



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

November 25, 2008

Mr. Bill Biddlecome
U.S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1000
Washington, NC 27889-1000

Mr. Jim Hoadley
Division of Coastal Management
N. C. Dept. of Env. & Natural Resources
1367 U. S. Highway 17
Elizabeth City, NC 27909

Dear Sirs:

Subject: Nationwide 23 and 33 Permit Application, and CAMA Major Development Permit Application for the replacement of Bridge #14 over the Cashie River on US 17 in Bertie County, in Windsor. State Project No. 8.1010801. Federal Aid Project Number BRNHS-17(35). Debit \$400.00 from WBS 33700.1.1.TIP No. B-4434.

Please find enclosed the North Carolina Division of Coastal Management Major Permit Forms 1 and 5, PCN form, EEP acceptance letter, Stormwater permit, permit drawings, half-size plan sheets, utility narrative/drawings, and adjacent riparian landowner return receipts for the above referenced project. A Categorical Exclusion (CE) was completed for this project on February 25, 2004, and distributed shortly thereafter. Additional copies are available upon request. The North Carolina Department of Transportation (NCDOT), Division of Highways, in consultation with the Federal Highway Administration (FHWA), proposes to replace Bridge No. 14 in Bertie County, in Windsor.

Regulatory Approvals

CAMA: NCDOT requests that the proposed work be authorized under a Coastal Area Management Act Major Development Permit. The landowner receipts are provided with this permit application. Authorization to debit the \$400 Permit Application Fee from WBS Element 33700.1.1 is hereby given.

Section 404 Permit: All aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that a Nationwide Permit 23 authorize these activities. We are also requesting the issuance of a Nationwide Permit 33 for the temporary fill due to the installation of erosion control measures. (72 CFR; 11092-11198, March 12, 2007).

Section 401 Permit: We anticipate 401 General Certification numbers 3701 and 3688 will apply to this project. NCDOT is providing five copies of this application to the North Carolina

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-715-1500
FAX: 919-715-1501
WEBSITE: WWW.NCDOT.ORG

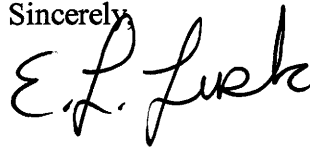
LOCATION:
2728 CAPITAL BLVD
PLB SUITE 168
RALEIGH, NC 27604

Department of Environmental and Natural Resources, Division of Water Quality, for their approval. NCDOT received a stormwater permit (SW7060619), dated August 9, 2006, from NCDWQ (attached).

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 Mr. Chris Manley, at 919-715-1487.

Sincerely,



for

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

cc List:

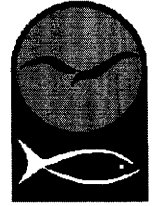
W/attachment

Mr. Brian Wrenn, NCDWQ (5 Copies)
Ms. Cathy Brittingham, NCDCM

W/o attachment (see website for attachments)

Mr. Scott McLendon, USACE, Wilmington
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Ron Sechler, NMFS
Ms. Anne Deaton, NCDMF
Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Anthony Roper, P.E., Division 1 Engineer
Mr. Clay Willis, Division 1 Environmental Officer
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Ms. Beth Harmon, EEP
Mr. Todd Jones, NCDOT External Audit Branch
Ms. Stacy Oberhausen, P.E., PDEA Project Planning Engineer

APPLICATION for Major Development Permit



(last revised 12/27/06)

North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information			
Business Name North Carolina Department Of Transportation		Project Name (if applicable) B-4434	
Applicant 1: First Name Gregory	MI J.	Last Name Thorpe	
Applicant 2: First Name	MI	Last Name	
<i>If additional applicants, please attach an additional page(s) with names listed.</i>			
Mailing Address 1598 Mail Service Center		PO Box	City Raleigh
		State NC	
ZIP 27699	Country USA	Phone No. 919 - 715 - 1487 ext.	FAX No. 919 - 715 - 5501
Street Address (if different from above)		City	State
			ZIP -
Email			

2. Agent/Contractor Information			
Business Name			
Agent/ Contractor 1: First Name	MI	Last Name	
Agent/ Contractor 2: First Name	MI	Last Name	
Mailing Address		PO Box	City
		State	
ZIP		Phone No. 1 - - ext.	Phone No. 2 - - ext.
FAX No.	Contractor #		
Street Address (if different from above)		City	State
			ZIP -
Email			

<Form continues on back>

3. Project Location				
County (can be multiple) Bertie		Street Address US 17		State Rd. # US 17
Subdivision Name N/A		City Windsor	State NC	Zip -
Phone No. N/A - - ext.			Lot No.(s) (if many, attach additional page with list) N/A, , , ,	
a. In which NC river basin is the project located? Roanoke		b. Name of body of water nearest to proposed project Cashie River		
c. Is the water body identified in (b) above, natural or manmade? <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Manmade <input type="checkbox"/> Unknown		d. Name the closest major water body to the proposed project site. Cashie River		
e. Is proposed work within city limits or planning jurisdiction? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. N/A		

4. Site Description	
a. Total length of shoreline on the tract (ft.) 350	b. Size of entire tract (sq.ft.) 0.242m Linear Roadway miles
c. Size of individual lot(s) N/A, (if many lot sizes, please attach additional page with a list)	d. Approximate elevation of tract above NHW (normal high water) or NWL (normal water level) <input type="checkbox"/> NHW or <input type="checkbox"/> NWL
e. Vegetation on tract Cypress-gum swamp and Maintained/Disturbed (containing various grasses and weeds)	
f. Man-made features and uses now on tract US 17 and Bridge No. 14	
g. Identify and describe the existing land uses <u>adjacent</u> to the proposed project site. Commercial and residential	
h. How does local government zone the tract? N/A	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
j. Is the proposed activity part of an urban waterfront redevelopment proposal? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA If yes, by whom?	
l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	

<Form continues on next page>

m. (i) Are there wetlands on the site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(ii) Are there coastal wetlands on the site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? (Attach documentation, if available)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

n. Describe existing wastewater treatment facilities. none
o. Describe existing drinking water supply source. none
p. Describe existing storm water management or treatment systems. Shoulder sections with sheet flow

5. Activities and Impacts	
a. Will the project be for commercial, public, or private use?	<input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Public/Government <input type="checkbox"/> Private/Community
b. Give a brief description of purpose, use, and daily operations of the project when complete. Replacement of Bridge No. 14 over Cashie River.	
c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored. This project involves the replacement of Bridge No. 14 (US 17) in Windsor. The bridge will be replaced at the existing location, and traffic will be maintained on site utilizing staged construction. The existing bridge will be removed without dropping any components into the water. Typical construction, earth moving, and road surface equipment will be used.	
d. List all development activities you propose. Construction of a new bridge and roadway	
e. Are the proposed activities maintenance of an existing project, new work, or both?	both
f. What is the approximate total disturbed land area resulting from the proposed project?	1 <input type="checkbox"/> Sq.Ft or <input checked="" type="checkbox"/> Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
h. Describe location and type of existing and proposed discharges to waters of the state. Concentrated flow discharged to rip rap pads	
i. Will wastewater or stormwater be discharged into a wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
If yes, will this discharged water be of the same salinity as the receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
j. Is there any mitigation proposed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
If yes, attach a mitigation proposal.	

<Form continues on back>

6. Additional Information	
<i>In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.</i>	
a. A project narrative.	
b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.	
c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.	

d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.
e. The appropriate application fee. Check or money order made payable to DENR.
f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management. Name H. L. Thompson, ET. AL. Phone No. Address 611 Greene Cross Road, Windsor, NC 27983 Name John E. Sherron Phone No. Address 4323 Breeze Road, Hurdle Mills, NC 27541 Name Browne-Britton, Inc. Phone No. Address P.O. Box 1386, Ahoskie, NC 27910
g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates. State Stormwater Permit, No. SW7060619, NCDWQ, August 09, 2006
h. Signed consultant or agent authorization form, if applicable.
i. Wetland delineation, if necessary.
j. A signed AEC hazard notice for projects in oceanfront and inlet areas. <i>(Must be signed by property owner)</i>
k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

7. Certification and Permission to Enter on Land

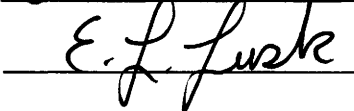
I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date 11-25-08

Print Name E.L. LUSIK

Signature 

Please indicate application attachments pertaining to your proposed project.

DCM MP-2 Excavation and Fill Information

DCM MP-5 Bridges and Culverts

DCM MP-3 Upland Development

DCM MP-4 Structures Information

BRIDGES and CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. BRIDGES This section not applicable

- a. Is the proposed bridge:
 - Commercial Public/Government Private/Community
- b. Water body to be crossed by bridge:

Cashie River

- c. Type of bridge (construction material):

3 @ 50' Cored Slab Bridge

- d. Water depth at the proposed crossing at NLW or NWL:

11' (NWS)

- e. (i) Will proposed bridge replace an existing bridge? Yes No

If yes,

 - (ii) Length of existing bridge: 130'
 - (iii) Width of existing bridge: 39'
 - (iv) Navigation clearance underneath existing bridge: 5'
 - (v) Will all, or a part of, the existing bridge be removed?

(Explain) All bridge and support structures above river bed will be removed

- f. (i) Will proposed bridge replace an existing culvert? Yes No

If yes,

 - (ii) Length of existing culvert: _____
 - (iii) Width of existing culvert: _____
 - (iv) Height of the top of the existing culvert above the NHW or NWL: _____
 - (v) Will all, or a part of, the existing culvert be removed?

(Explain)

- g. Length of proposed bridge: 150'
- h. Width of proposed bridge: 63'
- i. Will the proposed bridge affect existing water flow? Yes No

If yes, explain:

- j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? Yes No

If yes, explain: The number of inwater bents will be reduced from 5 to 2.

- k. Navigation clearance underneath proposed bridge: 5'
- l. Have you contacted the U.S. Coast Guard concerning their approval? Yes No

If yes, explain: See letter in CE

- m. Will the proposed bridge cross wetlands containing no navigable waters? Yes No

If yes, explain:

- n. Height of proposed bridge above wetlands: _____

2. CULVERTS This section not applicable

- a. Number of culverts proposed: N/A
 - b. Water body in which the culvert is to be placed:

- < Form continues on back >**
- c. Type of culvert (construction material):

Form DCM MP-5 (Bridges and Culverts, Page 2 of 4)

- d. (i) Will proposed culvert replace an existing bridge? Yes No
- If yes,
- (ii) Length of existing bridge: _____
- (iii) Width of existing bridge: _____
- (iv) Navigation clearance underneath existing bridge: _____
- (v) Will all, or a part of, the existing bridge be removed? (Explain)
- _____
- _____
- _____

- f. Length of proposed culvert: _____
- h. Height of the top of the proposed culvert above the NHW or NWL
- _____
- j. Will the proposed culvert affect navigation by reducing or increasing the existing navigable opening? Yes No
- If yes, explain:
- _____
- _____
- _____

- e. (i) Will proposed culvert replace an existing culvert? Yes No
- If yes,
- (ii) Length of existing culvert(s): _____
- (iii) Width of existing culvert(s): _____
- (iv) Height of the top of the existing culvert above the NHW or NWL: _____
- (v) Will all, or a part of, the existing culvert be removed? (Explain)
- _____
- _____
- _____

- g. Width of proposed culvert: _____
- i. Depth of culvert to be buried below existing bottom contour
- _____
- k. Will the proposed culvert affect existing water flow? Yes No
- If yes, explain:
- _____
- _____
- _____

3. EXCAVATION and FILL

This section not applicable

- a. (i) Will the placement of the proposed bridge or culvert require any excavation below the NHW or NWL? Yes No
- If yes,
- (ii) Avg. length of area to be excavated: _____
- (iii) Avg. width of area to be excavated: _____
- (iv) Avg. depth of area to be excavated: _____
- (v) Amount of material to be excavated in cubic yards: _____

- b. (i) Will the placement of the proposed bridge or culvert require any excavation within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.
- CW _____ SAV _____ SB _____
- WL _____ None

- (ii) Describe the purpose of the excavation in these areas:
- _____
- _____
- _____

- c. (i) Will the placement of the proposed bridge or culvert require any high-ground excavation? Yes No
- If yes,
- (ii) Avg. length of area to be excavated: 15'
- (iii) Avg. width of area to be excavated: 40'
- (iv) Avg. depth of area to be excavated: 5'
- (v) Amount of material to be excavated in cubic yards: 111

Form DCM MP-5 (Bridges and Culverts, Page 3 of 4)

d. If the placement of the bridge or culvert involves any excavation, please complete the following:

(i) Location of the spoil disposal area: Approved NCDOT site _____

(ii) Dimensions of the spoil disposal area: To be determined

(iii) Do you claim title to the disposal area? Yes No (If no, attach a letter granting permission from the owner.)

(iv) Will the disposal area be available for future maintenance? Yes No

(v) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAVs), other wetlands (WL), or shell bottom (SB)?

CW SAV WL SB None

If any boxes are checked, give dimensions if different from (ii) above. _____

(vi) Does the disposal area include any area below the NHW or NWL? Yes No

If yes, give dimensions if different from (ii) above. _____

e. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed below NHW or NWL? Yes No

If yes,

(ii) Avg. length of area to be filled: _____

(iii) Avg. width of area to be filled: _____

(iv) Purpose of fill: _____

f. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

CW _____ SAV _____ SB _____

WL 9583.2 None

(ii) Describe the purpose of the excavation in these areas:

roadway embankment

g. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed on high-ground? Yes No

If yes,

(ii) Avg. length of area to be filled: 500'

(iii) Avg. width of area to be filled: 20'

(iv) Purpose of fill: roadway embankment

4. GENERAL

a. Will the proposed project require the relocation of any existing utility lines? Yes No

If yes, explain: See Utility Drawings and Utility Narrative

b. Will the proposed project require the construction of any temporary detour structures? Yes No

If yes, explain:

If this portion of the proposed project has already received approval from local authorities, please attach a copy of the approval or certification.

< Form continues on back >

c. Will the proposed project require any work channels? Yes No

If yes, complete Form DCM-MP-2.

d. How will excavated or fill material be kept on site and erosion controlled?

Using NCDOT Best Management Practices

Form DCM MP-5 (Bridges and Culverts, Page 4 of 4)

e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?

Typical construction, earth moving, and road surface equipment will be used.

f. Will wetlands be crossed in transporting equipment to project site?

Yes No

If yes, explain steps that will be taken to avoid or minimize environmental impacts.

g. Will the placement of the proposed bridge or culvert require any shoreline stabilization? Yes No

If yes, complete form MP-2, Section 3 for Shoreline Stabilization only.



11-25-08
Date

B-4434
Project Name

NCDOT

E. F. Fusch
Applicant Name
Applicant Signature

Office Use Only:

Form Version March 05

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

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

I. Processing

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

<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Riparian or Watershed Buffer Rules
<input checked="" 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 23 & 33

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

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

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

II. Applicant Information

1. Owner/Applicant Information
Name: Gregory J. Thorpe, Ph.D., Environmental Management Director
Mailing Address: NCDOT - PDEA
1598 Mail Service Center
Raleigh, NC 27699-1598
Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794
E-mail Address: _____

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)
Name: _____
Company Affiliation: _____
Mailing Address: _____

Telephone Number: _____ Fax Number: _____
E-mail Address: _____

III. Project Information

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

1. Name of project: Bridge No. 14 Replacement
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4434
3. Property Identification Number (Tax PIN): N/A
4. Location
County: Bertie Nearest Town: Windsor
Subdivision name (include phase/lot number): N/A
Directions to site (include road numbers/names, landmarks, etc.): Bridge over Cashie River on US 17 in Windsor.
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): 35.99364 °N -76.94234 °W
6. Property size (acres): N/A
7. Name of nearest receiving body of water: Cashie River
8. River Basin: Roanoke
(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: Currently there is a bridge with a sufficiency rating of 49.6 out of a possible 100 that is considered functionally obsolete. The land use in the project area is predominantly commercial and residential. The Cashie River Park is not currently serving as a park and the land has reverted to individual ownership. This Section of US 17 is

not part of a designated bicycle route nor is it listed in the TIP as needing incidental bicycle accommodations.

10. Describe the overall project in detail, including the type of equipment to be used:
This project involves the replacement of Bridge No. 14 (US 17) in Windsor. The bridge will be replaced at the existing location, and traffic will be maintained on site utilizing staged construction. The traffic flow will be reduced to one-way with alternate movements being controlled by temporary traffic lights. The new bridge will be a three span structure. The existing bridge will be removed without dropping any components into the water. Typical construction, earth moving, and road surface equipment will be used.
11. Explain the purpose of the proposed work: The purpose and need of this project is to replace a functionally obsolete bridge, and to provide safer more efficient traffic operations.

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. A field review of the wetlands and streams was conducted with Mike Bell (USACE) on June 10, 2002. Later NCDOT received the official notification of jurisdictional determination dated September 18, 2002 (Action ID 200211045). NCDOT has obtained a State Stormwater Permit (Permit No. SW7060619) dated August 9, 2006. By request of these Nationwide Permits we are also requesting the reverification of the jurisdictional determination. NCDOT does not request the Corps to evaluate our site using the Rapanos guidance. Instead, we are satisfied with the delineation as reviewed and approved prior to 6/5/2007, and ask that you evaluate this permit verification based on that review.

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. There will be 0.22 ac. permanent fill in wetlands due to the improvements to US 17. There will be also be 0.05 ac. of temporary fill in wetlands within the hand clearing areas, due to erosion control devices.
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)
1	Permanent Fill	Forested	Yes	Abutting	0.03
2	Permanent Fill	Forested	Yes	Abutting	0.14
3	Permanent Fill	Forested	Yes	Abutting	0.05
	Temporary Fill	Forested	Yes	Abutting	0.05
Total Wetland Impact (acres)					0.27

3. List the total acreage (estimated) of all existing wetlands on the property: 3 acres
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)
N/A						
Total Stream Impact (by length and acreage)						

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

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

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

Stream Impact (acres):	0
Wetland Impact (acres):	0.27
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	0.27
Total Stream Impact (linear feet):	0

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.): N/A

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

Current land use in the vicinity of the pond: N/A

Size of watershed draining to pond: N/A Expected pond surface area: N/A

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. Staged construction will be used to maintain traffic on the existing bridge, therefore no onsite detour. The number of in-water bents is going from 5 to 2. An in-stream moratorium for anadromous fish, from February 15 to June 30, will be implemented. Retaining walls will be constructed to contain the proposed three-lane cross section and avoid fill slopes encroaching into the Cashie River along the northeast side of US 17 on either side of the "Cashie River Park" land split. Small coffer dams will be constructed to allow temporary dewatering to facilitate construction of the walls. No live concrete will be introduced into the Cashie River. The coffer dams and dewatering will allow for minimum disturbance in the waters of the Cashie River at these two locations.

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 by NCEEP. A copy of the acceptance letter is included with this application.

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): N/A
Amount of buffer mitigation requested (square feet): N/A
Amount of Riparian wetland mitigation requested (acres): 0.22
Amount of Non-riparian wetland mitigation requested (acres): N/A
Amount of Coastal wetland mitigation requested (acres): N/A

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 _____)? 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		3 (2 for Catawba)	N/A
2		1.5	
Total			

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

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

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. A Stormwater Permit was issued for the project on August 9, 2006 (included).

XII. Sewage Disposal (required by DWQ)

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

XIII. Violations (required by DWQ)

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

Yes No

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

XIV. Cumulative Impacts (required by DWQ)

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

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

XV. Other Circumstances (Optional):

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

As of January 31, 2008, the United States Fish and Wildlife Service lists two federally protected species for Bertie County. The Biological Conclusion of "No Effect" remains valid for the Red-cockaded woodpecker referenced in the CE document due to lack of suitable habitat. The shortnose sturgeon has been added to the list for Bertie County since the completion of the referenced CE. On February 13,

2004 Chris Manley received an email from NCDOT biologist, Lindsey Riddick, stating that the shortnose Sturgeon issue was resolved with former biologists from NC Division Marine Fisheries staff (Jason Dilday and Fritz Rohde). This project will have no effect on the shortnose sturgeon. In the July 9, 2007 Federal Register (72:37346-37372), the bald eagle was declared recovered, and removed (delisted) from the Federal List of Threatened and Endangered wildlife. This delisting took effect August 8, 2007. After delisting, the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668d) becomes the primary law protecting bald eagles. Bald eagle occurrences and nesting habitat were surveyed using the NHP database and aerial photography. On April 17, 2008 Chris Manley (NCDOT/NEU) had a phone conversation with David Allen with NCWRC; during the conversation it was determined no survey was needed and therefore, this project will have no effect on the bald eagle.



