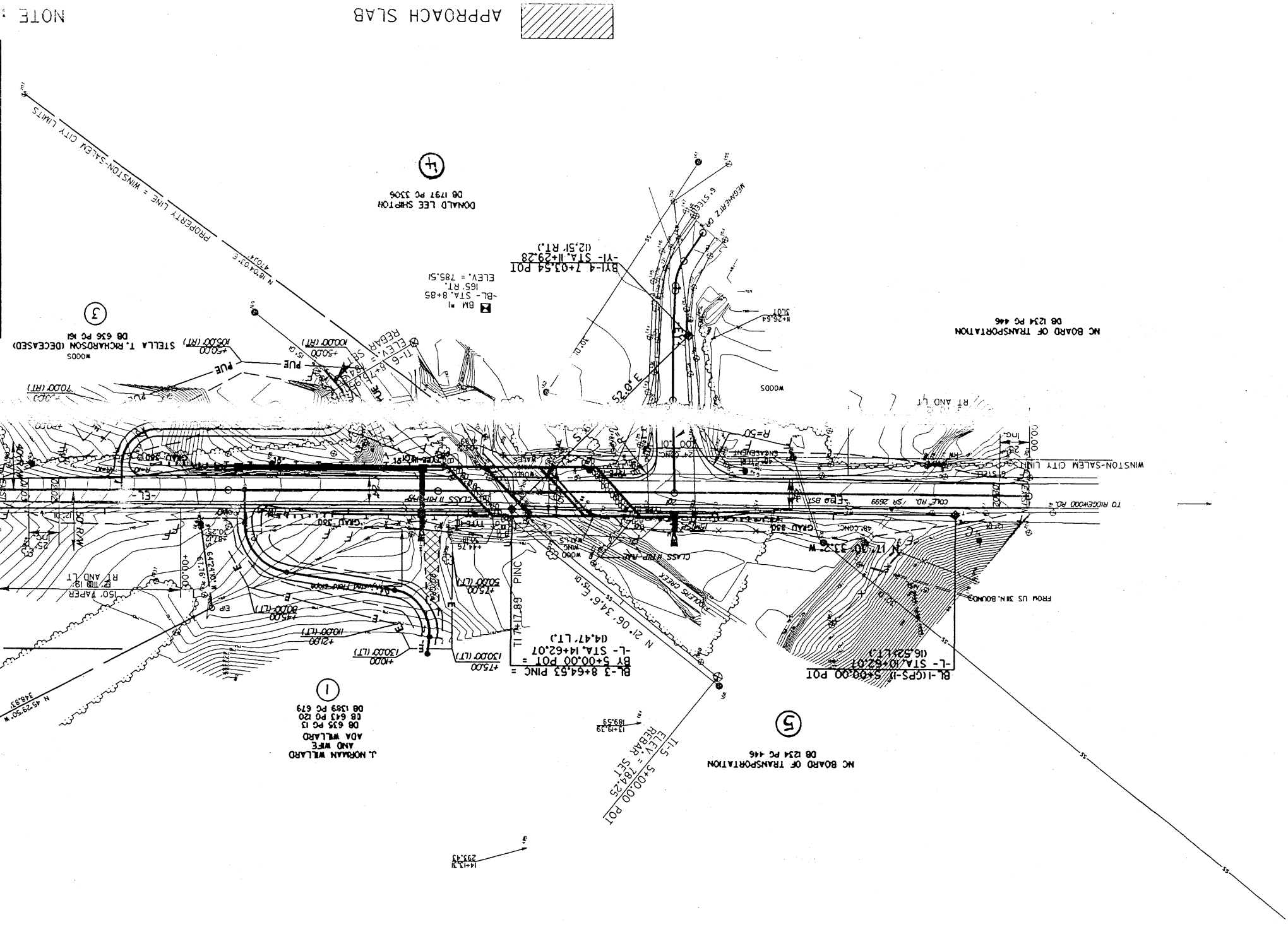
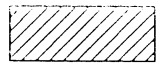
PROJECT REFERENCE NO.	B-3332
SHEET NO.	4
ROADWAY DESIGN ENGINEER	HYDRULICS ENGINEER
<p>PRELIMINARY PLANS</p> <p>DO NOT USE FOR CONSTRUCTION</p>	

NAD 83



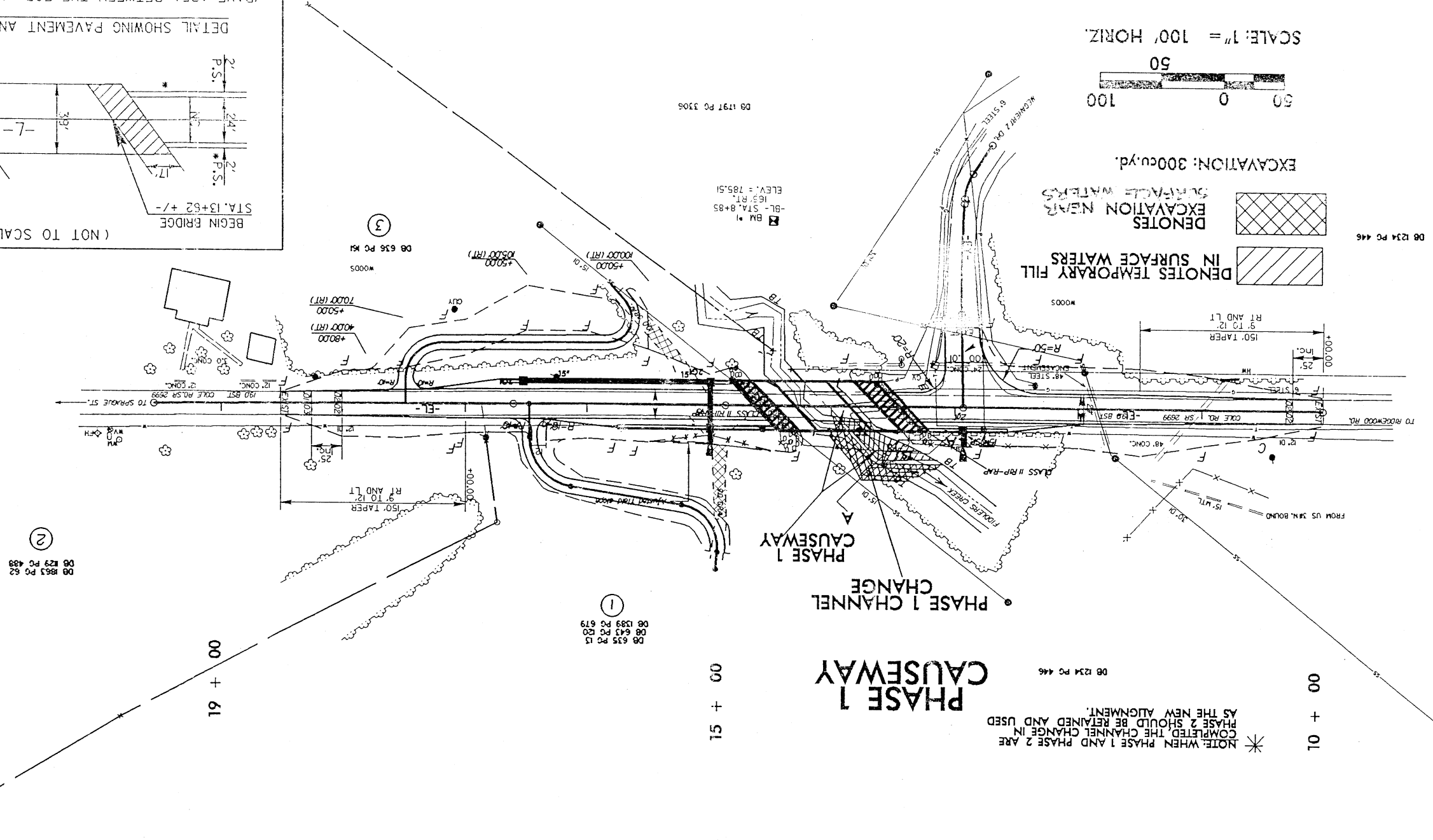
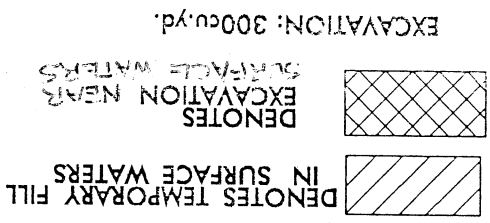
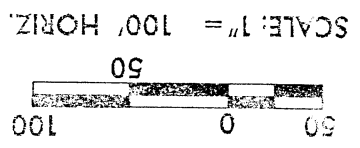
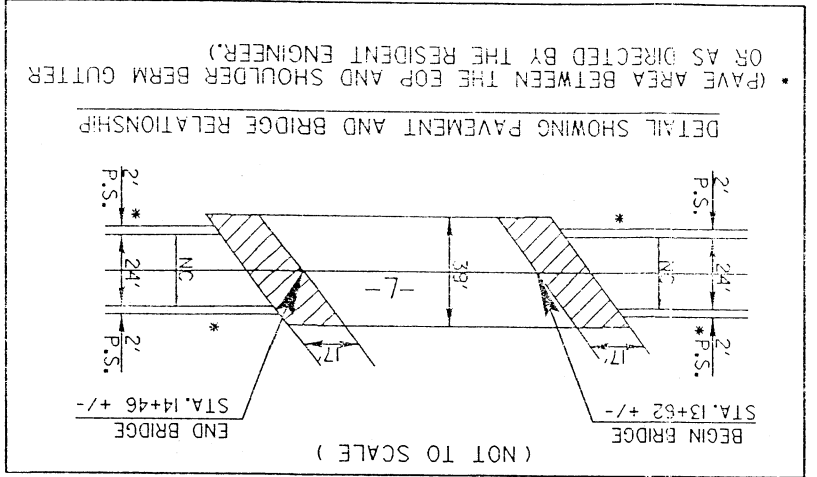
NOTE: SEE SHEET 5 FOR -L-, -YI-, -DR1-, & -DR2- PROFILE

