STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

January 21, 2014

U. S. Army Corps of Engineers
Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

ATTN: Mr. John Thomas
NCDOT Coordinator

SUBJECT: **Application for Section 404 Individual Permit and Section 401 Individual Water Quality Certification** for the proposed Winston-Salem Northern Beltway Eastern Section from US 158 to I-40 Bus/US 421, Forsyth County, Division 9. WBS Element No. 34839.1.2, TIP No. U-2579B.

Debit $570.00 from WBS Element No. 34839.1.2

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to construct a portion of the Winston-Salem Northern Beltway Eastern Section from US 158 to I-40 Bus/US 421, Forsyth County, for a total of 3.4 miles (Section B). The other remaining sections including AA, AB, C, D, E, and F will be permitted separately. In addition to this cover letter, the application package consists of an ENG Form 4345, NCEEP acceptance letter, Interagency Hydraulic Design Review meeting minutes (Concurrence Points 4B and 4C), onsite mitigation plans, Stormwater Management Plan, permit drawings, and half-size roadway plan sheets. This project calls for a Let date of October 21, 2014 and a review date of September 2, 2014. However, the Let date may advance as additional funds become available.

PURPOSE AND NEED

The purposes of the proposed project are to improve intrastate and interstate mobility, improve roadway system linkage and continuity, reduce traffic congestion and carry future traffic at a desirable level of service, enhance safety, and provide a corridor for I-74 (a congressionally designated High Priority Corridor on the National Highway System). The transportation needs of the proposed project are intended to address the following: poor intrastate and interstate linkage to the north and south, poor roadway connectivity within and through eastern Forsyth County, capacity deficiencies, above-average accident rates on area roadways, and corridor for I-74.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-707-6000
FAX: 919-212-5785

WEBSITE:NCDOT.GOV

LOCATION:
CENTURY CENTER, BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

NEPA DOCUMENT STATUS

A Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) for U-2579 (includes Sections B-F) and U-2579A (includes Sections AA and AB) were completed in January 2007 and February 2008, respectively, and have been provided to the appropriate agencies. A Right of Way (ROW) Consultation for U-2579B to update the FEIS was completed on May 17, 2012. Additional copies of the FEIS, ROD, and ROW Consultations will be provided upon request.

INDEPENDENT UTILITY

The subject project is in compliance with 23 CFR Part 771.111(f), which lists the Federal Highway Administration (FHWA) characteristics of independent utility of a project:

(1) The project connects logical termini and is of sufficient length to address environmental matters on a broad scope;
(2) The project is usable and a reasonable expenditure, even if no additional transportation improvements are made in the area;
(3) The project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

RESOURCE STATUS

Wetland delineations within the U-2579B project study area followed the field delineation method outlined in the *1987 Corps of Engineers Wetland Delineation Manual* (USACE, 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (USACE, 2010). Stream identification and classification followed the *Methodology for the Identification of Intermittent and Perennial Streams and Their Origins* (NC Division of Water Quality [NCDWQ], 2010 and 2005).

A jurisdictional determination (JD) for both U-2579 and U-2579A sections, dated March 31, 2006, was received from USACE. The JD expired on March 31, 2011. Subsequent JDs were issued for Section U-2579B on December 3, 2008 and February 28, 2013. A request packet for the final JD for U-2579B was submitted to the USACE on February 4, 2013. The corresponding JD, dated February 28, 2013, was received from the USACE for the re-verification of U-2579B section. Following the issuance of this JD, jurisdictional features for U-2579B were field re-verified by NC Division of Water Resources (NCDWR) representative Amy Euliss on March 25, 2013.

This project lies within the Piedmont Physiographic Province in the Yadkin River Basin (Hydrologic Unit Code 03040101). Jurisdictional features within the U-2579B project study area that will be impacted include 7 unnamed tributaries (UT) to Lowery Mill Creek (NCDWR Classification WS-III; NCDWR Index No. 12-94-12-3-[0.5]), Martin Mill Creek and 4 UTs to Martin Mill Creek (NCDWQ Classification WS-III; NCDWQ Index No. 12-94-12-3-1), Kerners Mill Creek and 1 UT to Kerners Mill Creek (NCDWR Classification WS-III; Index No. 12-94-12-2-[0.3]), Smith Creek and 11 UTs to Smith Creek (NCDWQ Classification WS-III; NCDWQ Index No. 12-94-12-2-1), and Fishers Branch and 2 UTs to Fishers Branch (NCDWR Classification WS-III; NCDWR Index No. 12-94-12-2-2-[1]), 5 ponds, and 17 riparian wetlands.

There are no designated Outstanding Resource Waters (ORW), High Quality Waters (HQW), Water Supply I (WS-I), or Water Supply II (WS-II) waters within 1.0 mile of the project area.

No waters within the project area and within a mile of the project area are listed on the 2012 303(d) Final List of Impaired Waters of North Carolina.

IMPACTS TO WATERS OF THE UNITED STATES

Surface Waters

Total surface water impacts for U-2579B are 9,800 linear feet of permanent stream impacts, 1,553 linear feet of temporary stream impacts, and 4.36 acres of pond impacts. The jurisdictional stream impacts are summarized below in Table 1. There will be no impacts from utilities for Section U-2579B.

Table 1. U-2579B Stream Impacts

Permit Site No.	Stream Name/JD Packet ID	I/P Flow Status	Impact Type	Permanent Impacts (ft)	Impacts requiring USACE mitigation (ft)	USACE Mitigation Ratio[1]	Impacts requiring NCDWR mitigation (ft)	Temp Impacts (ft)
1	UT to Lowery Mill Creek/ ES-S45	I	Fill	142	142	1:1	0[3]	0
2	UT to Lowery Mill Creek/ ES-S36	I	Fill	109	109	1:1	0[3]	0
		P	Fill	208	208	2:1	208	0
		P	BS	10	0[2]		10	37
3	UT to Lowery Mill Creek/ ES-S35	P	Fill	438	438	2:1	438	33
3A	UT to Lowery Mill Creek/ ES-S35	P	Temp Detour	0	0		0	545
3B	UT to Lowery Mill Creek/ ES-S47	P	Temp Detour	0	0		0	194
4	UT to Lowery Mill Creek/ ES-S37	P	Fill	493	493	2:1	493	18
		P	BS	9	0[2]		9	31
5	UT to Lowery Mill Creek/ ES-S38	P	Fill	740	740	2:1	740	22
5A	UT to Lowery Mill Creek/ ES-S39	I	Fill	306	306	1:1	0[3]	0

Table 1. U-2579B Stream Impacts continued

Permit Site No.	Stream Name/JD Packet ID	I/P Flow Status	Impact Type	Permanent Impacts (ft)	Impacts requiring USACE mitigation (ft)	USACE Mitigation Ratio[1]	Impacts requiring NCDWR mitigation (ft)	Temp Impacts (ft)
6	UT to Martin Mill Creek/ ES-S40	P	Fill	312	312	2:1	312	42
8	UT to Martin Mill Creek/ ES-S42	P	Fill	442	442	2:1	442	53
			BS	58	0[2]		58	44
10	UT to Martin Mill Creek/ ES-S43	P	Fill	783	783	2:1	783	22
10A	UT to Martin Mill Creek/ ES-S44	P	Fill	684	684	2:1	684	0
11	Kerners Mill Creek/ ESE-S1	P	Fill	808	808	2:1	808	57
11A	Kerners Mill Creek/ ESE-S1	P	Fill	223	223	2:1	223	41
12	UT to Kerners Mill Creek/ ESE-S30	I	Fill	88	88	1:1	0[3]	205
14	UT to Smith Creek/ ESE-S3	I	Fill	688	688	1:1	0[3]	0
15	UT to Smith Creek/ ESE-S31	P	Fill	332	332	2:1	332	0
15A	UT to Smith Creek/ ESE-S32	I	Fill	108	108	1:1	0[3]	0
16	UT to Smith Creek/ ESE-S36	I	Fill	104	104	1:1	0[3]	0

Table 1. U-2579B Stream Impacts continued

Permit Site No.	Stream Name/JD Packet ID	I/P Flow Status	Impact Type	Permanent Impacts (ft)	Impacts requiring USACE mitigation (ft)	USACE Mitigation Ratio[1]	Impacts requiring NCDWR mitigation (ft)	Temp Impacts (ft)
17	UT to Fishers Branch/ ESE-S5	P	Fill	928	928	2:1	928	0
18	Fishers Branch/ ESE-S4	P	Fill	377	377	2:1	377	67
			BS	80	0[2]		80	59
20	UT to Fishers Branch/ ESE-S7	P	Fill	163	163	2:1	163	0
23	Smith Creek/ ESE-S29	P	Fill	100	100	2:1	100	32
			BS	54	0[2]		54	21
23A	UT to Smith Creek/ ESE-S43	I	Fill	57	57	1:1	0[3]	0
23B	UT to Smith Creek/ ESE-S38	P	Fill	135	135	2:1	0[4]	0
24	UT to Smith Creek/ ESE-S40	P	Fill	202	202	2:1	202	0
25	UT to Smith Creek/ ESE-S41	I	Fill	73	73	1:1	0[3]	0
			BS	21	0[2]		0[3]	16
27A	UT to Smith Creek/ ESE-S24	P	Fill	205	205	2:1	205	0
27B	UT to Smith Creek/ ESE-S33	P	Fill	130	130	2:1	0[4]	14
27C	UT to Smith Creek/ ESE-S34	P	Fill	116	116	2:1	0[4]	0
28	Smith Creek/ ESE-S29	P	BS	25	0[2]		0[4]	0

Table 1. U-2579B Stream Impacts continued

Permit Site No.	Stream Name/JD Packet ID	I/P Flow Status	Impact Type	Permanent Impacts (ft)	Impacts requiring USACE mitigation (ft)	USACE Mitigation Ratio[1]	Impacts requiring NCDWR mitigation (ft)	Temp Impacts (ft)
30	Smith Creek/ ESE-S29	P	BS	28	0[2]		0[4]	0
31	Martin Mill Creek/ ES-S41	P	BS	21	0[2]		0[4]	0
TOTALS (ft)				**9,800**	**9,494**		**7,649**	**1,553**

Notes: P = Perennial; I = Intermittent; BS = Bank Stabilization. [1]Determined by USACE during final JD packet review. [2]Mitigation for bank stabilization not required by USACE. [3]Intermittent streams grandfathered from NCDWR mitigation. [4]Mitigation not required by NCDWR (less than 150 linear feet of steam).

Wetlands

There will be a total of 1.96 acres of permanent riparian wetland impacts associated with this section. These impacts will result from 1.87 acres of permanent fill, <0.01 acres of excavation, and 0.08 acres of mechanized clearing. Permanent and temporary wetland impacts are summarized below in Table 2 for U-2579B. There will be no impacts from utilities for Section U-2579B.

Table 2. U-2579B Wetland Impacts (Final)

Permit Site No.	JD Package ID	Permanent Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Total Impacts (ac)
1	ES-W16	0.03	<0.01	0.02	0.06
6	ES-W18	0.03		<0.01	0.04
7	ES-W13	0.52		0.01	0.53
9	ES-W14	0.03		0.01	0.04
10	ES-W19	0.01			0.01
13	ESE-W1	0.33			0.33
14	ESE-W2	0.04			0.04
15	ESE-W3	0.18			0.18
17	ESE-W16	0.09		<0.01	0.10
19	ESE-W4	0.47		0.01	0.48
21	ES-W17	0.02			0.02
22	ESE-W22	0.01			0.01
24A	ESE-W20	0.03			0.03
24A	ESE-W21	0.03			0.03
27B	ESE-W17	0.05			0.05
29	No ID			<0.01	<0.01
TOTALS (ac)		**1.87**	**<0.01**	**0.08**	**1.96**

Notes: Totals are rounded based upon sum of actual impacts. All permanent impacts require 2:1 USACE mitigation.

MITIGATION OPTIONS

The USACE has adopted, through the Council on Environmental Quality (CEQ), a wetland mitigation policy that embraces the concept of "no net loss of wetlands" and sequencing. The purpose of this policy is to restore and maintain the chemical, biological, and physical integrity of

the waters of the United States. CEQ has defined mitigation of wetland and surface water impacts to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts (40 CFR 1508.20).

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. Avoidance measures were taken during the planning phase and minimization measures were incorporated as part of the project design. Minimization includes the examination of appropriate and practicable steps to reduce the adverse impacts.

Avoidance and Minimization

Avoidance and minimization has been employed in the project area to the maximum extent practicable. The following measures were implemented for the project:

U-2579B Minimization Measures

- NCDOT's Best Management Practices (BMPs) for the Protection of Surface Waters will be enforced;
- Grass swales will be used throughout the project to treat stormwater;
- All storm drainage will be diffused and designed for non-erosive velocities before entering wetland areas to the maximum extent practicable;
- Rip rap stabilization on banks of jurisdictional streams will be implemented to prevent erosion;
- Pre-formed scour holes will be constructed at 10 locations, riprap apron/pads at 12 locations, and riprap energy dissipator basins at 3 locations;
- Reduction of permanent stream impacts by bridging Martin Mill Creek and Smith Creek (2 locations).

Despite these best efforts of NCDOT, final permitted wetland impacts (1.96 acres) for U-2579B did increase from the impacts calculated from the FEIS (0.89 acres). The increase is due to 10 new wetlands totaling 0.36 acres found during the 2012 re-delineation survey that were not calculated in the FEIS. The remaining increase of impacts (0.71 acres) is due to minor design changes and wetland boundary expansion of the FEIS-listed wetlands from the 2012 re-lineation survey since the FEIS.

Permitted stream impacts (9,800 linear feet) for U-2579B increased from the impacts calculated from the FEIS (6,183 linear feet). This increase is due to 11 new streams totaling 1,508 linear feet found during the 2012 re-delineation survey that were not calculated in the FEIS. Also minor design changes along with increase in jurisdictional length of FEIS-listed streams from the 2012 re-delineation survey contributed to the remaining increase of impacts (2,109 linear feet).

Compensatory Mitigation

Compensatory mitigation requirements for U-2579B are summarized below in Table 3. The U-2579B section will permanently impact 9,800 feet of warm water streams. Of these 9,800 feet, there are 306 feet of bank stabilization that do not require mitigation by the USACE, resulting in 9,494 feet of stream impacts requiring USACE mitigation.

The USACE is requiring 2:1 mitigation for 7,819 feet and requiring 1:1 mitigation for 1,675 feet of stream impacts. NCDWR is requiring 1:1 mitigation for 7,649 feet. Therefore, the total USACE mitigation requirement exceeds the NCDWR requirement. NCDOT is providing onsite mitigation of 450 feet of warm water stream by restoring one stream at a proposed drained pond site (Permit Site No. 20). See the attached On-Site Mitigation Plan Document for further

information. The remaining mitigation requirements of permanent warm water stream impacts will be provided by the NCEEP for U-2579B (Table 3). The NCEEP will also provide mitigation for the 1.96 acres at 2:1 mitigation ratio of permanent riparian wetland impacts resulting from roadway fill, excavation, and mechanized clearing.

Table 3. U-2579B Required Compensatory Mitigation Summary (Final)

	Stream Impacts in Length (ft)	Riparian Wetland Impacts (ac)
Impacts Requiring Mitigation	**9,494**	**1.96**
Onsite Mitigation Credits	**450**	
Total Mitigable Impacts Less Onsite Mitigation	**9,044**	
Required EEP Mitigation	**7,369 @ 2:1** **1,675 @ 1:1**	**1.96 @ 2:1**
Total EEP Mitigation	**16,413**	**3.92**

FEDERALLY PROTECTED SPECIES

Plants and animals with a Federal classification of Endangered (E) or Threatened (T) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act (ESA) of 1973, as amended. As of December 26, 2012, the U.S. Fish and Wildlife Service (USFWS) lists three federally protected species for Forsyth County: small-anthered bittercress (*Cardamine micranthera)*, bog turtle (*Glyptemys muhlenbergii*), and red-cockaded woodpecker (*Picoides borealis*). No habitat exists for these species within the project study area. A search of the North Carolina Natural Heritage Database on November 22, 2013 revealed no known occurrences of any federally protected species within 1.0 mile of the limits of this section. Therefore, this project will have no effect on these listed species.

CULTURAL RESOURCES

Four historic structures that are listed on or are eligible for the National Register of Historic Places (NRHP) include the Clayton Family Farm, Seaver's Gulf Station, Hammock Family Farm, and the John and Charles Fries Day Farm. In a March 1, 2004 concurrence form (Appendix D of FEIS), the North Carolina Department of Cultural Resources, State Historic Preservation Office (HPO) concurred that the proposed project has no adverse effect on the Clayton Family Farm with the condition that any trees removed during construction will be replaced with similar species. The HPO agreed that there would be no adverse affect to the Hammock Family Farm provided that no construction occurs within the historic boundary and there would be no effect to Seaver's Gulf Station. In an April 21, 2004 concurrence form, the HPO concurred that the proposed project has no effect on the John and Charles Fries Day Farm (Appendix D of FEIS).

Based upon the NCDOT Archaeological Survey Report dated December 14, 1999, NCDOT recommended one site, Site 31FY1053** (the Westmoreland-Snow 19th/20th century farmstead), as being eligible for the NRHP for its potential to yield information on a mid nineteeth to early twentieth century owner-operated farmstead. HPO concurred with this recommendation on April 13, 2000 (Appendix D of FEIS). Site 31FY1053** is included in the amended Memorandum of Agreement (MOA) between the Federal Highway Administration (FHWA), HPO, and NCDOT,

last signed on March 15, 2006, which calls for data recovery for this site. The MOA is located in Appendix D of the FEIS.

FEMA COMPLIANCE

There are streams within the project limits that are within Federal Emergency Management Agency (FEMA)-designated flood zones. Coordination between the NCDOT Hydraulics Unit and FEMA will occur prior to Let to ensure that NCDOT is in full compliance with applicable floodplain ordinances.

INDIRECT AND CUMULATIVE EFFECTS

An Indirect and Cumulative Effects (ICE) report was completed for the proposed Winston-Salem northern beltway (U-2579, U-2579A, and R-2247). The report details the potential socioeconomic, and ecological effects that may result from the proposed Winston-Salem northern beltway and other past, present, and reasonably foreseeable future development activities in the region. It was completed in June 2005 and distributed shortly thereafter. Additional copies of the ICE report are available upon request.

Based upon the ICE report, a majority of the study area is urban and suburban in character, and most of the area already has access to an established road network. The project's individual effects on land use and natural resources are minor. The potential indirect effects identified in the ICE report are consistent with all local jurisdictions' land use and transportation plans. Current land use and transportation policies contained in the local plans support the proposed project.

WILD AND SCENIC RIVERS

This project will not impact any designated Wild and Scenic Rivers or any rivers included in the list of study rivers (Public Law 90-542, as amended) or North Carolina Natural and Scenic Rivers.

ESSENTIAL FISH HABITAT

The project will not impact any essential fish habitat afforded protection under the Magnuson-Stevens Act of 1996 (16 U.S.C 1801 *et seq.*).

REGULATORY APPROVALS

Application is hereby made for a Department of the Army Section 404 Individual Permit as required for the above-described activities for the proposed T.I.P. Project U-2579B. We are also hereby requesting a Section 401 Water Quality Certification from NCDWR. In compliance with Section 143-215.3D (e) of the NCAC, we will provide $570.00 to act as payment for processing the Section 401 permit. We are providing two copies of this application to NCDWR for their review and approval.

A copy of this permit application and its distribution list will be posted on the NCDOT website at https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx. Thank you for your time and assistance with this project. Please contact Greg Price at either gwprice@ncdot.gov or (919) 707-6148 if you have any questions or need additional information.

Sincerely,

Richard W. Hancock, P.E., Manager
Project Development and Environmental Analysis Unit

Cc: NCDOT Permit Application Standard Distribution List

U.S. ARMY CORPS OF ENGINEERS

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

OMB APPROVAL NO. 0710-0003
EXPIRES: 28 FEBRUARY 2013

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Richard Middle - W. Last - Hancock	First - Middle - Last -
Company - NCDOT-Preconstruction	Company -
E-mail Address -	E-mail Address -
6. APPLICANT'S ADDRESS:	**9. AGENT'S ADDRESS:**
Address- 1598 Mail Service Center	Address-
City - Raleigh State - NC Zip - 27699 Country - USA	City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. w/AREA CODE	**10. AGENTS PHONE NOs. w/AREA CODE**
a. Residence b. Business 919-707-6001 c. Fax	a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

_____ _____
SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)
U-2579B

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Lowery Mill, Martin Mill, Kerners Mill, & Smith Cr, Fishers Branch	Address
15. LOCATION OF PROJECT Latitude: °N 36.131959 Longitude: °W 80.131995	City - State- Zip-

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)
State Tax Parcel ID Municipality
Section - Township - Range -

17. DIRECTIONS TO THE SITE
Please see attached vicinity map and cover letter.

18. Nature of Activity (Description of project, include all features)
U-2579B proposes to construct a section of the Winston-Salem Northern Beltway Eastern Section from US 311 east of US 52 in Forsyth County, NC for a total of 3.4 miles.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)
The purposes of the proposed project are to improve intrastate and interstate mobility, improve roadway system linkage and continuity, reduce traffic congestion and carry future traffic at a desirable level of service, enhance safety, and provide a corridor for I-74 (a congressionally designated High Priority Corridor on the National Highway System).

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge
Impacts will result from widening the roadway and shoulders, construction of roadway on new location, and bridge construction.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
See attached cover letter.		

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)
Acres See attached cover letter.
or
Linear Feet See attached cover letter.

23. Description of Avoidance, Minimization, and Compensation (see instructions)
See attached cover letter.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- See attached permit drawings.

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE
[signature]	01/21/2014		

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Ecosystem Enhancement PROGRAM

January 17, 2014

Mr. Richard W. Hancock, P.E.
Manager, Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Hancock:

Subject: EEP Mitigation Acceptance Letter:

U-2579B, Winston-Salem Northern Beltway (Eastern Section) from US 311 to east of US 52, Forsyth County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and riparian wetland mitigation for the subject project. Based on the information supplied by you on January 14, 2014, the impacts are located in CU 03040101 of the Yadkin River basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Yadkin 03040101 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	9,044.0	1.96	0	0	0	0

*Some of the stream and wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details on the mitigation ratio proposal.

EEP commits to implementing sufficient compensatory warm and/or cool stream mitigation and riparian wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010. 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 919-707-8420.

Sincerely,

James B. Stanfill

James B. Stanfill
EEP Asset Management Supervisor

cc: Mr. John Thomas, USACE – Raleigh Regulatory Field Office
Ms. Amy Chapman, Division of Water Quality, Wetlands/401 Unit
File: U-2579B

Draft Minutes from the Interagency 4B Hydraulic Design Review Meeting U-2579B Winston-Salem Northern Beltway (Eastern Section) from I-40 Bus/US 421 to US 158 in Forsyth County

A Hydraulic Design Review Meeting was held on Wednesday January 23, 2008 in the Hydraulics Design Conference Room at the NCDOT Century Center Complex from 9:00 am – 11:00 am

Team Members:

John Thomas: USACE	(present)
Marella Buncick: USFWS	(present)
Marla Chambers: NCWRC	(present)
Amy Euliss: NCDWQ	(not-present)
Brian Wrenn: NCDWQ	(not-present)
Chris Militscher: EPA	(not-present)
Kathy Matthews: EPA	(present)
Donnie Brew: FHWA	(present)
David Harris: NCDOT, REU	(not-present)
Tony Houser: NCDOT, Roadway	(present)
Lonnie Brooks: NCDOT, Structures	(present)
Derrick Weaver: NCDOT, PDEA	(not-present)
Rachelle Beauregard: NCDOT, NEU	(not-present)
Keith Raulston: NCDOT, Division 9	(present)

Participants:
Andrew Nottingham, NCDOT Hydraulics
Will Hines, Sungate Design Group
David Wainwright: NCDWQ
Troy Wilson, USFWS
Kent Boyer, NCDOT Division 9
Gene Noderino, NCDOT NEU
Missy Dickens, NCDOT PDEA
Vasim Barodawala, NCDOT Roadway
John Braxton, NCDOT Roadway
Lee Moore, NCDOT Roadway
Roy Girolami, NCDOT Structures
John Arms, NCDOT Hydraulics
Greg Price, NCDOT NEU

Minutes:

General Introduction was initiated by Andrew Nottingham. Introductions were made by all in attendance.

General Comments:

The Hydraulics Engineer stated that where it was practicable, guardrail and shoulder berm gutter were eliminated and 4:1 fill slopes were used.

The Hydraulics Engineer stated that proposed cross-pipes located on Jurisdictional Streams (JS) would be increased by one pipe size and buried 20% (except in locations where Agencies requested that a Drop Box be used).

The Hydraulics Engineer stated that in locations where the storm drainage outlet pipe was a 15 or 18 inch pipe, a Preformed Scour Hole would be used where practicable.

Sheet 4:

No Impact from U-2579B. Begin Construction starts on Sheet 5.

Sheet 5:

JS (unnamed tributary to Lowery Mill Creek) located on Sheet 5 and 20: The Hydraulics Engineer stated that the proposed double barrel box culvert will have a sill in one barrel. The Agencies requested that baffles also be placed in the box culvert.

Wetland located near Begin Construction: The Hydraulics Engineer stated that an Energy Dissipater would be used at this location.

JS located near Station 495+00: The Hydraulics Engineer stated that the three storm drainage systems taken to this outlet would connect to each other using a Junction Box and that there would only be one outlet pipe.

Sheet 6:

JS located near Station 502+00: Use a Drop Box at the outlet of the cross-pipe in order to dissipate as much energy as possible prior to stormwater re-entering the natural stream channel. Due to the steepness of the proposed cross-pipe, this is preferable to using an in stream riprap dissipater. In cases where a Drop Box is used, no need to bury inlet of pipe.

JS located near Station 506+00: Use a Drop Box at the outlet of the cross-pipe.

JS located near Station 509+00: No comment.

Sheet 7:

JS located near Station 523+00: No comment.

Sheet 8:

Wetland located near Station 527+00: The Hydraulics Engineer stated that the inlet invert of the proposed cross-pipe would be placed at the same elevation as the water surface elevation in the wetland.

Pond: There was some discussion about whether or not the pond would be kept and if this area could be used for mitigation. At this time, NCDOT does not know because negotiations with the current property owners have not taken place.

Sheet 9:

No impact.

Sheet 10:

Martin Mill Creek and Tributary to Martin Mill Creek: After a lengthy discussion where the pros and cons for several alternatives were discussed, based on a general consensus, it was decided that a minimum length bridge (about 225 feet) will span Martin Mill Creek and that a box culvert would convey the Tributary to Martin Mill Creek. The Hydraulics Engineer stated that a sill would be placed in one of the barrels of the box culvert. The Agencies requested that baffles be placed in the box culvert.

Sheet 11

JS located parallel to the roadway (Sheet 10 and 11): The Hydraulics Engineer stated that the stream would be piped along the toe of fill due to the large amount of excavation that would be required for an open channel. It was also stated that there would be a short channel change at the inlet in order to protect the proposed roadway embankment. Use a Drop Box at the outlet of the proposed pipe.

JS located near Station 572+00 (Sheet 11 and 12): The JS is completely impacted by the proposed roadway. The Hydraulics Engineer stated that a lateral ditch would be used to take the stormwater along the toe of fill to a point where the length of the proposed cross-pipe can be significantly reduced. The Agencies suggested that the proposed cross-pipe tie directly into the proposed pipe that is carrying the JS located parallel to the roadway.

Sheet 12:

JS located near Station 575+00: No comment.

Sheet 13:

No impact.

Sheet 14:

No impact.

Sheet 15:

JS located near Station 616+00 (Kerners Mill Creek): The Hydraulics Engineer stated that a triple barrel box culvert is proposed at this crossing. The Agencies requested that baffles be placed in the box culvert and that a sill be placed in one of the barrels. There was some discussion about using a bottomless culvert or a wider box culvert that could match the width of the natural channel. NCDOT Hydraulics stated that in order to use a bottomless culvert, there would have to be bedrock located fairly close to the surface. Bedrock had been observed in the upper portion of the stream, but was not clearly evident in the lower portion. NCDOT will investigate if a bottomless culvert can be used. NCDOT Structures stated that using a wider box culvert would not be practicable due to the thickness of the top slap required.

The Hydraulics Engineer stated that a majority of the storm drainage from the roadway would be taken to an area located near Station 619+00 Left where the proposed cross-pipe would act as an outlet control device and provide as much detention as practicable.

JS located near Station 629+00 (Smith Creek): The Hydraulics Engineer stated that bridges would be used to span the stream.

Sheet 16:

JS and Pond located parallel to the roadway near Station 635+00: The JS and Pond are completely impacted by the proposed roadway. It was brought to our attention that there are wetlands associated with this JS that are not currently shown on the plans.

The Hydraulics Engineer stated that the areas inside of the Loops and between the Ramps would be designed and used as a Detention Basin as much as practicable.

At this point, the allotted time for the 4B Meeting ran out and it was stated that the 4B Meeting would have to be continued in 2 months.

Meeting adjourned.

Draft Minutes from the Interagency 4B Hydraulic Design Review Meeting U-2579B Winston-Salem Northern Beltway (Eastern Section) from I-40 Bus/US 421 to US 158 in Forsyth County

A Hydraulic Design Review Meeting was held on Wednesday, March 12, 2008, in the Hydraulics Design Conference Room at the NCDOT Century Center Complex from 9:30 am – 11:00 am. This meeting was a continuation of the meeting held on January 23, 2008.

Team Members:

John Thomas: USACE	(present)
Marella Buncick: USFWS	(present)
Marla Chambers: NCWRC	(not-present)
Amy Euliss: NCDWQ	(not-present)
David Wainwright: NCDWQ	(present)
Chris Militscher: EPA	(present)
Kathy Matthews: EPA	(present)
Donnie Brew: FHWA	(not-present)
David Harris: NCDOT, REU	(not-present)
Tony Houser: NCDOT, Roadway	(present)
Lonnie Brooks: NCDOT, Structures	(not present)
Derrick Weaver: NCDOT, PDEA	(not-present)
Rachelle Beauregard: NCDOT, NEU	(present)
Keith Raulston: NCDOT, Division 9	(present)

Participants:
Andrew Nottingham, NCDOT Hydraulics
Will Hines, Sungate Design Group
Greg Price: NEU
Felix Davila, FHWA
Kent Boyer, NCDOT Division 9
Gene Noderino, NCDOT NEU
Missy Dickens, NCDOT PDEA
Vasim Barodawala, NCDOT Roadway
John Braxton, NCDOT Roadway
Roy Girolami, NCDOT Structures
Paul Ervin, NCDOT Structures

Minutes:
Chris Militscher (EPA) noted that Marla Chambers (NCWRC) could not make the meeting but had provided comments to him to present at the meeting.

Sheet 16:

The Hydraulics Engineer stated that the areas inside of the Loops and between the Ramps would be designed and used as a Detention Basin as much as practicable and that the ultimate outlet will be taken directly to Smith Creek by way of a 4 foot base channel with riprap.

Sheet 17:

An additional wetland will be delineated near Station 662+50.

JS located at Station 667+00 (Fishers Branch): The Hydraulics Engineer stated that the box culvert would be a triple barrel due to FEMA requirements and that two of the barrels would have a sill.

Sheet 18:

JS located at Station 667+00 (Fishers Branch): The Hydraulics Engineer stated that the storm drainage system will be taken directly to Fishers Branch by way of a 4 foot base channel with riprap, with the exception of the stormwater from the shoulder berm gutter, which will be taken to a Preformed Scour Hole.

Sheet 19:

JS located at Station 688+50: The upstream pond will be completely drained and the downstream pond will be temporarily drained to an elevation below construction. The Agencies asked if there could be a Stream Restoration in the drained upstream pond. NCDOT will investigate.

Stormwater from the shoulder berm gutter will be taken to a Preformed Scour Hole.

Sheet 20:

JS (unnamed tributary to Lowery Mill Creek) located on Sheet 5 and 20: The Hydraulics Engineer stated that the proposed double barrel box culvert will have a sill in one barrel. The Agencies requested that baffles also be placed in the box culvert.

Sheet 21:

The Project ends before US 158 crosses Lowery Mill Creek. The Hydraulics Engineer described the proposed storm drainage systems and stated that existing drainage patterns and outfalls were basically being kept the same with the exception of the existing storm drainage outlet located immediately downstream of the US 158 crossing, which will be relocated immediately upstream of the US 158 crossing.

Sheet 22:

No impact.

Sheet 23:

No impact.

Sheet 24:

No impact.

Sheet 25:

No impact.

Sheet 26:

Smith Creek: The Hydraulics Engineer stated that a combination of retaining walls and 1.5:1 fill slopes with riprap were being proposed in order to avoid permanent impact and relocation of Smith Creek that would also impact the adjacent ponds. The Agencies expressed some concern that the water quality of Smith Creek would be temporarily impacted during construction of the retaining walls. NCDOT stated that the retaining walls, type unknown at this time, would have less of an impact, both during construction and permanently, than the alternative of using 1.5:1 slopes along the entire length.

The Agencies expressed some concern that the existing box culvert under Business I-40 is undersized due to evidence of a large scour hole located at the outlet. NCDOT stated that based on the hydraulic calculations, the box culvert was not undersized.

Sheet 27:

Smith Creek: The Hydraulics Engineer stated that 1.5:1 fill slopes with riprap were being proposed in order to avoid permanent impact and relocation of Smith Creek that would also impact the adjacent ponds.

An additional Jurisdictional Stream will be delineated upstream of Station 65+00 -Y4-.

Sheet 28:

JS located at Station 107+50 -Y4- (downstream): The Hydraulics Engineer stated that three cross-pipes (two under Business I-40 and one under Ramp B) will be connected using a Junction Box just downstream of Ramp B and that there would be only one outlet pipe. The Junction Box will serve as a Drop Box.

An additional Jurisdictional Stream will be delineated upstream of Station 104+50 -Y4- (outlet of pond).

An additional Jurisdictional Stream will be delineated downstream of the existing 18" cross-pipe located at Station 109+50 -Y4-.

Sheet 29:

No impact.

Sheet 30:

It was stated that the stream located south of Business I-40 and running parallel to the roadway embankment was Jurisdictional. The Hydraulics Engineer stated that the fill slope in this area has been steepened to 1.5:1 with riprap in order to avoid any impact.

The Hydraulics Engineer stated that existing drainage patterns are being maintained.

The Project ends before Business I-40 crosses Salem Creek.

Sheet 31:

The Hydraulics Engineer stated that an Energy Dissipater will be used at the end of the proposed storm drainage system, which is located about 200 feet from Salem Creek.

The Project ends before SR 2667 crosses Salem Creek.

Meeting adjourned.

Minutes from the Interagency 4C Permit Drawing Review Meeting
U-2579B in Forsyth County (1st Half)
July 17, 2013
1:00 PM – 2:30 PM

Team Members:	
John Thomas, USACE	(present)
Marella Buncick, USFWS	(present)
Marla Chambers, NCWRC	(present)
Amy Euliss, NCDWQ	(present)
Chris Militscher, EPA	(phone)
Felix Davila, FHWA	(present)

Participants:
Stephen Morgan, Hydraulics
Will Hines, Sungate Design Group
Brad Smith, Sungate Design Group
Doumit Ishak, Construction Management
Lee Moore, Roadway Design
Tony Houser, Roadway Design
Mark Staley, REU
Charles Hunt, Structures
Steve McKee, Utilities
Jamshid Hafshejani, Utilities
Rachelle Beauregard, NES
Greg Price, NES
Elizabeth Lusk, NES
Byron Moore, NES
Keith Raulston, Division 9

Minutes:

General Introduction was initiated. Introductions were made by all in attendance.

Sheet 05-1:

Delineate impacts to JS upstream of 42-inch cross-pipe.

Sheet 05-2:

(General Comment): Breakout stream bank stabilization. Show length of stabilization in Summary.

Breakout perennial and intermittent. Break line is at 2GI between -L- and Ramp.

Sheet 05-3:

(General Comment): Show floodplain benches for box culvert. Include Detail on Plans.

Sheet 6:

Station 508+00 -L-: Label Tributary as Site 5A.

Station 504+00 rt. Do not show as Bank Stabilization since excavating.

Sheet 7:

No Comments.

Sheet 8:

No Comments.

Sheet 10:

Station 557+00 -L- Right: Investigate whether stream bank stabilization is needed at the intersection of the tail ditch and stream or if a wider grass lined tail ditch is needed?

Site 9: Any Utility Impacts? NCDOT Utilities to provide information.

Site 10: The question was if a Plunge Pool was needed at the 60-inch outlet. This was discussed at the 4B Meeting and it was decided that the drainage structure upstream of the outlet would be a drop box. The drop box has been designed with a 2.3-foot drop and the 60-inch outlet pipe has a 0.5% slope.

Sheet 11:

Label tributary coming from the east as Site 10A.
Label begin J.S.
Small wetland impact not shown near 571+50

Sheet 15-1:

Site 11 (JS located along ROW Station 618+00 -L- Right): Relocate JS and tie to Kerners Mill Creek. Show impact to JS. ~~Does this JS need a separate Site number?~~ This needs a separate site number.

Tie 48-inch cross-pipe to box culvert instead of wingwall. According to Structures this would be acceptable. The sill and floodplain bench would need to be switched to the other side of the box culvert.

At this point, the allotted time for the 4C Meeting ran out and it was stated that the 4C Meeting would have to be continued next month (August).

Meeting adjourned.

Minutes from the Interagency 4C Permit Drawing Review Meeting
U-2579B in Forsyth County (2nd Half)
August 22, 2013
1:00 PM – 2:30 PM

Team Members:	
John Thomas, USACE	(present)
Marella Buncick, USFWS	(present)
Marla Chambers, NCWRC	(present)
Amy Euliss, NCDWQ	(present)
Chris Militscher, EPA	(phone)
Felix Davila, FHWA	(present)

Participants:
Stephen Morgan, Hydraulics
Will Hines, Sungate Design Group
Josh Clemmons, Sungate Design Group
Doumit Ishak, Construction Management
Lee Moore, Roadway Design
Tony Houser, Roadway Design
Mark Staley, REU
Charles Hunt, Structures
Steve McKee, Utilities
Jamshid Hafshejani, Utilities
Rachelle Beauregard, NES
Greg Price, NES
Elizabeth Lusk, NES
Byron Moore, NES
Brett Feulner, NES
Ahmad Al-Sharawneh
Keith Raulston, Division 9
Diane Hampton, Division 9
Greg Errett, City of Winston-Salem

Minutes:

General Introduction was initiated. Introductions were made by all in attendance.

Sheet 15-1:

Site 12: Contain channel change within PDE.

Sheet 15-2:

Site 14: Show impacts to JS between riprap embankment and Smith Creek.

Sheet 16:

No Comments.

Sheet 17:

Site 18: Show Floodplain Bench.

Site 19: Utilities has a concern with placing the new sanitary sewer line in the wetland. Therefore, Utilities asked if the proposed 3 @ 60" cross-pipes could be moved closer to the box culvert. The Hydraulics Engineer will investigate.

Sheet 18:

Station 668+50 -L- Rt: The agencies asked if the PSH was needed. They suggested that a ~~riprap pad~~ rip rap base ditch be used instead of the PSH.

Sheet 19:

Site 20: There were some questions about why a bridge was not required or if the project could end just before the crossing and place the crossing on the next section of the project which has not been scheduled for construction. Roadway Design said that they would look into possibly adjusting the end of project and noted the R/W limits will change to not show a take on the Booth property.

Sheet 20:

Site 21: Fill in wetland will be a total take.

Sheet 25:

No Comments.

Sheet 26:

Site 23: Need to tie the JS tributary to the lateral ditch. Impacts to the JS tributary need to be shown and labeled as Site 23A.

USFWS asked if a sill and floodplain bench can be proposed for the box culvert. The Hydraulic Engineer's response was that this location is in a FEMA Detailed Study and the existing box culvert did not have a sill. Therefore, the hydraulic requirements for obtaining a CLOMR from FEMA may not allow for proposing a sill.

Station 54+50 -Y4- Rt: Label as Site 25. On Smith Creek, call for streambank stabilization. For the JS tributary, place riprap on banks only. The Permit Drawing for this area needs to be blown up in order for the impacts to be seen clearly.

Label Smith Creek.

Sheet 27:

Site 24 Outlet: Use streambank stabilization and label as Site 24B.

Sheet 27-1:

Site 24: Change to Site 24 and 24A. Show impacts to JS.

Site 27-2:

Site 25: Riprap banks only.

Sheet 28:

Missing legend for Wetland Impact.

Site 28-1:

Site 26: JS impact should be Site 27A.

Site 27: Site should be labeled Site 27A, 27B and 27C.

Missing legend for Wetland Impact.

Site 30:

Site 28: Pull back pipe outlet and riprap. Eliminate Site 28.

Summary Sheets:

Subtotal each sheet.

Meeting adjourned.

Mitigation Plan
Winston Salem Northern Beltway
Forsyth County, North Carolina
T.I.P. Number U-2579B
WBS No. 34839.1.1
August 22, 2013

1.0 BASELINE INFORMATION

Transportation Improvement Project (TIP) U-2579B involves the construction of a new section of highway known as the Winston Salem Northern Beltway in Forsyth County. The proposed construction of U-2579B involves unavoidable impacts to jurisdictional resources within USGS hydrologic unit 03040101 of the Upper Pee Dee River Basin. NCDOT proposes to offset a portion of these impacts with on-site mitigation.

TIP U-2579B is located in the Central Piedmont Ecoregion. The topography in the project study area is generally characterized as rolling hills with moderately steep slopes along the drainage ways. Elevations in the study area range from 850 to 900 feet above mean sea level (USGS 1971). The project study area and surrounding area consists of low density rural, residential, commercial, agricultural, and forested areas.

The mitigation site selection and mitigation work plan sections of this plan will refer to the identification labels given the affected jurisdictional resources in the associated permit drawings.

2.0 OBJECTIVES

The goal of the proposed onsite mitigation is to offset and mitigate for a portion of the impacts from the construction of U-2579B by restoring the natural flow regime to the stream channel through the removal of the dam and establishment of riparian buffer areas. This mitigation will result in a total of 450 linear feet of stream restoration.

3.0 SITE SELECTION

The proposed mitigation site is located within the proposed right-of-way for U-2579B. The site was evaluated both internally as well as discussed and reviewed with regulatory personnel during concurrence meetings and a field visit on August 1, 2013 with Amy Euliss of DWQ and Marella Buncick of the USFWS. The existing site conditions are described in this section.

U-2579B Mitigation Site 1-UT to Fisher Branch (ONE ID #034-004)

This site is located on plan sheet 19 from approximately Station 687+80 to 691+56 and coincides with Permit Drawing Site 20. An USACE Stream Quality Assessment Worksheet was not completed for this site because the site is currently a pond. UT to Fishers Branch has a NCDWQ Best usage classification of WS-III. The proposed work to UT to Fishers Branch includes the removal of the concrete dam on the UT to Fishers Branch. UT to Fisher Branch is a jurisdictional perennial stream where it enters NCDOT Right of Way. After the stream enters NCDOT Right of Way it becomes a pond that has been created by the construction of a concrete dam that is over 50 years old. The dam will be covered by roadway fill and therefore will be removed. The majority of the pond has an intact wooded buffer with some incidental clearing near the dam for access to the pond and dam.

4.0 MITIGATION WORK PLAN

The mitigation site will be constructed along with the construction of its associated section of the roadway project. Following the successful completion of the pond draining and stabilization, the site will be replanted with appropriate native tree species. The stream restoration areas will be stabilized by planting a mix of live stakes on three foot centers and matting with coir fiber on the banks as necessary. Reforestation plans are attached and can be found in Appendix A.

Native seed and mulch will be applied on all disturbed areas within the mitigation sites for stabilization purposes according to guidance and standard procedures of NCDOT's Roadside Environmental Unit. An as-built report will be submitted within 60 days of completion of the project.

The Natural Environment Section shall be contacted to provide construction assistance to ensure that each mitigation area is constructed appropriately.

U-2579B- Mitigation Site 1

The pond associated with this mitigation area, will be drained as part of the construction of U-2579B. The stream mitigation will be conducted within the drained pond. The Contractor will develop a Pond Drainage Plan for this pond and submit the plan to the Engineer at the preconstruction conference for approval. The Pond Drainage Plan shall include but not be limited to procedures and rate of water drawdown, sediment control measures, water quality monitoring, fish and wildlife relocation plan, shall address procedures avoiding the inundation of a receiving body of water with deoxygenated or nutrient rich water resulting in impacts to aquatic life or algae bloom and procedures for maintaining downstream channel stability

After the pond is drained, a natural flow regime will be restored. An evaluation of the stream channel will be conducted following dam removal. If any stabilization is needed on the channel it will be conducted at that time. Reforestation of the stream buffer will be conducted following any required channel work. Based on preliminary measurements, NCDOT will restore 450 ft. of the stream system within this drained pond area.

5.0 PERFORMANCE STANDARDS

An As-built will be submitted within 60 days of completion of the project. The As-built will document changes in the dimension, pattern, profile, vegetation plantings, and structures of the constructed channels.

Success for vegetation monitoring within the riparian buffer areas are based on the survival of at least 260 stems of five year old trees at year five. Assessment of channel stability will be based on the survival of riparian vegetation and lack of significant bank erosion, channel widening or down-cutting.

6.0 MONITORING REQUIREMENTS

All of the mitigation sites will be monitored according to the April 2003 Stream Mitigation Guidelines. The following components of Level 1 monitoring will be performed each year of the 5-year monitoring period: reference photos, plant survival (i.e., identify specific problem areas (missing, stressed, damaged or dead plantings), estimated causes and proposed/required remedial action); visual inspection of channel stability. Physical measurements of channel stability/morphology will not be performed. A monitoring report will be submitted within 60 days after completing the monitoring.

7.0 DETERMINATION OF CREDITS

NCDOT proposes to supplement mitigation provided by EEP with 450 feet of onsite stream mitigation. NCDOT proposes a 1:1 mitigation ratio for a total of 450 feet of stream credits.

An as-built report will be submitted within 60 days of completion of the each mitigation site to verify actual mitigation areas constructed and planted. The success of the mitigation areas and determination of final credits will be based upon successful completion and closeout of the monitoring period.

7.1 CREDIT RELEASE SCHEDULE

NCDOT proposes immediate, full release of the proposed mitigation to offset the unavoidable impacts associated with U-2579B.

8.0 GEOGRAPHIC SERVICE AREA

The proposed Geographic Service Area (GSA) for the mitigation sites is composed of the 8-digit Hydrologic Cataloging Unit (HUC) 03040101.

9.0 SITE PROTECTION INSTRUMENT

The mitigation area is within the NCDOT Right-of-Way for the project. It will be managed to prohibit all use inconsistent with the use as a mitigation property, including any activity that would materially alter the biological integrity or functional and educational value of the site, consistent with the mitigation plan.

The site will be placed on the Natural Environment Section's (NES) Mitigation GeoDatabase. This database is provided to all NCDOT personnel as a record of mitigation sites and their attributes, including prohibited activities. NCDOT is held by virtue of the permit associated with these mitigation sites and the associated roadway impacts to protect the sites in perpetuity.

10.0 MAINTENANCE PLAN

The mitigation sites will be held by NCDOT and placed on the NES Mitigation GeoDatabase. Once monitoring is completed and the sites are closed out, they will be placed in the NCDOT Stewardship Program for long term maintenance and protection.

If an appropriate third party recipient is identified in the future, then the transfer of the property will include a conservation easement or other measure to protect the natural features and mitigation value of the site in perpetuity.

11.0 LONG TERM ADAPTIVE MANAGEMENT PLAN

The sites will be managed by NCDOT according to the mitigation plan. Encroachments into the areas will be investigated and appropriate measures taken to minimize any negative effects. In the event that unforeseen issues arise that affect the management of the site, any remediation will be addressed by NCDOT in coordination with the Interagency Review Team.

12.0 FINANCIAL ASSURANCES

NCDOT is held by permit conditions associated with U-2579B to construct, monitor, and steward the mitigation sites. NCDOT has established funds for each project and within each Division to monitor mitigation sites and protect them in perpetuity.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released July 2012)

Project/TIP No.: U-2579B **County(ies):** Forsyth

General Project Information

Project No.:	U-2579B	**Project Type:**	Roadway Relocation	**Date:**	9/19/2013
NCDOT Contact:	Stephen R. Morgan, PE	**Contractor / Designer:**	W. Henry Wells, Jr., PE		
Address:	NCDOT Hydraulics Unit 1590 Mail Service Center Raleigh, NC 27699	**Address:**	Sungate Design Group 915 Jones Franklin Road Raleigh, NC 27606		
Phone:	919-707-6739	**Phone:**	919-859-2243 x202		
Email:	smorgan@ncdot.gov	**Email:**	hwells@sungatedesign.com		
City/Town:	Winston-Salem	**County(ies):**	Forsyth		
River Basin(s):	Yadkin-Pee Dee	**CAMA County?**	No		
Primary Receiving Water:	See Environmental Summary Sheet	**NCDWQ Stream Index No.:**			
NCDWQ Surface Water Classification for Primary Receiving Water	**Primary:**				
	Supplemental:				
Other Stream Classification:					
303(d) Impairments:					
Buffer Rules in Effect					

Project Description

Project Length (lin. Miles or feet):	4.06 miles	**Surrounding Land Use:**	Rural, Farmland, Suburban Neighborhoods

	Proposed Project	**Existing Site**
Project Built-Upon Area (ac.)	ac.	ac.
Typical Cross Section Description:	In each direciton there will be 3 12-foot lanes plus 1 12-foot future lane plus a 12-foot paved shoulder with a 22-foot grassed median.	
Average Daily Traffic (veh/hr/day):	Design/Future: ADT for 2030 is 79880	Existing: ADT for 2010 is 53560

General Project Narrative:

Winston-Salem Northern Beltway (Eastern Section)(Future I-74) from US158 to I-40 Bus US421: Grassed Swales were used throughout the Project to treat the stormwater. These Grassed Swales have side slopes that are 3:1 or flatter, with many side slopes being 6:1, have a velocity during the 2-Year Storm of less than 2 feet per second and have a minimum ditch length equivalent to 100 feet per acre of impervious area. In addition to the Grassed Swales, Preformed Scour Holes and Energy Dissipators are used at several locations.

References

Project Environmental Summary

Surface Water Impacts

Sheet No.	Station (From / To)	Feature Impacted	Water / Wetland / Buffer Type	Receiving Surface Water Name	NRTR Map ID	NCDWQ Stream Index	NCDWQ Surface Water Classification	303(d) Impairments	Type of Impact	Existing SCM	Proposed SCM
5	28+00-Y1-	Wetland		Lowery Mill Creek			WS-III		Fill		
5	16+00-Y1RPD-	Stream		Lowery Mill Creek			WS-III		Culvert		
5	21+56-Y1- 25+22-Y1-	Stream		Lowery Mill Creek			WS-III		Culvert		
6	501+51 -L- 503+21-L-	Stream		Lowery Mill Creek			WS-III		Culvert		
6	503+85-L- 509+64-L-	Stream		Lowery Mill Creek			WS-III		Culvert		
7	523+00-L-	Stream		Martin Mill Creek			WS-III		Culvert		
8	527+00-L-	Open Water		Martin Mill Creek			WS-III		Fill		
10	559+75-L-	Stream		Martin Mill Creek			WS-III		Culvert		
10	560+75-L-	Wetland		Martin Mill Creek			WS-III		Fill		
10	560+50-L- 572+75-L-	Stream		Martin Mill Creek			WS-III		Culvert		
15	615+00-L-	Stream		Kerners Mill Creek			WS-III		Culvert		
15	19+76-Y4RPBD- 21+44 -Y4RPBD-	Stream		Kerners Mill Creek			WS-III		Fill		
15	20+00-Y4RPBD 21+40-Y4RPBD-	Wetland		Kerners Mill Creek			WS-III		Fill		
15	629+95-L- 635+90-L-	Stream		Smith Creek			WS-III		Fill		
15	636+32-L- 641+55-L-	Open Water		Smith Creek			WS-III		Fill		
15	644+00-L- 645+00-L-	Stream		Smith Creek			WS-III		Culvert		
15	643+56-L- 644+61-L-	Open Water		Smith Creek			WS-III		Culvert		

* List all stream and surface water impact locations regardless of jurisdiction or size.
Equalizer Pipes to be noted as a minimization of impacts.
All proposed SCMs listed must also be listed under Swales, Preformed Sour Holes and other Energy Dissipators, or Other Stormwater Control Measures.

Description of Minimization of Impacts or Mitigation

References

Project Environmental Summary

Surface Water Impacts

Sheet No.	Station (From / To)	Feature Impacted	Water / Wetland / Buffer Type	Receiving Surface Water Name	NRTR Map ID	NCDWQ Stream Index	NCDWQ Surface Water Classification	303(d) Impairments	Type of Impact	Existing SCM	Proposed SCM
17	663+65-L- 667+00-L-	Stream		Fishers Branch			WS-III		Fill		
17	667+15-L-	Stream		Fishers Branch			WS-III		Culvert		
17	668+50-L-	Wetland		Fishers Branch			WS-III		Fill		
19	687+80-L- 691+59-L-	Open Water		Fishers Branch			WS-III		Fill		
20	22+50-Y1-	Wetland		Lowery Mill Creek			WS-III		Fill		
25	40+50-Y4-	Wetland		Smith Creek			WS-III		Fill		
26	45+65-Y4-	Stream		Smith Creek			WS-III		Culvert		
27	80+50-Y4RPBD- 81+51-Y4RPBD-	Wetland		Smith Creek			WS-III		Fill		
27	37+31-Y4RPA-	Stream		Smith Creek			WS-III		Culvert		
28	29+16-Y4RPC- 31+12-Y4RPC-	Open Water		Smith Creek			WS-III		Fill		
28	107+34-Y4-	Stream		Smith Creek			WS-III		Culvert		
30	138+50-Y4-	Wetland		Kerners Mill Creek			WS-III		Fill		
30	145+62-Y4-	Wetland		Kerners Mill Creek			WS-III		Clearing		

* List all stream and surface water impact locations regardless of jurisdiction or size.
Equalizer Pipes to be noted as a minimization of impacts.
All proposed SCMs listed must also be listed under Swales, Preformed Sour Holes and other Energy Dissipators, or Other Stormwater Control Measures.

Description of Minimization of Impacts or Mitigation

References

Project/TIP No.: U-2579B County(ies): Forsyth

Preformed Scour Holes and Energy Dissipators

Sheet No.	Station	Energy Dissipator Type	Riprap Type	Drainage Area (ac)	Conveyance Structure	Pipe/Structure Dimensions (in)	Q10 (cfs)	V10 (fps)
5	476+50-L-	Riprap Energy Dissipator Basin	Class I	31.80	Pipe	42	63.0	3.8
5	28+10-Y1-	Riprap Apron / Pad	Class 'B'	0.22	Pipe	15	1.2	2.4
5	42+50-Y1-	PFSH	Class 'B'	1.26	Pipe	15	6.6	3.4
10	556+50-L-	Riprap Energy Dissipator Basin	Class I	34.70	Pipe	42	47.0	3.4
10	558+30-L-	PFSH	Class 'B'	2.59	Pipe	18	12.0	3.8
15	16+50-Y4RPBD-	PFSH	Class 'B'	0.48	Pipe	15	2.5	2.3
15	19+50-Y4RPBD-	PFSH	Class 'B'	0.60	Pipe	15	3.1	2.5
15	24+00-Y4RPBD-	PFSH	Class 'B'	0.36	Pipe	15	1.9	2.0
15	28+06-Y4RPBD-	PFSH	Class 'B'	0.21	Pipe	15	1.1	1.6
19	687+90-L-	PFSH	Class 'B'	1.35	Pipe	15	6.5	3.4
20	19+23-Y1-	PFSH	Class 'B'	0.95	Pipe	15	5.0	3.0
21	50+99-Y1	Riprap Apron / Pad	Class 'B'	3.10	Pipe	18	10.6	3.7
21	52+65-Y1-	Riprap Apron / Pad	Class 'B'	1.36	Pipe	15	4.5	2.8
25	39+00-Y4-	Riprap Apron / Pad	Class 'B'	0.62	Pipe	15	2.3	2.2
25	43+00-Y4-	PFSH	Class 'B'	0.91	Pipe	15	4.1	2.8
26	46+00-Y4-	PFSH	Class 'B'	0.88	Pipe	15	4.1	2.8
26	50+35-Y4-	Riprap Apron / Pad	Class 'B'	0.54	Pipe	18	2.1	2.1
27	57+57-Y4-	Riprap Apron / Pad	Class 'B'	0.41	Pipe	18	1.6	1.9
27	60+90-Y4-	Riprap Apron / Pad	Class 'B'	0.30	Pipe	18	1.2	1.7
27	63+35-Y4-	Riprap Apron / Pad	Class 'B'	1.00	Pipe	18	3.8	2.6

☐ YES ☐ NO Have minimum design criteria, as presented in the NCDOT Best Management Practices Toolbox (2008), NCDOT Standard Details, or FHWA HEC-14 (July 2006), been met and verified, as applicable? If No, provide further explanantion of why design criteria was not met.

Additional Comments

* Refer to the NCDOT Best Management Practices Toolbox, Version 1 (March 2008), NCDOT Standard Details, the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 14 (HEC-14), Third Edition, Hydraulic Design of Energy Dissipators for Culverts and Channels (July 2006), as applicable, for design guidance and criteria.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR LINEAR ROADWAY PROJECTS

(Version 1.2: Released July 2012)

Preformed Scour Holes and Energy Dissipators

Sheet No.	Station	Energy Dissipator Type	Riprap Type	Drainage Area (ac)	Conveyance Structure	Pipe/Structure Dimensions (in)	Q10 (cfs)	V10 (fps)
27	40+00-Y4RPA-	Riprap Apron / Pad	Class 'B'	0.41	Pipe	15	2.1	2.1
27	71+33-Y4-	Riprap Apron / Pad	Class 'B'	0.62	Pipe	18	2.4	2.2
27	76+10-Y4-	Riprap Apron / Pad	Class 'B'	5.84	Pipe	24	18.5	4.2
30	141+15-Y4-	Riprap Apron / Pad	Class 'B'	2.80	Ditch		9.7	3.6
31	80+00-Y5A-	Riprap Energy Dissipator Basin	Class I	8.36	Pipe	24	22.7	2.7

☐ YES ☐ NO Have minimum design criteria, as presented in the NCDOT Best Management Practices Toolbox (2008), NCDOT Standard Details, or FHWA HEC-14 (July 2006), been met and verified, as applicable? If No, provide further explanantion of why design criteria was not met.

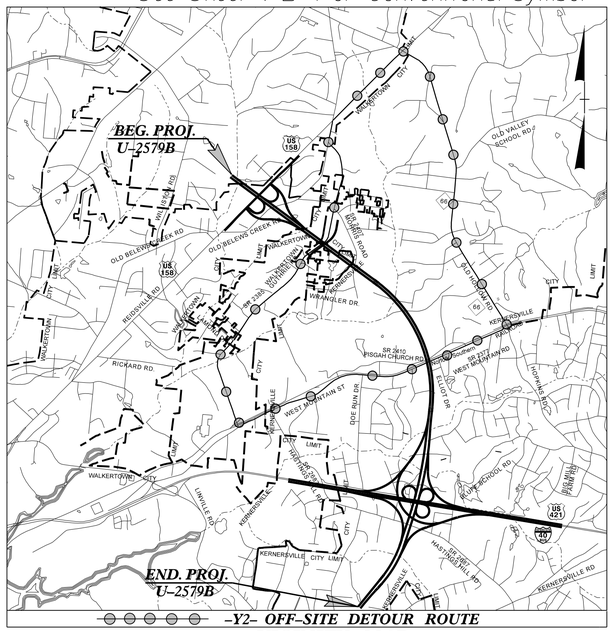
Additional Comments

* Refer to the NCDOT Best Management Practices Toolbox, Version 1 (March 2008), NCDOT Standard Details, the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 14 (HEC-14), Third Edition, Hydraulic Design of Energy Dissipators for Culverts and Channels (July 2006), as applicable, for design guidance and criteria.

09/08/99

TIP PROJECT: U-2579B

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbol



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
FORSYTH COUNTY

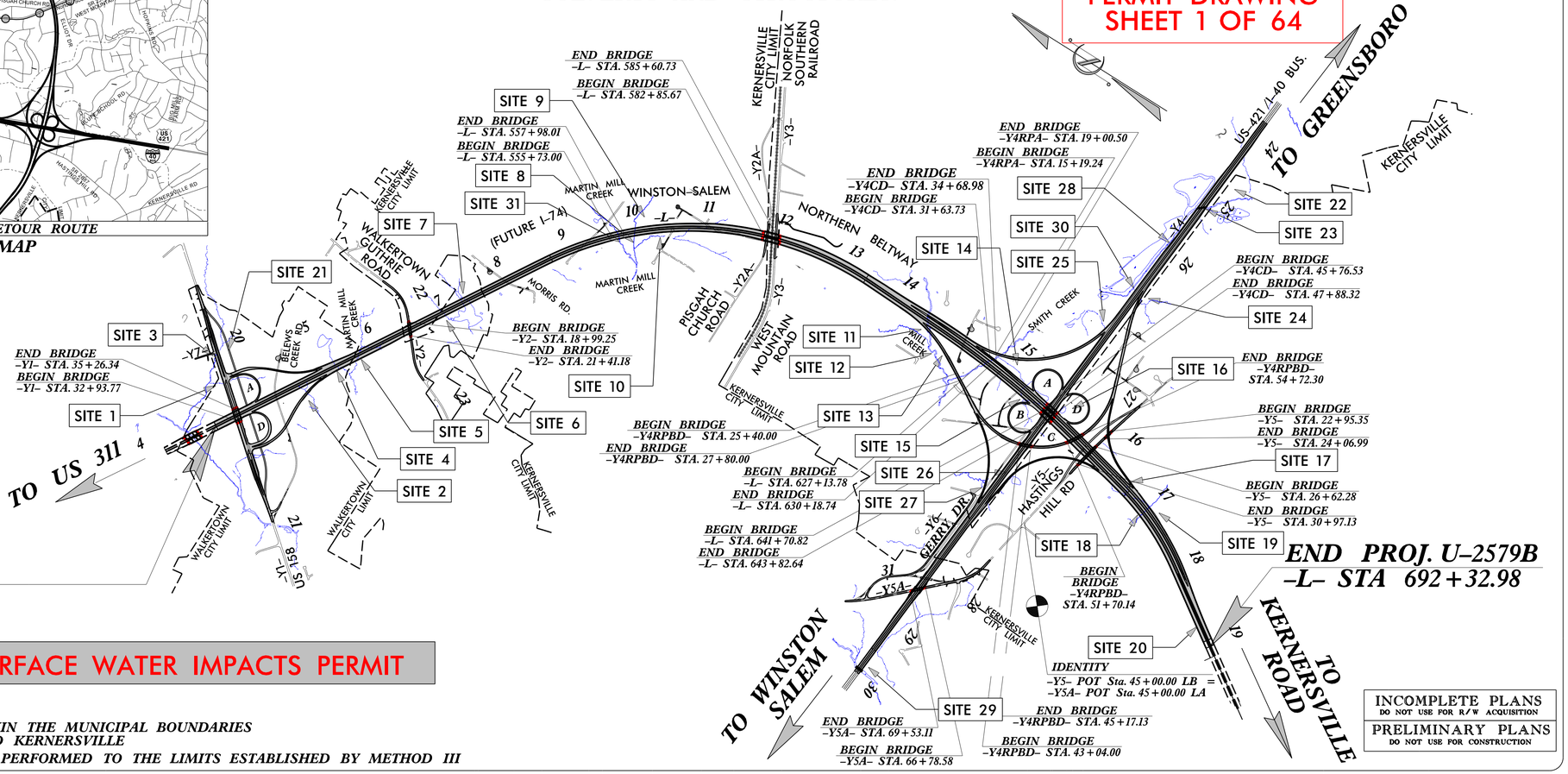
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2579B	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34839.1.1	N/A	PE
34839.2.10	FSTR HPPNHF-0918(46)	R\W
34839.2.5		R\W UTIL

LOCATION: ***WINSTON SALEM NORTHERN BELTWAY (EASTERN SECTION) (FUTURE I-74) FROM US 158 TO I-40 BUS/US 421***

TYPE OF WORK: ***WIDENING, GRADING, PAVING, DRAINAGE, SIGNING, SIGNALS, CULVERTS AND STRUCTURES.***

PERMIT DRAWING
SHEET 1 OF 64



WETLAND AND SURFACE WATER IMPACTS PERMIT

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WALKERTOWN AND KERNERSVILLE

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

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

GRAPHIC SCALES

PLANS 50 25 0 50 100

PROFILE (HORIZONTAL) 50 25 0 50 100

PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

ADT 2010 = 53,560
ADT 2030 = 79,880
DHV = 10 %
D = 60 %
T = 18 % *
V = 70 MPH
* TTST 12 % DUAL 6 %
FUNC CLASS = INTERSTATE

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT U-2579B = 3.86 Miles.
LENGTH OF STRUCTURE PROJECT U-2579B = 0.19 Miles.
TOTAL LENGTH OF PROJECT U-2579B = 4.06 Miles.

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 19, 2012

LETTING DATE: OCTOBER 21, 2014

TONY HOUSER, PE
PROJECT ENGINEER

LEE ANN MOORE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE:

ROADWAY DESIGN ENGINEER

SIGNATURE:

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

9/9/2013
U2579B_Hyd_prm_wet_psh_site
jharvey

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

50' 25' 0 50' 100'

PERMIT DRAWING SHEET 2 OF 64

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

DENOTES MECHANIZED CLEARING

MATCHLINE -Y1- STA. 23+65 SHEET 20

MATCHLINE -L- STA. 475+00 SHEET 4

MATCHLINE -L- STA. 500+83 SHEET 6

MATCHLINE -Y1- STA. 44+00 SHEET 21

SITE 1

SITE 2

SITE 3

DETAIL #1 FALSE CUT (NOT TO SCALE)

DETAIL #2 SPECIAL BACK OF CURB CUT DITCH (NOT TO SCALE)

DETAIL #3 TAIL DITCH (NOT TO SCALE)

DETAIL #4 LATERAL DITCH (NOT TO SCALE)

DETAIL #5 LATERAL DITCH (NOT TO SCALE)

DETAIL #7 STANDARD 'V' DITCH (NOT TO SCALE)

DETAIL #8 STANDARD BASE DITCH (NOT TO SCALE)

TRAFFIC DIAGRAM
US 158 (REIDSVILLE ROAD)

2010 ADT
2030 ADT

-Y1-
17,480
26,440

3,400 / 5,800	3,460 / 6,580	DHV = 10%	
55,960 / 83,480	53,560 / 79,880	DIR = 60%	-L- BELTWAY
3,680 / 6,240	1,220 / 1,860	TTST = 12%	
15,520 / 22,160		DUAL = 6%	
		DHV = 10%	
		DIR = 60%	
		TTST = 5%	
		DUAL = 3%	

REVISIONS

RIGHT OF WAY REVISION,II/5/12 - PARCEL NUMBER 3 REMOVED

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

50' 25' 0 50' 100'

PERMIT DRAWING SHEET 3 OF 64

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

DENOTES MECHANIZED CLEARING

MATCHLINE – Y1 – STA. 23+65 SHEET 20

MATCHLINE – L – STA. 475+00 SHEET 4

MATCHLINE – L – STA. 500+83 SHEET 6

MATCHLINE – Y1 – STA. 44+00 SHEET 21

SITE 3

SITE 1

SITE 2

DETAIL #1
LATERAL BASE DITCH
(NOT TO SCALE)

DETAIL #2
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)

DETAIL #3
LATERAL BASE DITCH
(NOT TO SCALE)

DETAIL #4
FALSE EOT
(NOT TO SCALE)

DETAIL #5
STANDARD "V" DITCH
(NOT TO SCALE)

DETAIL #6
STANDARD BERM DITCH
(NOT TO SCALE)

DETAIL #7
STANDARD "V" DITCH
(NOT TO SCALE)

DETAIL #8
TAIL DITCH
(NOT TO SCALE)

DETAIL #9
TAIL DITCH
(NOT TO SCALE)

DAN T. WESTMORELAND

DARRELL T. WESTMORELAND & STEPHANIE C. WESTMORELAN

PEGG DEVELOPMENT & REALTY CO.

FREDERICO R. LOPEZ & SUSAN L. LOPEZ

JANE BHICKER & DAN WESTMORELAND

DARRELL T. WESTMORELAND & STEPHANIE C. WESTMORELAND

DAN WESTMORELAND KAREN WESTMORELAND

CAROL WESTMORELAND

JANE M. BHICKER LARRY W. BHICKER

TRAFFIC DIAGRAM
US 158 (REIDSVILLE ROAD)

2010 ADT
2030 ADT

-Y1-
17,480
26,440

3,400
5,800

3,460
6,580

55,960
83,480

53,560
79,880
-L-
BELTWAY

3,680
6,240

1,220
1,860

15,520
22,160

DHV = 10%
DIR = 60%
TTST = 12%
DUAL = 6%

DHV = 10%
DIR = 60%
TTST = 5%
DUAL = 3%

REVISIONS

RIGHT OF WAY REVISION.11/5/12 – PARCEL NUMBER 3 REMOVED

8/17/99

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jbarnes

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	05-I
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 4 OF 64

REVISIONS

8/17/99

PEGG DEVELOPMENT & REALTY CO.

FREDERICO B. MORETZ
SUSAN K. MORETZ

TOWN OF WALKERTOWN
FORSYTH COUNTY

FILL IN WETLAND

MECHANIZED CLEARING

TAIL DITCH
SEE DETAIL #8
EST. DDE 20 CY

EXCAVATION

CLASS 'B'
RIP RAP
EST 15 TONS
EST 37 SY FF

15" CSP W/ 2 ELBOWS
AND ROD AND LUG
CONNECTORS

SITE 1

END SHOULDER BERM
GUTTER STA 28+10 –Y1– RT

2GI W/NARROW
SLOT FLAT GRATE

COLLAR

42" RCP–IV

RETAIN AND EXTEND

REMOVE HW

IB w/Slab Lid

42" RCP–III

HW

IMPACTS IN SURFACE WATER

LATERAL 2' BASE
SEE DETAIL#3

N 55° 32' 17.4" W

N 51° 58' 01.0" W

S 39° 49' 20.3" W

150.00'

EXISTING R/W

DENOTES IMPACTS IN SURFACE WATER

DENOTES EXCAVATION IN WETLAND

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

25 12.5 0 25 50
PLANS

9/19/2013
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User:ven

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	05-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 5 OF 64

REVISIONS

8/17/99

SITE 2

3SBW

4SBW

15" RCP-III

30" RCP-III

FS

2GI

2GI-A

JB w/MH

IMPACTS IN SURFACE WATER

Perennial downstream of this point

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP (BANKS ONLY) SEE DETAIL #33 EST TONS EST SY FF

TEMP IMPACTS IN SURFACE WATER

SPECIAL DITCH GRADE SEE PROFILE FOR GRADE

PUE

TDE

PDE

TS

SOIL

20

15

DAN T. WESTM

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

25 12.5 0 25 50
PLANS

9/19/2013
U-2579B_hyd_prm_wet_psh05_SITE2
jbarnes

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	05-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 6 OF 64

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

25 12.5 0 25 50
PLANS

REVISIONS 8/17/99

SITE 3

IMPACTS IN SURFACE WATER

TEMP IMPACTS IN SURFACE WATER

CLASS "B" RIP RAP

FLOODPLAIN BENCH

2@7'x6' RCBC

END SHOULDER BERM GUTTER
STA 24+00 -Y1- LT

TOE PROTECTION W/ CLASS "B" RIPRAP
EST 172 TONS
EST 463 SY FF
SEE DETAIL#

TAIL DITCH
SEE DETAIL #8
EST 200 CY

PEGG DEVELOPMENT & REALTY CO.

DARRELL STEPHA

FREDERICO B. MORETZ
SUSAN K. MORETZ

TOWN OF WALKERTOWN
FORSYTH COUNTY

48" CONC
60" WW
MTL
PUE
TDE
S 39° 49' 20.3" W
N 55° 32' 17.4" W

9/8/2013
U2579B_hyd_prm_wet_psh05_SITE3
harvey

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 7 OF 64

8/17/99

REVISIONS

MATCHLINE – L – STA. 500+83 SHEET 5

MATCHLINE – L – STA. 512+00 SHEET 7

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

POND W.E. 897.3

DETAIL #14
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2d, D, 2d, b = 1'/Ft., Fill Slope, dl, Filter Fabric

Min. D= 2 Ft.
Max. d= 2 Ft.
b= 5 Ft.

Type of Liner= Class 'B' Rip-Rap
FROM STA 505+50 TO 507+55 -L- LT

DETAIL #32
TAIL DITCH
(Not to Scale)

Natural Ground, 2d, D, 2d, Natural Ground, dl, Filter Fabric, B

Min. D= 2.0Ft.
Max. d= 2.0Ft.
B= 3.0Ft.

Type of Liner= Class I Rip-Rap
FROM STA. TO STA.

LATERAL 'V' DITCH W/CLASS 'B' RIP RAP
EST. 117 TONS
W/316 SY FF
SEE DETAIL#14

TOE PROTECTION W/
CLASS "B" RIPRAP
EST. 86 TONS
EST. 231 SY FF
SEE DETAIL#6

BEGIN SHOULDER BERM GUTTER
STA 500+99.79 -L- LT

END SHOULDER BERM GUTTER
STA 509+50 -L- LT

GOSPEL LIGHT BAPTIST CHURCH

DAN T. WESTMORELAND

TOWN OF WALKERTOWN
FORSYTH COUNTY

SITE 4

SITE 5A

SITE 5

HW

2GI FLAT GRATE

15" RCP-IV

N 54° 42' 58.7" W

S 58° 42' 58.7" E

2GI W/FLAT GRATE

2GI

2GI-A

FS

FS1

48" RCP-CD

30" RCP-III

15" RCP-IV

8" DIP

GRAU-350

STONE

SPRING BOX

18" RCP-IV

30" RCP-IV

wMH

BEGIN SHOULDER BERM GUTTER
STA. 501+50 -L- RT

18" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

54" RCP-III

30" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'I' RIP RAP (BANKS ONLY)
SEE DETAIL #32
EST. 21 TONS
EST. 47 FF

CLASS 'B' RIP RAP
EST 8 TONS
EST 21 SY FF

CLASS 'B' RIP RAP
EST 3 TONS
EST 10 SY FF

REMOVE

CHORD

TDE

TAIL DITCH
SEE DETAIL#7
EST. DDE 10CY

TAIL DITCH
SEE DETAIL#9
EST. DDE 20CY

TAIL DITCH
SEE DETAIL#9
EST. DDE 10CY

END SHOULDER BERM GUTTER
STA 510+35 -L- RT

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP
EST. 336 TONS
W/883 SY FF
SEE DETAIL#12

FILL SLOPE SHOULD BE 4:1 OR FLATTER
SEE XSC STA 510+50 TO 512+00 -L- RT

ROBERT J. DILLON
ILENA B. DILLON

DAN WESTMORELAND
KAREN WESTMORELAND

DETAIL #7
STANDARD 'V' DITCH
(Not to Scale)

Natural Ground, 2d, D, 2d, Natural Ground

Min. D= 2 Ft.