11.25.08

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



Michael F. Easley, Governor

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

August 9, 2006

RECEIVED

AUG 16 2006

DIVISION OF HIGHWAYS
PDEA-OFFICE OF ENVIRONMENT

Dr. Gregory J. Thorpe
NC Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

Subject: Permit No. SW7060619
TIP No. B-4434, Hwy 17 Bridge Over Cashie River
State Stormwater Permit
Linear Public Road/Bridge Project
Bertie County

Dear Dr. Thorpe:

The Washington Regional Office received a completed Stormwater Application for the subject project on June 13, 2006. Staff review of the plans and specifications has determined that the project, as proposed, will comply with the Stormwater Regulations set forth in Title 15A NCAC 2H.1000. We are forwarding Permit No. SW7060619 dated August 9, 2006 to the NC Department of Transportation for the proposed improvements and bridge replacement to Hwy 17 over the Cashie River in Bertie County.

This permit shall be effective from the date of issuance until rescinded and shall be subject to the conditions and limitations as specified therein.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within thirty (30) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714. Unless such demands are made this permit shall be final and binding.

If you have any questions, or need additional information concerning this matter, please contact Roger Thorpe or me at (252) 946-6481.

Sincerely,



Al Hodge, Regional Supervisor
Surface Water Protection Section
Washington Regional Office

cc: Washington Regional Office
Central Files

**STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY**

**STATE STORMWATER MANAGEMENT PERMIT
STORMWATER PERMIT**

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO

NC Department of Transportation

Bertie County

FOR THE

Construction of a public road/bridge in compliance with the provisions of 15A NCAC 2H.1000 (hereafter referred to as the "*stormwater rules*") and the approved stormwater management plans and specifications and other supporting data as attached and on file with and approved by the Division of Water Quality and considered a part of this permit for Highway 17 improvements and bridge replacement over the Cashie River in Bertie County.

This permit shall be effective from the date of issuance until rescinded and shall be subject to the following specified conditions and limitations:

I. DESIGN STANDARDS

1. The runoff from the impervious surfaces has been directed away from surface waters as much as possible.
2. The Amount of built-upon area has been minimized as much as possible.
3. Best management Practices are employed which minimizes water quality impacts.
4. Approved plans and specifications for this project are incorporated by reference and are enforceable parts of the permit.
5. Vegetated roadside ditches are 3:1 slopes or flatter.

II. SCHEDULE OF COMPLIANCE

1. The permittee shall at all times provide adequate erosion control measures in conformance with the approved Erosion Control Plan.
2. The Director may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the Director for modifying the site to meet minimum requirements. The permittee shall provide copies of revised plans and certification in writing to the Director that the changes have been made.
3. The permittee shall submit all information requested by the Director or his representative within the time frame specified in the written information request.
4. The permittee shall submit to the Director and shall have received approval for revised plans, specifications, and calculations prior to construction for the following items:
 - a. Major revisions to the approved plans, such as road realignment, deletion of any proposed BMP, changes to the drainage area or scope of the project, etc.
 - b. Project name change.
 - c. Redesign of, addition to, or deletion of the approved amount of built-upon area, regardless of size.
 - d. Alteration of the proposed drainage.
5. The Director may determine that other revisions to the project should require a modification to the permit.

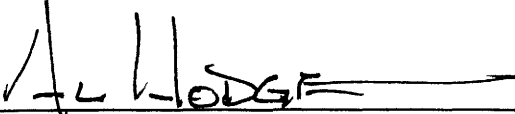
III. GENERAL CONDITIONS

1. This permit is not transferable to any person except after notice to and approval by the Director. The Director may require modification or revocation and reissuance of the permit to change name and incorporate such other requirements as may be necessary. A formal permit request must be submitted to the Division of Water Quality accompanied by the appropriate fee, documentation from the parties involved, and other supporting materials as may be appropriate. The approval of this request will be considered on its merits and may or may not be approved. The permittee is responsible for compliance with the terms and conditions of this permit until such time as the Director approves the transfer.
2. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to enforcement action by the Division of Water Quality, in accordance with North Carolina General Statute 143-215.6(A) to 143-215.6(C).
3. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other government agencies (local, state, and federal) which have jurisdiction.
4. The issuance of this permit does not prohibit the Director from reopening and modifying the permit, revoking and reissuing the permit, or terminating the permit as allowed by laws, rules, and regulations contained in Title 15A of the North Carolina Administrative Code, Subchapter 2H .1000; and North Carolina General Statute 143-215.1 et. al.
5. The permit may be modified, revoked and reissued or terminated for cause. The filing of a request for a permit modification, revocation and reissuance or termination does not stay any permit condition.

6. The permit issued shall continue in force and effect until revoked or terminated.
7. The permittee shall notify the Division of any name, ownership or mailing address changes within 30 days.

Permit issued this the 9 th day of August, 2006.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

A handwritten signature in black ink, appearing to read "A. W. Klimek", written over a horizontal line.

for Alan W. Klimek, P.E. Director
Division of Water Quality
By Authority of the Environmental Management Commission

Permit Number SW7060619



October 30, 2008

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-4434, Replace Bridge Number 14 on US 17 over the Cashie River, Bertie County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the riparian wetland mitigation for the subject project. Based on the information supplied by you on October 22, 2008, the impacts are located in CU 03010107 of the Roanoke River Basin in the Northern Outer Coastal Plain (NOCP) Eco-Region, and are as follows:

Riparian Wetland: 0.22 acre

EEP commits to implementing sufficient compensatory riparian wetland mitigation credits 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 wetland 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.

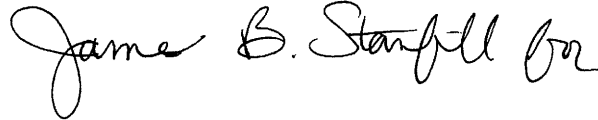
Restoring... Enhancing... Protecting Our State



North Carolina Ecosystem Enhancement Program, 1652 Mail Service Center, Raleigh, NC 27699-1652 / 919-715-0476 / www.nceep.net

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

Sincerely,

A handwritten signature in cursive script that reads "James B. Stanfill" followed by a small flourish.

William D. Gilmore, P.E.
EEP Director

cc: Mr. Bill Biddlecome, USACE – Washington Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: B-4434



October 30, 2008

Mr. Bill Biddlecome
U. S. Army Corps of Engineers
Washington Regulatory Field Office
Post Office Box 1000
Washington, North Carolina 27889-1000

Dear Mr. Biddlecome:

Subject: EEP Mitigation Acceptance Letter:

B-4434, Replace Bridge Number 14 over the Cashie River on US 17,
Bertie County; Roanoke River Basin (Cataloging Unit 03010107);
Northern Outer Coastal Plain (NOCP) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory riparian wetland mitigation for the unavoidable impact associated with the above referenced project. As indicated in the NCDOT's mitigation request dated October 22, 2008, riparian wetland mitigation from EEP is required for approximately 0.22 acre of riparian wetland impacts.

Riparian wetland 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 riparian wetland mitigation up to 0.44 riparian wetland 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.

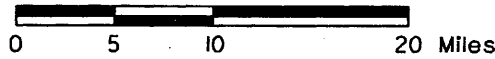
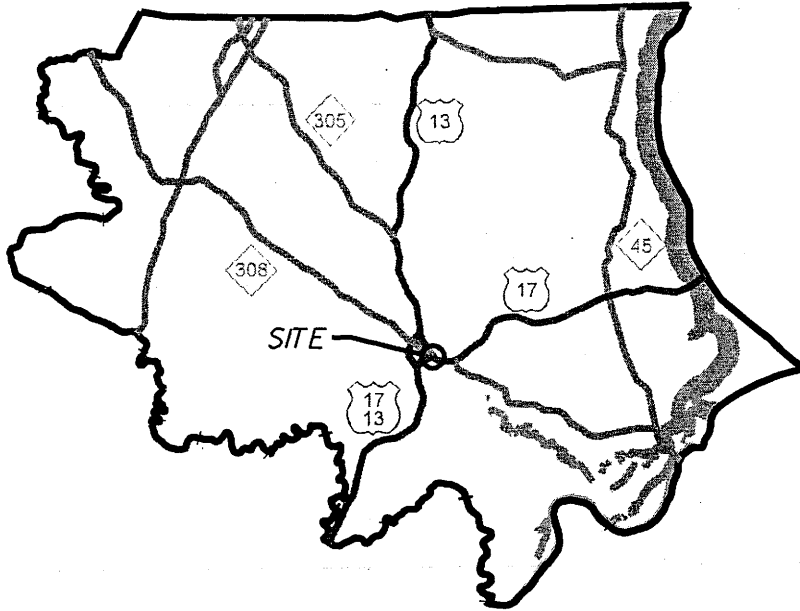
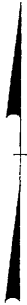
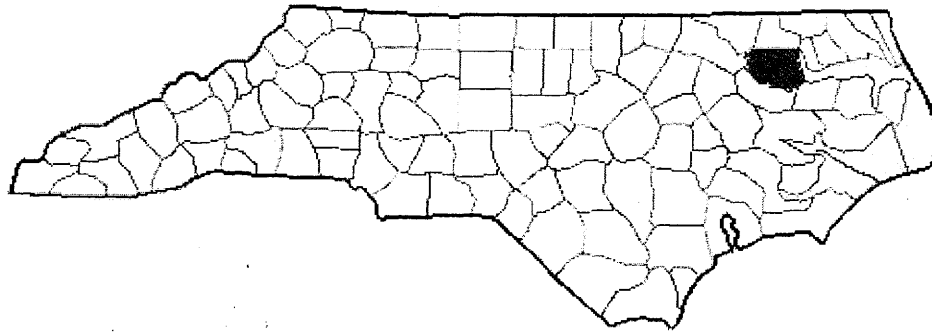
Sincerely,

William D. Gilmore, P.E.
EEP Director

cc: Mr. Gregory J. Thorpe, Ph.D., NCDOT-PDEA
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: B-4434



NORTH CAROLINA



VICINITY MAP

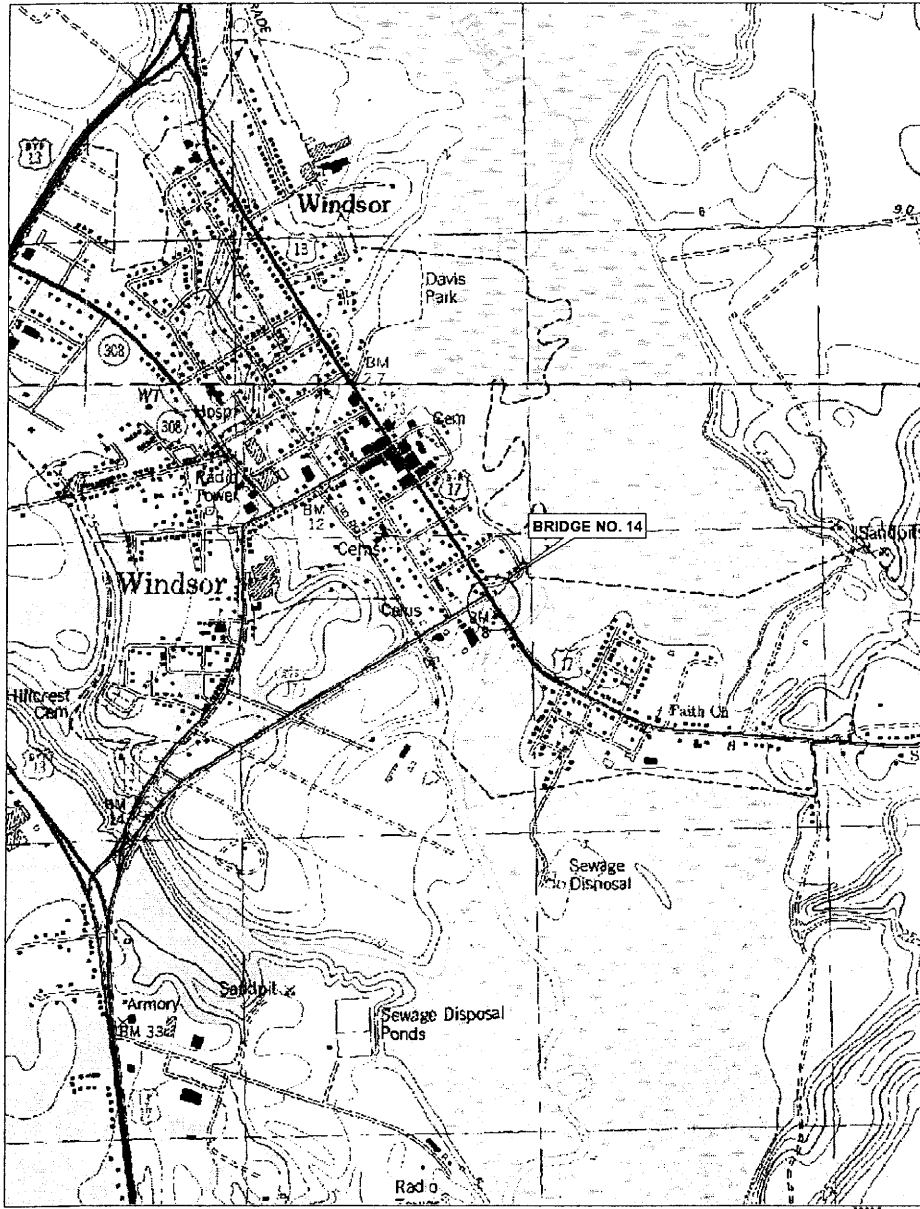
NCDOT
DIVISION OF HIGHWAYS
PROJECT: 33700.1.1 (B-4434)

BERTIE COUNTY

REPLACE BRIDGE NO. 14 ON US 17/NC 308
OVER CASHIE RIVER

SHEET 1 OF 13 MAY 2008

Permit Drawing
Sheet 1 of 13



LOCATION MAP

NCDOT
DIVISION OF HIGHWAYS
PROJECT: 33700.1.1 (B-4434)

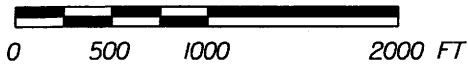
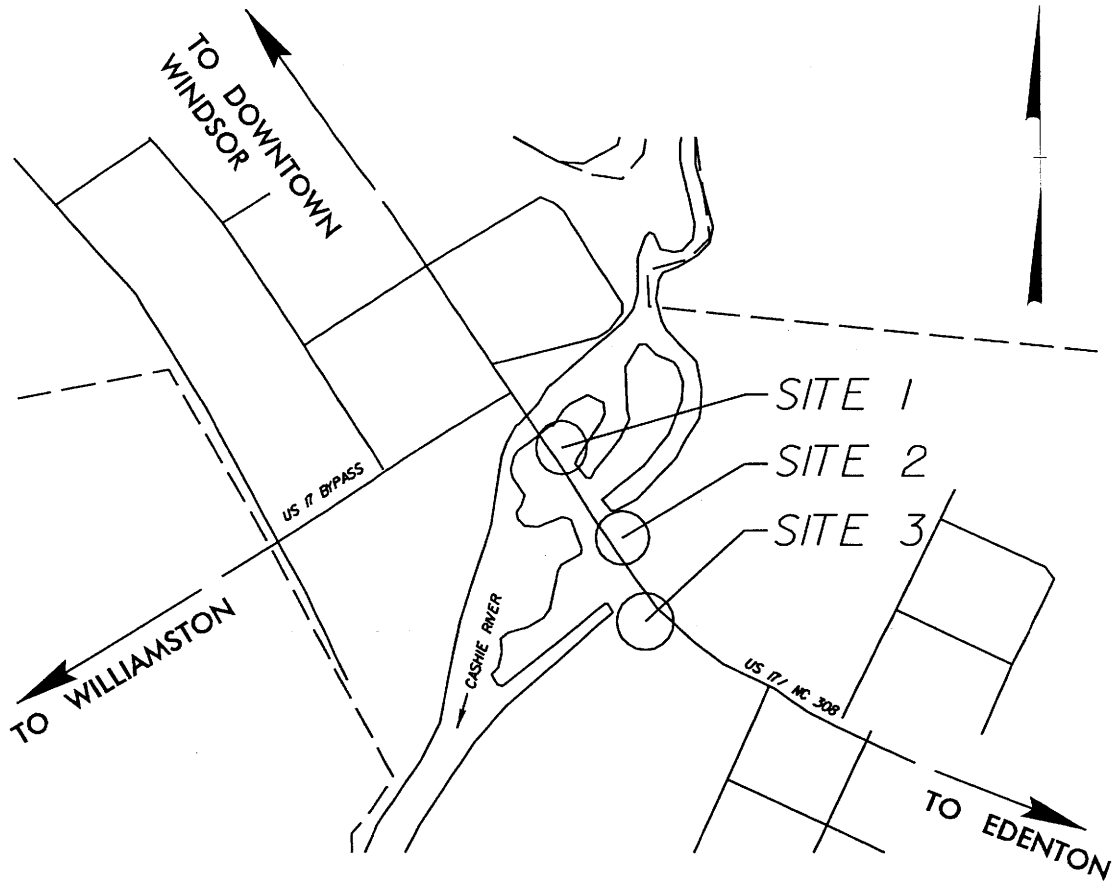
BERTIE COUNTY

REPLACE BRIDGE NO. 14 ON US 17/NC 308
OVER CASHIE RIVER

SHEET 2 OF 13

MAY 2008

Permit Drawing
Sheet 2 of 13



**SITE
MAP**

NCDOT
 DIVISION OF HIGHWAYS
 PROJECT: 33700.1.1 (B-4434)
 BERTIE COUNTY
 REPLACE BRIDGE NO. 14 ON US 17/NC 308
 OVER CASHIE RIVER
 SHEET 3 OF 13
 MAY 2008

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	15+94 +/- LT TO 16+86 +/- LT		0.030					0.02								
2	19+36 +/- LT TO 24+32 +/- LT		0.135					0.05								
3	22+90 +/- RT TO 24+49 +/- RT		0.054					0.02								
TOTALS:			0.22					0.09								

BRIDGE PIER IMPACTS

STAGE I TEMPORARY WORK BRIDGE = 20 SQ. FT.
 STAGE II TEMPORARY WORK BRIDGE = 24 SQ. FT.
 PROPOSED PERMANENT BRIDGE = 112 SQ. FT.

Permit Drawing
 Sheet 4 of 13

EROSION CONTROL IMPACTS

0.05 acres of Temporary Fill in Wetlands in the Hand Clearing areas for erosion control measures.

Rev 10/21/08
 NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

BERTIE COUNTY
 WBS - 33700.1.1 (B-4434)

US 17 / NC 308 BRIDGE #14 OVER CASHIE RIVER
 SHEET 12 OF 13
 MAY 2008

PROPERTY OWNER

SITE #	OWNER'S NAME	ADDRESS
SITE 1	H.L. THOMPSON, ET. AL.	611 GREENE CROSS ROAD WINDSOR, NC 27983
SITE 2	H.L. THOMPSON	611 GREENE CROSS ROAD WINDSOR, NC 27983
SITE 3	JOHN E. SHERRON BROWNE-BRITTON, INC.	4323 BREEZE ROAD HURDLE MILLS, NC 27541 P.O. BOX 1386 AHOSKIE, NC 27910

Permit Drawing
Sheet 5 of 13

NCDOT
DIVISION OF HIGHWAYS
BERTIE COUNTY
PROJECT: 33700.1.1 (B-4434)

BRIDGE NO. 14 ON US 17 / NC 308
OVER CASHIE RIVER

SHEET 13 OF 13

MAY 2008

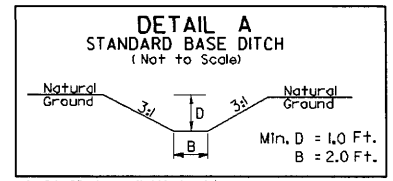
8/17/99

 TGS ENGINEERS 975 WILSON STREET CARY, NC 27511 PH (919) 319-8850	PROJECT REFERENCE NO.	B-4434	SHEET NO.	5
	RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION				

$\Delta = 30' 08" 20.1'$ (LT)
 $D = 6' 01" 52.1'$
 $L = 499.72'$
 $T = 255.79'$
 $R = 950.00'$
 $SE = 0.05$
 $Vd = 40$ mph

WETLANDS

Permit Drawing
Sheet 6 of 13



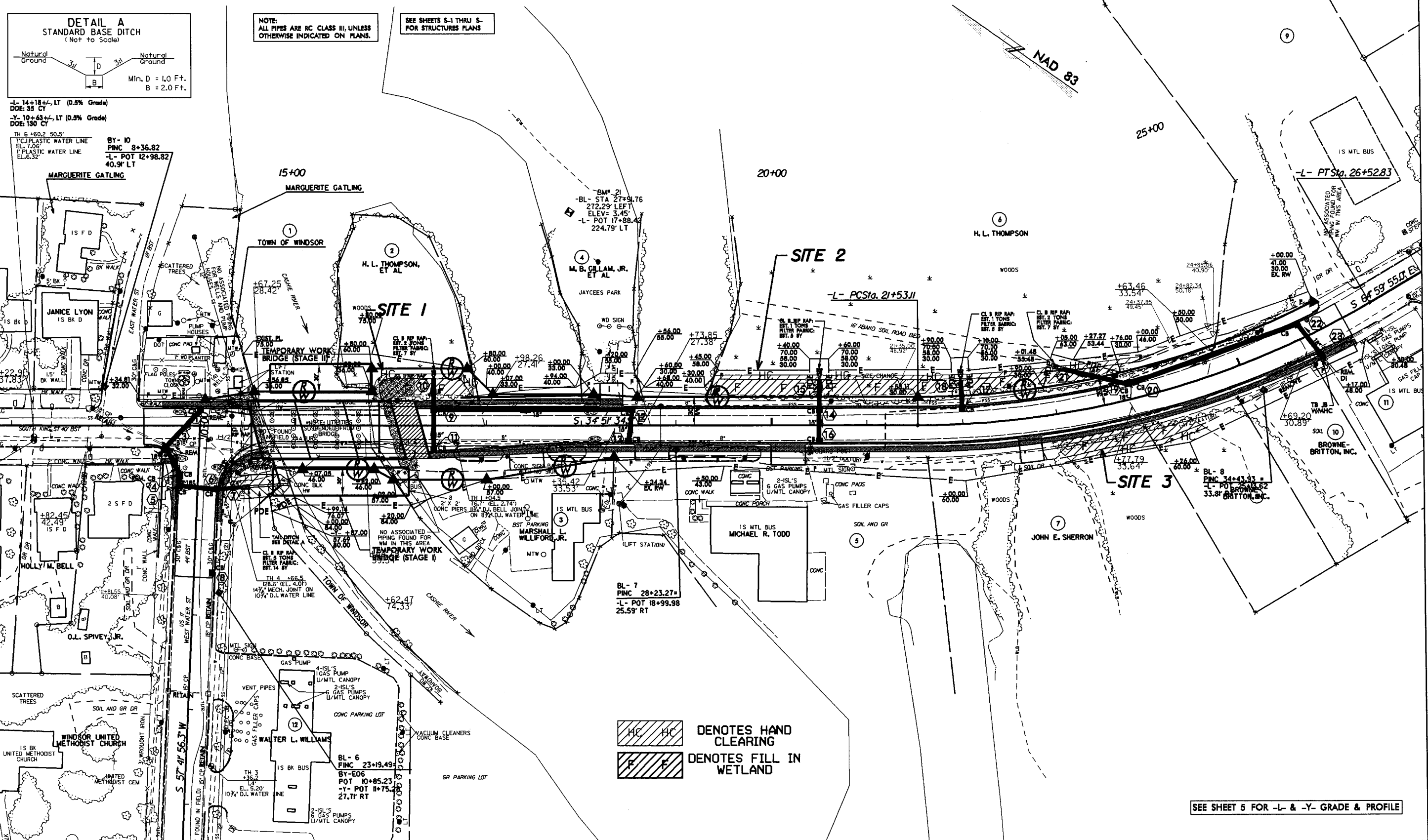
NOTE: ALL PIPES ARE RC CLASS III, UNLESS OTHERWISE INDICATED ON PLANS.