APPROACH SLAB



DATE: 08/15/15
PROJECT: AC00-B3332-Phase 1.dwg

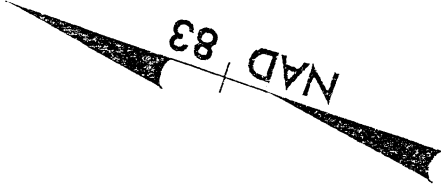
NOTE: SEE SHEET 5 FOR -L-, -YI-, -DRI-, & -DR2- PROFILE



DB 863 PC 62
DB 829 PC 488

DB 635 PC 15
DB 643 PC 20
DB 653 PC 619

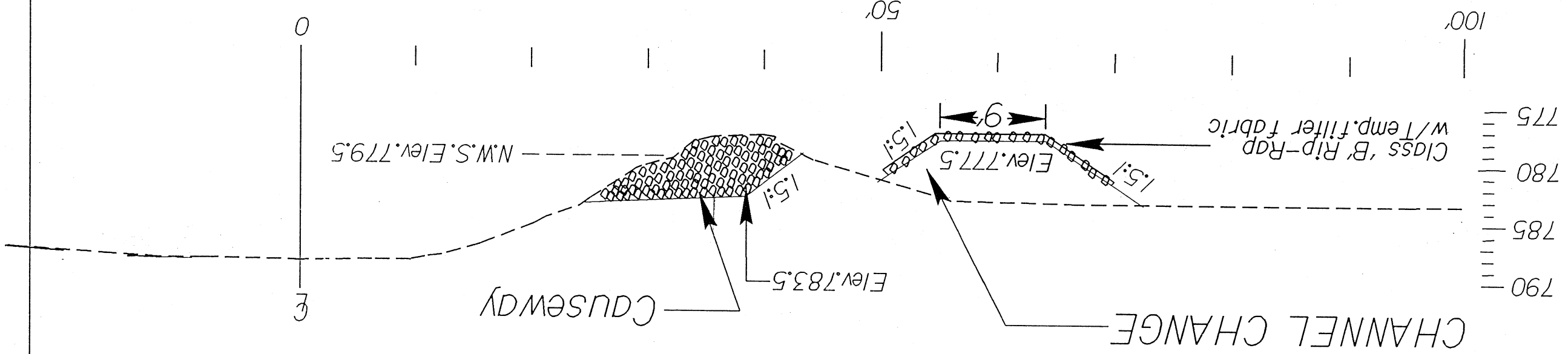
* NOTE: WHEN PHASE 1 AND PHASE 2 ARE COMPLETED, THE CHANNEL CHANGE IN PHASE 2 SHOULD BE RETAINED AND USED AS THE NEW ALIGNMENT.



PROJECT REFERENCE NO. B-3332	
SHEET NO. 4	
ROADWAY DESIGN ENGINEER	
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	

ENGLISH

PHASE I SECTION A-A



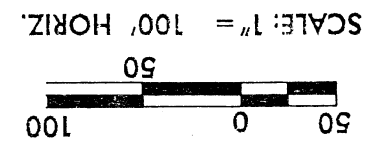
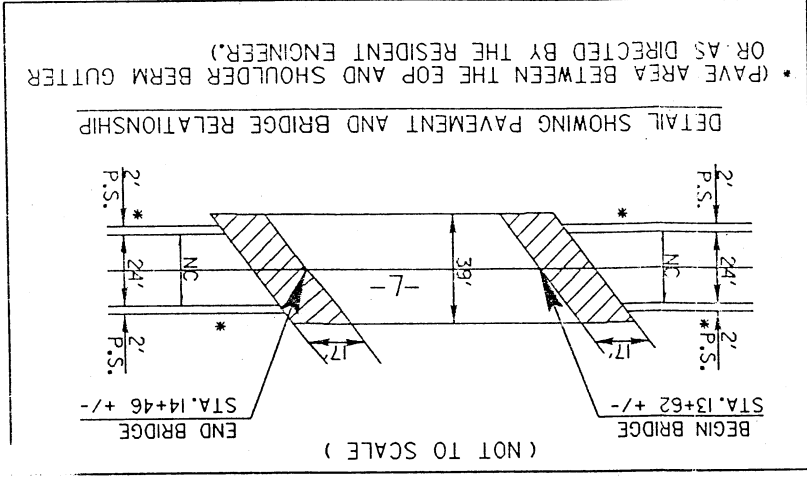
SCALE:



NC DOT
DIVISION OF HIGHWAYS
FORSYTH COUNTY
PROJECT: 8.2624601 (B-3332)
BRIDGE NO. 19 OVER FIDDLERS
CREEK ON SR 2699.

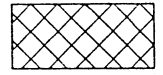
SHEET 7 OF 14
11/26/03

NOTE: SEE SHEET 5 FOR -L-, -YI-, -DRI-, & -DR2- PROFILE

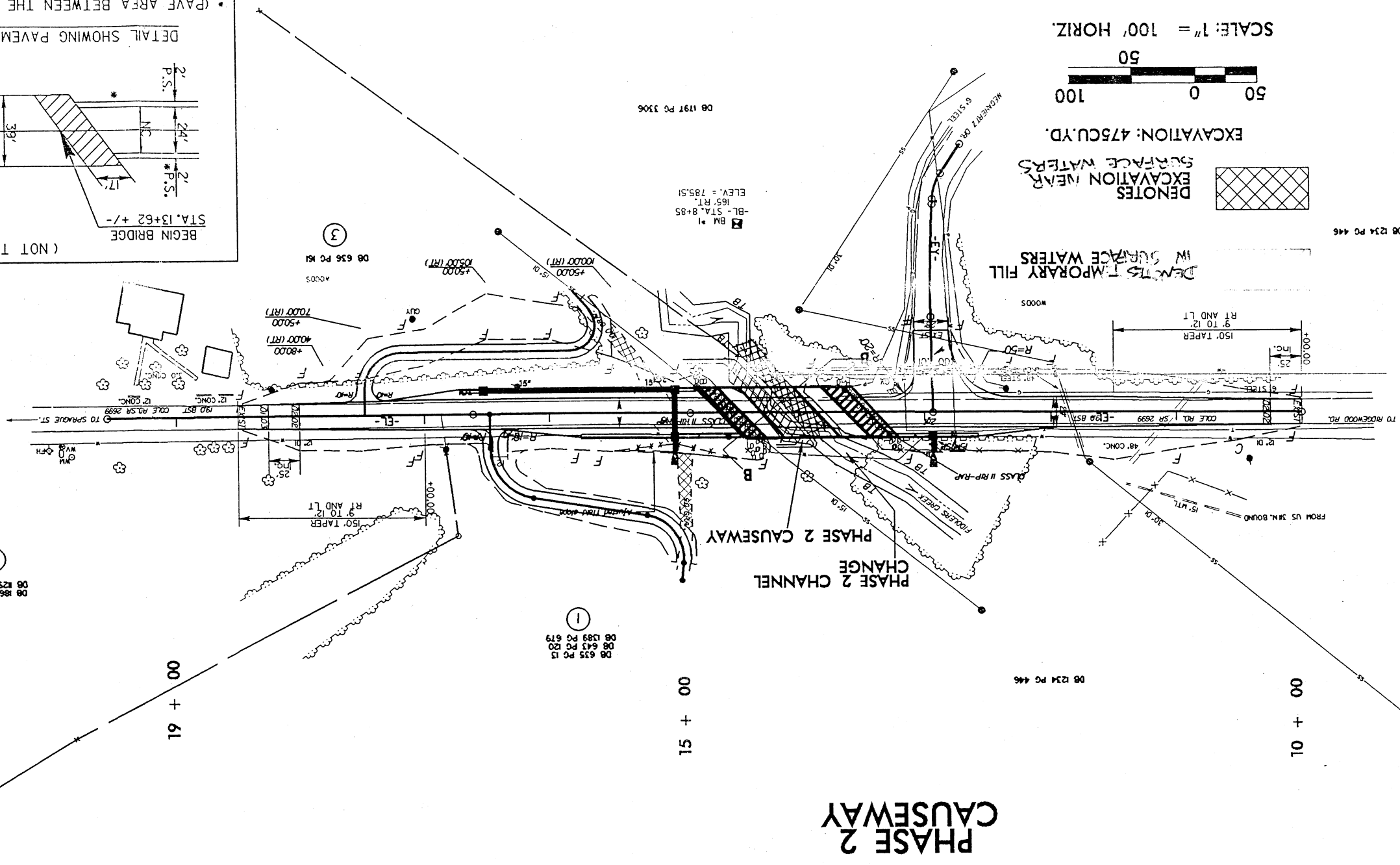


EXCAVATION: 475 CU. YD.