FROM STA. 11+48 TO 11+52 -Y1RPD- LT

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2d, D, 2d, Natural Ground, B

Min. D= 2 Ft.
B= 3 Ft.

FROM STA. 504+03 TO 504+38 -L- RT

DETAIL #6
TOE PROTECTION
(Not to Scale)

Natural Ground, dl, 2d OR FLATTER, Fill Slope, Filter Fabric

d= 2 Ft.

Type of Liner= Class 'B' Rip-Rap
FROM STA 507+60 TO 509+10 -L- LT

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2d, D, 2d, b = 1'/Ft., Fill Slope, dl, Filter Fabric, B

Min. D= 2 Ft.
Max. d= 2 Ft.
B= 2 Ft.
b= 5 Ft.

*When B Is < 6.0'

Type of Liner= Class 'B' Rip-Rap
FROM STA 507+00 TO 512+00 -L- RT

9/9/2013
u2579bd_prm_wet_psh06
jbarnes

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 8 OF 64

REVISIONS 8/17/99

MATCHLINE – L – STA. 500+83 SHEET 5

MATCHLINE – L – STA. 512+00 SHEET 7

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

POND W.E. 897.3

TOWN OF WALKERTOWN / FORSYTH COUNTY

SITE 4

SITE 5

SITE 5A

DAN T. WESTMORELAND

GOSPEL LIGHT BAPTIST CHURCH

DAN WESTMORELAND
KAREN WESTMORELAND

ROBERT J. DILLON
ILENA B. DILLON

BEGIN SHOULDER BERM GUTTER STA 500+99.79 -L- LT

END SHOULDER BERM GUTTER STA 509+50 -L- LT

END SHOULDER BERM GUTTER STA 510+35 -L- RT

LATERAL 'V' DITCH W/CLASS 'B' RIP RAP EST. 117 TONS W/316 SY FF SEE DETAIL#14

TOE PROTECTION W/ CLASS "B" RIPRAP EST. 86 TONS EST. 231 SY FF SEE DETAIL#6

BEGIN SHOULDER BERM GUTTER STA 501+50 -L- RT

CLASS 'B' RIP RAP EST 3 TONS EST 10 SY FF

TAIL DITCH SEE DETAIL#7 EST. DDE 10CY

18" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

54" RCP-III

REMOVE

CLASS 'I' RIP RAP (BANKS ONLY) SEE DETAIL #32 EST. 21 TONS EST. 47 FF

30" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP EST 8 TONS EST. 21 SY FF

TAIL DITCH SEE DETAIL#9 EST. DDE 20CY

TAIL DITCH SEE DETAIL#9 EST. DDE 10CY

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP EST. 336 TONS W/883 -SY FF SEE DETAIL#12

FILL SLOPE SHOULD BE 4:1 OR FLATTER SEE XSC STA 510+50 TO 512+00 -L- RT

SPRING BOX

2GI W/FLAT GRATE

2GI-A

15" RCP-IV

18" RCP-IV

30" RCP-III

48" RCP-CD

8" DIP

GRAU-350

N 54° 42' 58.7" W

S 58° 42' 58.7" E

CHORD

TDE

DETAIL #14
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2d, d1, T, 2d, Natural Ground, b, 1'/Ft., Fill Slope, Filter Fabric

Min. D= 2 Ft.
Max. d= 2 Ft.
b= 5 Ft.

Type of Liner= Class 'B' Rip-Rap
FROM STA 505+50 TO 507+55 -L- LT

DETAIL #32
TAIL DITCH
(Not to Scale)

Natural Ground, 2d, d1, D, 2d, Natural Ground, Filter Fabric, B

Min. D= 2.0Ft.
Max. d= 2.0Ft.
B= 3.0Ft.

Type of Liner= Class 'I' Rip-Rap
FROM STA. TO STA.

DETAIL #7
STANDARD 'V' DITCH
(Not to Scale)

Natural Ground, 2d, D, 2d, Natural Ground

Min. D= 2 Ft.

FROM STA 11+48 TO 11+52 -Y1RPD- LT

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2d, D, 2d, Natural Ground, B

Min. D= 2 Ft.
B= 3 Ft.

FROM STA. 504+03 TO 504+38 -L- RT

DETAIL #6
TOE PROTECTION
(Not to Scale)

Natural Ground, d, 2d OR FLATTER, Fill Slope, Filter Fabric

d= 2 Ft.

Type of Liner= Class 'B' Rip-Rap
FROM STA 507+60 TO 509+10 -L- LT

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2d, d1, D, 2d, b, 1'/Ft., Fill Slope, Filter Fabric, B

Min. D= 2 Ft.
Max. d= 2 Ft.
B= 2 Ft.
D= 5 Ft.
*When B is < 6.0'

Type of Liner= Class 'B' Rip-Rap
FROM STA 507+00 TO 512+00 -L- RT

9/9/2013
u2579b01_prd_prm_wet_psh06.con
jbarnes

WALKERTOWN

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 9 OF 64

REVISIONS

8/17/99

MATCHLINE – L – STA. 512+00 SHEET 6

MATCHLINE – L – STA. 524+62 SHEET 8

MATCHLINE – Y2 – STA. 15+61 SHEET 22

MATCHLINE – Y2 – STA. 24+81 SHEET 23

DETAIL #4
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2H, D, 2H, Fill Slope, b, 1'/Ft.

Min. D= 2 Ft.
b= 5 Ft.

FROM STA 511+75 TO 512+50 -L- LT
FROM STA 512+50 TO 513+45 -L- LT

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

GOSPEL LIGHT BAPTIST CHURCH

ROBERT J. DILLON
ILENA B. DILLON

RONALD H. WALKER
WILMA JEAN DILLON WALKER

RONALD H. WALKER
WILMA D. WALKER

JAMES DAVID DILLON

ROBERT JEFFREY BARBER

THE TABOR FAMILY TRUST

SITE 6

SPECIAL DITCH GRADE SEE PROFILE FOR GRADE

LATERAL 'V' DITCH SEE DETAIL#4

16' ACCESS EASEMENT DB 1948 PG 287

END W.W.FENCE

BEGIN W.W.FENCE

15" CSP W/ 2 ELBOWS

SBG STA. 18+60 -Y2- LT&RT -BEGIN BRIDGE

TOE PROTECTION W/ CLASS "B" RIPRAP EST. 51 TONS EST. 139 SY FF SEE DETAIL#6

HEAD DITCH SEE DETAIL #9 EST. DDE 6CY

BEGIN SHOULDER BERM GUTTER STA 521+50 -L- LT

BEGIN SHOULDER BERM GUTTER STA 522+00 -L- RT

CLASS 'I' RIP RAP EST 17 TONS EST 38 SY FF

TOE PROTECTION W/ CLASS "B" RIPRAP EST 69 TONS EST 185 SY FF SEE DETAIL#6

S 58° 42' 58.7" E

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2H, D, 2H, Natural Ground, B

Min. D= 2 Ft.
B= 3 Ft.

FROM STA. 522+42 TO 522+45 -L- LT

DETAIL #6
TOE PROTECTION
(Not to Scale)

Natural Ground, d, 24MB FLATTER, Fill Slope, Filter Fabric

d= 2 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA 522+00 TO 523+20 -L- RT
FROM STA 522+60 TO 523+50 -L- LT

9/19/2013
12:17:40
jdarvey

J:\projects\2579B\prod\prm_wet_psh07.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 10 OF 64

REVISIONS

8/17/99

MATCHLINE – Y2 – STA. 15+61 SHEET 22

MATCHLINE – L – STA. 512+00 SHEET 6

MATCHLINE – L – STA. 524+62 SHEET 8

MATCHLINE – Y2 – STA. 24+81 SHEET 23

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DETAIL #4
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2d, D, 2d, Fill Slope; b; 1'/Ft.; Min. D= 2 Ft., b= 5 Ft.

FROM STA 511+75 TO 512+50 -L- LT
FROM STA 512+50 TO 513+45 -L- LT

GOSPEL LIGHT BAPTIST CHURCH

ROBERT J. DILLON
ILENA B. DILLON

SPECIAL DITCH GRADE SEE PROFILE FOR GRADE

LATERAL 'V' DITCH SEE DETAIL#4

16' ACCESS EASEMENT (BK 1848 PG 287)

END W.W.FENCE

BEGIN W.W.FENCE

15" CSP W/ 2 ELBOWS

SBG STA. 18+60 -Y2- LT&RT -BEGIN BRIDGE

RONALD H. WALKER
WILMA JEAN DILLON WALKER

RONALD H. WALKER
WILMA D. WALKER

TOWN OF WALKERTOWN
FORSYTH COUNTY

THE TABOR FAMILY TRUST

JAMES DAVID DILLON

ROBERT JEFFREY BARBER

ROBERT J. DILLON
ILENA B. DILLON

SPECIAL DITCH GRADE SEE PROFILE FOR GRADE

TOE PROTECTION W/ CLASS "B" RIPRAP
EST. 51 TONS
EST. 139 SY FF
SEE DETAIL#6

HEAD DITCH SEE DETAIL #9
EST. DDE 6CY

BEGIN SHOULDER BERM GUTTER STA 521+50 -L- LT

BEGIN SHOULDER BERM GUTTER STA 522+00 -L- RT

CLASS 'I' RIP RAP
EST 17 TONS
EST 38 SY FF

TOE PROTECTION W/ CLASS "B" RIPRAP
EST 69 TONS
EST 185 SY FF
SEE DETAIL#6

SITE 6

WETBRK POND

PDE

S 58° 42' 58.7" E

N 010° 12' 49.2" W

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2d, D, 2d, Natural Ground; Min. D= 2 Ft., B= 3 Ft.

FROM STA 522+42 TO 522+45 -L- LT

DETAIL #6
TOE PROTECTION
(Not to Scale)

Natural Ground, d, 2:1 OR FLATTER, Fill Slope; Filter Fabric; ds= 2 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA 522+00 TO 523+20 -L- RT
FROM STA 522+60 TO 523+50 -L- LT

9/9/2013
U-2579B_hyd_prm_wet_psh07.con
jharvey

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 11 OF 64

REVISIONS 8/17/99

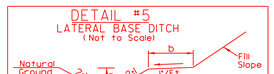
F F DENOTES FILL IN WETLAND

P P DENOTES IMPACTS IN SURFACE WATER (POND)

DENOTES MECHANIZED CLEARING

THE TABOR FAMILY TRUST

DETAIL #5
LATERAL BASE DITCH
(Not to Scale)



Min. D= 3 Ft.
B= 3 Ft.
b= 5 Ft.

FROM STA 527+08 TO 528+75 -L- LT

525

530

SITE 7

NCDOT
(RONALD H. WALKER)
(WILMA JEAN DILLON WALKER)

TOWN OF WALKERTOWN
FORSYTH COUNTY

LATERAL 3' BASE DITCH SEE DETAIL#5

CLASS I RIP RAP EST. 3 TONS

CLASS 'B' RIP RAP EST 8 TONS EST 21 SY FF

30" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

END SHOULDER BERM GUTTER STA 528+75 -L- LT

WE 878.2' POND

INV. IN EL=878.2

2GI W/FLAT GRATE

15" RCP-IV

18" RCP-III

24" RCP-III

30" RCP-IV

2GI-A

FS

ROCK FILL IN POND SEE DETAIL#30

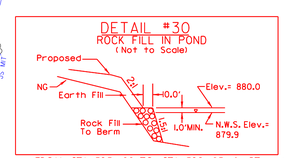
END SHOULDER BERM GUTTER STA 528+46.90 -L- RT

PDE

WE 877.9' POND

THE TABOR FAMILY TRUST

DETAIL #30
ROCK FILL IN POND
(Not to Scale)



FROM STA. 525+00 TO STA. 528+15 -L- RT

JOSEPH R. DANIELS

MICHAEL L. MCCASKILL
SUSANNA L. MCCASKILL

+24.47 -L-
241.05'

+90.00 -L-
280.00'

EILEEN P. CHAMBERS

THE TABOR FAMILY TRUST

MILDRED C. GOFF
ELBERT S. GOFF

SR 2407 MORRIS RD

WILLARD AMBROSE HILTON
ELLEN JANE POPE HILTON

REMOVE

-L- +33.00
307.00

-L- +40.08
299.33

-L- +95.46
356.05'

MATCHLINE - L - STA. 524+62 SHEET 7

MATCHLINE - L - STA. 537+00 SHEET 9

S 58° 42' 58.7" E

PAVED SHOULDER
PAVEMENT TO BE OBLITERATED

NOTE:
FOR -L- PROFILE, SEE SHEET 34

9/19/2013
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User:

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 12 OF 64

REVISIONS

8/17/99

F F DENOTES FILL IN WETLAND

P P DENOTES IMPACTS IN SURFACE WATER (POND)

DENOTES MECHANIZED CLEARING

DETAIL #5
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2H, D, 2H, Fill Slope, B, D, 1V/Ft.

Min. D= 3 Ft.
B= 3 Ft.
b= 5 Ft.

FROM STA 527+08 TO 528+75 -L- LT

THE TABOR FAMILY TRUST

SITE 7

NCDOT
(RONALD H. WALKER)
(WILMA JEAN DILLON WALKER)

LATERAL 3' BASE DITCH SEE DETAIL#5

CLASS I RIP RAP EST. 3 TONS

CLASS 'B' RIP RAP EST 8 TONS EST 21 SY FF

30" CSP W/ 2 ELBOWS AND ROD AND LUG CONNECTORS

END SHOULDER BERM GUTTER STA 528+75 -L- LT

INV. IN EL=878.2

WE 878.2' POND

FORSYTH COUNTY
TOWN OF WALKERTOWN

2GI W/FLAT GRATE

15" RCP-IV

18" RCP-III

24" RCP-III

30" RCP-IV

15S RCP-IV

2GI-A

FS

MATCHLINE – L – STA. 524+62 SHEET 7

MATCHLINE – L – STA. 537+00 SHEET 9

ROCK FILL IN POND SEE DETAIL#30

END SHOULDER BERM GUTTER STA 528+46.90 -L- RT

PDE

DETAIL #30
ROCK FILL IN POND
(Not to Scale)

Proposed NG Earth Fill, 2H, 10.0', 1V, 10.0' MIN., Rock Fill To Berm, Elev.= 880.0, N.W.S. Elev.= 879.9

FROM STA. 525+00 TO STA. 528+15 -L- RT

WE 877.9' POND

THE TABOR FAMILY TRUST

JOSEPH R. DANIELS

MICHAEL L. MCCASKILL
SUSANNA L. MCCASKILL

EILEEN P. CHAMBERS

THE TABOR FAMILY TRUST

MILDRED C. GOFF
ELBERT S. GOFF

WILLARD AMBROSE HILTON
ELLEN JANE POPE HILTON

+24.47 -L-
241.05'

+90.00 -L-
280.00'

-L- +33.00
307.00'

-L- +40.08
299.33'

-L- +95.46
356.05'

S 58° 42' 58.7" E

REMOVE

PAVED SHOULDER
PAVEMENT TO BE OBLITERATED

NOTE:
FOR -L- PROFILE, SEE SHEET 34

9/19/2013
u2579b_hyd_prm_wet_psh08.con
dgarvin

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 13 OF 64

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

REVISIONS

8/17/99

9/8/2015
25740_typ_d_prm_wet.psh10
barney

MATCHLINE – L – STA. 549+39 SHEET 9

MATCHLINE – L – STA. 561+61 SHEET 11

550

560

WESTON BROOKE TRAIL

SR 2575 WESTON BROOKE TRAIL

DANNY CAUDILL
CHARLENE L. CAUDILL

WE #52.2 POND

DAVID WHITE
MELISSA WHITE

03 DEVELOPEMENT LLC

DANNY T. CAUDILL

DANNY CAUDILL

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
+75.00 –L– 200.00'

SPECIAL LATERAL 2' BASE DITCH
SEE DETAIL #10

REMOVE

SITE 9

SITE 8

SITE 10

SITE 31

FLOODPLAIN BENCH

SILL

TDE

CHORD

2@10'x6' RCBC

SHUGART ENTERPRISES LLC

2GI

FS

15" RCP-III

42" RCP-III

2GI-A

MCF

2GI W/FLAT GRATE

15" RCP-IV

GRAL-350
BEGIN SHOULDER BERM GUTTER
STA 554+22.53 –L– RT

15" CSP W/ 2 ELBOWS

42" CSP

ENERGY DISSIPATOR BASIN
SEE SHEET 2-TT

18" CSP W/ 2 ELBOWS AND ROD AND LUG CONNECTORS

ENERGY DISSIPATOR BASIN W/OUTLET CHANNEL
EST. CLASS I RIPRAP +/- 88 TONS
EST. DDE +/- 10 CY
EST. FF +/- 89 SY

PSH
SEE SHEET 2-TT

CLASS 'I' RIP RAP

TAIL DITCH
SEE DETAIL #17
EST. DDE +/- 54 CY

TAIL DITCH
SEE DETAIL #9
EST. DDE 4CY

60" RCP-III

CLASS I RIP RAP (BANKS ONLY)
SEE DETAIL 32
EST 40 TONS
EST 75 SY FF

END SHOULDER BERM GUTTER AT BEGIN BRIDGE

CRAIG SMITH
KATHY SMITH

BRIAN MICHAEL MILCH

BRENDA L. CHESMAR AND MARY C. CHESMAR

DANNY CAUDILL

NCDOT
(CHRISTOPHER WILSON)
(SUSAN WILSON)

CHARLES LEWIS, ET AL

MARGARET LUCINDA ROBBINS LINVILLE

BRADLEY FRITZ CARRIER AND RANDI MARIE CARRIER

DANNY CAUDILL
38

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)

Natural Ground — 2:1 — D — 2:1 — Natural Ground
B
Min. D= 2 Ft.
B= 3 Ft.

FROM STA. 560+70 TO 560+97 –L– RT

DETAIL #10
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground — 2:1 — D — 4:1 or Flatter — Fill Slope
B
Min. D= 2 Ft.
B= 2 Ft.

FROM STA 552+50 TO 553+40 –L– LT

DETAIL #17
STANDARD BASE DITCH
(Not to Scale)

Natural Ground — 2:1 — D — 2:1 — Natural Ground
d
Filter Fabric
B
Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 3.0 Ft.

•When B is < 6.0'

Type of Liner= Class 'I' Rip-Rap

FROM STA. TO STA.

DETAIL #32
TAIL DITCH
(Not to Scale)

Natural Ground — 2:1 — D — Natural Ground
d
Filter Fabric
B
Min. D= 2.0Ft.
Max. d= 2.0Ft.
B= 3.0Ft.

Type of Liner= Class I Rip-Rap

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 14 OF 64

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

REVISIONS

8/17/99

MATCHLINE – L – STA. 549+39 SHEET 9

MATCHLINE – L – STA. 561+61 SHEET 11

SPECIAL DITCH GRADE SEE PROFILE FOR GRADE +75.00 –L– 200.00'

SPECIAL LATERAL 2' BASE DITCH SEE DETAIL #10

REMOVE

2GI

FS

15" RCP-III

42" RCP-III

2GI-A

2GI W/FLAT GRATE

15" CSP W/ 2 ELBOWS

BEGIN SHOULDER BERM GUTTER STA 554+22.53 –L– RT

42" CSP

ENERGY DISSIPATOR BASIN SEE SHEET 2-TT

ENERGY DISSIPATOR BASIN W/OUTLET CHANNEL EST. CLASS I RIPRAP +/- 88 TONS EST. DDE +/- 102 CY EST. FF +/- 89 SY

END SHOULDER BERM GUTTER AT BEGIN BRIDGE

MCF

15" RCP-IV

18" CSP W/ 2 ELBOWS AND ROD AND LUG CONNECTORS

2GI W/FLAT GRATE

PSH SEE SHEET 2-TT

CLASS 'I' RIP RAP

60" RCP-III

CLASS I RIP RAP (BANKS ONLY) SEE DETAIL 3X EST 40 TONS EST 75 SY FF

TAIL DITCH SEE DETAIL #17 EST. DDE +/- 54 CY

TAIL DITCH SEE DETAIL #9 EST. DDE 4CY

SITE 8

SITE 9

SITE 10

SITE 31

FLOODPLAIN BENCH

SILL

2@10'x6' RCBC

TDE

CHORD

DANNY T. CAUDILL

DANNY CAUDILL

CHARLENE L. CAUDILL

DAVID WHITE
MELISSA WHITE

03 DEVELOPEMENT LLC

SHUGART ENTERPRISES LLC

CRAIG SMITH
KATHY SMITH

BRIAN MICHAEL MILCH

BRENDA L. CHESMAR AND MARY C. CHESMAR

BRADLEY FRITZ CARRIER AND RANDI MARIE CARRIER

MARGARET LUCINDA ROBBINS LINVILLE

CHARLES LEWIS, ET AL

NCDOT
(CHRISTOPHER WILSON)
(SUSAN WILSON)

WESTON BROOKE TRAIL

SR 2575 WESTON BROOKE TRAIL

20' DRAINAGE/UTILITY EASEMENT PB 30 PG 179

30' DRAINAGE/UTILITY EASEMENT PB 30 PG 179

20' SANITARY SEWER EASEMENT

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Natural Ground, B

Min. D= 2 Ft.
B= 3 Ft.

FROM STA. 560+70 TO 560+97 –L– RT

DETAIL #10
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 4:1 or Flatter, Fill Slope, B

Min. D= 2 Ft.
B= 2 Ft.

FROM STA 552+50 TO 553+40 –L– LT

DETAIL #17
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, 2:1, Natural Ground, Filter Fabric, B

Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 3.0 Ft.

•When B is < 6.0'

Type of Liner= Class 'I' Rip-Rap

FROM STA. TO STA.

DETAIL #2
TAIL DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, Natural Ground, Filter Fabric, B

Min. D= 2.0Ft.
Max. d= 2.0Ft.
B= 3.0Ft.

Type of Liner= Class I Rip-Rap

9/8/2015
25740_hyd_prm_wet_psh10.con
barclay

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 15 OF 64

200 100 0 100 200

910
900
890
880
870
860
850
840

CL STA 559+74 –L–
2@10'x6' RCBC
SKEW=100°
GP EL=903.42

2:1 NORMAL
2.03:1 SKEWED

2:1 NORMAL
2.03:1 SKEWED

BEVELED
HW

TB LT
TB RT

WE

BED

NWSE AND WSE
ON 10-24-07=848.0

2@10'x6' RCBC

BED ELEV 844.74
ON SLOPE 0.69%

TB RT
TB LT

WE

BED

9/9/2013
U-2579B_hyd_prm_wet_psh10A_Lsta559
jharvey

PERMIT DRAWING
SHEET 16 OF 64
PROJECT REFERENCE NO.
U-2579B
SHEET NO.
11
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
REVISIONS
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
SITE 10
SITE 10A
MATCHLINE – L – STA. 561+61 SHEET 10
MATCHLINE – L – STA. 574+36 SHEET 12
CHARLIE MARTIN
SECRETARY OF VETERANS AFFAIRS
DAVID KEITH MCDUFFIE
EMILY EBERT MCDUFFIE
STANLEY STIGALL
WILLIE LEAK
KEYA LEAK
WINSTON-SALEM/FORSYTH COUNTY BOARD OF EDUCATION
CHARLES AARON MATHIS, JR.
ELLEN COLETTE MATHIS
R.R. ROBBINS
MABEL S. ROBBINS
RICHARD KEVIN WOOD
MELINDA ANDERSON WOOD
SHUGART ENTERPRISES LLC
STANLEY R. STIGALL
RICHARD R. ROBBINS
BONNIE M. ROBBINS
KAYE ROBBINS FULP
MELODY ROBBINS ANDERSON
JAMES R. PAIGE SR. & HELEN R. PAIGE
EDWARD RICHARDSON
JONATHAN L. BRITT & APRIL L. CRAFFORD
ELLSWORTH MESSERSMITH, JR.
AMY MESSERSMITH
RONALD L. SCOTT, JR.
KIMBERLY D. SCOTT
KEITH OELER & MICHELL OELKER
CLAY M. HOWARD
NICOLE A. HOWARD
BOBBY D. HOLLOWAY
LISA HOLLOWAY
SHUGART ENTERPRISES, LLC
DAVID SCOTT THOMAS & TAMMY THOMAS
CECIL K. ANDERSON & MELODY R. ANDERSON
TOWN OF KERNERSVILLE
FORSYTH COUNTY
ROBBINS PERCH TRAIL
ROBBINS PERCH WEST CT
AFTON PARK DR
20' SANITARY SEWER EASEMENT
LATERAL 2' BASE DITCH SEE DETAIL#3
CLASS 'B' RIP RAP EST 5 TONS EST 14 SY FF
24" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS
42" RCP-CD
LATERAL 3' BASE DITCH W/CLASS 'B' RIP RAP EST. 231 TONS W/600 SY FF SEE DETAIL#13
LATERAL 3' BASE DITCH SEE DETAIL#11
REMOVE
15" RCP-IV
18" RCP-IV
24" RCP-IV
2GI
2GI W/FLAT GRATE
FS
BEGIN JS
60" RCP-IV
60" RCP-III
4OTCB
JB W/MH
HW
TOE PROTECTION W/ CLASS "B" RIPRAP EST 232 TONS EST 625 SY FF SEE DETAIL#6
CLASS 'B' RIP RAP EST 2 TONS EST 7 SY FF
18" CSP
LATERAL 3' BASE DITCH W/CLASS "B" RIPRAP SEE DETAIL#24 EST. 106 TONS EST. 258 SY FABRIC
CHORD
DETAIL #3
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
B= 2 Ft.
b= 5 Ft.
FROM STA 566+75 TO 569+25 -L- LT
DETAIL #6
TOE PROTECTION
(Not to Scale)
d= 2 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA 561+45 TO 565+50 -L- RT
DETAIL #24
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
B= 3 Ft.
b= 10 Ft.
d= 5 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA 567+00 TO 568+70 -L- RT
DETAIL #13
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
Max. d= 2 Ft.
B= 3 Ft.
b= 5 Ft.
*When B is < 6.0'
Type of Liner= Class 'B' Rip-Rap
FROM STA 569+30 TO 572+50 -L- LT
DETAIL #11
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
B= 3 Ft.
b= 5 Ft.
FROM STA 572+50 TO 576+60 -L- LT
8/17/99
9/19/2013
u2579b_hyd_prm_wet_psh11

PERMIT DRAWING
SHEET 17 OF 64

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

CHARLIE MARTIN

SECRETARY OF VETERANS AFFAIRS

DAVID KEITH MCDUFFIE
EMILY EBERT MCDUFFIE

STANLEY STIGALL

WILLIE LEAK
KEYA LEAK

WINSTON-SALEM/FORSYTH COUNTY BOARD OF EDUCATION

AREA U/C

TOWN OF KERNERSVILLE
FORSYTH COUNTY

CHARLES AARON MATHIS, JR.
ELLEN COLETTE MATHIS

R.R. ROBBINS
MABEL S. ROBBINS

RICHARD R. ROBBINS
BONNIE M. ROBBINS

RICHARD KEVIN WOOD
MELINDA ANDERSON WOOD

SHUGART ENTERPRISES LLC

SHUGART ENTERPRISES LLC

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MELODY ROBBINS ANDERSON

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&
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KEITH OELER &
MICHELL OELKER

CLAY M. HOWARD
NICOLE A. HOWARD

BOBBY D. HOLLOWAY
LISA HOLLOWAY

SHUGART ENTERPRISES, LLC

DAVID SCOTT THOMAS &
TAMMY THOMAS

CECIL K. ANDERSON &
MELODY R. ANDERSON

ROBBINS PERCH WEST CT

AFTON PARK DR

565

550

CHORD

SITE 10

SITE 10A

MATCHLINE – L – STA. 561+61 SHEET 10

MATCHLINE – L – STA. 574+36 SHEET 12

DETAIL #3
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2% F/Ft., b, Fill Slope, B

Min. D= 2 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA 566+75 TO 569+25 -L- LT

LATERAL 2' BASE DITCH
SEE DETAIL#3

REMOVE

LATERAL 3' BASE DITCH W/CLASS 'B' RIP RAP
EST. 231 TONS
W/600 SY FF
SEE DETAIL#13

LATERAL 3' BASE DITCH
SEE DETAIL#11

CLASS 'B'
RIP RAP
EST 5 TONS
EST 14 SY FF

24" CSP W/2 ELBOWS
AND ROD AND LUG
CONNECTORS

42" RCP-CD

18" RCP-IV

15" RCP-IV

2GI W/FLAT GRATE

2GI LW/FLAT GRATE

60" RCP-IV

60" RCP-III

4OTCB

JB w/MH

TOE PROTECTION W/
CLASS "B" RIPRAP
EST 232 TONS
EST 625 SY FF
SEE DETAIL#6

CLASS 'B'
RIP RAP
EST 2 TONS
EST 7 SY FF

LATERAL 3' BASE DITCH W/CLASS "B" RIPRAP
SEE DETAIL#24
EST. 106 TONS
EST. 258 SY FABRIC

DETAIL #6
TOE PROTECTION
(Not to Scale)

Natural Ground, d, 2:1 OR FLATTER, Fill Slope, Fliter Fabric

d= 2 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA 561+45 TO 565+50 -L- RT

DETAIL #24
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2% F/Ft., b, Fill Slope, Fliter Fabric, B, d

Min. D= 2 Ft.
B= 3 Ft.
b= 10 Ft.
d= 5 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA 567+00 TO 568+70 -L- RT

DETAIL #13
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, d, 2:1, D, 2% F/Ft., b, Fill Slope, Fliter Fabric, B

Min. D= 2 Ft.
Max. d= 2 Ft.
B= 3 Ft.
b= 5 Ft.

•When B is < 6.0'

Type of Liner= Class 'B' Rip-Rap

FROM STA 569+30 TO 572+50 -L- LT

DETAIL #11
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2% F/Ft., b, Fill Slope, B

Min. D= 2 Ft.
B= 3 Ft.
b= 5 Ft.

FROM STA 572+50 TO 576+60 -L- LT

9/19/2013
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barwell

8/17/99

REVISIONS

RIGHT OF WAY REVISION.11/5/12 - PARCEL 98 ADJUSTED ON PLANS TO MAKE IT VISIBLE
RIGHT OF WAY REVISION.11/5/12 - PARCEL 98A ADDED

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harveri

S / S DENOTES IMPACTS IN SURFACE WATER

F / F DENOTES FILL IN WETLAND

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 18 OF 64

SITE 11 | SITE 11A | SITE 12 | SITE 13 | SITE 14

MATCHLINE -L- STA.609+92 SHEET 14

MATCHLINE -L- STA.633+00 SHEET 16

MATCHLINE -YARPID- STA.32+25 SHEET 16

TRAFFIC DIAGRAM

2010 ADT / 2030 ADT

47,720 / 61,160

DHV = 10%
DIR = 60%
TTST = 12%
DUAL = 6%

32,600 / 43,800 | 5,360 / 7,280

53,560 / 79,880 | 24,660 / 36,980

-L- BELTLINE

6,600 / 11,800 | 4,940 / 5,420

DHV = 10%
DIR = 60%
TTST = 6%
DUAL = 5%

21,300 / 27,300

-Y4- (US 421/I-40 BUS.)

DETAIL #5 LATERAL BASE DITCH (Not to Scale)
Min. D= 1 Ft, B= 2 Ft, D= 5 Ft.
FROM STA 630+50 TO 633+35 -L- RT

DETAIL #14 LATERAL "V" DITCH (Not to Scale)
Min. D= 2 Ft, Min. W= 7 Ft, D= 5 Ft.
Type of Liner: Class 'B' Rip-Rap
FROM STA 619+50 TO 631+25 -L- LT

DETAIL #17 STANDARD BASE DITCH (Not to Scale)
Min. D= 2.0 Ft, Min. B= 2.0 Ft, B= 3.0 Ft.
Type of Liner: Class 'I' Rip-Rap
FROM STA 627+83 TO 628+82 -L- RT

DETAIL #8 STANDARD BASE DITCH (Not to Scale)
Min. D= 2 Ft, B= 2 Ft.
FROM STA 23+63 TO 23+49 -YADCD- LT
FROM STA 18+00 TO 18+88 -YARPID- RT

DETAIL #6 TOE PROTECTION (Not to Scale)
D= 2 Ft.
Type of Liner: Class 'B' Rip-Rap
FROM BOX CULVERT TO STA 618+23 -L- LT
FROM STA 619+00 TO 619+33 -L- LT
FROM STA 623+00 TO 626+00 -L- RT
FROM STA 16+30 TO BOX CULVERT -YARPID- RT
FROM STA 30+20 TO 33+50 -YARPID- RT
FROM STA 24+00 TO 25+40 -YARPID- RT

DETAIL #14 CHANNEL CHANGE (Not to Scale)
B= 15.0 Ft.
Type of Liner: Class 'I' Rip-Rap
FROM STA 19+98 TO 21+22 -Y4PID- RT

8/17/99

REVISIONS

RIGHT OF WAY REVISION,11/5/12 - PARCEL 98 ADJUSTED ON PLANS TO MAKE IT VISIBLE
RIGHT OF WAY REVISION,11/5/12 - PARCEL 98A ADDED

9/20/2013
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jwyd

DENOTES IMPACTS IN SURFACE WATER

DENOTES FILL IN WETLAND

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 19 OF 64

MATCHLINE -L- STA 609+92 SHEET 14

MATCHLINE -L- STA 633+00 SHEET 16

MATCHLINE -YARPRD- STA 13+21 SHEET 16

SITE 11

SITE 12

SITE 11A

SITE 13

SITE 14

TRAFFIC DIAGRAM

2010 ADT / 2030 ADT

47,720 / 61,160

DHV = 10%
DIR = 60%
TTST = 12%
DUAL = 6%

32,600 / 43,800 — 5,360 / 7,280

53,560 / 79,880 — 24,660 / 36,980

-L- BELTLINE 6,600 / 11,800 — 4,940 / 5,420

DHV = 10%
DIR = 60%
TTST = 6%
DUAL = 5%

21,300 / 27,300

-Y4- (US 421/I-40 BUS.)

DETAIL #5 LATERAL BASE DITCH (Not to Scale)
FROM STA 630+50 TO 633+55 -L- RT

DETAIL #16 LATERAL "V" DITCH (Not to Scale)
FROM STA 619+50 TO 621+25 -L- LT

DETAIL #17 STANDARD BASE DITCH (Not to Scale)
FROM STA 627+85 TO 628+85 -L- RT

DETAIL #8 STANDARD BASE DITCH (Not to Scale)
FROM STA 23+43 TO 23+49 -YADD- ST
FROM STA 18+00 TO 18+88 -YARPRD- RT

DETAIL #6 TOE PROTECTION (Not to Scale)
FROM BOX CULVERT TO STA 616+25 -L- LT
FROM STA 16+00 TO 16+50 -YADD- RT
FROM STA 633+00 TO 634+00 -L- RT
FROM STA 16+50 TO BOX CULVERT -YARPRD- RT
FROM STA 20+20 TO 20+50 -YARPRD- RT
FROM STA 24+00 TO 25+00 -YARPRD- LT

DETAIL #34 CHANNEL CHINK (Not to Scale)
FROM STA 19+98 TO 21+22 -YARPRD- RT

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	15-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 20 OF 64

REVISIONS

8/17/99

PENNSTON CORP.

BRENT E. YOKLEY
KAREN R. YOKLEY

RONALD J. MORRISON
GINA MORRISON

NCDOT
(JOHN A. GAITHER)
(DEBORAH B. GAITHER)

KENWORTH FITZGERALD HOLNESS
MARY LYNNAE DARBY HOLNESS

NCDOT
(JAMES O. RICH)
(DIANE RICH)

NCDOT
(CLIFFORD T. PRANKE)
(DONNA PRANKE)

HELEN ELLIOTT

JAMES R. KARR
REBECCA KARR

POPE L.E. BUILDING CO. INC.

JOHN

CHORD

SITE 11

SITE 12

SITE 13

SITE 11A

HEAD DITCH
SEE DETAIL#8
EST. DDE 18 CY

TOE PROTECTION W/
CLASS "B" RIPRAP
EST 20 TONS
EST 54 SY FF
SEE DETAIL#6

LATERAL V-DITCH
W/CLASS B RIPRAP
EST. 100 TONS
W/328 SY FF
SEE DETAIL#14

TOE PROTECTION W/
CLASS "B" RIPRAP
EST 57 TONS
EST 154 SY FF
SEE DETAIL#6

36" CSP W/2 ELBOWS
AND ROD AND LUG
CONNECTORS

FLOODPLAIN
BENCH

SILL

REMOVE

2GI-A W/FLAT
GRATE

3@10'x9' RCBC

24" RCP-IV

18" RCP-IV

30" RCP-IV

48" RCP-CD

18" RCP-III

15" RCP-III

15" RCP-IV

2GI W/FLAT
GRATE

3GI-A

2GI

FS

15" CSP W/2 ELBOWS
AND ROD AND LUG
CONNECTORS

PSH
SEE SHEET 2-TT

CLASS 'I'
RIP RAP

TOE PROTECTION W/
CLASS "B" RIPRAP
EST 101 TONS
EST 272 SY FF
SEE DETAIL#6

3@10'X9' RCBC

TAIL DITCH
SEE DETAIL #8
EST. DDE 40 CY

30' BASE CHANNEL
DDE= 200 CY

CHANNEL CHANGE
SEE DETAIL #34
CLASS 'I' RIP RAP
EST +/-375 TONS

-L- 85.00 -Y4RPBD-
236'

+40 -Y4RPBD-
222'

PDE

TDE

FILL IN EXISTING
CHANNEL

GRADE TO DRAIN

GRADE TO DRAIN WITH
COMBINATION OF
CUT AND FILL

SHOULDER BERM GUTTER
STA. 626+30 -L- RT. TO BEGIN BRIDGE

SHOULDER BERM GUTTER
STA 24+00 -Y4RPBD- LT
TO BEGIN BRIDGE

TOE PROTECTION W/
CLASS "B" RIPRAP
EST 67 TONS
EST 154 SY FF
SEE DETAIL #6

TOE PROTECTION W/
CLASS "B" RIPRAP
EST 80 TONS
EST 216 SY FF
SEE DETAIL #6

PSH
SEE SHEET 2-TT

2GI W/FLAT
GRATE

15" RCP-IV

18" RCP-IV

24" CMP

DENOTES FILL IN WETLAND

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

20' DRAINAGE EASEMENT PB 33 PG 85

20' SANITARY SEWER EASEMENT

SCRUB

50 25 0 50 100

PLANS

9/29/2013
U2579B_sht_prm_wet_psh15_SITE11

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	15-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 21 OF 64

S S DENOTES IMPACTS IN SURFACE WATER

50 25 0 50 100
PLANS

R/W

C/A

MATCHLINE -YARPA- STA.20+50

MATCHLINE -L- STA.633+00 SHEET 16

BERDINA SMITH

JOHN R. CROTTS
GLADYS L. CROTTS

SANDRA F.

SITE 14

2GI W/FLAT GRATE

15" CSP

CLASS 'B' RIP RAP
EST 1 TONS
EST 5 SY FF

MCF

MCF

TYPE M350

TYPE M350

FS 2GI

15" RCP-III

FS 18" RCP-III

2GI

15" RCP-III

REMOVE

FS 2GI

18" RCP

B-77

GRAU-350

SCRUB

HTR

GR

JS MIT

LW SC

REVISIONS

8/17/99

9/9/2013
U:\25740\gd_prm_wet_psh15_SITE14
jay.vei

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

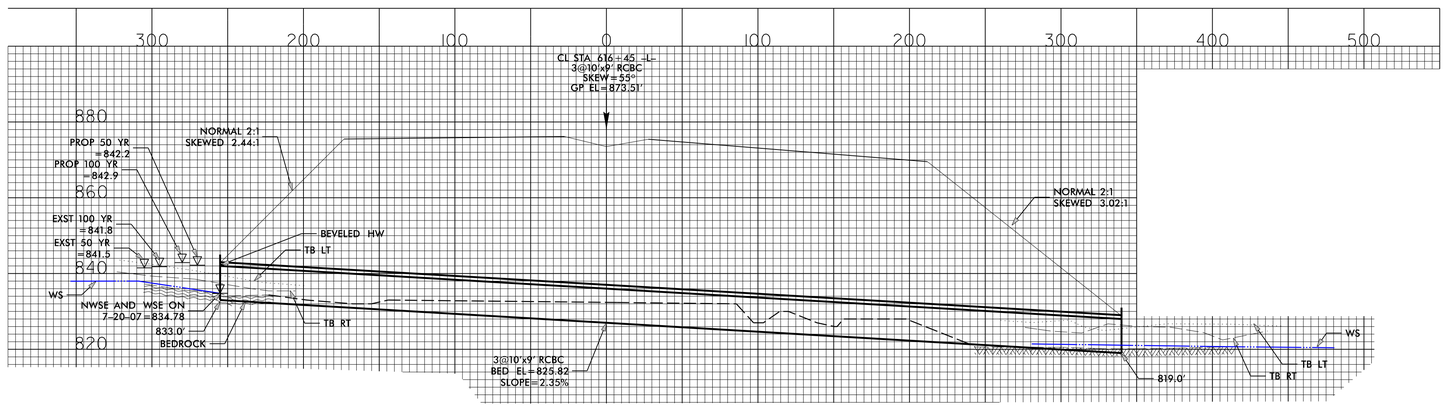
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 22 OF 64

REVISIONS

8/17/99



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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

F F DENOTES IMPACTS IN WETLANDS

P P DENOTES IMPACTS IN SURFACE WATER (POND)

MATCHLINE -Y4RPA- STA.26+95 SHEET 27

MATCHLINE -Y4- STA.82+26 SHEET 27

MATCHLINE -Y4RPBD- STA.63+00.00 SHEET 27

MATCHLINE -Y5- STA.18+00.00 SHEET 27

MATCHLINE -Y4RPA- STA.32+21 SHEET 15

MATCHLINE -L- STA.653+00 SHEET 15

MATCHLINE -L- STA.656+51 SHEET 17

MATCHLINE -Y4RPB- STA.17+00 SHEET 28

MATCHLINE -Y4- STA.102+90 SHEET 28

MATCHLINE -Y5- STA.19+50 SHEET 28

SITE 14

SITE 15

SITE 15A

SITE 16

TRAFFIC DIAGRAM		
2010 ADT	47,720	
2030 ADT	61,60	
DHV = 10%		
DIR = 60%	32,600	5,360
TTST = 12%	43,800	7,280
DUAL = 6%		
	53,560	24,660
	79,880	36,980
-L- BELTLINE	6,600	4,940
	11,800	5,420
DHV = 10%		
DIR = 60%		
TTST = 6%	21,300	
DUAL = 5%	27,300	

-Y4- (US 421/I-40 BUS.)

PERMIT DRAWING
SHEET 23 OF 64

REVISIONS

RIGHT OF WAY REVISION.11/5/12 - PLANS ADJUSTED SO THAT PARCEL 98 IS VISBLE ON PLANS

8/17/99

9/19/2013
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bartyd

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

RIGHT OF WAY REVISION.11/5/12 - PLANS ADJUSTED SO THAT PARCEL 98 IS VISBLE ON PLANS

8/17/99

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bartyd

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MATCHLINE -Y4RPA- STA.26+95 SHEET 27

MATCHLINE -Y4- STA.82+26 SHEET 27

MATCHLINE -Y4RPBD- STA.63+00.00 SHEET 27

MATCHLINE -Y5- STA.18+00.00 SHEET 27

C / C DENOTES IMPACTS IN SURFACE WATERS (POND)

F / F DENOTES FILL IN WETLANDS

MATCHLINE -L- STA.633+00 SHEET 15

MATCHLINE -L- STA.656+51 SHEET 17

MATCHLINE -Y4RPB- STA.32+21 SHEET 16

MATCHLINE -Y4RPB- STA.9+00 SHEET 28

MATCHLINE -Y4- STA.102+90 SHEET 28

MATCHLINE -Y5- STA.18+50 SHEET 28

SITE 14

SITE 15

SITE 15A

SITE 16

TRAFFIC DIAGRAM		
2010 ADT	47,720	
2030 ADT	61,60	
DHV = 10%		
DIR = 60%	32,600	5,360
TTST = 12%	43,800	7,280
DUAL = 6%		
	53,560	24,660
	79,880	36,980
-L- BELTLINE	6,600	4,940
	11,800	5,420
DHV = 10%		
DIR = 60%		
TTST = 6%	21,300	
DUAL = 5%	27,300	

-Y4- (US 421/I-40 BUS.)

PERMIT DRAWING
SHEET 24 OF 64

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	16-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 25 OF 64

REVISIONS

8/17/99

MATCHLINE – L – STA. 633+00 SHEET 15

MATCHLINE – YARPA – STA. 20+ –

SITE 14

SITE 15

SITE 15A

SITE 16

DOROTHY T. BAKER

DOROTHY A. BAKER

REX LANIER PEDDYCORD
FAYE GARDNER PEDDYCORD

LOUIS D. REECE

EVA TAYLOR

TED E. SWAIM JR.

SHREVE

SYKES

NCDOT
(FORMERLY - GRIFFIN FAMILY PRESERVATION TR

TOE PROTECTION W/ CLASS "I" RIPRAP
EST 32 TONS
EST 66 SY FF
SEE DETAIL#27

CLASS 'I' RIP RAP
EST 4 TONS
EST 16 SY FF

CLASS 'I' RIP RAP
EST 2 TONS
EST 8 SY FF

CLASS 'I' RIP RAP
EST 30 TONS
EST 60 SY FF

CLASS 'B' RIP RAP
EST 3 TONS
EST 10 SY FF

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

CLASS 'B' RIP RAP
EST 1 TONS
EST 5 SY FF

CLASS 'B' RIP RAP
EST 5 TONS

LATERAL 3' BASE DITCH
SEE DETAIL#5

LATERAL 3' BASE DI
W/CLASS 'B' RIP RA
EST. 148 TONS
W/385 SY FF
SEE DETAIL#13

SHOULDER BERM GUTTER
STA. 640+50 -L- RT TO BEGIN BRIDGE

TRENCHLESS INSTALLATION 48" WELDED STEEL

TOE PROTECTION
STA 47+15 -Y4RPBD
TO STA 50+00 -Y4
SEE DETAIL #6

60" RCP-CD
54" RCP-V
42" RCP-CD
36" RCP-CD
30" CMP
24" RCP
18" RCP-III
15" RCP-III
15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS
18" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS
18" RCP CD
15" CSP W/2 ELBOWS

4OTCB
2OTCB
CB
HW
2GI W/FLAT GRATE
JB w/MH
REMOVE
REMOVE FES
RETAIN
FILL W/FLOWABLE MATERIAL
PIPE TO BE REMOVED AND RUSTED
ABAND FOUNDATION

DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER (POND)

50 25 0 50 100
PLANS

9/19/2013
u2579b_hyd_prm_wet_psh16_SITE15
bartram

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 26 OF 64

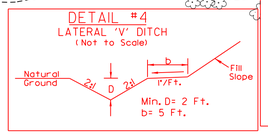
REVISIONS 8/17/99

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

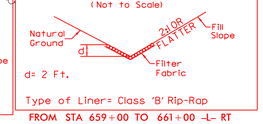
DETAIL #4
LATERAL 'V' DITCH
(Not to Scale)



Min. D= 2 Ft.
b= 5 Ft.

FROM STA 18+25 TO 19+25 -Y4RPD- LT

DETAIL #6
TOE PROTECTION
(Not to Scale)

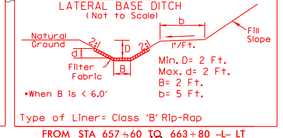


d= 2 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA 659+00 TO 661+00 -L- RT

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)



Min. D= 2 Ft.
Max. d= 2 Ft.
B= 2 Ft.
b= 5 Ft.

*When B Is < 6.0'

Type of Liner= Class 'B' Rip-Rap

FROM STA 657+60 TO 663+80 -L- LT

MATCHLINE -L- STA.656+51 SHEET 16

MATCHLINE -L- STA.668+17 SHEET 18

GROUP GGK, LLC

FORSYTH COUNTY
CITY OF WINSTON-SALEM

BOBBY F. GORDON
BETSY GORDON

20' SANITARY SEWER EASEMENT

LATERAL 3' BASE DITCH W/CLASS 'I' RIP RAP EST. 209 TONS W/544 SY FF SEE DETAIL #21

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP EST. 417 TONS W/957 SY FF SEE DETAIL #2

CLASS 'B' RIP RAP EST 3 TONS EST 10 SY FF

CLASS 'B' RIP RAP EST 8 TONS EST 21 SY FF

LATERAL V-DITCH SEE DETAIL#4

CHORD

660

665

EIP

GLENN D. HART

TIDE

FLOODPLAIN BENCH

SITE 19

SITE 18

SITE 17

REX L. PEDDYCORD
FAYE G. PEDDYCORD

N 21°53' 49.7" E

S 12° 57' 10.0" W

3@12'x10' RCBC

SILL

HW

15" RCP-IV

30" RCP-IV

24" RCP-III

30" RCP-III

18" RCP-III

15" RCP-III

2GI

2GI-A

FS

ATTENUATOR TYPE -350

SPRING BOX

8" DIP

GRAU-350

KENNETH ANDREW HOLDER

JB wMH

CHARLES SPENCER LADD JR.
REBECCA WHITLEY LADD

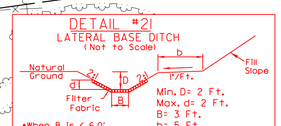
TOE PROTECTION W/ CLASS "B" RIPRAP EST 114 TONS EST 309 SY FF SEE DETAIL#6

BEGIN SHOULDER BERM GUTTER STA 666+25 -L- RT

CLASS 'I' RIP RAP

FLOODPLAIN BENCH

DETAIL #21
LATERAL BASE DITCH
(Not to Scale)



Min. D= 2 Ft.
Max. d= 2 Ft.
B= 3 Ft.
b= 5 Ft.

*When B Is < 6.0'

Type of Liner= Class 'I' Rip-Rap

FROM STA 663+80 TO 666+70 -L- LT

30' ACCESS EASEMENT DB 1538 PG 142

SCRUB

9/19/2013
S:\Projects\U-2579B\Hyd\prm_wet_psh17.dgn
jbarnes

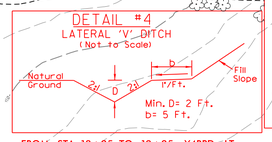
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 27 OF 64

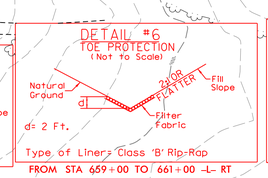
REVISIONS 8/17/99

DETAIL #4
LATERAL 'V' DITCH
(Not to Scale)



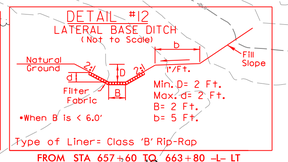
FROM STA 18+25 TO 19+25 -Y4RPD- LT

DETAIL #6
TOE PROTECTION
(Not to Scale)



Type of Liner= Class 'B' Rip-Rap
FROM STA 659+00 TO 661+00 -L- RT

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)



Type of Liner= Class 'B' Rip-Rap
FROM STA 657+60 TO 663+80 -L- LT

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

MATCHLINE -L- STA.656+51 SHEET 16

MATCHLINE -L- STA.668+17 SHEET 18

GROUP GGK, LLC

FORSYTH COUNTY
CITY OF WINSTON-SALEM

BOBBY R. GORDON
BETSY GORDON

20' SANITARY SEWER EASEMENT

LATERAL 3' BASE DITCH
W/CLASS 'I' RIP RAP
EST. 209 TONS
W/544 SY FF
SEE DETAIL #21

LATERAL 2' BASE DITCH
W/CLASS 'B' RIP RAP
EST. 417 TONS
W/957 SY FF
SEE DETAIL #12

CLASS 'B' RIP RAP
EST 3 TONS
EST 10 SY FF

CLASS 'B' RIP RAP
EST 8 TONS
EST 21 SY FF

LATERAL V-DITCH
SEE DETAIL #4

CHORD

660

665

GLENN D. HART

TIDE

FLOODPLAIN BENCH

SILL

REX L. PEDDYCORD
FAYE G. PEDDYCORD

N 21°53' 49.7" E

S 12° 57' 10.0" W

3@12'x10' RCBC

SITE 19

SITE 18

SITE 17

SPRING BOX

KENNETH ANDREW HOLDER

CHARLES SPENCER LADD JR.
REBECCA WHITLEY LADD

JB wMH

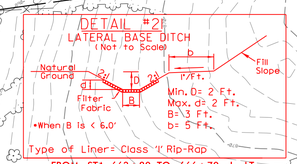
BEGIN SHOULDER BERM GUTTER
STA 666+25 -L- RT

TOE PROTECTION W/
CLASS "B" RIPRAP
EST 134 TONS
EST 309 SY FF
SEE DETAIL#6

30' ACCESS EASEMENT DB 1538, PG-142

SCRUB

DETAIL #21
LATERAL BASE DITCH
(Not to Scale)



Type of Liner= Class 'I' Rip-Rap
FROM STA 663+80 TO 666+70 -L- LT

9/19/2013
9:57:40 AM
J:\2579B\Hyd\prm_wet_psh17.con
bgarver

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

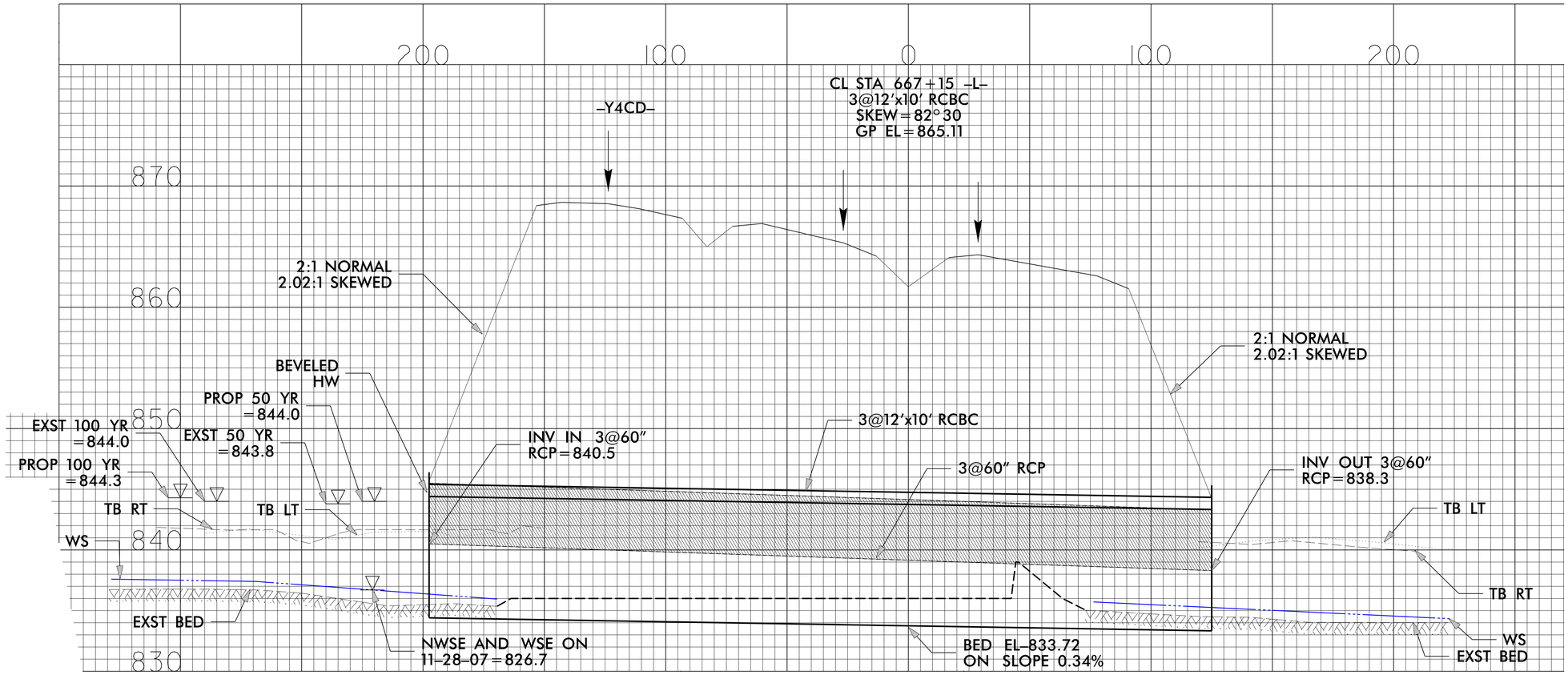
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 28 OF 64

REVISIONS

8/17/99



9/8/2013
U2579B_hyd_prm_wet_psh17A_Sta667
barrel

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 29 OF 64

8/17/99

REVISIONS

KEYSTONE GROUP INC.

GANESHWAR SHIWCHARRAN

ANDREW S. MANGIACAPRE AND HOLDEN M. SIZEMORE

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

GLENN D. HART

NCDOT
(WILLIAM LEWIS WEAVIL)
(REBECCA HINE WEAVIL)

SITE 19

BERM DITCH
STA 671+50 TO 674+00 -L- LT

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE

30"

2OTCB

BERM DITCH
STA 671+50 - 672+50 -L- LT

CHORD

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

30" CSP W/ELBOW

GRAU 350 TL-3

15" CSP W/2 ELBOWS TYPE B277 AND RODT AND LUG CONNECTORS

2GI W/FLAT GRATE

30" RCP-III

15" RCP-III

36" RCP-III

42" RCP-III

24" RCP-III

18" RCP-III

2GI-A

2GITA

15" RCP-IV

CAT-1

48" RCP-III

CLASS 'I' RIP RAP
EST 26 TONS
EST 50 SY FF

END SHOULDER BERM GUTTER
STA 669+00 -L- RT

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

TAIL DITCH
SEE DETAIL #7
EST. DDE 12CY

TAIL DITCH
SEE DETAIL#25
EST. DDE 170CY
CLASS 'I' RIP RAP
EST. 125 TONS
W/313 SY FF

+25.00 -L-
230.00'

DETAIL #25
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2H, D, 2H, Natural Ground; d, B; Filter Fabric

Min. D= 3 Ft.
Max. d= 3 Ft.
B= 4 Ft.
*When B Is < 6.0'

Type of Liner= Class 'I' Rip-Rap
FROM STA. 667+88 TO 669+14 -L- RT

DETAIL #7
STANDARD 'V' DITCH
(Not to Scale)

Natural Ground, 2H, D, 2H, Natural Ground

Min. D= 2 Ft.

FROM STA. 668+51 TO STA. 668+53 -L-

MATCHLINE -L- STA.668+17 SHEET 17

MATCHLINE -L- STA.681+04 SHEET 19

S 34°00'18.6" W

25' SANITARY SEWER EASEMENT

9/9/2013
u2579b01_yd_prm_wet_psh18
bar_var

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 30 OF 64

REVISIONS 8/17/99

KEYSTONE GROUP INC.

GANESHWAR SHIVCHARRAN

ANDREW S. MANGIACAPRE AND HOLDEN M. SIZEMORE

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

GLENN D. HART

NCDOT
(WILLIAM LEWIS WEAVIL)
(REBECCA HINE WEAVIL)

SITE 19

BERM DITCH
STA 671+50 TO 674+00 -L- LT

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE

30"

CHORD

2OTCB

BERM DITCH
STA 671+50 - 672+50 -L- LT

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

GLENN D. HART

30" CSP W/ELBOW

2GI

FS

GRAU 350 TL-3

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

TYPE B77.2

2GI W/FLAT GRATE

30" RCP-III

15" RCP-III

36" RCP-III

42" RCP-III

48" RCP-III

2GI-A

2GITA

15" RCP-IV

CAP

CLASS 'I' RIP RAP
EST 26 TONS
EST 50 SY FF

END SHOULDER BERM GUTTER
STA 669+00 -L- RT

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

TAIL DITCH
SEE DETAIL #7
EST. DDE 12CY

TAIL DITCH
SEE DETAIL#25
EST. DDE 170CY
CLASS 'I' RIP RAP
EST. 125 TONS
W/313 SY FF

25' SANITARY SEWER EASEMENT

+25.00 -L-
230.00'

DETAIL #25
STANDARD BASE DITCH
(Not to Scale)

Natural Ground
2H
dl
D
B
Filter Fabric
Min. D= 3 Ft.
Max. d= 3 Ft.
B= 4 Ft.
*When B is < 6.0'

Type of Liner: Class 'I' Rip-Rap
FROM STA. 667+88 TO 669+14 -L- RT

DETAIL #7
STANDARD 'V' DITCH
(Not to Scale)

Natural Ground
2H
D
Min. D= 2 Ft.

FROM STA. 668+51 TO STA. 668+53 -L-

MATCHLINE -L- STA.668+17 SHEET 17

MATCHLINE -L- STA.681+04 SHEET 19

S 34°00'18.6" W

24" RCP-III

18" RCP-III

NCDOT
(WILLIAM LEWIS WEAVIL)
(REBECCA HINE WEAVIL)

9/19/2013
u2579b01_grd_prm_wet_psh18.con
ldarvari

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 31 OF 64

REVISIONS

8/17/99

S S DENOTES IMPACTS IN SURFACE WATER

P P DENOTES IMPACTS IN SURFACE WATER (POND)

SITE 20

RANDY NELSON WEAVIL
MARCIA S. WEAVIL

ANDY NELSON WEAVIL
MARCIA S WEAVIL

PATTY WEAVIL MABE
GLENDA JUNE COCKERHAM

SHELBA J. TALLEY
JONAH R. MOTSINGER

WANDA L. BOOTH

CHARLES JERRY HART

CHARLES JERRY HART

BOBBY LEE MOORE

CHARLES JERRY HART

CHARLES JERRY HART

CHORD

FRANCIS L. MANUEL
BILLIE MANUEL

MATCHLINE -L- STA.681+04 SHEET 18

685 90 95 690 695

S 34° 00' 18.6" W

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE

42" CSP W/ELBOW

BDO

2GI-A

8:1 TAPER

CAT

42" RCP-IV

18" RCP-III

15" RCP-IV

2GI W/FLAT GRATE

GRAU-350

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

BEGIN SHOULDER BERM GUTTER
STA 687+90 -L- LT

BEGIN SHOULDER BERM GUTTER
STA 686+50 -L- RT

END SHOULDER BERM GUTTER
STA 690+50 -L- LT

END SHOULDER BERM GUTTER
STA 692+33 -L- RT

18" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B'
RIP RAP
EST 2 TONS
EST 8 SY FF

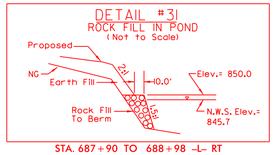
PSH
SEE SHEET 2-TT

ROCK FILL IN POND
SEE DETAIL #31

CLASS 'I'
RIP RAP
EST 51 TONS
EST 108 SY FF

REVISE FILL SLOPE 2.75:1
STA 688+00 -L- RT

DETAIL #31
ROCK FILL IN POND
(Not to Scale)



STA. 687+90 TO 688+98 -L- RT

9/18/2013
u2579b_hyd_prm_wet_psh19
bar.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 32 OF 64

REVISIONS

8/17/99

MATCHLINE -L- STA.681+04 SHEET 18

RANDY NELSON WEAVIL
MARCIA S. WEAVIL

ANDY NELSON WEAVIL
MARCIA S WEAVIL

PATTY WEAVIL MABE
GLENDA JUNE COCKERHAM

SHELBA J. TALLEY
JONAH R. MOTSINGER

WANDA L. BOOTH

CHARLES JERRY HART

BOBBY LEE MOORE

FRANCIS L. MANUEL
BILLIE MANUEL

CHORD

DENOTES IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER (POND)

SITE 20

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE

42" CSP W/ELBOW

BDO

2GI-A

8% TAPER CAT

42" RCP-IV

BEGIN SHOULDER BERM GUTTER
STA 687+90 -L- LT

2GI W/FLAT GRATE

15" RCP-IV

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

END SHOULDER BERM GUTTER
STA 690+50 -L- LT

18" RCP-III

18" RCP-IV

GRAU-350

S 34°00'18.6" W

BEGIN SHOULDER BERM GUTTER
STA 686+50 -L- RT

18" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP
EST 2 TONS
EST 8 SY FF

END SHOULDER BERM GUTTER
STA 692+33 -L- RT

PSH
SEE SHEET 2-TT

ROCK FILL IN POND
SEE DETAIL #31

CLASS 'I' RIP RAP
EST 51 TONS
EST 108 SY FF

REVISE FILL SLOPE 2.75:1
STA 688+00 -L- RT

DETAIL #31
ROCK FILL IN POND
(Not To Scale)

Proposed
NG
Earth Fill
Rock Fill To Berm
2:1
10.0'
Elev.= 850.0
N.W.S. Elev.= 845.7

STA 687+90 TO 688+98 -L- RT

9/18/2013
u2579b_hyd_prm_wet_psh19.con
mpr1ell

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 33 OF 64

F F DENOTES FILL IN WETLAND

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER

REVISIONS

8/17/99

SITE 3A

SITE 3B

SITE 21

SITE 3

DONALD ROBER JONES

CAROL JONES MITCHELL
BILLY RAY MITCHELL

PLAINSMAN DEVELOPMENT CORP

REBECCA W. FREEMAN

TOWN OF WALKERTOWN
FORSYTH COUNTY

BEGIN SHOULDER BERM GUTTER
STA 18+50 -Y1- LT

CLASS 'B' RIP RAP
EST 3 TONS
EST 11 SY FF

BEGIN W.W.FENCE

S 39° 49' 20.3" W

REMOVE

24" CSP W/ELBOW

BDO

2GI

24" RCP-III

NARROW SLOT GRATES

HEAD DITCH
SEE DETAIL#18
EST. DDE=24CY

ALVIN L. LINDSAY

JAMES R. MYERS, III
MARY MYERS

JAMES N. WHICKER
FRANCES B. WHICKER

REBECCA ANN FREEMAN

CLAUDE DICKERSON, JR.
NANCY FLINCHUM

JAMES R. MYERS III &
MARY B. MYERS

WAYNE E. PHILLIPS, JR.
MARY ANN PHILLIPS

CLASS 'B' RIPRAP
EST. 3 TONS

PSH
SEE SHEET 2-TT

15" CSP W/2 ELBOWS
AND ROD AND LUG
CONNECTORS

15" RCP-IV

NARROW SLOT
W/FLAT GRATE

FLOODPLAIN
BENCH

TOE PROTECTION
SEE DETAIL#6

2GI NARROW SLOT
W/FLAT GRATE

2@7'x6' RCBC

S 39° 49' 20.3" W

MATCHLINE -Y1- STA. 23+65 SHEET 5

BEGIN SHOULDER
BERM GUTTER
STA 22+75 -Y1- RT

CLASS 'B'
RIP RAP
EST 11 TONS
EST 28 SY FF

SPECIAL 2' CUT BASE DITCH
SEE DETAIL#19

S 79° 36' 04.1" E

S 69° 30' 22.1" E

N 49° 22' 56.9" E

S 49° 58' 52.1" E

MARSHALL S. BROWN

RAMOND F. HARDY
MEARL LEASE HARDY, TRUSTEES

LATERAL 2' BASE DITCH
W/CLASS 'B' RIP RAP
EST. 165 TONS
W/432 SY FF
SEE DETAIL#12

LATERAL 2' BASE DITCH
W/CLASS 'B' RIP RAP
EST. 151 TONS
W/397 SY FF
SEE DETAIL#3

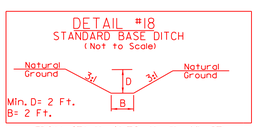
KEITH E. STRAUSS
REBECCA C. STRAUSS

LATERAL 2' BASE DITCH
W/CLASS 'B' RIP RAP
EST. 114 TONS
W/300 SY FF
SEE DETAIL#12

TERRY K. CUSTER
JACQUELINE CUSTER

END W.W.FENCE

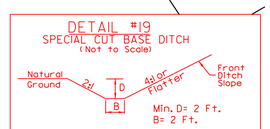
DETAIL #18
STANDARD BASE DITCH
(Not to Scale)



Min. D= 2 Ft.
B= 2 Ft.

FROM STA. 11+31 TO 11+51 -Y1- RT

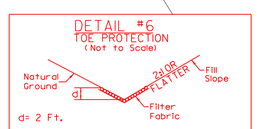
DETAIL #19
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D= 2 Ft.
B= 2 Ft.

FROM STA 17+00 TO 19+00 -Y1- RT

DETAIL #6
TOE PROTECTION
(Not to Scale)

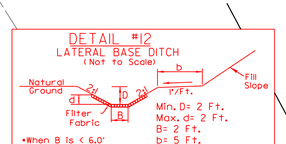


d= 2 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA 23+00 TO 26+00 -Y1- LT

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)



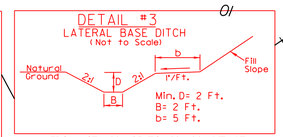
Min. D= 2 Ft.
Max. d= 2 Ft.
B= 2 Ft.
b= 5 Ft.

•When B is < 6.0'

Type of Liner= Class 'B' Rip-Rap

FROM STA 19+35 TO 21+80 -Y1- RT
FROM STA 22+90 TO 24+60 -Y1- RT

DETAIL #3
LATERAL BASE DITCH
(Not to Scale)



Min. D= 2 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA 10+65 TO 12+90 -Y7- LT

9/29/2013
U2579B_sht_prm_wet_psh20
User: ryd

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 34 OF 64

F F DENOTES FILL IN WETLAND

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER

REVISIONS

8/17/99

9/29/2013
U:\projects\U-2579B\hyd_prm_wet_psh20.con
User: ejd

DONALD ROBER JONES

CAROL JONES MITCHELL
BILLY RAY MITCHELL

PLAINSMAN DEVELOPMENT CORP

REBECCA W. FREEMAN

TOWN OF WALKERTOWN
FORSYTH COUNTY

BEGIN SHOULDER BERM GUTTER
STA 18+50 -Y1- LT

CLASS 'B' RIP RAP
EST 3 TONS
EST. 11 SY FF

BEGIN W.W. FENCE

SITE 3A

SITE 3B

SITE 21

SITE 3

PSH
SEE SHEET 2-TT

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

15" RCP-IV 2GI

NARROW SLOT W/FLAT GRATE

FLOODPLAIN BENCH

TOE PROTECTION SEE DETAIL#6

2GI NARROW SLOT W/FLAT GRATE

2@7'x6' RCBC

REMOVE

S 39° 49' 20.3" W

S 79° 36' 04.1" E

S 39° 49' 20.3" W

S 69° 30' 22.1" E

N 49° 22' 56.9" E

S 49° 52' 52.1" E

CLASS 'B' RIPRAP
EST. 3 TONS

24" CSP W/ELBOW BDO

24" RCP-III

2GI

NARROW SLOT GRATES

HEAD DITCH
SEE DETAIL#18
EST. DDE=24CY

ALVIN L. LINDSAY

CLAUDE DICKERSON, JR.
NANCY FLINCHUM

JAMES R. MYERS, III
MARY MYERS

JAMES R. MYERS III &
MARY B. MYERS

JAMES N. WHICKER
FRANCES B. WHICKER

REBECCA ANN FREEMAN

WAYNE E. PHILLIPS, JR.
MARY ANN PHILLIPS

SPECIAL 2' CUT BASE DITCH
SEE DETAIL#19

LATERAL 2' BASE DITCH
W/CLASS 'B' RIP RAP
EST. 165 TONS
W/432 SY FF
SEE DETAIL#12

MARSHALL S. BROWN

RAMOND F. HARDY
MEARL LEASE HARDY, TRUSTEES

LATERAL 2' BASE DITCH
W/CLASS 'B' RIP RAP
EST. 151 TONS
W/397 SY FF
SEE DETAIL#3

KEITH E. STRAUSS
REBECCA C. STRAUSS

LATERAL 2' BASE DITCH
W/CLASS 'B' RIP RAP
EST. 114 TONS
W/300 SY FF
SEE DETAIL#12

CLASS 'B' RIP RAP
EST 11 TONS
EST 28 SY FF

END W.W. FENCE

TERRY K. CUSTER
JACQUELINE CUSTER

MATCHLINE -Y1- STA. 23+65 SHEET 5

GRAU 350

DETAIL #18
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 3:1, D, 3:1, Natural Ground, B

Min. D= 2 Ft.
B= 2 Ft.

FROM STA. 11+31 TO 11+51 -Y1- RT

DETAIL #19
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 4:1 or Flatter, Front Ditch Slope, B

Min. D= 2 Ft.
B= 2 Ft.

FROM STA 17+00 TO 19+00 -Y1- RT

DETAIL #6
TOE PROTECTION
(Not to Scale)

Natural Ground, d, 2:1 OR FLATTER, Fill Slope, Filter Fabric

d= 2 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA 23+00 TO 26+00 -Y1- LT

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, 2:1, b, 1':1Ft., Fill Slope, Filter Fabric, B

Min. D= 2 Ft.
Max. d= 2 Ft.
B= 2 Ft.
b= 5 Ft.