SEE SHEETS S-1 THRU S-5 FOR STRUCTURES PLANS

-L- 14+18+/- LT (0.5% Grade)
 DOE: 35 CY
 -Y- 10+63+/- LT (0.5% Grade)
 DOE: 130 CY
 TH 6 +60.2 50.5'
 7" P.C. PLASTIC WATER LINE
 EL. 7.06'
 1" PLASTIC WATER LINE
 EL. 6.32'
BY- 10
PINC 8+36.82
-L- POT 12+98.82
40.9' LT

REVISIONS

25-OCT-2008 10:03 m:\tgs\environmental\drawings\6-3-98\rev b4434.shts4-5.dgn



HC HC DENOTES HAND CLEARING
 F F DENOTES FILL IN WETLAND

SEE SHEET 5 FOR -L- & -Y- GRADE & PROFILE

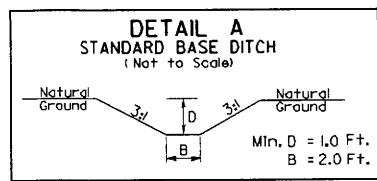
8/17/99

 TGS ENGINEERS 975 W. STATE STREET CARY, NC 27511 PH (919) 319-8350	PROJECT REFERENCE NO.	SHEET NO.
	B-4434	9
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

-L-
 PI Sta 24+08.89
 $\Delta = 30' 08" 20.1'$ (LT)
 $D = 6' 01" 52.1'$
 $L = 499.72'$
 $T = 255.79'$
 $R = 950.00'$
 $SE = 0.05$
 $Vd = 40$ mph

Permit Drawing
 Sheet 7 of 13

WETLANDS



NOTE: ALL PIPES ARE RC CLASS III, UNLESS OTHERWISE INDICATED ON PLANS.

SEE SHEETS 5-1 THRU 5- FOR STRUCTURES PLANS

-L- 14+18.4, LT (0.5% Grade)
 DOE: 35 CY

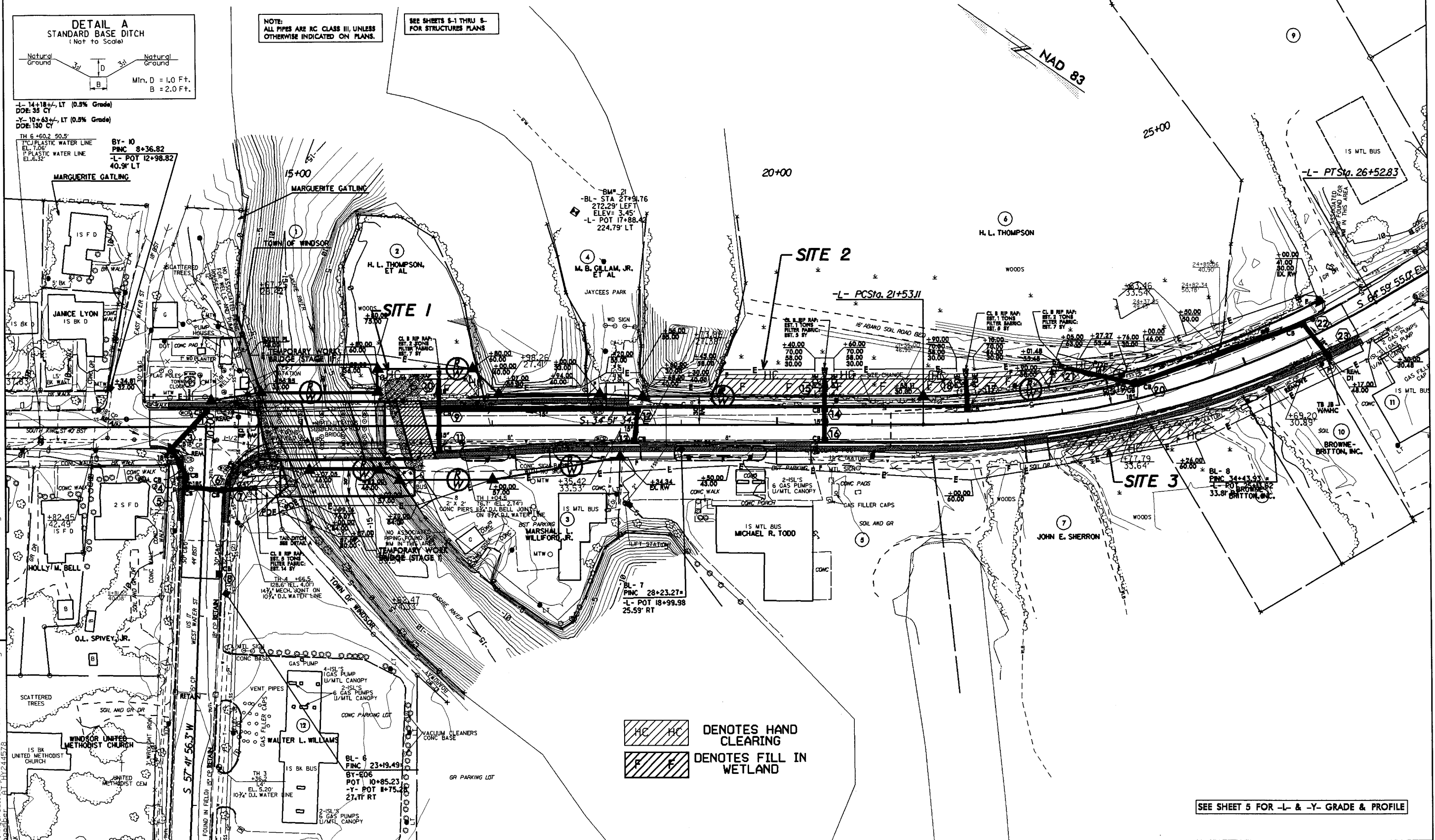
-Y- 10+63.4, LT (0.5% Grade)
 DOE: 130 CY

TH 6 +60.2 50.5'
 7" PLASTIC WATER LINE
 EL. 7.06'
 12" PLASTIC WATER LINE
 EL. 6.32'

BY- 10
 PNC 8+36.82
 -L- POT 12+98.82
 40.9' LT

REVISIONS

22-OCT-2008 12:03
 C:\ngis\environmental\drawings\16-3-08\rev b4434_sht04-5.dgn



DENOTES HAND CLEARING

DENOTES FILL IN WETLAND

SEE SHEET 5 FOR -L- & -Y- GRADE & PROFILE

5/28/99

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

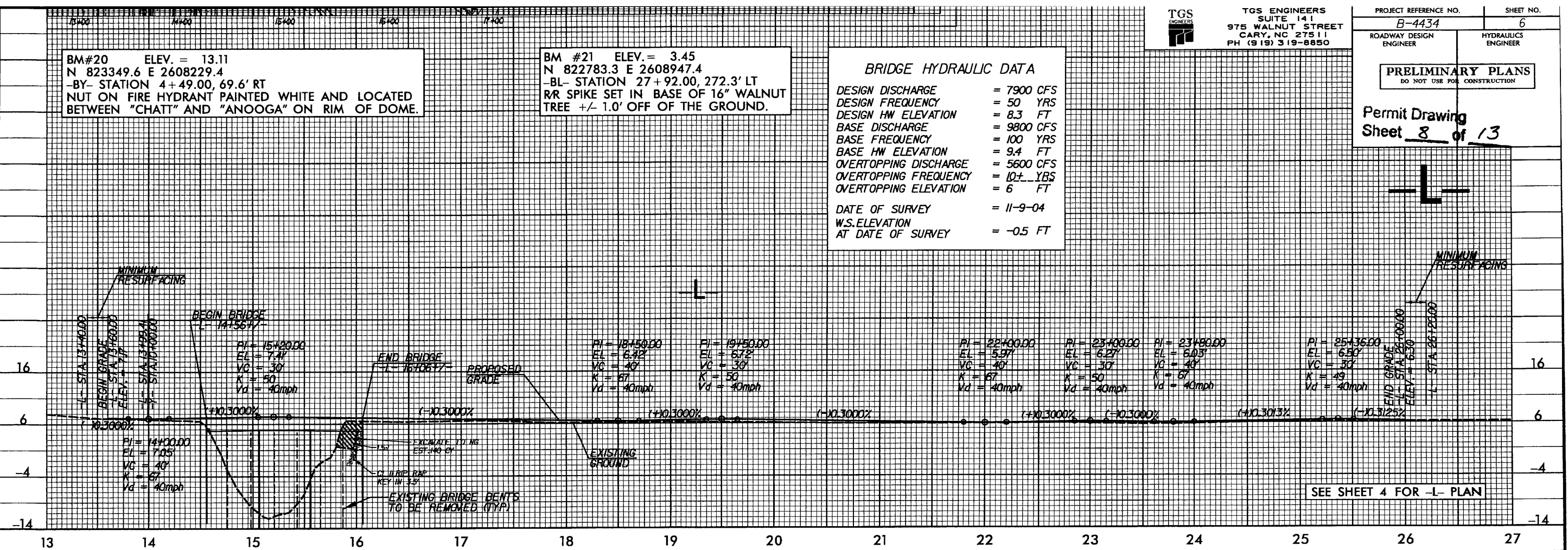
PROJECT REFERENCE NO. B-4434
SHEET NO. 6
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

BM #20 ELEV. = 13.11
N 823349.6 E 2608229.4
-BY- STATION 4+49.00, 69.6' RT
NUT ON FIRE HYDRANT PAINTED WHITE AND LOCATED BETWEEN "CHATT" AND "ANOOGA" ON RIM OF DOME.

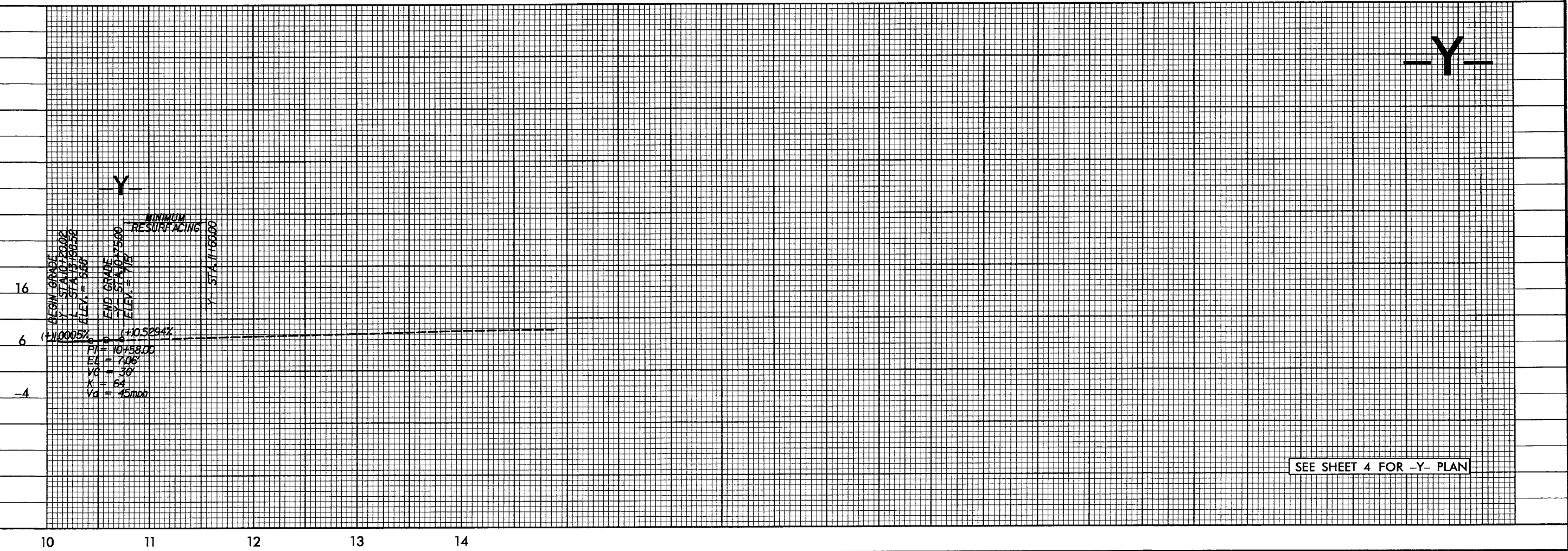
BM #21 ELEV. = 3.45
N 822783.3 E 2608947.4
-BL- STATION 27+92.00, 272.3' LT
RR SPIKE SET IN BASE OF 16" WALNUT TREE +/- 1.0' OFF OF THE GROUND.

BRIDGE HYDRAULIC DATA
DESIGN DISCHARGE = 7900 CFS
DESIGN FREQUENCY = 50 YRS
DESIGN HW ELEVATION = 8.3 FT
BASE DISCHARGE = 9800 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 9.4 FT
OVERTOPPING DISCHARGE = 5600 CFS
OVERTOPPING FREQUENCY = 10+ YRS
OVERTOPPING ELEVATION = 6 FT
DATE OF SURVEY = 11-9-04
W.S. ELEVATION AT DATE OF SURVEY = -0.5 FT

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 8 of 13

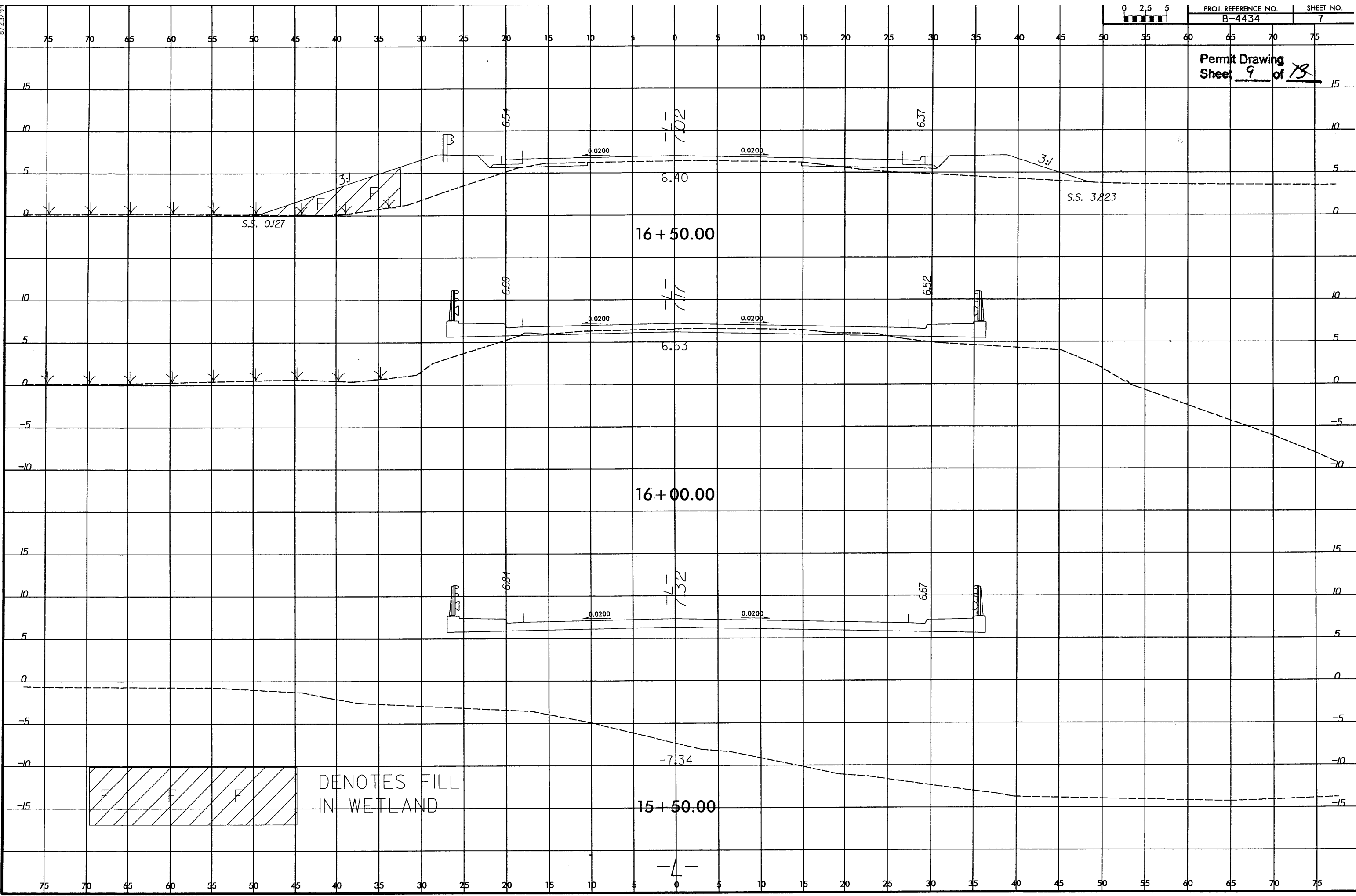
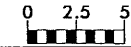