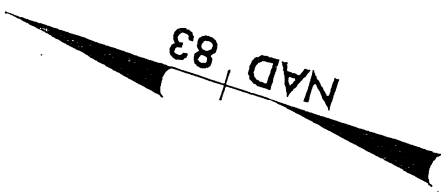
EXCAVATION WEARS SURFACE WATERS



TEMPORARY FILL WEARS SURFACE WATERS



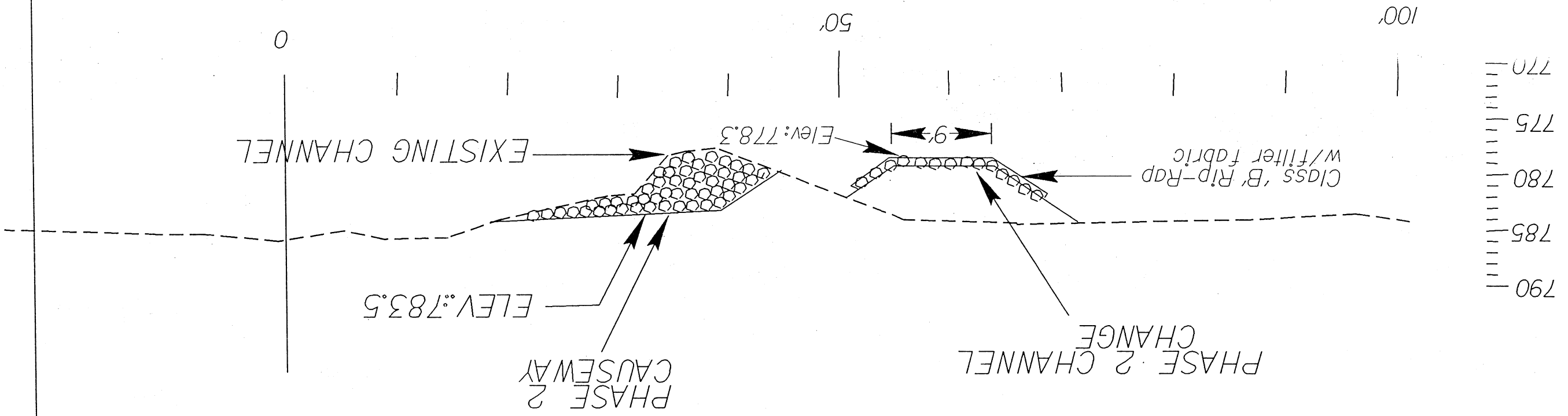
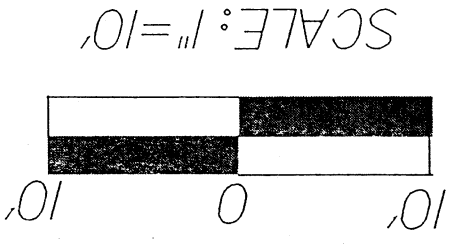
* NOTE: WHEN PHASE 1 AND PHASE 2 ARE COMPLETED, THE CHANNEL CHANGE IN PHASE 2 SHOULD BE RETAINED AND USED AS THE NEW STREAM ALIGNMENT.



PROJECT REFERENCE NO.		B-3332	
SHEET NO.		4	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
RAW SHEET NO.		8/11	
PRELIMINARY PLANS			
DO NOT USE FOR CONSTRUCTION			

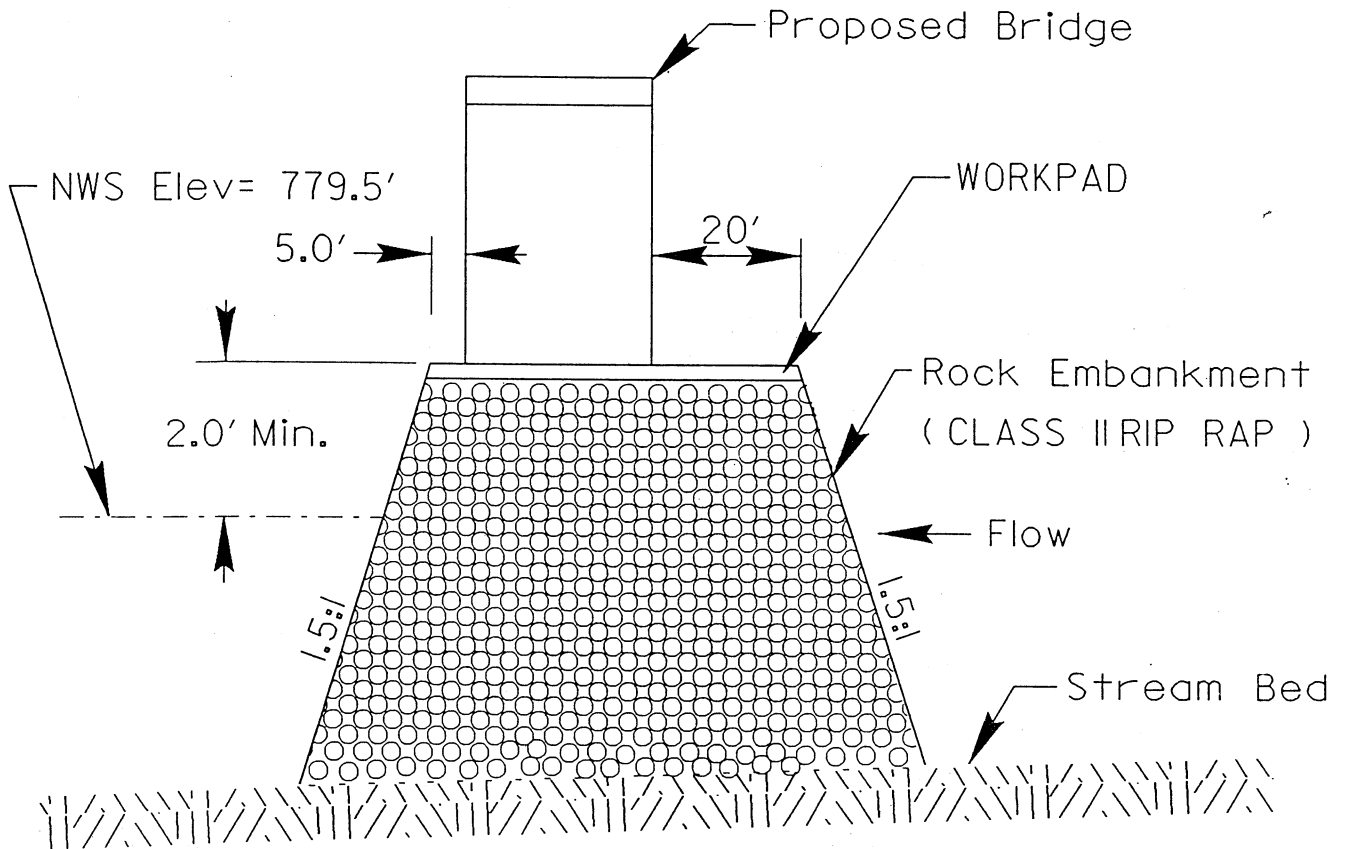
ENGLISH

NC DOT
 DIVISION OF HIGHWAYS
 FORSYTH COUNTY
 PROJECT: 8.2624601 (B-332)
 BRIDGE NO. 149 OVER FIDDLERS
 CREEK ON SR 2699.
 SHEET 9 OF 14
 11/26/03



PHASE 2
 CAUSEWAY
 SECTION B-B

DETAIL OF CAUSEWAY



PHASE 1 & PHASE 2

VOLUME OF CLASS II
RIP RAP BELOW W.S. = 665yds³

AREA OF
CLASS II RIP RAP = 0.07ac

(NOT TO SCALE)

NCDOT
 DIVISION OF HIGHWAYS
 FORSYTH COUNTY
 PROJECT: 8.2624601 (B-3332)
 REPLACEMENT OF BRG[#]149 OVER
 FIDDLERS CREEK ON SR 2699

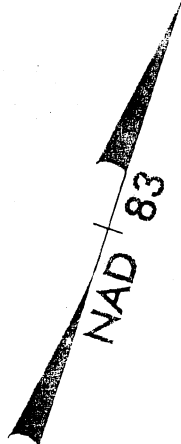
12 + 00

13 + 00

14 + 00

15 + 00

16 + 00



800

800

TOP OF CAUSEWAY
ELEV: 783.5

STATION 14 + 00-L-
ELEV. 789.92
SPANS: 1 @ 45'; 1 @ 50'; 1 @ 25' (21" CORED SLAB)
SKEW: 45°

790 50YR. W.S. EL. 790.5 100YR. W.S. EL. 790.7 0.2975%

(+) 0.2975%

N.G. Lt.

N.G. Lt.

780

780

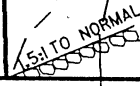
780

CLASS II RIP-RAP

CLASS II RIP-RAP
TO ELEV. 791.5

PHASE 1

PHASE 2



SCALE: 1" = 50' HORIZ.



SCALE: 1" = 20' VERT.



DENOTES TEMPORARY FILL
IN SURFACE WATER

PLAN VIEW

NCDOT

DIVISION OF HIGHWAYS
FORSYTH COUNTY

PROJECT: 8.2624601 (B-3532)

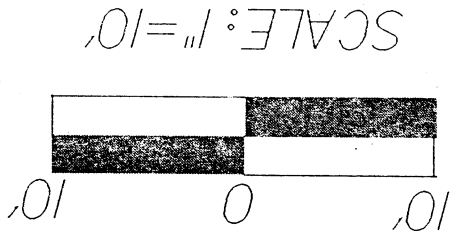
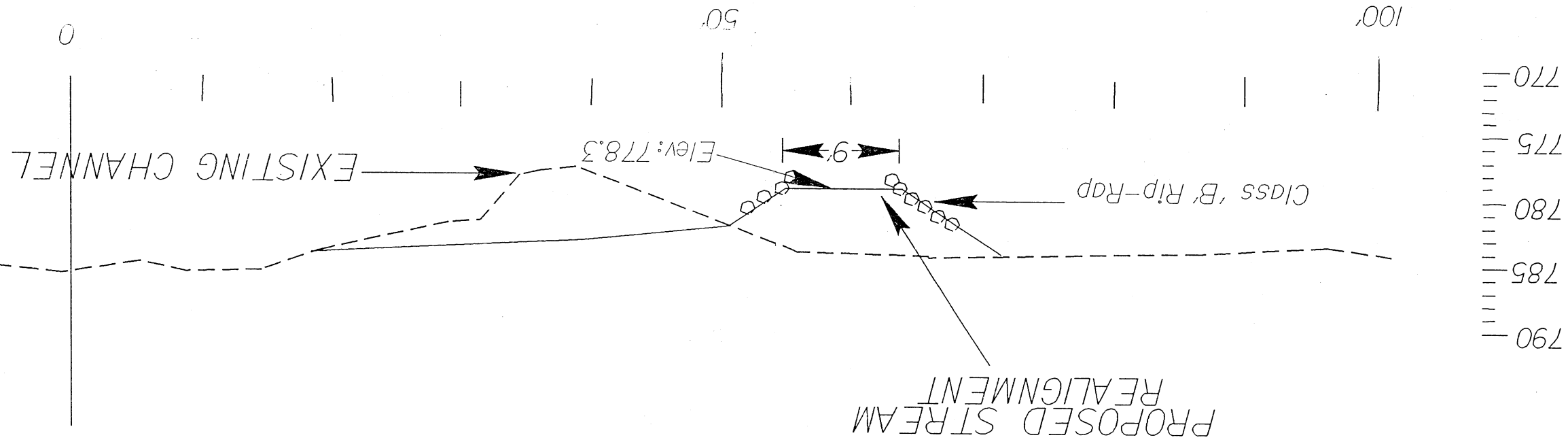
BRIDGE NO. 149 OVER FIDDLERS
CREEK ON SR 2699.