•When B is < 6.0'

Type of Liner= Class 'B' Rip-Rap

FROM STA 19+35 TO 21+80 -Y1- RT
FROM STA 22+90 TO 24+60 -Y1- RT

DETAIL #3
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, 1':1Ft., Fill Slope, B

Min. D= 2 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA 10+65 TO 12+90 -Y7- LT

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

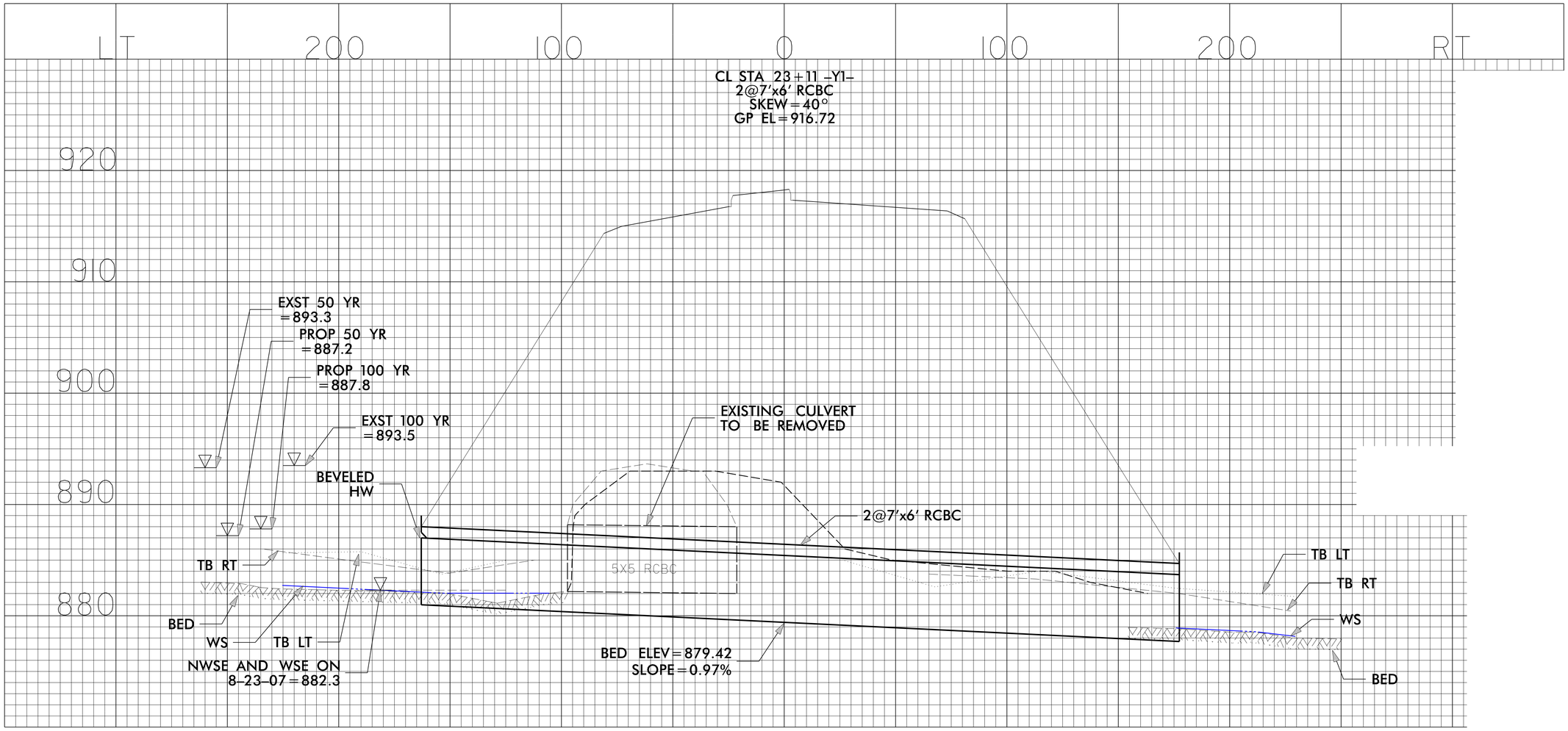
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 35 OF 64

REVISIONS

8/17/99



9/9/2013
U2579B_hyd_prm_wet_psh20A_Ylsta22
harvey

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 36 OF 64

REVISIONS 8/17/99

MATCHLINE -Y4 STA. 30+50 SHEET 24

MATCHLINE -Y4- STA. 43+65 SHEET 26

DENOTES FILL IN WETLAND

SITE 22

ARNOLD G. KING
HELEN H. PRINCE

LINDA MAYES HOPKINS

FORSYTH COUNTY
TOWN OF KERNERSVILLE

CLASS 'I' RIP RAP
EST 20 TONS
EST 39 SY FF

TAIL DITCH
SEE DETAIL#9
EST. DDE 17CY

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP
EST 1 TONS
EST 5 SY FF

PSH
SEE SHEET 2-TT

BEGIN SHOULDER BERM GUTTER
STA 41+00 -Y4- LT

2GI W/FLAT GRATE

TRENCHLESS INSTALLATION
36" WELDED STEEL

I-40 BUS EBL US 421 SBL 26' BST

I-40 BUS WBL US 421 NBL 26' BST

N 85° 33' 45.8" W

RETAIN AND EXTEND
RETAIN
REMOVE FES
COLLAR
REMOVE
Conv. OTCB To 2GI
DITCH BLOCK
MIN. HEIGHT 1.0'
FILL W/FLOWABLE MATERIAL

24" RCP-III
42" RCP-III
15" RCP-III
18" RCP-III
36" RCP-III
JB w/MH
FES
2GI
FS
GRAU-350
60° CHL
8" CMP

HEAD DITCH
SEE DETAIL#9
EST. DDE 40CY

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

TOE PROTECTION W/ CLASS 'I' RIPRAP
EST 380 TONS
EST 779 SY FF
SEE DETAIL#27

R/W MON
EXISTING R/W
EIP
60' CHL
CAT-I

THOMAS W. PRINCE
ARNOLD G. KING

CHARLES LEO RECORD
KRISTI R. RECORD

HA T. DAM

THEODORE R. MEAD
AMY J. MEAD

DAVID D. WEAVER

TIMOTHY A. KUBIAK
SUSAN E. KUBIAK

HOMAS W. PRINCE
ARNOLD G. KING

POND
W.E. 8597
FISH HATCHERY

20' STORM SEWER EASEMENT
18" RCP
30" C&G
48" CONC
15" CONC
25BKD

JS MT
LW 35'

PAVED SHOULDER

NOTE :
1.FOR - Y4EB - PROFILE SEE SHEET 50
2.FOR - Y4WB - PROFILE SEE SHEET 55

DETAIL #27
TOE PROTECTION
(Not to Scale)

2:1 OR FLATTER
Fill Slope
d
Filter Fabric
d= 1Ft.
Type of Liner= Class 'I' Rip-Rap
FROM STA. 40+30 TO RCBC -Y4- RT

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)

Natural Ground
2H
D
2H
Natural Ground
B
Min. D= 2 Ft.
B= 3 Ft.
FROM STA. 35+02 TO 35+27 -Y4- LT

9/19/2013
U2579B_yd_prm_wet_psh25
User:ven

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 37 OF 64

8/17/99

REVISIONS

MATCHLINE -Y4 STA. 30+50 SHEET 24

MATCHLINE -Y4- STA. 43+65 SHEET 26

F F DENOTES FILL IN WETLAND

SITE 22

ARNOLD G. KING
HELEN H. PRINCE

LINDA MAYES HOPKINS

FORSYTH COUNTY
TOWN OF KERNERSVILLE

CLASS 'I' RIP RAP
EST 20 TONS
EST 39 SY FF

TAIL DITCH
SEE DETAIL#9
EST. DDE 17CY

TDE

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP
EST 1 TONS
EST 5 SY FF

PSH
SEE SHEET 2-TT

BEGIN SHOULDER BERM GUTTER
STA 41+00 -Y4- LT

2GI W/FLAT GRATE

JB w/MH
24" RCP-III
42" RCP-III
15" RCP-III
COLLAR
REMOVE FES
RETAIN AND EXTEND
RETAIN
TRENCHLESS INSTALLATION
36" WELDED STEEL
Conv. OTCB To 2GI
I-40 BUS EBL US 421 SBL 26' BST
I-40 BUS WBL US 421 NBL 26' BST
N 85° 33' 45.8" W
2GI
FS
FES
DITCH BLOCK
MIN. HEIGHT 1.0'
36" RCP-III
HW
FILL W/FLOWABLE MATERIAL
REMOVE
18" RCP-III
8" CMP
GRAU-350
CAT-I

HEAD DITCH
SEE DETAIL#9
EST. DDE / 40CY

TOE PROTECTION W/
CLASS 'I' RIPRAP
EST 380 TONS
EST 779 SY FF
SEE DETAIL#27

THOMAS W. PRINCE
ARNOLD G. KING

CHARLES LEO RECORD
KRISTIR. RECORD

HA T. DAM

THEODORE R. MEAD
AMY J. MEAD

DAVID D. WEAVER

TIMOTHY A. KUBIAK
SUSAN E. KUBIAK

HOMAS W. PRINCE
ARNOLD G. KING

POND
W.E. 8597
FISH HATCHERY

PAVED SHOULDER

NOTE :
1.FOR - Y4EB - PROFILE SEE SHEET 50
2.FOR - Y4WB - PROFILE SEE SHEET 55

DETAIL #27
TOE PROTECTION
(Not to Scale)
2:1OR FLATTER
Fill Slope
d
Filter Fabric
d= 1Ft.
Type of Liner= Class 'I' Rip-Rap
FROM STA. 40+30 TO RCBC -Y4- RT

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
2H
D
2%
B
Min. D= 2 Ft.
B= 3 Ft.
FROM STA. 35+02 TO 35+27 -Y4- LT

9/19/2013
12:17:40 PM
U-2579B_std_prm_wet_psh25.con
jdavis

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 38 OF 64

REVISIONS 8/17/99

MATCHLINE -Y4- STA. 43+65 SHEET 25

MATCHLINE -Y4- STA. 56+61 SHEET 27

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

SITE 23A

SITE 23

SITE 23B

SITE 28

HAROLD DAVID HOPKINS, JR.

LINDA MAYES HOPKINS

HAROLD D. CRANFILL
PATTIE CRANFILL

JERRY M. PEGRAM
NANCY B. PEGRAM

AWRENCE E. POPE

RONALD LEE ANGEL SR.

LYNN ANGEL BERRY
JAMES LEON BERRY

POND
W.E. 855.6

POND
W.E. 855.7

POND
W.E. 847.2
FISH HATCHERY

SMITH CREEK

END SHOULDER BERM GUTTER
STA. 45+00 -Y4- LT

HEAD DITCH
SEE DETAIL #7
EST. DDE 5CY

CLASS 'I'
RIP RAP

TAIL DITCH
SEE DETAIL#17
EST. DDE 235CY
CLASS 'I' RIP RAP
EST. 206 TONS
535 SY FF

EARTH BERM
SEE DETAIL#16

TOE PROTECTION W/
CLASS "B" RIPRAP
EST 46 TONS
EST 123 SY FF
SEE DETAIL#6

LATERAL 2' BASE DITCH
SEE DETAIL#3

CLASS 'B'
RIP RAP
EST 2 TONS
EST 7 SY FF

CLASS 'B'
RIP RAP
EST 8 TONS
EST 21 SY FF

PSH
SEE SHEET 2-TT

2GI W/FLAT GRATE

REMOVE

FILL W/FLOWABLE MATERIAL

RETAIN AND EXTEND

REMOVE FES

Conv. OTCB To 2GI

30" STEEL PIPE
BORE AND JACK

TERMINUS INSTALLATION

COLLAR

TOE PROTECTION W/
CLASS "I" RIPRAP
EST 380 TONS
EST 779 SY FF
SEE DETAIL#27

REVISE FILL SLOPES TO 1.5:1
W/ROCK PLATING
STA 50+00 TO 50+50 -Y4- RT

REVISE FILL SLOPES TO 1.5:1
W/ROCK PLATING
STA 55+50 TO 66+00 -Y4- RT

END SHOULDER BERM GUTTER
STA. 55+50 -Y4- RT

PAVED SHOULDER

NOTE :
1. FOR -Y4EB- PROFILE SEE SHEET 50-51
2. FOR -Y4WB- PROFILE SEE SHEET 55-56

DETAIL #16
EARTH BERM
(Not to Scale)

STA. 47+93 -Y4- LT

DETAIL #17
STANDARD BASE DITCH
(Not to Scale)

Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 3.0 Ft.

•When B Is < 6.0'

Type of Liner= Class 'I' Rip-Rap

FROM STA. 44+68 TO 47+53 -Y4- LT

DETAIL #3
LATERAL BASE DITCH
(Not to Scale)

Min. D= 2 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA 53+85 TO 54+50 -Y4- LT

DETAIL #7
STANDARD 'V' DITCH
(Not to Scale)

Min. D= 2 Ft.

FROM STA. 45+14 TO STA. 45+18 -Y4- LT

DETAIL #27
TOE PROTECTION
(Not to Scale)

d= 1Ft.

Type of Liner= Class 'I' Rip-Rap

FROM STA. 40+30 TO RCBC -Y4- RT

DETAIL #6
TOE PROTECTION
(Not to Scale)

d= 2 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA. 53+05 TO 53+85 -Y4- LT

10/22/2013
125446.11.gd_prm_wet_psh26
bsmith

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 39 OF 64

8/17/99

REVISIONS

MATCHLINE -Y4- STA. 43+65 SHEET 25

MATCHLINE -Y4- STA. 56+61 SHEET 27

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

SITE 23A

SITE 23

SITE 23B

SITE 28

HAROLD DAVID HOPKINS, JR.

LINDA MAYES HOPKINS

HAROLD D. CRANFILL
PATTIE CRANFILL

JERRY M. PEGRAM
NANCY B. PEGRAM

AWRENCE E. POPE

RONALD LEE ANGEL SR.

LYNN ANGEL BERRY
JAMES LEON BERRY

SMITH CREEK

POND
W.E. 855.6

POND
W.E. 855.7

POND
W.E. 847.2
FISH HATCHERY

END SHOULDER BERM GUTTER
STA. 45+00 -Y4- LT

HEAD DITCH
SEE DETAIL #7
EST. DDE 5CY

CLASS 'I'
RIP RAP

TAIL DITCH
SEE DETAIL#17
EST. DDE 235CY
CLASS 'I' RIP RAP
EST. 206 TONS
535 SY FF

EARTH BERM
SEE DETAIL#16

TOE PROTECTION W/
CLASS "B" RIPRAP
EST 46 TONS
EST 123 SY FF
SEE DETAIL#6

LATERAL 2' BASE DITCH
SEE DETAIL#3

CLASS 'B'
RIP RAP
EST 2 TONS
EST 7 SY FF

CLASS 'B'
RIP RAP
EST 8 TONS
EST 21 SY FF

PSH
SEE SHEET 2-TT

2GI W/FLAT GRATE

REMOVE

FILL W/FLOWABLE
MATERIAL

RETAIN AND EXTEND

REMOVE FES

Conv. OTCB To 2GI

30" STEEL PIPE
BORE AND JACK

TEMPORARY INSTALLATION

COLLAR

RCP COLLAR

TOE PROTECTION W/
CLASS "I" RIPRAP
EST 380 TONS
EST 779 SY FF
SEE DETAIL#27

CLASS 'I'
RIP RAP

REVISE FILL SLOPES TO 1.5:1
W/ROCK PLATING
STA 50+00 TO 50+50 -Y4- RT

REVISE FILL SLOPES TO 1.5:1
W/ROCK PLATING
STA 55+50 TO 66+00 -Y4- RT

CLASS 'I'
RIP RAP
(TO WATERS EDGE)
EST 18 TONS
EST 37 SY

END SHOULDER BERM GUTTER
STA. 55+50 -Y4- RT

PAVED SHOULDER

N 85° 33' 45.8" W

I-40 BUS EBL US 421 SBL 26' BST

I-40 BUS WBL US 421 NBL 26' BST

DETAIL #16
EARTH BERM
(Not to Scale)

STA. 47+93 -Y4- LT

DETAIL #17
STANDARD BASE DITCH
(Not to Scale)

Type of Liner= Class 'I' Rip-Rap
FROM STA. 44+68 TO 47+53 -Y4- LT

DETAIL #3
LATERAL BASE DITCH
(Not to Scale)

FROM STA. 53+85 TO 54+50 -Y4- LT

DETAIL #7
STANDARD 'V' DITCH
(Not to Scale)

Min. D= 2 Ft.

FROM STA. 45+14 TO STA. 45+18 -Y4- LT

DETAIL #27
TOE PROTECTION
(Not to Scale)

d= 1Ft.

Type of Liner= Class 'I' Rip-Rap
FROM STA. 40+30 TO RCBC -Y4- RT

DETAIL #6
TOE PROTECTION
(Not to Scale)

d= 2 Ft.

Type of Liner= Class 'B' Rip-Rap
FROM STA. 53+05 TO 53+85 -Y4- LT

NOTE :
1. FOR -Y4EB- PROFILE SEE SHEET 50-51
2. FOR -Y4WB- PROFILE SEE SHEET 55-56

10/22/2013
125446 hyd_prm_wet_psh26.con
bsmith

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	26-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 40 OF 64

12.5 6.25 0 12.5 25
PLANS

8/17/99
REVISIONS

ON 30" WELDED STEEL

24" RCP

RETAIN AND EXTEND

RATE

15" RCP–IV

24" RCP COLLAR

2GI W/FLAT GRATE

JS MIT

SMITH CREEK

CLASS 'I'
RIP RAP
(TO WATERS EDGE)
EST. 18 TONS
EST. 37 SY

24" RCP–III

JS MIT

JS

JS MIT

JS MIT

PIER

JS MIT

END SHOULD BERM GUTTER
STA. 55+50 –Y4– RT

REVISE FILL SLOPES TO 1.5:1
W/ROCK PLATING
STA 55+50 TO 66+00 –Y4– RT

DAM

DAM

SITE 28

9/19/2013
3257601 hyd_prm_wet_psh26_SITE28
harvell

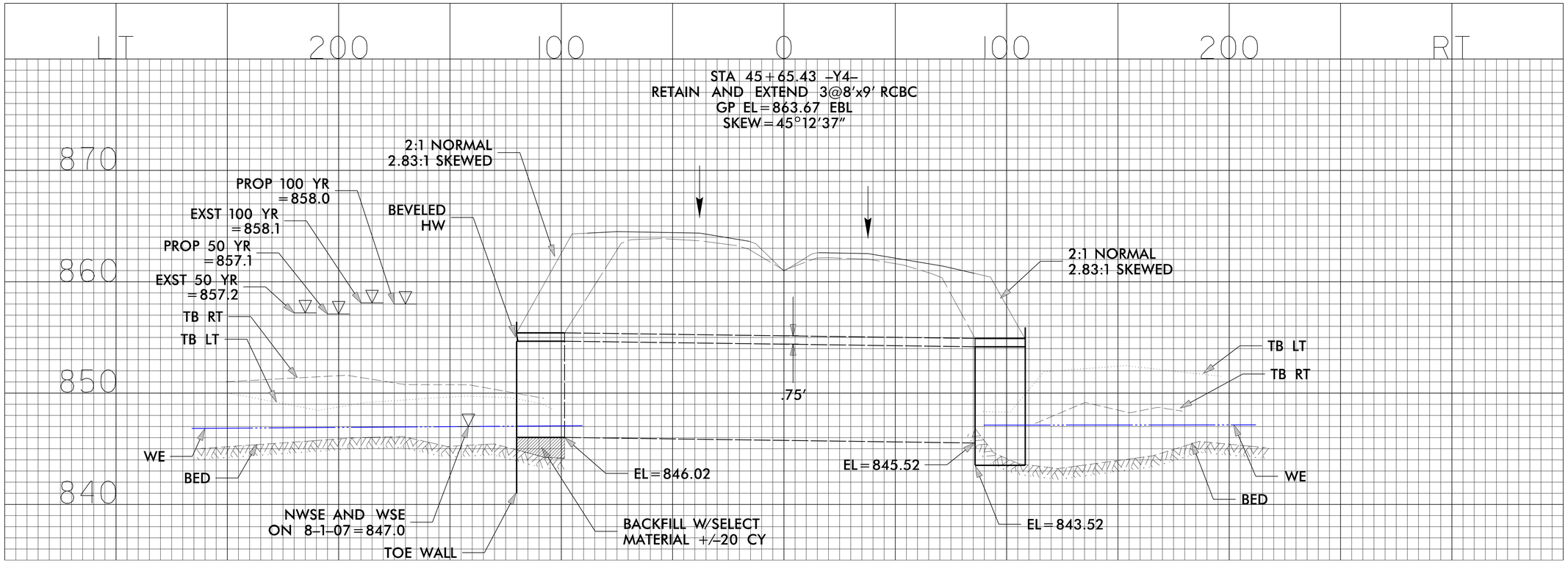
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 41 OF 64

REVISIONS 8/17/99



9/19/2013
U-2579B_hyd_prm_wet_psh26A_Y4sta46
lbarwell

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 42 OF 64

REVISIONS
8/17/99

DETAIL #17 STANDARD BASE DITCH (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA 73+23 TO 73+48 -Y4- LT

DETAIL #20 SPECIAL LATERAL 'V' DITCH (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA 70+50 TO 75+45 -Y4RPBD- RT

DETAIL #14 LATERAL 'V' DITCH (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA 73+25 TO 75+00 -Y4- LT

DETAIL #9 STANDARD BASE DITCH (Not to Scale)
FROM STA 37+36 TO 37+46 -Y4- LT

DETAIL #8 STANDARD BASE DITCH (Not to Scale)
FROM STA 65+22 TO STA 65+81 -Y4L- LT
FROM STA 75+36 TO 75+48 -Y4RPBD- RT

DETAIL #4 LATERAL 'V' DITCH (Not to Scale)
FROM STA 65+28 TO 65+80 -Y4- LT

DETAIL #6 TOE PROTECTION (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA 31+25 TO 32+00 -Y4RPA- LT

DETAIL #24 BERM DITCH (Not to Scale)
Type of Liner= CLASS 'B' RIPRAP
FROM STA 67+20 TO STA 70+50 -Y4RPBD- RT

DETAIL #26 STANDARD BASE DITCH (Not to Scale)
FROM STA 73+48 TO 75+75 -Y4L- LT

DETAIL #12 LATERAL BASE DITCH (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA 71+25 TO 73+25 -Y4- LT

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

MATCHLINE -Y4- STA 56+61 SHEET 26

MATCHLINE -Y4- STA 82+26 SHEET 16

MATCHLINE -Y4RPA- STA 26+95 SHEET 16

MATCHLINE -Y4- STA 63+00 SHEET 16

SITE 24
SITE 24A
SITE 25
SITE 30

HASTINGS HILL LTD PARTNERSHIP
RONALD LEE ANGEL SR.
JEFFREY WAYNE MASTEN
JOAN G. DICKEY
VINCENT GLENN BAKER
SMITH CREEK
FORSYTH COUNTY
TOWN OF KERNERSVILLE
NCDOT (BILL G. BROCK)

9/19/2013
u2579b_hyd_prm_wet_psh27
bhorney

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 43 OF 64

DETAIL #17 STANDARD BASE DITCH (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA. 73+23 TO 73+48 -Y4- LT

DETAIL #20 SPECIAL LATERAL 'V' DITCH (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA. 70+50 TO 73+45 -Y4RPBD- RT

DETAIL #14 LATERAL 'V' DITCH (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA. 73+23 TO 73+00 -Y4- LT

DETAIL #9 STANDARD BASE DITCH (Not to Scale)
FROM STA. 37+36 TO 37+46 -Y4- LT

DETAIL #8 STANDARD BASE DITCH (Not to Scale)
FROM STA. 65+32 TO STA. 65+81 -Y4- LT
FROM STA. 75+36 TO 75+48 -Y4RPBD- RT

DETAIL #3 LATERAL 'V' DITCH (Not to Scale)
FROM STA. 65+28 TO 65+80 -Y4- LT

DETAIL #6 TOE PROTECTION (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA. 31+23 TO 32+00 -Y4RPA- LT

DETAIL #34 BERM DITCH (Not to Scale)
Type of Liner= CLASS 'B' RIPRAP
FROM STA. 67+20 TO STA. 70+50 -Y4RPBD- RT

DETAIL #26 STANDARD BASE DITCH (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA. 73+48 TO 73+73 -Y4- LT

DETAIL #12 LATERAL BASE DITCH (Not to Scale)
Type of Liner= Class 'B' Rip-Rap
FROM STA. 71+23 TO 73+23 -Y4- LT

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

SITE 24A

SITE 24

SITE 30

SITE 25

MATCHLINE -Y4- STA.56+61 SHEET 26

MATCHLINE -Y4- STA.82+26 SHEET 16

MATCHLINE -Y4RPA- STA.26+95 SHEET 16

MATCHLINE -Y4- STA.63+00 SHEET 27

JAMES H. PATTERSON JR.
MILDRED PATTERSON

DOROTHY T. JORDAN

BENJAMIN JOHNSON
LINDA JOHNSON

JOHN A. CHESNEY
MARGARET C. CHESNEY

PHILLIP D. MACK
JEAN M. MACK

DOROTHY W. FLYNN

ROBERT J. CALDER
PATRICIA CALDER

MICHAEL A. SULLIVAN
JEROETH M. SULLIVAN

REX LANIER PEDDYCORD
FAYE PEDDYCORD

JEROME SCOTT BEESON

PHILLIP R. EGAN
HELEN EGAN

JEFFREY E. WHITE
RHONDA T. WHITE

WILLIAM MARIOTTI
ANA MARIOTTI

KEITH R. WOOD
NICOLE L. WOOD

DAVID J. BAKER
RHEANELLE A. BAKER

EDWARD MADDOX

WAYNE ALLEN FUNK
KENNETH H. FUNK

CARLOS J. OLIVEROS
JEAN OLIVEROS

CHERYL W. WEBB
CLAYTON WEBB

SYLVESTER L. MARTIN
AUSTEEN C. KING

VINCENT GLENN BAKER

JOAN G. DICKEY

JEFFREY WAYNE MASTEN

RONALD LEE ANGEL SR.

HASTINGS HILL LTD PARTNERSHIP

CHARLES ALLEN KEARNS

KENNETH GRAY WHITAKER
REBECCA WHITAKER

JAMES B. ADAMS
MELISSA ADAMS

DONALD R. MARTIN

ROBERT JAMES SAUNDERS
MARTHA MAUNE SAUNDERS

LARRY B. HAMILTON
MARCELINE HAMILTON

MARGARET A. MCDONALD

ALAN B. COX
DOROTHY W. COX

PHILLIP L. TUNING

PERRY B. LEAZER
BERNICE LEAZER

LARRY G. ROSE
SANDRA B. ROSE

RICHARD S. SNYDER
ISABELLA W. SNYDER

LARRY L. WOLFE
LYNDONA L. WOLFE

BILL G. BROCK

G.L.G. CORPORATION

NCDOT
(JOSEPH MARSHALL)
(DONALD R. ADAMS)
(JAMES E. ADAMS)
(JEWEL S. LANKFORD)
(MARK A. BROWN)
(GINA C. BROWN)
(CHARLES JOHNSTON)
(POLLIE JOHNSTON)
(WILLIE HERMAN LOWRY)
(DOROTHY T. LOWRY)
(BRIAN T. KEY)
(SHEILA T. KEY)

SMITH CREEK

FORSYTH COUNTY

TOWN OF KERNERSVILLE

N 77°47'15" W

N 85°33'45" W

N 77°37'30" E

N 11°37'30" E

N 19°37'30" E

S 77°37'30" W

S 11°37'30" W

S 19°37'30" W

S 85°33'45" E

N 85°33'45" W

N 77°37'30" E

N 11°37'30" E

N 19°37'30" E

S 77°37'30" W

S 11°37'30" W

S 19°37'30" W

S 85°33'45" E

N 85°33'45" W

9/19/2013
3:25:40 PM
bhyd_prm_wet_psh27.con
bharvey

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	27-I
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 44 OF 64

REVISIONS 8/17/99

25 12.5 0 25 50
PLANS

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

SITE 24A

SITE 24

SITE 30

HEAD DITCH SEE DETAIL#8 EST. DDE 19CY

CLASS 'B' RIP RAP EST 2 TONS EST 7 SY FF

CLASS 'B' RIP RAP ST 2 TONS ST 7 SY FF

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

NCDOT
(MARK A. BROWN)
(GINA C. BROWN)

15" RCP-III

FS

2GI

2GI W/ FLAT GRATE

HW

30" RCP-III

COLLAR

REMOVE FES

42" WELDED STEEL

TRENCHLESS INSTALLATION

REMOVE

RETAIN AND EXTEND

18" RCP-III

PLUG

EXCAVATE TO ELEV. 838.0
EST. DDE 35CY

CLASS 'I' RIP RAP
EST 20 TONS
EST 47 SY FF

CLASS 'B' RIP RAP

RETAINING WALL

I-40 BUS EBL US 421 SBL 24' BST

I-40 BUS WBL US 421 NBL 24' BST

9' BST

60" CHL

48" CHL

72" MD

ISFD

CONC

POOL

SCRUB

JS MIT

JS MNT

MTL

WLB

CREEK

9/9/2013
J:\2579B\sig\prm_sig_prm_wet_psh27_SITE24
User:

80

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	27-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 45 OF 64

REVISIONS 8/17/99

COLLAR
REMOVE FES
FS
RETAIN AND EXTEND
Conv. OTCB To 2GI
FS
18" CMP
RETAIN AND EXTEND
2GI W/ FLAT GRATE
GRAU-350
18" CSP
30" RCP
REMOVE FES
COLLAR
JB w/MH
18" RCP-III
2GI
SP W/ AND LUG TORS
R/W
CLASS 'B' RIP RAP EST 2 TONS EST 7 SY FF
SBG STA.37+00 TO STA.40+00 -Y4RPA- LT
CLASS 'B' RIP RAP EST 2 TONS EST 7 SY FF
30" RCP-III
CLASS 'I' RIP RAP EST 6 TONS EST 11 SY FF
TAIL DITCH SEE DETAIL#9 EST. DDE 12CY
EIP
60.00'
EXISTING R/W
EXISTING R/W
SCRUB
SITE 25
RW
CA
24" RCP-III
CLASS 'B' RIP RAP EST 3 TONS EST 11 SY FF
JOAN G. DICKEY
SPECIAL DITCH GRADE SEE PROFILE FOR GRADE
US MT
40
30
35
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
N
25 12.5 0 25 50
PLANS

9/9/2013
U-2579B_hyd_prm_wet_psh27_SITE25
jbarker

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 46 OF 64

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

P P DENOTES IMPACTS IN SURFACE WATER (POND)

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 26

SITE 27

SITE 27A

SITE 27B

SITE 27C

DETAIL #7 STANDARD "V" DITCH (Not To Scale)

DETAIL #32 FAL DITCH (Not To Scale)

Type of Liner: Class III Rip-Rap
FROM STA.107+20 TO STA.107+61

DETAIL #12 LATERAL BASE DITCH (Not To Scale)

Type of Liner: Class 'B' Rip-Rap
FROM STA 117+85 TO 118+33 -Y4- LT
FROM STA 22+50 TO 23+90 -Y4RPB- LT
FROM STA 105+30 TO 107+50 -Y4- LT

DETAIL #15 SPECIAL LATERAL "V" DITCH (Not To Scale)

FROM STA 25+60 TO 27+85 -Y6- RT

DETAIL #3 LATERAL BASE DITCH (Not To Scale)

FROM STA 19+80 TO 22+50 -Y4RPA- LT

MATCHLINE -Y4- STA 102+90 SHEET 16

MATCHLINE -Y5- STA 38+50 SHEET 16

MATCHLINE -Y6- STA 19+00 SHEET 16

MATCHLINE -Y4- STA 124+70 SHEET 29

MATCHLINE -Y6- STA 23+93 SHEET 29

MATCHLINE -Y5- STA 39+50 SHEET 29 (CONTINUED UNDER THIS PROJECT U-2579D)

REVISIONS

8/17/99

9/19/2013
jdavis
U-2579B_syd_prm_wet_psh28

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 47 OF 64

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

P P DENOTES IMPACTS IN SURFACE WATER (POND)

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

REVISIONS

8/17/99

9/19/2013
U-2579B_sht_prm_wet_psh28.con
User: rvaughn

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	28-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 48 OF 64

8/17/99

REVISIONS

WADE SMITH

S S DENOTES IMPACTS IN SURFACE WATER

P P DENOTES IMPACTS IN SURFACE WATER (POND)

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

SITE 26

SITE 27A

SITE 27B

SITE 27C

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP
EST. 121 TONS
W/318 SY FF
SEE DETAIL#12

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF
WADE SMITH JR.

TOE PROTECTION W/ CLASS "B" RIPRAP
EST 63 TONS
EST 170 SY FF
SEE DETAIL#6

CLASS 'B' RIP RAP
EST 5 TONS
EST 14 SY FF

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

2GI W/ FLAT GRATE

TYPE B-77

REMOVE FES

PLUG

30" RCP-III

15" RCP-III

18" RCP-III

24" RCP-III

54" RCP-III

2GI

2GI-A

FS

Natural Ground

2:1 OR FLATTER

Fill Slope

Fiber Fabric

d= 2 Ft.

Type of Liner= Class B Rip-Rap

FROM STA 107+20 TO 108+22 -Y4- LT

HEAD DITCH
SEE DETAIL#7
EST. DDE 5CY

BERM DITCH
STA 110+91 TO 112+75 -Y4- LT

CLASS 'B' RIP RAP
EST 3 TONS
EST 10 SY FF

INV IN
EL=882.3

GRAU 350 TL-3

N 81° 33' 45.8" W

N 85° 33' 45.8" W

RETAIN AND EXTEND

COLLAR

RETAIN

Conv. OTCB To 2GI

CONVERT TO 2GI

CONVERT TO JBW/MH

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

REMOVE MTL GATE

WADE WESSLEY SMITH JR.

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP
EST. 94 TONS
W/247 SY FF
SEE DETAIL#12

CLASS 'I' RIP RAP (BANKS ONLY)
SEE DETAIL#32
EST. DDE +/- 15 CY
EST. 33 TONS
EST. 62 SY

TRENCHLESS INSTALLATION 42" WELDED STEEL

JB w/MH

24" CSP W/ WATSON BROTHERS, INC.

WATSON BROTHERS, INC.

NCDOT (GARY D. PEGG) (TINA Y. PEGG)

DOE RUN HOMEOWNERS ASSOCIATION

BARRY D. HUFF
DORIS M. DUMAS

DONNIE ORLANDO HOLT
CARLA DESHAZO HOLT

MICHAEL J. FISCHER
CHARISSA FISCHER

RONALD W. RAYLE JR.
CATHY P. RAYLE

JOSEPH GONZALI
YVONNE L. GONAL

TERESA A. TYSON
JOHN TYSON

DONALD R. NEWSOM
CHRISTINA R. NEWSOM

MATCHLINE -Y4- STA.102+90 SHEET 16

SHEET 16

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jdavis

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 49 OF 64

8/17/99

REVISIONS

DENOTES MECHANIZED CLEARING

GERALD W. MCGEE

MACK D. WILLIAMS
JENNIFER WILLIAMS

FRANK J. PERRY JR.
CAROL PERRY

NORMAN G. MORRELL
LINDA M. MORRELL

TOMMY MILLS GUNN
PEGGY PAULINE GUNN

CITY OF WINSTON-SALEM

SITE 29

1.5:1 FILL SLOPES W/ROCK PLATING STA 139+00 TO 140+00 -Y4- LT

1:1 FILL SLOPES W/ROCK PLATING STA 140+00 TO 142+00 -Y4- LT

1.5:1 FILL SLOPES W/ROCK PLATING STA 142+00 TO 142+50 -Y4- LT

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIPRAP PLACE BETWEEN END OF PIPE AND WLB EST 2 TONS EST 2 SY FF

2GI W/ FLAT GRATE

15" RCP-IV

PSH

TYPE B-77

30:1 TAPER

N 85° 33' 45.8" W

Conv. OTCB To 2GI

RETAIN AND EXTEND

REMOVE 8ft OF EXIST. 18" CMP

50ft TRANSITION PROP. GUARDRAIL TIE TO EXISTING

18" CSP

ELBOW

DAYLIGHT

CLASS 'B' RIP RAP EST. 3 TONS

TAIL DITCH SEE DETAIL#8 EST. DDE 25CY

CLASS 'B' RIP RAP EST 3 TONS EST 10 SY FF

LATERAL 'V' DITCH W/CLASS 'B' RIP RAP EST. 156 TONS W/386 SY FF SEE DETAIL#14

CLASS 'B' RIP RAP EST 3 TONS EST 10 SY FF

MATCHLINE -Y4- STA.137+32 SHEET 29

MATCHLINE -Y4- STA.142+32 SHEET 31

G.P. SWISHER HEIRS

THE FORSYTH COUNTY BOARD OF EDUCATION

CITY OF WINSTON-SALEM
TOWN OF KERNERSVILLE

TOWN OF KERNERSVILLE
CITY OF WINSTON-SALEM

SALEM CREEK

I-40 BUS EAST US 421 SOUTH 24' BST

I-40 BUS WEST US 421 NORTH 24' BST

PAVED SHOULDER

NOTE :
1. FOR -Y4EB- PROFILE, SEE SHEET 54
2. FOR -Y4WB- PROFILE, SEE SHEET 59

DETAIL #8
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Natural Ground, B

Min. D= 2 Ft.
B= 2 Ft.

FROM STA. 140+48 TO 141+20 -Y4- RT

DETAIL #14
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1 To 2:1, d1, Filter Fabric, b, 1'/Ft., Fill Slope

Min. D= 2 Ft.
Max. d= 2 Ft.
b= 5 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA 138+00 TO 140+50 -Y4- RT

9/19/2013
U2579D_prm_wet_psh30
barkley

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 50 OF 64

8/17/99

REVISIONS

MATCHLINE -Y4- STA.137+32 SHEET 29

DENOTES MECHANIZED CLEARING

SITE 29

GERALD W. MCGEE

MACK D. WILLIAMS
JENNIFER WILLIAMS

FRANK J. PERRY JR.
CAROL PERRY

TOMMY MILLS GUNN
PEGGY PAULINE GUNN

NORMAN G. MORRELL
LINDA M. MORRELL

CITY OF WINSTON-SALEM

THE FORSYTH COUNTY BOARD OF EDUCATION

G.P. SWISHER HEIRS

CITY OF WINSTON-SALEM / FORSYTH COUNTY

CITY OF WINSTON-SALEM / TOWN OF KERNERSVILLE

TOWN OF KERNERSVILLE / CITY OF WINSTON-SALEM

1.5:1 FILL SLOPES W/ROCK PLATING STA 139+00 TO 140+00 -Y4- LT

1.5:1 FILL SLOPES W/ROCK PLATING STA 142+00 TO 142+50 -Y4- LT

1:1 FILL SLOPES W/ROCK PLATING STA 140+00 TO 142+00 -Y4- LT

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIPRAP PLACE BETWEEN END OF PIPE AND WLB EST 2 TONS EST 7 SY FF

2GI W/ FLAT GRATE

Conv. OTCB To 2GI

RETAIN AND EXTEND

REMOVE 8ft OF EXIST. 18" CMP

18" RCP-III

18" CMP

18" CSP

ELBOW

50:1 TRANSITION PROP.GUARDRAIL TIE TO EXISTING

DAYLIGHT

CLASS 'B' RIP RAP EST. 3 TONS

CLASS 'B' RIP RAP EST 3 TONS EST 10 SY FF

TAIL DITCH SEE DETAIL#8 EST. DDE 25CY

LATERAL 'V' DITCH W/CLASS 'B' RIP RAP EST. 156 TONS W/386 SY FF SEE DETAIL#14

15" RCP-IV

PSH

60" WW&ISBW

TYPE B-77

30:1 TAPER

N 85° 33' 45.8" W

I-40 BUS EAST US 421 SOUTH 24' BST

I-40 BUS WEST US 421 NORTH 24' BST

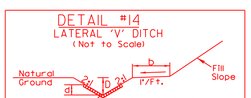
PAVED SHOULDER

DETAIL #8
STANDARD BASE DITCH
(Not to Scale)

Min. D= 2 Ft.
B= 2 Ft.

FROM STA. 140+48 TO 141+20 -Y4- RT

DETAIL #14
LATERAL 'V' DITCH
(Not to Scale)



Min. D= 2 Ft.
Max. d= 2 Ft.
b= 5 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA 138+00 TO 140+50 -Y4- RT

NOTE :
1. FOR -Y4EB- PROFILE, SEE SHEET 54
2. FOR -Y4WB- PROFILE, SEE SHEET 59

9/19/2013
12:57:00
bharvey

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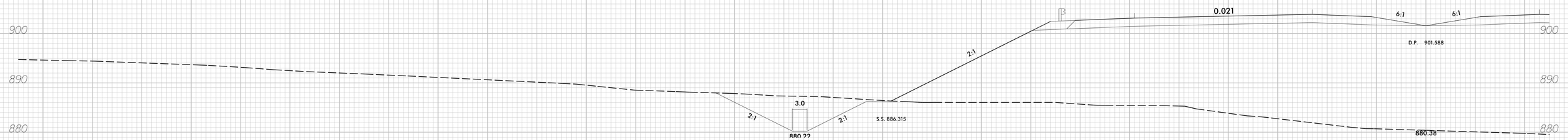
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-180

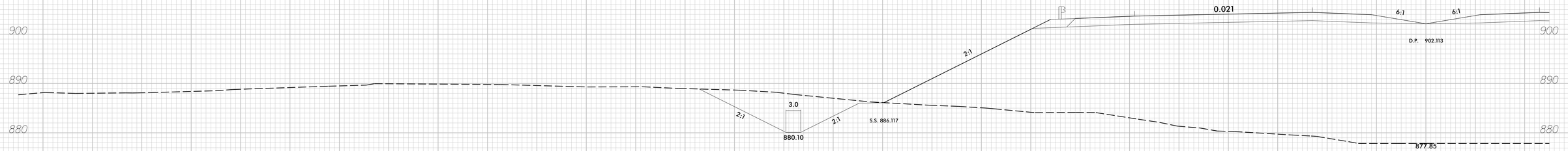
PERMIT DRAWING
SHEET 51 OF 64

280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

910 900 890 880 870

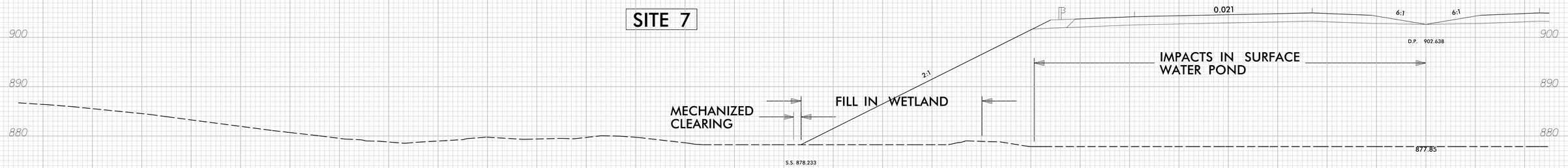


528+00.0000

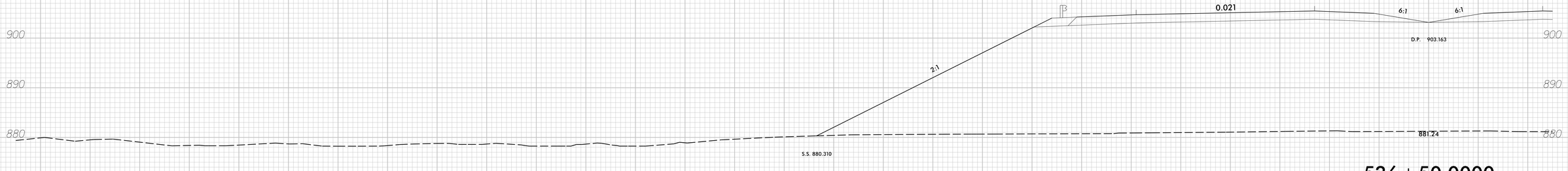


527+50.0000

SITE 7



527+00.0000



526+50.0000

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9/19/2013
U-2579B_hyd_prm_wet_xpl_01_L527LT
jharvey

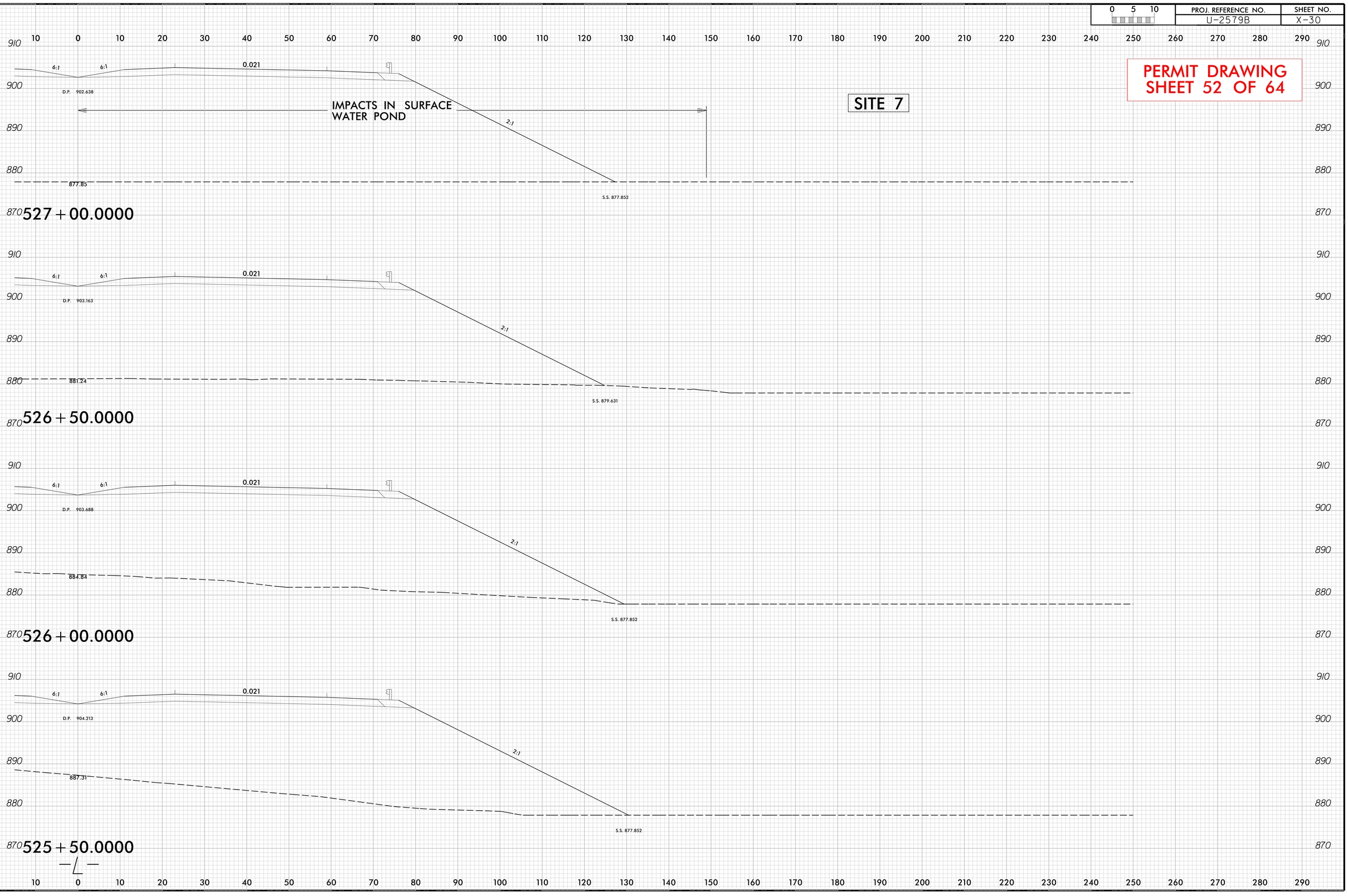
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-30

PERMIT DRAWING
SHEET 52 OF 64

SITE 7

IMPACTS IN SURFACE WATER POND



9/19/2013
U-2579B_hyd_prm_wet_xpl_02_L527RT
jharvey

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-97

PERMIT DRAWING
SHEET 53 OF 64

SITE 13

621+00.0000

6:1 6:1 0.021 4:1

D.P. 868.351

844.36

S.P. 60
–L– 621+00.0000
–Y4RPBD– 20+45.0000
ELEV. 854.175

FILL IN WETLAND

– Y4RPBD –
STA 20+94.7573

620+50.0000

6:1 6:1 0.021 4:1

D.P. 868.360

836.19

S.P. 59
–L– 620+50.0000
–Y4RPBD– 20+00.0000
ELEV. 854.934

– Y4RPBD –
STA 20+41.3720

620+00.0000

6:1 6:1 0.021 4:1

D.P. 868.507

835.13

S.P. 58
–L– 620+00.0000
–Y4RPBD– 19+54.0000
ELEV. 856.187

– Y4RPBD –
STA 19+88.3503

9/19/2013
U2579B_typ_grd_prm_wet_xpl_03_L621RT
jharvey

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-547

PERMIT DRAWING
SHEET 54 OF 64

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

880 870 860 850 840 830 820

0.048 0.048

4:1

2:1

S.S. 843.290

830.13

S.S. 824.953

21+34.0000

SITE 13

0.050 0.050

S.P. 61
-L- 621+50.0000
-Y4RPBD 20+89.0000
ELEV. 853.863

4:1

4:1

D.P. 846.692

FILL IN WETLAND

2:1

824.01

S.S. 826.097

20+89.0000

810

-Y4RPBD-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

9/9/2013
U2579B_Hyd_prm_wet_xpl_04_Y4RPBD-2100
jharvey

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-278

PERMIT DRAWING
SHEET 55 OF 64

280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

890
880
870
860

MATCHLINE A

360 350 340 330 320 310 300 290 280

930

SITE 15

920
910
900
890
880
870
860
850
840
830

905.38

0.091 0.090 0.030 0.021 0.021 0.021

4.667:1 6:1 6:1 6:1 6:1

D.P. 906.374

D.P. 906.565

– Y4LPA –
STA 12+36.0460

– Y4CD –
STA 42+14.890218

MATCHLINE A

IMPACTS TO SURFACE WATER POND

847.58

638+00.0000

930

280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

9/19/2013
U-2579B_hyd_prm_wet_xpl_05_L638LT
harvey

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-114

PERMIT DRAWING
SHEET 56 OF 64

SITE 15

SP 155
–Y4LPB– 13+29.00
–L– 638+00.00
ELEV. 902.013

– Y4LPB –
STA 13+14.1394

IMPACTS TO SURFACE WATER POND

FILL IN WETLAND

638+00.0000

637+50.0000

S.P. 82
–L– 637+50.0000
–Y4LPB– 13+29.0000
ELEV. 896.628

MATCHLINE A

MATCHLINE A

S.S. 877.459

9/19/2013
U2579B_hyd_prm_wet_xpl_06_L638RT
jharvey

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-417

280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

PERMIT DRAWING
SHEET 57 OF 64

SITE 16

S.P. 103
–L– 644+50.00
–Y4EB– 89+00.00
ELEV. 893.117

IMPACTS IN SURFACE WATER POND

3:1

875.122

4:1

– Y4EB –
STA 89+00.0000

0.021 0.021 0.021 4:1 5.037:1 0

893.32

D.P. 893.233

S

920 910 900 890 880 870 860 850

89+00.0000

– Y4LPD –
STA 24+59.5689

– Y4EB –
STA 88+50.0000

895.38

0.024 0.021 0.021 4:1 5.034:1 0

893.45

D.P. 893.279

4:1

S.S. 865.342

88+50.0000

–Y4–

280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

9/19/2013
U2579B_hyd_prm_wet_xpl_07_Y4-8900
harvey

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-303

PERMIT DRAWING
SHEET 58 OF 64

669+00.0000

– NWCD2 –
STA 16+02.77

– Y4CD –
STA 73+43.368547

S.S. 857.983
853.690
D.P. 859.983
D.P. 857.872
844.28

4:1 4:1 0.040 0.040 6:1 6:1 0.050 7:1 6:1

SITE 19

668+50.0000

– NWCD2 –
STA 15+15.29

– Y4CD –
STA 72+92.116637

FILL IN WETLAND

2:1
D.P. 861.278
D.P. 859.084
840.71

0.040 0.040 6.51:1 6.51:1 0.050 7:1 6:1

668+00.0000

– NWCD2 –
STA 14+57.55

– Y4CD –
STA 72+40.863283

2:1
D.P. 862.786
D.P. 860.431
840.18

0.040 0.040 7.62:1 7.62:1 0.050 7:1 6:1

280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

880 870 860 850 840 830 890

9/19/2013
U2579B_hyd_prm_wet_xpl_08_L66850L T
jharvey

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-131

PERMIT DRAWING
SHEET 59 OF 64

SITE 19

20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280

870 860 850 840 830

7:1 6:1 0.050 2:1

D.P. 859.084

FILL IN WETLAND

840.71

S.S. 840.159

668 + 50.0000

7:1 6:1 0.050 2:1

D.P. 860.431

840.18

S.S. 838.965

668 + 00.0000

7:1 6:1 0.050 2:1

D.P. 861.914

839.91

S.S. 839.614

667 + 50.0000

7:1 6:1 0.050 2:1

D.P. 863.532

835.25

S.S. 840.357

667 + 00.0000

9/19/2013
U-2579B_hyd_prm_wet_xpl.03_L66850RT
harvey

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-389

280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

PERMIT DRAWING
SHEET 60 OF 64

SITE 22

– Y4EB –
STA 40+50.0000

FILL IN WETLAND

S.S. 854.844

3:1

0.021 0.021 0.021 4.207:1 5:1 0

874.63

D.P. 874.580

40+50.0000

– Y4EB –
STA 40+00.0000

S.S. 866.974

4:1

0.021 0.021 0.021 4.216:1 5:1 0

876.11

D.P. 875.927

40+00.0000

– Y4EB –
STA 39+50.0000

S.S. 874.635

5:1

0.021 0.021 0.021 4.213:1 5:1 0

877.41

D.P. 877.300

39+50.0000

900 890 880 870 860 850

280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

–Y4–

9/19/2013
U2579B_hyd_prm_wet_xpl_10_Y4-4050
harvey

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2579B	X-427

PERMIT DRAWING
SHEET 61 OF 64

280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

910 900 890 880 870 860

– NWY41 –
STA 11+47.20

– Y4RPC –
STA 31+01.1294

– Y4EB –
STA 105+00.0000
S1

4:1 0.048 0.048 4:1 6:1 0.021 0.021 4:1 6.437:1 0
882.14
D.P. 882.269

105+00.0000

SITE 26

– Y4EB –
STA 104+50.0000
S1

5:1 5:1 0.021 0.021 4:1 6.484:1 0
882.03
S.P. 118
–Y4EB– 104+50.00
–Y4RPC– 30+55.00
ELEV. 882.876
D.P. 882.531

104+50.0000

IMPACTS IN SURFACE
WATER POND

– Y4EB –
STA 104+00.0000
S1

S.P. 117
–Y4EB– 104+00.00
–Y4RPC– 30+06.00
ELEV. 883.452
6:1 0.021 0.021 4:1 6.399:1 0
4:1 881.909
885.17
D.P. 882.896

104+00.0000

– Y4EB –
STA 103+50.0000
S1

4:1 6:1 0.021 0.021 0.021 4:1 6.196:1 0
S.P. 116
–Y4EB– 103+50.00
–Y4RPC– 29+57.00
ELEV. 885.136
882.242
883.31
D.P. 883.267

103+50.0000

–Y4–

9/19/2013
U2579B_hyd_prm_wet_xpl_11_Y4-104100
jharvey

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	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	28+00 -Y1-	ROAD FILL	0.03		< 0.01	0.02		0.02		142		
2	16+00 -Y1RPD-	ROAD FILL - INTERMITTENT						0.01		109		
		ROAD FILL - PERENNIAL						0.02		208		
		STREAMBANK STABILIZATION						< 0.01	< 0.01	10	37	
3	21+56-25+22 -Y1-	2 @ 7'x6' RCBC						0.06	< 0.01	438	33	
3A	17+36-21+53 -Y1-	DETOUR - ROAD FILL							0.08		545	
3B	20+55-21+32 -Y1-	DETOUR - ROAD FILL							0.03		194	
4	501+51-503+21 -L-	ROAD FILL						0.03	< 0.01	493	18	
		STREAMBANK STABILIZATION						< 0.01	< 0.01	9	31	
5	503+85-507+80 -L-	ROAD FILL						0.05	< 0.01	740	22	
5A	507+39-509+64 -L-	ROAD FILL						0.01		306		
6	523+00 -L-	ROAD FILL	0.03			< 0.01		0.02	< 0.01	312	42	
7	527+00 -L-	ROAD FILL	0.52			0.01						
		ROAD FILL-POND						0.59				
8	559+75 -L-	2 @ 10'x6' RCBC						0.06	< 0.01	442	53	
		STREAMBANK STABILIZATION						< 0.01	< 0.01	58	44	
9	560+75 -L-	ROAD FILL	0.03			0.01						
10	560+50-568+74 -L-	ROAD FILL	0.01					0.07	< 0.01	783	22	
10A	566+84-572+75 -L-	ROAD FILL						0.05		684		
11	615+00 -L-	3 @ 10'x9' RCBC						0.43	0.02	808	57	
11A	19+76-21+44 -Y4RPBD-	CHANNEL CHANGE						0.08	0.01	223	41	
12	15+84-18+86 -Y4RPBD-	CHANNEL CHANGE						0.01	0.02	88	205	
SUBTOTALS*:			0.62		< 0.01	0.05		1.53	0.19	5853	1344	

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
10-29-13
U-2579B FORSYTH COUNTY
WINSTON SALEM NORTHERN BELTWAY
(EASTERN SECTION) (FUTURE I-74)

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND 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)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
13	20+00-21+40 -Y4RPBD-	ROAD FILL	0.33									
14	629+95-635+90 -L-	ROAD FILL	0.04					0.05		688		
15	636+32-641+55 -L-	ROAD FILL	0.18					0.04		332		
		ROAD FILL-POND						2.38				
15A	644+00-645+00 -L-	ROAD FILL						< 0.01		108		
16	643+56-644+61 -L-	ROAD FILL						< 0.01		104		
		ROAD FILL-POND						0.16				
17	663+65-667+00 -L-	ROAD FILL	0.09			< 0.01		0.06		928		
18	667+15 -L-	3 @ 12'x10' RCBC						0.06	0.02	377	67	
		STREAMBANK STABILIZATION						0.02	0.01	80	59	
19	668+50 -L-	ROAD FILL	0.47			0.01						
20	687+80-691+59 -L-	ROAD FILL						0.03		163		
		ROAD FILL-POND						0.85				450
21	22+50 -Y1-	ROAD FILL	0.02									
22	40+50 -Y4-	OUTLET PAD	0.01									
23	45+65 -Y4-	CULVERT EXTENSION						0.06	0.01	100	32	
		STREAMBANK STABILIZATION						0.02	0.01	54	21	
23A	44+95-45+18 -Y4-	ROAD FILL						< 0.01		57		
23B	45+07-46+34 -Y4-	ROAD FILL						0.01		135		
24	80+73-81+57-Y4RPBD-	ROAD FILL						0.02		202		
24A	80+50-81+51-Y4RPBD-	ROAD FILL	0.06									
25	37+31 -Y4RPA-	30" RCP						< 0.01		73		
		STREAMBANK STABILIZATION						< 0.01	< 0.01	21	16	
SUBTOTALS*:			1.20			0.02		3.77	0.05	3422	195	450

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
10-29-13
U-2579B FORSYTH COUNTY
WINSTON SALEM NORTHERN BELTWAY
(EASTERN SECTION) (FUTURE I-74)

ATN Revised 3/12/13

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND 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)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
26	29+16-31+12 -Y4RPC-	ROAD FILL-POND						0.38				
27A	104+62 - 107+53 -Y4-	ROAD FILL						0.02		205		
27B	107+60 -Y4-	42" WELDED STEEL	0.05					0.01	< 0.01	130	14	
27C	107+58 - 108+44 -Y4-	30" RCP						< 0.01		116		
28	54+65 -Y4-	STREAMBANK STABILIZATION						< 0.01		25		
29	145+62 -Y4-	ROAD FILL				< 0.01						
30	64+34 -Y4-	STREAMBANK STABILIZATION						< 0.01		28		
31	557+28 -L-	STREAMBANK STABILIZATION						< 0.01		21		
SUBTOTALS*:			0.05			< 0.01		0.42	< 0.01	525	14	
SUBTOTALS FROM PAGE 1*:			0.62		< 0.01	0.05		1.53	0.19	5853	1344	
SUBTOTALS FROM PAGE 2*:			1.20			0.02		3.77	0.05	3422	195	450
TOTALS*:			1.87		< 0.01	0.08		5.72	0.24	9800	1553	450

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
10-29-13
U-2579B FORSYTH COUNTY
WINSTON SALEM NORTHERN BELTWAY
(EASTERN SECTION) (FUTURE I-74)

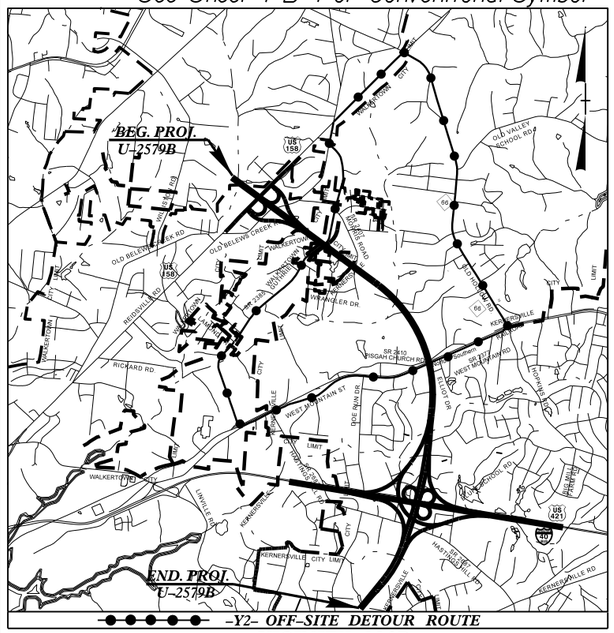
ATN Revised 3/12/13

09/08/99

TIP PROJECT: U-2579B

CONTRACT: C203484

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbol



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

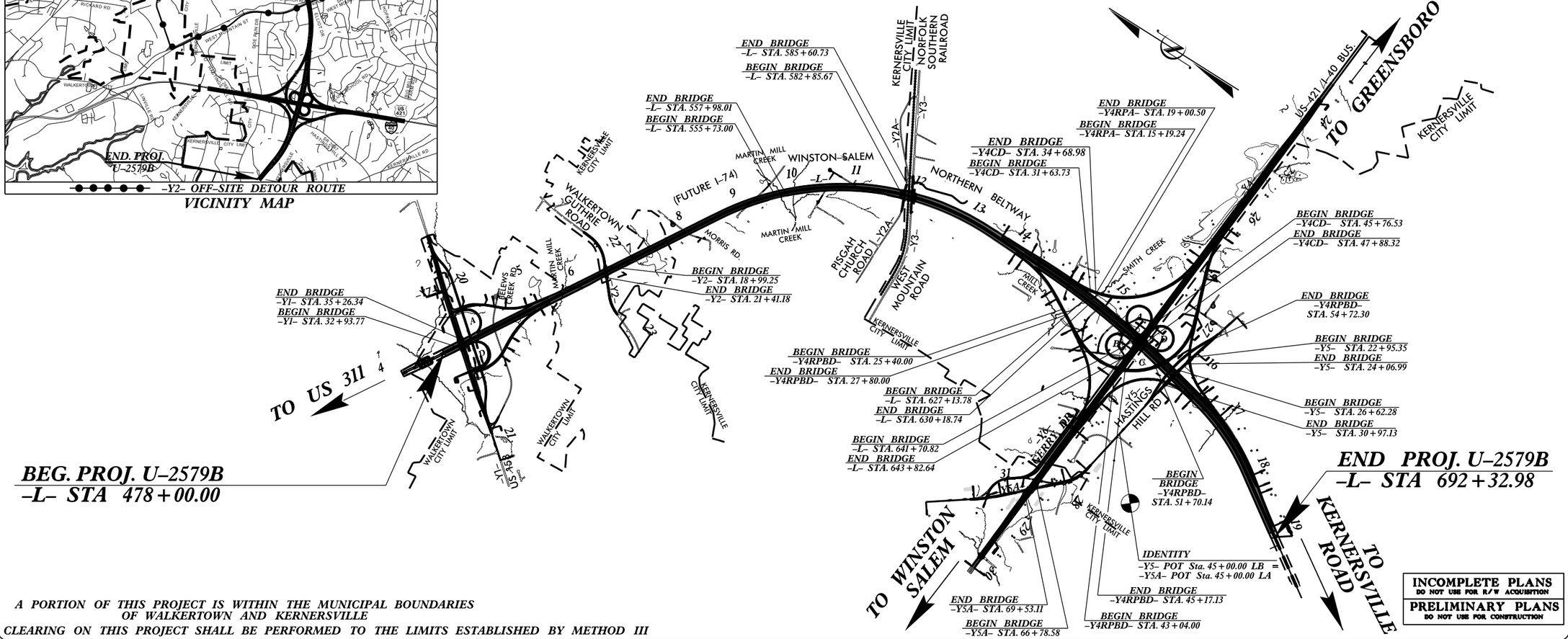
FORSYTH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2579B	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34839.1.1	N/A	PE
34839.2.10	FSTR HPPNHF-0918(46)	R\W
34839.2.5		R\W UTIL

LOCATION: ***WINSTON SALEM NORTHERN BELTWAY (EASTERN SECTION) (FUTURE I-74) FROM US 158 TO I-40 BUS/US 421***

TYPE OF WORK: ***WIDENING, GRADING, PAVING, DRAINAGE, SIGNING, SIGNALS, CULVERTS AND STRUCTURES.***



A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WALKERTOWN AND KERNERSVILLE

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

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2010 = 53,560
ADT 2030 = 79,880
DHV = 10 %
D = 60 %
T = 18 % *
V = 70 MPH
* TTST 12 % DUAL 6 %
FUNC CLASS = INTERSTATE

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT U-2579B = 3.86 Miles.
LENGTH OF STRUCTURE PROJECT U-2579B = 0.19 Miles.
TOTAL LENGTH OF PROJECT U-2579B = 4.06 Miles.

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 19, 2012

LETTING DATE: OCTOBER 21, 2014

TONY HOUSER, PE
PROJECT ENGINEER

LEE ANN MOORE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE:

ROADWAY DESIGN ENGINEER

SIGNATURE:

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

13-DEC-2013 15:05
R:\Roadway\Proj\u2579b_rdy_tsh.dgn
$$$$USERNAME$$$$

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	1-B

Note: Not to Scale

S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Access Easement — PAE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

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

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

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

SANITARY SEWER:

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

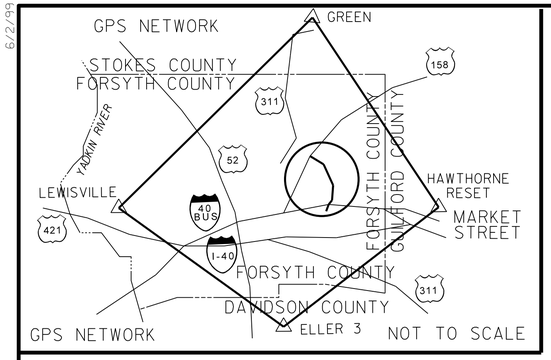
MISCELLANEOUS:

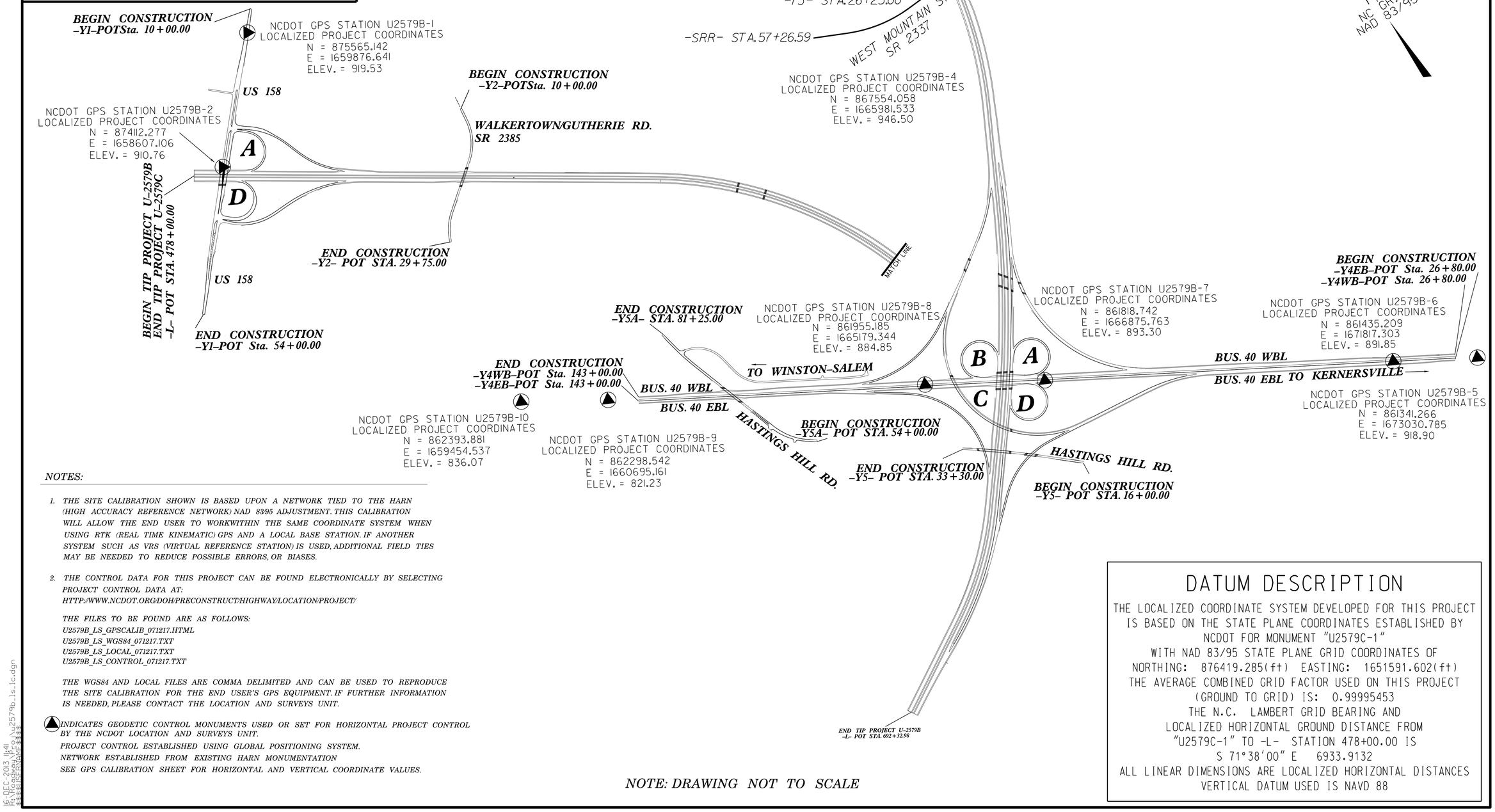
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	1C
Location and Surveys	

SURVEY CONTROL SHEET U-2579B





NOTES:

1. *THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 8395 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORKWITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.*

2. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:*
   HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   U2579B_LS_GPSCALIB_071217.HTML
   U2579B_LS_WGS84_071217.TXT
   U2579B_LS_LOCAL_071217.TXT
   U2579B_LS_CONTROL_071217.TXT

   THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U2579C-1"
WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 876419.285(ft) EASTING: 1651591.602(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99995453
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U2579C-1" TO -L- STATION 478+00.00 IS
S 71°38'00" E 6933.9132
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	1D
Location and Surveys	

SURVEY CONTROL SHEET U-2579B FINAL

GPS Calibration Report

Project : U2579B FieldCalibration

TIP Number
User name tbovender Date & Time 12:41:06 PM 12/11/2007
Coordinate System US State Plane 1983 Zone North Carolina 3200
Horizontal Datum NAD 1983 (Conus)
Vertical Datum Geoid Model Geoid03 (Conus) NC Sub Grid
Coordinate Units US survey feet
Distance Units US survey feet
Height Units US survey feet

LOCAL SITE INFORMATION
Localized around U2579C-1
Latitude 36^09'08.35562" N
Longitude 80^10'48.38377" W
Site Scale Factor 1.000045472
Height 870.594

The North Carolina Department of Transportation uses a Localized Coordinate System which is very similar to North Carolina Zone 3200 from which it is derived.
Please take care in utilizing these coordinates to eliminate confusion of the two systems.
This file is to aid in the use of Real Time Kinematic (RTK) GPS during construction layout.