SEE SHEET 4 FOR -L- PLAN



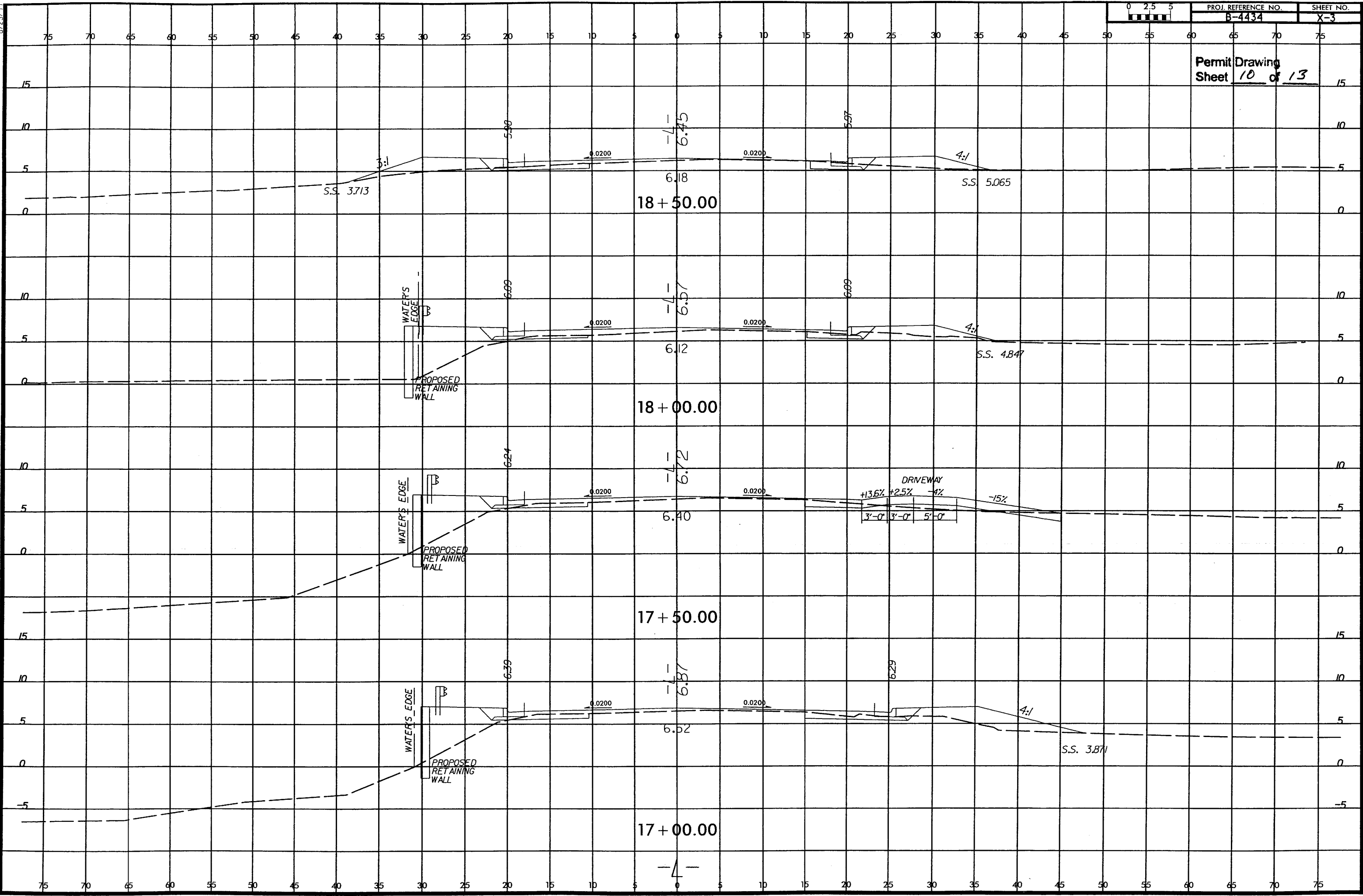
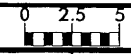
SEE SHEET 4 FOR -Y- PLAN

8/23/99



SYSTEMS
DOCS
SERVARE

8/23/99
\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$



18+50.00

18+00.00

17+50.00

17+00.00

DRIVEWAY
+13.6% +2.5% -4%
3'-0" 3'-0" 5'-0"

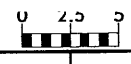
S.S. 3.871

S.S. 5.065

S.S. 4.847

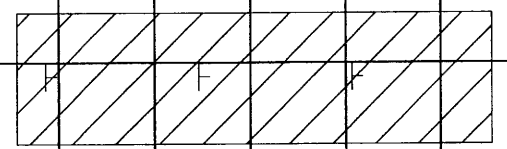
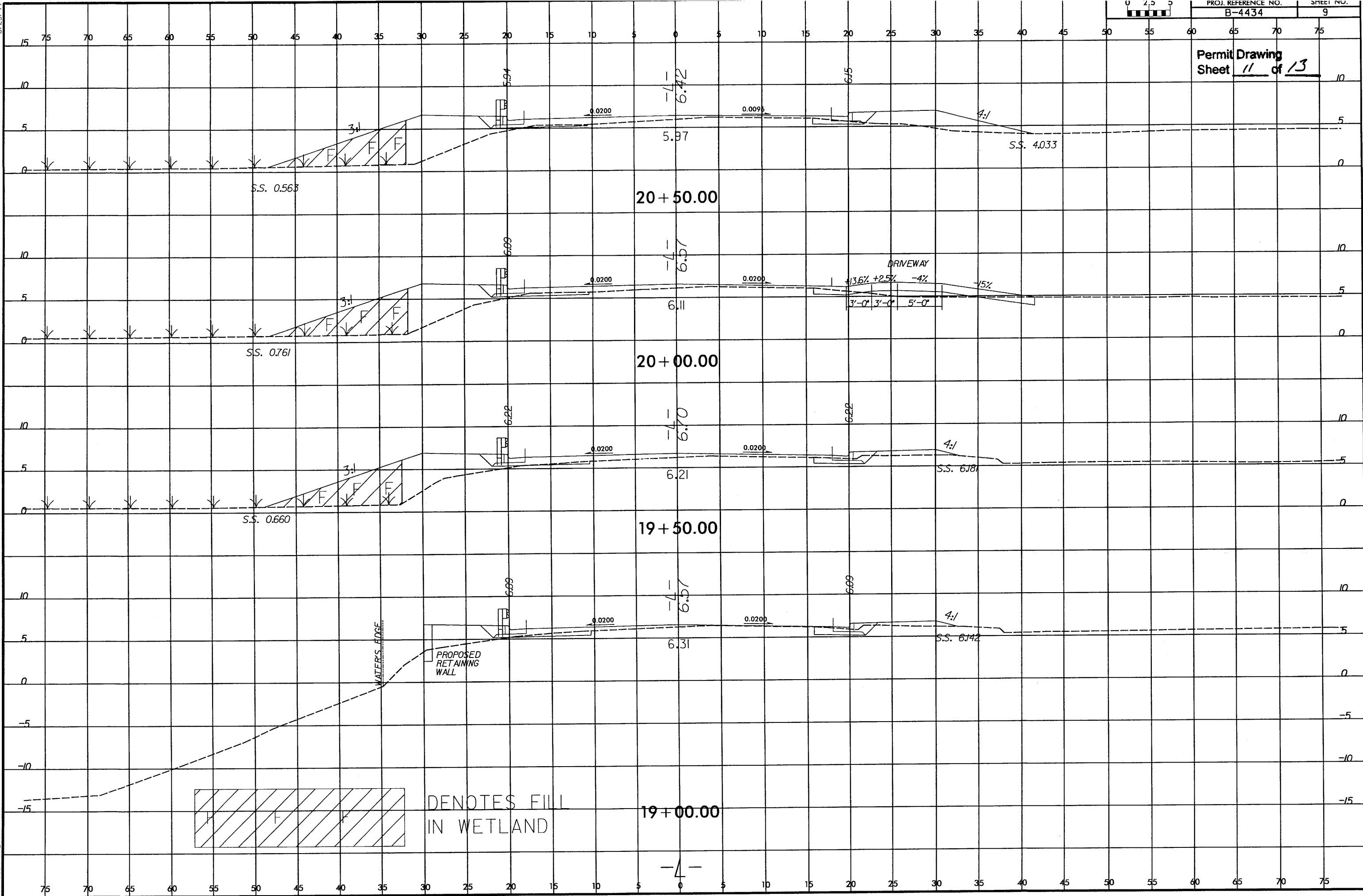
S.S. 3.713

B/23/99

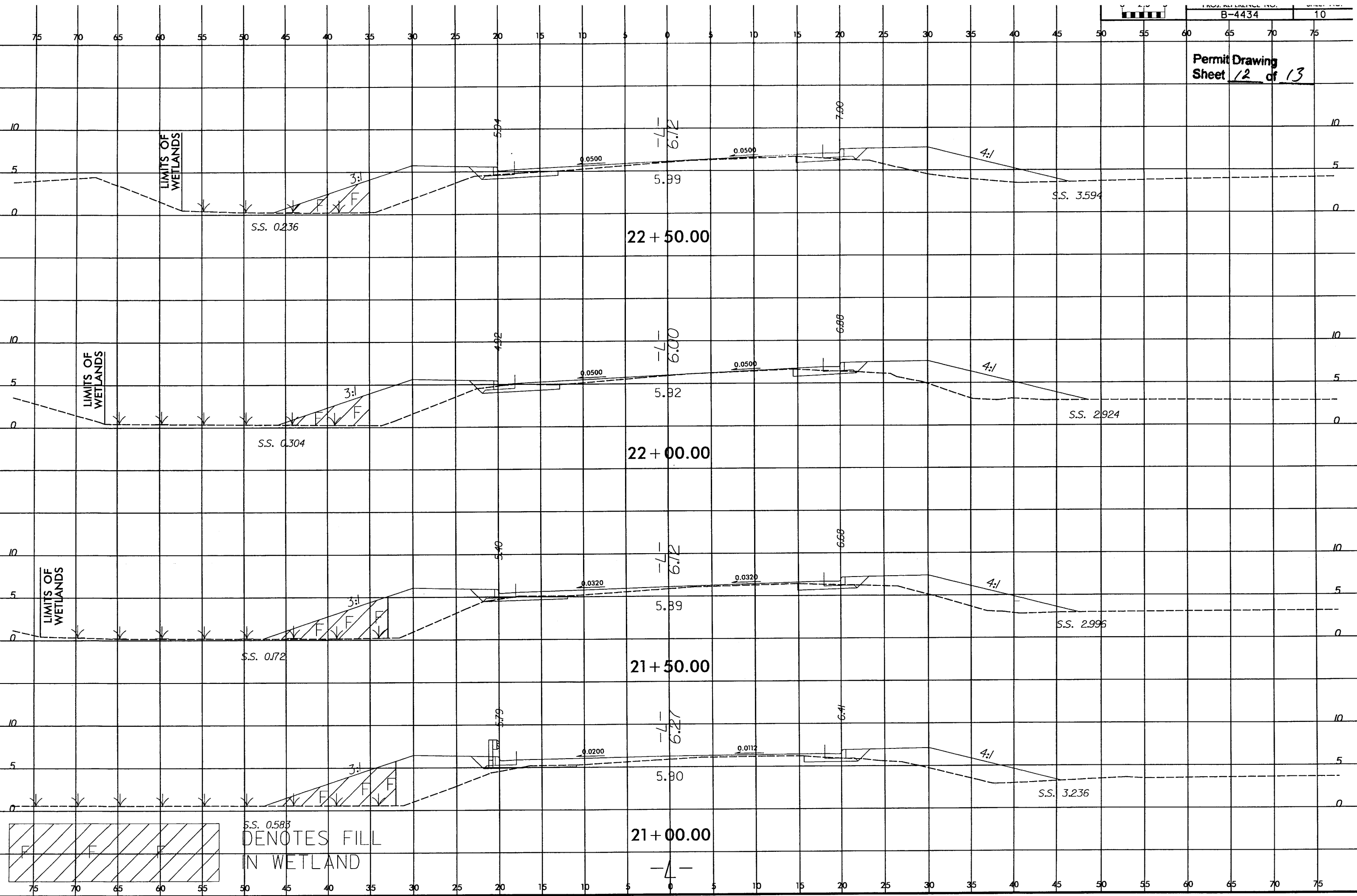


PROJ. REFERENCE NO. B-4434 SHEET NO. 9

Permit Drawing Sheet 11 of 13

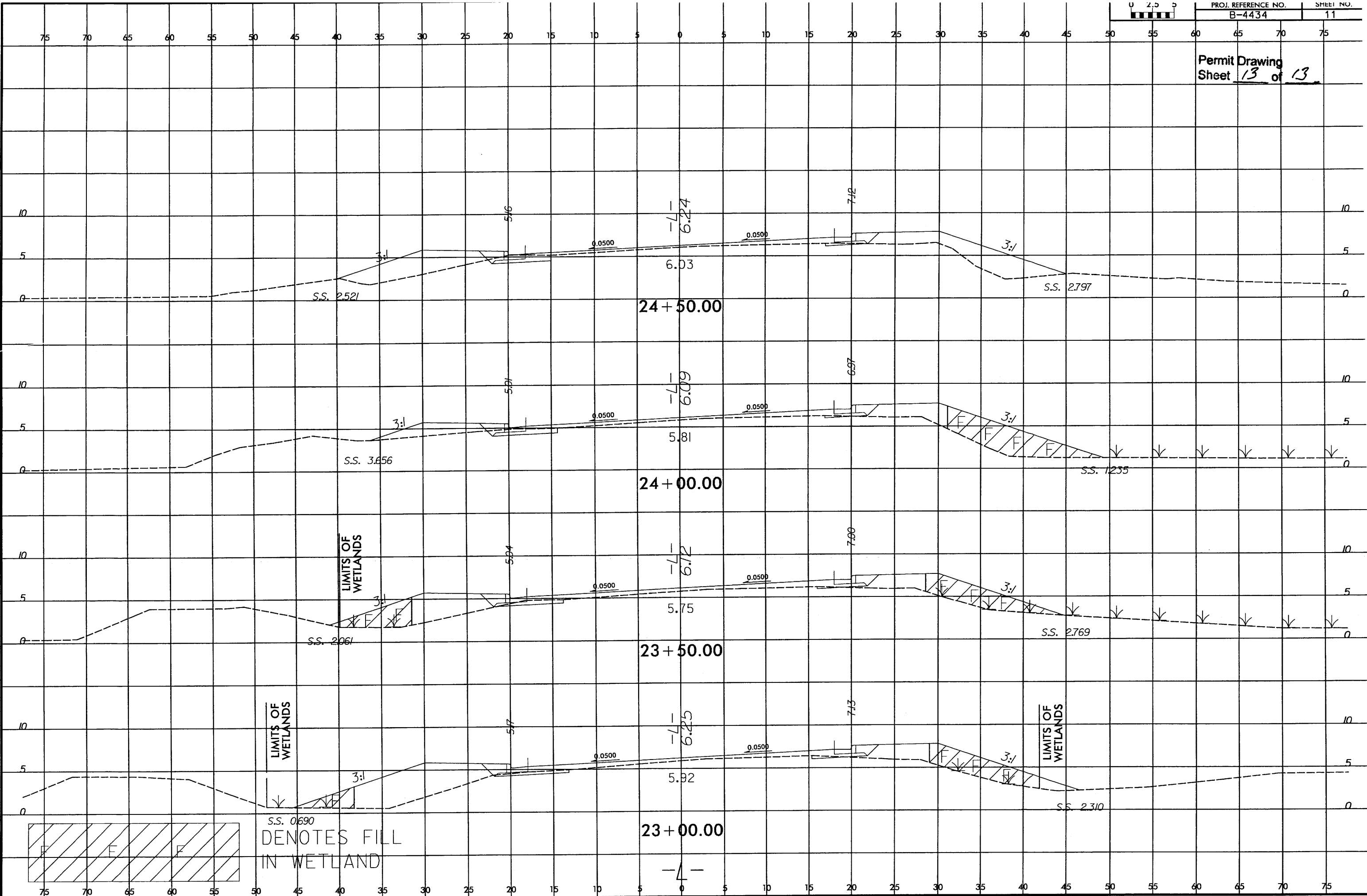
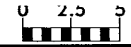


DENOTES FILL IN WETLAND



S.S. 0.583
DENOTES FILL
IN WETLAND

8/23/99



S.S. 0.690
DENOTES FILL
IN WETLAND

SYSTEMTIME 8/23/99 1:28:46 PM TGS

Utility Narrative

Telephone and Power

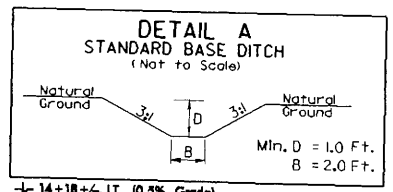
The aerial telephone and power lines will be dismantled and removed after new underground power and telephone facilities are installed. The proposed underground power is being installed on the southwest side of King Street by directional bore and open cut. The proposed underground telephone is being installed on the northeast side of King Street by directional bore and open cut. The power is owned by the Town of Windsor and the telephone by Embarq. All lines will be installed by directional bore under Cashie River.

Water and Sewer

The existing 8" water line and forcemain will be abandoned after a new 8" water line and forcemain are installed on the southwest side of King Street by directional bore and open cut. The water line and forcemain are owned by the Town of Windsor. All lines will be installed by directional bore under Cashie River.

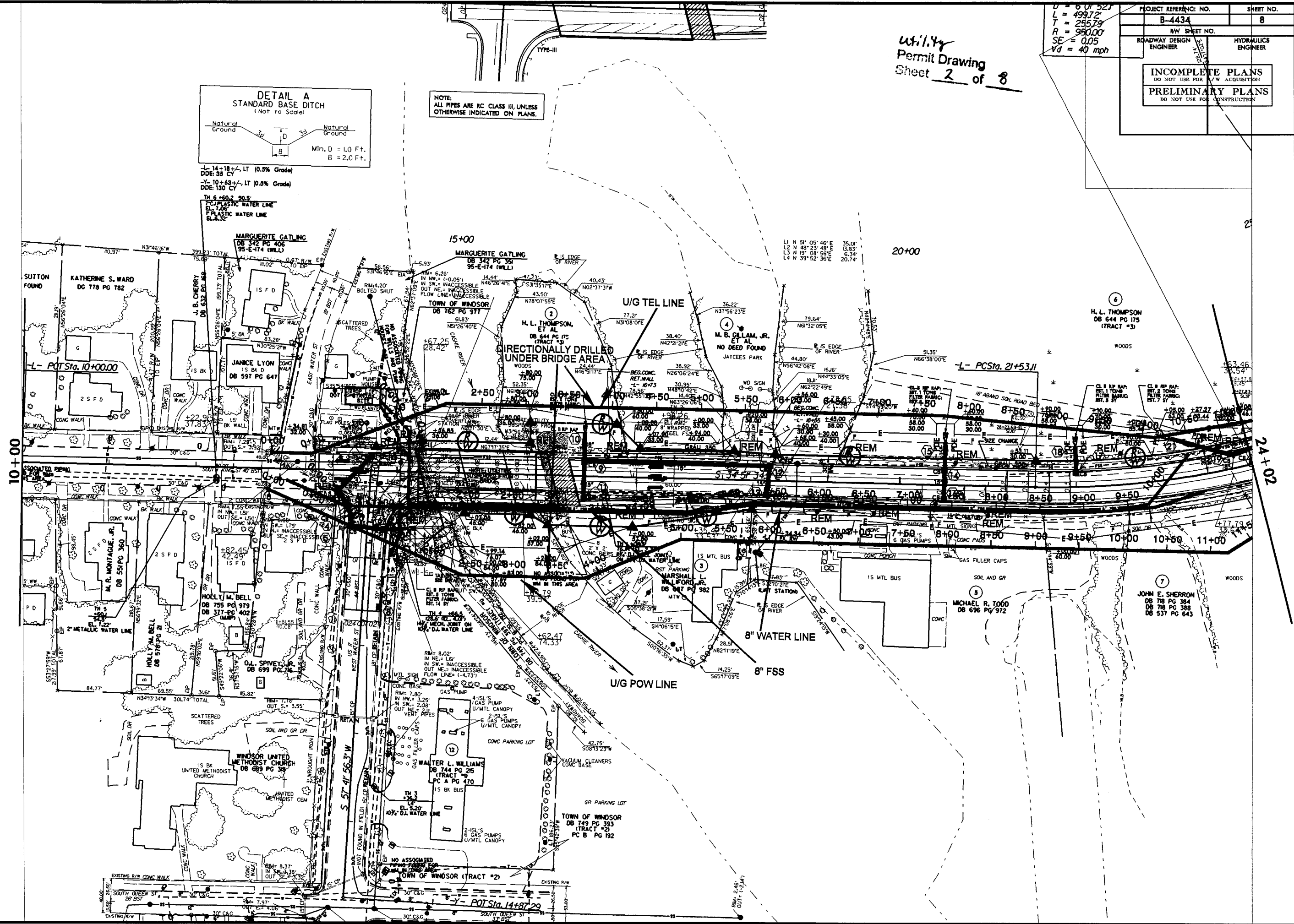
PROJECT REFERENCE NO.	B-4434	SHEET NO.	8
RDW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

Utility
 Permit Drawing
 Sheet 2 of 8



NOTE:
 ALL PIPES ARE RC CLASS III, UNLESS OTHERWISE INDICATED ON PLANS.