SHEET 11 OF 14

12/10/05

PROPOSED STREAM REALIGNMENT

SECTION B—B



NC DOT
DIVISION OF HIGHWAYS
FORSYTH COUNTY
PROJECT: 82624601 (B-3332)
BRIDGE NO. 149 OVER FIDDLERS
CREEK ON SR2699.
SHEET 12 OF 14
11/26/03

PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	J. NORMAN & ADA WILLARD	2378 UNION CROSS ROAD WINSTON-SALEM, NC 27107
2	MAYNARD B. REED	2826 COLE ROAD WINSTON-SALEM, NC 27107
3	STELLA T. RICHARSON (DECEASED)	2825 COLE ROAD WINSTON-SALEM, NC 27107
4	DONALD LEE SHIPTON	800 MEGAHERTZ DRIVE WINSTON-SALEM, NC 27107
5	NC BOARD OF TRANSPORTATION	629 PETERS CREEK PARKWAY WINSTON-SALEM, NC 27107

NCDOT

DIVISION OF HIGHWAYS
FORSYTH COUNTY
PROJECT: 8.2624601 (B-3332)
BRIDGE NO.149 OVER FIDDLERS
CREEK ON SR2699.

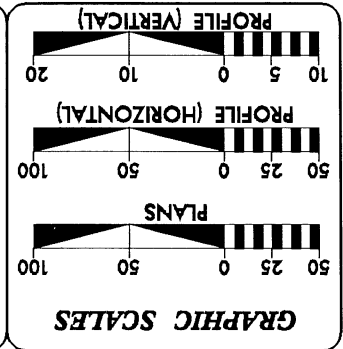
WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS						SURFACE WATER IMPACTS					
			Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)			
1	Phase 1	causeway									0.03		146.00	
1	Phase 2	causeway									0.03			
TOTALS:			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	146.00	0.00	

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 FORSYTH COUNTY
 PROJECT NO. 8 2624601 (B-3332)
 SHEET 14 OF 14 11/26/03

CONTRACT: C200888

TIP PROJECT: B-3332



DESIGN DATA

ADT 2002 = 3,600
 ADT 2025 = 6,500
 DHV = 10 %
 D = 55 %
 T = 5 % *
 V = 40 MPH
 * TTST 2% DUAL 3%
 FUNC CLASS = LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3332 = 0.154 MILES
 LENGTH STRUCTURE TIP PROJECT B-3332 = 0.022 MILES
 TOTAL LENGTH OF TIP PROJECT B-3332 = 0.170 MILES

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

PROJECT ENGINEER
 ROGER D. THOMAS, PE

PROJECT DESIGN ENGINEER
 BRIAN P. ROBINSON

2002 STANDARD SPECIFICATIONS
 RIGHT OF WAY DATE: JULY 29, 2003
 LETTING DATE: JULY 20, 2004

HYDRAULICS ENGINEER
 SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
 SIGNATURE: P.E.

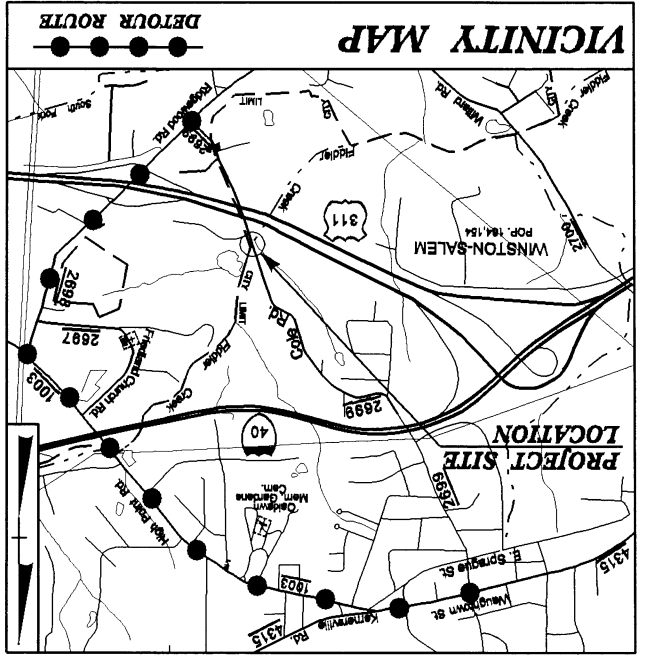
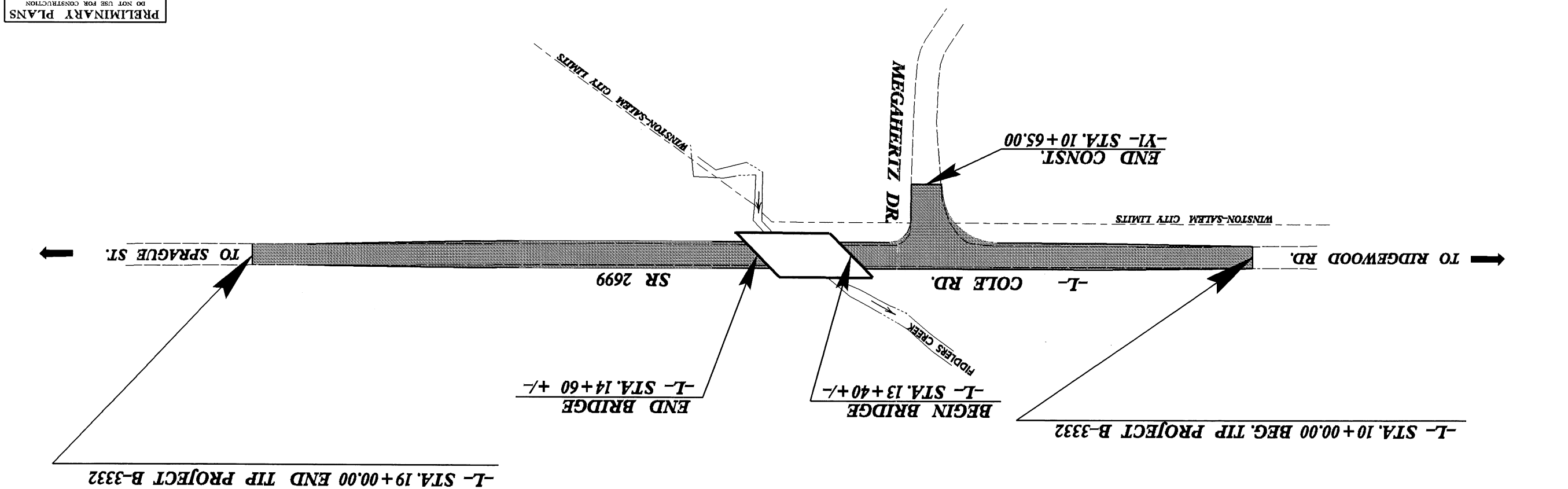
DIVISION OF NORTH CAROLINA
 STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER
 DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

DIVISION ADMINISTRATOR
 APPROVED

DATE

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION



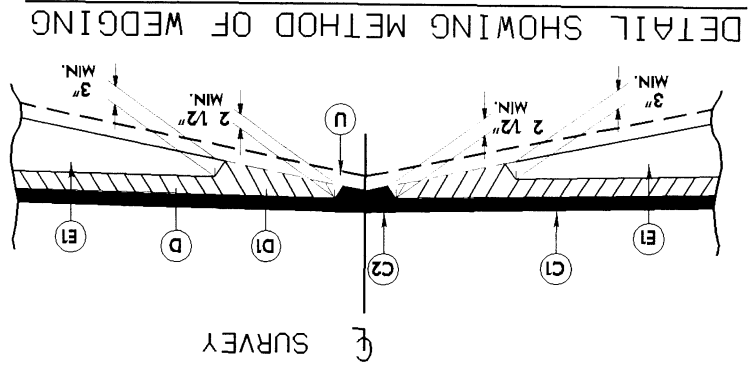
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

FORSYTH COUNTY

LOCATION: REPLACEMENT OF BRIDGE No. 149
ON SR 2699 OVER FIDDLER'S CREEK
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND
STRUCTURE

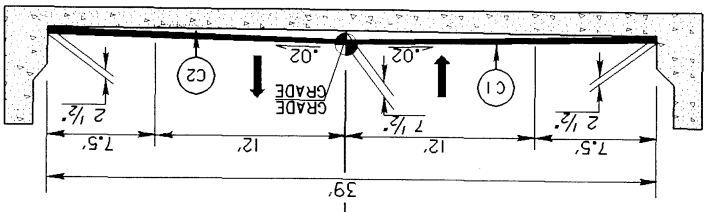
STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C. B-3332	1	1
STATE PROJ. NO.	DESCRIPTION	
32996.1.1	PE	
BRZ-2699(2)		
32996.3.1	ROW & UTIL	
BRZ-2699(3)		
32996.2.2	CONST	
BRZ-2699(4)		

See Sheet 1-A For Index of Sheets



DETAIL FOR WEARING SURFACE
 ON CORED SLAB BRIDGE

TYPICAL SECTION ON STRUCTURE
 -L- STA 13+40 +/- TO 14+60 +/-



-L- (SR 2699)