Datum Transformation Parameters

Datum Transformation computation not requested

Updated Default Projection (Transverse Mercator) Definition

Updated default projection not requested

Horizontal Adjustment Parameters

Northing coordinate of rotation center 864170.124sft
Easting coordinate of rotation center 1664837.355sft
Rotation about the center point 0°00'00"
Translation north -0.529sft
Translation east 0.589sft
Scale factor 1.00004635

Vertical Adjustment Parameters

Northing coordinate of origin point 875565.201sft
Easting coordinate of origin point 1659876.674sft
Vertical separation at origin 0.158sft
Slope north 1.193ppm
Slope east -0.561ppm

Geoid Model Definition

Geoid03 (Conus) NC Sub Grid

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

Maximum error		Root Mean Square error	Point
Horizontal	0.137sft	0.025	U2579B-4 GPS
Vertical	0.119sft	0.020	U2579B-10 GPS
Three-dimensional	0.155sft	0.032	U2579B-4 GPS

Point Residuals
WGS84 Coordinates Calculated point
FOR DISPLAY ONLY Local Coordinates

Point U2579B-1 GPS Latitude 36°09'00.87235"N Longitude 80°09'07.26064"W Height 812.331sft	Northing 875565.201sft Easting 1659876.674sft Elevation 919.540sft Horz error 0.068sft Vert error 0.010sft 3D error 0.069sft	Point U2579B-1 LOCAL Northing 875565.142sft Easting 1659876.641sft Elevation 919.530sft Utilized Horz and Vert Quality Survey quality
Point U2579B-2 GPS Latitude 36°08'46.36004"N Longitude 80°09'22.53339"W Height 803.624sft	Northing 874112.260sft Easting 1658607.033sft Elevation 910.820sft Horz error 0.075sft Vert error 0.060sft 3D error 0.096sft	Point U2579B-2 LOCAL Northing 874112.277sft Easting 1658607.106sft Elevation 910.760sft Utilized Horz and Vert Quality Survey quality
Point U2579B-3 GPS Latitude 36°07'48.69349"N Longitude 80°07'40.32920"W Height 840.897sft	Northing 868184.488sft Easting 1666923.146sft Elevation 947.570sft Horz error 0.108sft Vert error 0.050sft 3D error 0.120sft	Point U2579B-3 LOCAL Northing 868184.593sft Easting 1666923.175sft Elevation 947.620sft Utilized Horz and Vert Quality Survey quality
Point U2579B-4 GPS Latitude 36°07'42.35263"N Longitude 80°07'51.71822"W Height 839.746sft	Northing 867553.926sft Easting 1665981.571sft Elevation 946.428sft Horz error 0.137sft Vert error 0.072sft 3D error 0.155sft	Point U2579B-4 LOCAL Northing 867554.058sft Easting 1665981.533sft Elevation 946.500sft Utilized Horz and Vert Quality Survey quality
Point U2579B-5 GPS Latitude 36°06'41.70853"N Longitude 80°06'24.95413"W Height 812.800sft	Northing 861341.303sft Easting 1673030.811sft Elevation 918.962sft Horz error 0.045sft Vert error 0.062sft 3D error 0.077sft	Point U2579B-5 LOCAL Northing 861341.266sft Easting 1673030.785sft Elevation 918.900sft Utilized Horz and Vert Quality Survey quality
Point U2579B-6 GPS Latitude 36°06'42.50385"N Longitude 80°06'39.75439"W Height 785.713sft	Northing 861435.294sft Easting 1671817.327sft Elevation 891.926sft Horz error 0.089sft Vert error 0.076sft 3D error 0.117sft	Point U2579B-6 LOCAL Northing 861435.209sft Easting 1671817.303sft Elevation 891.850sft Utilized Horz and Vert Quality Survey quality
Point U2579B-7 GPS Latitude 36°06'45.74473"N Longitude 80°07'40.02458"W Height 786.818sft	Northing 861818.786sft Easting 1666875.807sft Elevation 893.236sft Horz error 0.063sft Vert error 0.064sft 3D error 0.090sft	Point U2579B-7 LOCAL Northing 861818.742sft Easting 1666875.763sft Elevation 893.300sft Utilized Horz and Vert Quality Survey quality
Point U2579B-8 GPS Latitude 36°06'46.90138"N Longitude 80°08'00.71711"W Height 778.296sft	Northing 861955.088sft Easting 1665179.317sft Elevation 884.783sft Horz error 0.101sft Vert error 0.067sft 3D error 0.122sft	Point U2579B-8 LOCAL Northing 861955.185sft Easting 1665179.344sft Elevation 884.850sft Utilized Horz and Vert Quality Survey quality
Point U2579B-9 GPS Latitude 36°06'49.78833"N Longitude 80°08'55.41020"W Height 714.479sft	Northing 862298.609sft Easting 1660695.139sft Elevation 821.142sft Horz error 0.071sft Vert error 0.088sft 3D error 0.113sft	Point U2579B-9 LOCAL Northing 862298.542sft Easting 1660695.161sft Elevation 821.230sft Utilized Horz and Vert Quality Survey quality
Point U2579B-10 GPS Latitude 36°06'50.58887"N Longitude 80°09'10.54199"W Height 729.478sft	Northing 862393.955sft Easting 1659454.533sft Elevation 836.189sft Horz error 0.074sft Vert error 0.119sft 3D error 0.140sft	Point U2579B-10 LOCAL Northing 862393.881sft Easting 1659454.537sft Elevation 836.070sft Utilized Horz and Vert Quality Survey quality
Point BL-21 GPS Latitude 36°06'13.76877"N Longitude 80°08'00.73239"W Height 800.390sft	Northing 858604.732sft Easting 1665139.800sft Elevation 906.741sft Horz error 0.049sft Vert error 0.001sft 3D error 0.049sft	Point BL-21 Northing 858604.777sft Easting 1665139.780sft Elevation 906.740sft Utilized Horz and Vert Quality Survey quality
Point U2579AB-1 GPS Latitude 36°05'35.79056"N Longitude 80°08'08.30858"W Height 832.735sft	Northing 854771.500sft Easting 1664474.164sft Elevation 938.953sft Horz error 0.041sft Vert error 0.013sft 3D error 0.044sft	Point U2579AB-1 Local Northing 854771.471sft Easting 1664474.194sft Elevation 938.940sft Utilized Horz and Vert Quality Survey quality

NOTES:

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U2579B_LS_WGS84_071217.TXT
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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	1E
Location and Surveys	

SURVEY CONTROL SHEET U-2579B

FINAL

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
13	BL-13	874480.5922	1657767.3061	859.16	473+26.06	0.07 LT
2	U2579B-2	874112.2770	1658607.1060	910.76	482+35.02	121.40 LT
14	BL-14	873813.1870	1658860.3820	933.23	486+06.78	2.69 RT
15	BL-15	873595.3100	1659209.9120	943.67	490+18.63	7.39 RT
16	BL-16	873341.9280	1659648.9150	911.40	495+25.38	4.04 LT
17	BL-17	873180.1780	1659901.4390	922.50	498+25.18	3.07 RT
18	BL-18	872875.7590	1660386.8370	896.12	503+98.08	11.17 RT
19	BL-19	872558.9160	1660922.8630	898.68	510+20.70	3.60 RT
20	BL-20	872234.7680	1661459.2620	940.28	516+47.44	2.08 RT
21	BL-21	872068.7040	1661733.8810	917.22	519+68.36	1.40 RT
22	BL-22	871920.0360	1661978.2870	887.72	522+54.43	1.53 RT
23	BL-23	871836.8190	1662112.5610	894.62	524+12.40	2.93 RT
24	BL-24	871634.4530	1662451.8220	881.20	528+07.41	0.30 LT
25	BL-25	871468.8120	1662719.2670	914.04	531+21.99	2.38 RT
26	BL-26	871276.9540	1663053.2350	938.30	535+07.03	7.08 LT
27	BL-27	871119.9440	1663302.1990	924.41	538+01.32	2.18 LT
28	BL-28	871031.0730	1663445.9460	918.87	539+70.32	0.87 LT
29	BL-29	870857.4860	1663735.1740	904.58	543+07.62	2.91 LT
30	BL-30	870579.1130	1664140.9280	925.42	547+99.82	3.22 RT
31	BL-31	870423.9050	1664375.8020	906.31	550+80.31	16.97 LT
32	BL-32	870230.7240	1664583.7180	889.05	553+63.34	4.52 LT
33	BL-33	870126.8150	1664746.5080	869.03	555+52.72	38.69 LT
34	BL-34	869934.3050	1664880.8090	847.26	557+82.99	3.15 RT
35	BL-35	869478.4310	1665275.8910	877.45	563+86.90	4.08 RT
36	BL-36	869135.0940	1665515.9770	887.39	568+06.44	10.89 RT
37	BL-37	868667.1750	1665805.7370	901.81	573+57.69	3.98 RT
38	BL-38	868112.2800	1665976.0620	936.79	579+36.90	88.31 RT
39	BL-39	867741.4220	1666381.6040	945.66	584+21.42	165.32 LT
40	BL-40	867297.1820	1665946.1350	955.28	587+33.01	376.59 RT
41	BL-41	866369.2240	1666133.1630	943.06	597+43.94	345.57 RT
42	BL-42	865540.7110	1666485.1420	899.27	606+00.05	0.35 RT
43	BL-43	865029.1770	1666467.8690	877.26	611+11.87	1.17 RT
44	BL-44	864347.1850	1666470.9430	852.86	617+93.39	23.83 LT
45	BL-45	864099.8880	1666471.0880	839.68	620+40.05	33.98 LT
46	BL-46	863878.8700	1666470.1900	861.93	622+60.26	45.16 LT
47	BL-47	863708.7170	1666437.2610	862.94	624+31.87	23.63 LT
48	BL-48	863420.4650	1666376.6100	824.44	627+23.99	13.57 RT
49	BL-49	862956.6260	1666344.9590	832.85	631+88.77	3.03 LT
50	BL-50	862783.5520	1666288.6850	848.29	633+67.62	31.50 RT
51	BL-51	862578.8310	1666211.5370	858.44	635+81.61	80.30 RT
52	BL-52	861914.1300	1666379.8520	893.60	642+08.60	192.49 LT
53	BL-53	861472.3289	1666069.6751	925.28	646+99.70	26.15 RT
54	BL-54	860906.9530	1666066.1526	934.37	652+51.91	95.07 LT
55	BL-55	860650.1377	1665903.7797	919.89	655+38.58	5.61 RT
56	BL-56	860035.6198	1665759.2873	872.09	661+69.99	7.40 RT
57	BL-57	859696.7794	1665682.7207	865.82	665+16.69	12.37 LT
58	BL-58	859452.5755	1665636.2271	840.15	667+60.65	50.79 LT
59	BL-59	859166.6533	1665570.3378	870.59	670+44.95	101.67 LT
60	BL-60	858773.4176	1665478.8068	892.61	674+24.40	199.39 LT
61	BL-61	858269.2881	1665453.6752	935.33	678+42.46	444.74 LT
62	BL-62	857921.3035	1665301.1740	921.71	682+14.73	512.82 LT

BY1

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
500	BY1-500	876429.8630	1660600.3490	946.30	OUTSIDE PROJECT LIMITS	
400	U2589B-1	875565.1420	1659876.6410	919.53	13+57.45	24.24 LT
501	BY1-501	874918.7040	1659340.2020	893.07	21+97.42	49.83 LT
401	U2579B-2	874112.2770	1658607.1060	910.76	32+86.76	3.62 LT
502	BY1-502	873045.7120	1657721.3990	890.65	46+73.25	2.60 LT
503	BY1-503	872130.2030	1657007.9340	880.69	58+33.62	20.74 LT

BY2

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
504	BY2-504	873970.8370	1659904.2090	946.14	494+16.98	674.07 LT
402	BL-15	873595.3100	1659209.9120	943.67	490+18.63	7.39 RT
505	BY2-505	872636.6880	1658350.9080	914.30	487+82.31	1272.69 RT
506	BY2-506	872492.7960	1657372.5070	865.09	480+20.88	1903.72 RT

BY3

POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
507	BY3-507	873877.6100	1662029.3370	955.77	OUTSIDE PROJECT LIMITS	
508	BY3-508	872631.2110	1661856.2270	942.11	14+64.15	37.15 LT
403	BL-20	872234.7680	1661459.2620	940.28	20+17.19	15.98 LT
509	BY3-509	871757.6910	1660888.5350	943.28	27+57.36	22.97 RT
510	BY3-510	870936.2960	1660560.7650	939.83	OUTSIDE PROJECT LIMITS	

BY3B

POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
511	BY3B-511	871524.0940	1660844.5770	941.06	29+86.66	40.20 LT
429	BY3-509	871757.6910	1660888.5350	943.28	27+57.36	22.97 RT

BY4

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
512	BY4-512	873506.9080	1662409.8550	940.43	517+99.23	1578.72 LT
513	BY4-513	872140.4100	1663143.4860	925.25	531+35.78	791.86 LT
405	BL-26	871276.9540	1663053.2350	938.30	535+07.03	7.08 LT
514	BY4-514	870723.5810	1663184.3930	925.15	539+06.47	397.73 RT

BY5

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
515	BY5-515	870261.1110	1664994.0960	859.34	556+34.62	307.43 LT
406	BL-31	870423.9050	1664375.8020	906.31	550+80.31	16.97 LT
516	BY5-516	870477.2190	1664080.7170	917.60	548+11.59	121.00 RT

BY6

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
517	BY6-517	869299.4550	1665782.3150	904.12	568+17.44	301.88 LT
407	BL-37	868667.1750	1665805.7370	901.81	573+57.69	3.98 RT

BY7

POINT	DESC.	NORTH	EAST	ELEVATION	Y2A STATION	OFFSET
518	BY7-518	868682.7900	1667450.8110	956.27	OUTSIDE PROJECT LIMITS	
408	U2579B-3	868184.5930	1666923.1750	947.62	OUTSIDE PROJECT LIMITS	
409	BL-39	867741.4220	1666381.6040	945.66	16+69.77	85.23 LT
519	BY7-519	867593.9210	1665530.1410	937.99	25+24.97	26.99 LT
520	BY7-520	867671.0010	1664962.5010	924.54	OUTSIDE PROJECT LIMITS	

BY8

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
410	BY7-520	867671.0010	1664962.5010	924.54	579+61.51	1193.55 RT
521	BY8-521	869249.1820	1664996.6180	905.01	563+96.28	365.28 RT

BY9

POINT	DESC.	NORTH	EAST	ELEVATION	SRR STATION	OFFSET
411	BL-39	867741.4220	1666381.6040	945.66	33+47.27	17.73 LT
522	BY9-522	867201.0230	1665364.1180	946.89	44+98.38	11.20 LT
523	BY9-523	867069.0160	1664859.5140	942.01	50+18.56	10.60 LT

BY10

POINT	DESC.	NORTH	EAST	ELEVATION	Y3 STATION	OFFSET
524	BY10-524	868746.6600	1668213.0310	950.36	OUTSIDE PROJECT LIMITS	
525	BY10-525	868154.3950	1667362.2930	949.30	10+36.29	56.31 LT
412	BL-39	867741.4220	1666381.6040	945.66	20+94.83	52.29 RT
526	BY10-526	867154.5320	1665453.1690	949.64	31+89.63	21.48 LT
527	BY10-527	866984.8150	1664726.9800	939.05	39+32.39	18.31 LT

BY10C

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
528	BY10C-528	867958.2570	1667039.3110	939.95	584+15.47	857.82 LT
413	BL-39	867741.4220	1666381.6040	945.66	584+21.42	165.32 LT

NOTE: DRAWING NOT TO SCALE

NOTES:

1. *THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 8395 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORKWITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.*

2. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:*
   HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   U2579B_LS_GPSCALIB_071217.HTML
   U2579B_LS_WGS84_071217.TXT
   U2579B_LS_LOCAL_071217.TXT
   U2579B_LS_CONTROL_071217.TXT

   THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U2579C-1"
WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 876419.285(ft) EASTING: 1651591.602(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99995453
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U2579C-1" TO -L- STATION 478+00.00 IS S 71°38'00" E 6933.9132
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	1F
Location and Surveys	

SURVEY CONTROL SHEET U-2579B

FINAL

BY10D

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
529	BY10D-529	866890.7600	1665115.8010	946.98	589+70.43	1278.65 RT
414	BY10-526	867154.5320	1665453.1690	949.64	587+49.64	889.57 RT

BY11

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
531	BY11-531	864467.4530	1666904.1690	883.83	616+59.28	452.96 LT
530	BY11-530	864318.0230	1666601.0320	862.75	618+18.03	154.83 LT
415	BL-44	864347.1850	1666470.9430	852.86	617+93.39	23.83 LT

BY12

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
532	BY12-532	863832.5420	1666898.1940	876.52	622+79.68	475.21 LT
416	BL-46	863878.8700	1666470.1900	861.93	622+60.26	45.16 LT
533	BY12-533	863802.7380	1666255.6600	857.73	623+50.31	164.05 RT

BY13

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
417	BL-49	862956.6260	1666344.9590	832.85	631+88.77	3.03 LT
534	BY13-534	863085.9790	1666097.1000	851.98	630+87.91	258.03 RT
535	BY13-535	863036.9340	1665764.2920	869.64	631+76.97	583.05 RT
537	BY13-537	862847.8980	1665373.6200	905.34	634+24.74	947.15 RT

BY14

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
418	BL-51	862578.8310	1666211.5370	858.44	635+81.61	80.30 RT
536	BY14-536	862629.4630	1665760.3960	880.62	635+95.78	534.07 RT

BY15

POINT	DESC.	NORTH	EAST	ELEVATION	Y4WB STATION	OFFSET
419	BY13-537	862847.8980	1665373.6200	905.34	100+02.94	878.79 RT
538	BY15-538	862013.4480	1665775.6380	889.41	95+37.57	77.95 RT
539	BY15-539	862048.5470	1665285.3270	900.48	100+29.12	75.00 RT
540	BY15-540	862136.1110	1664523.5220	872.27	107+95.42	103.37 RT
541	BY15-541	862159.9890	1663843.0320	907.62	114+75.72	74.53 RT
542	BY15-542	862274.5570	1662769.5400	895.75	125+54.85	105.70 RT
420	BY17-559	862260.3430	1662528.1310	898.66	127+94.44	72.85 RT

BY15A

POINT	DESC.	NORTH	EAST	ELEVATION	Y4WB STATION	OFFSET
421	BY15-540	862136.1110	1664523.5220	872.27	107+95.42	103.37 RT
543	BY15A-543	862241.0400	1664301.0870	887.99	110+25.30	190.77 RT

BY15B

POINT	DESC.	NORTH	EAST	ELEVATION	Y4WB STATION	OFFSET
422	BY15-542	862274.5570	1662769.5400	895.75	125+54.85	105.70 RT
544	BY15B-544	862261.7170	1663673.7090	908.06	116+52.40	162.85 RT

BY16

POINT	DESC.	NORTH	EAST	ELEVATION	Y4WB STATION	OFFSET
5	U2579B-5	861341.2660	1673030.7850	918.90	22+52.16	30.91 LT
6	U2579B-6	861435.2090	1671817.3030	891.85	34+69.27	31.13 LT
545	BY16-545	861531.5670	1670683.4880	860.50	46+07.14	22.78 LT
546	BY16-546	861616.8460	1669575.7410	850.59	57+18.17	23.46 LT
547	BY16-547	861728.7350	1668130.4650	875.65	71+67.77	23.73 LT
7	U2579B-7	861818.7420	1666875.7630	893.30	84+25.67	31.06 LT
133	BL-52	861914.1300	1666379.8520	893.60	89+27.48	25.67 RT
8	U2579B-8	861955.1850	1665179.3440	884.85	101+27.56	26.28 LT
548	BY16-548	862036.7340	1664165.1230	889.03	111+45.05	23.44 LT
549	BY16-549	862152.4420	1663289.1930	895.45	120+27.31	24.15 RT
550	BY16-550	862172.8450	1662390.6940	872.67	129+24.70	25.02 LT
551	BY16-551	862249.0870	1661414.2780	832.76	139+04.08	24.55 LT
9	U2579B-9	862298.5420	1660695.1610	821.23	146+24.87	30.88 LT
10	U2579B-10	862393.8810	1659454.5370	836.07	OUTSIDE PROJECT LIMITS	

BY17

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
552	BY17-552	860346.5342	1667955.8719	929.51	OUTSIDE PROJECT LIMITS	
553	BY17-553	860538.5346	1667421.6769	935.94	13+51.50	25.23 RT
554	BY17-554	860684.2984	1666736.5504	941.16	20+50.42	21.21 LT
423	BL-54	860906.9530	1666066.1526	934.37	27+55.06	26.07 RT
555	BY17-555	861000.6910	1665374.5580	923.08	34+51.21	18.22 LT
556	BY17-556	861259.3690	1664179.7680	927.10	OUTSIDE PROJECT LIMITS	
557	BY17-557	861349.1760	1663433.4920	914.70	OUTSIDE PROJECT LIMITS	
558	BY17-558	861624.9800	1662811.0040	899.76	OUTSIDE PROJECT LIMITS	
559	BY17-559	862260.3430	1662528.1310	898.66	OUTSIDE PROJECT LIMITS	
560	BY17-560	862589.5820	1662386.3650	881.81	OUTSIDE PROJECT LIMITS	
561	BY17-561	862879.8960	1662103.3270	855.77	OUTSIDE PROJECT LIMITS	

BY18

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
424	BY17-553	860538.5346	1667421.6769	935.94	13+51.50	25.23 RT
562	BY18-562	860885.4838	1667404.8146	937.71	14+62.27	354.46 RT
563	BY18-563	861414.6149	1667510.7937	898.33	15+04.48	892.44 RT
564	BY18-564	861426.0247	1668207.0326	879.86	OUTSIDE PROJECT LIMITS	

BY18A

POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
425	BY18-562	860885.4838	1667404.8146	937.71	14+62.27	354.46 RT
565	BY18A-565	861003.7781	1667499.0310	926.65	14+03.85	493.95 RT

BY19

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
566	BY19-566	860784.0110	1664251.2450	905.20	657+78.53	1646.10 RT
426	BY17-556	861259.3690	1664179.7680	927.10	653+31.29	1822.31 RT

BY20

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
427	BY17-556	861259.3690	1664179.7680	927.10	653+31.29	1822.31 RT
567	BY20-567	861723.0500	1663959.2160	913.19	649+24.02	2141.15 RT

BY21

POINT	DESC.	NORTH	EAST	ELEVATION	Y4EB STATION	OFFSET
568	BY21-568	861499.7550	1662484.6960	868.91	127+78.90	634.82 LT
428	BY17-558	861624.9800	1662811.0040	899.76	124+63.26	484.73 LT

BM•1 ELEVATION = 884.23
R/R SPIKE SET IN BASE OF 18" OAK,
27' OFF OF WEST EP OF OLD BELEWS
CREEK RD.
N 872364 E 1656715
Y1 STATION 58+42 354 RIGHT

BM•2 ELEVATION = 942.32
R/R SPIKE SET IN ROOT OF 28" FORKED
MAPLE 17' OFF OF NORTH EP OF US-158
N 876236 E 1660360
Y1 STATION 10+00
N 35° 38' 34.2" E DIST 468.59

BM•3 ELEVATION = 953.40
R/R SPIKE SET IN CONC. CURB AND
GUTTER AT ENTRANCE TO GOSPEL
LIGHT BAPTIST CHURCH 14' OFF OF
WEST EP OF WALKERTOWN-GUTHRIE RD.
N 873632 E 1661924
L STATION 513+19 1433 LEFT

BM•4 ELEVATION = 935.13
R/R SPIKE SET IN BASE OF 24' OAK
12' OFF OF WEST EP OF MORRIS RD.
N 872942 E 1662678
L STATION 523+22 1235 LEFT

BM•5 ELEVATION = 866.68
R/R SPIKE SET IN BASE OF 42" FORKED
OAK 19' OFF OF NORTH EP OF WESTN
LAKE TRAIL
N 870288 E 1665137
L STATION 557+12 427 LEFT

BM•6 ELEVATION = 900.49
R/R SPIKE SET IN BASE OF 18" OAK
38' OFF OF NORTH EP OF ROBBINS
PERCH TRAIL
N 869271 E 1665048
L STATION 564+11 311 RIGHT

BM•7 ELEVATION = 956.89
SE PAINTED BOLT IN R/R CROSS BAR
ON WEST SIDE OF BAGLEY RD. @
INTERSECTION W/ WEST MOUNTAIN ST.
N 868295 E 1667303
SRR STATION 22+73 21 RIGHT

BM•8 ELEVATION = 881.42
R/R SPIKE SET IN BASE OF 24" BURCH
24' OFF OF NORTH EP OF REGENTS PARK RD.
N 864512 E 1666936
L STATION 616+14 483 LEFT

BM•9 ELEVATION = 899.76
R/R SPIKE SET IN PAVEMENT OF
RACHEL ST. -BY14- @ INTERSECTION
OF GERRY RD.
N 862500 E 1665571
L STATION 637+58 702 RIGHT

BM•10 ELEVATION =935.89
R/R SPIKE SET IN ROOT OF 30" WILLOW
OAK 10' OFF OF EAST EP OF HASTINS
HILL RD.
N 860489 E 1667600
Y5 STATION 11+66 26 RIGHT

NOTES:

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U2579B_LS_WGS84_071217.TXT
U2579B_LS_LOCAL_071217.TXT
U2579B_LS_CONTROL_071217.TXT

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DATUM DESCRIPTION

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NOTE: DRAWING NOT TO SCALE

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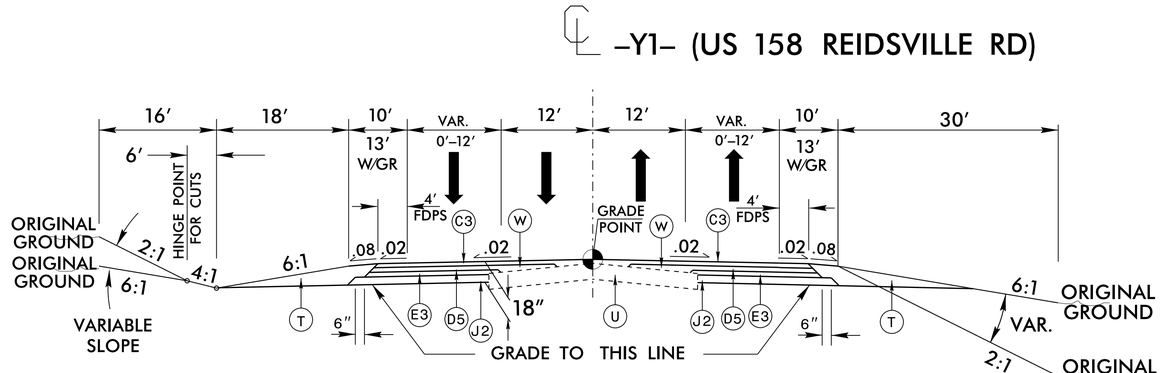
PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

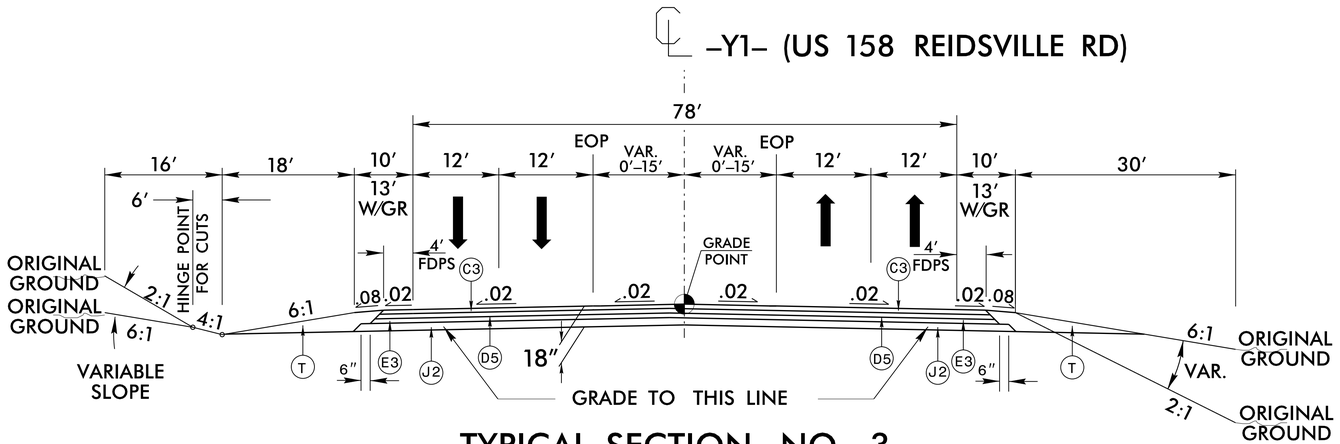
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2:
–Y1– STA. 10+00.00. TO STA. 14+32.71
–Y1– STA. 49+00.00 TO STA. 52+85.00

USE 3″ OVERLAY ON EXISTING ROAD:
–Y1– STA. 52+85.00 TO STA. 54+00.00



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3:
–Y1– STA. 14+32.71 TO STA. 21+71.59
–Y1– STA. 42+25.00 TO STA. 49+00.00

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″ SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″ B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

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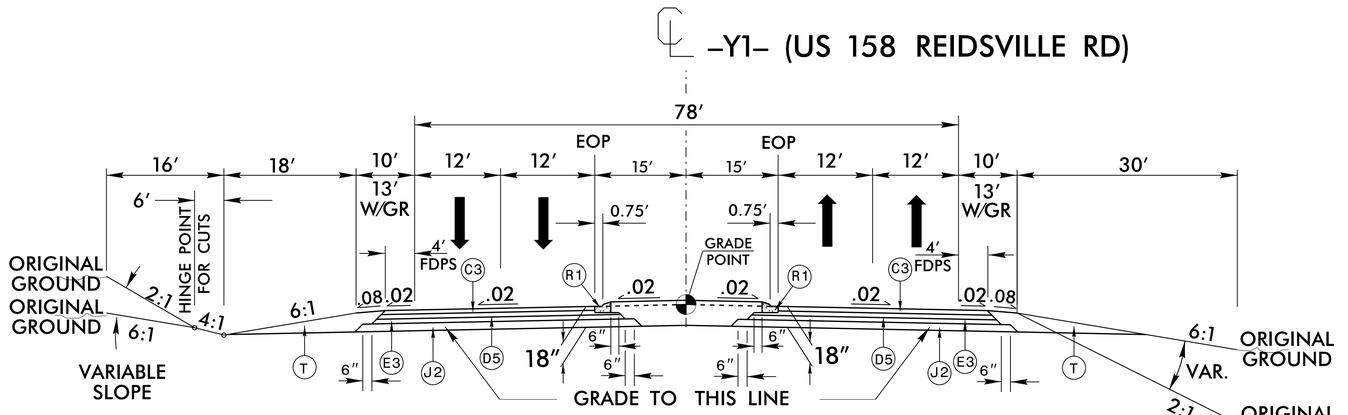
PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

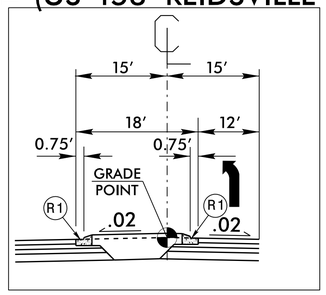
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4:
–Y1– STA. 21+71.59 TO STA. 32+69.50+/– (BEG. APPR. SLAB)
–Y1– STA. 39+57.26 TO STA. 42+25.00

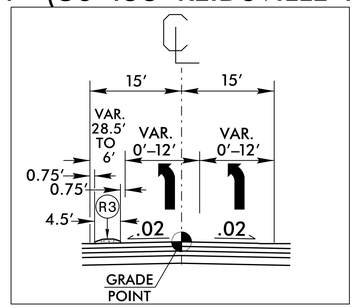
INSET FOR LEFT TURN –Y1– (US 158 REIDSVILLE RD)



PARTIAL TYPICAL SECTION NO.4A :
USE IN CONJUNTION WITH NO. 4
–Y1– STA. 21+71.59 TO STA. 26+57.71

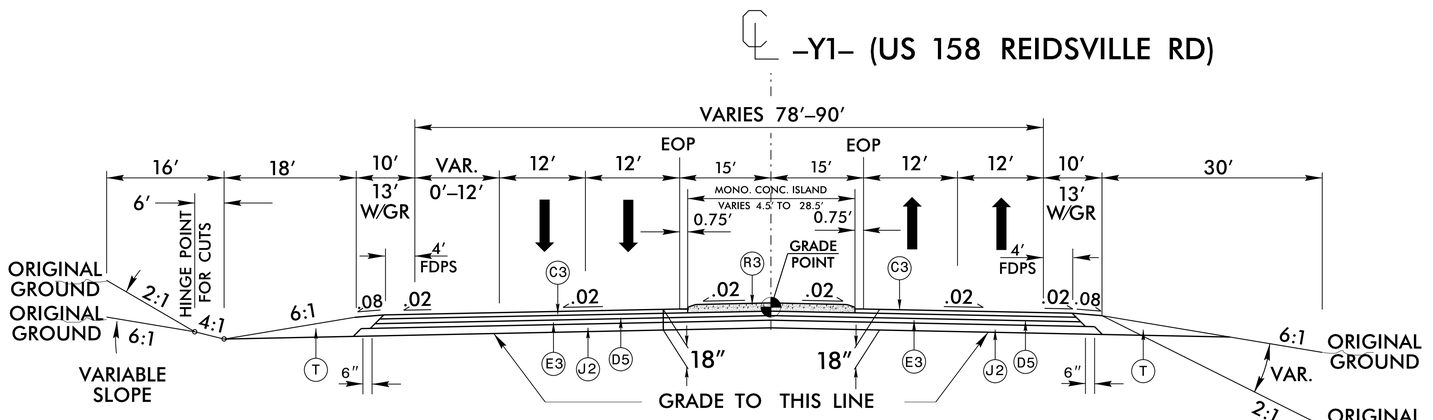
PARTIAL TYPICAL SECTION NO. 4A

INSET FOR DUAL LEFTS –Y1– (US 158 REIDSVILLE RD)



PARTIAL TYPICAL SECTION NO. 5A:
USE IN CONJUNTION WITH T.S. NO. 5
–Y1– STA. 34+27.26 TO STA. 39+57.26

PARTIAL TYPICAL SECTION NO. 5A



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5:
–Y1– STA. 32+69.50+/– (BEG. APPR. SLAB)
TO STA. 39+57.26

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

16-DEC-2013 10:01
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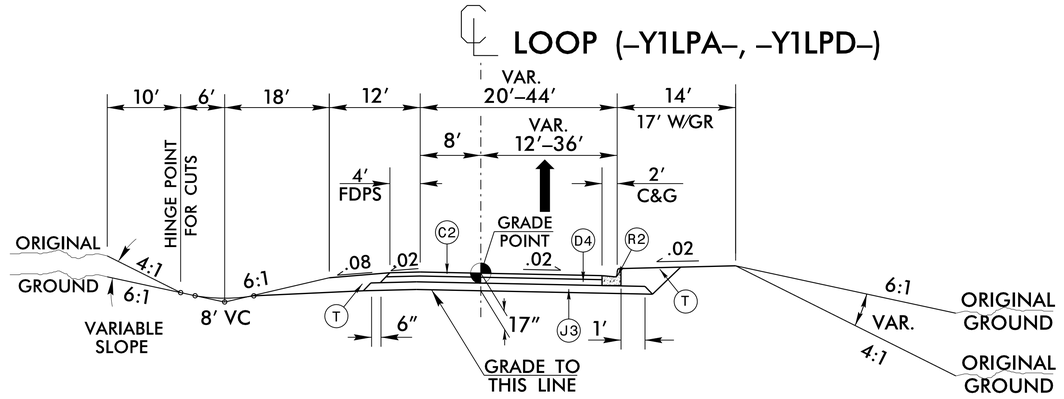
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

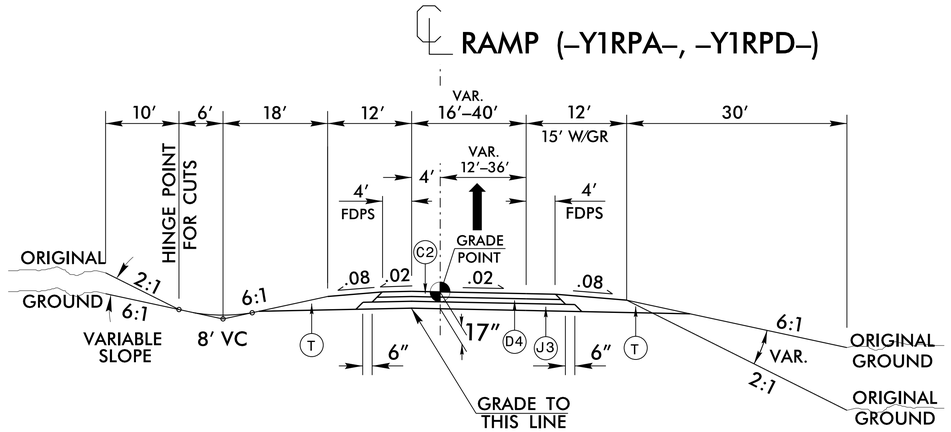
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6:

–Y1LPA– STA. 12+31.88 TO 20+37.67
–Y1LPD– STA. 12+31.88 TO 21+09.84



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7:

–Y1RPA– STA. 14+53.46 TO 29+63.93
–Y1RPD– STA. 14+53.92 TO 31+70.50

A1	13.5" JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25" SF9.5A
C2	3" S9.5B
C3	3" S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5" I19.0B
D2	2.5" I19.0C
D3	3.0" I19.0B
D4	4" I19.0B
D5	4" I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3" B25.0B
E2	4" B25.0B
E3	3" B25.0C
E4	5.5" B25.0C
E5	7" B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6" ABC
J2	8" ABC
J3	10" ABC
J4	4.25" ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1'-6"CONC. C&G
R2	2'-6"CONC. C&G
R3	5"MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

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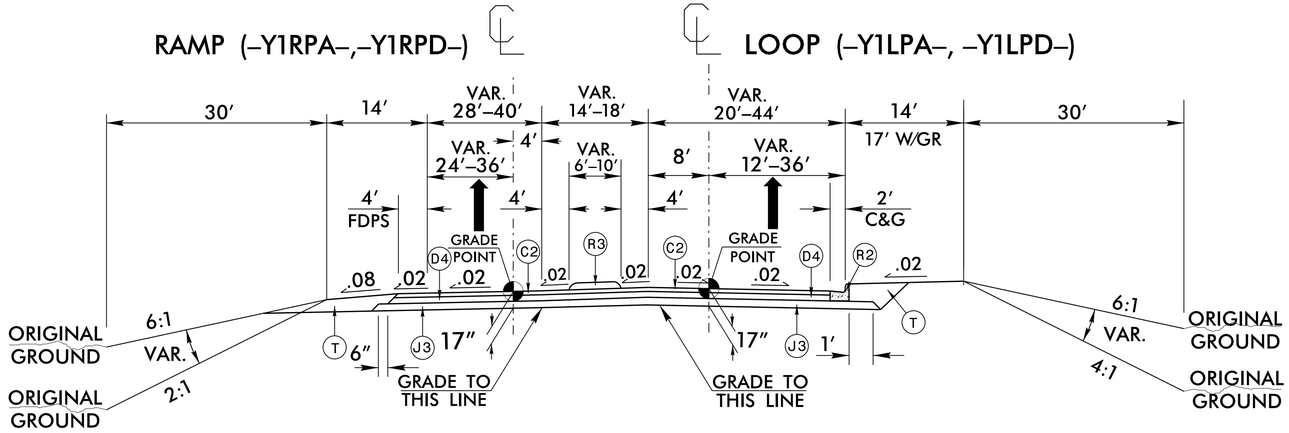
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

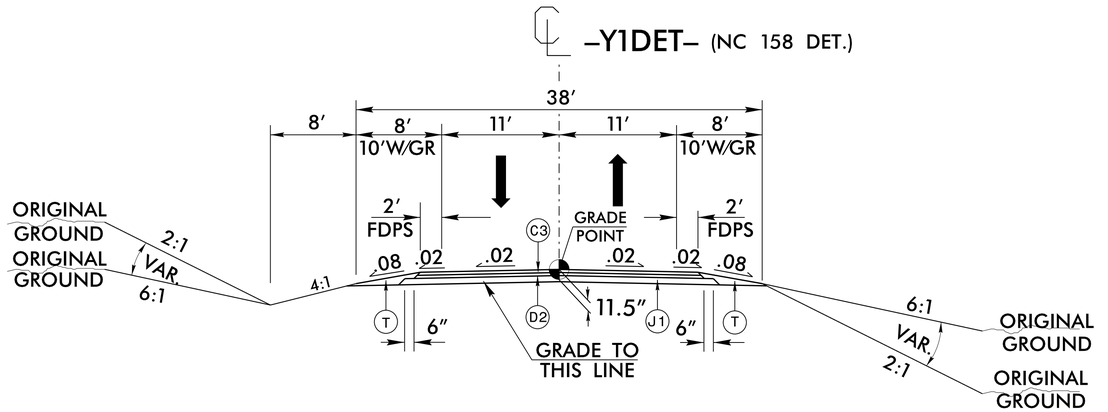
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8:
–Y1RPA– STA. 29+63.93 TO 30+89.92
–Y1RPD– STA. 31+70.50 TO 32+81.06
–Y1LPA– STA. 20+37.67 TO 21+65.14
–Y1LPD– STA. 21+09.84 TO 22+21.40

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9:
–Y1DET.– STA. 10+00.00 (=Y1 STA. 11+88.83) TO
STA. 49+80.05 (=Y1 STA. 51+09.25, 4.18′ LT)

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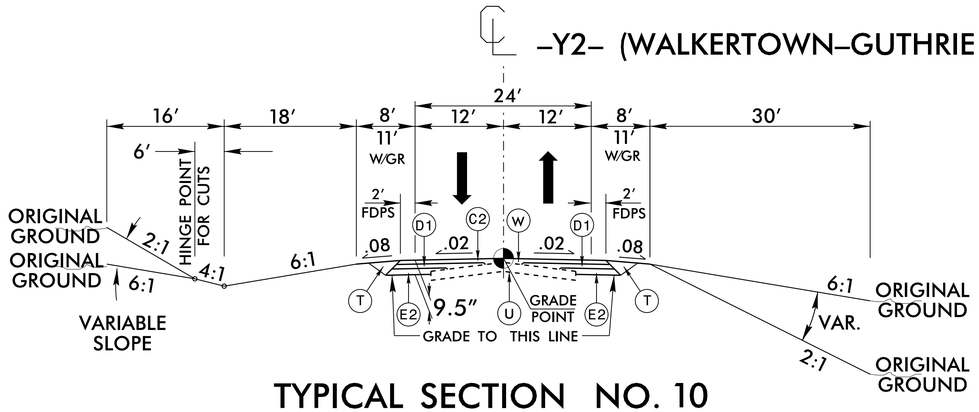
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

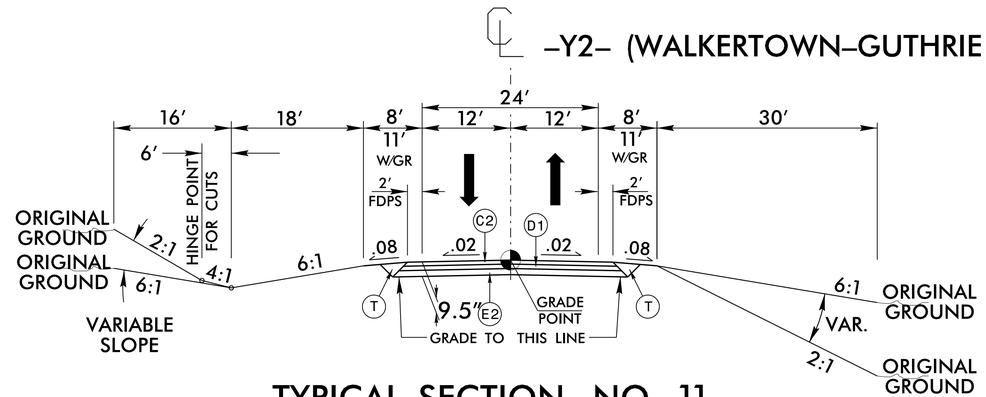
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10:

–Y2– STA. 10+00.00 TO 17+40.00
–Y2– STA. 23+20.00 TO 29+75.00



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11:

–Y2– STA. 17+40.00 TO 18+99.25 +/–(BEG. BR)
–Y2– STA. 21+41.18 +/–(END BR) TO 23+20.00

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″ SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″ B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

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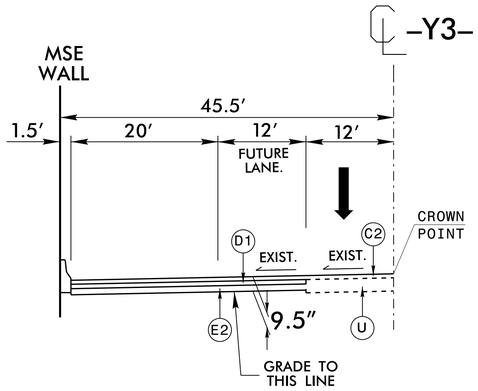
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-EA
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

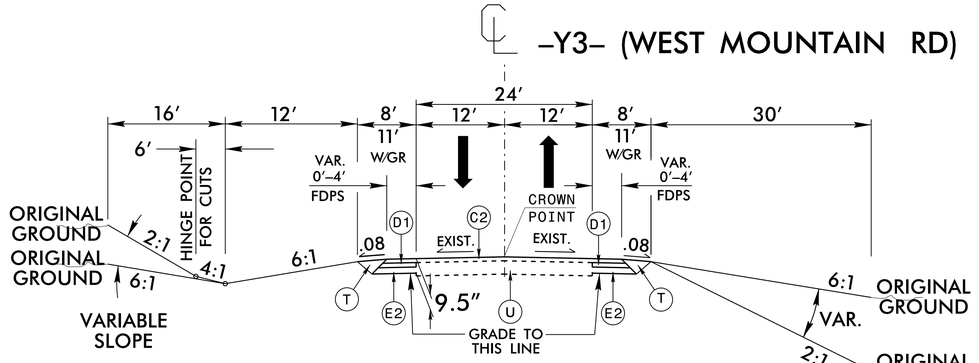
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PARTIAL TYPICAL SECTION NO. 30A

USE IN CONJUCTION WITH TYPICAL SECTION NO. 30:

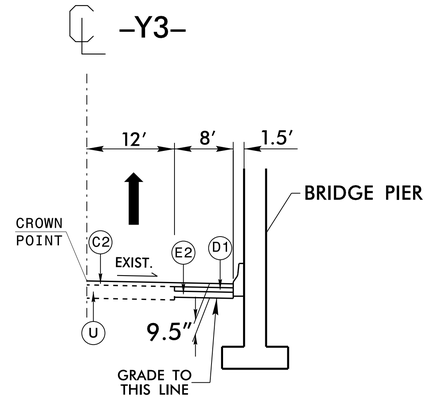
–Y3– STA. 21+03.71 +/– TO 24+32.43 +/– LT.



TYPICAL SECTION NO. 30

USE TYPICAL SECTION NO. 30:

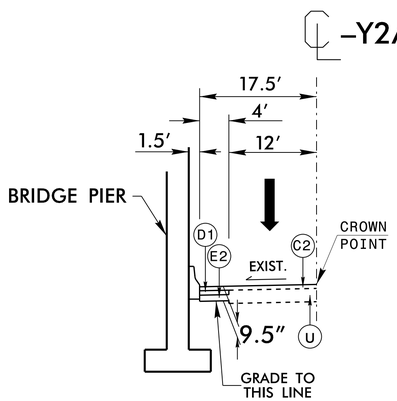
–Y3– STA. 18+25.00 TO 26+25.00



PARTIAL TYPICAL SECTION NO. 30B

USE IN CONJUCTION WITH TYPICAL SECTION NO. 30:

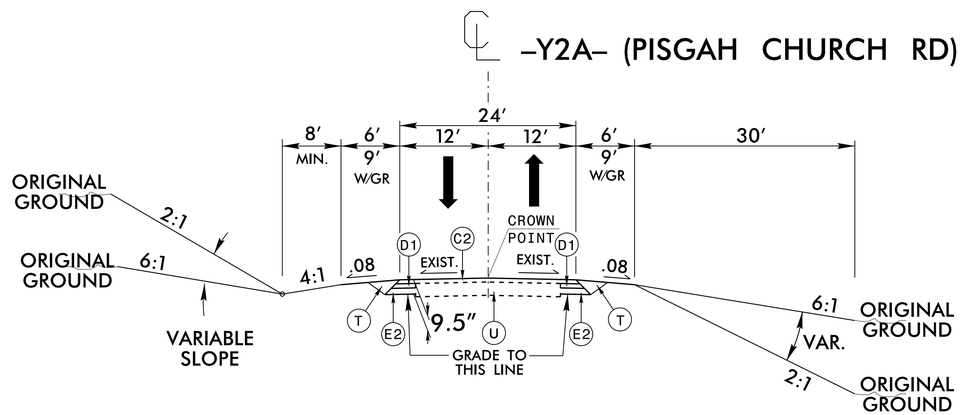
–Y3– STA. 21+84.89 +/– TO 23+54.38 +/– RT.



PARTIAL TYPICAL SECTION NO. 31A

USE IN CONJUCTION WITH TYPICAL SECTION NO. 31:

–Y2A– STA. 17+47.09 +/– TO 19+13.54 +/– RT.



TYPICAL SECTION NO. 31

USE TYPICAL SECTION NO. 31:

–Y2A– STA. 16+00.00 TO 22+00.00

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″ SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″ B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

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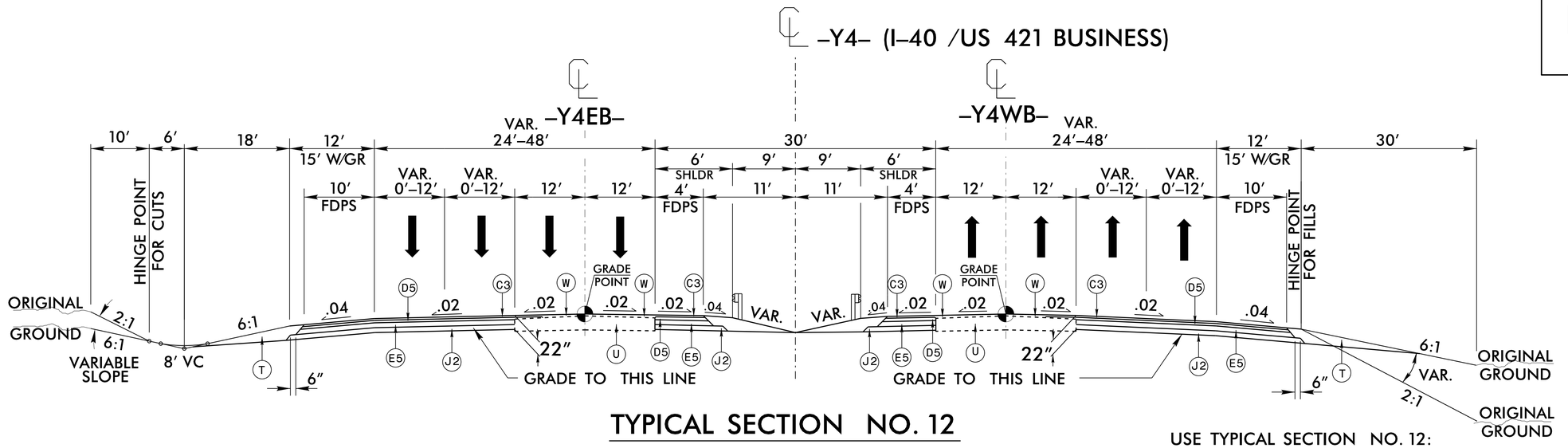
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



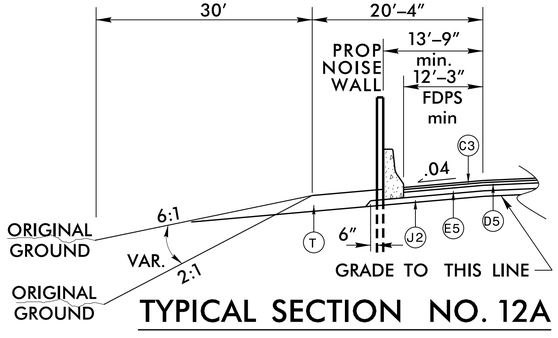
TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12:

–Y4– STA. 26+80.00 TO STA. 143+00.00
(–Y4EB– & –Y4WB–)

NOTE: SEE TIP PROJECT U–2579G
RESURFACE EXISTING (CONSTRUCTED UNDER TIP PROJECT U–2579G)
–Y4– STA 127+93.50 (BEGIN WALL) TO STA 130+26.37 (END WALL) LT.
–Y4– STA 129+53.10 (BEGIN WALL) TO STA 131+63.57 (END WALL) RT.

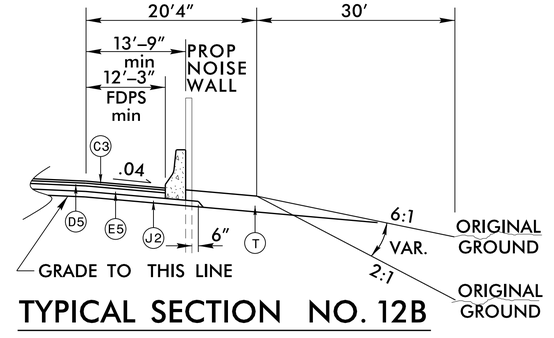
A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING



TYPICAL SECTION NO. 12A

USE TYPICAL SECTION NO. 12B:

–Y4EB– STA. 130+26.37 TO 143+00.00 LT
(NOISEWALL –NWY42–)



TYPICAL SECTION NO. 12B

USE TYPICAL SECTION NO. 12B:

–Y4EB– STA. 63+43.06 TO 64+91.92 LT. (81+62.11 –Y4RPBD–)
(NOISEWALL –NWY4RPBD2–)

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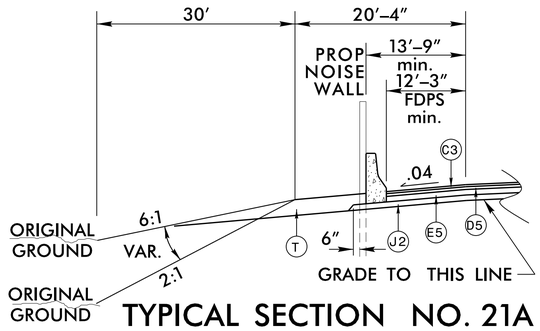
PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

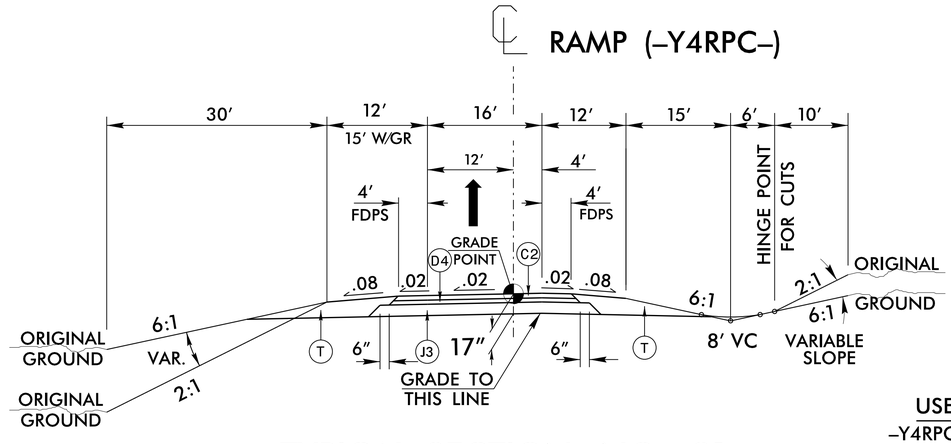
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 21A

USE TYPICAL SECTION NO. 21A:

–Y4RPC– STA. 31+09.32 TO 33+89.86 LT (NOISEWALL –NWY41–)

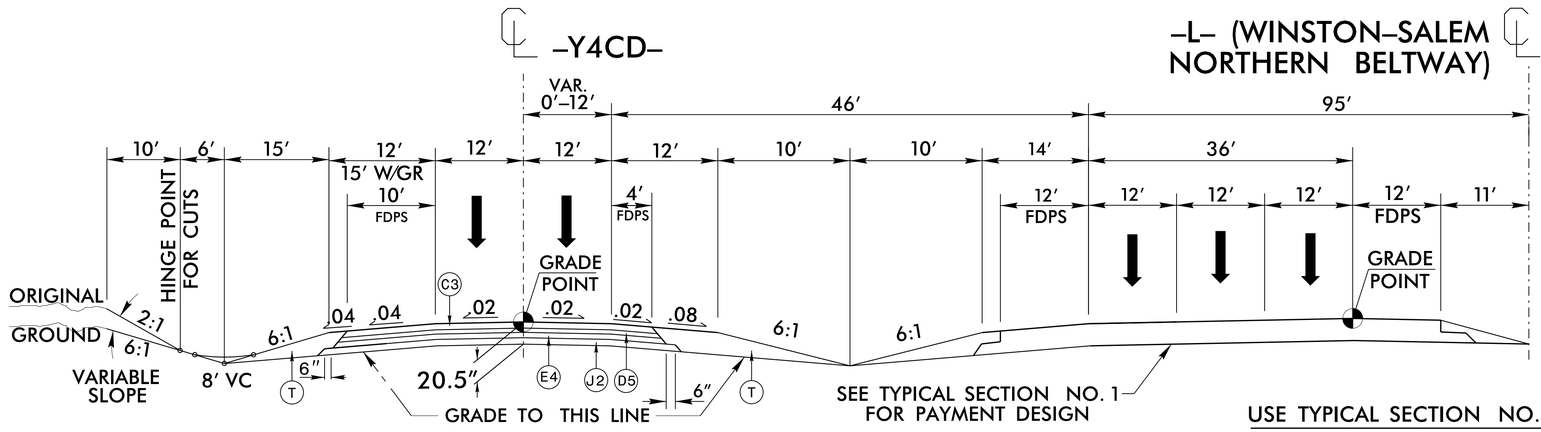


TYPICAL SECTION NO. 21

USE TYPICAL SECTION NO. 21:

–Y4RPC– STA. 13+88.00 – 35+56.52

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

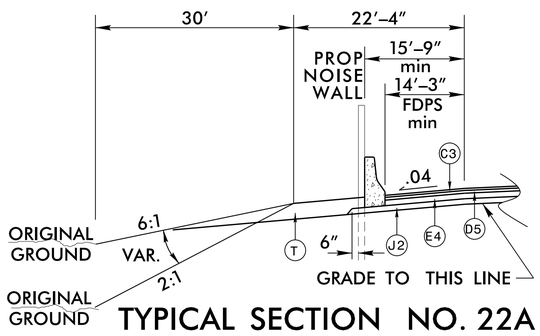


TYPICAL SECTION NO. 22

USE TYPICAL SECTION NO. 22:

–Y4CD– STA. 19+22.07 TO STA. 32+49.05 +/– (BEG. BR.)
–Y4CD– STA. 33+92.90 +/– (END BR.) TO STA. 45+76.53 +/– (BEG. BR.)
–Y4CD– STA. 47+84.70 +/– (END BR.) TO STA. 85+65.67

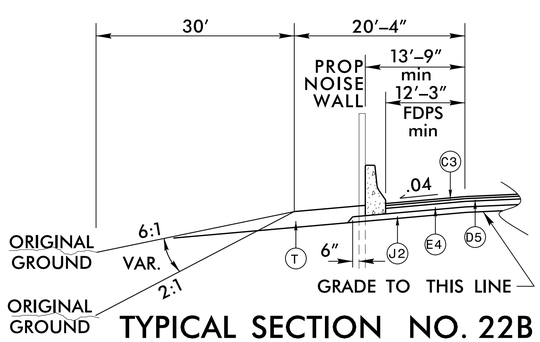
* PAVE TO FACE OF GUARDRAIL



TYPICAL SECTION NO. 22A

USE TYPICAL SECTION NO. 22A:

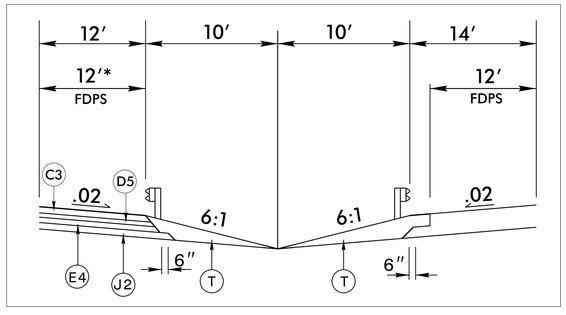
–Y4CD– STA. 19+22.07 TO 30+55.29 LT (13+73.64 –Y4RPA–) (NOISEWALL –NWL3–)



TYPICAL SECTION NO. 22B

USE TYPICAL SECTION NO. 22B:

–Y4CD– STA. 67+87.59 TO 72+82.89 LT (NOISEWALL –NWCD2–)



USE IN CONJUNCTION WITH T.S. NO. 22 FOR –Y4CD– MEDIAN GUARDRAIL LOCATIONS

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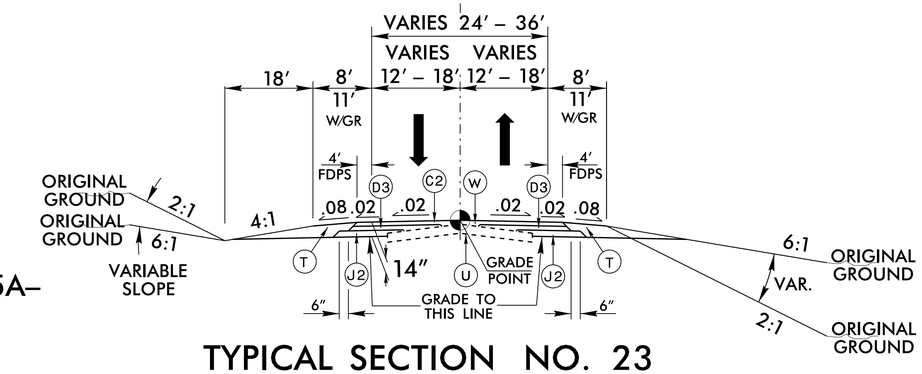
PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-J
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–Y5– & –Y5A– (HASTINGS HILL RD)

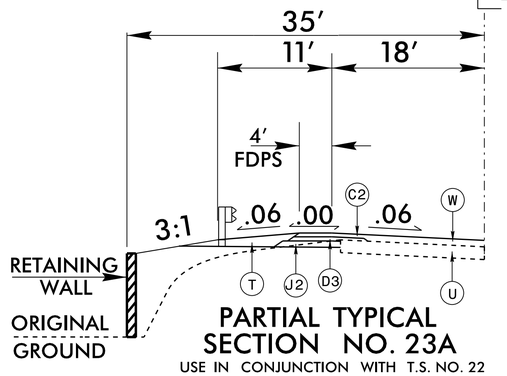


TYPICAL SECTION NO. 23

USE TYPICAL SECTION NO. 23:

–Y5– STA. 16+00.00 TO 17+50.00
–Y5– STA. 32+00.00 TO 33+30.00
–Y5A– STA. 54+00.00 TO 61+50.00
–Y5A– STA. 79+75.00 TO 81+25.00

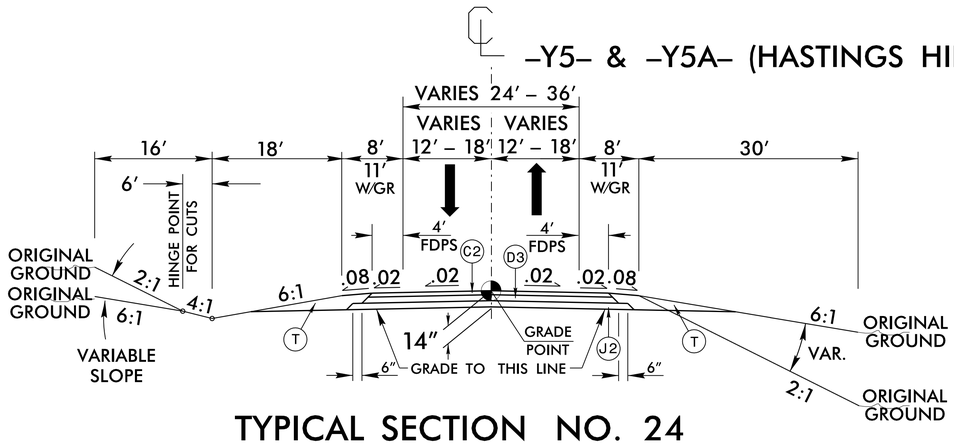
–Y5A–



PARTIAL TYPICAL SECTION NO. 23A

USE IN CONJUNCTION WITH T.S. NO. 22
–Y5– STA. 59+25.00 TO 60+25.00

–Y5– & –Y5A– (HASTINGS HILL RD)



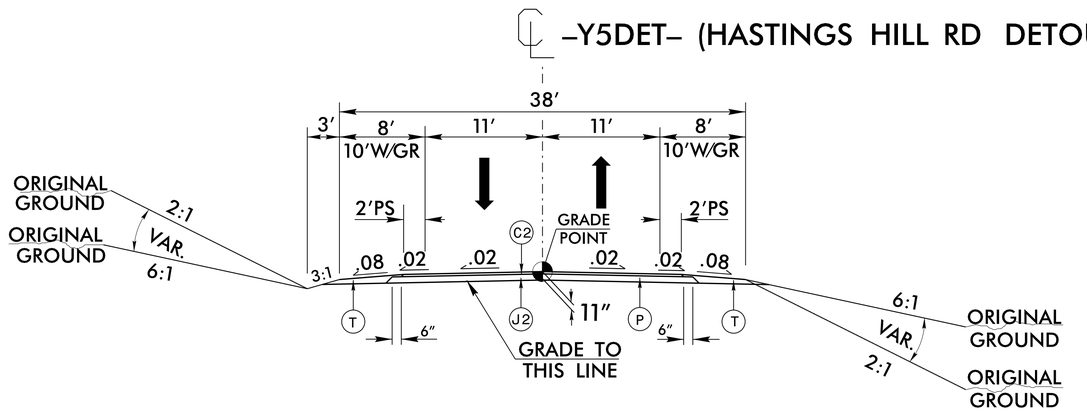
TYPICAL SECTION NO. 24

USE TYPICAL SECTION NO. 24:

–Y5– STA. 17+50.00 TO 22+95.35 +/– (BEG. BR.)
–Y5– STA 24+06.99 +/– (END BR.) TO 26+62.28 +/– (BR.)
–Y5– STA. 30+97.13 +/– (END BR.) TO 32+00.00
–Y5A– STA. 61+50.00 TO 66+78.58 +/– (BEG. BR.)
–Y5A– STA 69+53.11 +/– (END BR.) TO 79+75.00

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″ SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″ B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

–Y5DET– (HASTINGS HILL RD DETOUR)



TYPICAL SECTION NO. 25

USE TYPICAL SECTION NO. 25:

–Y5DET.– STA. 10+00.00 TO 32+32.54

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C:\projects\2013\u2579b_rdy_typ.dgn
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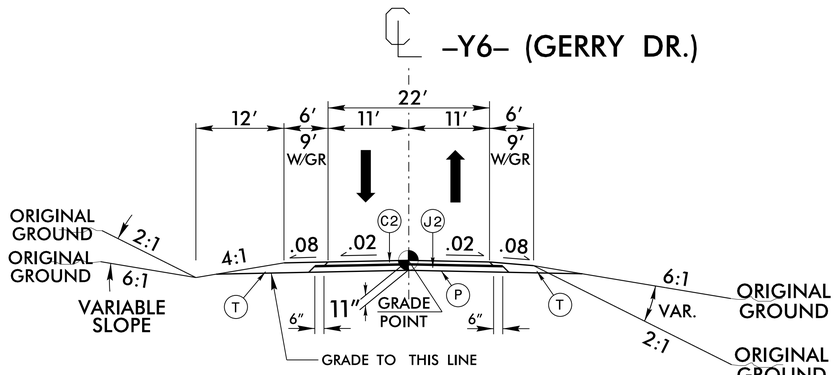
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-K
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

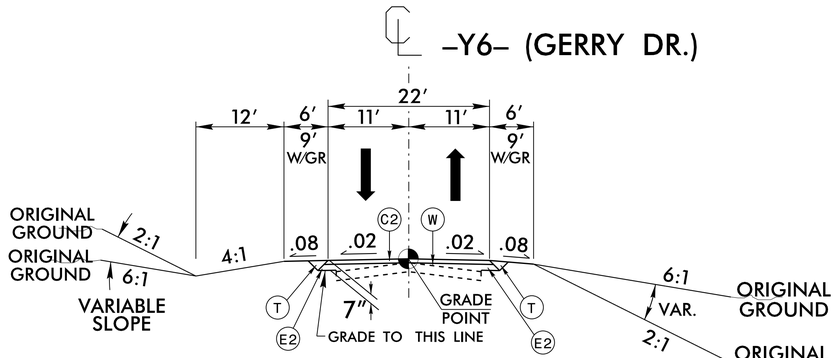
A1	13.5" JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25" SF9.5A
C2	3" S9.5B
C3	3" S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5" I19.0B
D2	2.5" I19.0C
D3	3.0" I19.0B
D4	4" I19.0B
D5	4" I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3" B25.0B
E2	4" B25.0B
E3	3" B25.0C
E4	5.5" B25.0C
E5	7" B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6" ABC
J2	8" ABC
J3	10" ABC
J4	4.25" ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1'-6"CONC. C&G
R2	2'-6"CONC. C&G
R3	5"MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING



TYPICAL SECTION NO. 26

USE TYPICAL SECTION NO. 25:

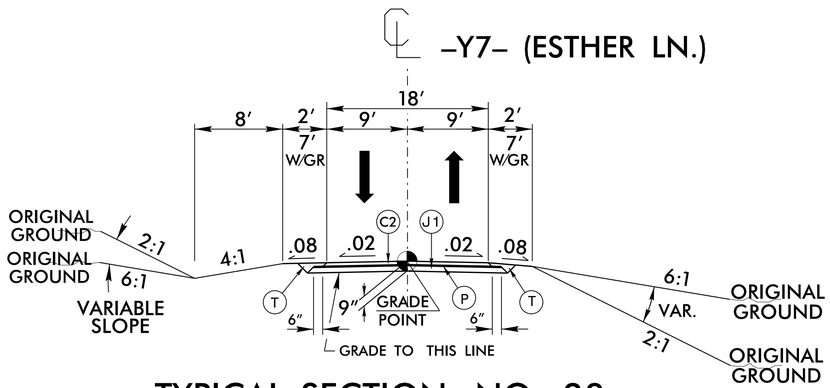
–Y6– STA. 10+12.91 TO 12+00.00
–Y6– STA. 15+50.00 TO 38+21.23



TYPICAL SECTION NO. 27

USE TYPICAL SECTION NO. 26:

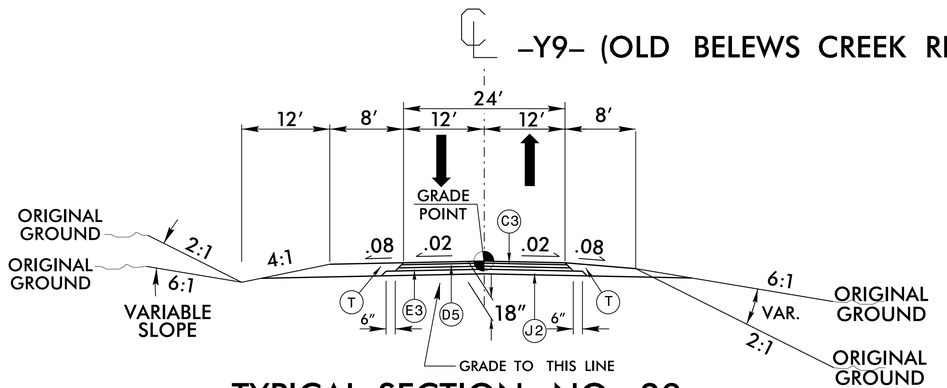
–Y6– STA. 12+00.00 TO 15+50.00



TYPICAL SECTION NO. 28

USE TYPICAL SECTION NO. 28:

–Y7– STA. 10+00.00 TO STA. 13+54.72



TYPICAL SECTION NO. 29

USE TYPICAL SECTION NO. 29:

–Y9– STA. 10+16.20 TO STA. 13+00.00

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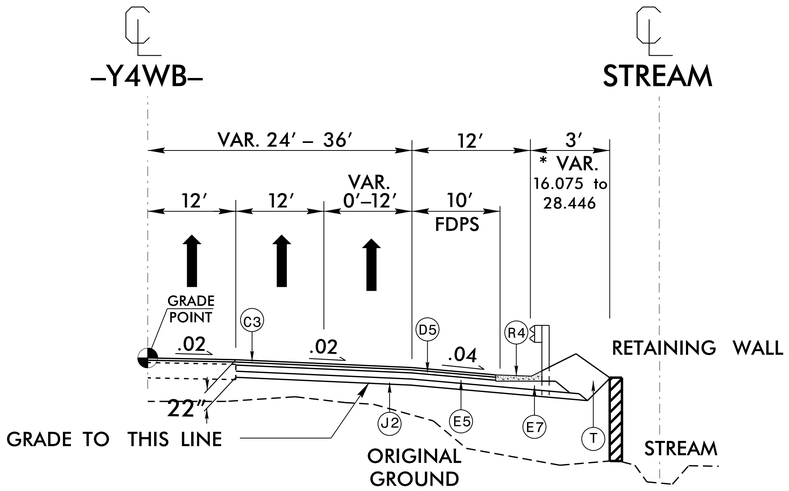
$$$$USERNAME$$$$

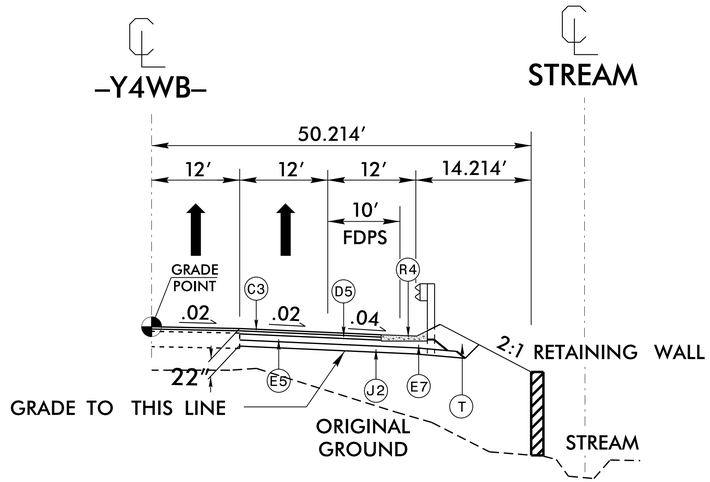
PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-KA
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



RETAINING WALL DETAIL 1:

–Y4WB– FROM STA. 50+50.00 TO STA. 55+50.00
* –Y4WB– FROM STA. 64+11.04 TO STA. 64+58.33

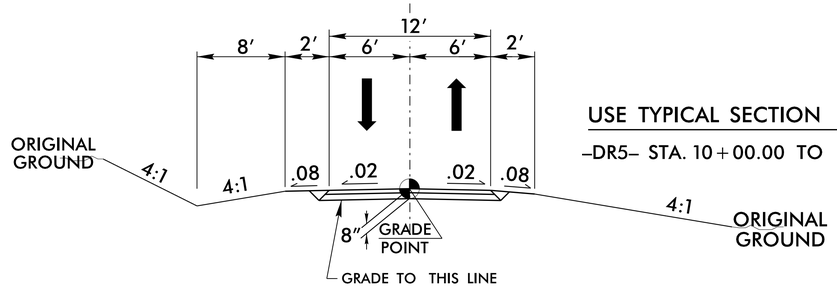


RETAINING WALL DETAIL 2:

–Y4WB– FROM END OF RCBC (46+59.65) TO 47+75.00

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

–DR5– (WILSON PROP.DRIVEWAY)



USE TYPICAL SECTION NO. 32:

–DR5– STA. 10+00.00 TO STA. 22+96.07

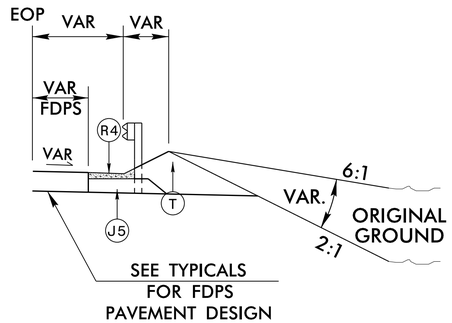
TYPICAL SECTION NO. 32

SHOULDER BERM GUTTER LOCATIONS:

–L– FROM STA. 500+99.79 TO STA. 509+49.88 LT
–L– FROM STA. 501+50.00 TO STA. 510+35.00 RT
–L– FROM STA. 521+50.91 TO STA. 528+74.91 LT
–L– FROM STA. 522+00.00 TO STA. 528+46.90 RT
–L– FROM STA. 554+22.53 TO STA. 555+49.01 RT
–L– FROM STA. 604+99.94 TO STA. 607+18.45 LT
–L– FROM STA. 609+68.44 TO STA. 610+30.00 RT
–L– FROM STA. 626+34.75 TO STA. 626+87.06 RT
–L– FROM STA. 640+49.58 TO STA. 641+32.08 LT
–L– FROM STA. 640+50.42 TO STA. 641+54.76 RT
–L– FROM STA. 666+25.45 TO STA. 668+99.96 RT
–L– FROM STA. 686+49.89 TO STA. 692+33.01 RT
–L– FROM STA. 687+89.99 TO STA. 690+83.52 LT

–Y1– FROM STA. 18+49.91 TO STA. 24+00.00 LT
–Y1– FROM STA. 35+41.68 TO STA. 35+76.19 LT
–Y1– FROM STA. 41+29.69 TO STA. 42+50.00 LT
–Y1– FROM STA. 22+74.55 TO STA. 28+10.00 RT
–Y1– FROM STA. 35+57.53 TO STA. 45+00.41 RT
–Y2– FROM STA. 18+60.62 TO STA. 18+99.02 RT
–Y2– FROM STA. 18+60.91 TO STA. 18+99.05 LT
–Y3– FROM STA. 20+70.00 TO STA. 21+04.07 LT
–Y4– FROM STA. 39+50.02 TO STA. 55+50.18 RT
–Y4– FROM STA. 40+99.99 TO STA. 45+99.99 LT