L- 14+18+/- LT (0.5% Grade)
 DDE: 33 CY
 Y- 10+63+/- LT (0.5% Grade)
 DDE: 130 CY
 TN 6 - 60.2 50.5
 P PLASTIC WATER LINE
 EL. 7.06
 P PLASTIC WATER LINE
 B.L.A. 2



8/17/99

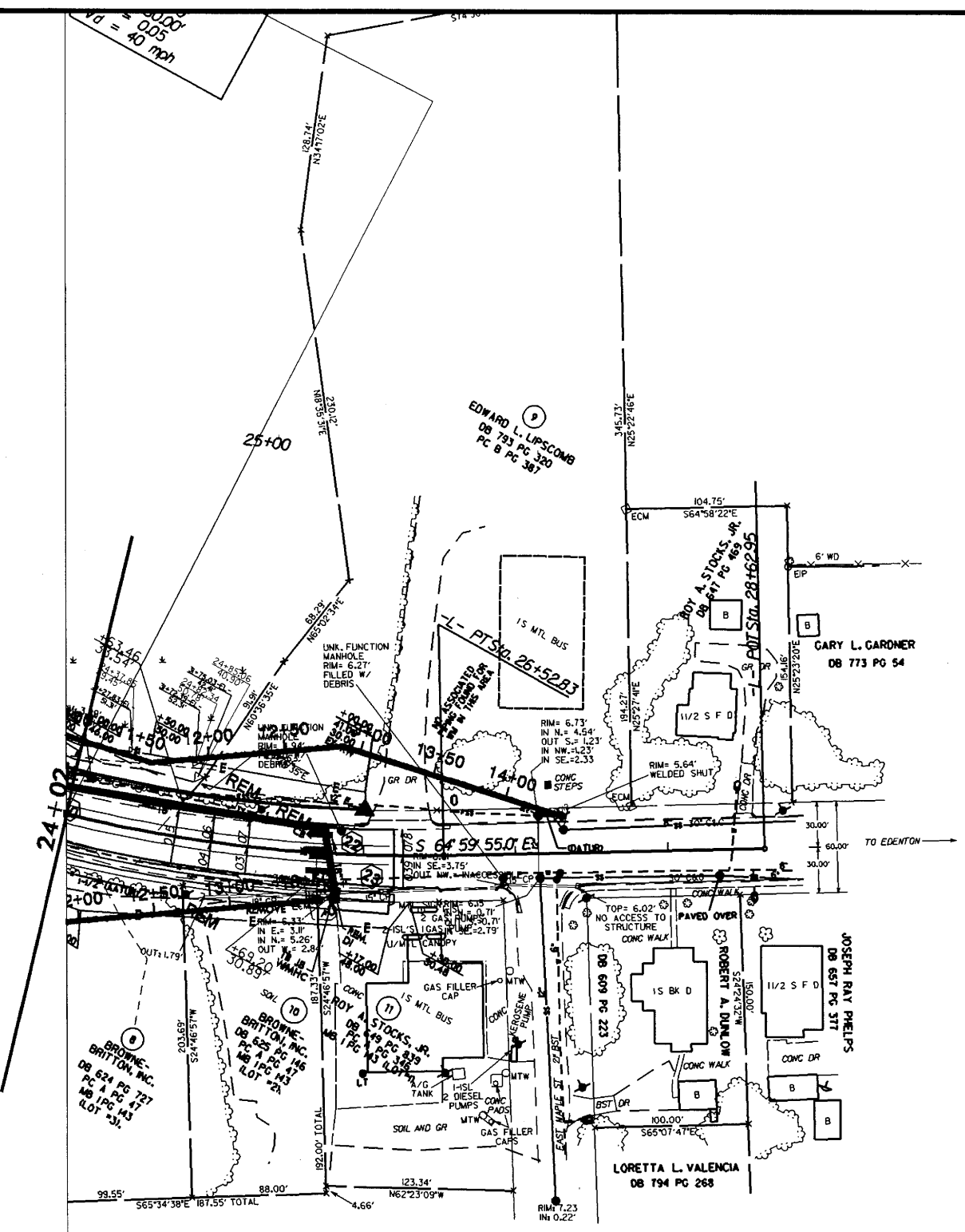
REVISIONS

30-JUN-2008 09:40
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8/17/99

20 JUN 2008 09:41
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REVISIONS



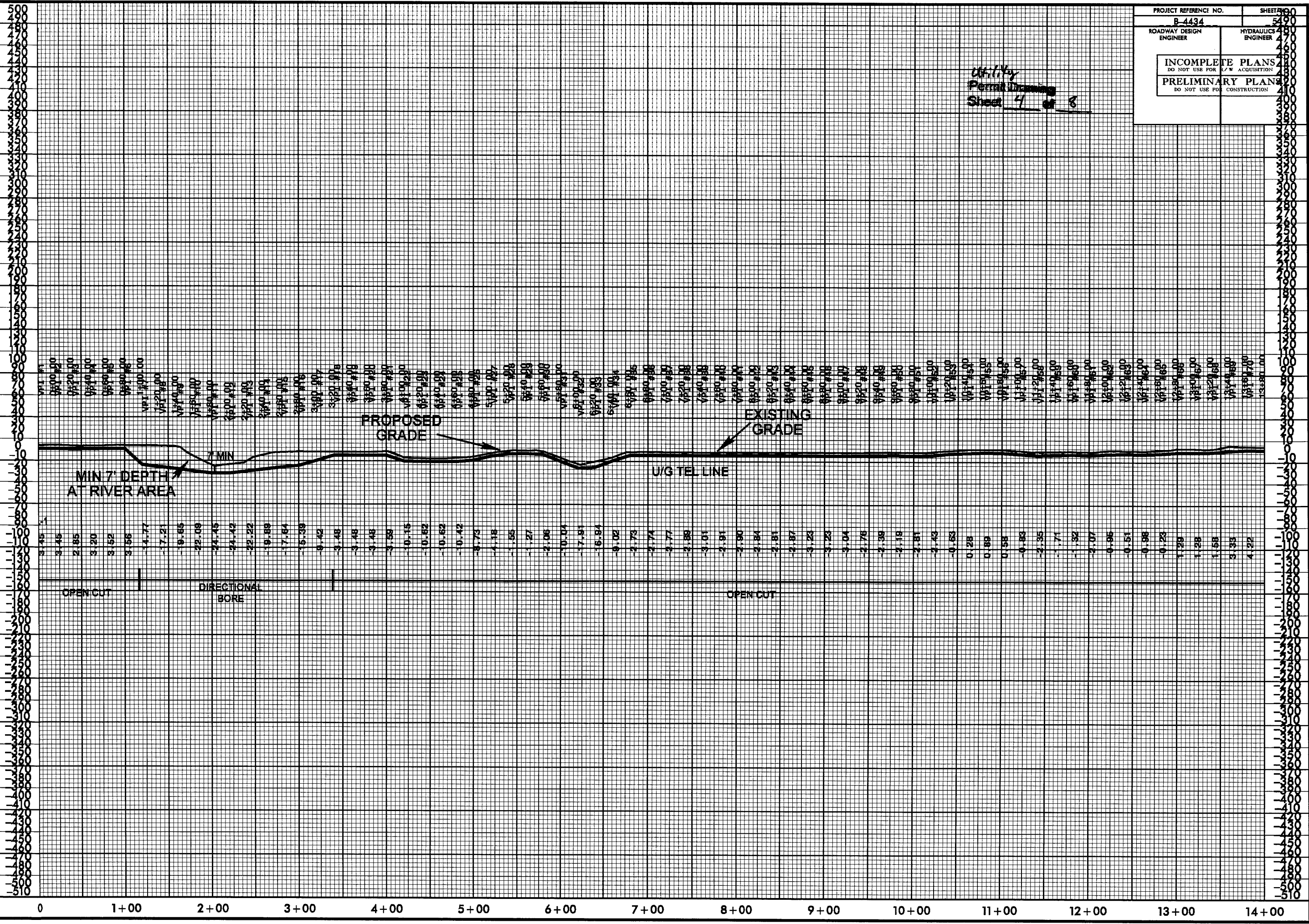
Utility
Permit Drawing
Sheet 3 of 8

PROJECT REFERENCE NO. B-4434	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

28+63 Ext. 942.03

PROJECT REFERENCE NO.		SHEET NO.
B-4434		54
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

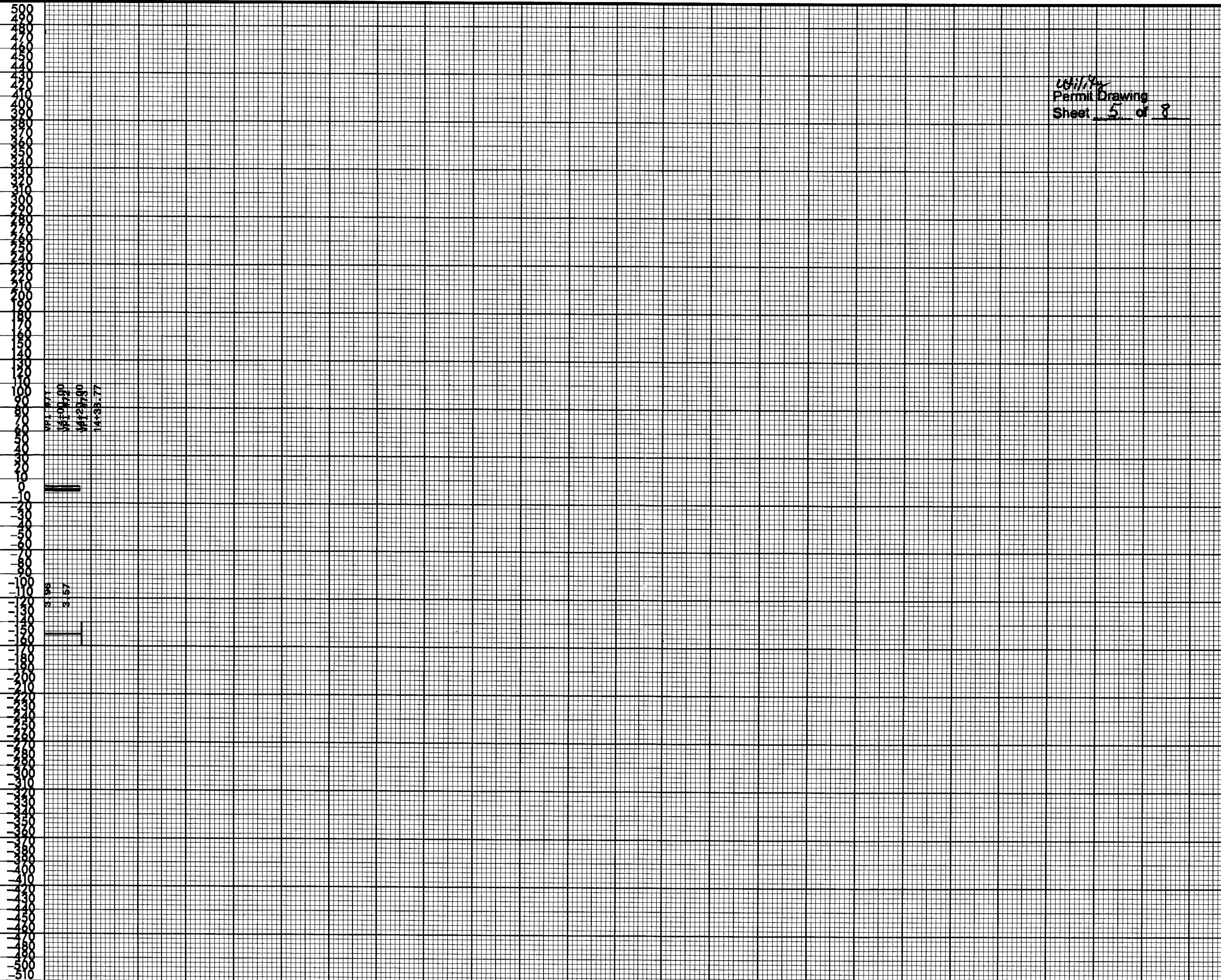
Utility
Permit Drawing
Sheet 7 of 8



0 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00

500
490
480
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460
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440
430
420
410
400

500
490
480
470
460
450
440
430
420
410
400



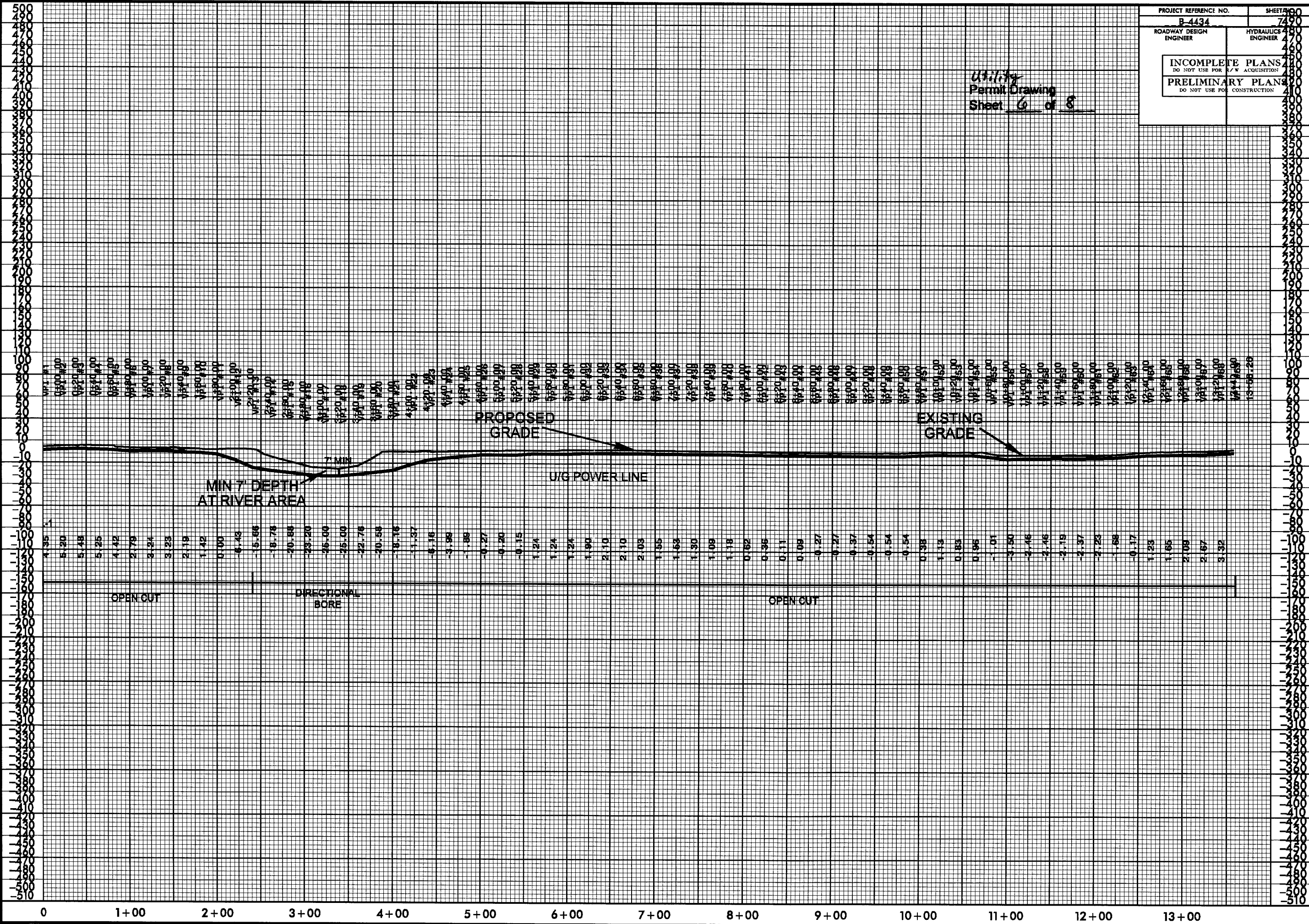
14 + 00

Utility
Permit Drawing
Sheet 5 of 8

PROJECT REFERENCE NO. B-4434		SHEET NO. 649
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

PROJECT REFERENCE NO.		SHEET NO.
B-4434		749
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION		
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

Utility
Permit Drawing
Sheet 6 of 8



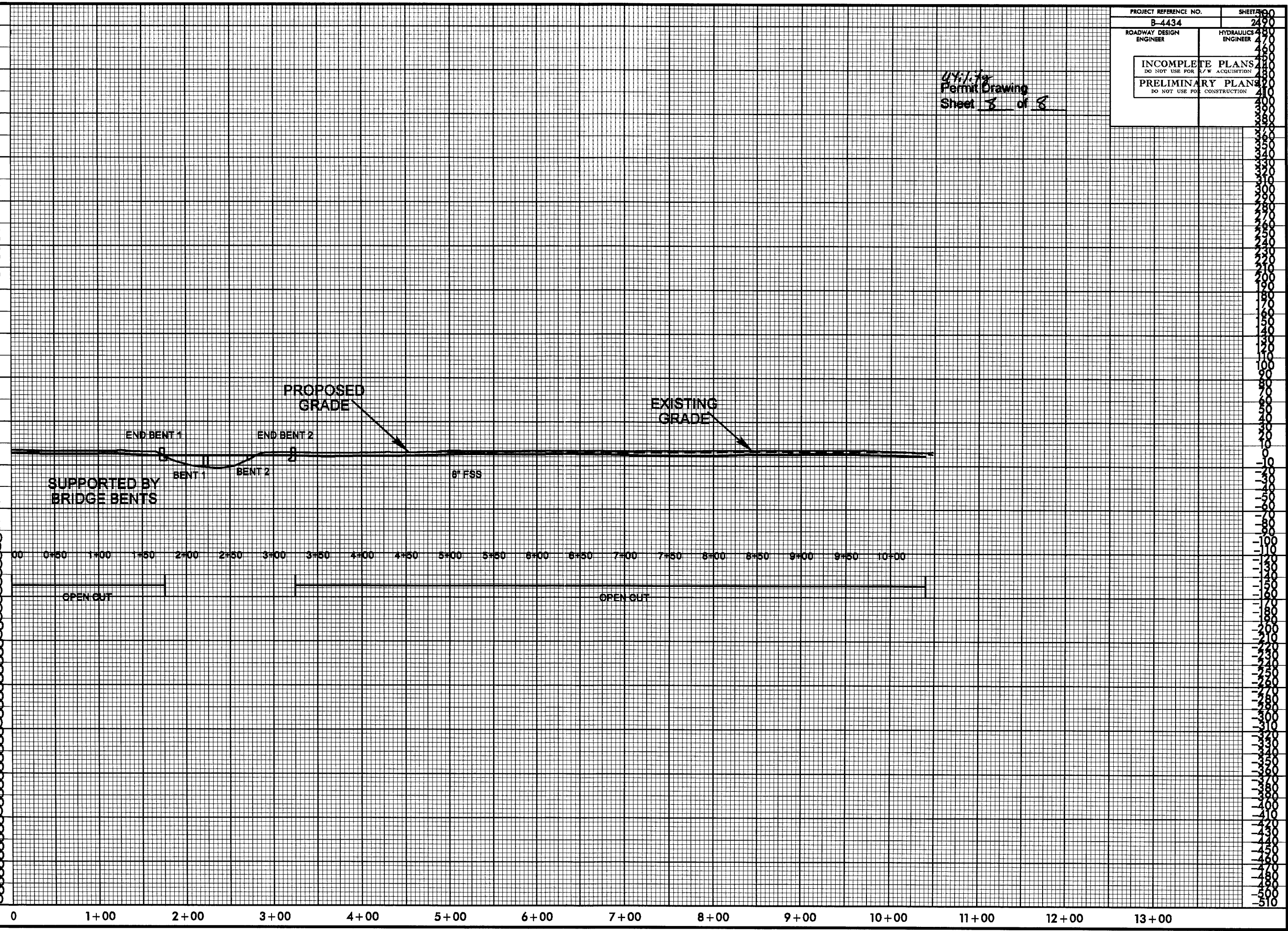
4.35	5.20	5.48	5.25	4.42	2.79	2.24	3.25	2.19	1.42	0.00	-6.43	-15.86	-18.78	-20.88	-23.20	-26.00	-25.00	-22.76	-20.58	-18.16	-11.87	-6.16	-3.98	-1.88	-0.27	-0.20	-0.15	1.24	1.24	1.24	1.90	2.10	2.10	2.03	1.55	1.63	1.30	1.09	1.18	0.62	0.36	0.11	0.09	-0.27	-0.27	-0.37	-0.54	-0.54	-0.54	0.38	1.13	0.85	0.96	-1.01	-3.50	-2.46	-2.46	-2.19	-2.37	-2.23	-1.68	-0.17	1.23	1.65	2.09	2.67	3.32
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0 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00

5/14/99
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 13-58.28

PROJECT REFERENCE NO.	SHEET NO.
B-4434	2490
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Utility
Permit Drawing
Sheet 3 of 8