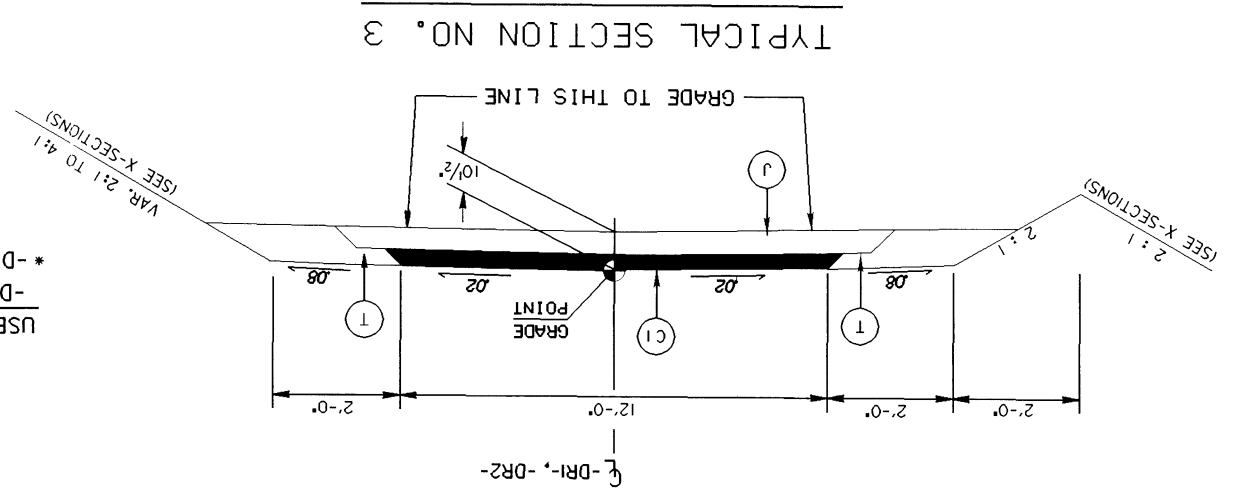
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2 1/2" ASPHALT CONC. SURFACE COURSE, TYPE 59.5B, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YARD, IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE 59.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0B, AT AN AVERAGE WEIGHT OF 342 LBS. PER SQ. YD.
D1	PROP. APPROX. 4 1/2" ASPHALT CONC. INTERMEDIATE COURSE, TYPE 119.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT GREATER THAN 4" IN DEPTH OR LESS THAN 2 1/4" IN DEPTH.
E	PROP. APPROX. 4 1/2" ASPHALT CONC. BASE COURSE, TYPE 825.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YARD.
E1	PROP. APPROX. 4 1/2" ASPHALT CONC. BASE COURSE, TYPE 825.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
J	PROPOSED 8" AGGREGATE BASE COURSE
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT. (SEE WEDGING DETAIL)

PROJECT REFERENCE NO. B-3332	
ROADWAY DESIGN ENGINEER	
PAVEMENT DESIGN ENGINEER	
SHEET NO. 2	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

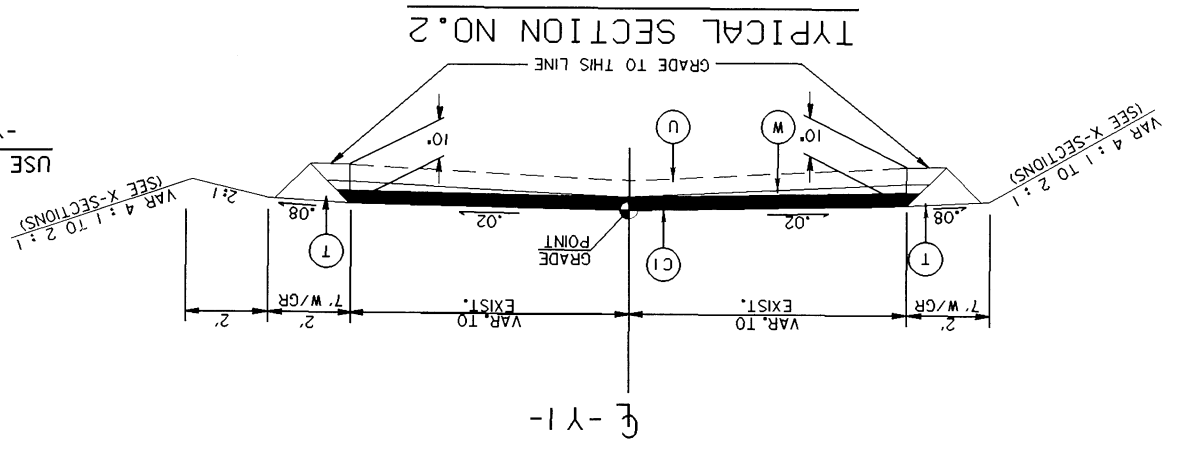
TYPICAL SECTION NO. 3
 -DR1- STA. 10+14.00 TO STA. 12+31.77
 -DR2- STA. 10+11.11 TO STA. 12+55.00

USE TYPICAL SECTION NO. 4 AS FOLLOWS

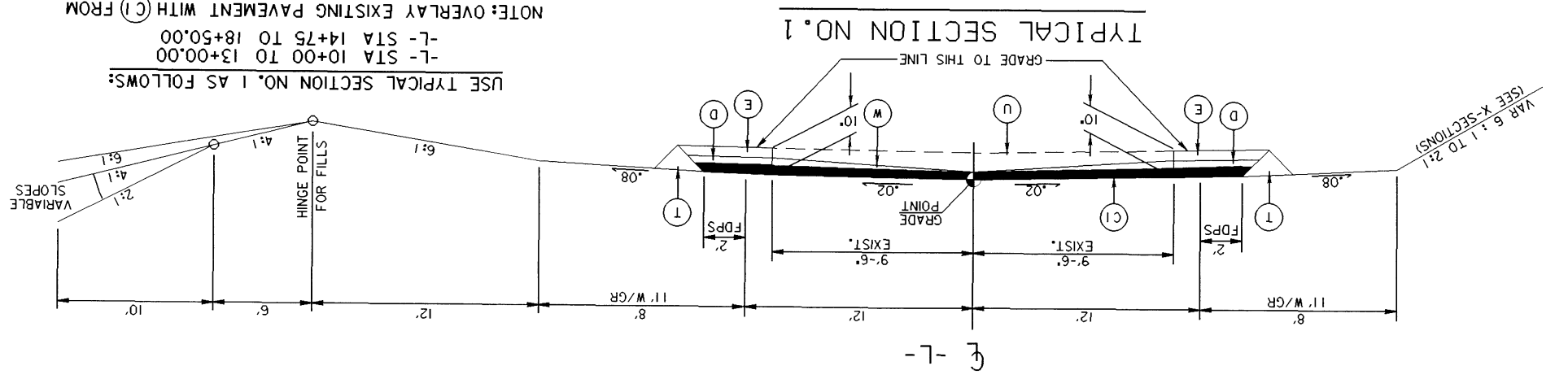


TYPICAL SECTION NO. 2
 -Y1- STA 10+12.01 TO 10+65.00

USE TYPICAL SECTION NO. 3 AS FOLLOWS:



USE TYPICAL SECTION NO. 1 AS FOLLOWS:
 -L- STA 14+75 TO 18+50.00
 -L- STA 10+00 TO 13+00.00
 NOTE: OVERLAY EXISTING PAVEMENT WITH (C1) FROM
 -L- STATION 18+50 TO 19+00



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NC DOT FOR MONUMENT "B3332-2"
 WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 842931294(FT) EASTING: 1653429614(FT)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (ROUND TO GRID) IS: 0.99993793
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3332-2" TO -L- STATION 10+000.00 IS S 18 44 52.95 E 1,1987.2 (FT)
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAD 88

-L-

P1 Sta 15+73.92
 $\Delta = 0' 26' 06.6" (LT)$
 $D = 0' 15' 00.0"$
 $L = 17' 40.7"$
 $T = 87.03'$
 $R = 22918.31'$
 SE = NC

-YI-

P1 Sta 11+20.83
 $\Delta = 4' 14' 35.6" (RT)$
 $D = 4' 45' 00.0"$
 $L = 89' 33.3"$
 $T = 44' 59.7"$
 $R = 120623'$

P1 Sta 11+807.3
 $\Delta = 30' 45' 18.5" (RT)$
 $D = 143' 14' 22.0"$
 $L = 21' 47.1"$
 $T = 1100'$
 $R = 4000'$

-DRI-

P1 Sta 10+47.42
 $\Delta = 87' 20' 51.5" (LT)$
 $D = 163' 42' 08.0"$
 $L = 53' 36.6"$
 $T = 33' 42.7"$
 $R = 3500'$