–Y4CD– FROM STA. 44+66.31 TO STA. 45+49.34 LT
–Y4CD– FROM STA. 92+56.00 TO STA. 95+50.15 LT
–Y4RPA– FROM STA. 10+00.00 TO STA. 15+34.38 LT
–Y4RPA– FROM STA. 19+26.35 TO STA. 24+49.37 LT
–Y4RPBD– FROM STA. 10+00.00 TO STA. 24+82.31 RT
–Y4RPBD– FROM STA. 42+25.35 TO STA. 42+86.34 LT
–Y4RPBD– FROM STA. 23+99.96 TO STA. 25+43.04 LT
–Y4RPBD– FROM STA. 54+90.96 TO STA. 55+20.43 LT
–Y5– FROM STA. 31+30.17 TO STA. 31+60.01 RT
–Y5– FROM STA. 31+14.48 TO STA. 31+59.81 LT
–Y5A– FROM STA. 69+54.66 TO STA. 69+79.94
–Y5A– FROM STA. 70+07.94 TO STA. 70+16.97



SHOULDER BERM GUTTER DETAIL

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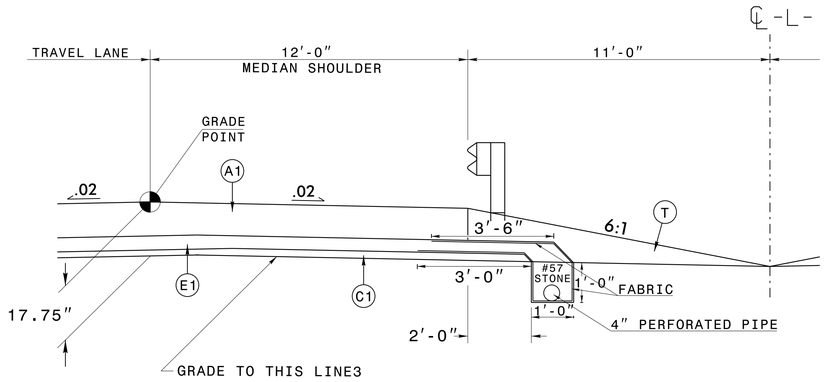
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-KB
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



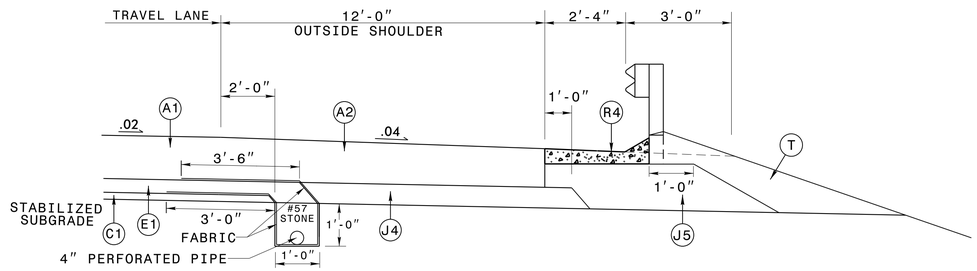
MEDIAN SHOULDER DRAIN WITH GUARDRAIL

RECOMMENDED LOCATIONS:

STA. 542+00 TO 555+45 (LT, MEDIAN)
OUTLETS: 545+65 (2GI), 548+53 +/- (2GI), 551+00 (2GI), 554+22 (2GI)

STA. 558+30 TO 564+00 (LT, MEDIAN)
OUTLETS: 558+30 (2GI), 560+50 (2GI)

STA. 667+00 TO 679+00 (LT, MEDIAN)
OUTLETS: 669+65 (2GI), 672+00 (2GI), 673+22 +/- (2GI), 676+00 (2GI)



SHOULDER DRAIN WITH SHOULDER BERM GUTTER & GUARDRAIL DETAIL

RECOMMENDED LOCATIONS:

STA. 501+50 TO 510+00 (RT, OUTSIDE)
OUTLETS: 501+50 (2GI), 504+85 (2GI), 507+00 (2GI)

STA. 558+30 TO 564+00 (RT, OUTSIDE)
OUTLETS: 558+30 (2GI), 560+50 (2GI)

STA. 667+00 TO 679+00 (RT, OUTSIDE)
OUTLETS: 671+00, 673+22 +/-(2GI), 676+00 (2GI)

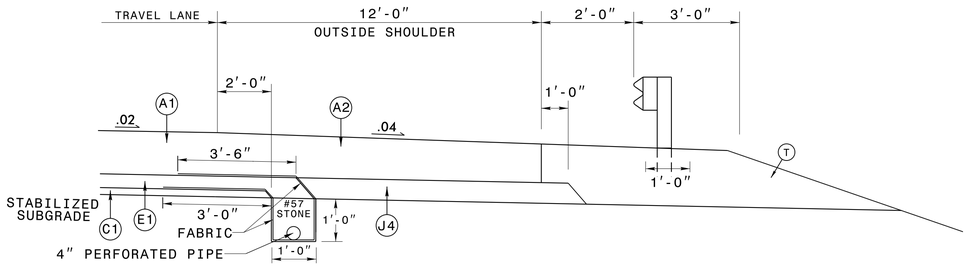
STA. 522+00 TO 528+49 (RT, OUTSIDE)
OUTLETS: 525+50 (2GI), 528+45, (2GI)

STA. 554+20 TO 555+45 (RT, OUTSIDE)
OUTLETS: 554+22 (2GI)

STA. 504+85 TO 510+37 (LT, OUTSIDE)
OUTLETS: 504+85 (2GI), 507+00 (2GI)

STA. 521+50 TO 528+75 (LT, OUTSIDE)
OUTLETS: 521+50, 525+50 (2GI), 528+75 (2GI)

A1	13.5" JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25" SF9.5A
C2	3" S9.5B
C3	3" S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5" I19.0B
D2	2.5" I19.0C
D3	3.0" I19.0B
D4	4" I19.0B
D5	4" I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3" B25.0B
E2	4" B25.0B
E3	3" B25.0C
E4	5.5" B25.0C
E5	7" B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6" ABC
J2	8" ABC
J3	10" ABC
J4	4.25" ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1'-6"CONC. C&G
R2	2'-6"CONC. C&G
R3	5"MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
	EXISTING PAVEMENT.
	WEDGING



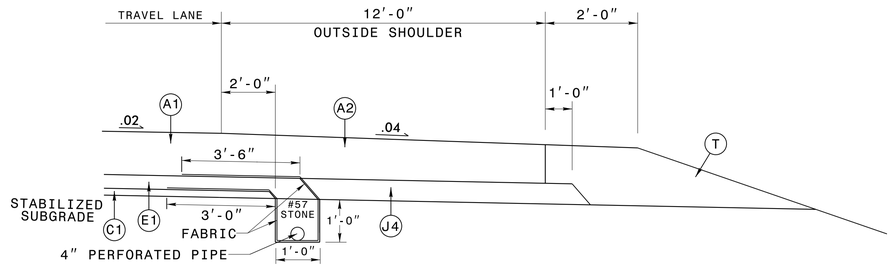
SHOULDER DRAIN WITH GUARDRAIL DETAIL

RECOMMENDED LOCATIONS:

STA. 478+20 TO 484+35 (RT, OUTSIDE)
OUTLETS: 478+20 (2GI), 483+00 (2GI)

STA. 617+00 TO 626+00 (RT, OUTSIDE)
OUTLETS: 620+78 +/- 623+00

STA. 552+62. TO 554+20 (RT, OUTSIDE)



SHOULDER DRAIN DETAIL

RECOMMENDED LOCATIONS:

STA. 486+55 TO 498+42 (RT, OUTSIDE)
OUTLETS: 486+55 (2GI), 490+75 (2GI), 494+75 (2GI)

STA. 512+00 TO 522+00 (RT, OUTSIDE)
OUTLETS: 515+30 (2GI), 520+50 (2GI)

STA. 528+49 TO 552+62 (RT, OUTSIDE)

OUTLETS: 534+22 (2GI), 534+50 (2GI), 538+00 (2GI), 539+72 (2GI), 542+70 (2GI) 545+63 (2GI), 548+53+/- (2GI), 551+00 (2GI)

STA. 478+20 TO 485+60 (LT, OUTSIDE)
OUTLETS: 478+20 (2GI), 483+39 (2GI)

STA. 487+50 TO 495+00 (LT, OUTSIDE)
OUTLETS: 487+50 (2GI), 490+75 (2GI)

STA. 510+37 TO 521+50 (LT, OUTSIDE)
OUTLETS: 513+00 , 516+00 (2GI), 520+00 (2GI), 521+50

STA. 528+75 TO 542+70 (LT, OUTSIDE)
OUTLETS: 528+75 (2GI), 534+50 (2GI), 539+72 (2GI), 542+70 (2GI)

STA. 617+00 TO 626+80 (LT, OUTSIDE)
OUTLETS: 620+75 +/- (3GI), 623+47 (2GI)

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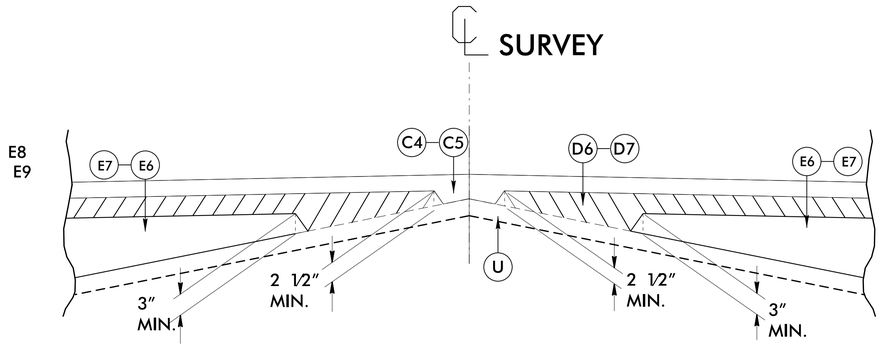
5/14/99

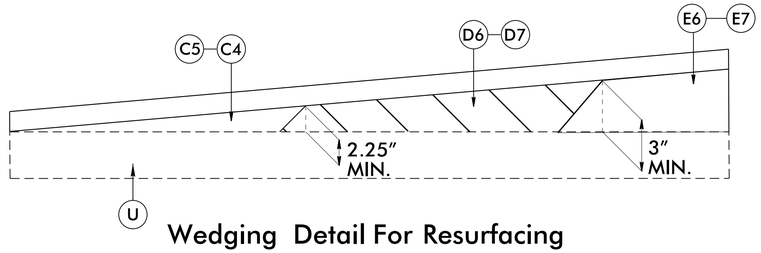
PAVEMENT SCHEDULE

A1	13.5" DOWELED JOINTED PORTLAND CEMENT CONCRETE PAVEMENT
A2	VAR. DEPTH DOWELED JOINTED PORTLAND CEMENT CONCRETE PAVEMENT WITHOUT DOWELS AND A MINIMUM DEPTH OF 10.5"
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 137.5 LBS.PER SQ.YD.
C2	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.
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C4	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 TO EXCEED 2" IN DEPTH.
C5	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ.YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 2.5"ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. APPROX. 2.5"ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D3	PROP. APPROX. 3.0"ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D4	PROP. APPROX. 4"ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D5	PROP. APPROX. 4"ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D6	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.
D7	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, 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. 3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E2	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E3	PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E4	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E5	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E6	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.
E7	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, 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.
J1	PROP. 6" AGGREGATE BASE COURSE.
J2	PROP. 8" AGGREGATE BASE COURSE.
J3	PROP. 10" AGGREGATE BASE COURSE.
J4	PROP. 4.25" AGGREGATE BASE COURSE.
J5	PROP. VAR. DEPTH AGGREGATE BASE COURSE.
K	SUBBASE TO BE TREATED WITH LIME TO A DEPTH OF 6.5", AT A RATE OF 21 LBS PER SQ YD AS DIRECTED BY THE ENGINEER. OR SUBBASE TO BE TREATED WITH CEMENT TO A DEPTH OF 6", AT A RATE OF 56 LBS PER SQYD AS DIRECTED BY THE ENGINEER. OR SUBBASE TO BE TREATED WITH AGGREGATE AT A RATE OF 250 LBS PER SQYD AND CEMENT AT A RATE OF 56 LBS PER SQYD TO A DEPTH OF 6" AS DIRECTED BY THE ENGINEER.
P	PRIME COAT
R1	1'-6"CONCRETE CURB AND GUTTER.
R2	2'-6"CONCRETE CURB AND GUTTER.
R3	5" MONOLITHIC CONCRETE ISLAND.
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: PAV. EDGES ARE 1:1 UNLESS SHOW OTHERWISE.



Detail Showing Method of Wedging



Wedging Detail For Resurfacing

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

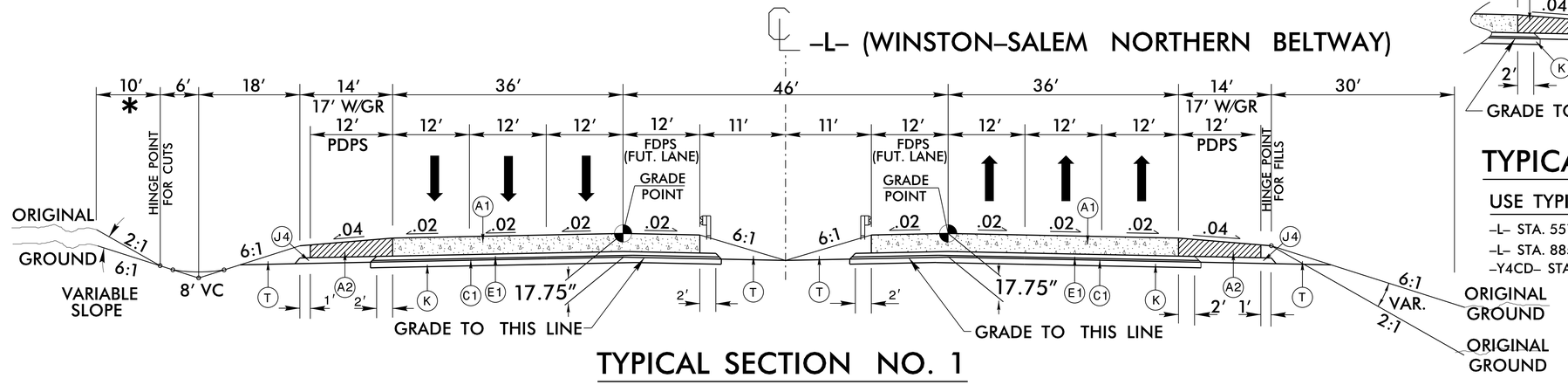
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

✱ USE 4:1 CUT SLOPES

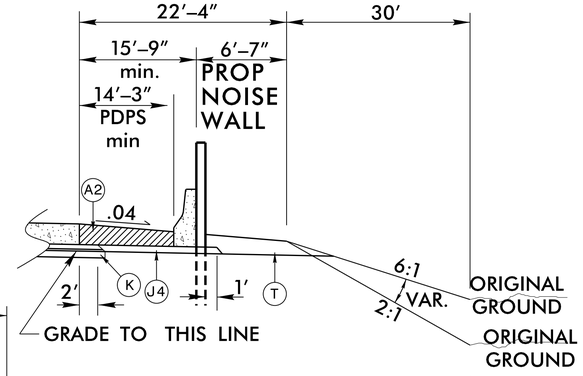
–L– STA. 513+50.00 TO STA. 520+50.00 RT
–L– STA. 514+00.00 TO STA. 519+50.00 LT
–L– STA. 530+50.00 TO STA. 538+50.00 LT
–L– STA. 542+00.00 TO STA. 554+00.00 RT
–L– STA. 547+00.00 TO STA. 552+50.00 LT
–L– STA. 670+50.00 TO STA. 685+50.00 RT

USE TYPICAL SECTION NO. 1:

–L– STA. 478+00.00 TO STA. 555+73.00+/– (BEG. BR.)
–L– STA. 557+98.01+/– (END BR.) TO STA. 582+85.67+/– (BEG. BR.)
–L– STA. 585+60.73+/– (END BR.) TO STA. 627+13.78+/– (BEG. BR.)
–L– STA. 630+18.74+/– (END BR.) TO STA. 641+70.82+/– (BEG. BR.)
–L– STA. 643+82.64+/– (END BR.) TO STA. 692+32.98



TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 1A

USE TYPICAL SECTION NO. 1A:

–L– STA. 557+97.95 TO STA. 582+84.39 RT (NOISE WALL – NWL1)
–L– STA. 885+81.40 TO STA. 609+68.44 RT (NOISE WALL – NWL2)
–Y4CD– STA. 11+18.96 TO STA. 19+22.07 LT (NOISE WALL – NWL3)

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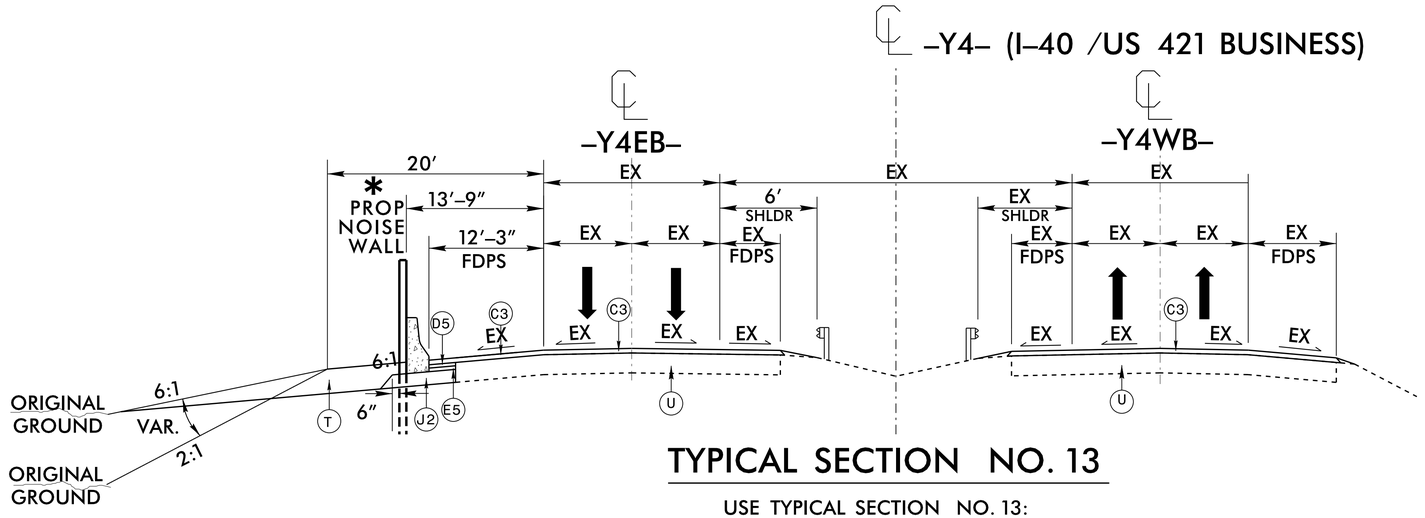
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-FA
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

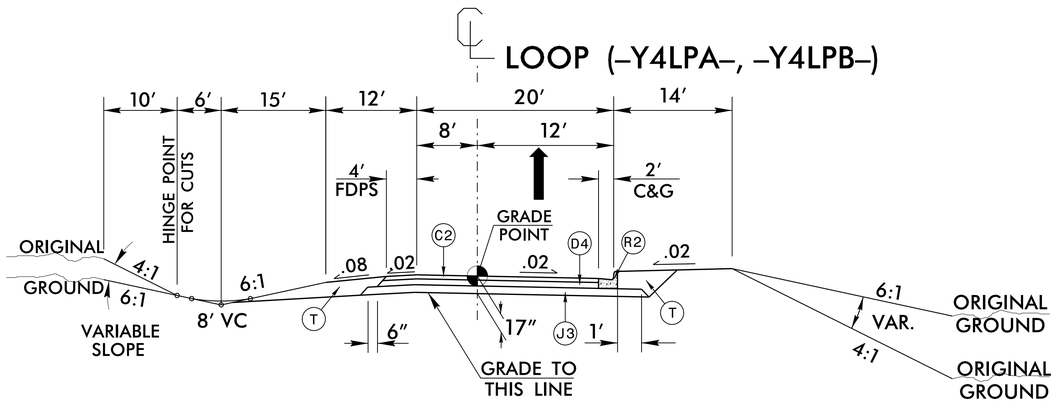
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13:

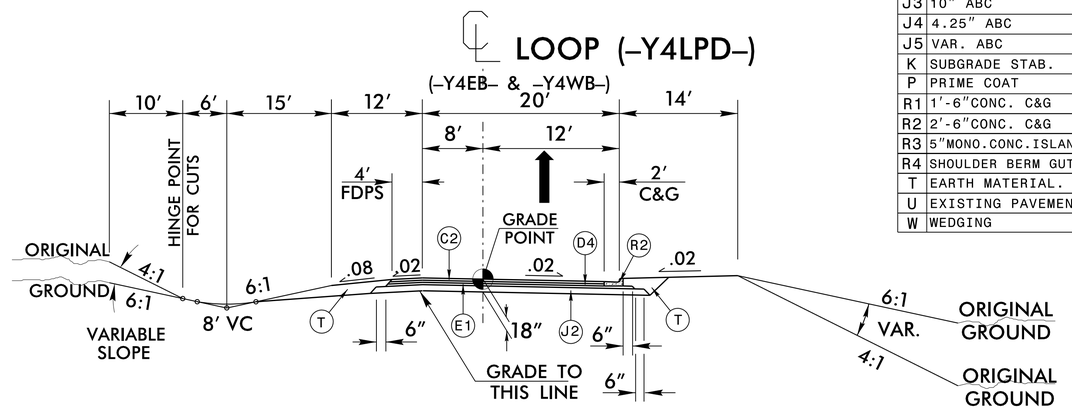
–Y4– STA. 143+00.00 TO STA. 148+00.00
* –Y4– STA. 143+00.00 TO STA. 146+76.25 (NOISE WALL –NWY42–)



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14:

–Y4LPB– STA. 12+27.92 TO 22+20.19
–Y4LPA– STA. 12+44.36 TO 21+98.27



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15:

–Y4LPD– STA. 12+19.08 TO 22+66.21

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″ SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″ B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

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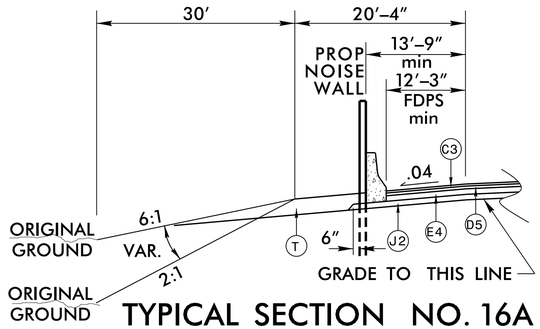
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-G
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

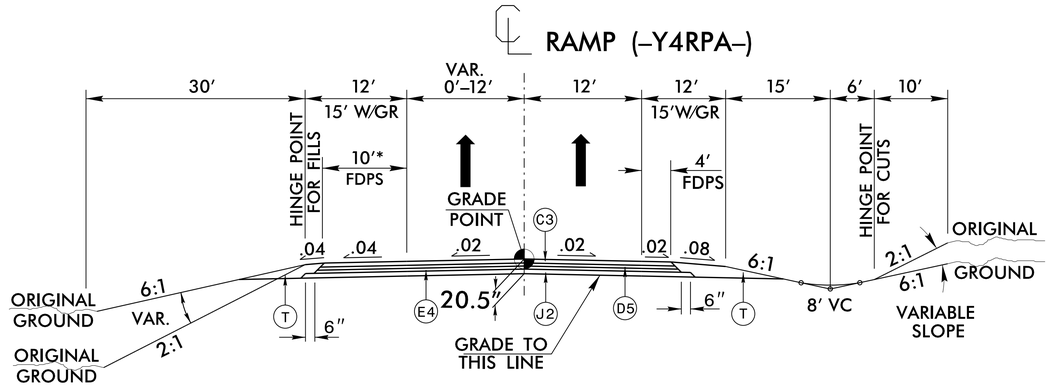
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 16A

USE TYPICAL SECTION NO. 16A:

–Y4RPA– STA. 19+26.04 TO 22+72.70 LT (NOISEWALL –NWY4RPA–)
–Y4RPA– STA. 13+73.64 (30+55.29 –Y4CD–) TO 15+36.20 LT (NOISEWALL –NWL3–)

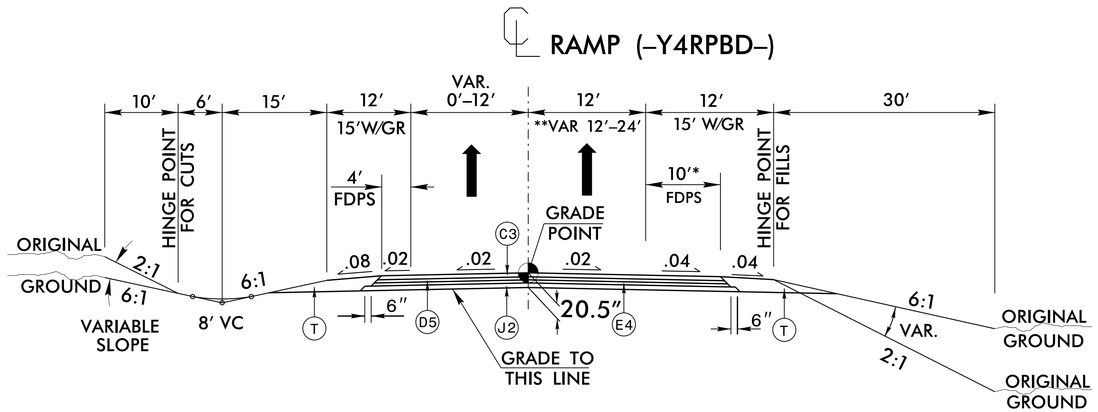


TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16:

–Y4RPA– STA. 13+73.64 TO 16+44.34 +/– (BEG. BR.)
–Y4RPA– STA. 17+79.22 +/– (END BR.) TO 36+24.33
* PAVE TO FACE OF GUARDRAIL

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″ SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″ B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

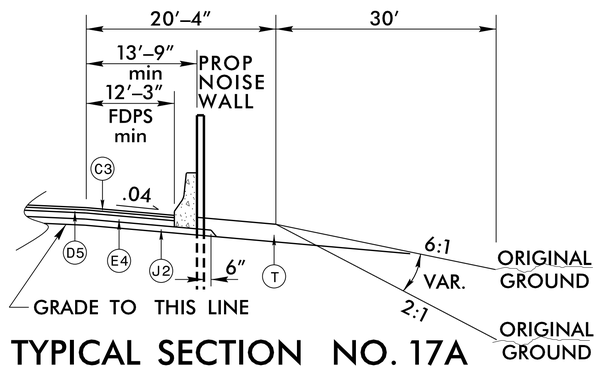


TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17:

–Y4RPBD– STA. 15+65.91 TO 25+15.01 +/– (BEG. BR.)
–Y4RPBD– STA. 27+80.00 +/– (END. BR.) TO STA. 30+60.00
–Y4RPBD– STA. 66+11.85 TO STA. 81+62.11

* PAVE TO FACE OF GUARDRAIL



TYPICAL SECTION NO. 17A

USE TYPICAL SECTION NO. 17A:

–Y4RPBD– STA. 70+23.32 TO 81+62.11 (NOISEWALL –NWY4RPBD2–)

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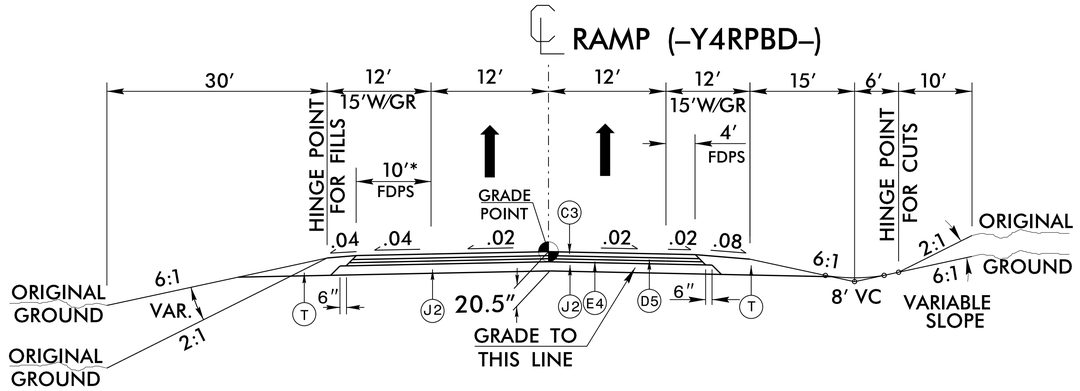
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-H
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

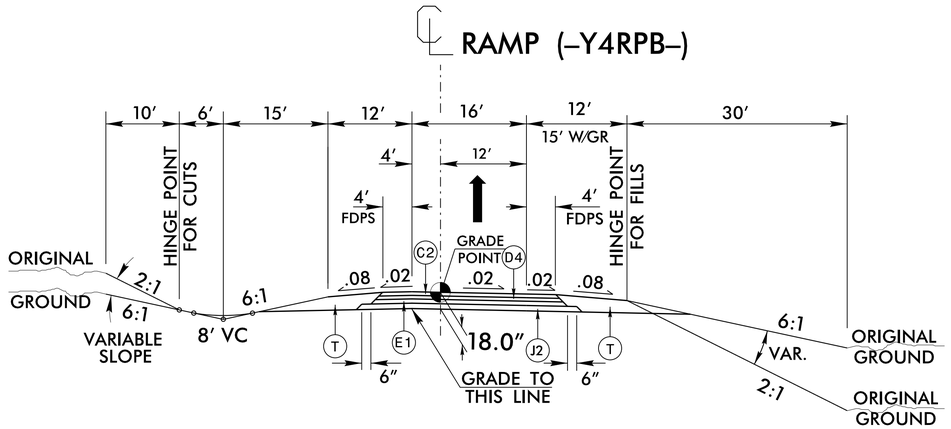


TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18:

–Y4RPBD– STA. 30+60.00 TO STA. 43+04.00 +/– (BEG. BR.)
–Y4RPBD– STA. 45+17.13 +/– (END BR.) TO STA. 51+70.14 +/– (BEG. BR.)
–Y4RPBD– STA. 54+72.30 +/– (END BR.) TO STA. 66+11.85

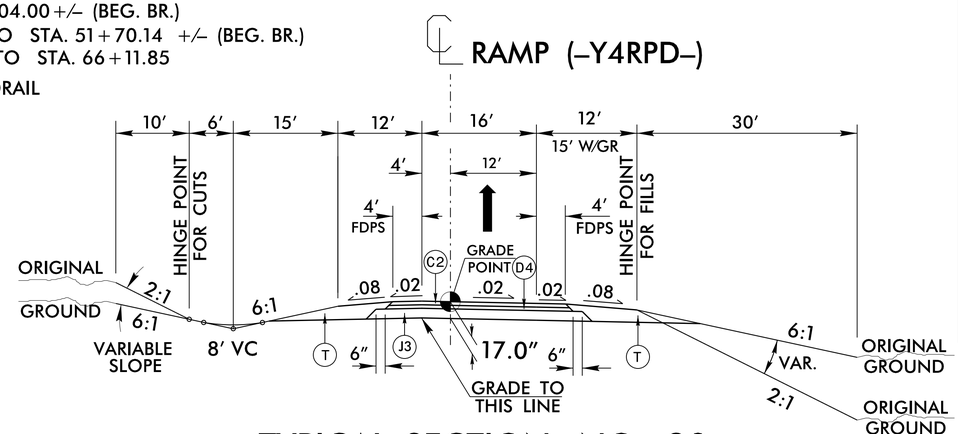
* PAVE TO FACE OF GUARDRAIL



TYPICAL SECTION NO. 19

USE TYPICAL SECTION NO. 19:

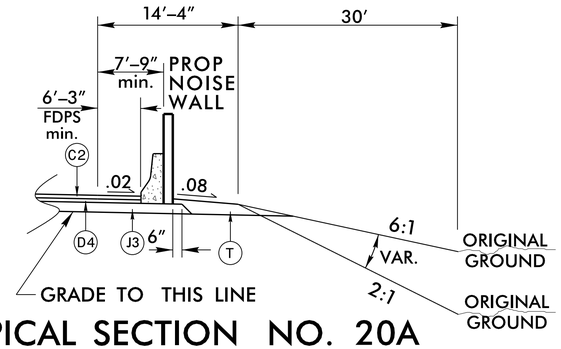
–Y4RPB– STA. 13+78.61 TO STA. 28+66.16



TYPICAL SECTION NO. 20

USE TYPICAL SECTION NO. 20:

–Y4RPD– STA. 13+97.64 TO STA. 29+56.27



TYPICAL SECTION NO. 20A

USE TYPICAL SECTION NO. 20A:

–Y4RPD– STA. 26+02.53 TO 29+44.53 RT (NOISEWALL –NWY4RPBD1–)

A1	13.5″ JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25″ SF9.5A
C2	3″ S9.5B
C3	3″ S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5″ I19.0B
D2	2.5″ I19.0C
D3	3.0″ I19.0B
D4	4″ I19.0B
D5	4″ I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3″ B25.0B
E2	4″ B25.0B
E3	3″ B25.0C
E4	5.5″ B25.0C
E5	7″ B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6″ ABC
J2	8″ ABC
J3	10″ ABC
J4	4.25″ ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1′-6″CONC. C&G
R2	2′-6″CONC. C&G
R3	5″MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

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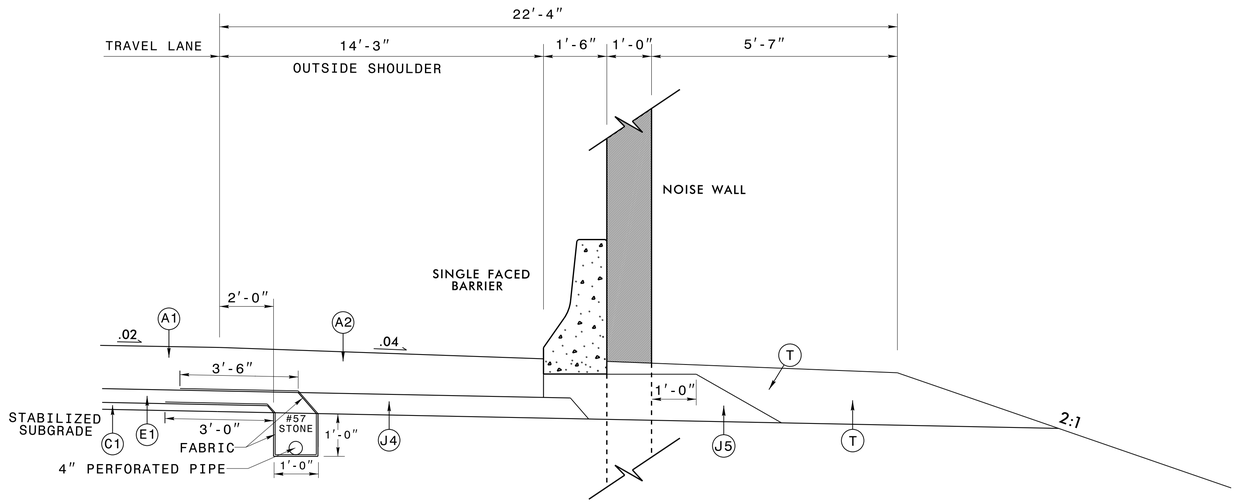
PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-KC
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DETAIL OF NOISE WALL NWL1 WITH SHOULDER DRAIN

-L- STA. 558+50 TO 564+00 (RT, OUTSIDE)
SHOULDER DRAIN OUTLETS: -L- STA. 558+30 (2GI)
-L- STA. 560+50 (2GI)

A1	13.5" JOINT CONC.
A2	VAR. JOINT CONC.
C1	1.25" SF9.5A
C2	3" S9.5B
C3	3" S9.5C
C4	VAR. S9.5B
C5	VAR. S9.5C
D1	2.5" I19.0B
D2	2.5" I19.0C
D3	3.0" I19.0B
D4	4" I19.0B
D5	4" I19.0C
D6	VAR. I19.0B
D7	VAR. I19.0C
E1	3" B25.0B
E2	4" B25.0B
E3	3" B25.0C
E4	5.5" B25.0C
E5	7" B25.0C
E6	VAR. B25.0B
E7	VAR. B25.0C
J1	6" ABC
J2	8" ABC
J3	10" ABC
J4	4.25" ABC
J5	VAR. ABC
K	SUBGRADE STAB.
P	PRIME COAT
R1	1'-6"CONC. C&G
R2	2'-6"CONC. C&G
R3	5"MONO.CONC.ISLAND
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
	EXISTING PAVEMENT.
	WEDGING

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REVISIONS

–Y1– DETOUR

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2–L
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

50' 25' 0 50' 100'

–YIDET–

PI Sta 12+30.02	PI Sta 16+82.19
Δ= 25°54'27.3" (RT)	Δ= 25°54'27.3" (RT)
T = 230.02'	T = 230.02'
D = 5°43'46.5"	D = 5°43'46.5"
L = 452.17'	L = 452.17'
R = 1000.00'	R = 1000.00'

DETAIL #22
SPECIAL CUT DITCH
1 Vert to Under
Natural Ground
Min. Dr 2 Ft, Max. Dr 3 Ft.
Filter Fabric
Type of Liner: Class 'B' Rip-Rap
FROM STA. 19+50 TO 20+00 –Y1–DET LT

DETAIL #20
SPECIAL LATERAL 'V' DITCH
1 Vert to Under
Natural Ground
Min. Dr 2 Ft, Max. dr 2 Ft.
Filter Fabric
Type of Liner: Class 'B' Rip-Rap
FROM STA. 26+24 TO 37+50 –Y1–DET LT & RT

BEGIN CONSTRUCTION
–YIDET– PC Sta. 10+00.00
–Y1– POT Sta.11+88.83

–YIRPA– SC Sta. 8+90.06
–YIRPA– SC Sta. 24+00.06
–YIRPA– PT Sta. 28+90.37
–YIDET– PT Sta. 19+04.35
–YIDET– PRC Sta. 14+52.17
–Y1–PRC Sta. 18+38.23
–Y1–PT Sta. 22+76.47
–Y1–POT Sta. 10+00.00
–Y1–PC Sta. 14+00.00
–Y7– POT Sta. 10+00.00
–YILPA– SC Sta. 12+10.00
–YILPA– CS Sta. 18+46.66
–YILPA– ST Sta. 20+56.66
–L– ST Sta. 484+24.00
–YILPA– ST Sta. 10+00.00 59 Lt.
–YILPD– SC Sta. 12+10.00
–YILPD– ST Sta. 10+00.00 59 Rt.
–L– ST Sta. 482+93.00
–YILPA– POT Sta. 22+03.90
–Y1– POT Sta. 27+43.00
–YIRPA– POT Sta. 31+29.10
–Y1– POT Sta. 27+23.47
–Y1– POT Sta. 34+10.0546
–L– POT Sta. 482+51.365

SPECIAL CUT 'V' DITCH W/CLASS 'B' RIP RAP STA. 19+50 TO 20+00 –Y1–DET LT EST. 29 TONS 379 SYD. FF SEE DETAIL#22

SPECIAL DITCH GRADE STA. 20+00 TO 20+50 –Y1–DET LT SEE PROFILE FOR GRADE

SPECIAL LATERAL 'V' DITCH W/CLASS 'B' RIP RAP STA. 24+24 TO 27+50 –Y1–DET LT EST. 66 TONS 880 SYD. FF SEE DETAIL#20

SPECIAL LATERAL 'V' DITCH W/CLASS 'B' RIP RAP STA. 24+24 TO 27+50 –Y1–DET RT EST. 72 TONS 956 SYD. FF SEE DETAIL#20

CLASS 'B' RIP RAP EST. 3 TONS EST. 7 SYFF

CLASS 'B' RIP RAP EST. 7 TONS EST. 14 SY FF

CLASS 'B' RIP RAP EST. 2 TONS EST. 4 SY FF

CLASS 'B' RIP RAP EST. 3 TONS EST. 7 SYFF

CLASS 'B' RIP RAP EST. 29 TONS EST. 59 SY FF

CLASS 'B' RIP RAP EST. 33 TONS EST. 62 SY FF

REMOVE

S 39°49'20.3" W

S 62°58'57.1" E

N 52°32'17.4" W

N 5°58'00.0" W

S 62°58'57.1" E

NOTE :
FOR –YIDET– PROFILE, SEE SHEET 86

MATCHLINE STA.34+48.00 SHEET 2M

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-Y1- DETOUR

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-M
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

50' 25' 0 50' 100'

-YIDET-
PI Sta. 41+59.46
Δ = 25°43'04.2" (LT)
D = 5°43'46.5"
L = 448.96'
T = 228.28'
R = 1000.00'

PI Sta. 43+10.02
Δ = 25°41'14.2" (RT)
D = 5°43'46.5"
L = 450.07'
T = 228.9'
R = 1000.00'

-YIDET- PC Sta. 40+81.11
-YIDET- PRC Sta. 45+31.18
-YIDET- PT Sta. 53+02.93
-YIDET- Sta. 60+02.33
-YIDET- MATCHLINE STA. 34+48.00 SHEET 2L
-YIRPD- PT Sta. 31+53.84
-YILPD- CS Sta. 19+27.33
-YILPD- ST Sta. 21+37.33
-Y1- PRCSta. 48+64.70
-Y1- PCSta. 44+26.41
-Y1- Sta. 40+26.0000
-YIRPD- Sta. 33+20.2157
-Y1- Sta. 40+06.0000
-YILPD- Sta. 22+60.41
-Y1-PTSta. 53+02.93
-BY10-502
-BY10-503
-BY12-505
-BY12-506
-T1- 82
-T1- 83
-T1- 84
-T1- 85
-T1- 86
-T1- 87
-T1- 88
-T1- 89
-T1- 90
-T1- 91
-T1- 92
-T1- 93
-T1- 94
-T1- 95
-T1- 96
S 39°49'20.5"W
N 48°52'29.0"W
N 48°52'08.1"W
INDOT SET(
-T1- POT 32+85.96
-BY1- POT 57+13.85
END CONSTRUCTION
-YIDET- PT Sta. 49+80.05
-Y1- POC Sta.51+09.25(4.18LT)

DETAIL #28
SPECIAL CUT DITCH
(Not to Scale)
FROM STA. 34+50 TO 35+75 -Y1-DET LT

DETAIL #29
LATERAL "V" DITCH
(Not to Scale)
Type of Liner: Class B Rip-Rap
FROM STA. 35+75 TO 36+50 -Y1-DET LT

DETAIL #23
LATERAL BASE DITCH
(Not to Scale)
Type of Liner: Class 'B' Rip-Rap
FROM STA. 36+50 TO 39+92 -Y1-DET LT

NOTE :
FOR -YIDET- PROFILE, SEE SHEET 87

REVISIONS

8/17/99

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–Y5– DETOUR

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2–N
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

50' 25' 0 50' 100'

8/17/99

REVISIONS

–Y5DET–
PI Sta 11+39.44
Δ = 14° 54' 48.5" (RT)
D = 5° 15' 23.4"
L = 277.37'
T = 139.44'
R = 1090.00'

PI Sta 21+46.15
Δ = 30° 0' 58.4" (LT)
D = 2° 0' 02.8"
L = 1,686.23'
T = 865.73'
R = 2,840.00'

BEGIN CONSTRUCTION
–Y5– STA. 15+00.00
–Y5DET– STA. 10+00.00

END CONSTRUCTION
–Y5DET– STA. 32+32.54
–Y5– STA. 37+00.00

DETAIL #28
SPECIAL DITCH
Not to Scale
Min. Dr. 2 Ft.
FROM STA. 29+00 TO 30+00 –Y5-DET RT

NOTE :
FOR –Y5DET– PROFILE, SEE SHEET 88

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-O
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

-Y1- POT Sta.27+23.00
-YIRPA- POT Sta.31+29.10
-Y1- POT Sta.27+43.00
-YILPA- POT Sta.22+03.90

-YIRPA- PT Sta.26+90.37

-YILPA- ST Sta.20+56.66

-YILPA- CS Sta.18+56.66

-YIRPA- SC Sta.24+00.05

-YIRPA- CS Sta.19+93.05

SPS Sta.21+93.05

-YIRPA- SC Sta.14+90.00

-YIRPA- TS Sta.12+50.00

END GRASS MEDIAN
BEGIN 5' MONOLITHIC CONCRETE ISLAND
BEGIN APPROACH SLAB
-Y1- STA.32+69.50

BEGIN BRIDGE
-Y1- STA.32+93.27

-L- POT Sta.482+83.44
-Y1- POT Sta.34+10.05
SKEW = 98.5386°

-YILPA- PT Sta.34+24.00 159 RT
-YILPA- TS Sta.34+10.05

-YILPA-

-L-

-YILPD-

-YIRPD-

END BRIDGE
-Y1- STA.35+26.54

END APPROACH SLAB
-Y1- STA.35+50.61

-L- POT Sta.482+93.00
-YILPD- TS Sta.10+00.00

-YILPD- SC Sta.12+40.00

-YILPD- ST Sta.12+17.33

-YILPD- CS Sta.9+27.33

-Y1- Sta.40+06.00
-YILPD- Sta.22+60.41
-Y1- Sta.40+25.33
-YIRPD- Sta.33+20.22

-YIRPD- PT Sta.5+45.58

-YIRPD- WS 34 -130'-

-YIRPD- SPS Sta.23+63.67

-YIRPD- CS Sta.23+23.67

-YIRPD- SC Sta.25+71.67

-YIRPD- TS Sta.12+40.00

-YIRPD- SC Sta.12+40.00

-YIRPD- TS Sta.10+00.00
-L- POT Sta.502+91.34 159 RT

SP 1
SP 176
SP 177
SP 2
SP 6
SP 7
SP 8
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SP 49
SP 50
SP 51
SP 52
SP 53
SP 3
SP 173
SP 174
SP 4

A

D

SHEAR POINT DIAGRAM
-L- AND -Y1- INTERCHANGE

LEGEND

SP # —— SP # SHEAR POINT LOCATION

16-DEC-2013 10:14
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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-P
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHEAR POINT DIAGRAM
-L- AND -Y4- INTERCHANGE

LEGEND

SP # —— SP # SHEAR POINT LOCATION

REVISIONS

8/17/99

16-DEC-2013 10:14
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REVISIONS

16-DEC-2013 10:14
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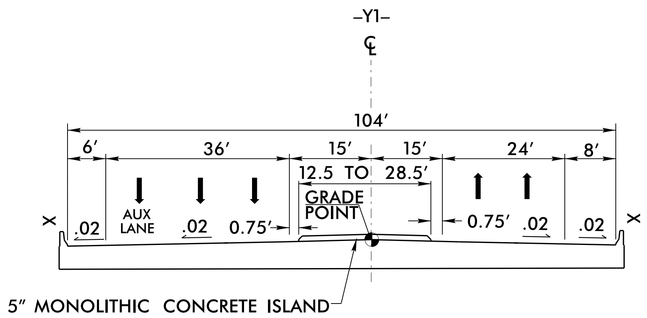
STRUCTURE TYPICAL SECTIONS

–Y1– STRUCTURE

–Y1– (US 158 REIDSVILLE ROAD) OVER –L– (WINSTON-SALEM – NORTHERN BELTWAY)



TYPICAL SECTION ON STRUCTURE

1

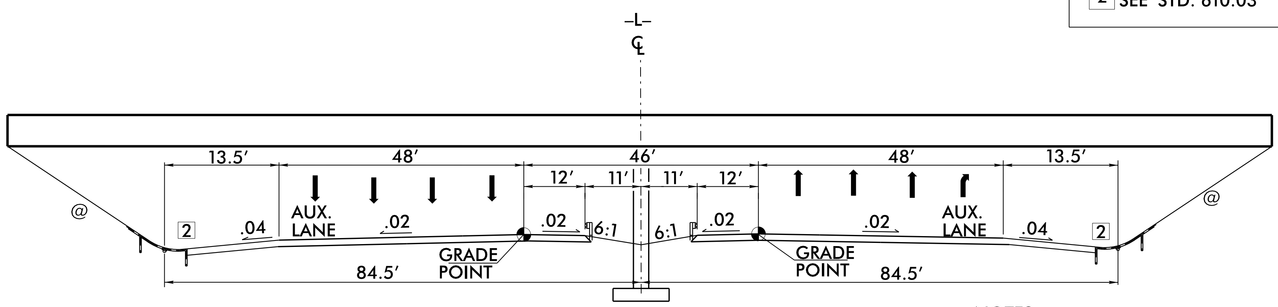
DESIGN DATA –Y1–

2010 ADT 17,480
2030 ADT 26,440
DHV = 10
D = 60
DUAL = 3
TTST = 5
V = 50 MPH
FUNC CLASS – ARTERIAL
MINIMUM VERTICAL CLEARANCE = 16′–6″

× BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT

@ SLOPES DETERMINED BY GEOTECTNICAL ENGINEERING UNIT

2 SEE STD. 610.03

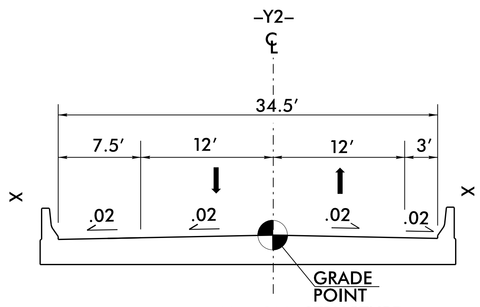


TYPICAL SECTION ON ROADWAY UNDER STRUCTURE

NOTES:
1. SEE SHEET 2–W FOR BRIDGE SKETCH
2. SEE SHEET 5 FOR PLAN VIEW
3. SEE SHEET 2 FOR –L– TYPICAL SECTION
4. SEE SHEET 2–A FOR –Y1– TYPICAL SECTION

–Y2– STRUCTURE

–Y2– (WALKERTOWN-GUTHRIE RD) OVER –L– (WINSTON-SALEM – NORTHERN BELTWAY)



TYPICAL SECTION ON STRUCTURE

2

DESIGN DATA –Y2–

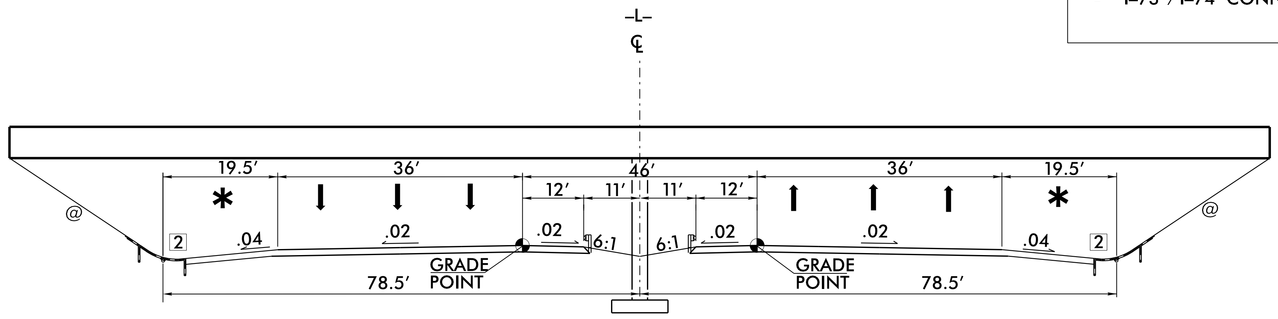
2010 ADT 4960
2030 ADT 6880
DHV = 10
D = 60
DUAL = 2
TTST = 1
V = 50 MPH
FUNC CLASS – MINOR RURAL COLLECTOR
MINIMUM VERTICAL CLEARANCE = 16′–6″

× BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT

@ SLOPES DETERMINED BY GEOTECTNICAL ENGINEERING UNIT

2 SEE STD. 610.03

✱ FUTURE AUX. LANE FOR FUTURE I–73 /I–74 CONNECTOR PROJECT



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE

NOTES:
1. SEE SHEET 2–W FOR BRIDGE SKETCH
2. SEE SHEET 7 FOR PLAN VIEW
3. SEE SHEET 2 FOR –L– TYPICAL SECTION
4. SEE SHEET 2–E FOR –Y2– TYPICAL SECTION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ROADWAY DESIGN ENGINEER

RW

HYDRAULICS ENGINEER

PROJECT REFERENCE NO. U-2579B

SHEET NO. 2-9

REVISIONS

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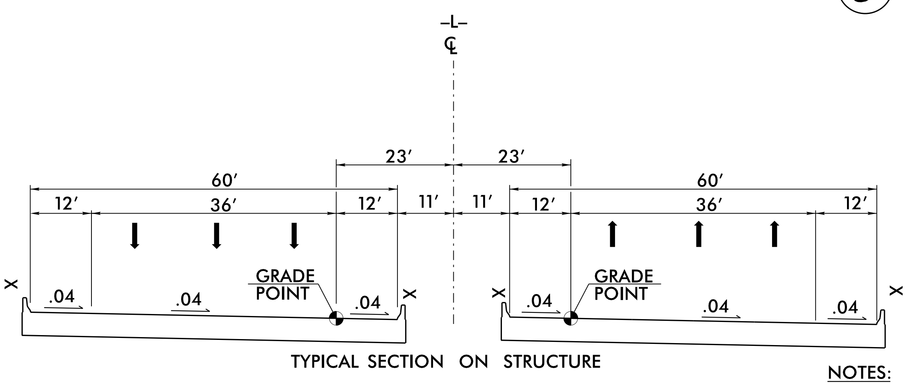
STRUCTURE TYPICAL SECTIONS

–L– DUAL STRUCTURES

–L– (WINSTON–SALEM – NORTHERN BELTWAY) OVER MARTIN MILL CREEK

3



TYPICAL SECTION ON STRUCTURE

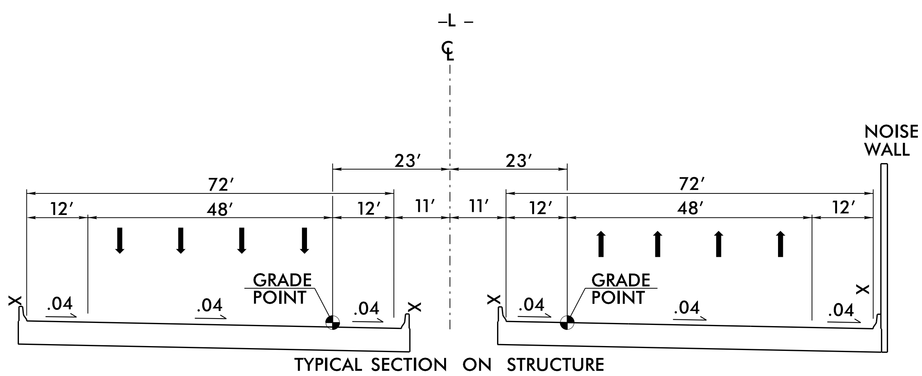
DESIGN DATA –L–
2010 ADT 53,560
2030 ADT 79,880
DHV = 10
D = 60
DUAL = 6
TTST = 12
V = 70 MPH
FUNC CLASS – INTERSTATE
X BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT

NOTES:
1. SEE SHEET 2–W FOR BRIDGE SKETCH
2. SEE SHEET 10 FOR PLAN VIEW
3. SEE SHEET 2 FOR –L– TYPICAL SECTION
4. BRIDGE LENGTH DETERMINED BY THE HYDRAULICS UNIT.

–L– DUAL STRUCTURES

–L– (WINSTON–SALEM – NORTHERN BELTWAY) OVER –Y2A– (PISGAH CHURCH ROAD), –SRR– (SOUTHERN RAILROAD), & –Y3– (WEST MOUNTAIN ROAD)

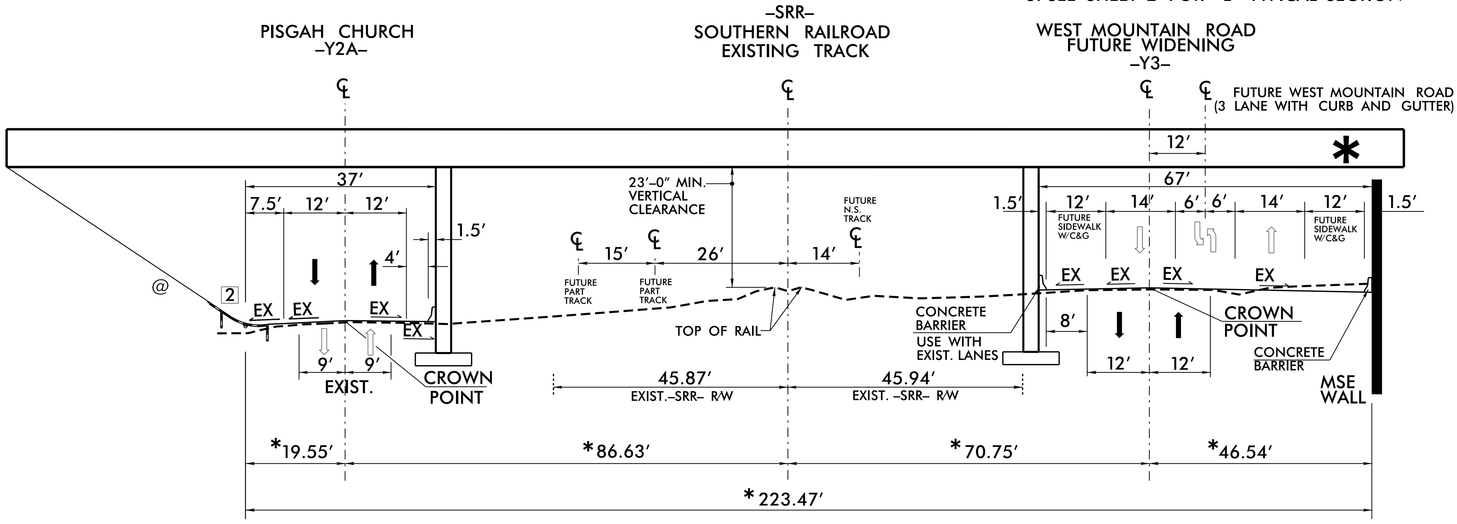
4



TYPICAL SECTION ON STRUCTURE

DESIGN DATA –L–
2010 ADT 53,560
2030 ADT 79,880
DHV = 10
D = 60
DUAL = 6
TTST = 12
V = 70 MPH
FUNC CLASS – INTERSTATE
MINIMUM VERTICAL CLEARANCE
–SRR– = 23′–0″
–Y2A– = 15′–0″
–Y3– = 15′–0″
X BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT
* MSE WALL TO BE DETERMINED BY GEOTECHNICAL UNIT
@ SLOPES DETERMINED BY GEOTECTNICAL ENGINEERING UNIT
2 SEE STD. 610.03

NOTES:
1. SEE SHEET 2–X FOR BRIDGE SKETCH
2. SEE SHEET 12 FOR PLAN VIEW
3. SEE SHEET 2 FOR –L– TYPICAL SECTION



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE

* NOTE: DIMENSIONS ARE MEASURED ALONG –L– HORIZONTAL ALIGNMENT

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PROJECT REFERENCE NO. U-2579B
R/W SHEET NO.
SHEET NO. 2-R

REVISIONS

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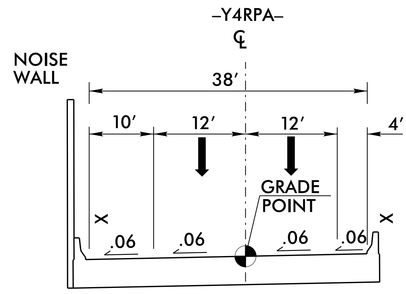
STRUCTURE TYPICAL SECTIONS

–Y4RPA– STRUCTURE

–Y4RPA– OVER SMITH CREEK



TYPICAL SECTION ON STRUCTURE

(5)

DESIGN DATA –Y4RPA–
2010 ADT 32,600
2030 ADT 43,800
DHV = 10
D = 60
DUAL = 5
TTST = 6
V = 60 MPH
FUNC CLASS – INTERSTATE
× BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT

NOTES:
1. SEE SHEET 2–X FOR BRIDGE SKETCH
2. SEE SHEET 15 FOR PLAN VIEW
3. SEE SHEET 2–G FOR –Y4RPA– TYPICAL SECTION
4. BRIDGE LENGTH DETERMINED BY THE HYDRAULICS UNIT.

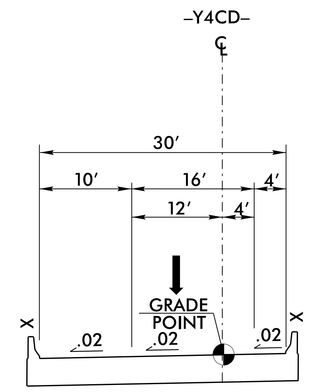
DESIGN DATA –Y4CD–
2010 ADT 6,600
2030 ADT 11,800
DHV = 10
D = 60
DUAL = 6
TTST = 12
V = 60 MPH
FUNC CLASS – INTERSTATE
× BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT

(6)

DESIGN DATA –L–
2010 ADT 53,560
2030 ADT 79,880
DHV = 10
D = 60
DUAL = 6
TTST = 12
V = 70 MPH
FUNC CLASS – INTERSTATE
× BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT

–Y4CD– STRUCTURE

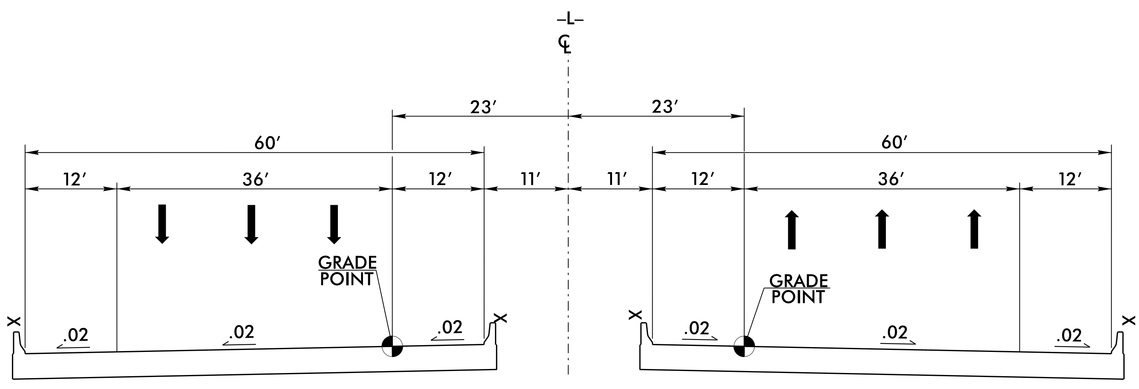
–Y4CD– OVER SMITH CREEK



TYPICAL SECTION ON STRUCTURE

–L– DUAL STRUCTURES

–L– (WINSTON–SALEM NORTHERN BELTWAY) OVER SMITH CREEK

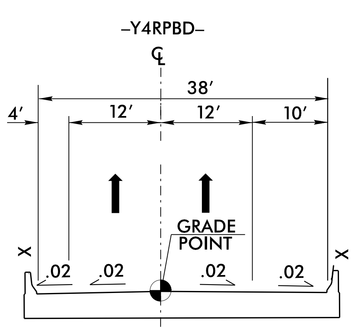


TYPICAL SECTION ON STRUCTURE

NOTES:
1. SEE SHEET 2–X FOR BRIDGE SKETCH
2. SEE SHEET 15 FOR PLAN VIEW
3. SEE SHEET 2 FOR –L– TYPICAL SECTION
4. SEE SHEET 2–I FOR –Y4CD– TYPICAL SECTION
5. BRIDGE LENGTH DETERMINED BY THE HYDRAULICS UNIT.

–Y4RPBD– STRUCTURE

–Y4RPBD– OVER SMITH CREEK



TYPICAL SECTION ON STRUCTURE

(7)

DESIGN DATA –Y4RPBD–
2010 ADT 32,600
2030 ADT 43,800
DHV = 10
D = 60
DUAL = 6
TTST = 12
V = 70 MPH
FUNC CLASS – INTERSTATE
× BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT

NOTES:
1. SEE SHEET 2–Y FOR BRIDGE SKETCH
2. SEE SHEET 15 FOR PLAN VIEW
3. SEE SHEET 2–G FOR –Y4RPBD– TYPICAL SECTION
4. BRIDGE LENGTH DETERMINED BY THE HYDRAULICS UNIT.

PRELIMINARY PLANS
NO. NOT USE FOR CONSTRUCTION

ROADWAY DESIGN ENGINEER

RW

HYDRAULICS ENGINEER

PROJECT REFERENCE NO. U-2579B

SHEET NO. 2-S

REVISIONS

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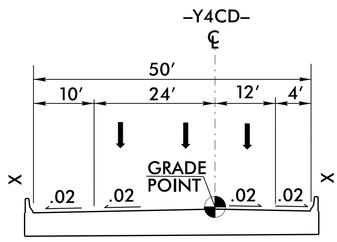
STRUCTURE TYPICAL SECTIONS

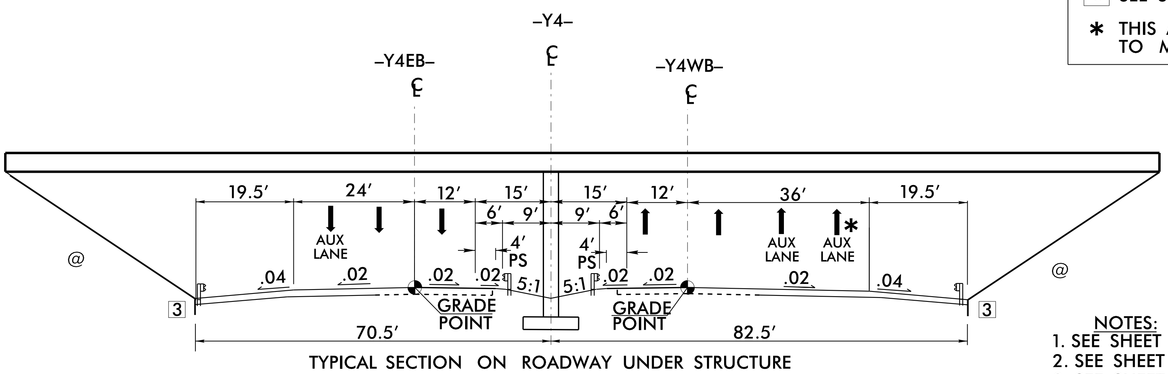
–Y4CD– STRUCTURE

–Y4CD– OVER –Y4– (US 421/I–40 BUSINESS)

8



TYPICAL SECTION ON STRUCTURE



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE

DESIGN DATA –Y4CD–
2010 ADT 6,600
2030 ADT 11,800
DHV = 10
D = 60
DUAL = 6
TTST = 12
V = 60 MPH
FUNC CLASS – INTERSTATE
MINIMUM VERTICAL CLEARANCE = 16′–6″

× BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT

@ SLOPES DETERMINED BY GEOTECTNICAL ENGINEERING UNIT

3 SEE STD. 610.02

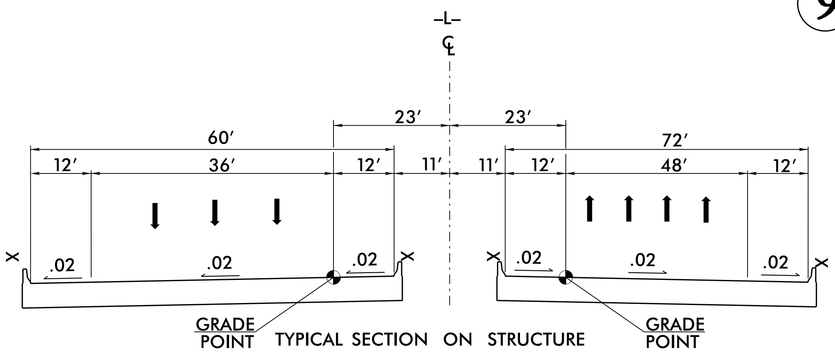
* THIS AUX. LANE PROVIDES SEPARATION TO MITIGATE WEAVE AREA BETWEEN LOOPS

NOTES:
1. SEE SHEET 2–Y FOR BRIDGE SKETCH
2. SEE SHEET 16 FOR PLAN VIEW
3. SEE SHEET 2–I FOR –Y4CD– TYPICAL SECTION
4. SEE SHEET 2–F FOR –Y4– TYPICAL SECTION
5. –Y4EB– WAS SETUP WITH A 19.5′ OFFSET FOR A FUTURE 6–LANE FACILITY.

–L– DUAL STRUCTURES

–L– (WINSTON–SALEM NORTHERN BELTWAY) OVER –Y4– (US 421 /I–40 BUSINESS)

9



TYPICAL SECTION ON STRUCTURE

DESIGN DATA –L–
2010 ADT 53,560
2030 ADT 79,880
DHV = 10
D = 60
DUAL = 6
TTST = 12
V = 70 MPH
FUNC CLASS – INTERSTATE
MINIMUM VERTICAL CLEARANCE = 16′–6″

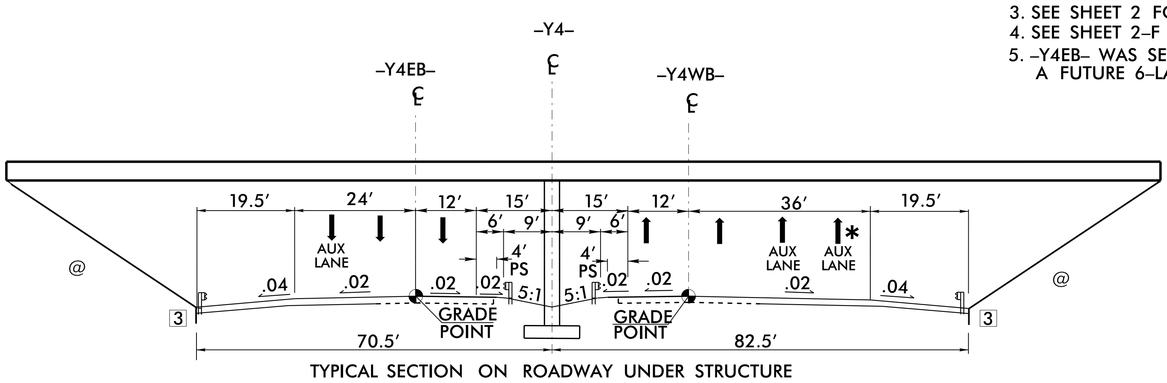
× BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT

@ SLOPES DETERMINED BY GEOTECTNICAL ENGINEERING UNIT

3 SEE STD. 610.02

* THIS AUX. LANE PROVIDES SEPARATION TO MITIGATE WEAVE AREA BETWEEN LOOPS.

NOTES:
1. SEE SHEET 2–Y FOR BRIDGE SKETCH
2. SEE SHEET 16 FOR PLAN VIEW
3. SEE SHEET 2 FOR –L– TYPICAL SECTION
4. SEE SHEET 2–F FOR –Y4– TYPICAL SECTION
5. –Y4EB– WAS SETUP WITH A 19.5′ OFFSET FOR A FUTURE 6–LANE FACILITY.



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ROADWAY DESIGN ENGINEER
RW SHEET NO.
HYDRAULICS ENGINEER

PROJECT REFERENCE NO. U-2579B
SHEET NO. 2-T

STRUCTURE TYPICAL SECTIONS

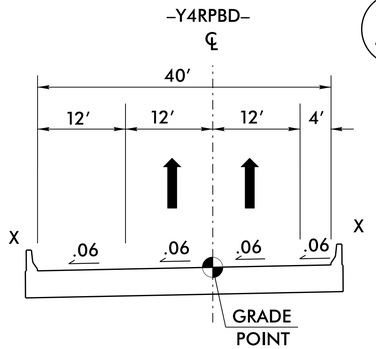
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-U
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

–Y4RPBD– STRUCTURE

–Y4RPBD– OVER –L– (WINSTON–SALEM NORTHERN BELTWAY) –Y4EB– & –Y4WB– (US 421 /I–40 BUSINESS)

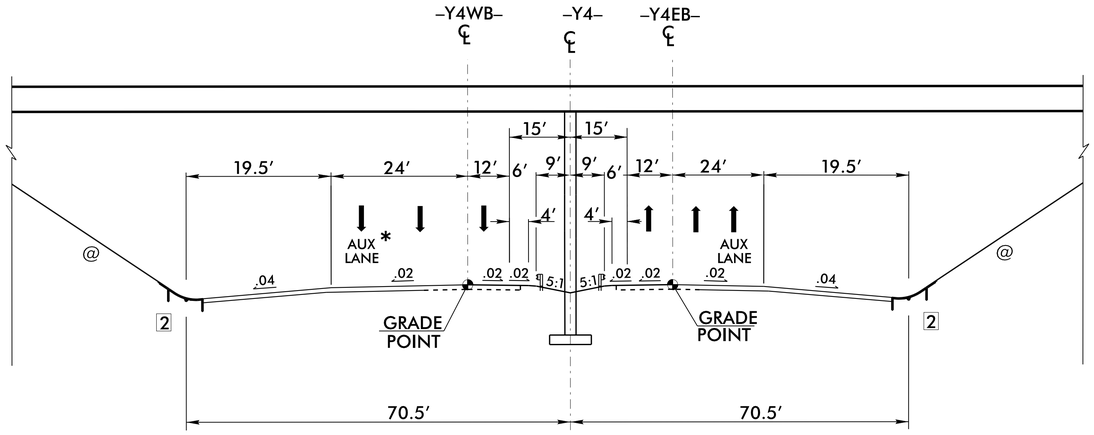


TYPICAL SECTION ON STRUCTURE

10

DESIGN DATA –Y4RPBD–
2010 ADT 32,600
2030 ADT 43,800
DHV = 11
D = 60
DUAL = 6
TTST = 12
V = 50 MPH (SEE NOTE 6)
FUNC CLASS – INTERSTATE
MINIMUM VERTICAL CLEARANCE = 16′–6″
X BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT
@ SLOPES DETERMINED BY GEOTECTNICAL ENGINEERING UNIT
2 SEE STD. 610.03
* THIS AUX. LANE PROVIDES SEPARATION TO MITIGATE WEAVE AREA BETWEEN LOOPS.