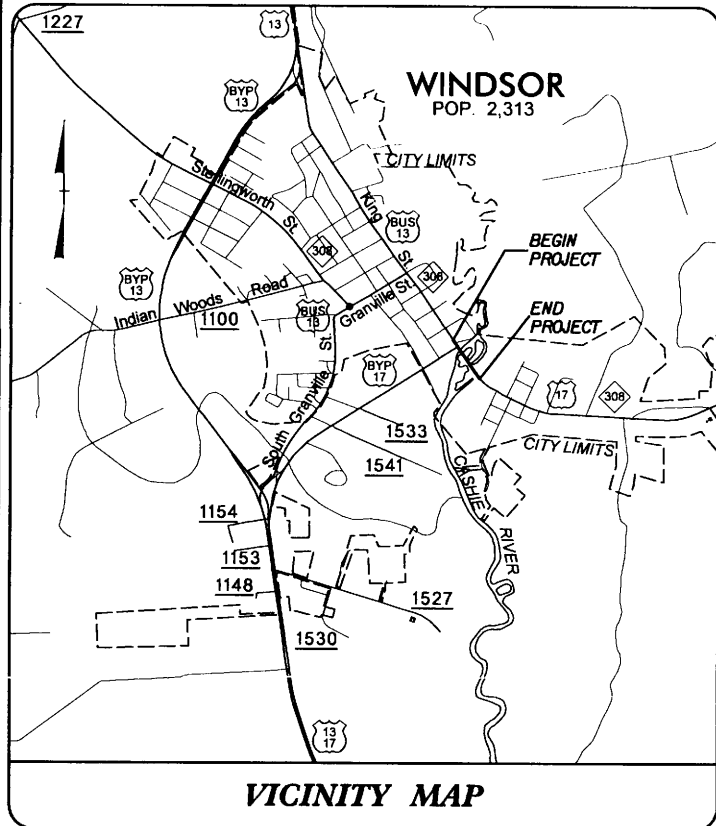


5/14/99

30-JUN-2008 09:04
C:\Users\m... \proj\B4434_upr1.dgn

CONTRACT: TIP PROJECT: B-4434

See Sheet 1-A For Index of Sheets



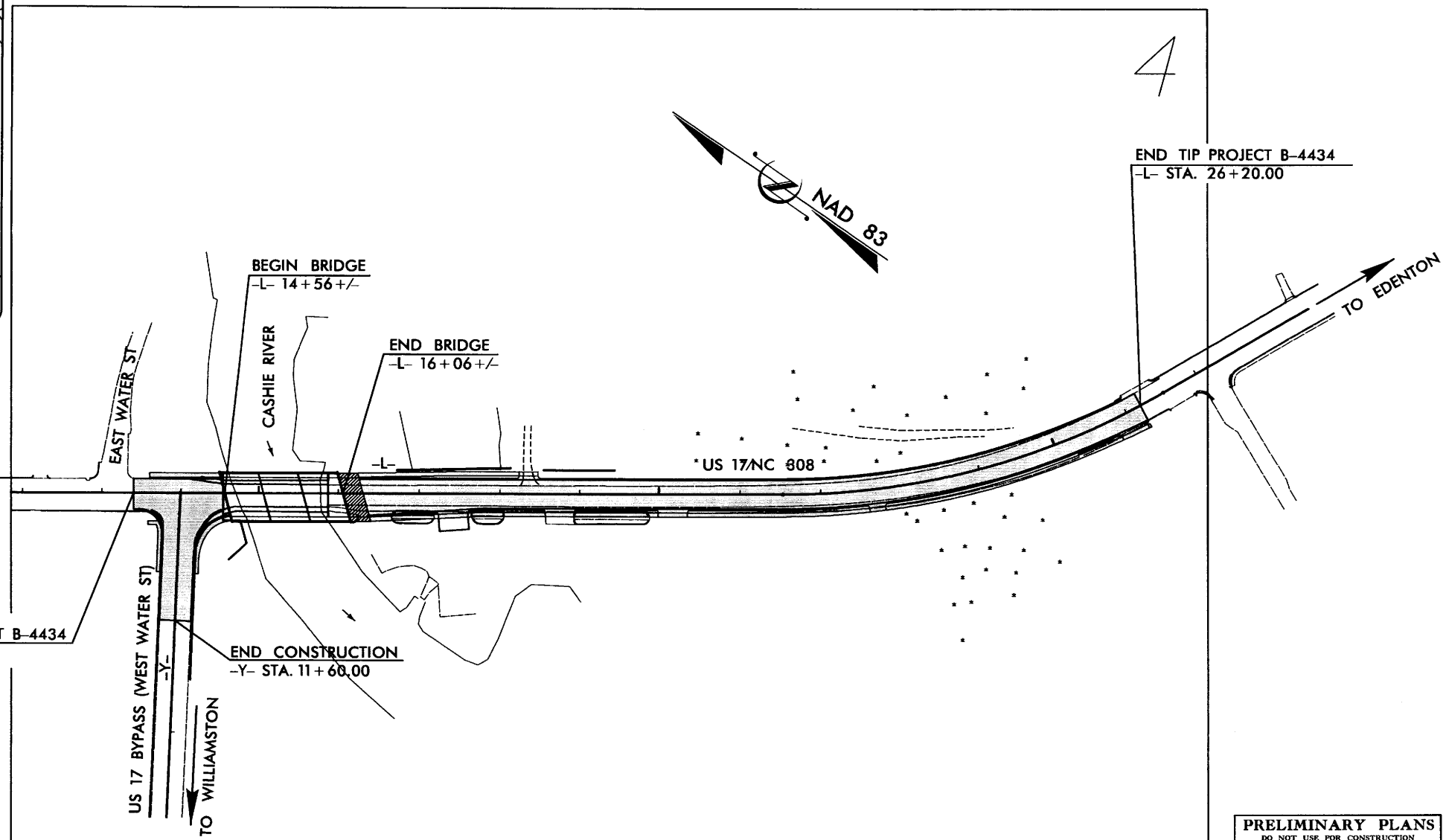
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BERTIE COUNTY

LOCATION: BRIDGE NO. 14 OVER CASHIE RIVER ON US 17/NC 308

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

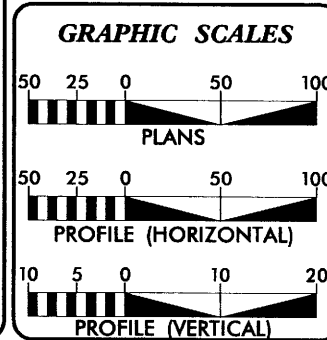
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4434	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33700.1.1	BRNHS-17(35)	PE	
33700.2.1	BRNHS-17(35)	RW	
33700.3.1	BRNHS-17(35)	CONST.	



THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WINDSOR.

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2006 =	11,921
ADT 2026 =	10,004
DHV =	12 %
D =	60 %
T =	9 % *
V =	40 MPH

* (TTST 5% + DUAL 4%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4434 =	0.214 MILES
LENGTH STRUCTURE TIP PROJECT B-4434 =	0.028 MILES
TOTAL LENGTH TIP PROJECT B-4434 =	0.242 MILES

PLANS PREPARED BY:
TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 19, 2007

LETTING DATE:

NGDOT CONTACT:

PLANS PREPARED FOR:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr.
Raleigh, NC 27610

CHARLES L. FLOWE, PE
PROJECT ENGINEER

W. CRAIG PARKER, PE
PROJECT DESIGN ENGINEER

B. DOUG TAYLOR, PE
PROJECT ENGINEER - ROADWAY DESIGN

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

STATE DESIGN ENGINEER P.E.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED DIVISION ADMINISTRATOR DATE

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for hydrology: Stream or Body of Water, Hydro, Pool or Reservoir, Jurisdictional Stream, Buffer Zone 1, Buffer Zone 2, Flow Arrow, Disappearing Stream, Spring, Swamp Marsh, Proposed Lateral, Tail, Head Ditch, False Sump.

RAILROADS:

Table listing symbols for railroads: Standard Gauge, RR Signal Milepost, Switch, RR Abandoned, RR Dismantled.

RIGHT OF WAY:

Table listing symbols for 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:

Table listing symbols for roads and related features: Existing Edge of Pavement, Existing Curb, Proposed Slope Stakes Cut, Proposed Slope Stakes Fill, Proposed Wheel Chair Ramp, Curb Cut for Future Wheel Chair Ramp, Existing Metal Guardrail, Proposed Guardrail, Existing Cable Guiderail, Proposed Cable Guiderail, Equality Symbol, Pavement Removal.

VEGETATION:

Table listing symbols for vegetation: Single Tree, Single Shrub, Hedge, Woods Line, Orchard, Vineyard.

EXISTING STRUCTURES:

Table listing symbols for existing structures: Bridge, Tunnel or Box Culvert, Bridge Wing Wall, Head Wall and End Wall, Head and End Wall, Pipe Culvert, Footbridge, Drainage Box: Catch Basin, DI or JB, Paved Ditch Gutter, Storm Sewer Manhole, Storm Sewer.

UTILITIES:

Table listing symbols for utilities: 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:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for gas: Gas Valve, Gas Meter, Recorded U/G Gas Line, Designated U/G Gas Line (S.U.E.*), Above Ground Gas Line.

SANITARY SEWER:

Table listing symbols for 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:

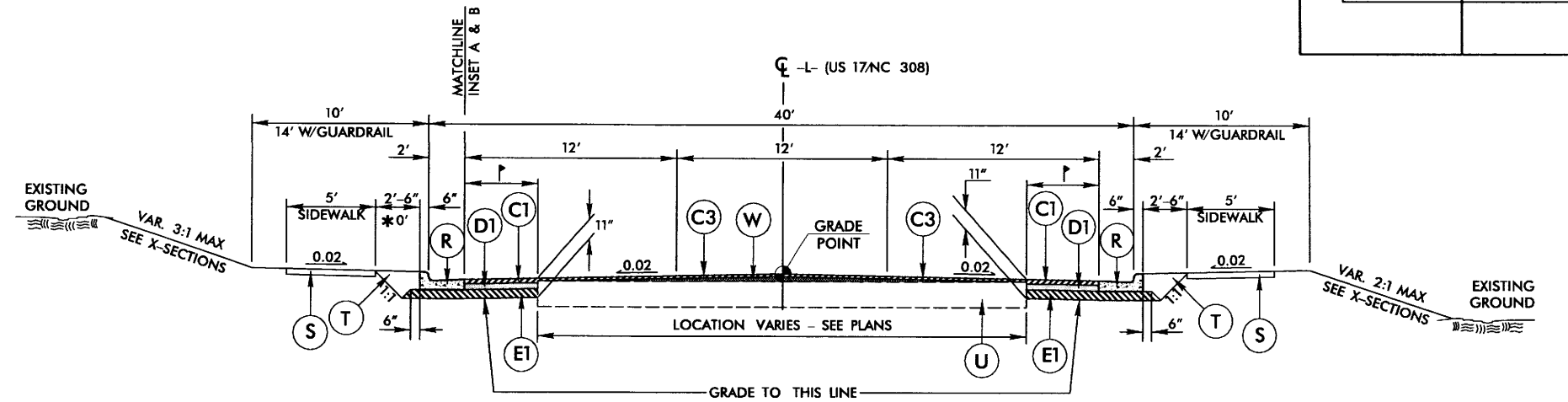
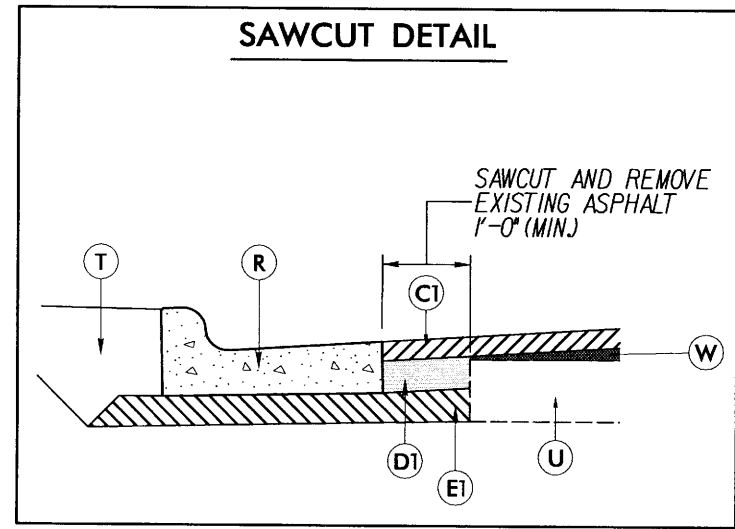
Table listing symbols for miscellaneous: Utility Pole, Utility Pole with Base, Utility Located Object, Utility Traffic Signal Box, Utility Unknown U/G Line, U/G Tank; Water, Gas, Oil, AG Tank; Water, Gas, Oil, U/G Test Hole (S.U.E.*), Abandoned According to Utility Records, End of Information.



PROJECT REFERENCE NO. B-4434	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

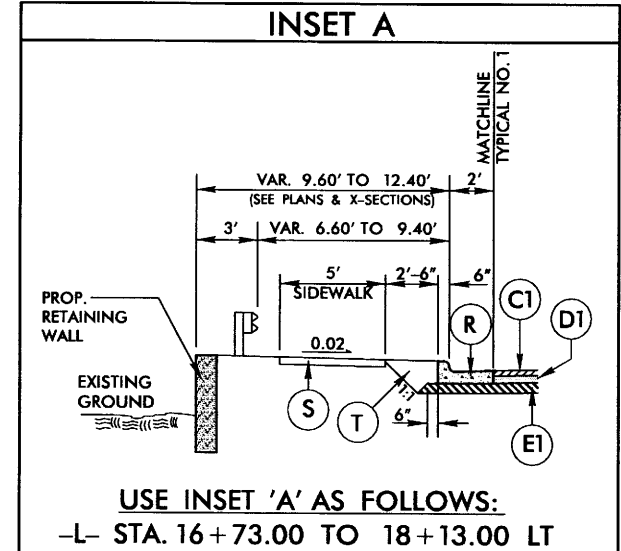
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1 1/4" IN DEPTH OR GREATER THAN 1 1/2" IN DEPTH.
C3	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
R	2'x6" CONCRETE CURB.
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING EXISTING PAVEMENT. (SEE STD.DETAILS, THIS SHEET)

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

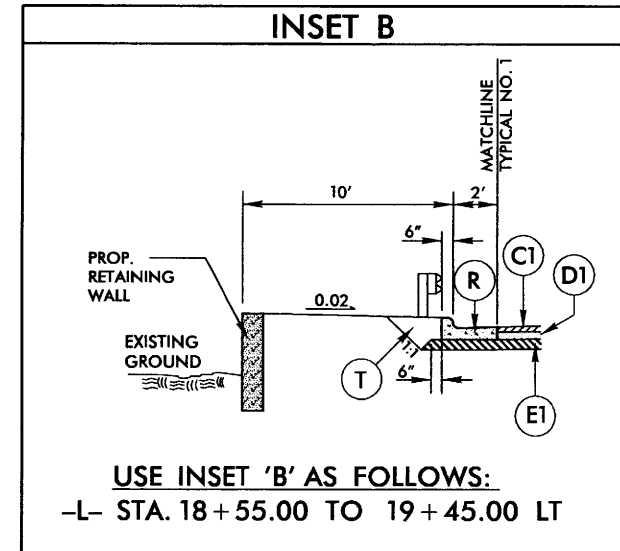


TYPICAL SECTION NO. 1

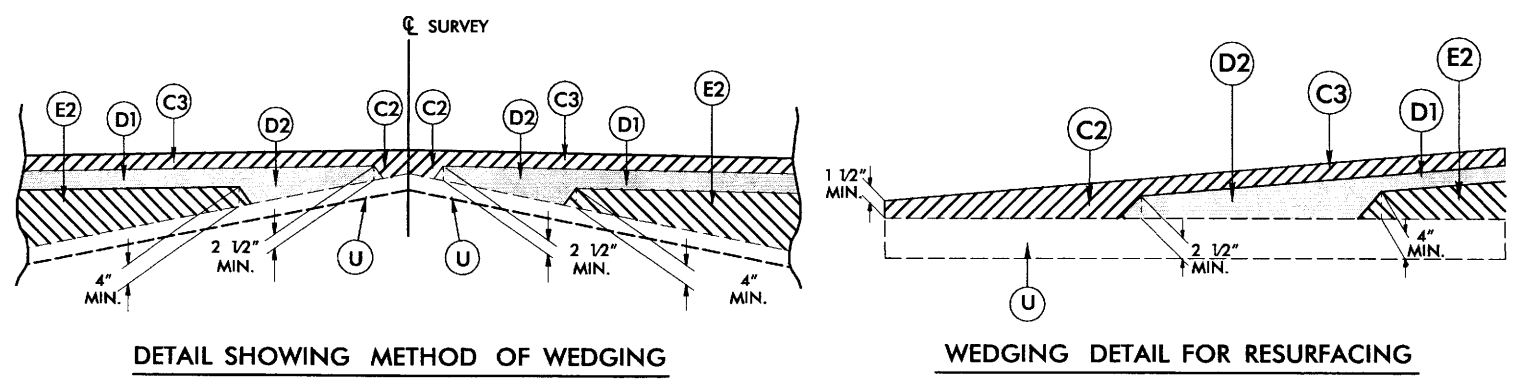
USE TYPICAL SECTION NO.1 AS FOLLOWS:
 * -L- STA. 13+40.00 TO 14+56+/- (BEGIN BRIDGE)
 -L- STA. 16+06+/- (END BRIDGE) TO 26+20.00
 † NOTE: FOR AREAS <1'-0" USE SAWCUT DETAIL (THIS SHEET)



USE INSET 'A' AS FOLLOWS:
 -L- STA. 16+73.00 TO 18+13.00 LT



USE INSET 'B' AS FOLLOWS:
 -L- STA. 18+55.00 TO 19+45.00 LT



DETAIL SHOWING METHOD OF WEDGING

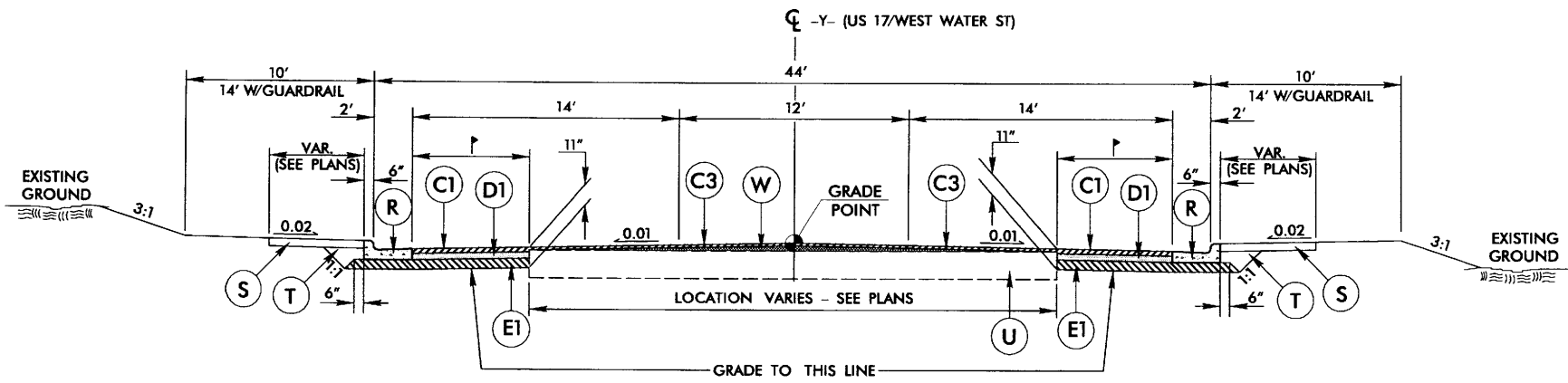
WEDGING DETAIL FOR RESURFACING

15/2/19
TGS ENGINEERS
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

PROJECT REFERENCE NO. <u>B-4434</u>	SHEET NO. <u>2-A</u>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	

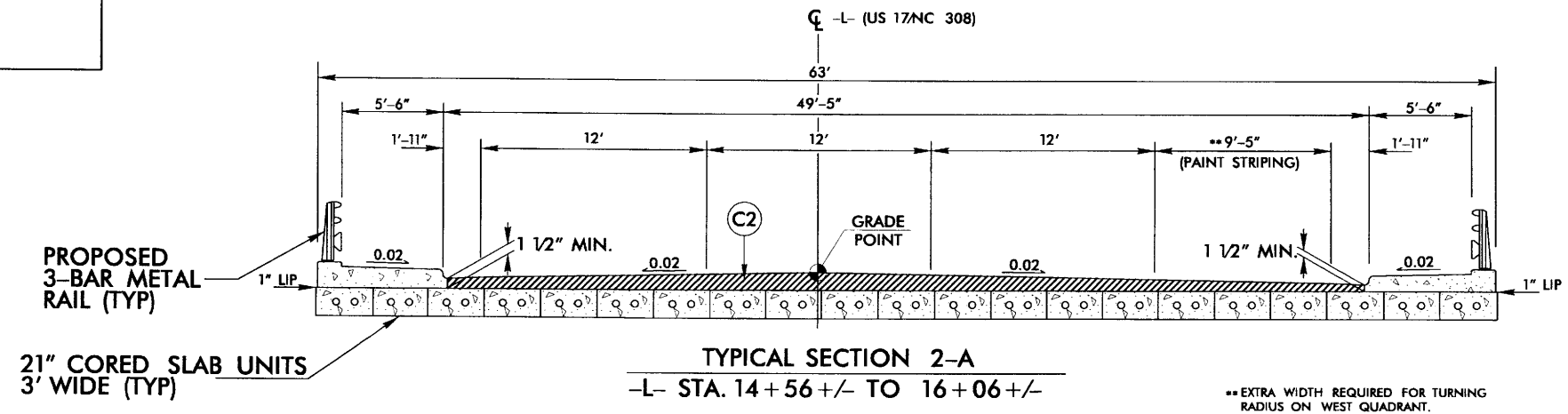
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1 1/4" IN DEPTH OR GREATER THAN 1 1/2" IN DEPTH.
C3	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
R	2'X6" CONCRETE CURB.
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING EXISTING PAVEMENT. (SEE STD.DETAILS, SHEET 2)

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



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AS FOLLOWS:
 -Y- STA. 10+20.02 TO 11+00.00
 MINIMUM RESURFACING ONLY AS FOLLOWS:
 -Y- STA. 11+00.00 TO 11+60.00
 † NOTE: FOR AREAS <1'-0" USE SAWCUT DETAIL (SHEET 2)



TYPICAL SECTION 2-A
 -L- STA. 14+56+/- TO 16+06+/-

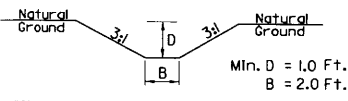
**EXTRA WIDTH REQUIRED FOR TURNING RADIUS ON WEST QUADRANT.