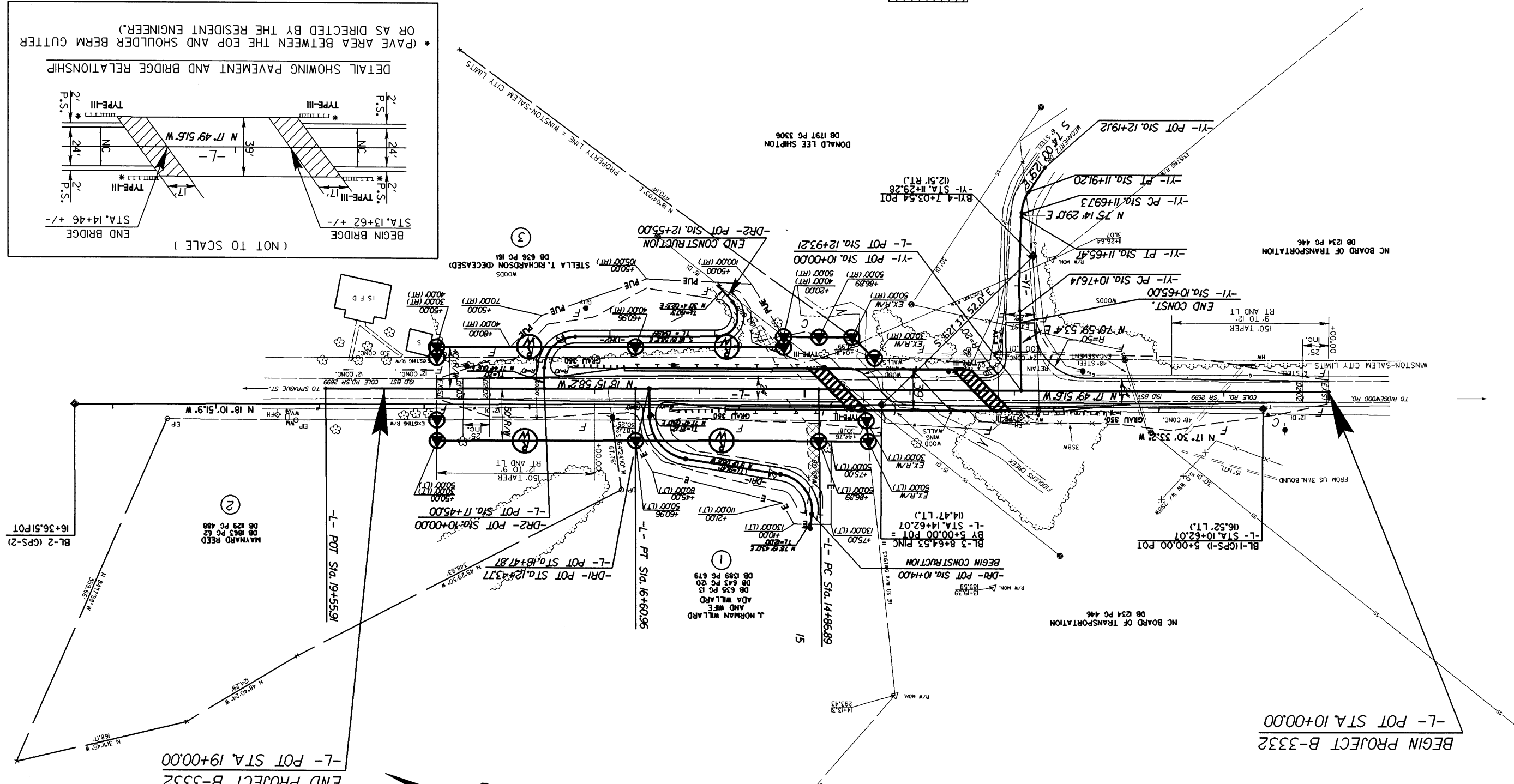
P1 Sta 11+937.2
 $\Delta = 80' 48' 17.5" (RT)$
 $D = 139' 44' 44.9"$
 $L = 57' 8.2"$
 $T = 34' 90.1"$
 $R = 4100'$

-DR2-

P1 Sta 12+46.01
 $\Delta = 90' 00' 00.0" (RT)$
 $D = 137' 02' 59.3"$
 $L = 190' 59' 09.4"$
 $T = 43' 94.4"$
 $R = 2000'$

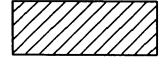
P1 Sta 10+50.00
 $\Delta = 90' 00' 00.0" (RT)$
 $D = 137' 02' 59.3"$
 $L = 190' 59' 09.4"$
 $T = 43' 94.4"$
 $R = 2000'$

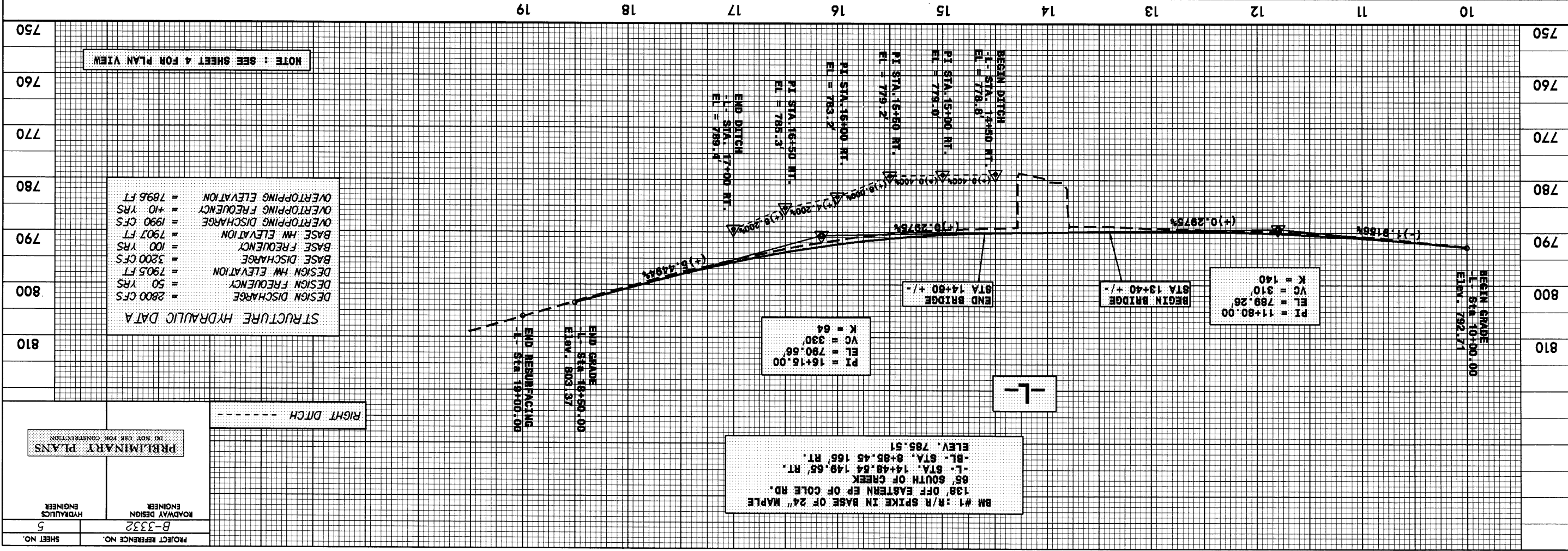
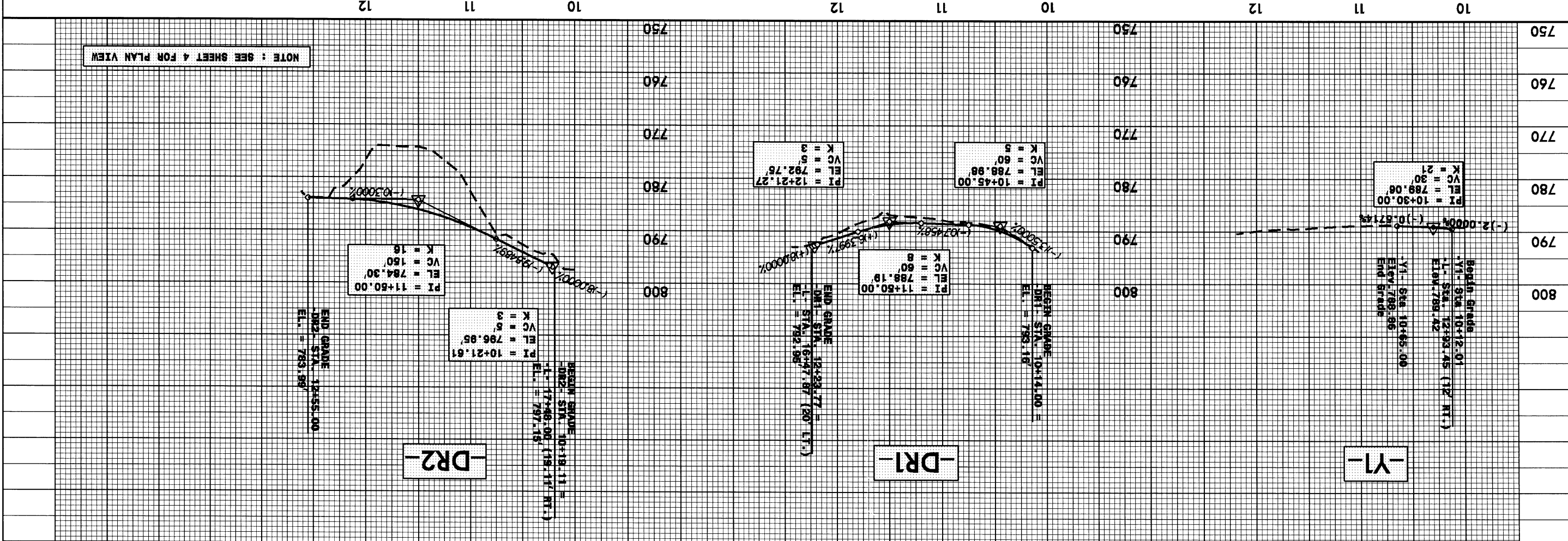
PROJECT REFERENCE NO.		B-3332	
SHEET NO.		4	
ROADWAY DESIGN HYDRAULICS ENGINEER			
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>			