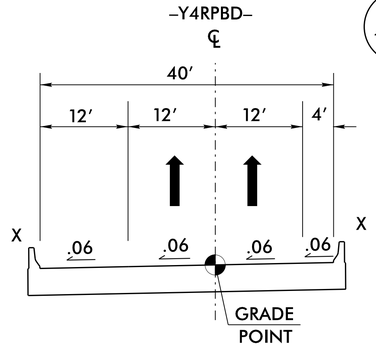
NOTES:
1. SEE SHEET 2–Y FOR BRIDGE SKETCH
2. SEE SHEET 16 FOR PLAN VIEW
3. SEE SHEET 2 FOR –L– TYPICAL SECTION
4. SEE SHEET 2–H FOR –Y4RPBD– TYPICAL SECTION
5. SEE SHEET 2–I FOR –Y4CD– TYPICAL SECTION
6. DESIGN SPEED OF HORIZONTAL & VERTICAL ALIGNMENT MEETS 60 MPH. STOPPING SIGHT DISTANCE MEETS 50 MPH DUE TO THE WIDTH OF BRIDGE



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE

–Y4RPBD– STRUCTURE

–Y4RPBD– OVER –L– (WINSTON–SALEM NORTHERN BELTWAY) –L–, AND –Y4CD–

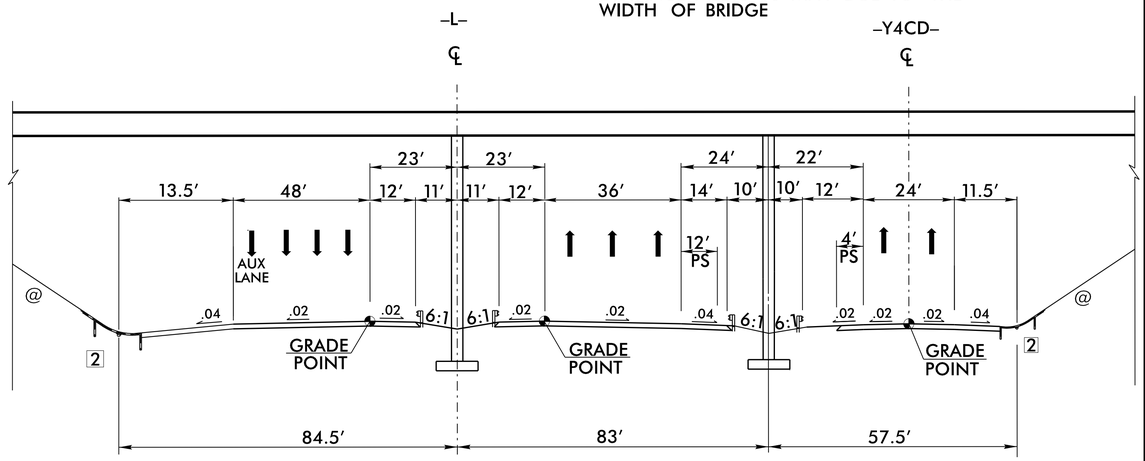


TYPICAL SECTION ON STRUCTURE

10A

DESIGN DATA –Y4RPBD–
2010 ADT 32,600
2030 ADT 43,800
DHV = 11
D = 60
DUAL = 6
TTST = 12
V = 50 MPH (SEE NOTE 6)
FUNC CLASS – INTERSTATE
MINIMUM VERTICAL CLEARANCE = 16′–6″
X BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT
@ SLOPES DETERMINED BY GEOTECTNICAL ENGINEERING UNIT
2 SEE STD. 610.03
* THIS AUX. LANE PROVIDES SEPARATION TO MITIGATE WEAVE AREA BETWEEN LOOPS.

NOTES:
1. SEE SHEET 2–Y FOR BRIDGE SKETCH
2. SEE SHEET 16 FOR PLAN VIEW
3. SEE SHEET 2 FOR –L– TYPICAL SECTION
4. SEE SHEET 2–H FOR –Y4RPBD– TYPICAL SECTION
5. SEE SHEET 2–I FOR –Y4CD– TYPICAL SECTION
6. DESIGN SPEED OF HORIZONTAL & VERTICAL ALIGNMENT MEETS 60 MPH. STOPPING SIGHT DISTANCE MEETS 50 MPH DUE TO THE WIDTH OF BRIDGE



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE

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SYLVIA MAHLER

STRUCTURE TYPICAL SECTIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-V
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

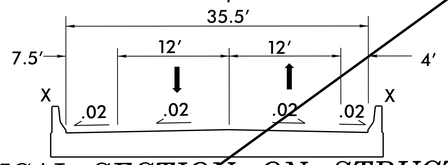
DESIGN DATA –Y5A–
2010 ADT 5,260
2030 ADT 8,300
DHV = 11
D = 60
DUAL = 2
TTST = 1
V = 40 MPH
FUNC CLASS – RURAL LOCAL
MINIMUM VERTICAL CLEARANCE = 16'–6"
X BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT
@ MSE WALLS DETERMINED BY GEOTECTNICAL ENGINEERING UNIT
* THIS AUX. LANE PROVIDES SEPARATION TO MITIGATE WEAVE AREA BETWEEN LOOPS.

–Y5A– STRUCTURE

11

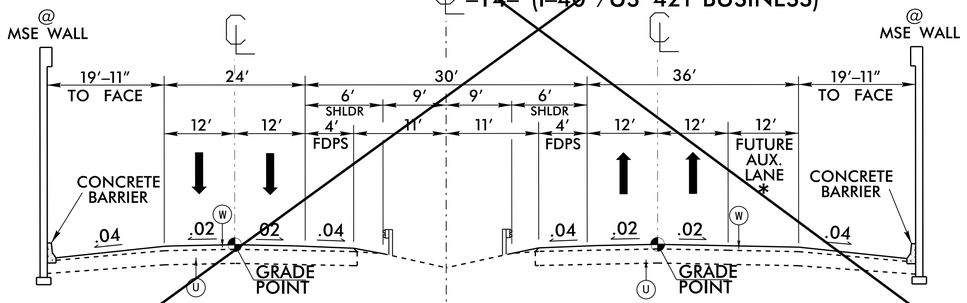
–Y5A– (HASTING HILLS ROAD) OVER –Y4– (US 421 /I–40 BUSINESS)

℄ –Y5A–



TYPICAL SECTION ON STRUCTURE (SEE TIP PROJECT U–2579G)

–Y4– (I–40 /US 421 BUSINESS)



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE (SEE TIP PROJECT U–2579G)

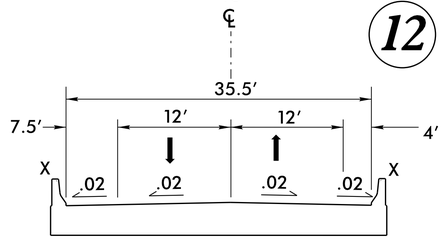
NOTES:
1. SEE SHEET 2–Z FOR BRIDGE SKETCH
2. SEE SHEET 29 FOR PLAN VIEW
3. SEE SHEET 2–J FOR –Y5– TYPICAL SECTION
4. SEE SHEET 2–F, 2–FA FOR –Y4– TYPICAL SECTION

–Y5– STRUCTURE

12

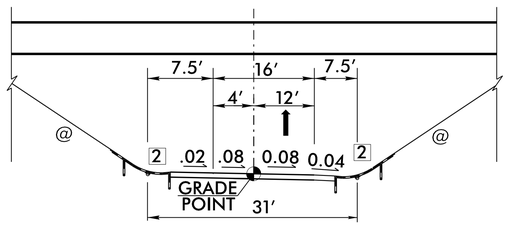
–Y5– (HASTING HILLS ROAD) OVER –Y4RPD–

–Y5–
℄



TYPICAL SECTION ON STRUCTURE

–Y4RPD–
℄



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE

DESIGN DATA –Y5–
2010 ADT 7,600
2030 ADT 13,600
DHV = 11
D = 60
DUAL = 2
TTST = 1
V = 50 MPH
FUNC CLASS – URBAN COLLECTOR
MINIMUM VERTICAL CLEARANCE = 16'–6"
X BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT
@ SLOPES DETERMINED BY GEOTECTNICAL ENGINEERING UNIT
2 SEE STD. 610.03

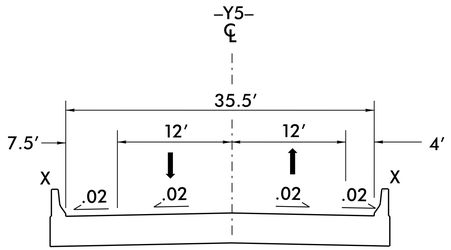
NOTES:
1. SEE SHEET 2–Z FOR BRIDGE SKETCH
2. SEE SHEET 16 FOR PLAN VIEW
3. SEE SHEET 2–J FOR –Y5– TYPICAL SECTION
4. SEE SHEET 2–H FOR –Y4RPD– TYPICAL SECTION

–Y5– STRUCTURE

13

–Y5– (HASTING HILL ROAD) OVER –Y4CD–, –L– (WINSTON–SALEM NORTHERN BELTWAY) , & –Y4RPC–

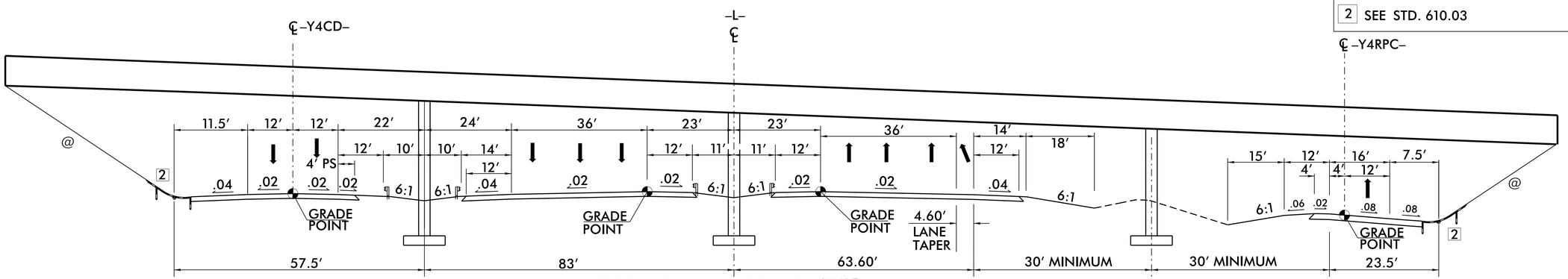
–Y5–
℄



TYPICAL SECTION ON STRUCTURE

NOTES:
1. SEE SHEET 2–Z FOR BRIDGE SKETCH
2. SEE SHEET 16 FOR PLAN VIEW
3. SEE SHEET 2–J FOR –Y5– TYPICAL SECTION
4. SEE SHEET 2–I FOR –Y4CD– & Y4RPC TYPICAL SECTION
5. SEE SHEET 2 FOR –L– TYPICAL SECTION

DESIGN DATA –Y5–
2010 ADT 7,600
2030 ADT 13,600
DHV = 11
D = 60
DUAL = 2
TTST = 1
V = 50 MPH
FUNC CLASS – URBAN COLLECTOR
MINIMUM VERTICAL CLEARANCE = 16'–6"
X BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT
@ SLOPES DETERMINED BY GEOTECTNICAL ENGINEERING UNIT
2 SEE STD. 610.03



TYPICAL SECTION UNDER STRUCTURE

16-DEC-2013 10:15
I:\roadway\projects\u-2579_rdy_str_rec.dgn
$$$$USERNAME$$$$

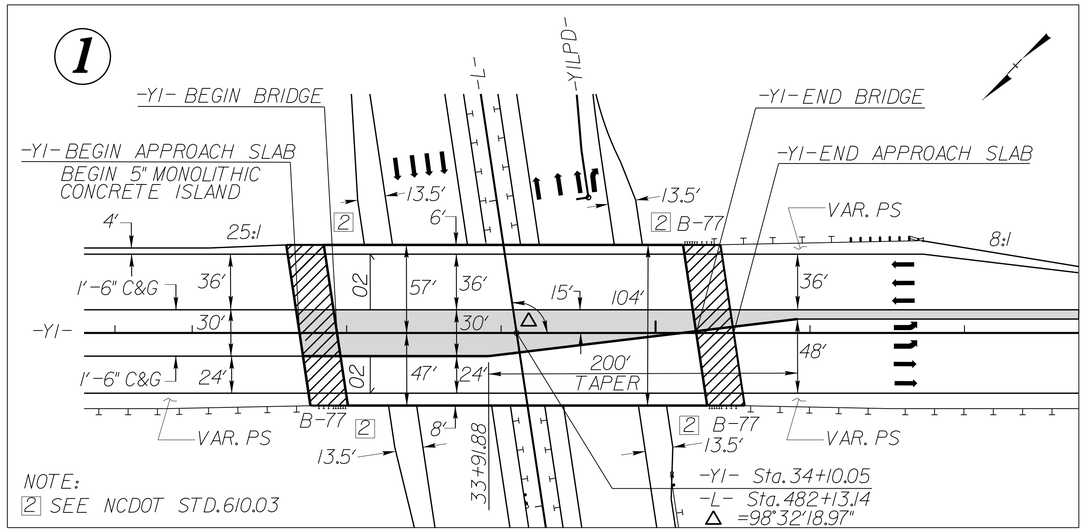
8/17/99

REVISIONS

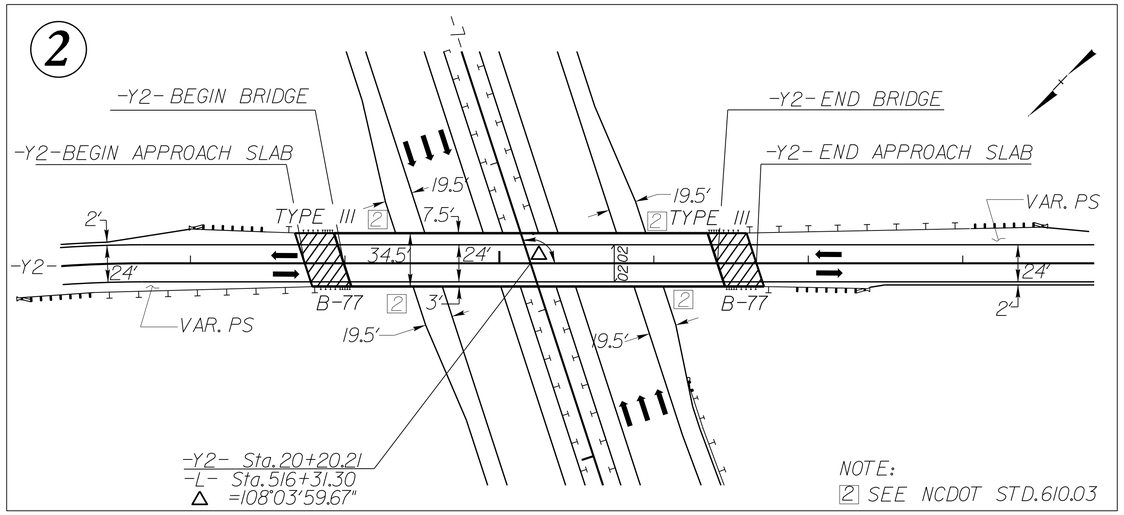
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-W
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

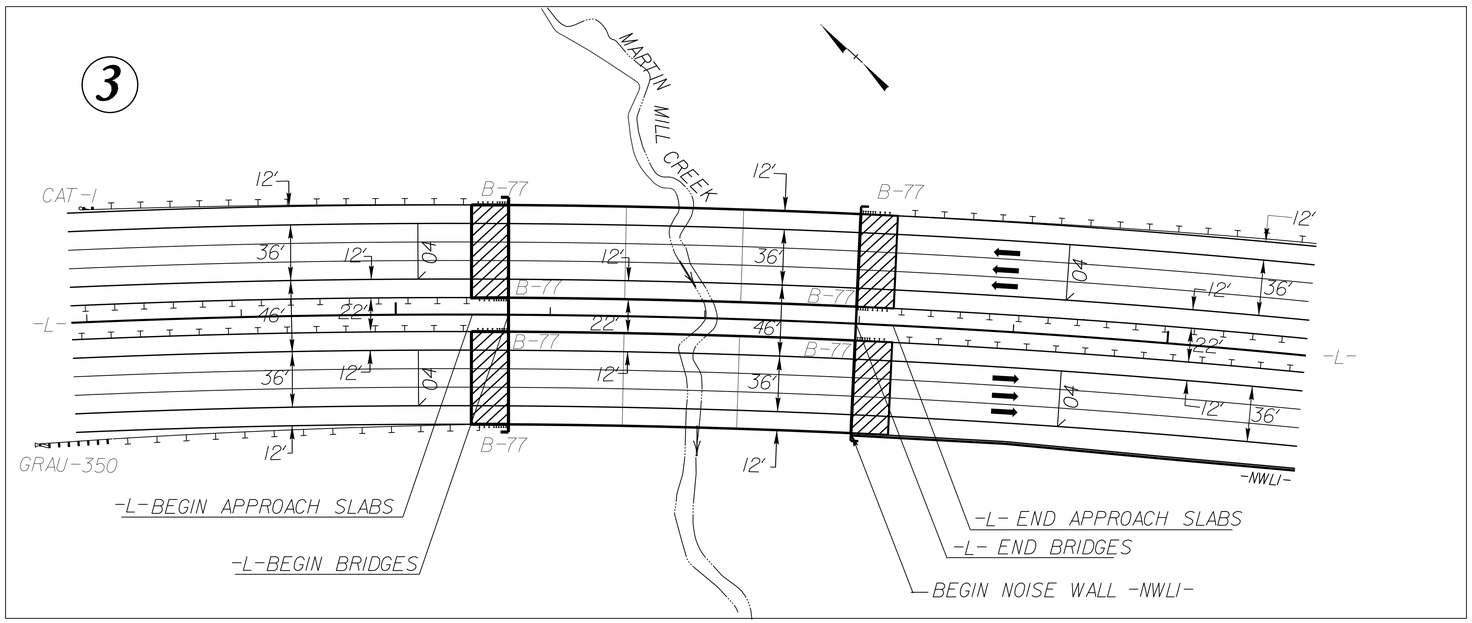
BRIDGE SKETCHES



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y1- OVER -L-



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y2- OVER -L-



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -L- (DUAL BRIDGES) OVER MARTIN MILL CREEK

NOTES:
SEE SHEET 2-Q FOR STRUCTURE (1) TYPICAL SECTION
SEE SHEET 2-Q FOR STRUCTURE (2) TYPICAL SECTION
SEE SHEET 2-R FOR STRUCTURE (3) TYPICAL SECTION

16-DEC-2013 10:15
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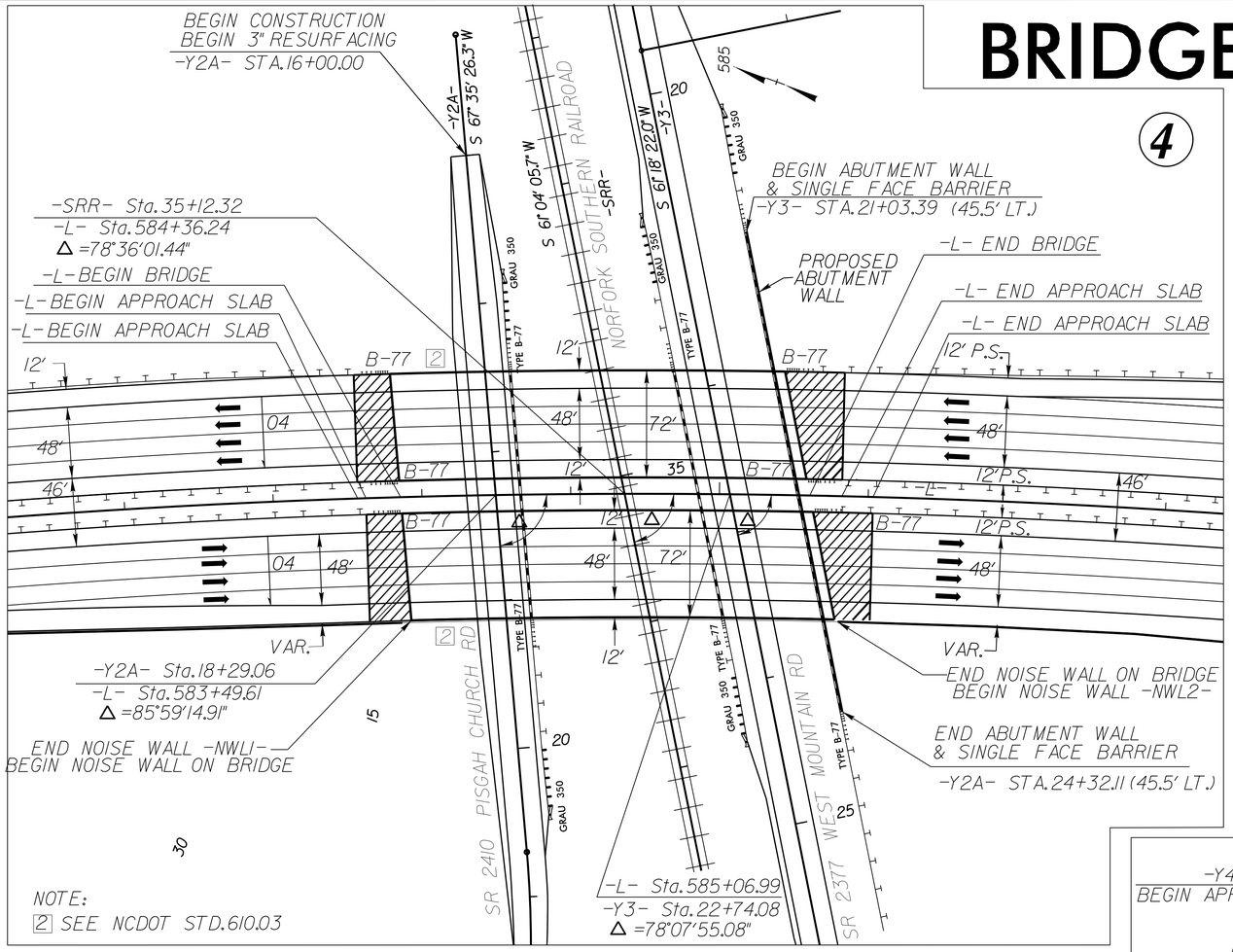
$$USER$$

BRIDGE SKETCHES

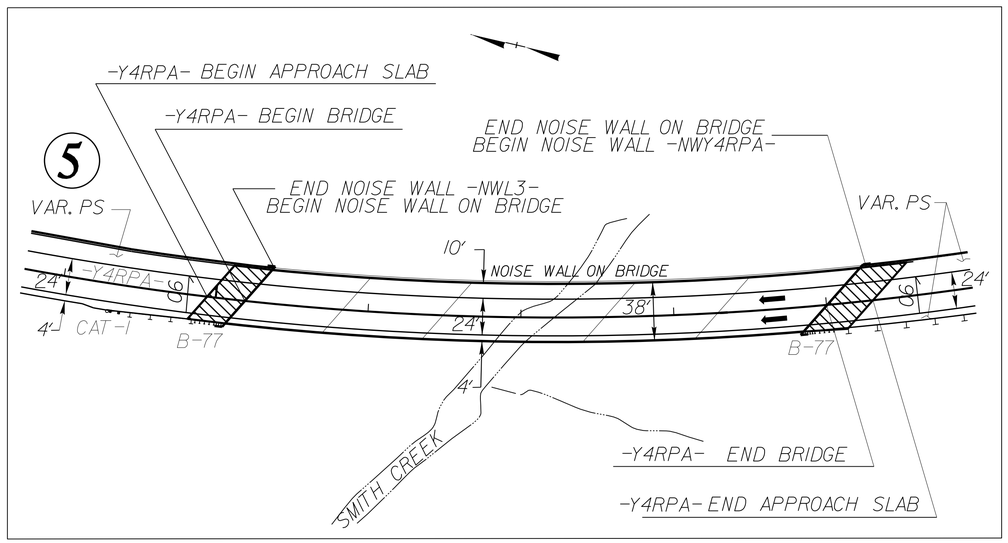
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-X
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

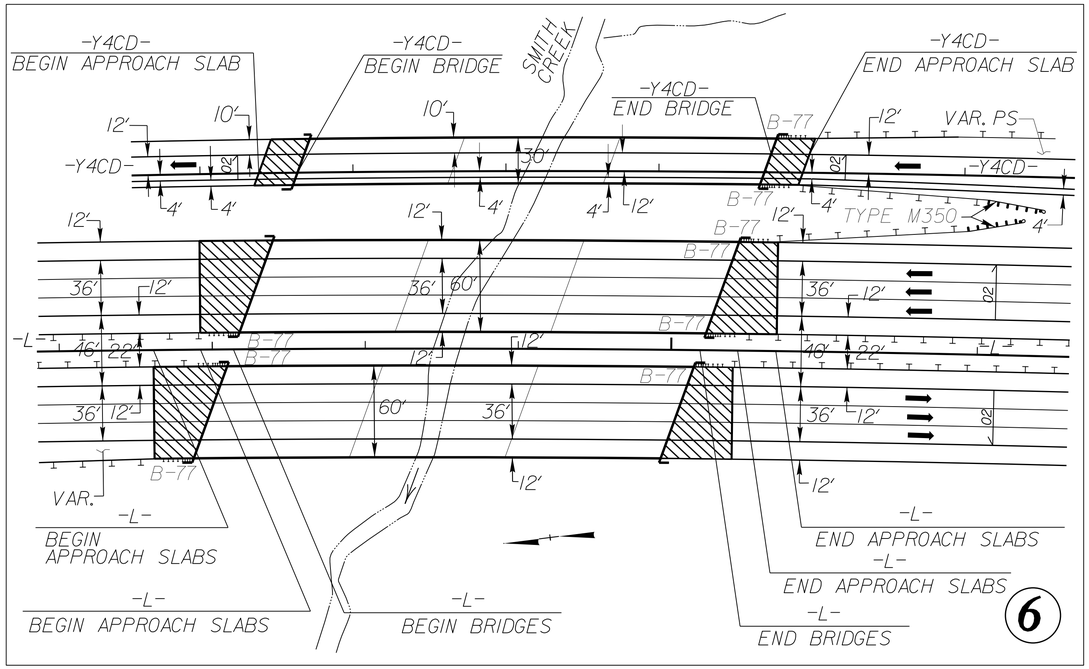


NOTES:
SEE SHEET 2-R FOR STRUCTURE (4) TYPICAL SECTION
SEE SHEET 2-S FOR STRUCTURE (5) TYPICAL SECTION
SEE SHEET 2-S FOR STRUCTURE (6) TYPICAL SECTION

DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -L- (DUAL BRIDGES) OVER -Y2A-, -SRR-, AND -Y3-



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y4RPA- OVER SMITH CREEK



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y4CD- AND -L- (DUAL BRIDGES) OVER SMITH CREEK

16-DEC-2013 10:15
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$$$$USERNAME$$$$

BRIDGE SKETCHES

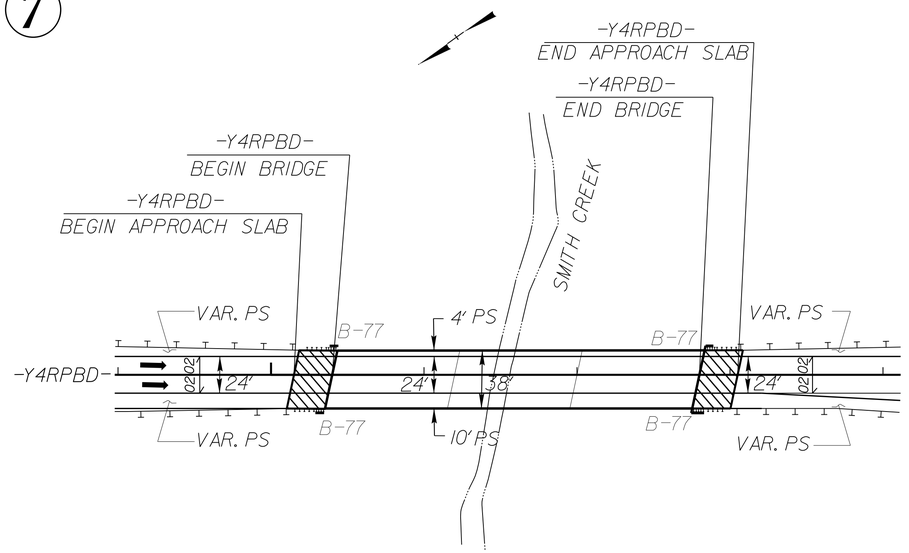
NOTES:

SEE SHEET 2-S FOR STRUCTURE (7) TYPICAL SECTION
SEE SHEET 2-T FOR STRUCTURE (8) TYPICAL SECTION
SEE SHEET 2-T FOR STRUCTURE (9) TYPICAL SECTION
SEE SHEET 2-U FOR STRUCTURE (10) TYPICAL SECTION

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-Y
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

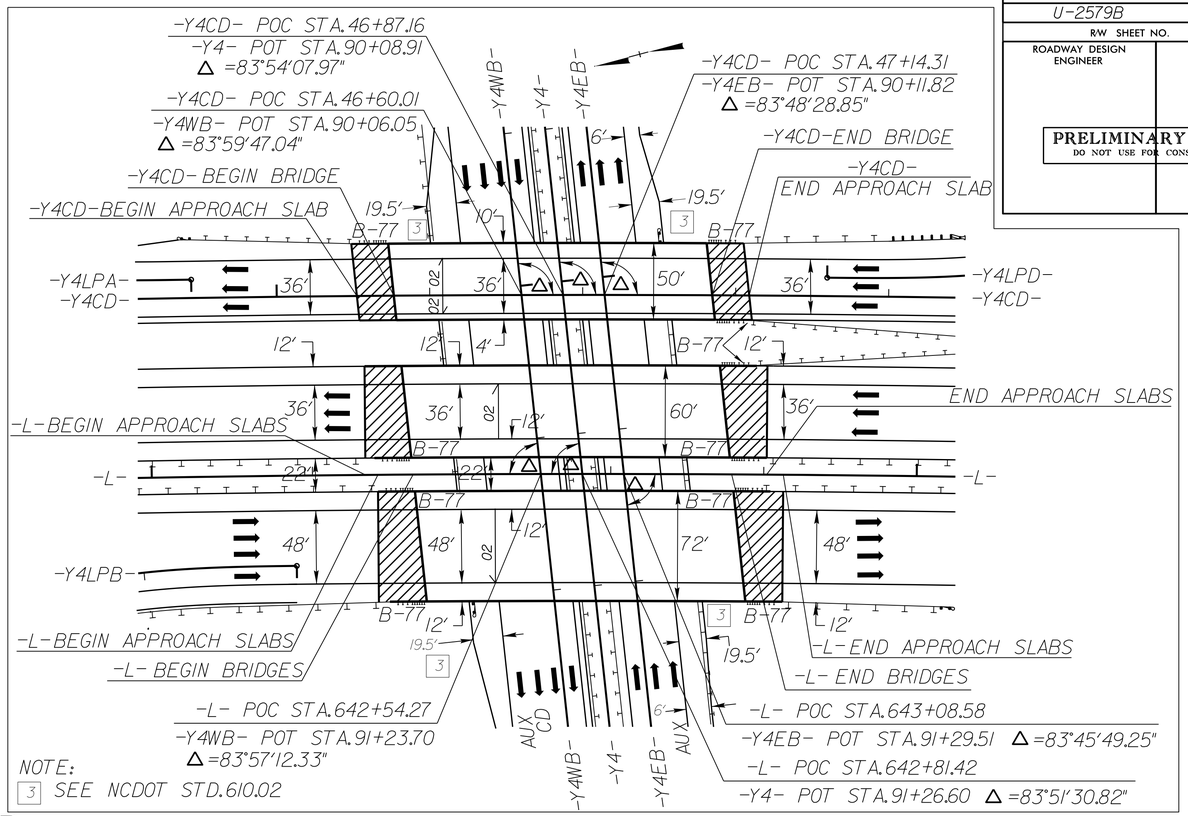
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

7



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y4RPBD- OVER SMITH CREEK

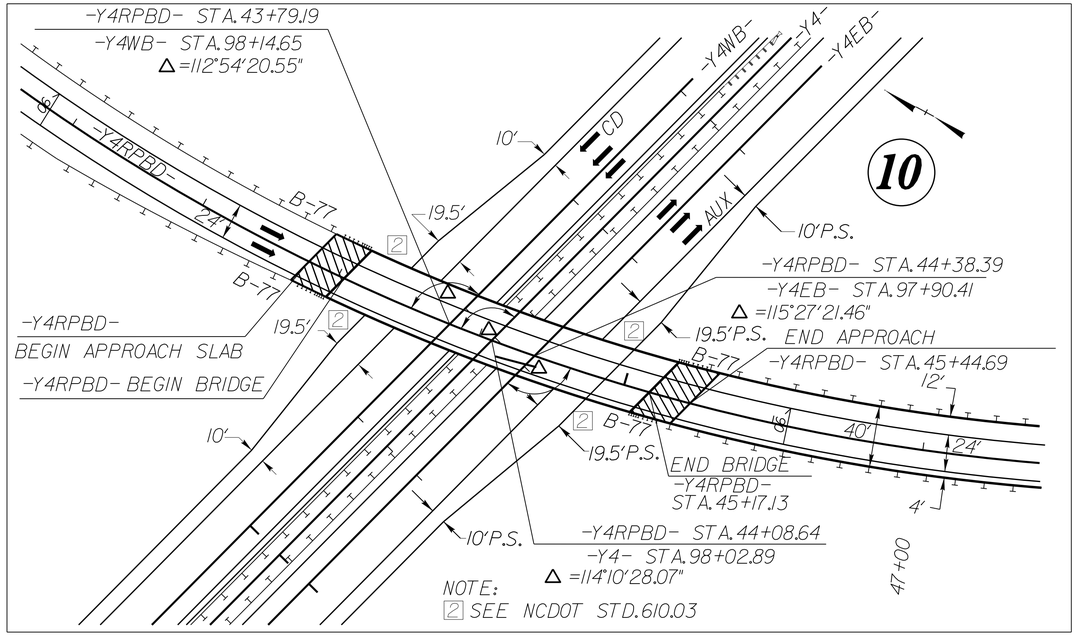
8



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y4CD- & -L- (DUAL BRIDGES) OVER -Y4-

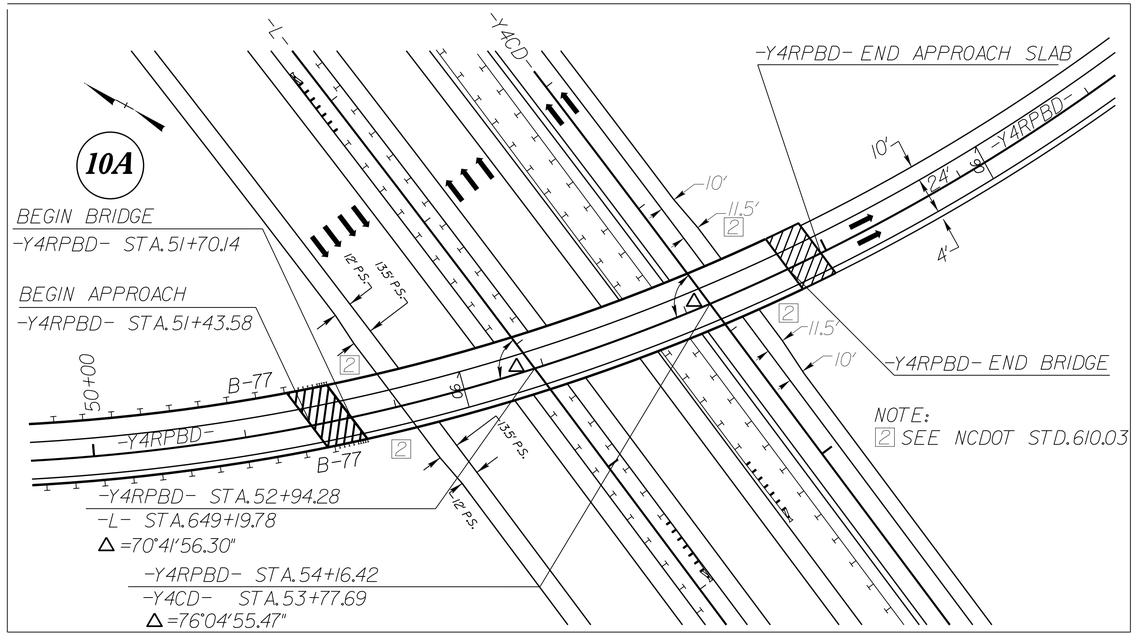
9

10



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y4RPBD- OVER -Y4EB- & -Y4WB-

10A



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y4RPBD- OVER -L-

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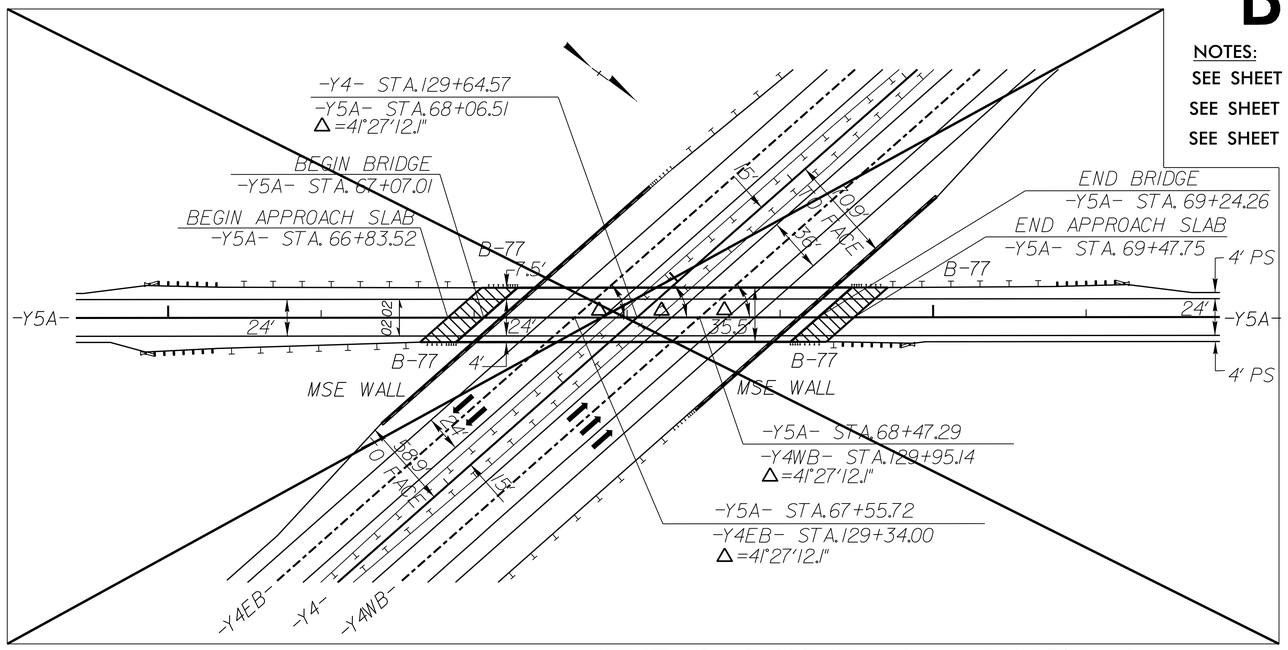
BRIDGE SKETCHES

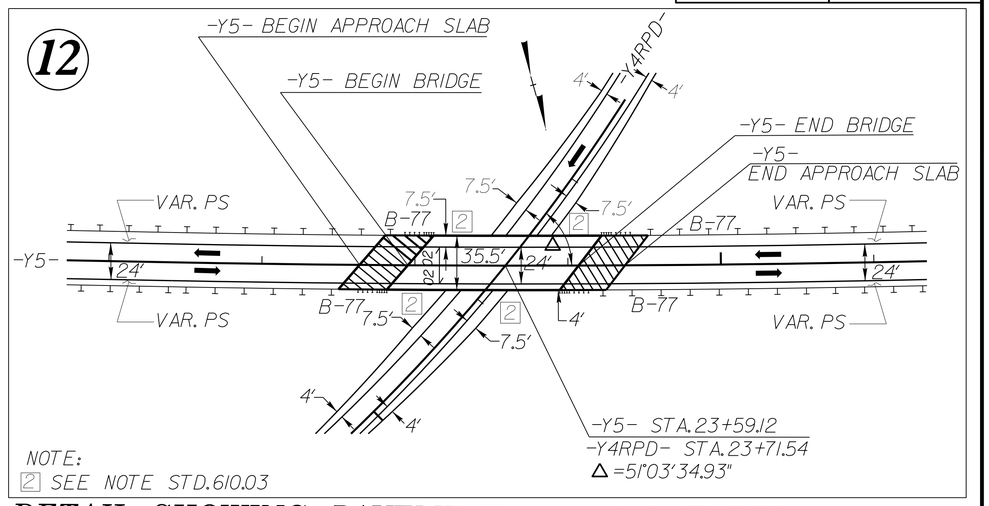
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-Z
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

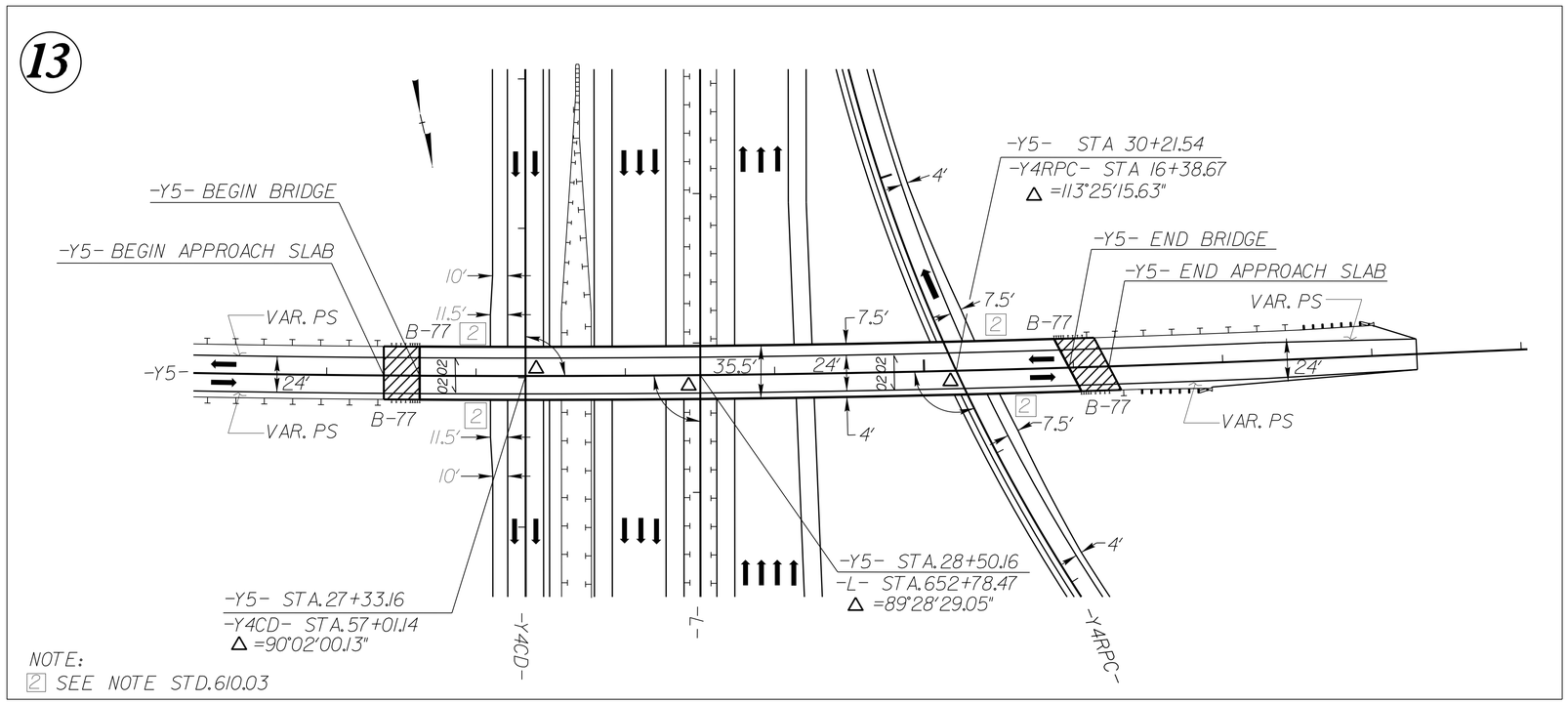
NOTES:
SEE SHEET 2-V FOR STRUCTURE TYPICAL (11) SECTION
SEE SHEET 2-V FOR STRUCTURE TYPICAL (12) SECTION
SEE SHEET 2-V FOR STRUCTURE TYPICAL (13) SECTION



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y5A- OVER -Y4- (TIP PROJECT U-2579G)



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y5- OVER -Y4RPD-



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y5- OVER -L-, -Y4CD-, & -Y4RPC-

REVISIONS

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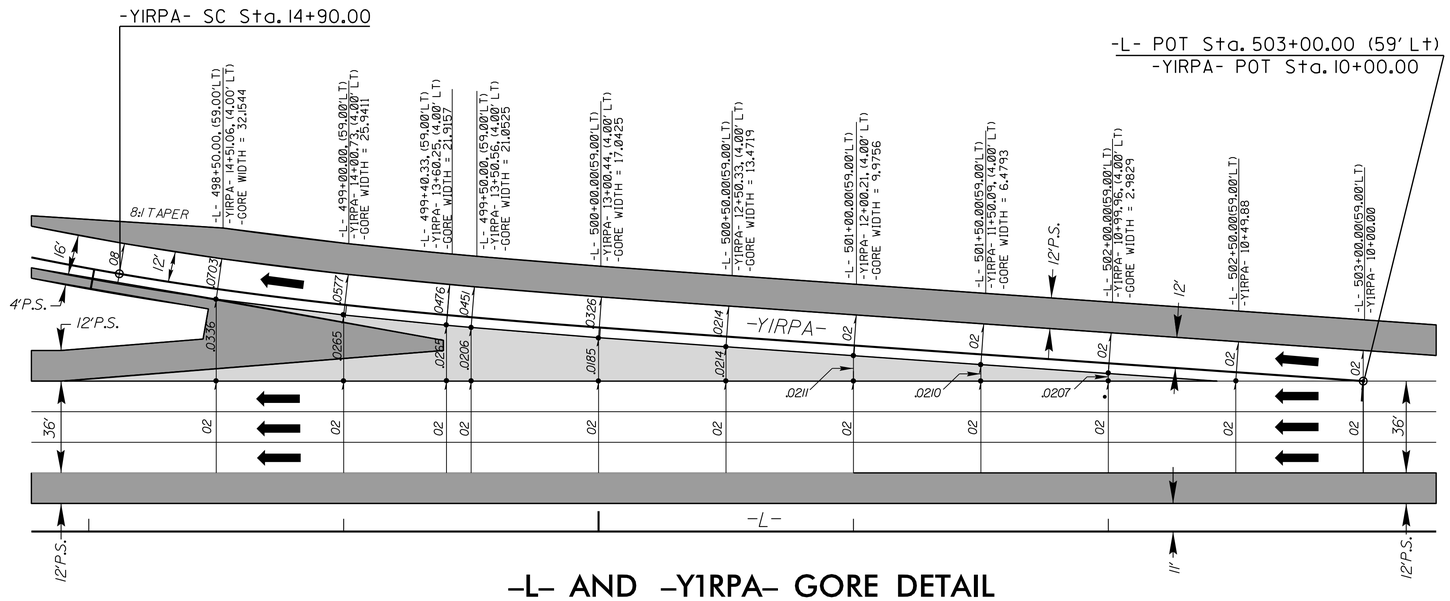
PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-AA
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

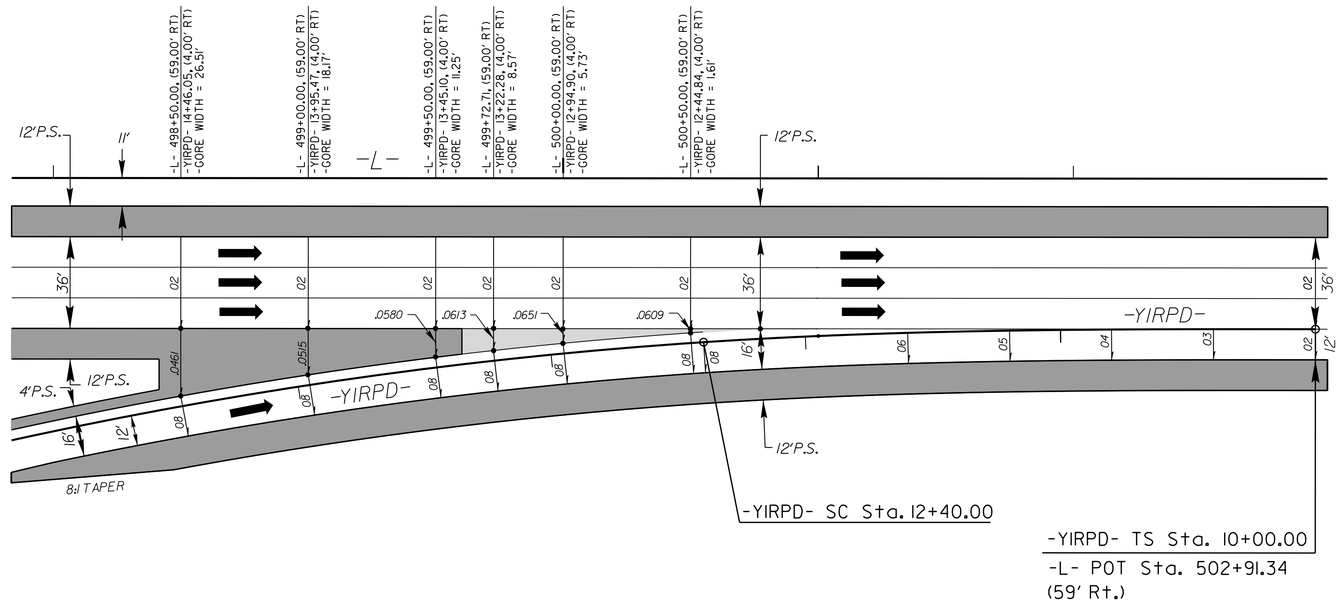
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

30' 0' 30' 60'
15' BAR SCALE



-L- AND -Y1RPA- GORE DETAIL

(SEE PLAN SHEET 5 & 6 FOR PLAN VIEW)



-L- AND -Y1RPD- GORE DETAIL

(SEE PLAN SHEET 5 FOR PLAN VIEW)

16-DEC-2013 10:15
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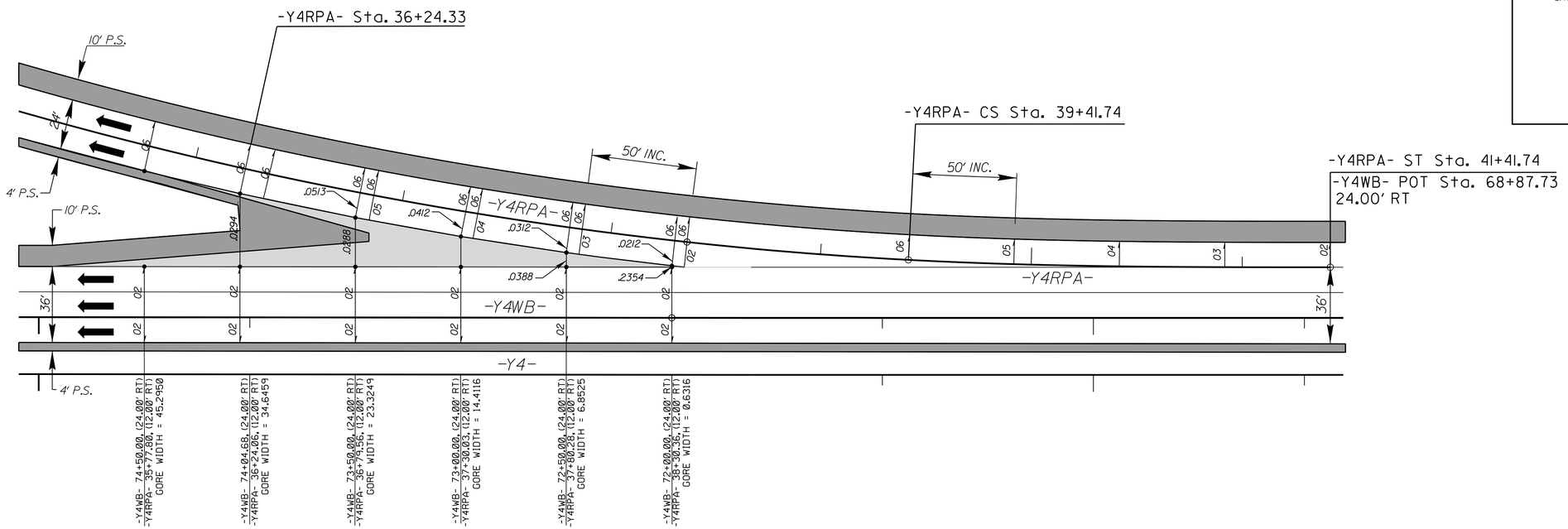
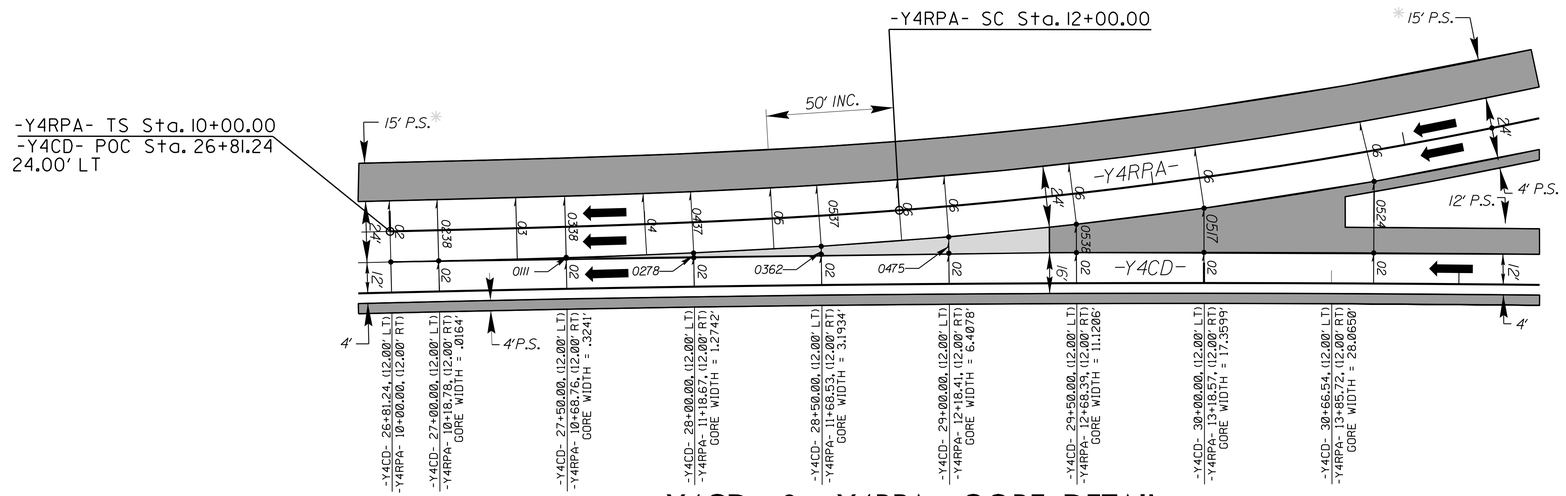
30′ 0′ 30′ 60′
15′ BAR SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-BB
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



–Y4WB– & –Y4RPA– GORE DETAIL

(SEE PLAN SHEET 27 FOR PLAN VIEW)



–Y4CD– & –Y4RPA– GORE DETAIL

(SEE PLAN SHEET 15 FOR PLAN VIEW)

NOTE:
* Paved To Face Of Guardrail

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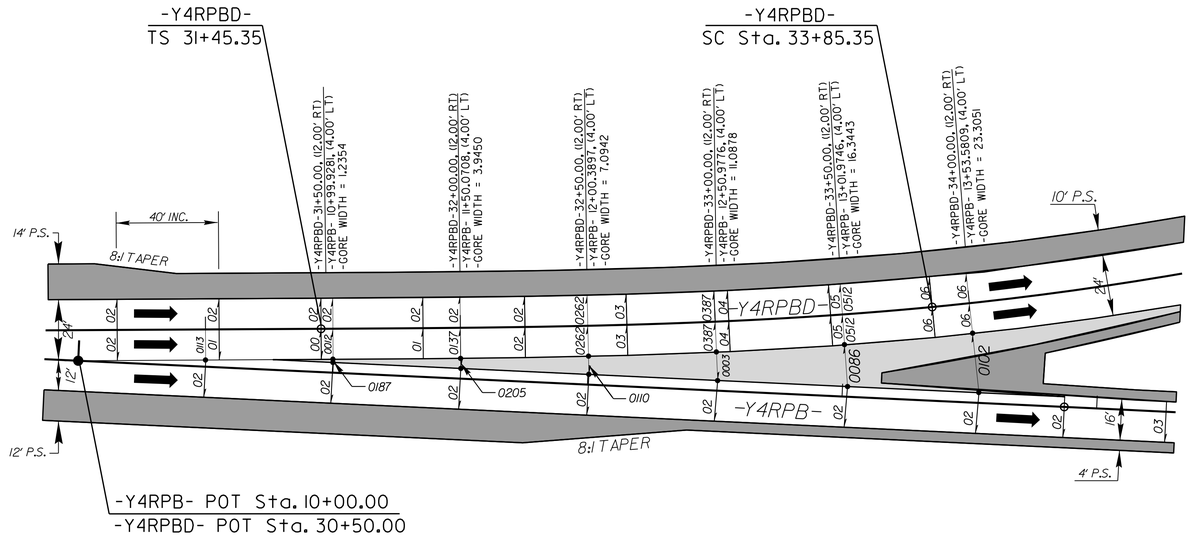
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-CC
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

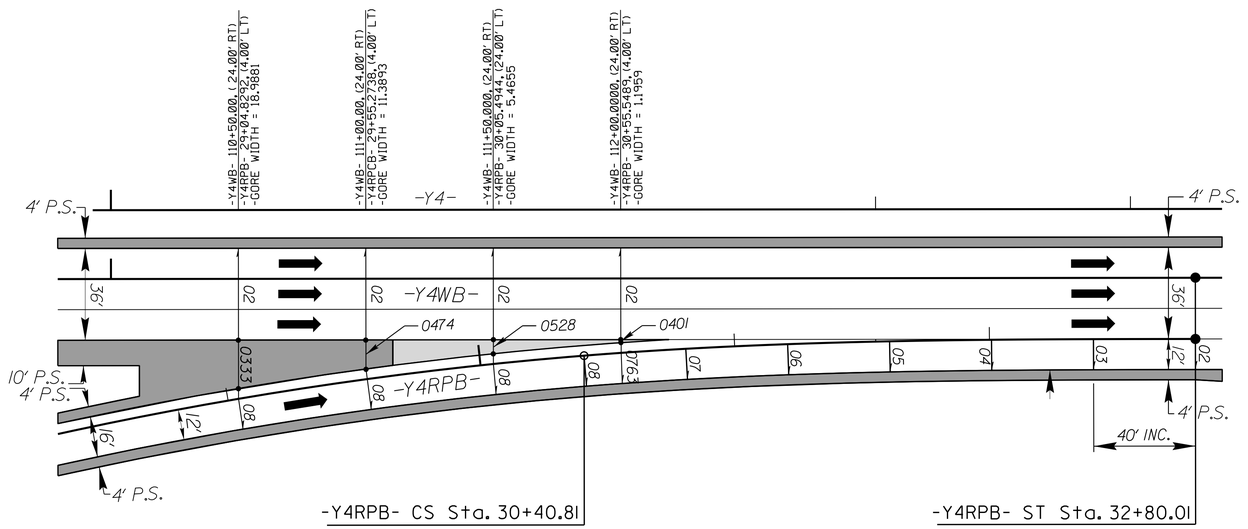
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

30' 0' 30' 60'
15' BAR SCALE



–Y4RPBD– & –Y4RPB– GORE DETAIL

(SEE PLAN SHEET 15 & 16 FOR PLAN VIEW)



–Y4WB– & –Y4RPB– GORE DETAIL

(SEE PLAN SHEET 28 FOR PLAN VIEW)

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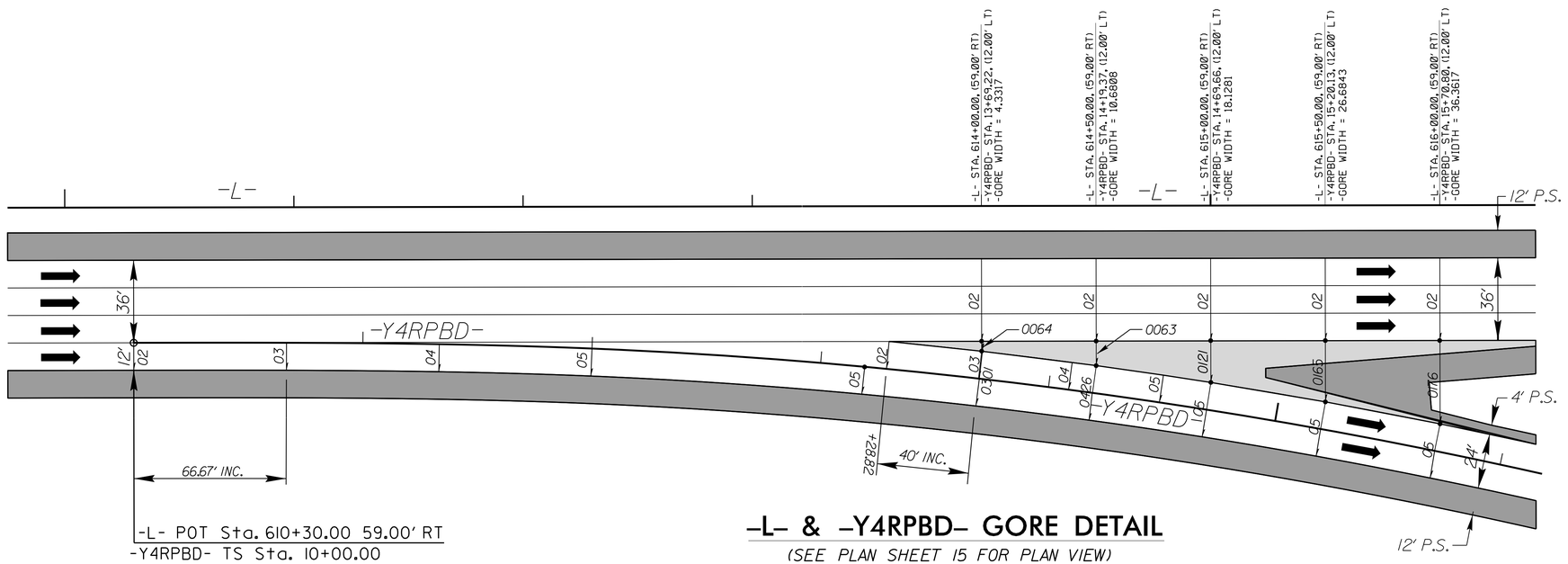
$$DATE$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-DD
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

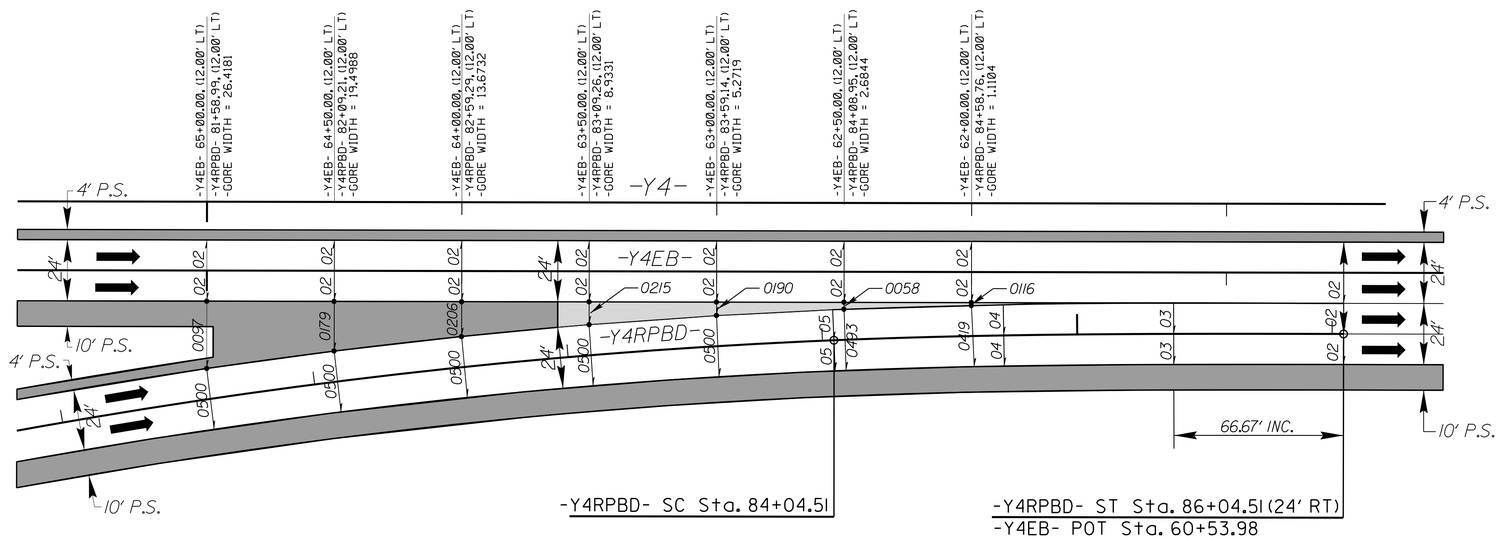
30′ 0′ 30′ 60′
15′ BAR SCALE

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-L- & -Y4RPBD- GORE DETAIL

(SEE PLAN SHEET 15 FOR PLAN VIEW)



-Y4EB- & -Y4RPBD- GORE DETAIL

(SEE PLAN SHEET 27 FOR PLAN VIEW)

16-DEC-2013 10:15
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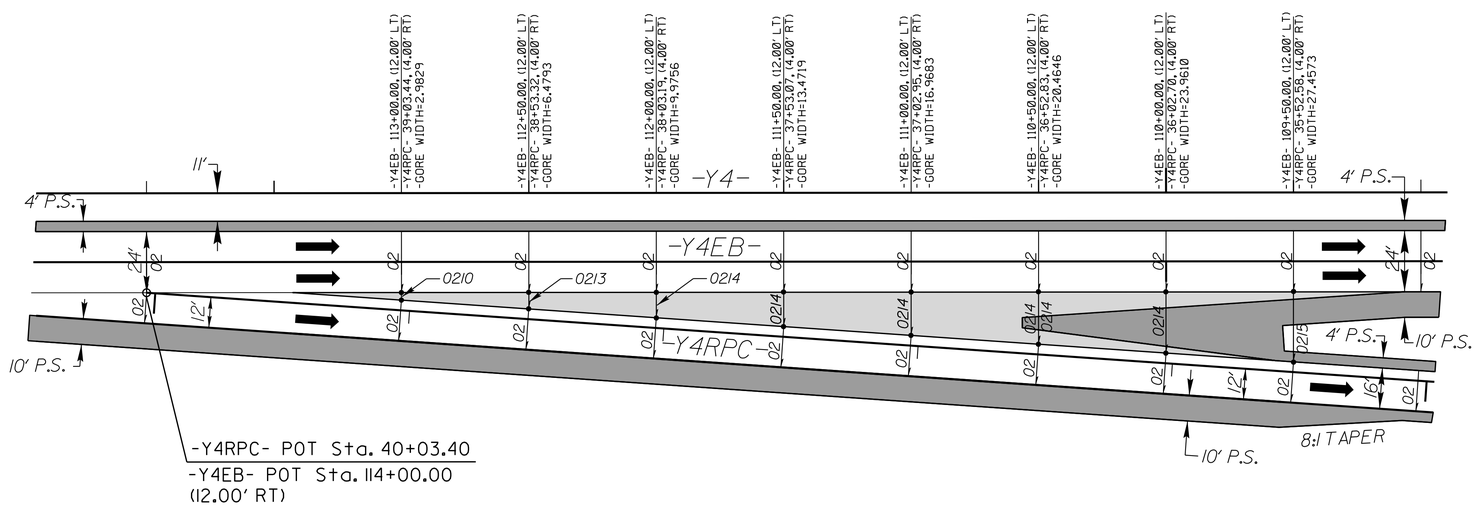
$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-EE
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

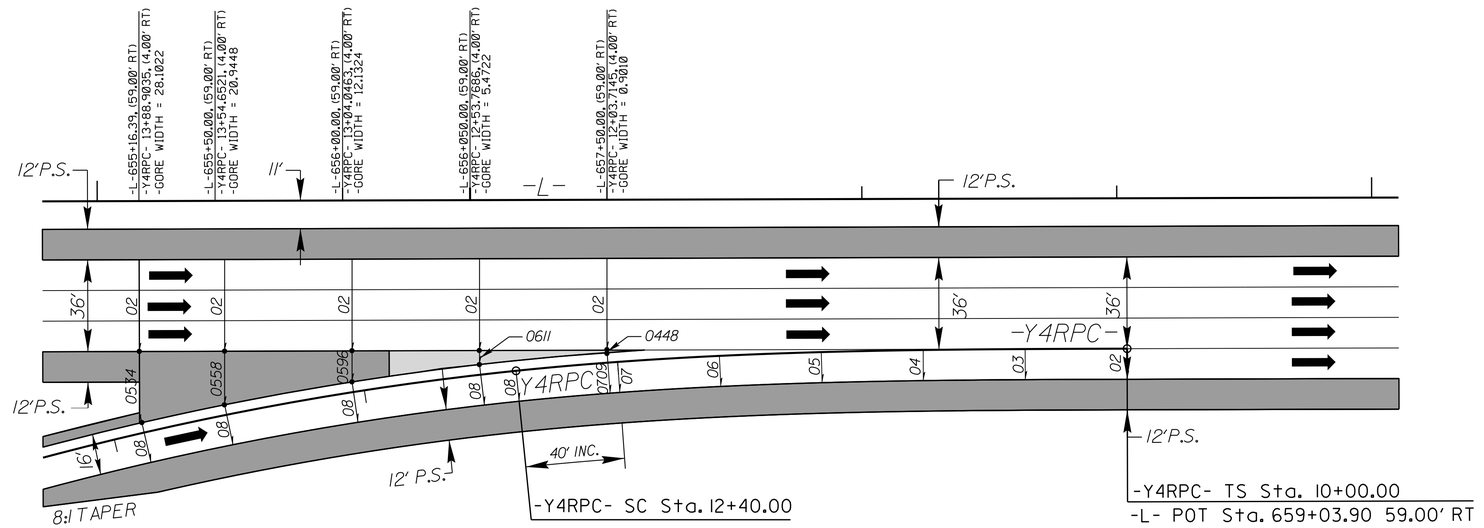
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

30′ 0′ 30′ 60′
15′ BAR SCALE



-Y4EB- & -Y4RPC- GORE DETAIL

(SEE PLAN SHEET 28 FOR PLAN VIEW)



-L- & -Y4RPC- GORE DETAIL

(SEE PLAN SHEET 16 & 17 FOR PLAN VIEW)

16-DEC-2013 10:15
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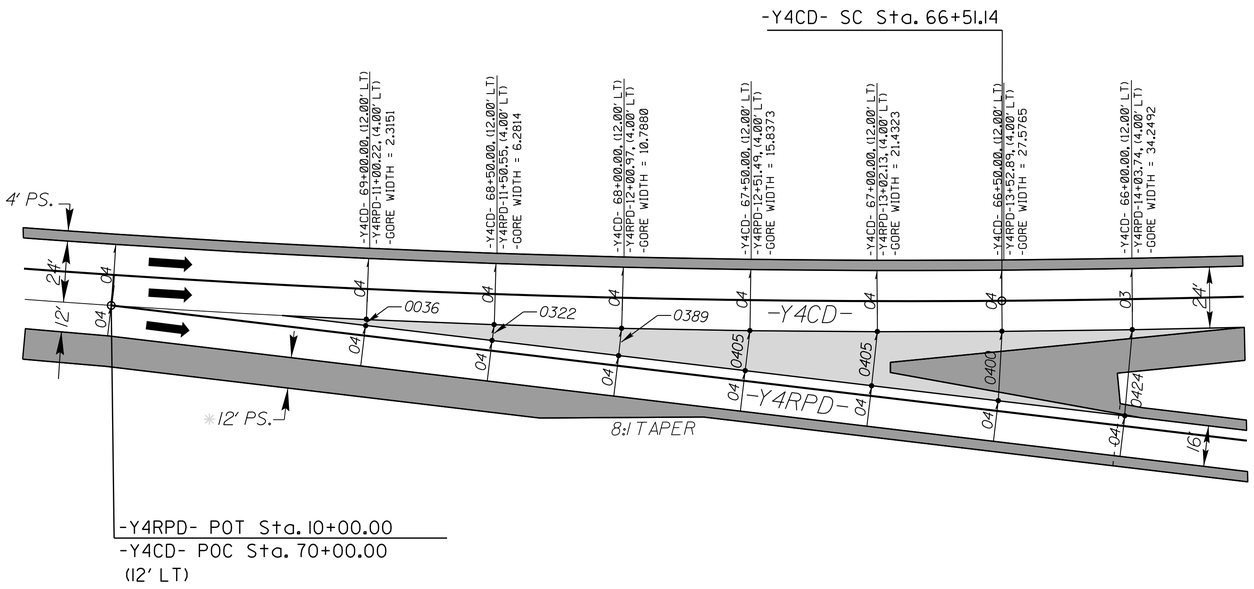
$$USER$$

5/14/99

30′ 0′ 30′ 60′
15′ BAR SCALE

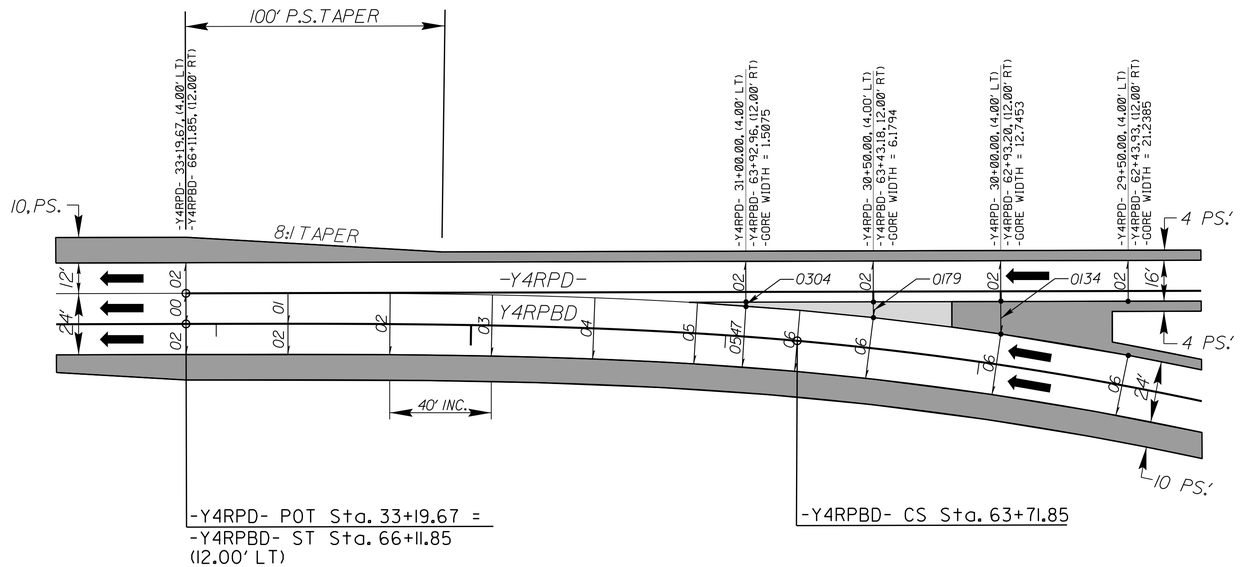
PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-FF
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