5/2/2008
 11:25:58 AM
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DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY MDDOT FOR MONUMENT "DPS B443-3" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTING: 821537.285(11) EASTING: 2610434.373(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99996160 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "DPS B443-3" TO L- STATION 13+00.00 IS N 52° 23' 00.57" W 24337.1(11) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAD 88

**DETAIL A
STANDARD BASE DITCH
(Not to Scale)**



-L- 14+18+/-, LT (0.5% Grade)
DDE: 35 CY
-Y- 10+63+/-, LT (0.5% Grade)
DDE: 130 CY

TH 6+60.2 50.5'
P.C. PLASTIC WATER LINE
EL. 7.06'
I.P. PLASTIC WATER LINE
EL. 6.32'

BY- 10
PINC 8+36.82
-L- POT 12+98.82
40.9' LT

MARGUERITE GATLING
DB 342 PG 406
95-E-174 (WILL)

J.B. CHERRY
DB 532 PG 169

JANICE LYON
IS BK D
DB 597 PG 647

HOLLY M. BELL
DB 755 PG 979
DB 371 PG 402 (MAP)

O.L. SPIVEY, JR.
DB 699 PG 716

WINDSOR UNITED METHODIST CHURCH
DB 889 PG 318

WINDSOR UNITED METHODIST CHURCH

WALTER L. WILLIAMS
DB 744 PG 215 (TRACT #1)
PC A PG 470

BL- 6
PINC 23+19.49
BY-E06
POT 10+85.23
-Y- POT 11+75.23
27.7' RT

BL- 7
PINC 28+23.27
-Y- POT 18+99.98
25.59' RT

BL- 8
PINC 34+41.93
-L- POT 28+8.62
33.8' RT

BL- 21
BL- STA 27+9.76
272.29' LEFT
ELEV= 3.45'
-L- POT 17+88.42
224.79' LT

BL- 21
BL- STA 27+9.76
272.29' LEFT
ELEV= 3.45'
-L- POT 17+88.42
224.79' LT

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BL- STA 27+9.76
272.29' LEFT
ELEV= 3.45'
-L- POT 17+88.42
224.79' LT

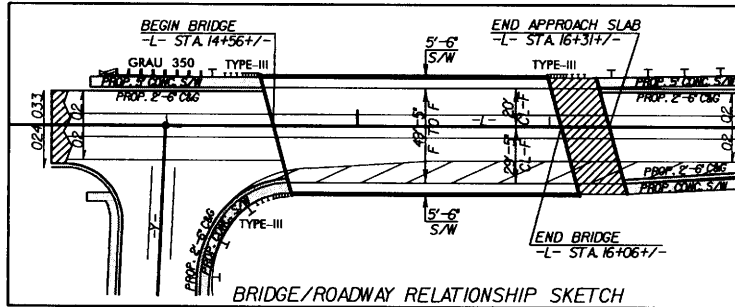
BL- 21
BL- STA 27+9.76
272.29' LEFT
ELEV= 3.45'
-L- POT 17+88.42
224.79' LT

BL- 21
BL- STA 27+9.76
272.29' LEFT
ELEV= 3.45'
-L- POT 17+88.42
224.79' LT

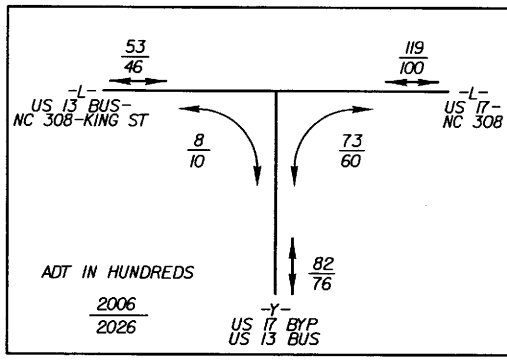
BL- 21
BL- STA 27+9.76
272.29' LEFT
ELEV= 3.45'
-L- POT 17+88.42
224.79' LT

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272.29' LEFT
ELEV= 3.45'
-L- POT 17+88.42
224.79' LT

BL- 21
BL- STA 27+9.76
272.29' LEFT
ELEV= 3.45'
-L- POT 17+88.42
224.79' LT



NOTE: ALL PIPES ARE RC CLASS III, UNLESS OTHERWISE INDICATED ON PLANS.
SEE SHEETS S-1 THRU S- FOR STRUCTURES PLANS



-L-
PI Sta 24+08.89
Δ = 30' 08" 20.1' (LT)
D = 6' 01" 52.1'
L = 499.72'
T = 255.79'
R = 950.00'
SE = 0.05
Vd = 40 mph

PROJECT REFERENCE NO. B-4434		SHEET NO. 4	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

TGS ENGINEERS SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

REVISIONS

SEE SHEET 5 FOR -L- & -Y- GRADE & PROFILE



TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

PROJECT REFERENCE NO. B-4434 SHEET NO. 5

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

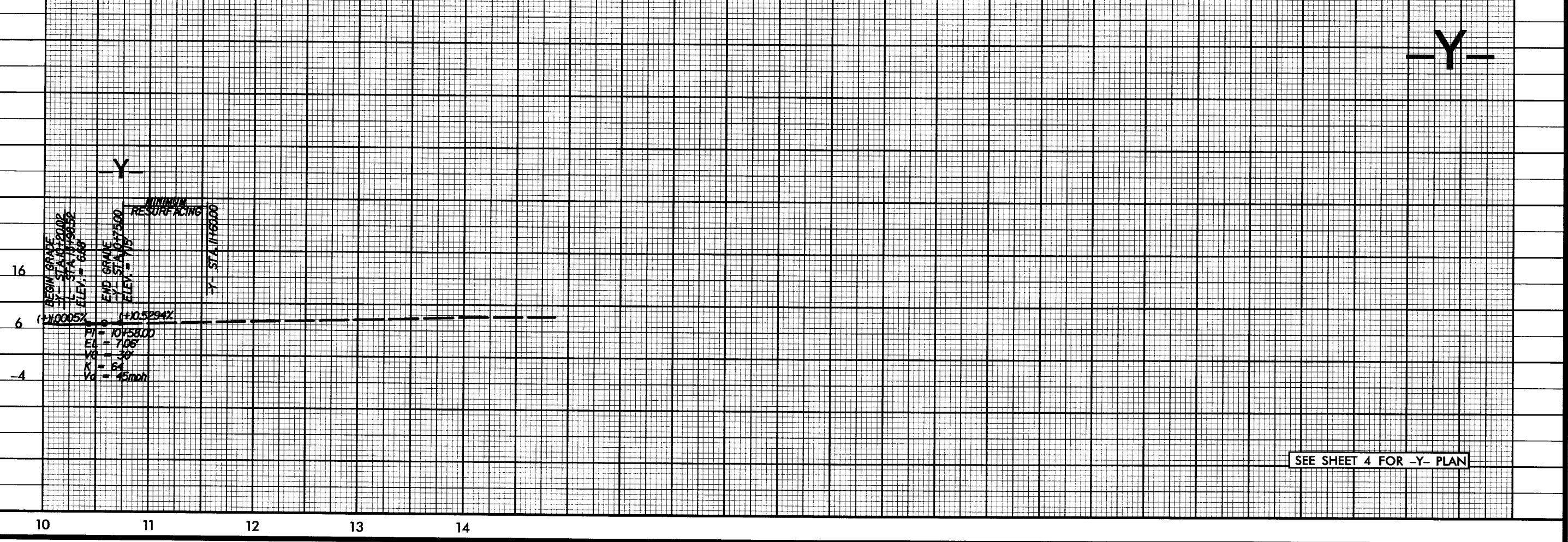
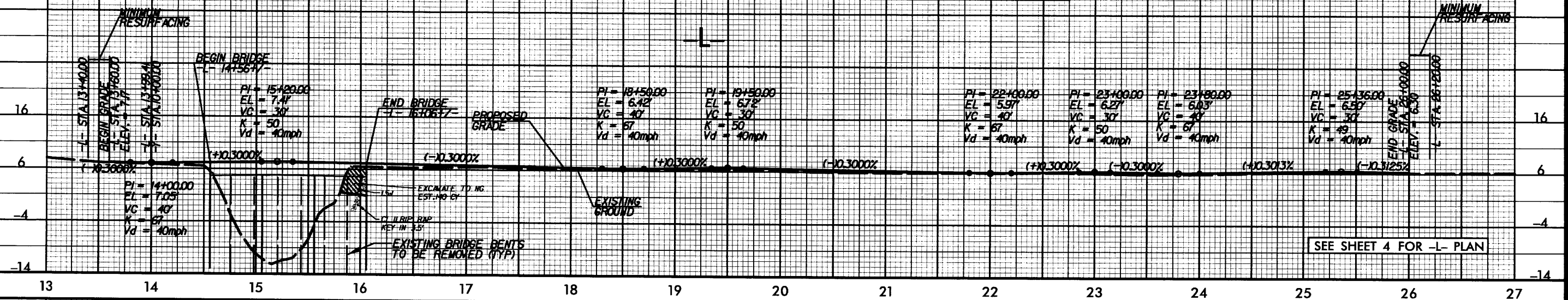
BM#20 ELEV. = 13.11
N 823349.6 E 2608229.4
-BY- STATION 4+49.00, 69.6' RT
NUT ON FIRE HYDRANT PAINTED WHITE AND LOCATED
BETWEEN "CHATT" AND "ANOOGA" ON RIM OF DOME.

BM #21 ELEV. = 3.45
N 822783.3 E 2608947.4
-BL- STATION 27+92.00, 272.3' LT
RR SPIKE SET IN BASE OF 16" WALNUT
TREE +/- 1.0' OFF OF THE GROUND.

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE = 7900 CFS
DESIGN FREQUENCY = 50 YRS
DESIGN HW ELEVATION = 8.3 FT
BASE DISCHARGE = 9800 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 9.4 FT
OVERTOPPING DISCHARGE = 5600 CFS
OVERTOPPING FREQUENCY = 10+ YRS
OVERTOPPING ELEVATION = 6 FT

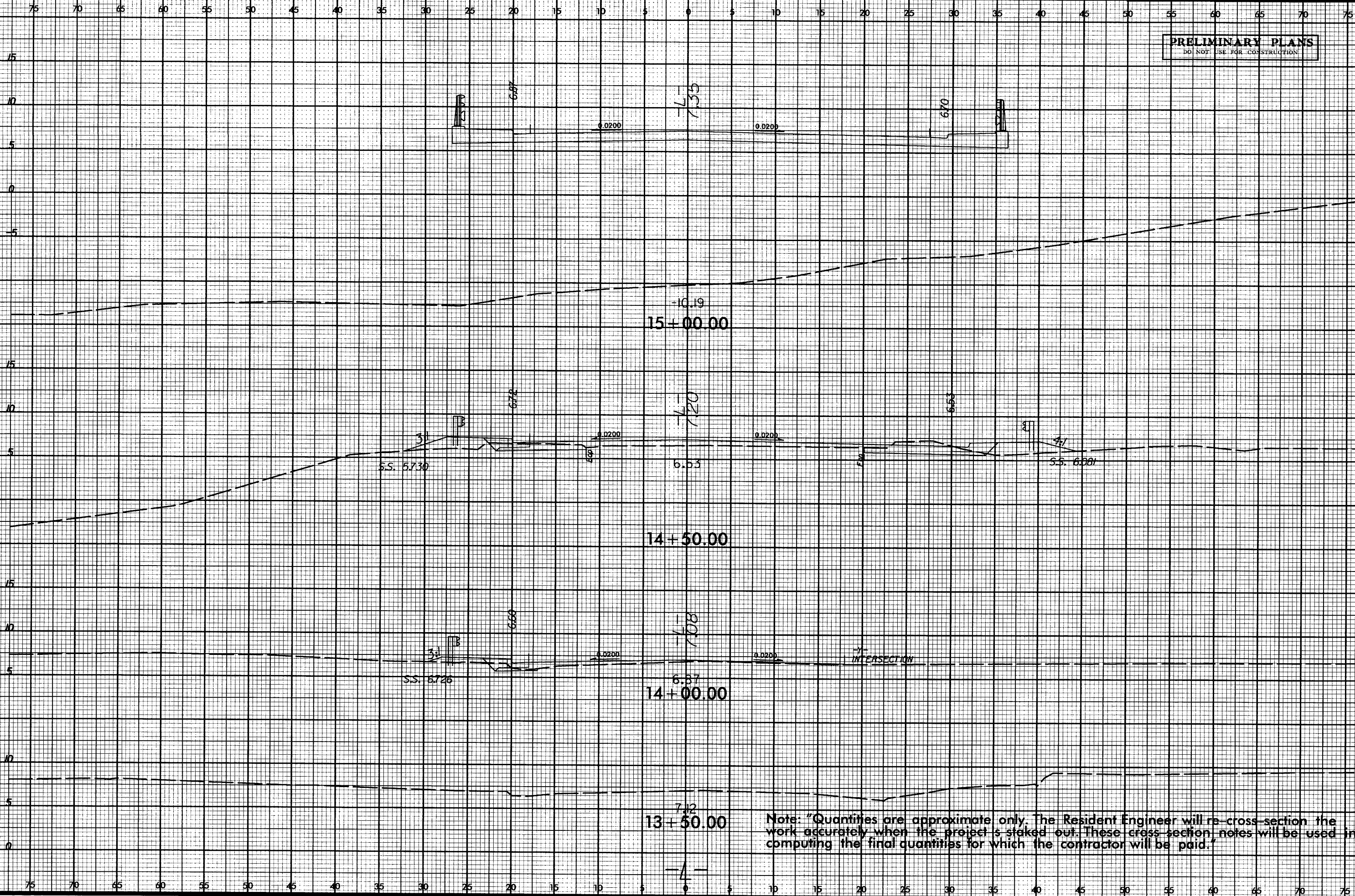
DATE OF SURVEY = 11-9-04
W.S. ELEVATION AT DATE OF SURVEY = -0.5 FT



5/28/05

8/23/99

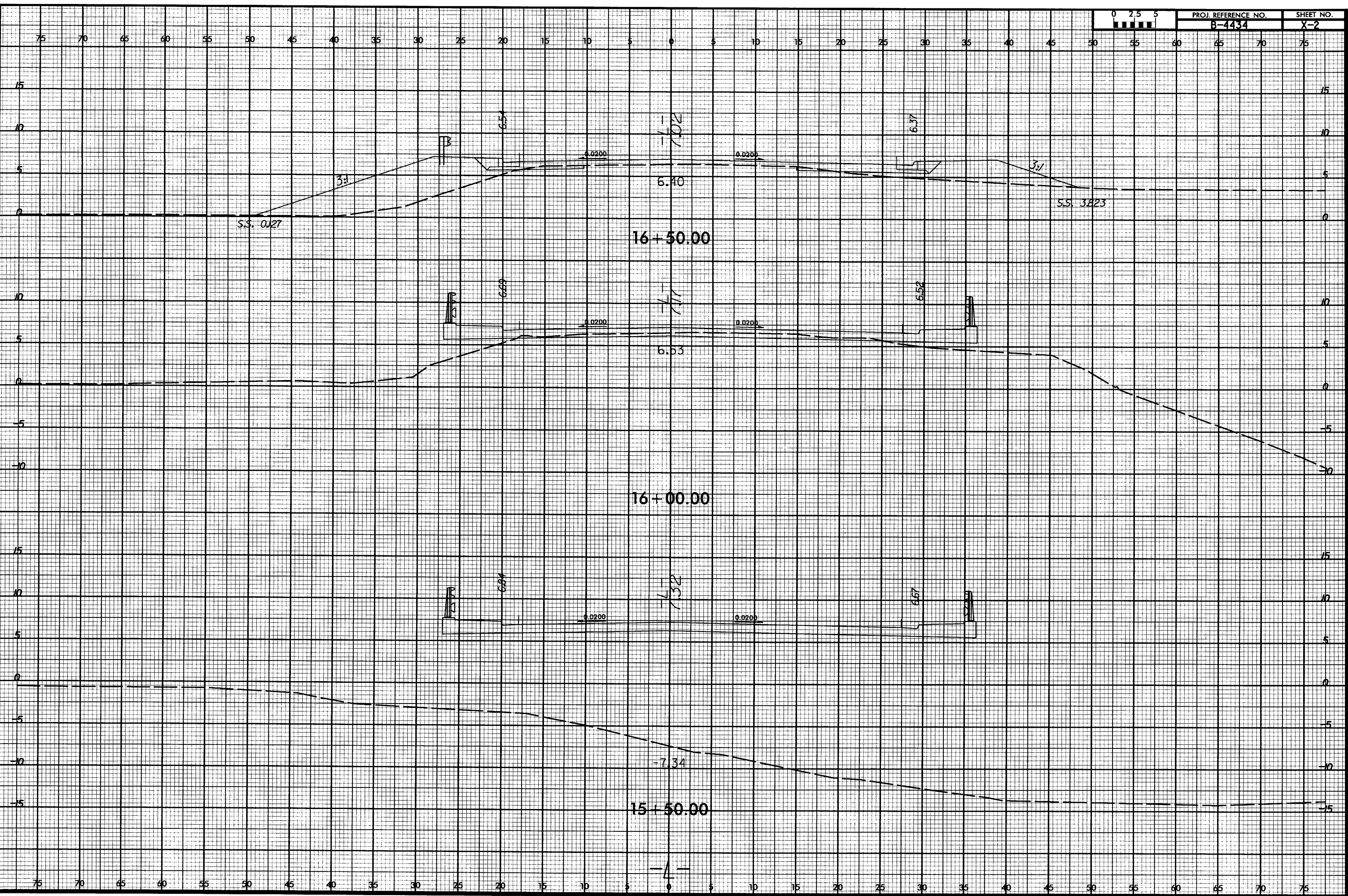
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



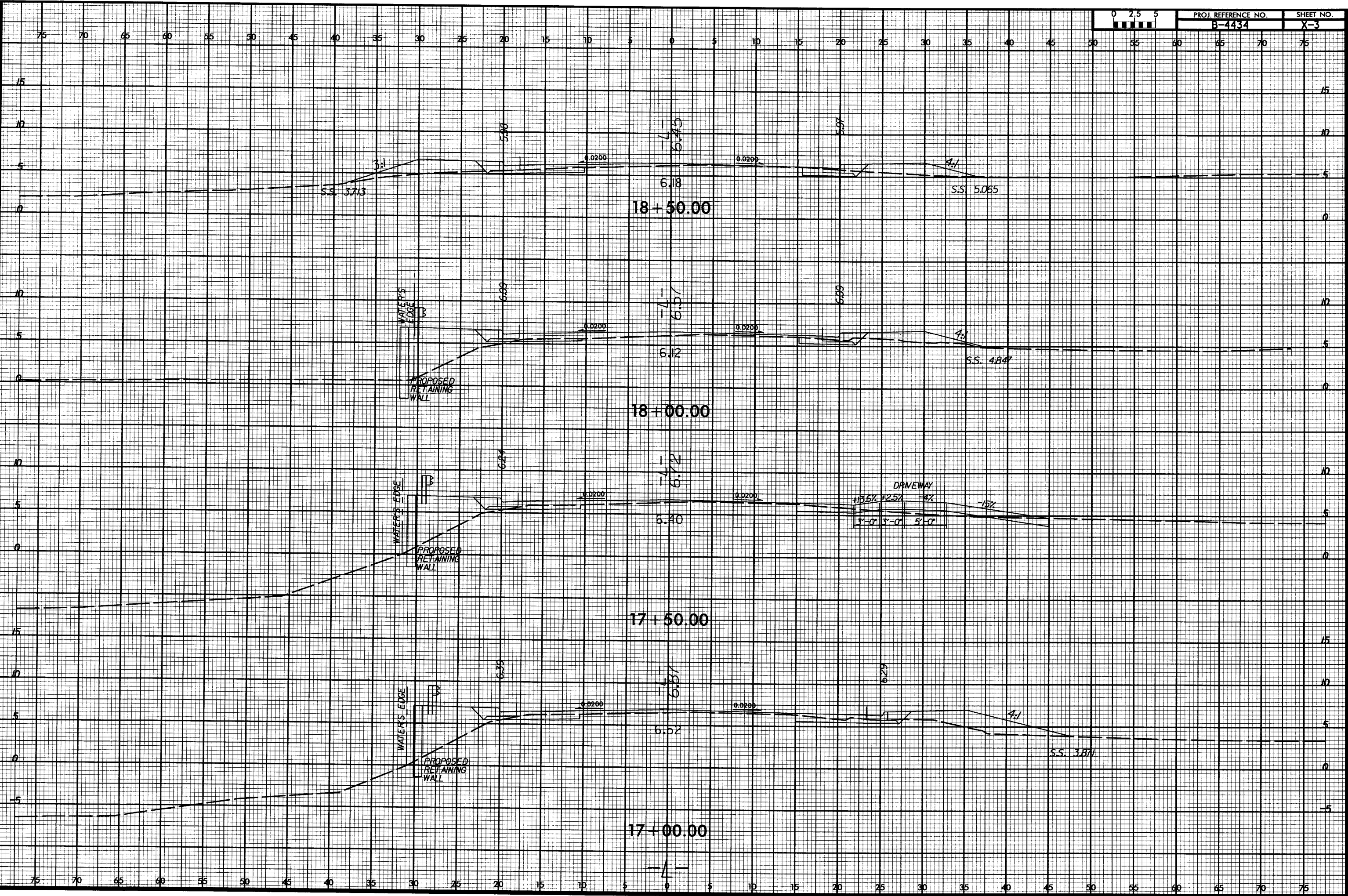
Note: "Quantities are approximate only. The Resident Engineer will re-cross-section the work accurately when the project is staked out. These cross-section notes will be used in computing the final quantities for which the contractor will be paid."