NOTE: SEE SHEET 5 FOR -L-, -YI-, -DRI-, & -DR2- PROFILE

APPROACH SLAB



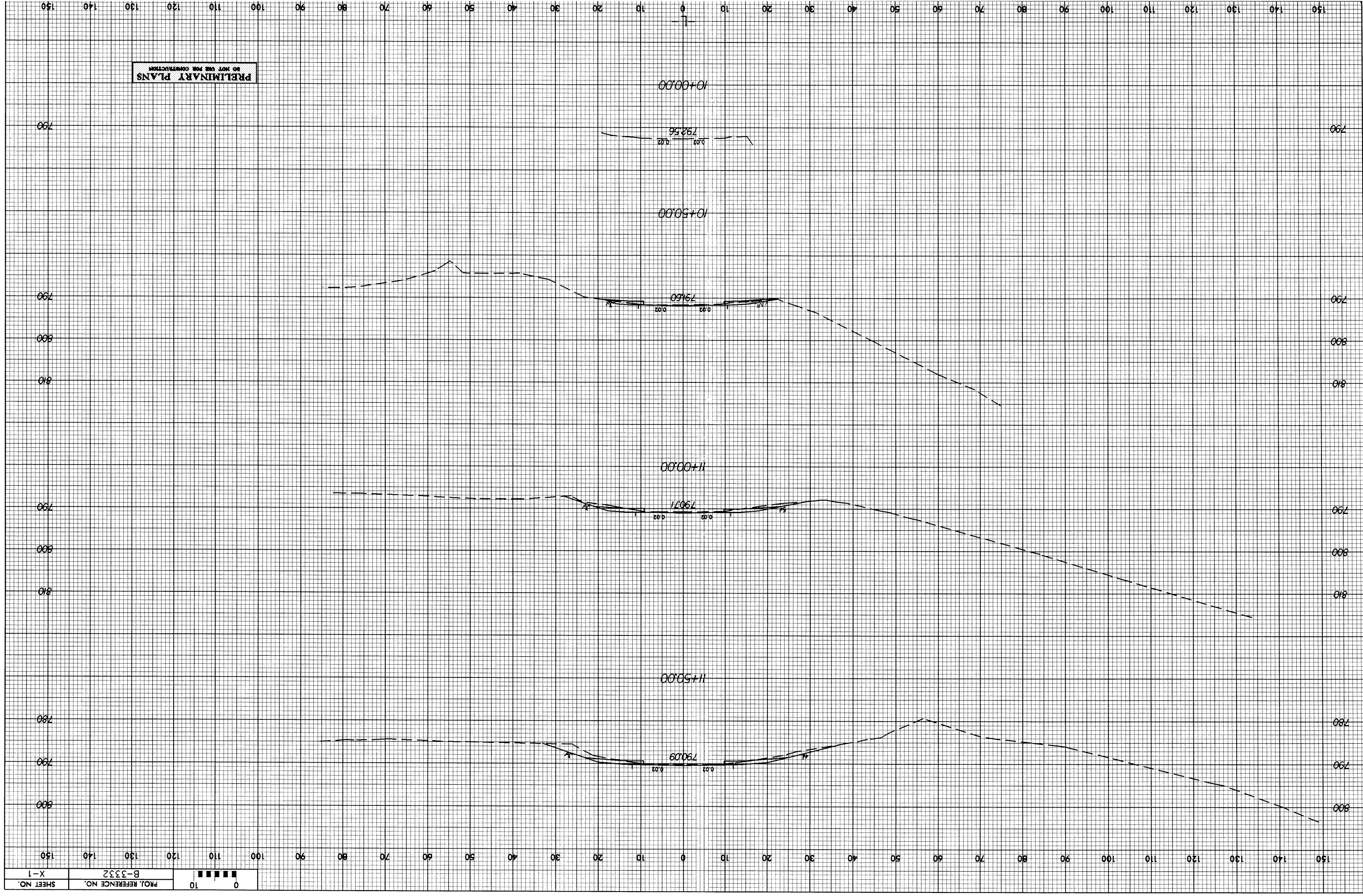


PROJECT REFERENCE NO. B-3332
SHEET NO. 5
ROADWAY DESIGN
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

RIGHT DITCH

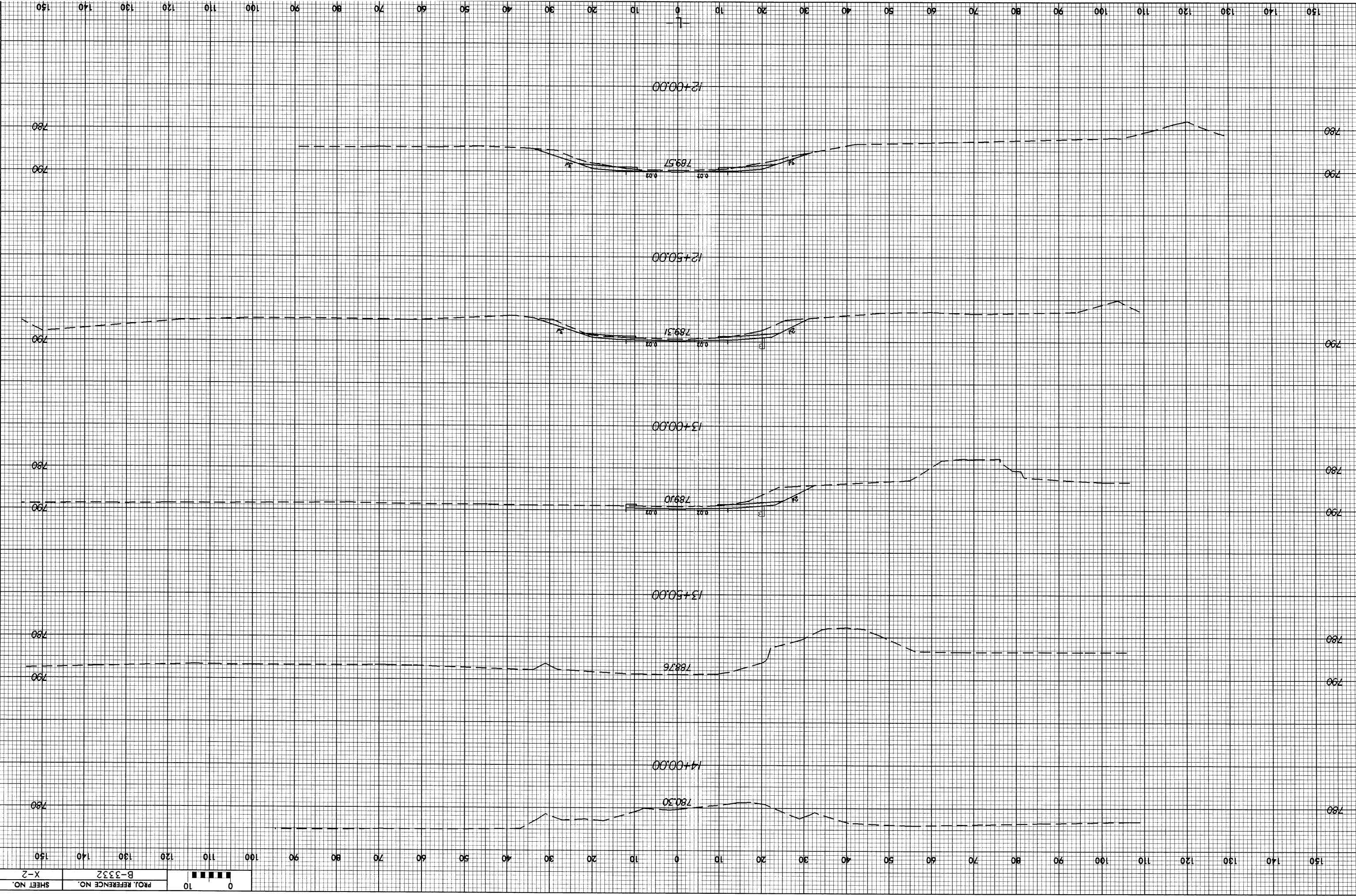
STRUCTURE HYDRAULIC DATA

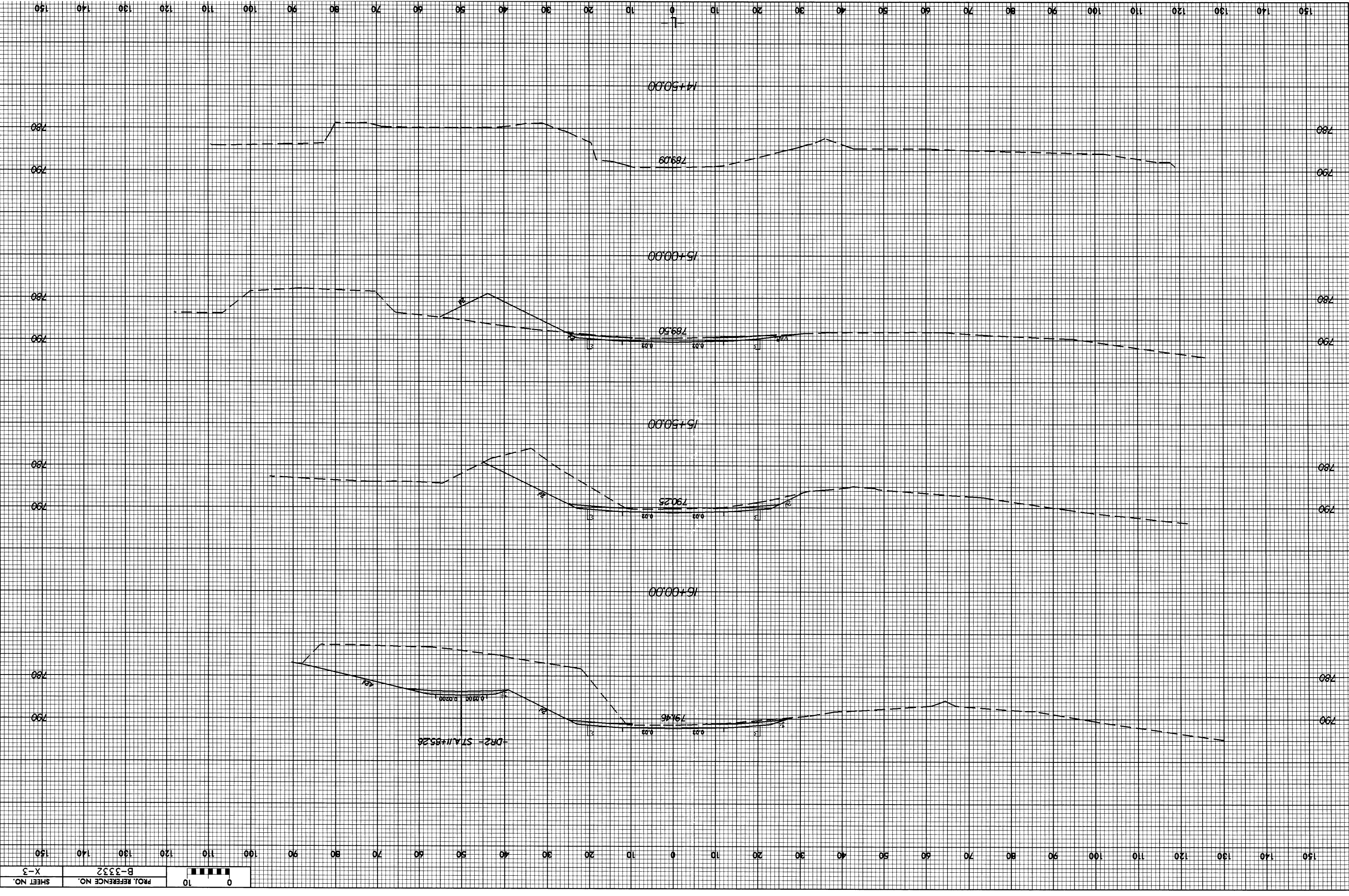
DESIGN DISCHARGE	= 2800 CFS
DESIGN FREQUNCY	= 50 YRS
DESIGN HW ELEVATION	= 790.5 FT
BASE DISCHARGE	= 3200 CFS
BASE FREQUNCY	= 100 YRS
BASE HW ELEVATION	= 790.7 FT
OVERTOPPING DISCHARGE	= 1990 CFS
OVERTOPPING FREQUNCY	= +10 YRS
OVERTOPPING ELEVATION	= 789.6 FT