–Y4CD– & –Y4RPD– GORE DETAIL

(SEE PLAN SHEET 27 FOR PLAN VIEW)



–Y4RPBD– & –Y4RPD– GORE DETAIL

(SEE PLAN SHEET 27 FOR PLAN VIEW)

NOTE:
*Paved To Face Of Guardrail

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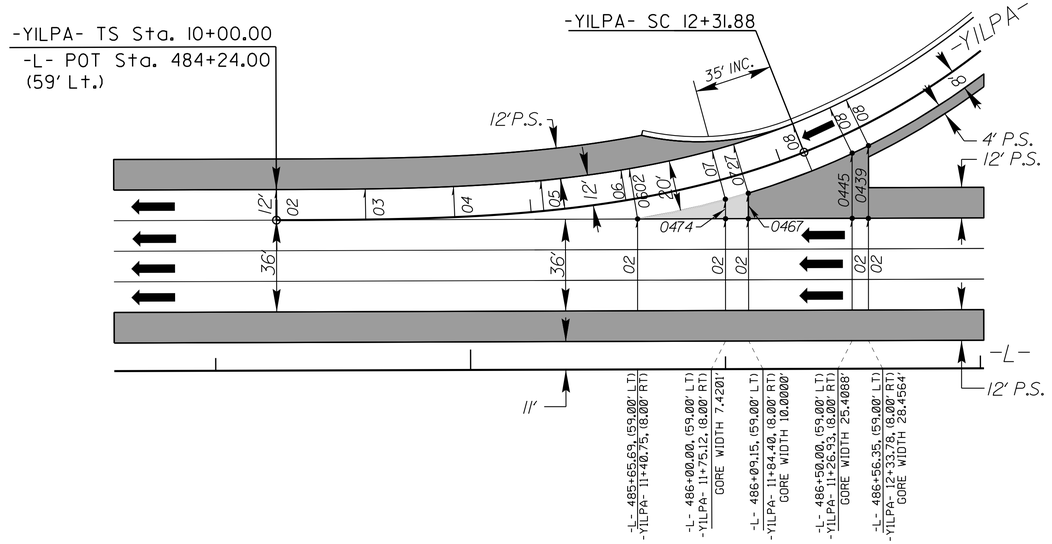
5/14/99

30′ 0′ 30′ 60′
15′ BAR SCALE

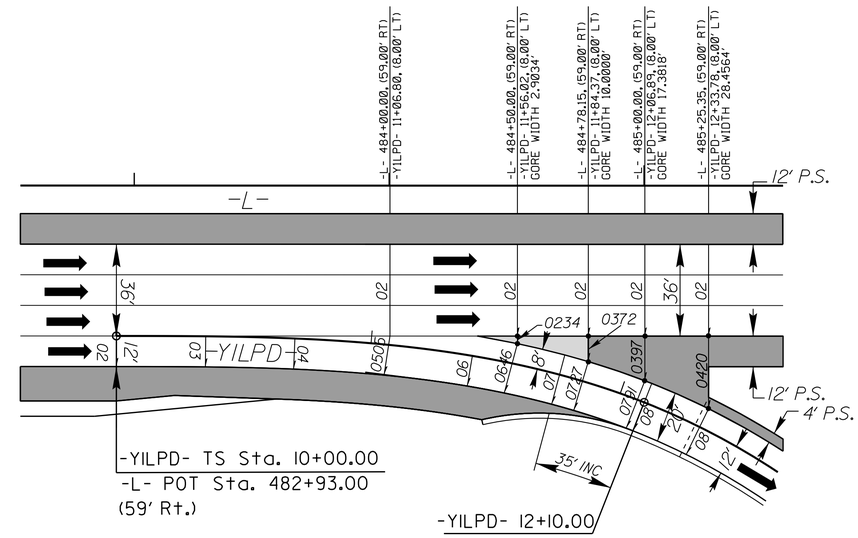
PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-GG
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



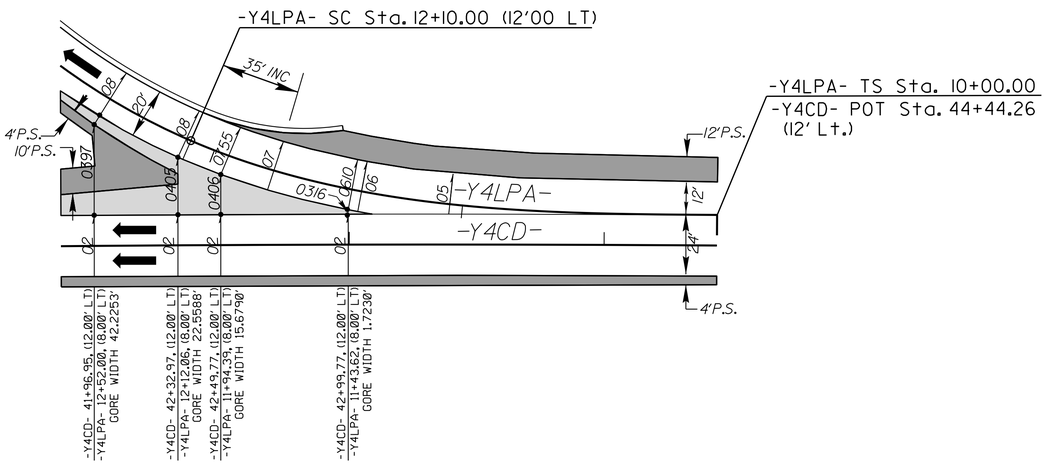
–Y1LPA– & –L– GORE DETAIL

(SEE PLAN SHEET 5 FOR PLAN VIEW)



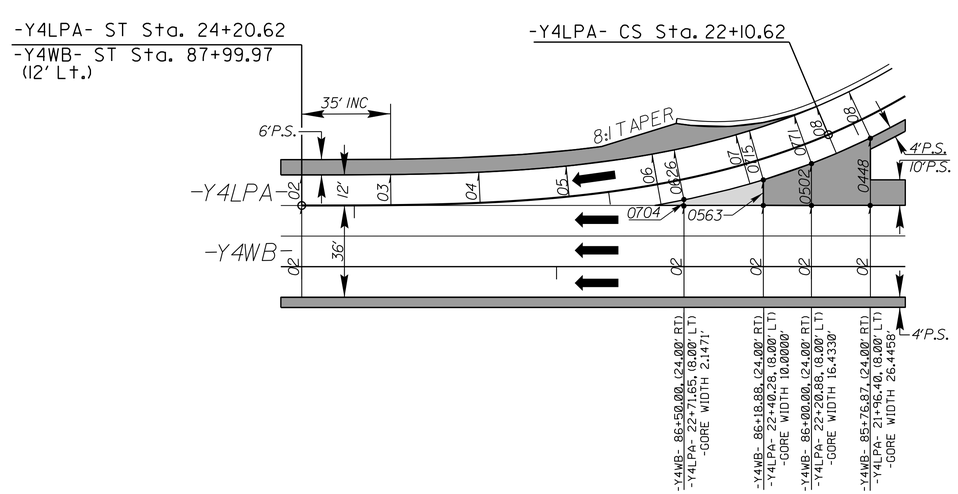
–Y1LPD & –L– GORE DETAIL

(SEE PLAN SHEET 5 FOR PLAN VIEW)



–Y4LPA– & –Y4CD– GORE DETAIL

(SEE PLAN SHEET 16 FOR PLAN VIEW)



–Y4LPA– & –Y4WB– GORE DETAIL

(SEE PLAN SHEET 16 FOR PLAN VIEW)

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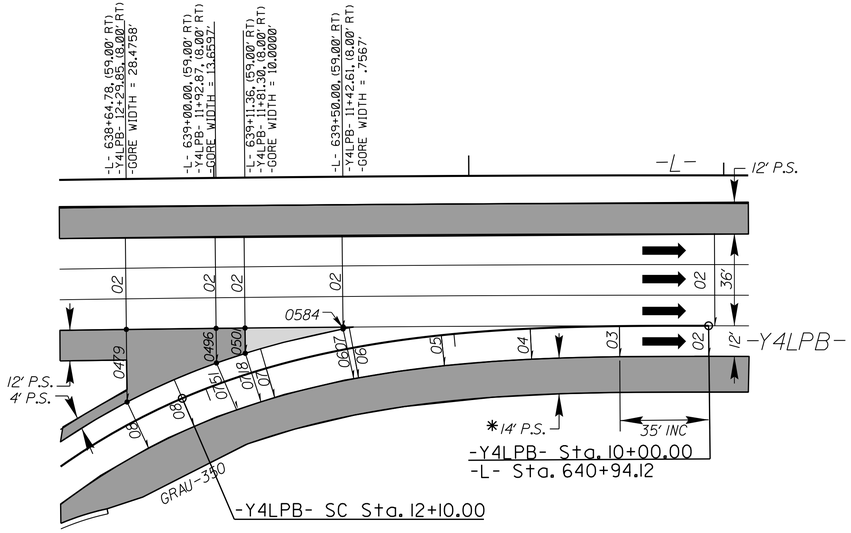
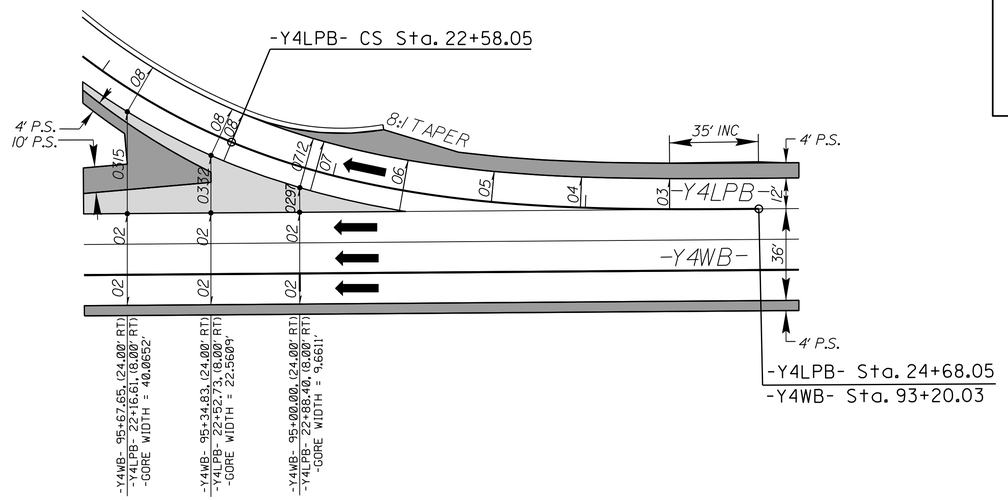


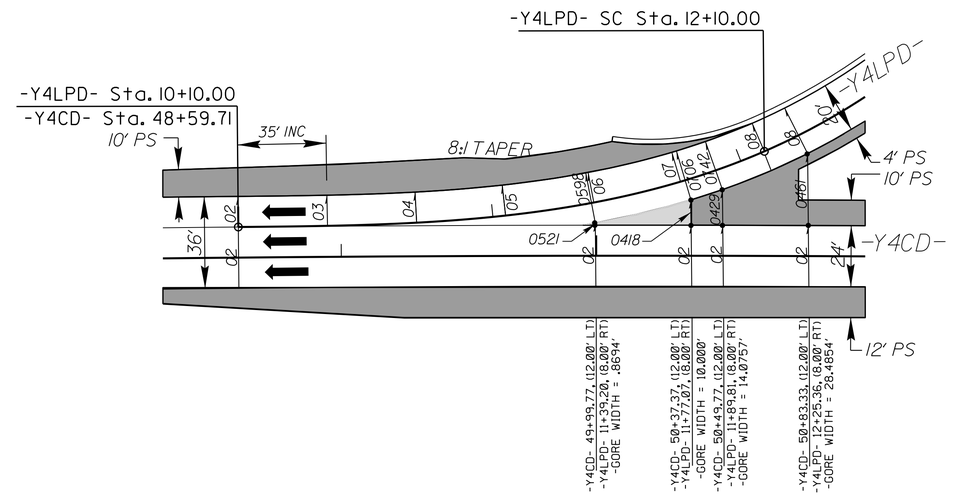
–Y4LPB– & –L– GORE DETAIL

(SEE PLAN SHEET 16 FOR PLAN VIEW)



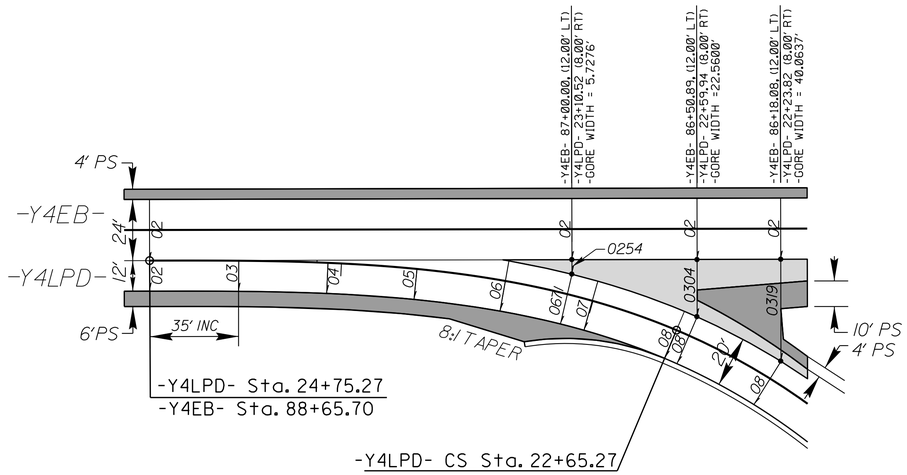
–Y4LPB– & –Y4WB– GORE DETAIL

(SEE PLAN SHEET 16 FOR PLAN VIEW)



–Y4LPD– & –Y4CD– GORE DETAIL

(SEE PLAN SHEET 16 FOR PLAN VIEW)



–Y4LPD– & –Y4EB– GORE DETAIL

(SEE PLAN SHEET 16 FOR PLAN VIEW)

NOTE:
* Paved To Face Of Guardrail

30' 0' 30' 60'
15' BAR SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-HH
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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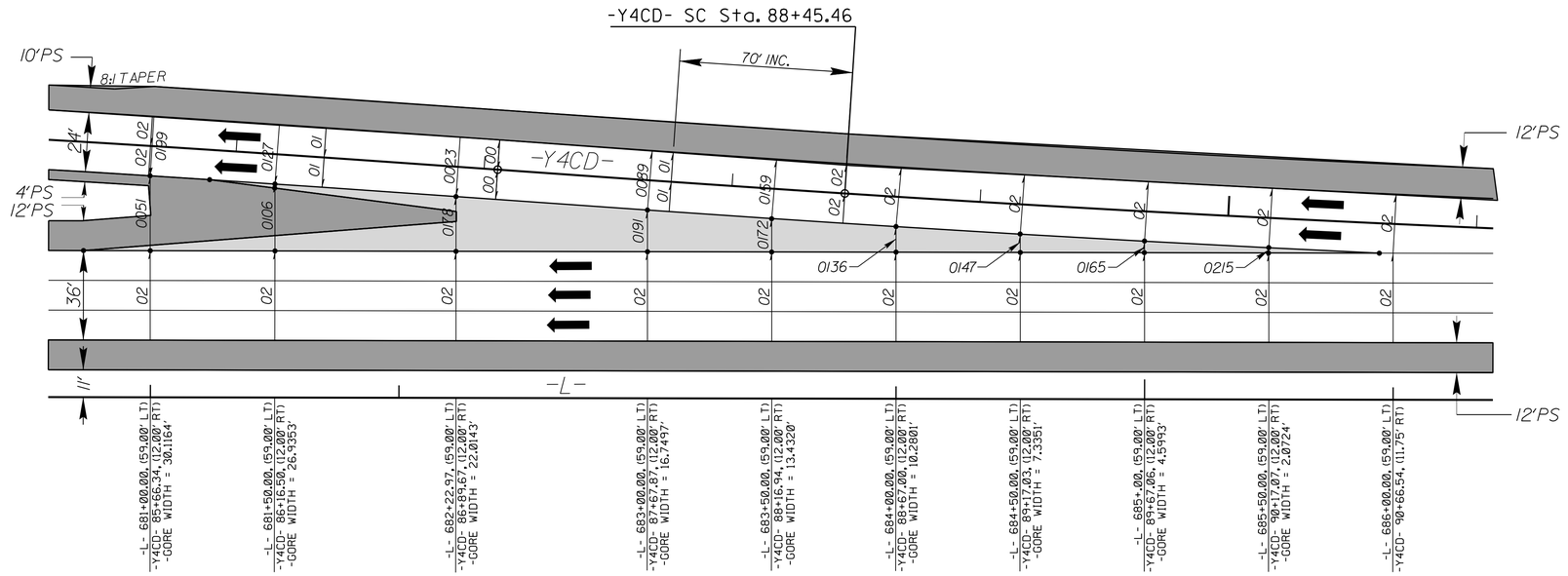
5/14/99

30′ 0′ 30′ 60′
15′ BAR SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-II
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



–Y4CD– & –L– END GORE DETAIL

(SEE PLAN SHEET 19 FOR PLAN VIEW)

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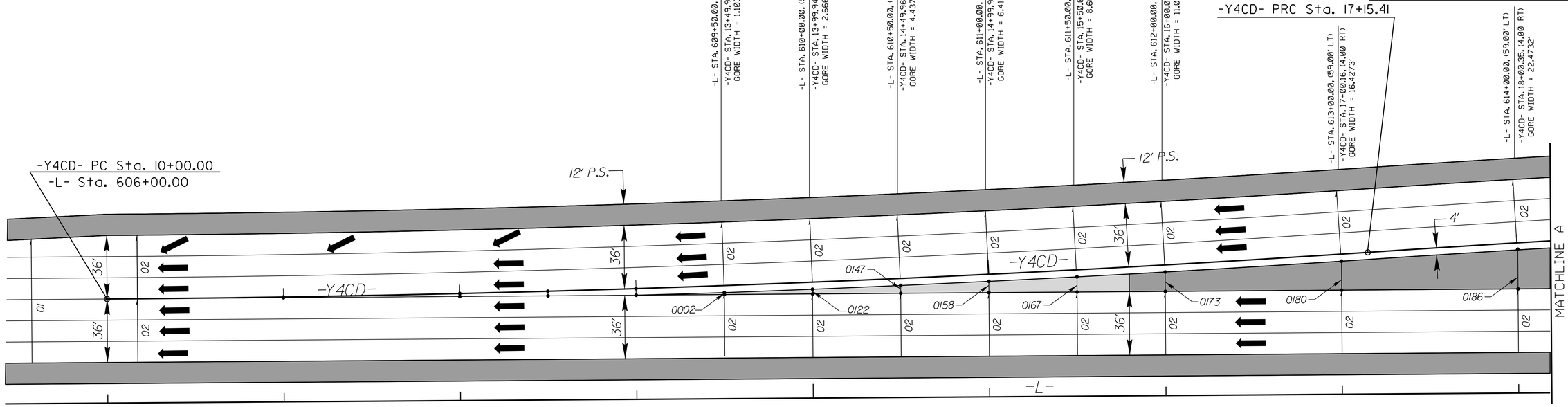
30′ 0′ 30′ 60′
15′ BAR SCALE

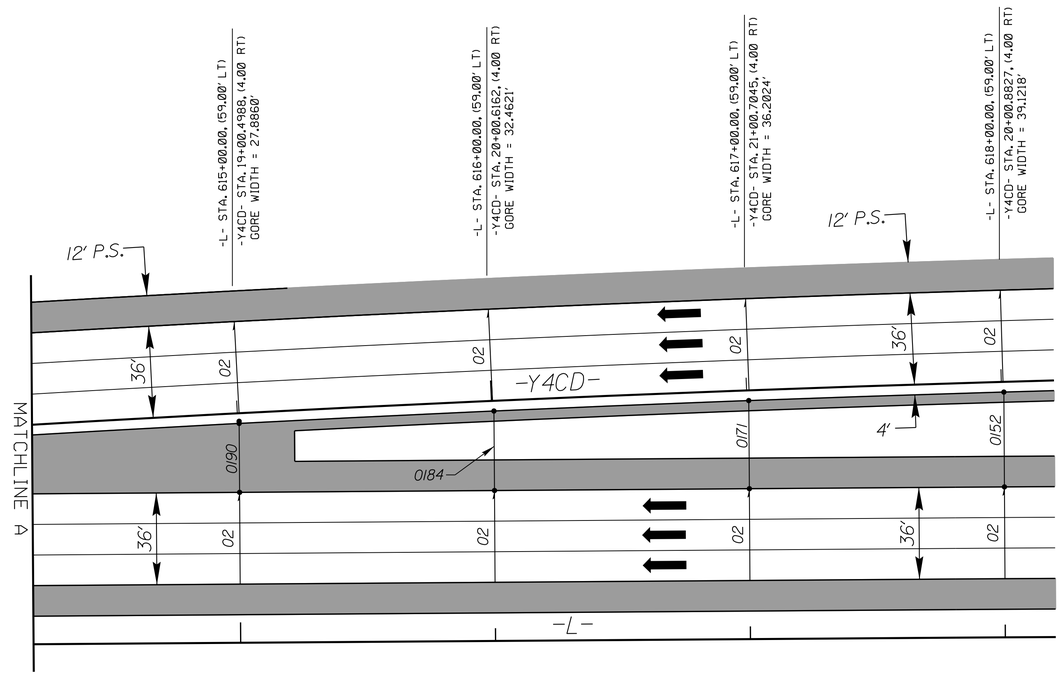
PROJECT REFERENCE NO.	SHEET NO.
U-2579 B	2-JJ
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



–Y4CD– & –L– BEGIN GORE DETAIL

(SEE PLAN SHEET 19 FOR PLAN VIEW)



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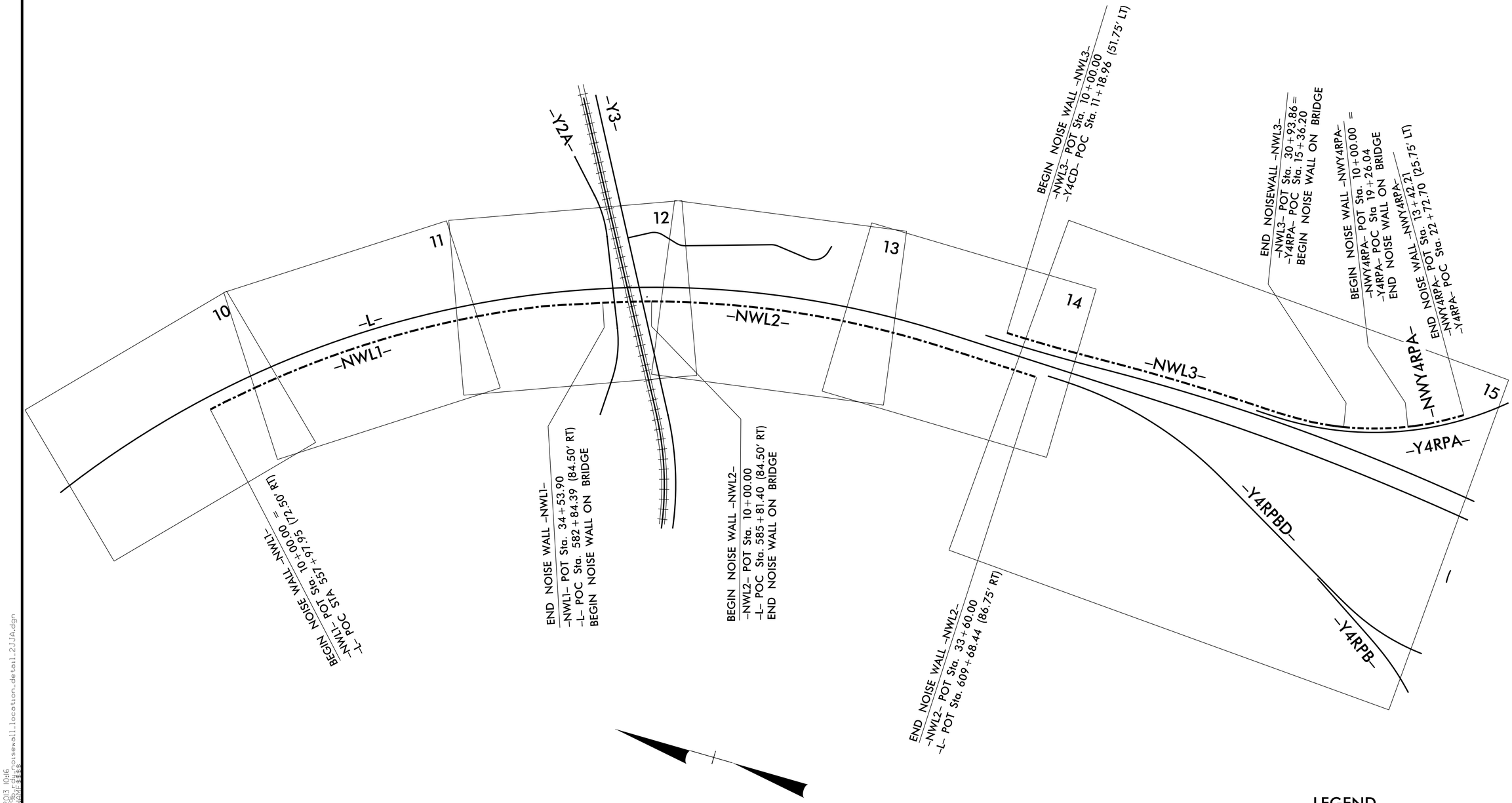
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2JJA
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOISE WALL
–NWL1–, –NWL2–, –NWL3–, –NWY4RPA–
LOCATION DETAIL



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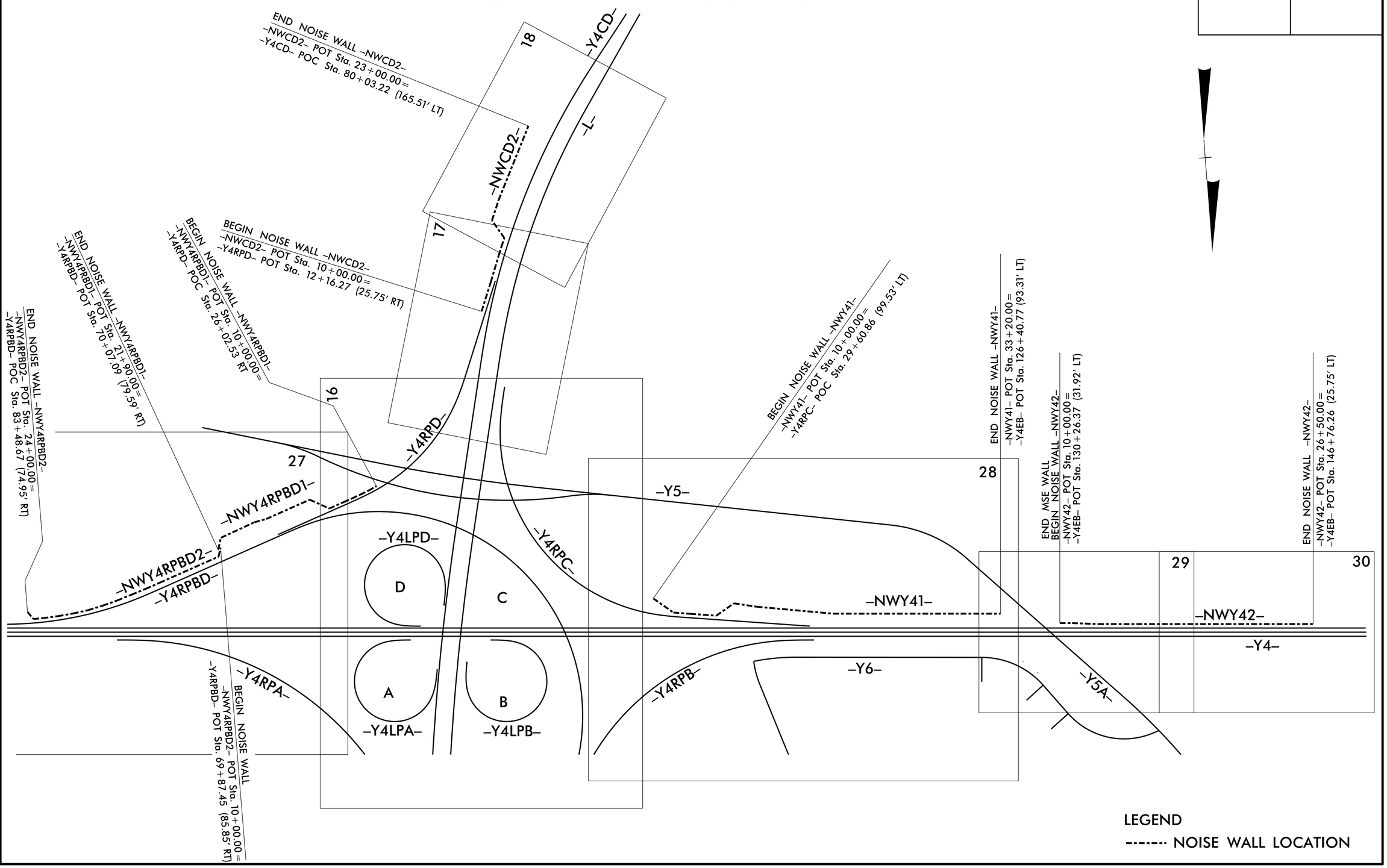
5/14/99

NOISE WALL
–NWY41–, –NWY42–, –NWY4RPBD1–, –NWY4RPBD2–, –NWCD2–
LOCATION DETAIL

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2JJB
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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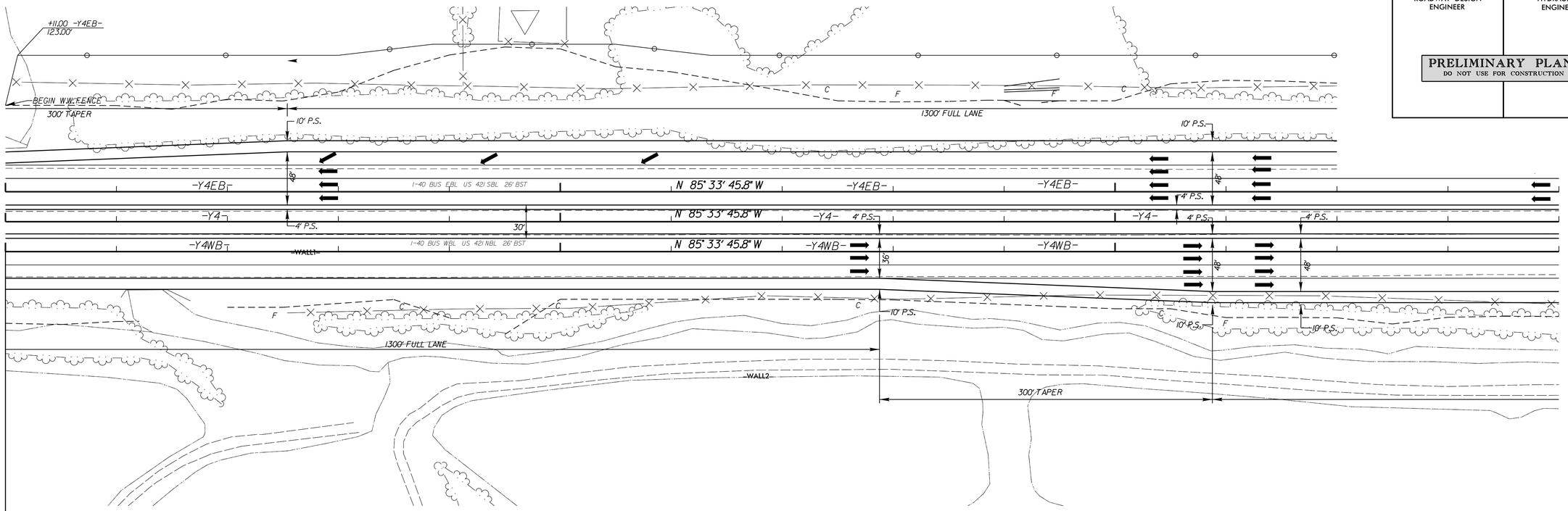
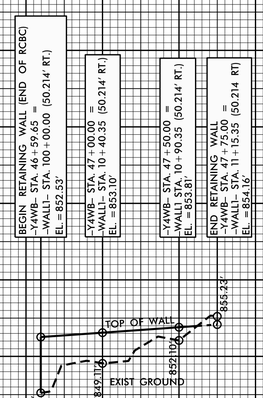
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-XX
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

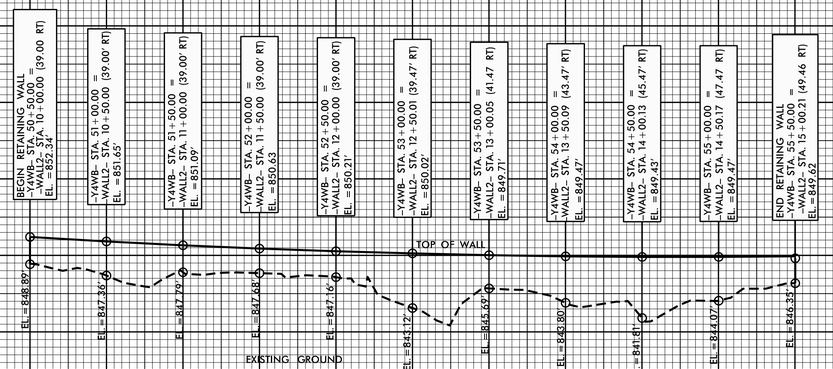
REVISIONS 8/17/99



RETAINING WALL 1



RETAINING WALL 2



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bbarbee
18.85 MB

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-YY
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS 8/17/99

-Y4RPBD- STA. 81+62.11
END -Y4RPBD- PAVEMENT
BEGIN -Y4EB- PAVEMENT

END NOISE WALL
-NWY4RPBD2-

-Y4RPBD-

8:1 TAPER

7' FULL LANE

66.67' INC.

10' P.S.

60

36'

24'

4' P.S.

30'

75'

-Y4RPA-

BEGIN W.W. FENCE

10' P.S.

90' INC.

50' INC.

1300' FULL LANE

-WALL3-

-Y4WB- STA. 64+11.04 TO 64+58.33

85

80

-Y4RPA- S
-Y4WB- PC
24.00' RT.

-Y4RPA-
CS STA. 39+14.74

-Y4RPA-
END -Y-
BEGIN -:

RETAINING WALL 3

BEGIN RETAINING WALL
-Y4WB- STA. 64+11.04 =
-WALL3- STA. 10+00.00 (64.075' RT)
EL. = 853.30'

-Y4WB- STA. 64+50.09 =
-WALL3- STA. 10+40.27' (74.266' RT)
EL. = 847.30'

END RETAINING WALL
-Y4WB- STA. 64+58.33 =
-WALL3- STA. 10+48.89' (76.446' RT)
EL. = 845.91'

TOP OF WALL

850.00'

846.81'

849.69'

EXISTING GROUND

860
850
840
830
820

10 (-WALL3-)
11 (-WALL3-)

62 (-Y4WB-)
63 (-Y4WB-)
64 (-Y4WB-)
65 (-Y4WB-)
66 (-Y4WB-)
67 (-Y4WB-)
68 (-Y4WB-)

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8/17/99

REVISIONS

NOISE BARRIER -NWCD2-

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-00
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN NOISE WALL -NWCD2- 10
-NWCD2- POT Sta. 10+00.00=
-Y4RPD- POT Sta. 12+16.27 (25.75' RT)

S 21° 53' 49.7" W
-NWCD2-
PI Sta. 12+00.00
S 20° 35' 27.1" W
PI Sta. 12+60.00
S 20° 45' 03.9" W
PI Sta. 13+20.00
S 21° 28' 26.4" W
PI Sta. 13+80.00
S 21° 50' 11.6" W
PI Sta. 14+40.00
S 23° 16' 42.1" W
PI Sta. 15+00.00 15
S 30° 48' 34.4" E
PI Sta. 16+40.00
S 22° 25' 56.6" W
PI Sta. 17+80.00
-NWCD2-
S 26° 19' 47.4" W
20
END NOISE WALL -NWCD2-
-NWCD2- POT Sta. 23+00.00=
-Y4CD- POC Sta. 80+03.22 (165.51' LT)

N 21° 53' 49.7" E
-Y4RPD-
10
70
-Y4CD-
75
80
-L- WINSTON SALEM OUTER LOOP
665
670
675

-NWCD2-

MINIMUM WALL HEIGHT

PROPOSED GROUND AT FACE OF NOISE WALL

910
900
890
880
870
860
850
840

10 11 12 13 14 15 16 17 18 19 20 21 22 23

-NWCD2- DESIGN DATA

PANEL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
TOP ELEV.	891.00'	891.00'	891.00'	891.00'	891.00'	889.46'	888.46'	889.46'	890.68'	892.45'	894.50'	895.87'	897.36'	898.34'	899.51'	900.68'	901.85'	903.10'	903.84'	904.57'	905.31'	906.04'	906.71'	907.38'	908.05'	908.72'	909.39'	910.03'	910.70'	911.36'	910.70'	909.72'	910.66'	911.44'	912.92'	914.00'	914.00'	914.00'	914.01'	914.35'	914.68'	915.00'	915.00'	915.00'	915.01'	915.35'	915.68'	916.01'
LENGTH	100'	100'	100'	100'	100'	20'	20'	10'	10'	10'	10'	20'	20'	20'	40'	40'	40'	20'	20'	10'	10'	10'	10'	10'	10'	10'	10'	20'	20	20	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

NOISE BARRIER -NWLI-

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-KK
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

560 565 570

-L- WINSTON SALEM OUTER LOOP

10 S 43° 21' 41.9" E S 41° 03' 41.4" E S 41° 20' 22.4" E -NWLI- S 40° 19' 41.5" E S 39° 19' 00.6" E 15 S 38° 18' 19.7" E S 37° 17' 38.7" E S 36° 16' 57.8" E S 35° 16' 16.9" E S 34° 15' 36.0" E 20 S 33° 14' 55.0" E -NWLI- S 32° 14' 14.1" E S 31° 13' 33.2" E S 30° 12' 52.3" E

BEGIN NOISE WALL -NWLI-
-NWLI- POT Sta.10+00.00 =
-L- POC STA 557+97.95 (12.50' RT)

Pi Sta.11+00.00
Pi Sta.12+00.00
Pi Sta.13+00.00
Pi Sta.14+00.00
Pi Sta.15+00.00
Pi Sta.16+00.00
Pi Sta.17+00.00
Pi Sta.18+00.00
Pi Sta.19+00.00
Pi Sta.20+00.00
Pi Sta.21+00.00
Pi Sta.22+00.00
Pi Sta.23+00.00
Pi Sta.24+00.00
MATCHLINE -NWLI- STA.24+00.00

970 960 950 940 930 920 910 900 890 880

-NWLI-

MINIMUM WALL HEIGHT

PROPOSED GROUND AT FACE OF NOISE WALL

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70

-NWLI- DESIGN DATA

PANEL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
TOP ELEV.	912.34'	913.01'	913.67'	914.34'	915.00'	915.67'	916.34'	917.00'	917.67'	918.34'	919.00'	919.67'	920.51'	921.51'	922.51'	923.34'	924.00'	924.67'	925.34'	926.00'	926.67'	927.51'	928.51'	929.51'	930.34'	931.00'	931.67'	932.34'	933.00'	933.67'	934.51'	935.51'	936.51'	937.34'	938.00'
LENGTH	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

-NWLI- DESIGN DATA

PANEL NO.	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
TOP ELEV.	938.67'	939.34'	940.00'	940.67'	941.51'	942.51'	943.51'	944.34'	945.00'	945.67'	946.34'	947.00'	947.67'	948.51'	949.51'	950.51'	951.34'	952.01'	952.67'	953.34'	954.01'	954.67'	955.51'	956.51'	957.51'	958.34'	959.01'	959.67'	960.34'	961.01'	961.67'	962.51'	963.51'	964.51'	965.34'
LENGTH	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

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8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2LL
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOISE BARRIER -NWLI-

MATCHLINE -NWLI- STA. 24+00.00

-L- WINSTON SALEM OUTER LOOP

S 29° 12' 11.4" E | S 28° 11' 30.4" E | S 27° 10' 49.5" E | S 26° 10' 08.6" E | S 25° 09' 27.7" E | S 24° 08' 46.7" E | S 23° 08' 05.8" E | S 19° 53' 44.7" E | S 18° 47' 20.8" E | S 19° 03' 51.8" E | S 19° 19' 57.4" E

-NWLI-

25 | 30

PI Sta. 24+00.00 | PI Sta. 25+00.00 | PI Sta. 26+00.00 | PI Sta. 27+00.00 | PI Sta. 28+00.00 | PI Sta. 29+00.00 | PI Sta. 30+00.00 | PI Sta. 31+00.00 | PI Sta. 32+00.00 | PI Sta. 33+00.00 | PI Sta. 34+00.00

END NOISE WALL -NWLI-
-NWLI- POT Sta. 34+53.90
-L- POC Sta. 582+84.39 (84.50' RT)

-Y2A- | -SRR- | -Y3-

NOISE WALL ON BRIDGE
(STRUCTURE PAY ITEM
SEE STRUCTURE PLANS)

-NWL2-

BEGIN NOISE WALL -NWL2-
-NWL2- POT Sta. 10+00.00
-L- POC Sta. 585+81.40 (84.50' RT)

-NWLI-

-NWLI- DESIGN DATA																																
PANEL NO.	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
TOP ELEV.	966.00'	966.67'	967.34'	968.01'	968.67'	969.51'	970.51'	971.51'	972.34'	973.01'	973.67'	974.34'	975.01'	975.67'	976.34'	977.01'	977.67'	978.34'	979.01'	979.67'	980.34'	981.01'	981.67'	982.50'	983.50'	984.50'	985.50'	986.50'	987.50'	988.50'	989.50'	990.48'	991.08'
LENGTH	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	40'	60'	60'	60'	50'	60'	60'	60'	80'	60'

MINIMUM WALL HEIGHT

PROPOSED GROUND AT FACE OF NOISE WALL

71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103

980 | 970 | 960 | 950 | 940

24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34

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NOISE BARRIER -NWL2-

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2MM
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

-Y2A- -SRR- -Y3-

585 590 595

-L- WINSTON SALEM OUTER LOOP

NOISE WALL ON BRIDGE
(STRUCTURE PAY ITEM
SEE STRUCTURE PLANS)

S 19° 03' 51.8" E

S 19° 19' 53.3" E

-NWL1-

S 15° 34' 35.7" E

S 14° 33' 48.5" E

S 12° 15' 40.3" E

-NWL2-

S 12° 32' 13.6" E

S 11° 31' 25.0" E

S 10° 30' 36.3" E

S 9° 29' 47.6" E

S 8° 28' 59.0" E

S 7° 28' 10.3" E

S 6° 27' 21.7" E

MATCHLINE -NWL2- STA. 20+00.00

PI Sta. 34+00.00

END NOISE WALL -NWL1-
-NWL1- POT Sta. 34+53.90
-L- POC Sta. 582+84.39 (84.50' RT)

BEGIN NOISE WALL -NWL2-
-NWL2- POT Sta. 10+00.00
-L- POC Sta. 585+81.40 (84.50' RT)

PI Sta. 11+00.00

PI Sta. 12+00.00

PI Sta. 13+00.00

PI Sta. 14+00.00

PI Sta. 15+00.00

PI Sta. 16+00.00

PI Sta. 17+00.00

PI Sta. 18+00.00

PI Sta. 19+00.00

PI Sta. 20+00.00

-NWL1-

102 103

NOISE WALL ON BRIDGE

-NWL2-

MINIMUM WALL HEIGHT

PROPOSED GROUND AT
FACE OF NOISE WALL

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

980 970 960 950 940 930

-NWL2- DESIGN DATA

PANEL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
TOP ELEV.	992.00'	992.00'	992.00'	992.00'	992.00'	991.05'	990.44'	989.77'	989.10'	988.44'	987.77'	987.10'	986.44'	985.77'	985.10'	984.44'	983.77'	983.10'	982.44'	981.77'	981.10'	980.44'	979.77'	979.10'	978.44'	977.77'	977.10'	976.44'	975.77'	975.10'	974.43'	973.77'	973.10'	972.43'	971.77'	971.10'
LENGTH	100'	100'	60'	60'	60'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

33 34 10 11 12 13 14 15 16 17 18 19 20

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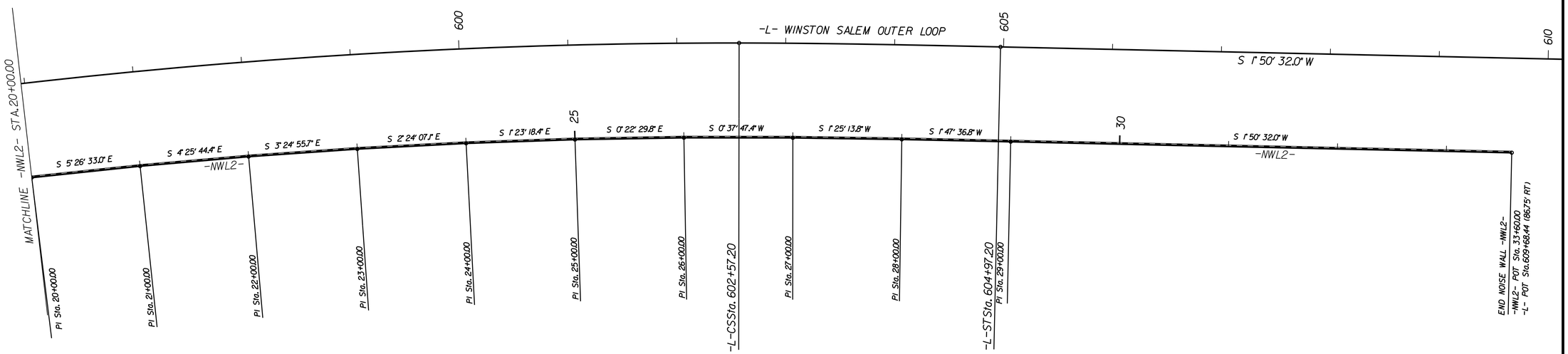
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2NN
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOISE BARRIER -NWL2-

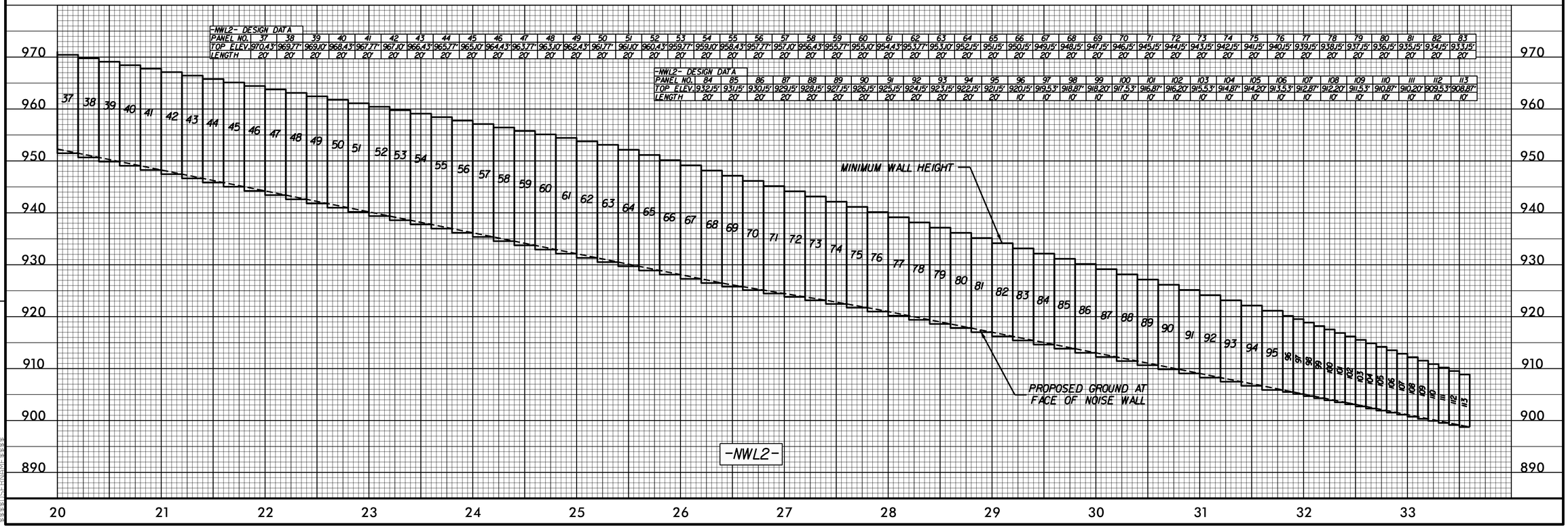


-NWL2- DESIGN DATA

PANEL NO.	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
TOP ELEV.	970.43'	969.77'	969.10'	968.43'	967.77'	967.10'	966.43'	965.77'	965.10'	964.43'	963.77'	963.10'	962.43'	961.77'	961.10'	960.43'	959.77'	959.10'	958.43'	957.77'	957.10'	956.43'	955.77'	955.10'	954.43'	953.77'	953.10'	952.15'	951.15'	950.15'	949.15'	948.15'	947.15'	946.15'	945.15'	944.15'	943.15'	942.15'	941.15'	940.15'	939.15'	938.15'	937.15'	936.15'	935.15'	934.15'	933.15'
LENGTH	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

-NWL2- DESIGN DATA

PANEL NO.	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113
TOP ELEV.	932.15'	931.15'	930.15'	929.15'	928.15'	927.15'	926.15'	925.15'	924.15'	923.15'	922.15'	921.15'	920.15'	919.53'	918.87'	918.20'	917.53'	916.87'	916.20'	915.53'	914.87'	914.20'	913.53'	912.87'	912.20'	911.53'	910.87'	910.20'	909.53'	908.87'
LENGTH	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'	10'



16-DEC-2013 10:16
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$$$$USERNAME$$$$

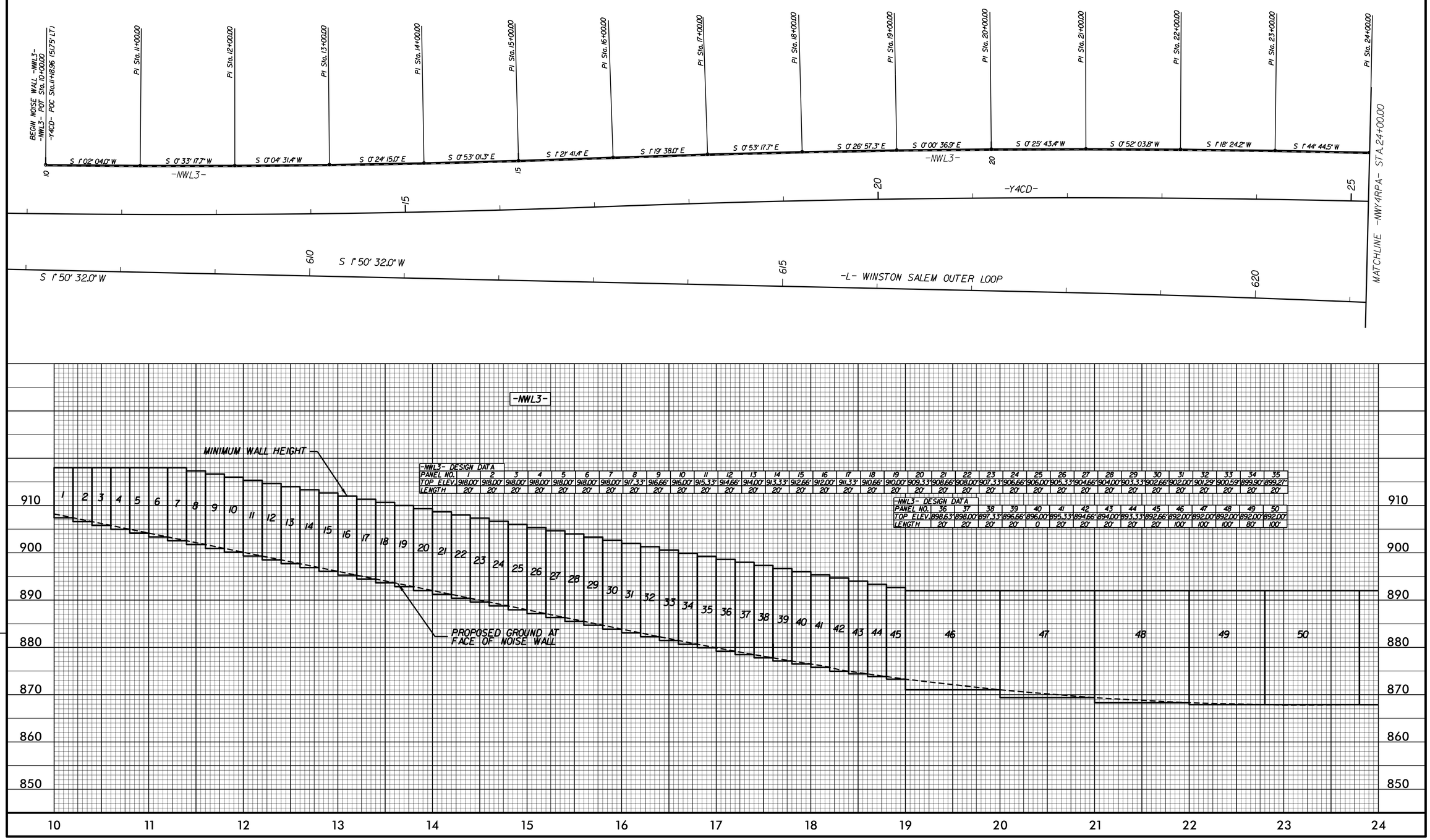
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-00
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOISE BARRIER -NWL3-



-NWL3- DESIGN DATA

PANEL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
TOP ELEV.	918.00'	918.00'	918.00'	918.00'	918.00'	918.00'	918.00'	917.33'	916.66'	916.00'	915.33'	914.66'	914.00'	913.33'	912.66'	912.00'	911.33'	910.66'	910.00'	909.33'	908.66'	908.00'	907.33'	906.66'	906.00'	905.33'	904.66'	904.00'	903.33'	902.66'	902.00'	901.29'	900.59'	899.90'	899.27'
LENGTH	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

-NWL3- DESIGN DATA

PANEL NO.	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
TOP ELEV.	898.63'	898.00'	897.33'	896.66'	896.00'	895.33'	894.66'	894.00'	893.33'	892.66'	892.00'	892.00'	892.00'	892.00'	892.00'
LENGTH	20'	20'	20'	20'	0	20'	20'	20'	20'	20'	100'	100'	100'	80'	100'

8/17/99

REVISIONS

NOISE BARRIER
-NWL3- & -NWY4RPA-

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-PP
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MATCHLINE -NWY4RPA- STA.24+00.00

PI Sta. 25+00.00

PI Sta. 26+00.00

PI Sta. 27+00.00

PI Sta. 28+00.00

PI Sta. 29+00.00

PI Sta. 30+00.00

PI Sta. 30+20.00

PI Sta. 30+40.00

PI Sta. 30+60.00

PI Sta. 30+80.00

POT Sta. 30+93.86= -Y4RPA- POC Sta. 15+36.20
END NOISESWALL -NWL3-

BEGIN NOISE WALL -NWY4RPA-
POT Sta. 10+00.00 = 19+26.04
-Y4RPA- POC Sta.

PI Sta. 10+22.21

PI Sta. 10+42.21

PI Sta. 10+62.21

PI Sta. 10+82.21

PI Sta. 11+42.21

PI Sta. 12+42.21

END NOISE WALL -NWY4RPA-
-NWY4RPA- POT Sta. 22+41.20 (21.79 LT)
-NWY4RPA- POC Sta.

S 2° 11' 04.9" W
S 2° 34' 56.5" W
S 2° 03' 18.9" W
S 1° 00' 40.5" E
S 1° 15' 56.2" E
S 5° 42' 51.6" E
S 7° 32' 16.5" E
S 8° 08' 44.6" E
S 8° 45' 12.7" E
S 8° 43' 17.5" E
S 10° 06' 41.7" E
S 22° 07' 41.4" E
S 22° 28' 01.4" E
S 23° 04' 28.2" E
S 23° 40' 54.9" E
S 24° 17' 21.7" E
S 25° 30' 15.3" E
S 29° 13' 24.7" E
S 30° 58' 28.4" E

-Y4CD-
-Y4RPA-
-NWL3-
-NWY4RPA-
-L- WINSTON SALEM OUTER LOOP

(STRUCTURE PAY ITEM SEE STRUCTURE PLANS)
NOISE WALL ON BRIDGE

25 10 30 15 10 20

630 625

-NWL3-

MINIMUM WALL HEIGHT

PROPOSED GROUND AT FACE OF NOISE WALL

-NWL3- DESIGN DATA										
PANEL NO.	51	52	53	54	55	56	57	58	59	60
TOP ELEV.	892.00'	892.00'	892.00'	892.00'	892.00'	892.00'	892.00'	892.66'	893.83'	893.83'
LENGTH	100'	100'	100'	100'	60'	60'	60'	60'	60'	20'

-NWY4RPA-

MINIMUM WALL HEIGHT

PROPOSED GROUND AT FACE OF NOISE WALL

-NWY4RPA- DESIGN DATA										
PANEL NO.	1	2	3	4	5	6	7	8	9	10
TOP ELEV.	896.00'	895.00'	894.00'	893.00'	892.35'	891.68'	891.01'	890.35'	889.68'	889.01'
LENGTH	40'	60'	60'	60'	20'	20'	20'	20'	20'	20'

910 900 890 880 870 860 850

24 25 26 27 28 29 30 10 11 12 13

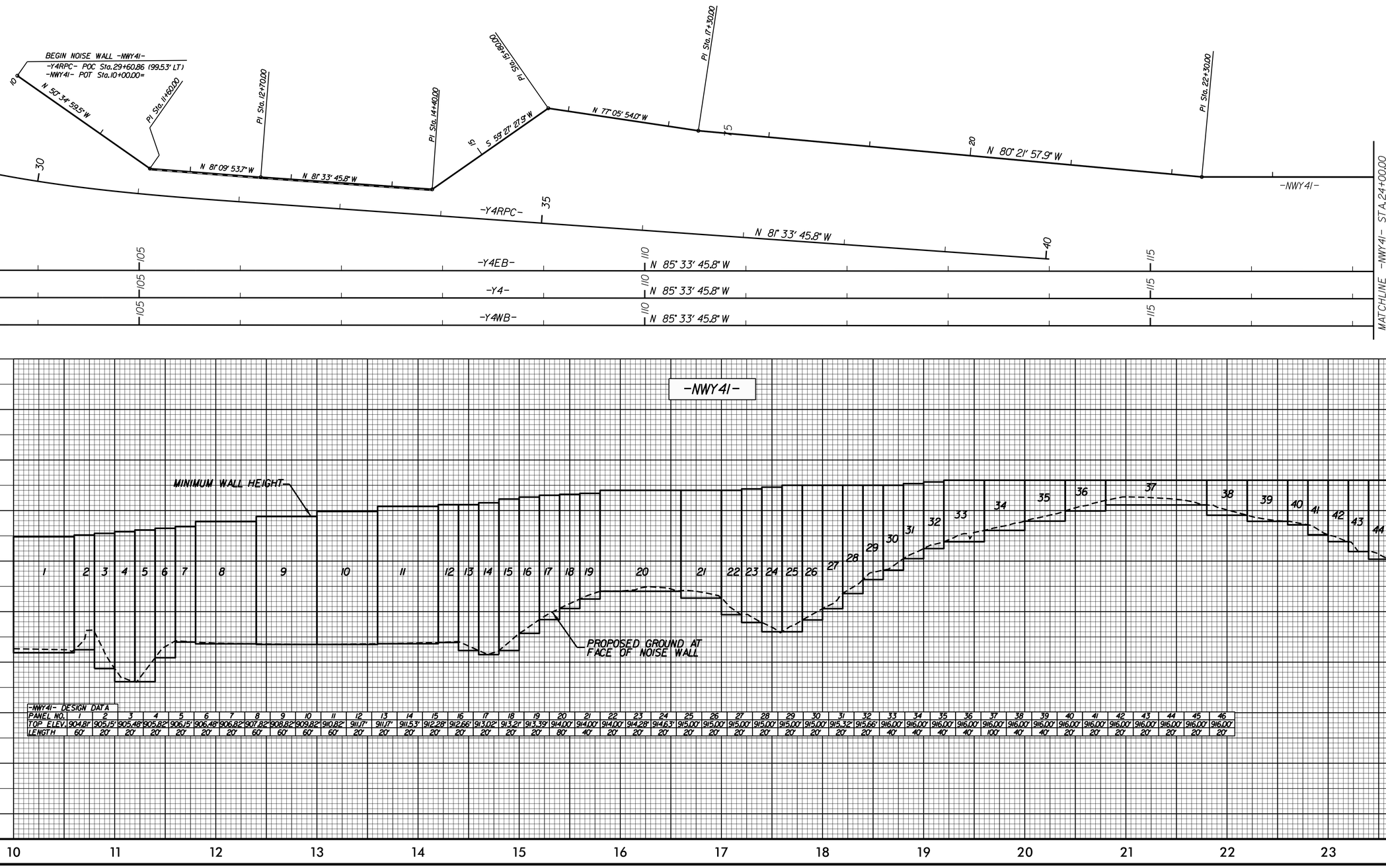
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2RR
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOISE BARRIER -NWY41-



-NWY41- DESIGN DATA

PANEL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
TOP ELEV.	904.81'	905.15'	905.48'	905.82'	906.15'	906.48'	906.82'	907.82'	908.82'	909.82'	910.82'	911.17'	911.17'	911.53'	912.28'	912.66'	913.02'	913.21'	913.39'	914.00'	914.00'	914.00'	914.28'	914.63'	915.00'	915.00'	915.00'	915.00'	915.00'	915.00'	915.32'	915.66'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'
LENGTH	60'	20'	20'	20'	20'	20'	20'	60'	60'	60'	60'	20'	20'	20'	20'	20'	20'	20'	20'	80'	40'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	40'	40'	40'	40'	100'	40'	40'	20'	20'	20'	20'	20'	20'	20'

NOISE BARRIER -NWY41-

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-SS
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS 8/17/99

N 44° 06' 33.7" W

N 44° 06' 33.7" W

-Y5A-

END NOISE WALL -NWY41-
-NWY41- POT Sta.33+20.00=
-Y4EB- POT Sta.126+40.77
(93.3' LT)

25 N 85° 33' 32.0" W 30

MATCHLINE -NWY41- STA.24+00.00

120 120 120 125 125 125

-Y4EB-
-Y4-
-Y4WB-

-NWY41-

MINIMUM WALL HEIGHT

PROPOSED GROUND AT FACE OF NOISE WALL

47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68

920 910 900 890 880 870 860 850

24 25 26 27 28 29 30 31 32 33

-NWY41- DESIGN DATA

PANEL NO.	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
TOP ELEV.	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	916.00'	915.31'	914.64'	913.97'	913.31'	912.64'
LENGTH	20'	20'	100'	20'	20'	20'	20'	20'	20'	20'	20'	20'	80'	100'	100'	120'	100'	20'	20'	20'	20'	20'

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-TT
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS 8/17/99

NOISE BARRIER -NWY42-

-Y5A-

END MSE WALL
BEGIN NOISE WALL -NWY42-
-NWY42- POT Sta.10+00.00
-Y4EB- POT Sta.130+26.37 (31.92' LT)

PI Sta. 10+80.00

PI Sta. 12+50.00

N 85° 33' 45.8" W

N 83° 29' 01.9" W

-NWY42-

N 85° 33' 45.8" W

-Y4EB-

I-40 BUS EAST US 421 SOUTH 24' BST

N 85° 33' 45.8" W

-Y4-

N 85° 33' 45.8" W

-Y4WB-

I-40 BUS WEST US 421 NORTH 24' BST

MATCHLINE -NWY42- STA.20+00.00

-NWY42-

MINIMUM WALL HEIGHT

PROPOSED GROUND AT FACE OF NOISE WALL

-NWY42- DESIGN DATA

PANEL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
TOP ELEV.	876.00'	876.00'	876.00'	875.79'	875.12'	874.45'	873.79'	873.12'	872.45'	871.79'	871.12'	870.45'	869.79'	869.12'	868.45'	867.79'	867.12'	866.45'	865.79'	865.12'	864.45'	863.79'	863.12'	862.45'
LENGTH	20'	40'	40'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

-NWY42- DESIGN DATA

PANEL NO.	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
TOP ELEV.	861.79'	861.12'	860.45'	859.79'	859.12'	858.45'	857.79'	857.12'	856.45'	855.79'	855.12'	854.45'	853.79'	853.12'	852.45'	851.79'	851.12'	850.45'	849.79'	849.12'	848.45'	847.79'	847.12'	846.45'
LENGTH	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

870 860 850 840 830 820 810

10 11 12 13 14 15 16 17 18 19 20

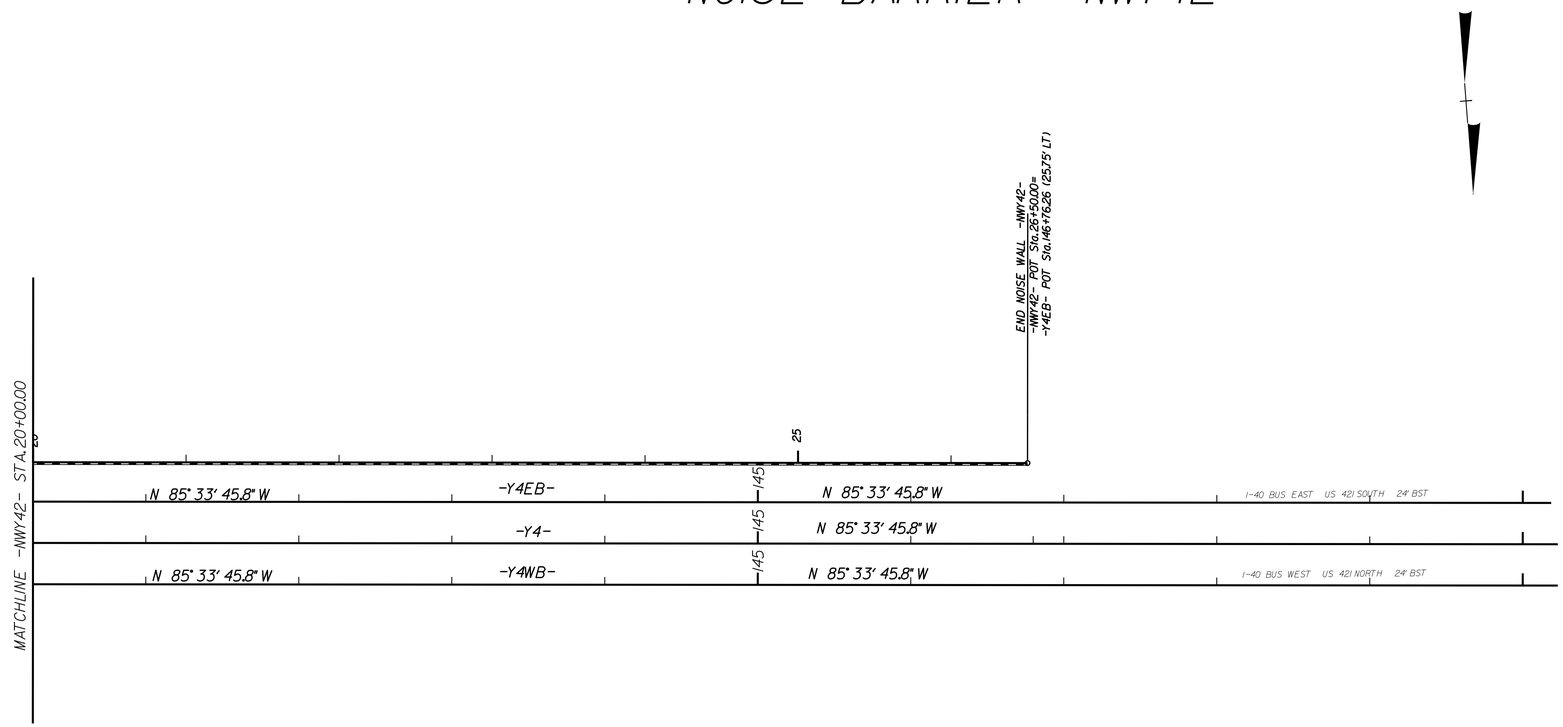
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2UU
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

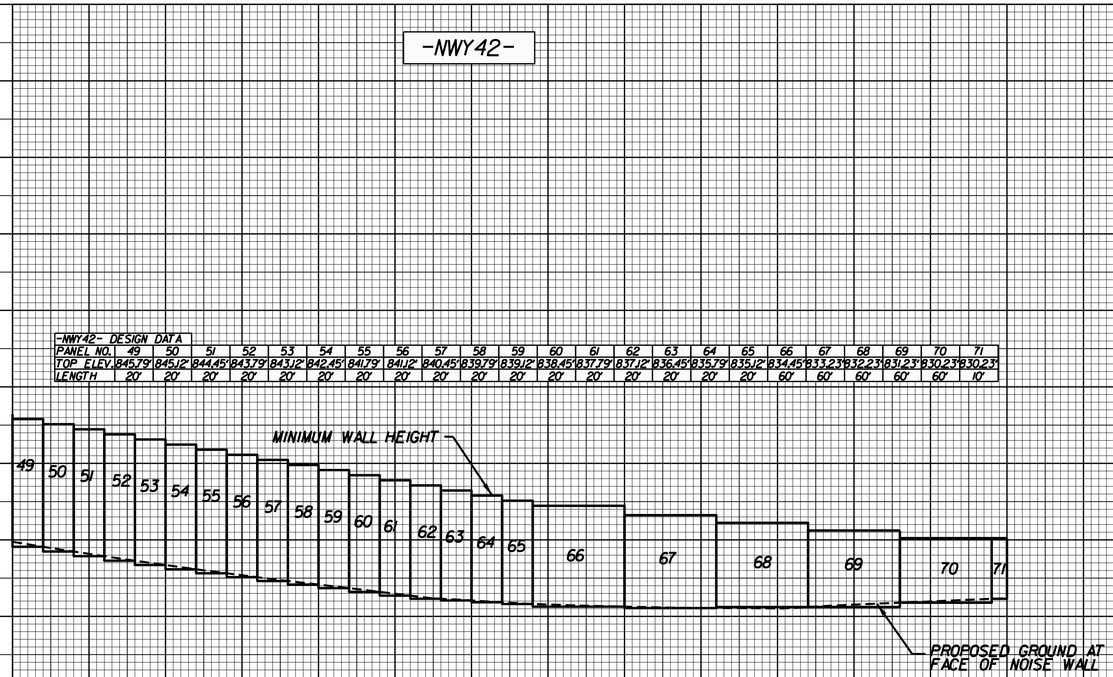
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOISE BARRIER -NWY42-



-NWY42-

-NWY42- DESIGN DATA																							
PANEL NO.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
TOP ELEV.	845.79'	845.12'	844.45'	843.79'	843.12'	842.45'	841.79'	841.12'	840.45'	839.79'	839.12'	838.45'	837.79'	837.12'	836.45'	835.79'	835.12'	834.45'	833.23'	832.23'	831.23'	830.23'	830.23'
LENGTH	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	60'	60'	60'	60'	60'	10'



870 860 850 840 830 820 810

20 21 22 23 24 25

8/17/99

REVISIONS

NOISE BARRIER -NWY4RPBDI-

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2W
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y4RPBD-

-Y5DET-

-Y4RPD-

-Y5-

-NWY4RPBDI-

N 66° 04' 42.0" E
N 68° 15' 43.1" E
N 69° 41' 16.0" E
N 70° 24' 28.9" E
N 70° 31' 09.1" E
S 61° 21' 08.6" E
N 70° 31' 09.1" E
N 78° 53' 22.2" E
N 69° 34' 58.0" E
N 17° 13' 34.2" E

BEGIN NOISE WALL -NWY4RPBDI-
POT Sta.10+00.00±
-Y4RPD- POC Sta.26+09.23 RT

BEGIN NOISE WALL -NWY4RPBDI-
POT Sta.10+00.00±
-Y4RPBD- POT Sta.69+87.45
(65.85' RT)

END NOISE WALL -NWY4RPBDI-
-NWY4RPBDI- POT Sta. 21+90.00±
-Y4RPBD- POT Sta.70+07.09 (79.59' RT)

PI Sta. 10+60.00
PI Sta. 11+20.00
PI Sta. 11+80.00
PI Sta. 12+38.03
PI Sta. 13+40.00
PI Sta. 14+80.00
PI Sta. 17+90.00
PI Sta. 18+70.00
PI Sta. 21+10.00

MINIMUM WALL HEIGHT

PROPOSED GROUND AT FACE OF NOISE WALL

-NWY4RPBDI-

-NWY4RPBDI- DESIGN DATA

PANEL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
TOP ELEV.	954.01'	955.01'	956.00'	957.00'	957.00'	957.00'	957.00'	956.49'	955.64'	954.52'	953.76'	953.00'	952.00'	950.99'	949.99'	949.32'	948.65'	947.98'	946.98'	945.98'	944.99'	944.32'	943.65'	942.97'	941.83'	940.69'	939.77'	939.19'	938.62'	938.04'	937.07'	936.07'	935.07'	934.38'	933.71'	933.04'	932.06'	931.05'	930.05'	929.05'	928.05'	927.04'	926.04'
LENGTH	20'	60'	60'	120'	80'	20'	40'	20'	40'	40'	40'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

940 930 920 910 900 890

10 11 12 13 14 15 16 17 18 19 20 21

8/17/99

REVISIONS

NOISE BARRIER -NWY4RPBD2-

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2WW
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y4RPA-
-Y4WB-
-Y4-
-Y4EB-
70
70
70
65
65
65

-Y4RPBD-
-NWY4RPBD2-

BEGIN NOISE WALL -NWY4RPBD2- POT Sta. 10+00.00= -Y4RPBD- POT Sta. 6+87.45 (85.95' RT)

N 17° 13' 34.2" E

N 70° 31' 09.1" E
N 70° 48' 23.3" E
N 72° 11' 37.2" E
N 72° 19' 32.0" E
N 74° 42' 56.7" E
N 77° 22' 25.9" E
N 82° 00' 52.7" E
N 84° 30' 36.8" E
N 86° 59' 50.0" E
N 88° 59' 12.4" E
S 35° 10' 20.6" E

END NOISE WALL -NWY4RPBD1- -NWY4RPBD2- POT Sta. 21+00.00= -Y4RPBD- POT Sta. 70+01.05 (79.59' RT)

END NOISE WALL -NWY4RPBD2- POT Sta. 24+00.00= -Y4RPBD- POC Sta. 83+48.67 (74.95' RT)

PI Sta. 10+60.00
PI Sta. 14+80.00
PI Sta. 15+80.00
PI Sta. 16+80.00
PI Sta. 17+80.00
PI Sta. 18+80.00
PI Sta. 19+80.00
PI Sta. 20+80.00
PI Sta. 21+80.00
PI Sta. 22+80.00
PI Sta. 23+40.00
PI Sta. 21+10.00

-NWY4RPBD2-

MINIMUM WALL HEIGHT

PROPOSED GROUND AT FACE OF NOISE WALL

-NWY4RPBD2- DESIGN DATA

PANEL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
TOP ELEV.	927.81'	927.13'	926.46'	925.78'	925.10'	924.42'	923.75'	923.07'	922.10'	921.10'	920.10'	919.40'	918.73'	918.07'	917.10'	916.10'	915.10'	914.40'	913.73'	913.07'	912.10'	911.10'	910.10'	909.40'	908.73'	908.07'	907.10'	906.10'	905.40'	904.73'	904.07'	903.40'	902.40'	901.73'	901.07'
LENGTH	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

-NWY4RPBD2- DESIGN DATA

PANEL NO.	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
TOP ELEV.	900.40'	899.73'	899.07'	898.40'	897.73'	897.07'	896.40'	895.73'	895.07'	894.40'	893.73'	893.07'	892.40'	891.73'	891.06'	890.40'	889.73'	889.06'	888.40'	887.73'	887.06'	886.40'	885.73'	885.06'	884.40'	883.73'	883.06'	882.09'	881.09'	880.09'	878.77'	877.42'	876.06'	875.06'	874.06'
LENGTH	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'

910
900
890
880
870
860
850

10 11 12 13 14 15 16 17 18 19 20 21

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	2-ZZ
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

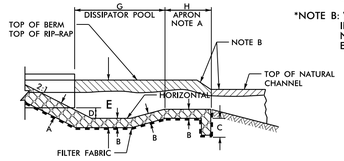
DETAIL ?