***** SYSTEMS *****
***** DONOR *****
***** ENGINEER *****

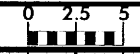
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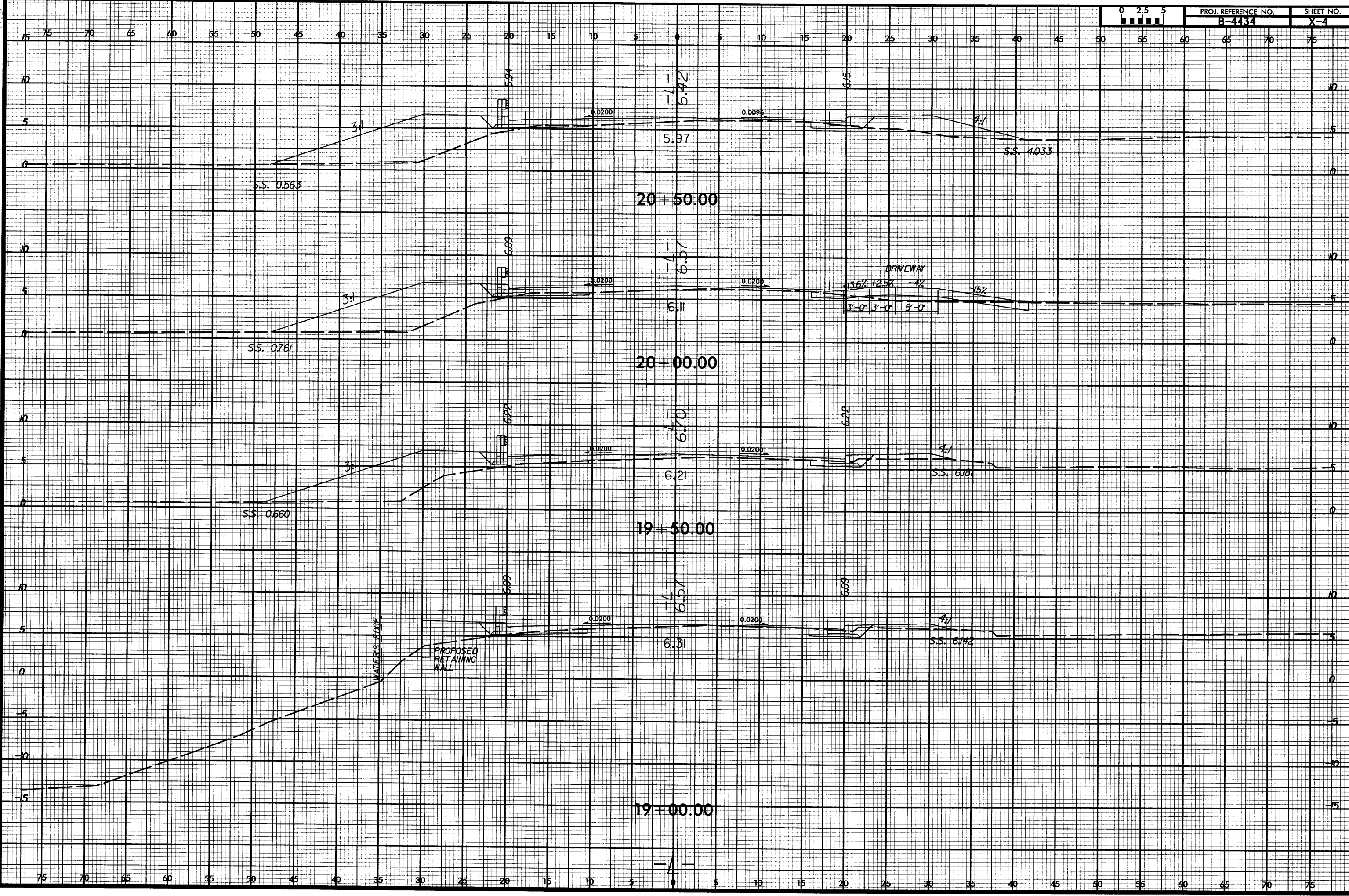


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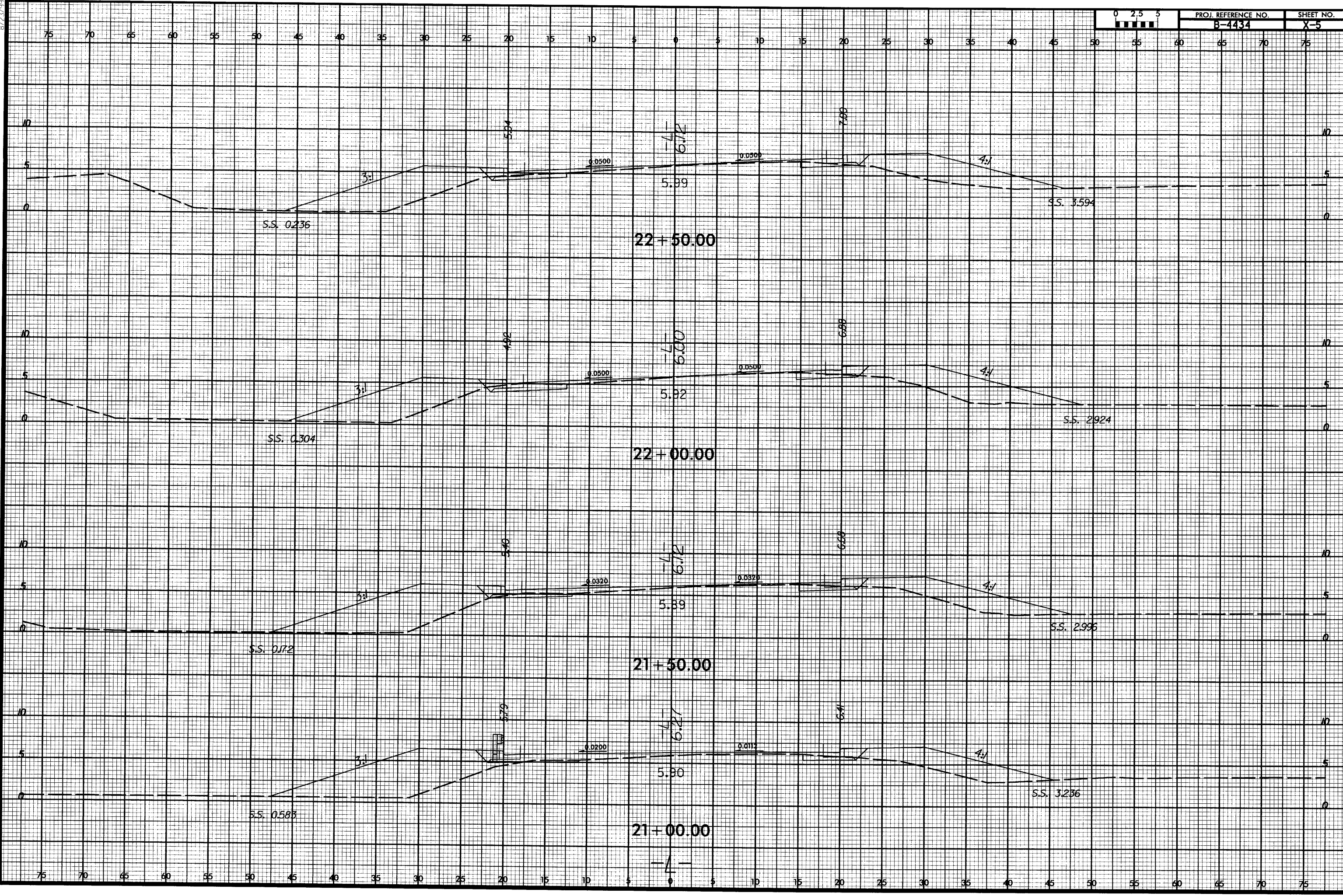


PROJ. REFERENCE NO.
B-4434

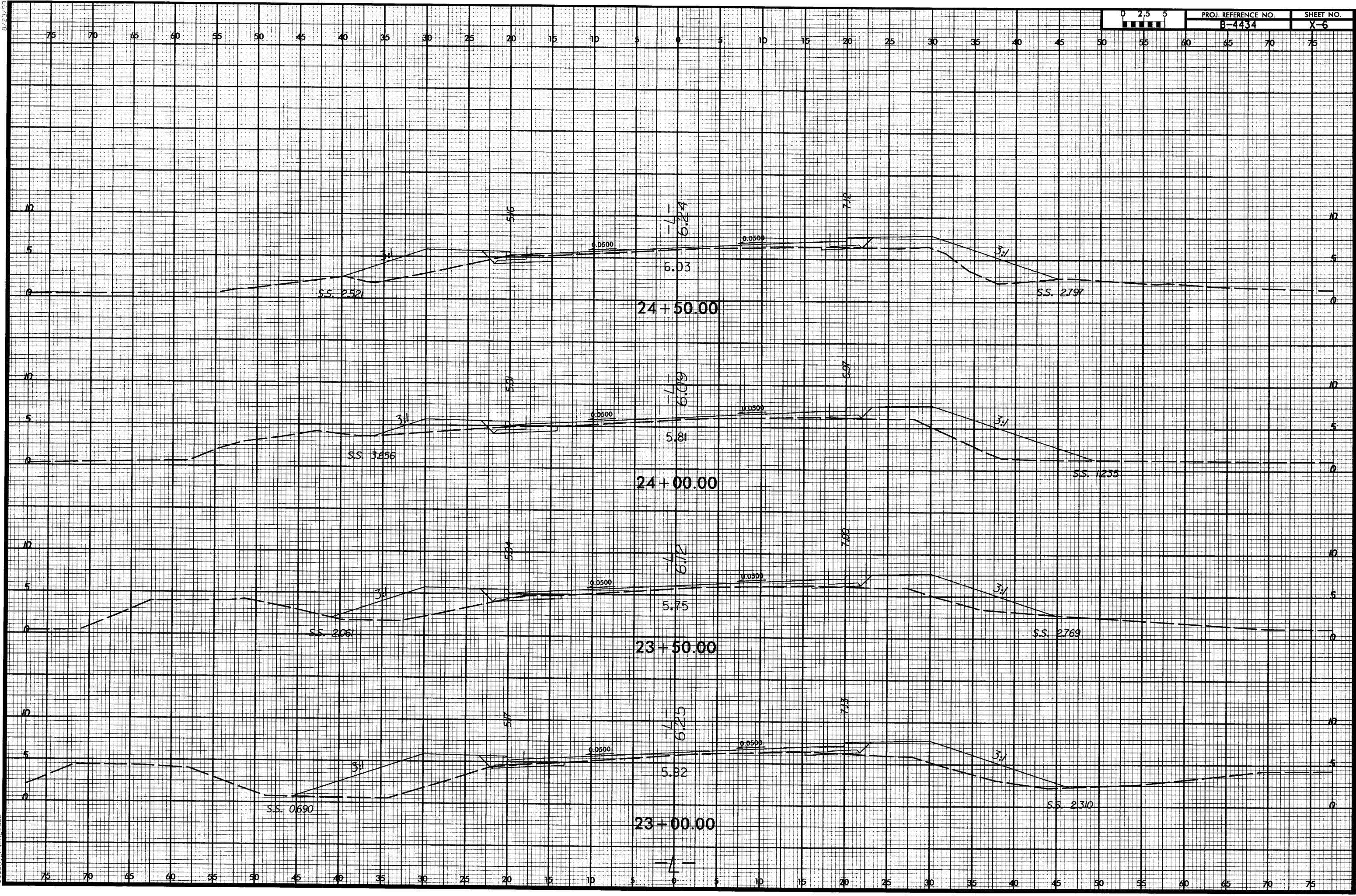
SHEET NO.
X-4



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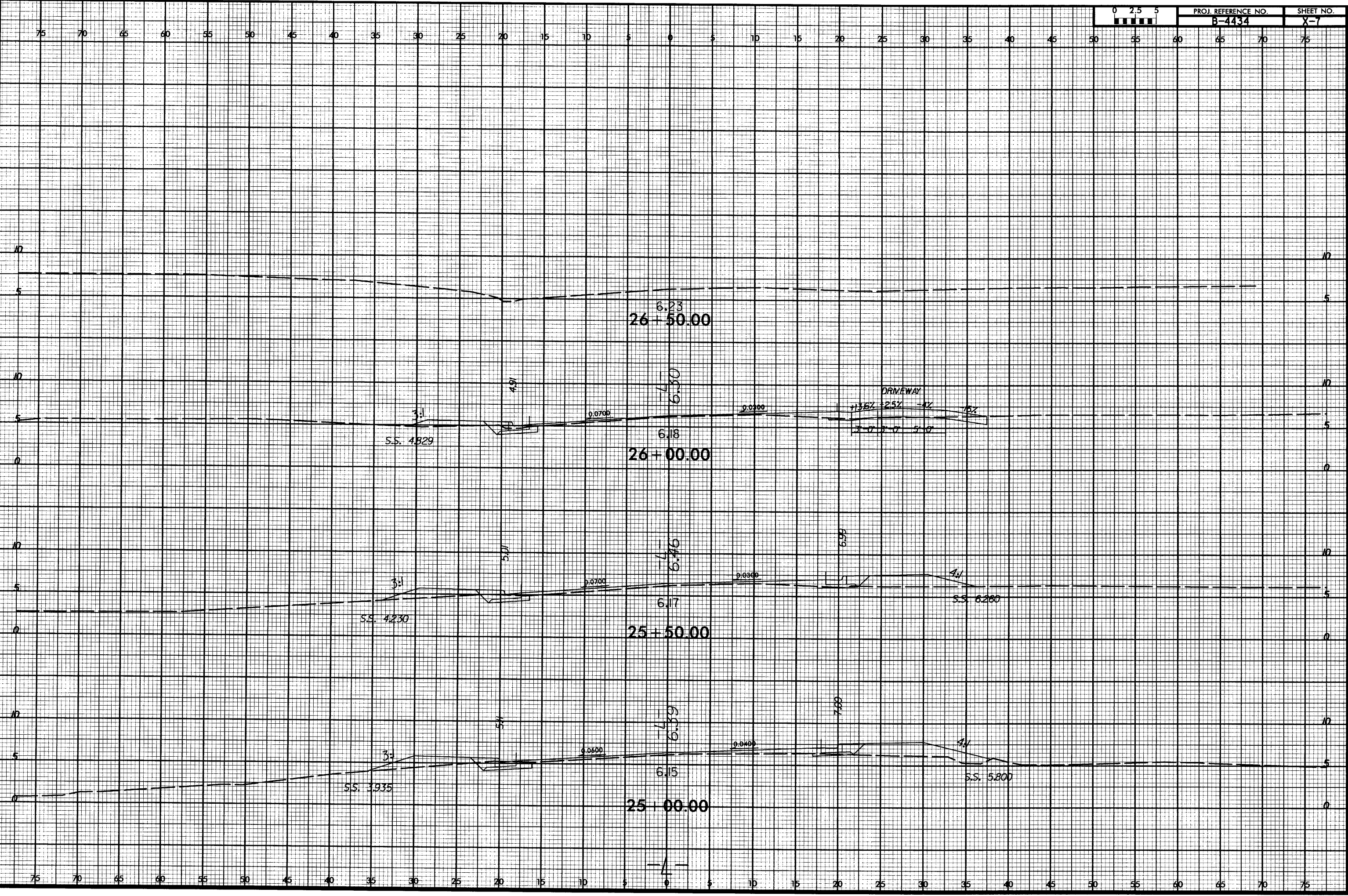


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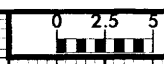


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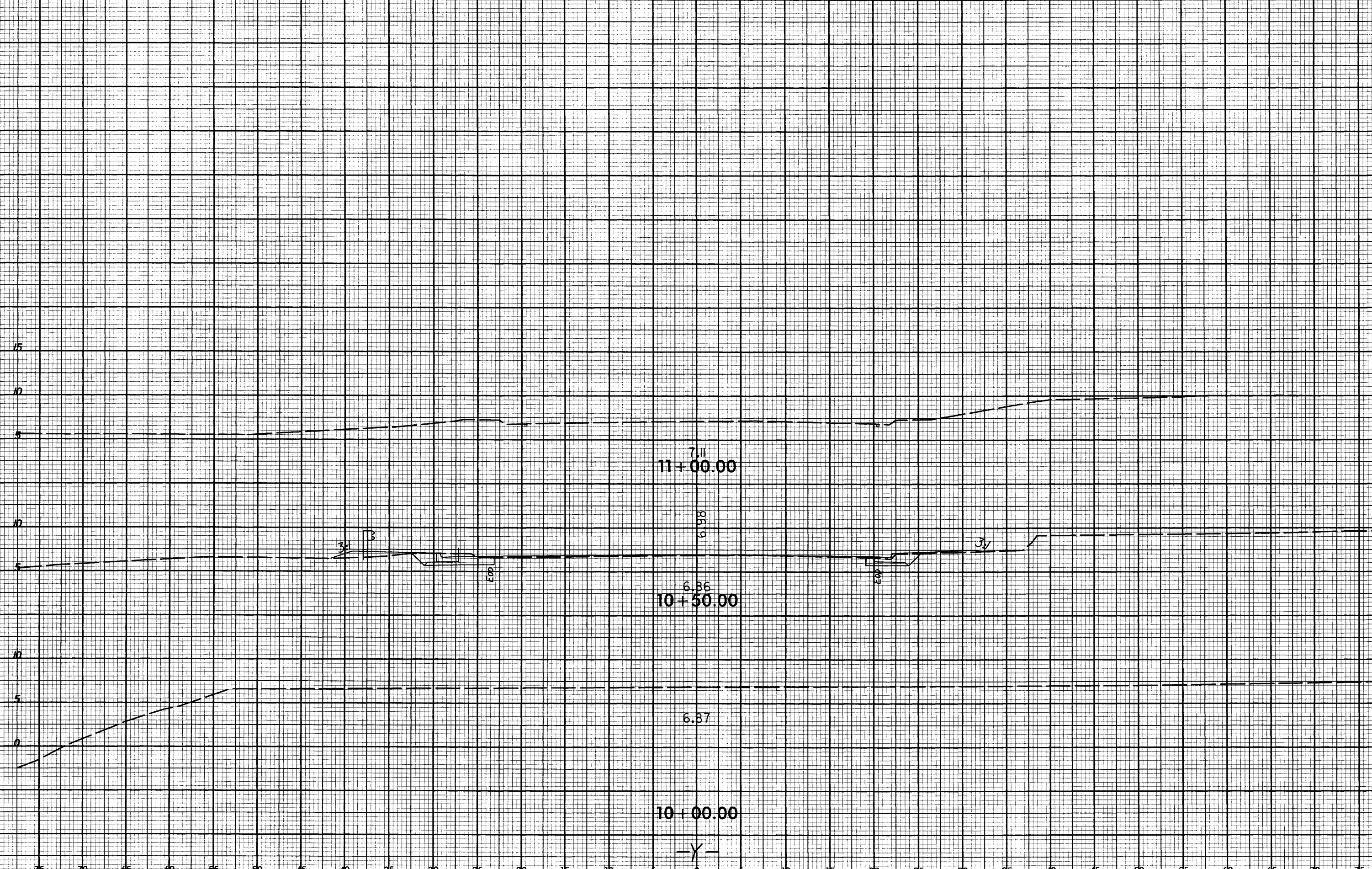


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PROJ. REFERENCE NO. B-4434	SHEET NO. X-8
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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1