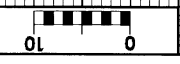
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

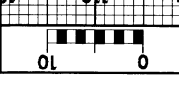
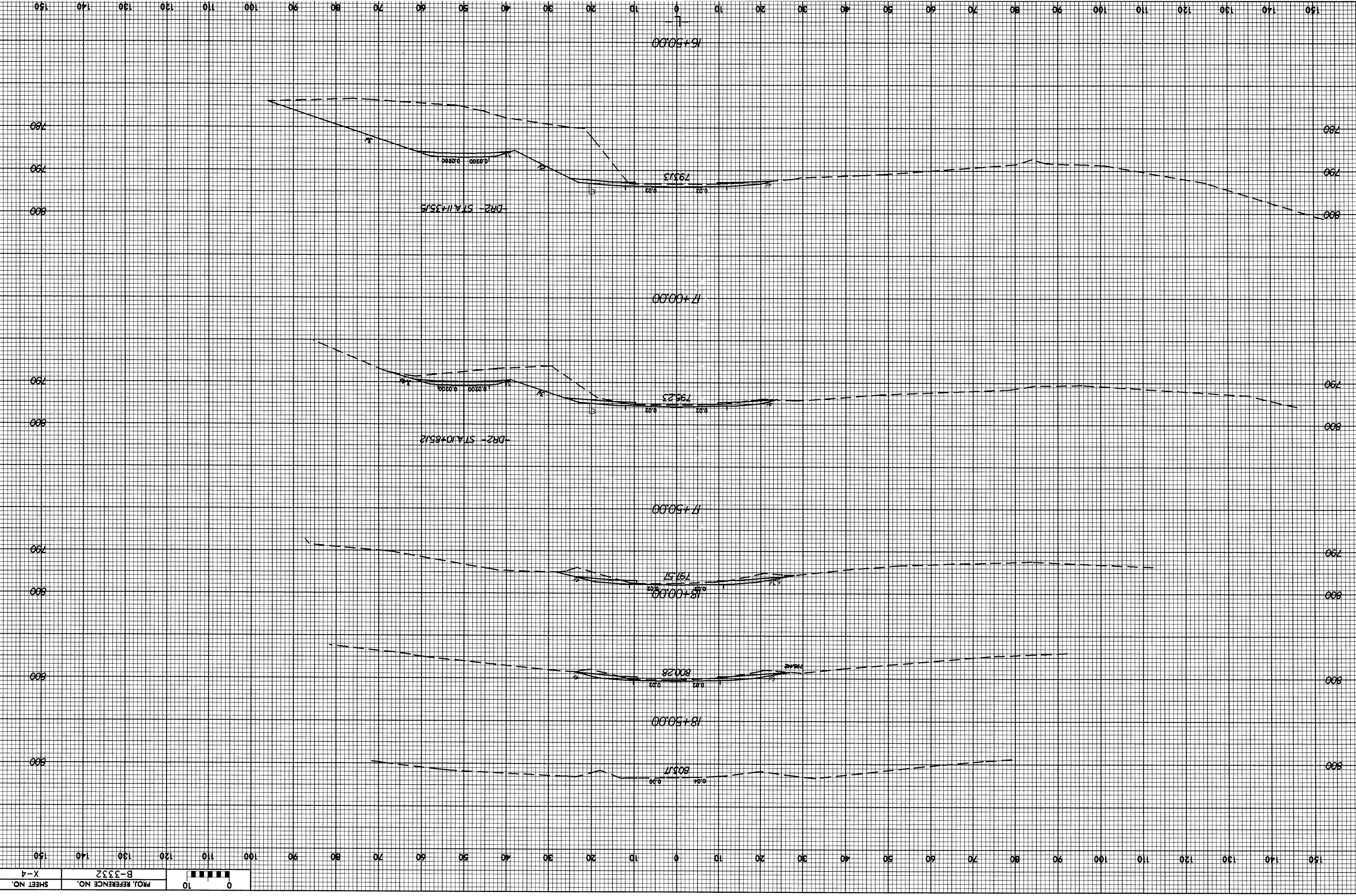
PROL REFERENCE NO. B-3332
SHEET NO. X-1

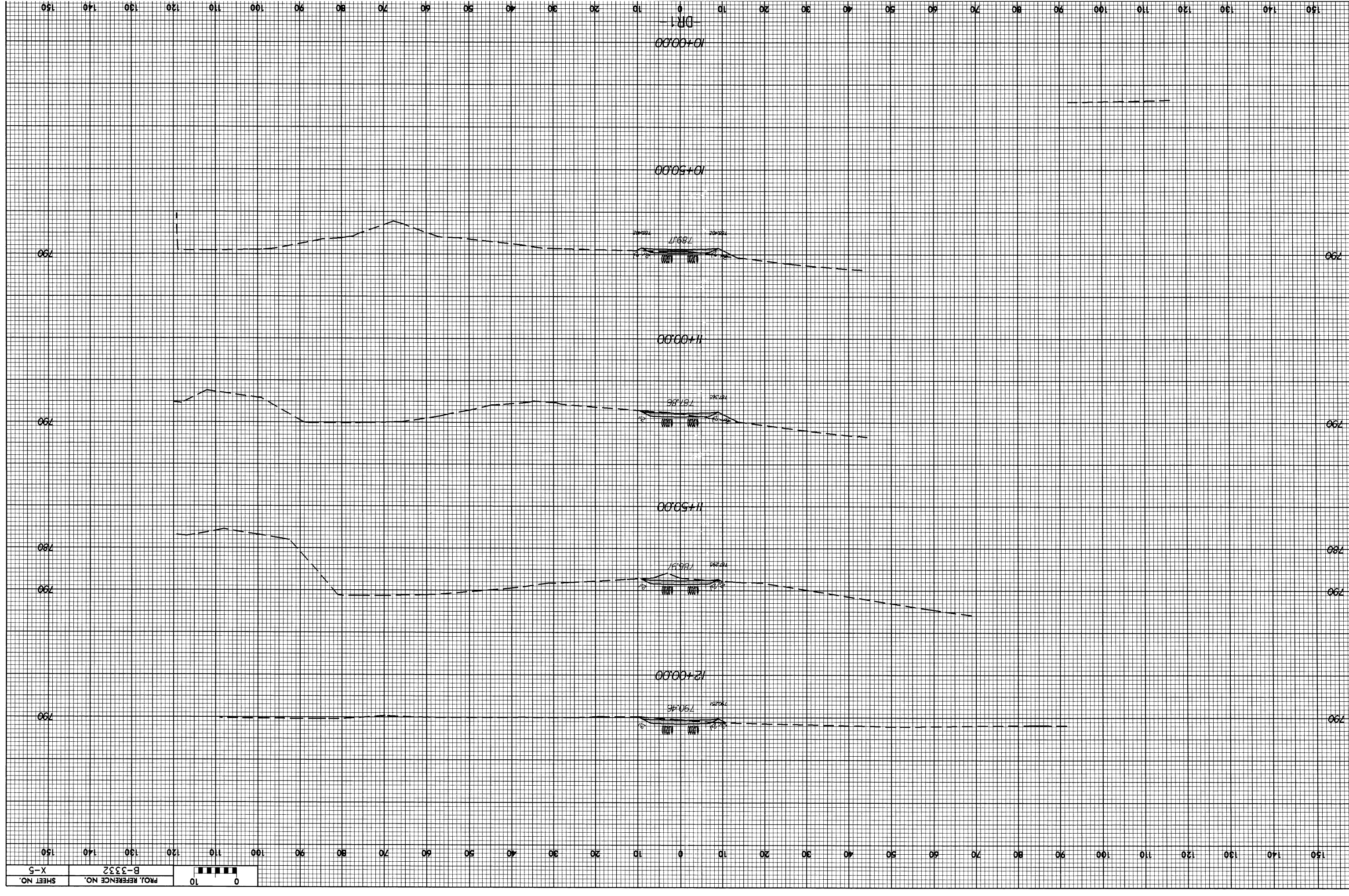




PROJ. REFERENCE NO. B-3332
SHEET NO. X-3







PROJ. REFERENCE NO. B-3332
SHEET NO. X-5