RIP–RAPPED ENERGY DISSIPATOR BASIN

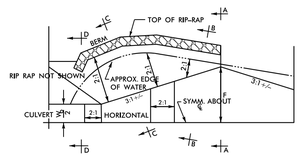
*NOTE A: IF EXIT VELOCITY OF BASIN IS SPECIFIED, EXTEND BASIN AS REQUIRED TO OBTAIN SUFFICIENT CROSS SECTIONAL AREA AT SECTION A–A SUCH THAT Q des/(CROSS SECTION AREA AT SEC. A–A) = SPECIFIED VELOCITY.

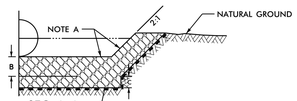
*NOTE B: WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL. TOP OF RIP–RAP IN FLOOR OF BASIN SHOULD BE AT SAME ELEVATION OR LOWER THAN NATURAL CHANNEL BOTTOM AT SEC. A–A. PROVIDE SMOOTH TRANSITION FROM END OF APRON TO NATURAL CHANNEL WIDTH.

℄ SECTION

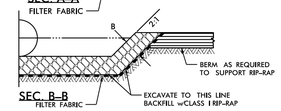


HALF PLAN

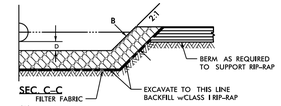




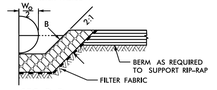
SEC. A–A
FILTER FABRIC



SEC. B–B
FILTER FABRIC



SEC. C–C
FILTER FABRIC



SEC. D–D

NOTE:
Wo = DIAMETER OF PIPE, WIDTH OF BOX OR SPAN OF PIPE–ARCH CULVERTS

DIM.	RIP RAP BASIN #							
	1	2	3	4	5	6	7	8
A	3							
B	2							
C	2							
D	3							
E	5							
F	20							
G	25							
H	6							

BASIN #	LOCATION (AT OUTLET)
1	556+00 –L– RT
2	
3	
4	
5	
6	
7	
8	

*ALL DIMENSIONS APPROXIMATE IN ?

5/05

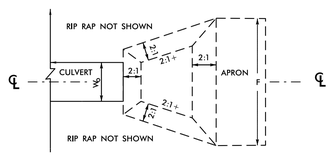
FROM STA. TO STA.

DETAIL ?

RIP–RAPPED ENERGY DISSIPATOR BASIN

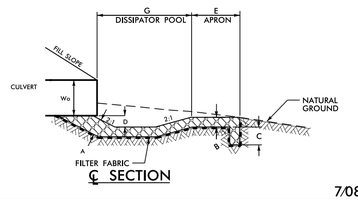
DIM. (ft)	RIP RAP BASIN #		
	1	?	?
A	3	?	?
B	2	?	?
C	2	?	?
D	3	?	?
E	6	?	?
F	37	?	?
G	28	?	?

ALL DIMENSIONS APPROXIMATE



PLAN

BASIN #	LOCATION (AT OUTLET)
1	477+00 –L– RT
?	?
?	?



℄ SECTION

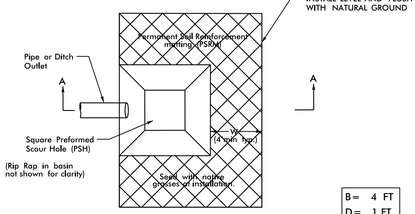
7/08

FROM STA. TO STA.

PREFORMED SCOUR HOLE

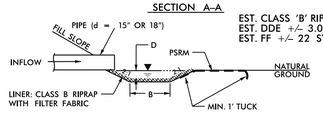
*NOT TO SCALE

PLAN VIEW



B = 4 FT
D = 1 FT
W = 4 FT

SECTION A–A



EST. CLASS 'B' RIPRAP +/– 3 TONS
EST. DDE +/– 3.0 CY
EST. FF +/– 22 SY

3/08

FROM STA. TO STA.

16-DEC-2013 10:17
H:\Projects\U2579b\hyd_drn\U2579b_hyd_drn.dgn
$$$$USERNAME$$$$

16-DEC-2013 11:42
R:\Roadway\Projects\u-2579b_rdy_sum_earthwork.dgn
$$$$USERNAME$$$$

5/9/06

COMPUTED BY: Casey Harris
CHECKED BY:
DATE: 11-8-10
DATE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
SUMMARY NO.1					
–L– 478+00.00 TO 508+00.00	700,938	–	231,586	0	469,352
–L– 508+00.00 TO 538+00.00	391,019	–	180,451	0	210,568
–L– 538+00.00 TO 555+73.00	433,345	–	16,317	0	417,028
–L– 557+98.01 TO 583+28.06	0	–	1,405,333	1,405,333	0
–L– 585+50.54 TO 616+00.00	0	–	911,429	911,429	0
SUBTOTAL	1,525,302	–	2,745,116	2,316,762	1,096,948
SUMMARY NO.2					
–L– 616+00.00 TO 627+50.00	143	–	387,626	387,483	0
–L– 629+50.00 TO 641+70.82	0	–	1,149,683	1,149,683	0
–L– 643+82.64 TO 667+15.00	146,564	–	268,223	121,659	0
–L– 667+15.00 TO 692+32.98	759,301	–	97,241	0	662,060
SUBTOTAL	906,008	–	1,902,773	1,658,825	662,060
SUMMARY NO.3					
–Y1– LT 10+00.00 TO 16+00.00	468	–	904	436	0
–Y1– LT 47+00.00 TO 54+00.00	1,541	–	52	0	1,489
–Y1– RT 10+00.00 TO 16+00.00	1,713	–	192	0	1,521
–Y1– RT 47+00.00 TO 54+00.00	677	–	1,862	1,185	0
SUBTOTAL	4,399	–	3,010	1,621	3,010
SUMMARY NO.4					
–Y1– 16+00.00 TO 23+10.00	610	–	48,476	47,866	0
–Y1– 23+10.00 TO 32.+93.77	7,933	–	86,856	78,923	0
–Y1– 35+26.34 TO 47+00.00	5,034	–	112,112	107,078	0
–Y1DET– 12+00.00 TO 32+00.00	37,273	–	11,232	0	26,041
–Y1DET– 32+00.00 TO 48+00.00	17,025	–	40,202	23,177	0
SUBTOTAL	67,875	–	298,880	257,044	26,041
SUMMARY NO.5					
* –Y1DET– REMOVAL	44,196	–	65,158	20,962	0
–Y1LPA– 13+18.00 TO 18+50.00	93,957	–	176	0	93,781
–Y1LPD– 13+45.00 TO 18+60.00	102,251	–	0	0	102,251
–Y1RPA– 16+94.00 TO 30+50.00	212,231	–	19,396	0	192,835
–Y1RPD– 17+88.00 TO 31+99.00	185,802	–	21,263	0	164,539
SUBTOTAL	638,437	–	105,993	20,962	553,406
SUMMARY NO.6					
–Y2– LT 10+00.00 TO 18+99.25	308	–	1,222	914	0
–Y2– LT 21+41.18 TO 29+75.00	1,086	–	494	0	592
–Y2– RT 10+00.00 TO 18+99.25	2,779	–	298	0	2,481
–Y2– RT 21+41.18 TO 29+75.00	349	–	1,232	883	0
SUBTOTAL	4,522	–	3,246	1,797	3,073
SHEET TOTAL	3,146,543	–	5,059,018	4,257,011	2,344,538

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

* Quantity includes material used in shoulder construction.

PROJECT REFERENCE NO. U-2579B

SHEET NO. 3GC

16-DEC-2013 11:43
R:\Roadway\Proj\u-2579b_rdy_sum_earthwork.dgn
$$$$USERNAME$$$$

COMPUTED BY: Casey Harris DATE: 11-8-10
CHECKED BY: DATE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
SUMMARY NO.7					
–Y2A– LT 16+00.00 TO 22+00.00	598	–	43	0	555
–Y2A– RT 16+00.00 TO 22+00.00	124	–	52	0	72
–Y3– LT 18+25.00 TO 26+25.00	1,197	–	157	0	1,040
–Y3– RT 18+25.00 TO 26+25.00	529	–	70	0	459
SUBTOTAL	2,448	–	322	0	2,126
SUMMARY NO.8					
–Y4– LT 26+80.00 TO 45+65.00	13,324	–	8,375	0	4,949
–Y4– LT 45+65.00 TO 75+50.00	22,840	–	14,141	0	8,699
–Y4– LT 75+50.00 TO 105+50.00	62,998	–	36,095	0	26,903
–Y4– LT 105+50.00 TO 135+50.00	16,698	–	12,082	0	4,616
–Y4– LT 135+50.00 TO 143+00.00	429	–	211	0	218
SUBTOTAL	116,289	–	70,904	0	45,385
SUMMARY NO.9					
–Y4– MID 26+80.00 TO 45+65.00	1,457	–	32	0	1,425
–Y4– MID 45+65.00 TO 75+50.00	2,171	–	107	0	2,064
–Y4– MID 75+50.00 TO 105+50.00	2,159	–	52	0	2,107
–Y4– MID 105+50.00 TO 135+50.00	2,190	–	113	0	2,077
–Y4– MID 135+50.00 TO 143+00.00	609	–	5	0	604
SUBTOTAL	8,586	–	309	0	8,277
SUMMARY NO.10					
–Y4– RT 26+80.00 TO 45+65.00	11,151	–	4,631	0	6,520
–Y4– RT 45+65.00 TO 75+50.00	1,779	–	18,516	16,737	0
–Y4– RT 75+50.00 TO 105+50.00	36,647	–	35,904	0	743
–Y4– RT 105+50.00 TO 135+50.00	67,577	–	40,356	0	27,221
–Y4– RT 135+50.00 TO 143+00.00	1,347	–	1,060	0	287
SUBTOTAL	118,501	–	100,467	16,737	34,771
SUMMARY NO.11					
–Y4LPA– 13+12.00 TO 21+34.00	17,529	–	76,084	58,555	0
–Y4LPB– 13+29.00 TO 18+85.00	2,158	–	71,210	69,052	0
–Y4LPD– 16+21.38 TO 21+77.00	13,047	–	10,706	0	2,341
–Y4RPA– 14+81.80 TO 15+19.24	0	–	5,880	5,880	0
–Y4RPA– 19+00.50 TO 34+36.00	19,898	–	209,219	189,321	0
SUBTOTAL	52,632	–	373,099	322,808	2,341
SUMMARY NO.12					
–Y4RPB– 15+04.00 TO 26+63.00	5,323	–	70,352	65,029	0
–Y4RPC– 15+98.00 TO 30+55.00	111,793	–	133,552	21,759	0
–Y4RPD– 16+78.00 TO 28+02.00	12,058	–	25,756	13,698	0
SUBTOTAL	129,174	–	229,660	100,486	0
SHEET TOTAL	427,630	–	774,761	440,031	92,900

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

PROJECT REFERENCE NO. U-2579B
SHEET NO. 302

16-DEC-2013 11:43
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$$$$USERNAME$$$$

5/9/06

COMPUTED BY: Casey Harris
CHECKED BY:
DATE: 11-8-10
DATE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
SUMMARY NO.13					
–Y4RPBD– 17+66.00 TO 25+40.00	0	–	174,940	174,940	0
–Y4RPBD– 27+80.00 TO 43+04.00	16,432	–	169,595	153,163	0
–Y4RPBD– 54+72.30 TO 79+63.00	29,528	–	133,390	103,862	0
SUBTOTAL	45,960	–	477,925	431,965	0
SUMMARY NO.14					
–Y5– LT 16+00.00 TO 17+92.00	130	–	127	0	3
–Y5– RT 16+00.00 TO 17+92.00	334	–	82	0	252
–Y5– 17+92.00 TO 22+95.35	114	–	20,365	20,251	0
–Y5– 24+06.99 TO 26+62.28	0	–	22,697	22,697	0
–Y5– 30+97.13 TO 33+30.00	866	–	444	0	422
SUBTOTAL	1,444	–	43,715	42,948	677
SUMMARY NO.15					
–Y5DET– 11+00.00 TO 31+50.00	4,123	–	19,710	15,587	0
* –Y5DET– REMOVAL	17,060	–	4,948	0	12,112
SUBTOTAL	21,183	–	24,658	15,587	12,112
SUMMARY NO.16					
–Y5A– LT 54+00.00 TO 66+78.58	2,625	–	8,196	5,571	0
–Y5A– LT 69+53.11 TO 81+25.00	33,439	–	3,434	0	30,005
–Y5A– RT 54+00.00 TO 66+78.58	2,083	–	7,199	5,116	0
–Y5A– RT 69+53.11 TO 81+25.00	42,217	–	2,026	0	40,191
SUBTOTAL	80,364	–	20,855	10,687	70,196
SUMMARY NO.17					
–Y6– LT 10+75.00 TO 22+25.00	812	–	784	0	28
–Y6– RT 10+75.00 TO 22+25.00	5,710	–	892	0	4,818
–Y7– 10+00.00 TO 13+50.00	26	–	7,010	6,984	0
–Y9– 10+50.00 TO 13+00.00	1,105	–	95	0	1,010
SUBTOTAL	7,653	–	8,781	6,984	5,856
SHEET TOTAL	156,604	–	575,934	508,171	88,841

* Quantity includes material used in shoulder construction.

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

PROJECT REFERENCE NO. U-2579B
SHEET NO. 3EE

16-DEC-2013 11:43
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$$$$USERNAME$$$$

COMPUTED BY: Casey Harris DATE: 11-8-10
CHECKED BY: DATE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
TOTAL FROM SHEET 1	3,146,543	–	5,059,018	4,257,011	2,344,538
TOTAL FROM SHEET 2	427,630	–	774,761	440,031	92,900
TOTAL FROM SHEET 3	156,604	–	575,934	508,171	88,841
TOTAL	3,730,777	–	6,409,713	5,205,213	2,526,279
MATERIAL FOR SHOULDER CONSTRUCTION	–	–	69,840	69,840	–
LOSS DUE TO CLEARING AND GRUBBING	–108,900	–	–	108,900	–
ADDITIONAL UNDERCUT	–	–	–	–	–
ROCK WASTE TO REPLACE BORROW	–	–	–	–91,794	–91,794
ADJUST FOR ROCK WASTE	–	–	–18,359	–18,359	–
WASTE IN LIEU OF BORROW	–	–	–	–2,434,485	–2,434,485
PROJECT TOTAL	3,621,877	–	6,461,194	2,839,315	0
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT	–	–	–	141,966	–
GRAND TOTAL	3,621,877	–	–	2,981,277	–
SAY	3,622,000	–	–	2,981,500	–
Geotech. Recs have not been completed as of 2/2/10					

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

PROJECT REFERENCE NO. U-2579B
SHEET NO. 3EE

12/06/07

COMPUTED BY: T. CAO DATE: 5-11-09
CHECKED BY: J. BRAXTON DATE: 5-12-09

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	3-GG

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

REMOVAL OF EXISTING ASPHALT PAVEMENT

SURVEY LINE	STATION	STATION	LOCATION	YD^2
-Y1-	52+58.40	53+56.83	LT.	208.28
-Y1RPD-	25+80.81	26+31.33	LT.	155.41
-Y1RPA-	21+53.46	21+72.84	RT.	87.89
-L-	533+84.85	534+10.29	LT.	31.71
-L-	536+66.32	537+27.37	RT.	123.95
-L-	553+20.16	554+87.90	LT.	361.37
-L-	565+02.96	565+98.69	RT.	261.98
-L-	622+66.83	623+04.11	LT.	189.45
-L-	623+66.77	624+82.90	RT.	716.37
-L-	630+91.75	632+50.68	RT.	911.03
-L-	635+68.51	638+83.77	RT.	1300.45
-L-	649+78.32	650+87.26	RT.	204.49
-Y4-	102+50.00	106+64.27	RT.	740.02
-Y4-	122+00.00	123+50.00	RT.	91.49
-Y4-	125+76.28	127+12.62	RT.	197.61
-Y4-	127+79.54	128+82.85	RT.	353.53
-Y4RPBD-	67+09.76	71+70.03	LT.	1428.23
-Y4RPBD-	74+70.70	75+34.04	RT.	305.15
-Y5A-	63+17.00	65+22.39	RT.	385.71
-Y5A-	77+45.00	78+94.81	RT.	301.60
-Y1DET-	11+74.27	48+13.76	LT.&RT.	10,514.08
-Y5DET-	11+59.72	30+81.71	LT.&RT.	5,552.42
			TOTAL SY:	24,422.22
			SAY:	24,500 CY

BREAKING OF EXISTING ASPHALT PAVEMENT

SURVEY LINE	STATION	STATION	LOCATION LT/RT	YD^2
-L-	567+00.00		RT	431
-L-	570+00.00	583+00.00	LT&RT	2,889
-L-	623+50.00		LT&RT	667
-L-	630+30.00		LT&RT	471
-L-	636+00.00		RT	596
-Y1-	16+50.00	32+93.77	LT&RT	5,114
-Y1-	35+26.34	47+00.00	LT&RT	3,651
-Y4RPBD-	71+10	74+50.00	LT&RT	756
			TOTAL SY:	14,574
			SAY:	14,600 YD^2

SUMMARY OF SHOULDER DRAIN

LINE	STATION TO STATION	SHOULDER DRAIN PIPE (FT)	SHOULDER DRAIN (FT)	OUTLET PIPE (FT)	CONCRETE PADS (EA)	BOX #
-L-	542+00 TO 555+45 LT. MED.	1345	1345			
-L-	545+65, LT. MED.			9.5'		2GI-A,#109
-L-	548+53 LT. MED.			9.5'		2GI, #112
-L-	554+22 LT. MED			9.5		2GI, #117
-L-	558+30 TO 564+00 LT MED	570	570			
-L-	558+30 LT. MED.			9.5		2GI, #119
-L-	560+50 LT. MED.			9.5		2GI, #121
-L-	667+00 TO 679+00 LT. MED.	1200	1200			
-L-	669+65 LT. MED.			9.5		2GI-A,#278
-L-	672+00 LT. MED.			9.5		2GI-A,#283
-L-	673+22 LT. MED.			9.5		2GI-A,#285
-L-	676+00 LT. MED.			9.5		2GI-A,#289
-L-	478+20 TO 484+35 RT.	615	615			
-L-	478+20 RT.			19.5		2GI-A,#3
-L-	483+00 RT.			15.5		2GI,#10
-L-	617+00 TO 626+00 RT.	900	900			
-L-	620+78 RT.			48'	1	
-L-	623+00 RT.			48'	1	
-L-	486+00 TO 498+42 RT.	1187	1187			
-L-	486+55 RT.			18'		2GI,#36
-L-	490+75 RT.			18'		2GI,#39
-L-	494+75 RT.			53'		2GI,#48
-L-	512+00 TO 522+00 RT.	1000	1000			
-L-	515+30 RT.			21.5'		2GI,#83
-L-	520+50 RT.			23'		2GI,#86
-L-	478+20 TO 485+60 LT.	740	740			
-L-	478+20 LT.			20'		2GI,#1A
-L-	483+39 LT.			20'		2GI,#6
-L-	478+50 TO 495+00 LT.	750	750			
-L-	487+50 LT.			29'		2GI,#20
-L-	90+75 LT.			17'		2GI,#38
-L-	510+37 TO 521+50 LT.	1113	1113			
-L-	513+00 LT.			34'	1	
-L-	516+00 LT.			18'		2GI,#79
	TOTAL:	9420	9420	488	3	

SUMMARY OF SHOULDER DRAIN

LINE	STATION TO STATION	SHOULDER DRAIN PIPE (FT)	SHOULDER DRAIN (FT)	OUTLET PIPE (FT)	CONCRETE PADS (EA)	BOX #
-L-	520+00 LT.			18'		2GI,#85
-L-	521+50 LT.			40'	1	
-L-	528+75 TO 542+70 LT.	1395	1395			
-L-	528+75 LT.					2GI,#93
-L-	534+50 LT.			18'		2GI,#96
-L-	539+72 LT.			18'		2GI,#101
-L-	542+70 LT.			18'		2GI,#104
-L-	501+50 TO 510+00 RT.	850	850			
-L-	501+50 RT.					2GI,#67
-L-	504+85 RT.					2GI,#73
-L-	507+00 RT.					2GI,#75
-L-	558+30 TO 564+00 RT.	570	570			
-L-	558+30 RT.					2GI,#120
-L-	560+50 RT.					2GI,#122
-L-	667+00 TO 679+00 RT.	1200	1200			
-L-	671+00 RT.			32'	1	
-L-	673+22 RT.			21'		2GI,#286
-L-	676+00 RT.			19'		2GI,#290
-L-	522+00 TO 528+49 RT.	649	649			
-L-	525+50 RT.					2GI,#88
-L-	528+45 RT.					2GI,#91
-L-	528+49 TO 552+62 RT.	2413	2413			
-L-	534+22 RT.			18'	1	
-L-	534+50 RT.			18'		2GI,#95
-L-	538+00 RT.			18'		2GI,#98
-L-	539+72 RT.			18'		2GI,#99
-L-	542+70 RT.			18'		2GI,#105
-L-	545+63 RT.			18'		2GI-A,#110
-L-	548+53 RT.			18'		2GI-A,#113
-L-	551+00 RT.			28'		
-L-	552+62 TO 554+20 RT.	158	158			
-L-	554+20 TO 555+45 RT.	125	125			
-L-	554+22 RT.					2GI,#117A
	TOTAL:	7360	7360	338	3	

SUMMARY OF SHOULDER DRAIN

LINE	STATION TO STATION	SHOULDER DRAIN PIPE (FT)	SHOULDER DRAIN (FT)	OUTLET PIPE (FT)	CONCRETE PADS (EA)	BOX #
-L-	504+85 TO 510+37 LT.	552	552			
-L-	504+85 LT.					2GI,#71
-L-	507+00 LT.					2GI,#74
-L-	617+00 TO 626+80 LT.	980	980			
-L-	620+75 LT.			12'		3GI-A,#174
-L-	623+47 LT.			12'		2GI,#176
-L-	521+50 TO 528+75 LT.	725	725			
-L-	521+50 LT.			40'	1	
-L-	525+50 LT.					2GI,#89
-L-	528+75 LT.					2GI,#93
	TOTAL:	2257	2257	64	1	
	3-SHEET TOTALS:	19,037	19,037	890	7	
	SAY:	19,050	19,050	900	7	

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

PIs Sta 451+66.55	PI Sta 458+53.53	PIs Sta 465+27.69
Θs = 4° 11' 32.5"	Δ = 21° 35' 01.1" (RT)	Θs = 4° 11' 32.5"
Ls = 420.00'	D = 1° 59' 46.9"	Ls = 420.00'
LT = 280.08'	L = 1,081.14'	LT = 280.08'
ST = 140.07'	T = 547.06'	ST = 140.07'
	R = 2,870.00'	
	SE = .07	

8/17/99

REVISIONS

RIGHT OF WAY REVISION 11/5/12 - PARCEL NUMBER 1,2,3 REMOVED

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FUTURE CONSTRUCTION
TIP PROJECT U-2579C

FREDERICO B. MORETZ
SUSAN K. MORETZ
DB 1655 PG 1225

4B

MICHAEL WADE WESTMORELAND
DB 2302 PG 3132

465 470 475

-BL- 13

+25.90 -L-
200.00'

R/W

TOP=860.45
INV=841.66
TOWN OF WALKERTOWN
FORSYTH COUNTY

3'x2'-00.00 N

300' TAPER

1284' FULL LANE

60' INC.
12' P.S.

12' P.S.

12' P.S.

12' P.S.

-L-

S 58° 42' 58.7" E

MATCHLINE - L - STA. 475+00 SHEET 5

+38.34
162.67

300' TAPER

1153' FULL LANE

N 89°30'44" E
116.41'

N 89°30'44" E
80.33'

JANE WHICKER
DAN WESTMORELAND
DB 2226 PG 1302
DB 2124 PG 2239
DB 107 PG 246
DB 573 PG 367

4

R/W

TOP=859.78
INV=846.48

20' LAKE SIDE EASEMENT

+63.40 -L-
200.00'

KIM C. STREETMAN
DB 1891 PG 1253

N 63°22'40" E
159.88'

N 89°30'44" E
337.41'

S 17°12'11" W
250.03'

BETH C. DELFOSSE
DB 1891 PG 1249

BETH C. DELFOSSE
DB 2633 PG 276

EIP

48" CHL

WD DK

2280 SQ

48" CONC

CONC

12" RCP

S 20°15'49" E
200.00'

N 26°33'21" E
183.05'

S 89°07'09" E
230.24'

25' ACCESS EASEMENT
DB 1891 PG 1253

S 89°07'09" E
139.98'

S 89°07'09" E
179.75'

N 47°58'20" W
19.79'

TOWN OF WALKERTOWN
FORSYTH COUNTY

LOUISE FRANKLIN
DB 843 PG 125
DB 2686 PG 2459

WENDY C. SLOAN
DB 1891 PG 1257

N 73°37'56" W
93.63'

N 29°10.00 W
21.86'

S 73°50'W E

CS Sta. 463+87.62

-L- ST Sta. 468+07.62

NOTE :
FOR -L- PROFILE, SEE SHEET 32

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

50' 25' 0 50' 100'

BEGIN TIP PROJECT U-2579B
END TIP PROJECT U-2579C
-L- POT STA. 478+00.00

MATCHLINE -Y1- STA. 23+65 SHEET 20

MATCHLINE -L- STA. 475+00 SHEET 4

MATCHLINE -L- STA. 500+83 SHEET 6

MATCHLINE -Y1- STA. 44+00 SHEET 21

-YILPD-
Pis Sta 16+90.72
Δ = 21° 49' 07.8" (LT)
D = 3° 08' 53.2"
L = 850.04'
T = 450.12'
R = 1820.00'
SE = .08

Pis Sta 22+03.70
Gs = 3° 46' 39.9"
Ls = 240.00'
LT = 850.04'
ST = 800.3'

Pis Sta 25+03.79
Gs = 3° 31' 12.5"
Ls = 210.00'
LT = 140.13'
ST = 70.12'

Pis Sta 28+77.17
Δ = 41° 33' 05.9" (RT)
D = 3° 08' 53.2"
L = 580.74'
T = 303.56'
R = 1820.00'
SE = .05
RD = SEE PLANS

-YILPD-
Pis Sta 11+41.05
Gs = 3° 29' 09.3"
Ls = 210.00'
LT = 141.05'
ST = 70.95'

Pis Sta 21+48.83
Δ = 146° 41' 11.1" (RT)
D = 21° 27' 46.0"
L = 717.33'
T = 938.03'
R = 280.00'
SE = .08

Pis Sta 19+98.29
Gs = 3° 29' 09.3"
Ls = 210.00'
LT = 141.05'
ST = 70.95'

-Y1DET-
Pis Sta 43+10.02
Δ = 25° 47' 14.2" (RT)
D = 5° 43' 46.5"
L = 450.07'
T = 228.9'
R = 1000.00'

DETAIL #2
LATERAL BASE DITCH
(Not To Scale)
Mn. D= 2 Ft.
B= 2 Ft.
S= 5 Ft.
FROM STA 18+30 TO 20+65 -YILPA- LT

-YIRPA-
Pis Sta 11+41.05
Gs = 3° 29' 09.3"
Ls = 210.00'
LT = 141.05'
ST = 70.95'

Pis Sta 18+14.30
Δ = 130° 16' 43.7" (LT)
D = 27° 27' 46.0"
L = 636.66'
T = 504.50'
R = 280.00'
SE = .08

Pis Sta 19+17.81
Gs = 3° 29' 09.3"
Ls = 210.00'
LT = 141.05'
ST = 70.95'

-YIRPA-
Pis Sta 14+40.08
Gs = 5° 42' 20.8"
Ls = 240.00'
LT = 160.08'
ST = 80.08'

Pis Sta 17+22.87
Δ = 21° 52' 30.4" (RT)
D = 4° 45' 11.4"
L = 460.06'
T = 232.87'
R = 1205.00'
SE = .08

Pis Sta 20+30.14
Gs = 5° 42' 20.8"
Ls = 240.00'
LT = 160.08'
ST = 80.08'

Pis Sta 23+30.14
Gs = 5° 07' 57.8"
Ls = 210.00'
LT = 140.08'
ST = 70.01'

Pis Sta 26+50.25
Δ = 28° 05' 33.1" (LT)
D = 5° 43' 46.5"
L = 490.34'
T = 250.59'
R = 1000.00'
SE = .06
RD = SEE PLANS

DETAIL #1
FALSE CUT
(Not To Scale)
Mn.D= 2 Ft.
B = 5' Min.
FROM STA 478+10 TO 479+00 -L- RT

DETAIL #7
STANDARD "V" DITCH
(Not To Scale)
Mn. D= 2 Ft.
FROM STA. 41+23 TO 41+56 -Y1- LT
FROM STA 37+62 TO 37+97 -Y1- RT

DETAIL #8
STANDARD BASE DITCH
(Not To Scale)
Mn.D= 2 Ft.
FROM STA. 41+58 TO 42+02 -Y1- LT

DETAIL #13
FILL DITCH
(Not To Scale)
Type of Liner: Class B Rip-Rap

DETAIL #2
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)
Mn.D=0.5 Ft.
FROM STA 12+00 TO 16+50 -YILPA- LT
FROM STA 12+00 TO 18+00 -YILPD- RT

PAVED SHOULDER
PAVEMENT TO BE OBLITERATED

TRAFFIC DIAGRAM
US 158 (REIDSVILLE ROAD)

2010 ADT
2030 ADT

-Y1-
17,480
26,440

3,400
5,800

3,460
6,580

55,960
83,480

53,560
79,880
-L-
BELTWAY

3,680
6,240

1,220
1,860

15,520
22,160

DHV = 10%
DIR = 60%
TTST = 5%
DUAL = 3%

DHV = 10%
DIR = 60%
TTST = 12%
DUAL = 6%

NOTE:
FOR -Y1- PROFILE, SEE SHEET 43-44
FOR -YIRPA- PROFILE, SEE SHEET 47
FOR -L- PROFILE, SEE SHEET 32-33
FOR -YIRPD- PROFILE, SEE SHEET 48
FOR -YILPA- PROFILE, SEE SHEET 45
FOR -YILPD- PROFILE, SEE SHEET 46

RIGHT OF WAY REVISION, 11/5/12 - PARCEL NUMBER 3 REMOVED

REVISIONS

8/17/99

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dsmith
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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS 8/17/99

MATCHLINE – L – STA. 500+83 SHEET 5

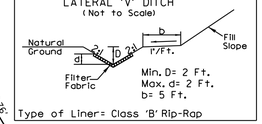
MATCHLINE – L – STA. 512+00 SHEET 7

-YIRPD-
PIs Sta 11+60.04
Θs = 3° 46' 39.9"
Ls = 240.00'
LT = 160.04'
ST = 80.03'

PI Sta 16+90.72
Δ = 27° 49' 07.8" (LT)
D = 3° 08' 53.2"
L = 883.67'
T = 450.72'
R = 1,820.00'
SE = 08

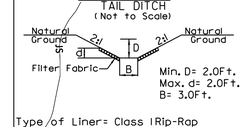
PIs Sta 22+03.70
Θs = 3° 46' 39.9"
Ls = 240.00'
LT = 160.04'
ST = 80.03'

DETAIL #14
LATERAL 'V' DITCH
(Not to Scale)



Min. D= 2 Ft.
Max. d= 2 Ft.
b= 5 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA 505+50 TO 507+55 -L- LT

DETAIL #32
TAIL DITCH
(Not to Scale)



Min. D= 2.0Ft.
Max. d= 2.0Ft.
B= 3.0Ft.
Type of Liner= Class I Rip-Rap
FROM STA. TO STA.

-L- POT Sta. 503+00.00 (59' Lt.)
-YIRPA- POT Sta. 10+00.00

POND W.E. 897.3

505

510

TOWN OF WALKERTOWN
FORSYTH COUNTY

+09.84 -YIRPA-
140.66'

PROPOSED OVERHEAD SIGN SUPPORT LOCATION

-BL-18

LATERAL 'V' DITCH W/CLASS 'B' RIP RAP
EST. 117 TONS
W/316 SY FF
SEE DETAIL#14

TOE PROTECTION W/
CLASS "B" RIPRAP
EST. 86 TONS
EST. 231 SY FF
SEE DETAIL#6

BEGIN SHOULDER BERM GUTTER
STA 500+99.79 -L- LT

END SHOULDER BERM GUTTER
STA 509+50 -L- LT

-BL-19

GOSPEL LIGHT BAPTIST CHURCH
DB 1244 PG 471
DB 1342 PG 119
DB 1560 PG 136
DB 1684 PG 2508
DB 1684 PG 3098
DB 1872 PG 3238
DB 1948 PG 287
DB 1948 PG 290
DB 2044 PG 3201

15
DAN T. WESTMORELAND
DB 2226 PG 1297

2GI W/FLAT GRATE

15" RCP-IV

-YIRPA-
N 54° 42' 58.7" W

PROPOSED OVERHEAD SIGN SUPPORT LOCATION

12"P.S.

48" RCP-CD

30" RCP-III

-L-
S 58° 42' 58.7" E

-YIRPD-

2GI-A

40' INC.

30" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

54" RCP-III

18" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

BEGIN SHOULDER BERM GUTTER
STA. 501+50 -L- RT

CLASS 'B' RIP RAP
EST 3 TONS
EST 10 SY FF

CHORD

REMOVE

TAIL DITCH
SEE DETAIL#7
EST. DDE 10CY

+00.00 -YIRPD-
190.00'

+10.58 -L-
246.79'

+20.00
270.00'

TDE

TAIL DITCH
SEE DETAIL#9
EST. DDE 10CY

N 21°38'09" E
28.65'

N 16°01'03" E
13.83'

DAN WESTMORELAND
KAREN WESTMORELAND
DB 2150 PG 3181
15

-YIRPD- TS Sta. 10+00.00
-L- POT Sta. 502+91.34 (59' Rt.)

CLASS 'I' RIP RAP (BANKS ONLY)
SEE DETAIL #32
EST. 21 TONS
EST. 47 FF

CLASS 'I' RIP RAP (BANKS ONLY)
SEE DETAIL #32
EST. 21 TONS
EST. 47 FF

TAIL DITCH
SEE DETAIL#9
EST. DDE 20CY

+21.87 -L-
230.98'

+40.00 -L-
200.00'

CLASS 'B' RIP RAP
EST 8 TONS
EST 21 SY FF

900' FULL LANE

END SHOULDER BERM GUTTER
STA 510+35 -L- RT

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP
EST. 336 TONS
W/883 SY FF
SEE DETAIL#12

FILL SLOPE SHOULD BE 4:1 OR FLATTER
SEE XSC STA 510+50 TO 512+00 -L- RT

ROBERT J. DILLON
ILENA B. DILLON
18

SPRING BOX

STONE

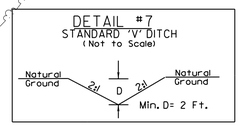
GRAU-350

9" DIP

PAVED SHOULDER

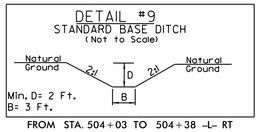
NOTE:
FOR -YIRPA- PROFILE, SEE SHEET 47
FOR -YIRPD- PROFILE, SEE SHEET 48
FOR -L- PROFILE, SEE SHEET 33

DETAIL #7
STANDARD 'V' DITCH
(Not to Scale)



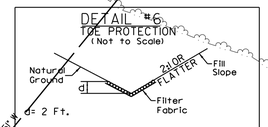
Min. D= 2 Ft.
FROM STA. 11+48 TO 11+52 -YIRPD- LT

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)



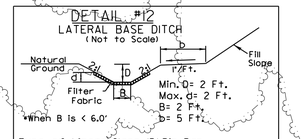
Min. D= 2 Ft.
B= 3 Ft.
FROM STA. 504+03 TO 504+38 -L- RT

DETAIL #6
TOE PROTECTION
(Not to Scale)



d= 2 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA 507+60 TO 509+10 -L- LT

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)



Min. D= 2 Ft.
Max. d= 2 Ft.
B= 2 Ft.
b= 5 Ft.
*When B Is < 6.0'
Type of Liner= Class 'B' Rip-Rap
FROM STA 507+00 TO 512+00 -L- RT

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#ssgillespie

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

MATCHLINE – L – STA. 512+00 SHEET 6

MATCHLINE – L – STA. 524+62 SHEET 8

MATCHLINE – Y2 – STA. 15+61 SHEET 22

MATCHLINE – Y2 – STA. 24+81 SHEET 23

DETAIL #4
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Fill Slope, B = 1'/Ft., Min. D= 2' Ft., b= 5 Ft.

FROM STA 511+75 TO 512+50 –L– LT
FROM STA 512+50 TO 513+45 –L– LT

GOSPEL LIGHT BAPTIST CHURCH (17)
DB 1244 PG 471
DB 1342 PG 115
DB 1560 PG 1136
DB 1684 PG 2508
DB 1684 PG 3098
DB 1872 PG 3238
DB 1948 PG 287
DB 1948 PG 290
DB 2044 PG 3201

DB 2680 PG 1572
EMMA M. WHISENHUNT (21)

ROBERT J. DILLON
ILENA B. DILLON
DB 1373 PG 1152
DB 1574 PG 975
DB 1574 PG 978
DB 1574 PG 984
(18)

RONALD H. WALKER
WILMA D. WALKER
DB 1621PG 3161
(23)

ROBERT JEFFREY BARBER
DB 2862 PG 382
(25)

ROBERT JEFFREY BARBER
DB 2598 PG 3575
DB 2632 PG 3923
DB 2632 PG 3938
DB 2632 PG 3941
(25)

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 2825 PG 866
(991)

THE TABOR FAMILY TRUST
DB 1851PG 2236
DB 2528 PG 77
(29)

FORSYTH COUNTY
TOWN OF WALKERTOWN

-Y2- PT Sta. 17+68.78

PI Sta 14+90.64
Δ = 44° 24' 52.1" (RT)
D = 7° 33' 31.7"
L = 587.59'
T = 309.45'
R = 758.00'
SE = .08
R0 = SEE PLANS

PI Sta 27+32.39
Δ = 27° 06' 16.2" (LT)
D = 7° 33' 31.7"
L = 358.58'
T = 182.71'
R = 758.00'
SE = .08
R0 = SEE PLANS

BEGIN APPROACH SLAB
-Y2- POT STA.18+74.00

BEGIN BRIDGE
-Y2- POT STA.18+99.25

END WW.FENCE

BEGIN W.W.FENCE

END BRIDGE
-Y2- POT STA.21+41.18

BEGIN APPROACH SLAB
-Y2- POT STA.21+66.42

-L- POT STA.516+31.30
-Y2- POT STA.20+20.21
SKEW = 108.0666°

S 58° 42' 58.4" E

PROPOSED OVERHEAD SIGN SUPPORT LOCATION

LATERAL 'V' DITCH SEE DETAIL#4

16' ACCESS EASEMENT DB 1948 PG 287

15" CSP W/ 2 ELBOWS

300' TAPER

SPECIAL DITCH GRADE SEE PROFILE FOR GRADE

TOE PROTECTION W/ CLASS "B" RIPRAP
EST. 51 TONS
EST. 139 SY FF
SEE DETAIL#6

HEAD DITCH
SEE DETAIL #9
EST. DDE 6CY

BEGIN SHOULDER BERM GUTTER
STA 521+50 –L– LT

BEGIN SHOULDER BERM GUTTER
STA 522+00 –L– RT

CLASS 'I' RIP RAP
EST 17 TONS
EST 38 SY FF

SBG
STA 18+60 –Y2– LT&RT
–BEGIN BRIDGE

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Natural Ground, B
Min. D= 2 Ft.
B= 3 Ft.

FROM STA. 522+42 TO 522+45 –L– LT

DETAIL #6
TOE PROTECTION
(Not to Scale)

Natural Ground, d, 2:1 OR FLATTER, Fill Slope, Filter Fabric
d= 2 Ft.
Type of Liner= Class 'B' Rip-Rap

FROM STA 522+00 TO 523+20 –L– RT
FROM STA 522+60 TO 523+50 –L– LT

PAVED SHOULDER

NOTE:
FOR -Y2- PROFILE, SEE SHEET 49
FOR -L- PROFILE, SEE SHEET 33 - 34

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dshipman
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

MATCHLINE – L – STA. 524+62 SHEET 7

MATCHLINE – L – STA. 537+00 SHEET 9

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 2825 PG 866
991

525

530

535

S 02°07'56" W 9.95'

N 87°27'32" W 10.02'

LATERAL 3' BASE DITCH SEE DETAIL#5

CLASS I RIP RAP EST. 3 TONS

CLASS 'B' RIP RAP EST 8 TONS EST 21 SY FF

30" CSP W/ 2 ELBOWS AND ROD AND LUG CONNECTORS

INV. IN EL=878.2

END SHOULDER BERM GUTTER STA 528+75 -L- LT

WE 878.2' POND

FORSYTH COUNTY
TOWN OF WALKERTOWN

TOWN OF WALKERTOWN
FORSYTH COUNTY

S 02°07'56" W 431.44'

-BL-25

-BL-24

+50.00 -L- 200.00'

+30.08 -L- 330.07'

+90.00 -L- 310.00'

+24.47 -L- 241.05'

+90.00 -L- 280.00'

+10.00 -L- 110.00'

+24.00 -L- 150.00' 200.00'

+40.00 -L- 200.00'

+55.10 -L- 210.00'

-L- +33.00 307.00'

-L- +40.08 299.33'

-L- +95.46 356.05'

S 58°42'58" E

N 87°28'58" E 224.00'

N 87°28'58" E 100.00'

OBLITERATE AND GRADE TO DRAIN

REMOVE

ROCK FILL IN POND SEE DETAIL#30

END SHOULDER BERM GUTTER STA 528+46.90 -L- RT

JOSEPH R. DANIELS
DB 1693 PG 2528

MICHAEL L. MCCASKILL
SUSANNA L. MCCASKILL
DB 2261 PG 1020

HOWARD B. CHAMBERS
EILEEN P. CHAMBERS
DB 829 PG 329
31

THE TABOR FAMILY TRUST
DB 1851 PG 2236
DB 2528 PG 77
29

32 MAROLYN G. SPARKS
DB PG

33 ANITA HILTON MCGOWAN
NO DEED LISTED

DETAIL #5
THE TABOR FAMILY TRUST
LATERAL BASE DITCH
(Not to Scale)
DB 1851 PG 2236
DB 2528 PG 77

Natural Ground, 2:1, D, B, 2:1, b, 1'/Ft., Fill Slope

Min. D= 3 Ft.
B= 3 Ft.
b= 5 Ft.

FROM STA 527+08 TO 528+75 -L- LT

DETAIL #30
ROCK FILL IN POND
(Not to Scale)

Proposed, NG, Earth Fill, Rock Fill To Berm, 2:1, 10.0', 1.0' MIN., Elev.= 880.0, N.W.S. Elev.= 879.9

FROM STA. 525+00 TO STA. 528+15 -L- RT

2GI W/FLAT GRATE
2GI-A
2GI
FS
CAT-I
15" RCP-IV
18" RCP-III
24" RCP-III
30" RCP-III
36" RCP-III
48" RCP-IV
12" RCP
12'P.S.
36'
89
90
92
93
94
88
91
96
97
95
98A

2SBKD
ISFD
HTR
POOL
CONC
BST
WD DK
WD RAMP
MTL GATE
BK WALL
ROCK WALL SPILLWAY RUINS
12" HDPE
36" STONE
48" WD RAIL
60" WD
36" WD RAIL & WW
RIPRAP
GRAU-350
SR 2407 MORRIS RD 18 BST
MORRIS RD
FORSYTH COUNTY
TOWN OF WALKERTOWN
EXISTING R/W
PROPOSED R/W
PDE
HDPE
SSBW
WE 877.9' POND

PAVED SHOULDER
PAVEMENT TO BE OBLITERATED

NOTE:
FOR -L- PROFILE, SEE SHEET 34

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mstephenson
Plan Sheet Number 8

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

-L-

PIs Sta 543+50.33
Θs = 1° 11' 52.2"
Ls = 240.00'
LT = 160.00'
ST = 80.00'

PI Sta 576+22.74
Δ = 58° 09' 46.4" (RT)
D = 0° 59' 53.5"
L = 5,826.87'
T = 3,192.41'
R = 5,740.00'
SE = .04
RO = SEE PLANS

PIs Sta 603+37.20
Θs = 1° 11' 52.2"
Ls = 240.00'
LT = 160.00'
ST = 80.00'

N 67°10'00" W
565.50'

-BL-27

-BL-29

-BL-30

540

545

BERM DITCH
STA 539+30 TO 541+80 -L- LT

BERM DITCH
STA 541+80 TO 544+55 -L- LT

BERM DITCH
STA 544+55 TO 546+00 -L- LT

MAROLYN G. SPARKS
DB PG
32

33
ANITA HILTON MCGOWAN
NO DEED LISTED

DANNY T. CAUDILL
DB 1367 PG 1669
34

+15.00 -L-
200.00'

+90.33 -L-
200.00'

+30.33 -L-
200.00'

+00.00 -L-
260.00'

+50.00 -L-
200.00'

CHORD

BDO 100

BDO 103

BDO 107

-BL-28

+84.66
10.46

24" CSP
W/ELBOW

30" CSP
W/ELBOW

15" CSP
W/ELBOW

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE

2GI 101 FS

2GI 104 FS

2GI 108 FS

2GI 111 FS

12'P.S.

24" RCP-III

30" RCP-III

18" RCP-III

15" RCP-III

36" RCP-III

42" RCP-III

2GI-A 102

2GI-A 106

2GI-A 109

2GI-A 112

2GI-A 113

2GI 98 FS

2GI 99 FS

2GI 105 FS

2GI-A 110 FS

S 58° 42' 58.7" E

60' INC

MATCHLINE – L – STA. 537+00 SHEET 8

MATCHLINE – L – STA. 549+39 SHEET 10

CHARLES LEWIS, ET AL
DB 1502 PG 599
PB 30 PG 179
5

CHARLES LEWIS, ET AL
DB 1555 PG 1697
PB 30 PG 179
37

NCDOT
DB 2742 PG 511
PB 30 PG 179
978

SR 2575 WESTON BROOK TRAIL

12" RCP

EIP

20' DRAINAGE/UTILITY EASEMENT PB 30 PG 179

-BY5-516

-BY4-514

+96.00 -L-
200.00'

+94.00 -L-
290.00'

+57.58 -L-
329.66'

+90.33 -L-
200.00'

+30.33 -L-
200.00'

-L-SCS Sta. 541+90.33

-L-SCS Sta. 544+30.33

CHORD

98B

JAMES R. MATTHEWS (TRUSTEE)
DB 2807 PG 394
PB 27 PG 144

GWEN M. FAGERBERG
DB 2933 PG 3337
PB 27 PG 144

N 15°22'52" W
185.71'

S 03°38'51" W
506.05'

S 41°53'
500.23'

PAVED SHOULDER

NOTE:
FOR -L- PROFILE, SEE SHEET 34 - 35

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

PIs Sta 543+50.33
Θs = 1° 11' 52.2"
Ls = 240.00'
LT = 160.00'
ST = 80.00'

PI Sta 576+22.74
Δ = 58° 09' 46.4" (RT)
D = 0° 59' 53.5"
L = 5,826.87'
T = 3,192.41'
R = 5,740.00'
SE = .04

PIs Sta 603+37.20
Θs = 1° 11' 52.2"
Ls = 240.00'
LT = 160.00'
ST = 80.00'

BEGIN BRIDGE
-L- POC STA. 555+73.00

BEGIN APPROACH SLAB
-L- POC STA. 555+49.00

END BRIDGE
-L- POC STA. 557+98.01

END APPROACH SLAB
-L- POC STA. 558+22.01

MATCHLINE -L- STA. 549+39 SHEET 9

MATCHLINE -L- STA. 561+61 SHEET 11

BM #5
-BY5- STA 5+00.00 TO BM #5
N 79°20'37" E 145'
N = 870288
E = 1665137
ELEV. = 866.68

-BY5-515

554+54.00 -L-
272.00'

554+72.35 -L-
242.40'

555+12.00 -L-
308.00'

555+28.76
280.12'

554+01.50 -L-
200.00'

+25.00 -L-
278.07'

+60.00 -L-
225.00'

+00.00 -L-
225.00'

+00
260'

+65
260'

+75.00 -L-
200.00'

+90.00 -L-
235.00'

+75.00 -L-
200.00'

+00.00 -L-
200.00'

+70.00 -L-
218.19'

+10.00 -L-
240.00'

+50.00 -L-
225.04'
240.00'

+05.00 -L-
280'
235.23'

+40.00 -L-
280'

+38.31 -L-
240.76'

+28.80
297.93'

+70.00 -L-
238.38'

-BL-31

-BL-32

-BL-33

-BL-34

43 DANNY CAUDILL
CHARLENE L. CAUDILL
DB 1473 PG 1110

44 DAVID WHITE
MELISSA WHITE
DB 1681 PG 4068
PB 30 PG 179

45 03 INVESTMENTS, LLC
DB 2747 PG 2741

34 DANNY T. CAUDILL
DB 1367 PG 1669

42 DANNY CAUDILL
DB 1367 PG 1669

40 DANNY CAUDILL
DB 1367 PG 1669

38 DANNY CAUDILL
DB 1367 PG 1669

37 CHARLES LEWIS, ET AL
DB 1555 PG 1697
PB 30 PG 179

46 SHUGART ENTERPRISES LL
DB 2324 PG 4251

46 SHUGART ENTERPRISES LLC
DB 2324 PG 4251

988 NCDOT
DB 2820 PG 3666
(FORMERLY-
CRAIG SMITH
KATHY SMITH)
(DB 1710 PG 928)
(PB 30 PG 179)

920 NC D.O.T.
DB 2636 PG 3047
(FORMERLY -
CHRISTOPHER WILSON
SUSAN WILSON)
(DB 1542 PG 1089)
(PB 30 PG 179)

213 MARGARET LUCINDA ROBBINS LINVILLE
DB 1147 PG 612

225 BRENDA L. CHESLAK
MARY C. MURPHY and
DB 2687 PG 1332
PB 45 PG 206

224 REGAN S. PATRICK
THERESA A. PATRICK and wife
DB 2861 PG 1253
PB 45 PG 206

223 FRITZ BRADLEY CARRIER and
RANDI MARIE CARRIER
DB 2855 PG 1046
PB 45 PG 206

WESTON BROOKE TRAIL

SR 2575

OBLITERATE AND GRADE TO DRAIN

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE

SPECIAL LATERAL 2' BASE DITCH
SEE DETAIL #10

PROPOSED OVERHEAD
SIGN SUPPORT LOCATION

REMOVE

20' DRAINAGE/UTILITY EASEMENT PB 30 PG 179

EXISTING R/W

DRAINAGE/UTILITY EASEMENT

42" RCP-III

15" RCP-III

2@10'x6' RCBC

60" RCP-III

15" RCP-IV

42" CSP

15" CSP W/ 2 ELBOWS

2GI

2GI-A

2GI W/FLAT GRATE

GRAU-350
BEGIN SHOULDER BERM GUTTER
STA 554+22.53 -L- RT

END SHOULDER BERM GUTTER
AT BEGIN BRIDGE

ENERGY DISSIPATOR BASIN
SEE SHEET 2-ET

ENERGY DISSIPATOR BASIN
W/OUTLET CHANNEL
EST. CLASS I RIPRAP +/- 88 TONS
EST. DDE +/- 102' CY
EST. FF +/- 89 SY

CLASS 'I' RIP RAP

CHORD PSH
SEE SHEET 2-TT

TAIL DITCH
SEE DETAIL #17
EST. DDE +/- 54' CY

TAIL DITCH
SEE DETAIL #9
EST. DDE 4CY

CLASS I RIP-RAP
(BANKS ONLY)
SEE DETAIL #32
EST 40 TONS
EST 75 SY FF

BEG. NOISE WALL -NWL1-

PAVE TO BARRIER FACE

PROPOSED OVERHEAD
SIGN SUPPORT LOCATION

18" CSP W/2 ELBOWS
AND ROD AND LUG
CONNECTORS

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2H, D, 2H, Natural Ground
Min. D= 2 Ft.
B= 3 Ft.

FROM STA. 560+70 TO 560+97 -L- RT

DETAIL #10
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2H, D, 4H or Flatter, Fill Slope
Min. D= 2 Ft.
B= 2 Ft.

FROM STA 552+50 TO 553+40 -L- LT

DETAIL #17
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2H, D, 2H, Natural Ground, dI, Filter Fabric, B
Min. D= 2.0 Ft.
Max. dI= 2.0 Ft.
B= 3.0 Ft.
*When B is < 6.0'

Type of Liner= Class 'I' Rip-Rap
FROM STA. TO STA.

DETAIL #32
TAIL DITCH
(Not to Scale)

Natural Ground, 2H, D, Natural Ground, dI, Filter Fabric, B
Min. D= 2.0F t.
Max. dI= 2.0F t.
B= 3.0F t.

Type of Liner= Class I Rip-Rap

PAVED SHOULDER
PAVEMENT TO BE OBLITERATED

NOTE:
FOR -L- PROFILE, SEE SHEET 35

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

Pls Sta 543+50.33
Θs = 1° 11' 52.2"
Ls = 240.00'
LT = 160.00'
ST = 80.00'

Pl Sta 576+22.74
Δ = 58° 09' 46.4" (RT)
D = 0° 59' 53.5"
L = 5,826.87'
T = 3,192.41'
R = 5,740.00'
SE = .04

Pls Sta 603+37.20
Θs = 1° 11' 52.2"
Ls = 240.00'
LT = 160.00'
ST = 80.00'

AREA U/C

REVISIONS

8/17/99

MATCHLINE – L – STA. 561+61 SHEET 10

MATCHLINE – L – STA. 574+36 SHEET 12

CHARLIE MARTIN
DB 2189 PG 691

RICHARD L. WHITE, JR. and wife
TINA M. WHITE
DB 2932 PG 473
PB 42 PG 179

DANNY RAY BAYS
DB 2882 PG 3445
PB 42 PG 178
PB 42 PG 179
47

NCDOT
DB 3019 PG 1
(FORMERLY)
DAVID KEITH EBERT
EMILY EBERT
DB 2341 PG
PB 42 PG

WILLIE LEAK
KEYA LEAK
DB 2311 PG 188
PB 42 PG 179
52

214
WINSTON-SALEM/FORSYTH COUNTY
BOARD OF EDUCATION
DB 2276 PG 196

CHARLES AARON MATHIS, JR.
ELLEN COLETTE MATHIS
DB 2342 PG 4869
PB 42 PG 178
55

R.R. ROBBINS
MABEL S. ROBBINS
DB 847 PG 177
56

RICHARD R. ROBBINS
BONNIE M. ROBBINS
DB 2451 PG 2357
PB 42 PG 178
57

RICHARD KEVIN WOOD
MELINDA ANDERSON WOOD
DB 2130 PG 1622
PB 42 PG 179
53

46
SHUGART
ENTERPRISES LLC
DB 2324 PG 4251

SHUGART
ENTERPRISES LLC
DB 2324 PG 4251

KAYE ROBBINS FULP
MELODY ROBBINS ANDERSON
DB 2287 PG 2658
54

STANLEY STIGALL
DB 2079 PG 1083
PB 42 PG 178
58

EDWARD RICHARDSON
DB 2349 PG 1987
PB 42 PG 178
59

JONATHAN CARL BRITT and
APRIL LEIGH CRAFFORD
DB 2553 PG 1661
PB 45 PG 125-126
49

LARRY W. WILLIAMS
and wife
AMY L. WILLIAMS
DB 2998 PG 1756
PB 45 PG 125-126
48

RONALD L. SCOTT, JR.
KIMBERLY D. SCOTT
DB 2523 PG 3688
PB 45 PG 125-126
PB 45 PG 112-113
50

KEITH OELKER and wife
MICHELLE OELKER
DB 2626 PG 3505
PB 45 PG 125-126
PB 45 PG 112-113
51

BRENDA L. CHESMAR
MARY C. MURPHY and
DB 2618 PG 1332
PB 45 PG 126
225

CLAY M. HOWARD
NICOLE A. HOWARD
DB 2423 PG 1874
PB 45 PG 125-126

BOBBY D. HOLLOWAY
LISA HOLLOWAY
DB 2458 PG 2882
PB 45 PG 125-126
PB 45 PG 112-113

ANSON and wife
DB 2458
PB 45

DAVID SCOTT THOMAS &
TAMMY THOMAS
DB 2507 PG 773
PB 45 PG 125-126
PB 45 PG 112-113

CECIL K. ANDERSON &
MELODY R. ANDERSON

-BL-35
-BL-36
-BL-37
-BY8-517
-BY8-521

N 89°20'29" W 716.05'
N 11°47'33" W
N 00°36'25" W 332.65'
S 89°23'35" W 139.99'
N 21°05'37" E
S 00°37'41" E
N 00°36'25" W 255.01'
S 01°23'41" E 641.75'
S 01°23'41" E 646.80'
N 00°36'25" W 230.00'
S 89°23'35" W 173.99'
S 01°23'41" E 100.00'
N 00°36'25" W 463.17'
S 86°55'59" W 254.85'
S 89°53'07" W 415.91'
S 01°38'41" E 102.05'
S 01°38'41" E 51.00'

R=50.00' L=94.25'
R=50.00' L=94.25'
R=28.00' L=21.02'
R=50.00' L=86.17'
R=5740.00' L=240.00'

+00.00 –L– 200.00'
+50.00 –L– 235.00'
OBLITERATE AND GRADE TO DRAIN
+50.00 –L– 255.00'
+25.00 –L– 240.00'
+55.85 –L– 245.00'
+67.61 –L– 387.11'
+25.00 –L– 331.67'
74.67 –L– 245.46'

LATERAL 2' BASE DITCH
SEE DETAIL#3

LATERAL 3' BASE DITCH W/CLASS 'B' RIP RAP
EST. 231 TONS
W/600 SY FF
SEE DETAIL#13

LATERAL 3' BASE DITCH
SEE DETAIL#11

LATERAL 3' BASE DITCH W/CLASS "B" RIPRAP
SEE DETAIL#24
EST. 106 TONS
EST. 258 SY FABRIC

CLASS 'B' RIP RAP
EST 5 TONS
EST 14 SY FF

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

TOE PROTECTION W/ CLASS "B" RIPRAP
EST 232 TONS
EST 625 SY FF
SEE DETAIL#6

24" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CHORD

BM #6
GY8- STA 20+78.55 TO BM #6
N 66°59'34" E 58
N = 869271
E = 1665048
ELEV. = 900.49

DETAIL #3
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
2:1
D
2:1
b
R/W
Fill Slope
B
Min. D= 2 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA 566+75 TO 569+25 –L– LT

DETAIL #6
TOE PROTECTION
(Not to Scale)
Natural Ground
d
2:1 OR FLATTER
Fill Slope
Filter Fabric
d= 2 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA 561+45 TO 565+60 –L– RT

DETAIL #24
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
b
1':1Ft.
Fill Slope
D
2:1
d
B
Filter Fabric
Min. D= 2 Ft.
B= 3 Ft.
b= 10 Ft.
d= 5 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA 567+00 TO 568+70 –L– RT

DETAIL #13
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
2:1
D
2:1
b
1':1Ft.
Fill Slope
d
Filter Fabric
B
S
Min. D= 2 Ft.
Max. d= 2 Ft.
B= 3 Ft.
b= 5 Ft.
•When B Is < 6.0'
Type of Liner= Class 'B' Rip-Rap
FROM STA 569+30 TO 572+50 –L– LT

DETAIL #11
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
2:1
D
2:1
b
1':1Ft.
Fill Slope
B
Min. D= 2 Ft.
B= 3 Ft.
b= 5 Ft.
FROM STA 572+50 TO 576+60 –L– LT

PAVED SHOULDER
PAVEMENT TO BE OBLITERATED

NOTE:
FOR -L- PROFILE SEE SHEET 35 - 36

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

RIGHT OF WAY REVISION,11/5/12 - PERMANENT ACCESS EASEMENT ADDED AROUND -DR5-

08-NOV-2013 09:43
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R.R. ROBBINS
MABEL S. ROBBINS
56
S 81°59'14" E 736.44'
S 81°59'23" E 537.89'

PISGAH METHODIST CHURCH
DB 1834 PG 4293
DB 927 PG 347
DB 741 PG 201
DB 741 PG 202
DB 516 PG 79
60

DETAIL #7
STANDARD "V" DITCH
(Not to Scale)
Natural Ground
2:1
D
2:1
Natural Ground
Min. D= 2 Ft.
FROM STA. 584+81 TO 585+13 -L- LT

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE

PLAYGROUND

CEMETERY

LATERAL 3' BASE DITCH
SEE DETAIL#11

PISGAH METHODIST CHURCH
DB 1834 PG 4293
DB 927 PG 347
DB 741 PG 201
DB 741 PG 202
DB 516 PG 79
60

575

+30.00 -L-
260.00'

CHORD

165.42'
S 16°32'51" W

+00.00 -L-
200.00'

DANNY RAY BAYS
DB 2882 PG 3445
PB 42 PG 178
PB 42 PG 179
61

N 88°38'48" E
259.54'

WENDELL BROADNAX
GLENDA BROADNAX
DB 2301 PG 838
PB 42 PG 178
63

238.70'
S 16°40'26" W

RICHARD R. ROBBINS
BONNIE M. ROBBINS
57

131.07'
S 73°07'19" W

MATCHLINE - L - STA. 574+36 SHEET 11

64

S 19°40'21" E
334.26'

STANLEY STIGALL
DB 2079 PG 1083
PB 42 PG 178

12" P.S.

EIP

REMOVE

15" RCP-IV

2GI W/FLAT GRATE

PAVE TO BARRIER FACE REMOVE

EDWARD RICHARDSON
DB 2349 PG 1982
PB 42 PG 178
CLASS 'B' RIP RAP
EST 1 TONS
EST 5 SY FF
59

18" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

S 74°45'36" W
242.27'

CHORD

SOUTH POINT, INC.
DB 2584 PG 3896
PB 42 PG 178
62

S 64°30'06" W
327.26'

+56.00 -L-
200.00'

+24.00 -L-
200.00'

-BL-38

65

STANLEY RUSSELL STIGALL
DB 2079 PG 1083
DB 1929 PG 2499
DB 1895 PG 1095
PB 42 PG 178

N 88°20'40" W
90.09'

N 00°36'25" W
190.33'

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

N 00°36'25" W
78.65'

S 63°50'41" W
132.28'

N 00°36'25" W
174.66'

N 00°39'50" W
368.07'

N 00°36'25" W
130.75'

RONNIE DEAN INGLE, JR.
LOLITA MONTES INGLE
DB 2020 PG 1675

-Y2A- PT Sta. 23+82.82

-DR5-

-Y2A- PT Sta. 15+18.49

BEGIN CONSTRUCTION
BEGIN 3" RESURFACING
-Y2A- STA.16+00.00

TAPER TO EXIST.
+94.73 -Y2A-
30.14

END C/A

-SRR- POT Sta.35+12.32
-L- POC Sta.584+36.24

581+75.00 -L-
200'

+69.28 -L-
200.00'

NARROW SLOT

-Y2A- POT Sta.18+29.06
-L- POC Sta.583+49.61

BEGIN BRIDGE RT.& LT.
-L- POC STA.582+85.67

BEGIN APPROACH SLAB RT.
-L- POC STA.582+62.32
BEGIN APPROACH SLAB LT.
-L- POC STA.582+56.85

END W.W.FENCE

130' FULL LANE

CENTER LINE RAILROAD R/W

100' TRANSITION RT & LT SIDE

NORFORK SOUTHERN RAILROAD

EXISTING RAILROAD R/W

TYPE B-77

-NWL-

-Y2A-

-SRR-

-Y3-

S 61°04'05.7" W

S 67°35'26.3" W

S 61°18'22.0" W

TAPER TO EXIST.

REMOVE

50' TAPER TO EXIST. RT. AND LT. SIDE

BEGIN CONSTRUCTION
BEGIN 3" RESURFACING
-Y3- STA.18+25.00

+00.00 -Y3-
30.00'
71.00'

CLASS 'B' RIP RAP
EST 3 TONS
EST 10 SY FF

+98.00 -Y3-
71.00'

TAIL DITCH
SEE DETAIL#7
EST. DDE 9CY

CLASS 'B' RIP RAP
EST 3 TONS
EST 10 SY FF

+74.62 -DR5-
27.77
S 39°39'22" E
42.34'
10.01'
375.43' R/W TO COR
374.55' EIP TO COR

Permanent Easement for Access
-DR5- PC Sta. 11+36.59

+42.34 -DR5-
10.01'
PE 374.55' EIP

+00.00 -L-
60.00'
300.00'

CLASS 'B' RIP RAP
EST 1 TONS

-DR5- PT Sta. 12+13.97
-DR5- PC Sta. 13+09.61

+87.77 -L-
292.01'

+36.00 -Y3-
71.00'
90.00'

+13.97 -DR5-
18.00'

+37.81 -DR5-
14.63'

PE 38°44'07" W

END BRIDGE RT. & LT.
-L- POC STA.585+68.73

+37.81 -DR5-
22.85'

BEGIN W.W. FENCE
BEGIN ABUTMENT WALL
& SINGLE FACE BARRIER
-Y3- STA.21+03.39
145.5' LT.0.32

END APPROACH SLAB LT.
-L- POC STA.585+82.32

END APPROACH SLAB RT.
-L- POC STA.586+03.26

F 2GI W/NARROW SLOT FLAT GRATE

-BL-39

+85.00 -L-
200.00'

PROPOSED WALL

ROBERT SHIPLEY and wife
MONETTE SHIPLEY
DB 1646 PG 1206
67

LARRY EDWARD JONES and wife
ROBIN W. JONES
68

DB 1459 PG 173

945

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 2687 PG 4097

MATCHLINE - -DR5- STA.13+46 SHEET 13

MATCHLINE - L - STA.587+50 SHEET 13

NOISE WALL ON BRIDGE

-NWL2-

PAVE TO BARRIER FACE
END NOISE WALL ON BRIDGE
BEG NOISE WALL -NWL2-

GARY V. WILSON and wife
MARY M. WILSON
DB 2015 PG 3092
SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
70

907

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 3023 PG 0254

BEGIN W.W. FENCE
END ABUTMENT WALL
& SINGLE FACE BARRIER
-Y3- STA.21+03.39
145.5' LT.0.32

END C/A
+50.00 -Y3-

32.29'
ACCESS EASEMENT DB

20' BST

TOWN OF KERNERSVILLE

NORFORK SOUTHERN RAILROAD

WEST MOUNTAIN RD

SR 2377

-Y2A- PC Sta. 20+69.92

RICHARD HERRICK
DB 2776 PG 2948

+50.00 -Y2A-
34.44'

END C/A

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE

TIE TO EXIST DITCH

END CONSTRUCTION
END 3" RESURFACING
-Y2A- STA.22+00.00

END CONSTRUCTION
END 3" RESURFACING
-Y3- STA.26+25.00

64

STANLEY RUSSELL STIGALL
DB 1895 PG 1095
DB 1929 PG 2499

S 00°29'45" W
37.41'

LATERAL 2' BASE DITCH
SEE DETAIL#3

END NOISE WALL -NWL-
BEG NOISE WALL ON BRIDGE

+50.00 -L-
200.00'

+24.00 -L-
200.00'

-Y2A- PT Sta. 22+74.08
-Y3- POT Sta.585+06.99
-L- POC Sta.585+06.99

PI Sta 13+90.67
Δ = 20° 41' 07.1" (RT)
D = 8° 00' 07.9"
L = 258.49'
T = 130.67'
R = 716.00'

PI Sta 22+28.91
Δ = 25° 02' 20.2" (RT)
D = 8° 00' 07.9"
L = 312.90'
T = 158.99'
R = 716.00'

-L-

PIs Sta 543+50.33
Es = 1° 11' 52.2"
Ls = 240.00'
LT = 160.00'
ST = 80.00'

PI Sta 576+22.74
Δ = 58° 09' 46.4" (RT)
D = 0° 59' 53.5"
L = 5,826.87'
T = 3,192.41'
R = 5,740.00'
SE = .04

PIs Sta 603+37.20
Es = 1° 11' 52.2"
Ls = 240.00'
LT = 160.00'
ST = 80.00'

PI Sta 11+77.33
Δ = 44° 20' 22.0" (RT)
D = 57° 17' 44.8"
L = 77.39'
T = 40.75'
R = 100.00'

PI Sta 13+38.58
Δ = 32° 19' 01.0" (LT)
D = 57° 17' 44.8"
L = 56.40'
T = 28.97'
R = 100.00'

DETAIL #3
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
2:1
D
2:1
b
1':1Ft.
Fill Slope
B
Min. D= 2 Ft.
B= 2 Ft.
b= 5 Ft.
FROM STA 581+70 TO 583+20 -L- RT

DETAIL #11
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
2:1
D
2:1
b
1':1Ft.
Fill Slope
B
Min. D= 2 Ft.
B=3 Ft.
b= 5 Ft.
FROM STA 572+50 TO 576+60 -L- LT

PAVED SHOULDER

NOTE :
FOR -DR5- PROFILE,SEE SHEET 97
FOR -L- PROFILE,SEE SHEET 37
FOR -Y2A- PROFILE,SEE SHEET 49A
FOR -Y3- PROFILE,SEE SHEET 49B-49C

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99 RIGHT OF WAY REVISION,11/5/12 - PERMANENT ACCESS EASEMENT ADDED AROUND -DR5-

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$$$$DATE$$$$

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, r/Ft., Fill Slope, d, Filter Fabric, B

Min. D= 2 Ft.
Max. d= 2 Ft.
B= 2 Ft.
D= 5 Ft.

*When B Is < 6.0'

Type of Liner: Class 'B' Rip-Rap

FROM STA 590+00 TO 594+10 -L- RT

DETAIL #14
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, r/Ft., Fill Slope, d, Filter Fabric

Min. D= 2 Ft.
Max. d= 2 Ft.
b= 5 Ft.

Type of Liner: Class 'B' Rip-Rap

FROM STA 594+15 TO 596+00 -L- RT

BRIAN GRAY
JAMES GRAY
DB 4580 PG 0096

EARLINE M. SAPP
DB 1679 PG 504
DB 1691 PG 95
DB 1770 PG 614

ROBERT SHIPLEY
and wife
MONETTE SHIPLEY
67

24" RCP

-DR5- PT Sta. 19+21.39

-DR5- PC Sta. 18+80.18

-DR5- PT Sta. 13+66.01

HYDRO IS LOOKING AT -DR5- DRAINAGE

CLASS 'B' RIP RAP EST +/-1 TON

END PERMANENT EASEMENT FOR ACCESS -96.94 -DR5- 18.00

+91.56 -DR5- 18.00

S 16° 40' 17.0" E
DB 1820 PG 1684

CLASS 'B' RIP RAP EST +/-1 TON

CHORD

+80.00 -L-
248.00'
CLASS 'I' RIP RAP W/FILTER FABRIC EST. 15 TONS EST. 30 SY

CHORD

-DR5- PC Sta. 21+14.03

+50.00 -L-
365.00'
157A
CLASS 'I' RIP RAR W/FILTER FABRIC EST. 15 TONS EST. 30 SY

36" RCP

S 6° 56' 25.6" W

+50.00 -L-
200.00'
CLASS 'B' RIP RAP EST +/-1 TON

-DR5- PT Sta. 22+96.07

+65.00 -L-
370.00'

-DR5- PT Sta. 22+56.55

+45.00 -L-
322.00'

+28.00 -L-
342.00'

+90.00 -L-
295.00'

+28.00 -L-
200.00'

S 14° 42' 52.5" E

DALE V. WILSON
ANN H. WILSON
72
DB 2103 PG 3539
DB 1963 PG 1045

MATCHLINE -DR5- STA.13+46 SHEET 13

MATCHLINE -L- STA.587+50 SHEET 12

MATCHLINE -L- STA. 599+00 SHEET 14

GARY V. WILSON and wife
MARY M. WILSON
70

300' TAPER

1300' FULL LANE

LARRY JONES
ROBIN JONES
67
DB 1820 PG 1684

12' P.S.

36" RCP-CD

157

153

155

156

158

159

160

2GI

FS

REMOVE

15" RCP-IV

SR 2655 PISGAH RD GR

2GI W/FLAT GRATE 154

18" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

2GI W/FLAT GRATE 156

2GI W/FLAT GRATE

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

PAVE TO BARRIER FACE

-NWL2-

PROP. NOISE WALL

RUINS

2800' FULL LANE

HW

CLASS 'B' RIP RAP EST 2 TONS EST 7 SY FF

GARY V. WILSON and wife
MARY M. WILSON
70
CLASS 'B' RIP RAP EST 2 TONS EST 7 SY FF

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP EST.276 TONS W/724 SY FF SEE DETAIL#12

CLASS 'B' RIP RAP EST 2 TONS EST 7 SY FF

LATERAL 'V' DITCH W/CLASS 'B' RIP RAP EST. 115 TONS W/285 SY FF SEE DETAIL#14

+70.00 -L-
200.00'
907

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 3023 PG 0254

DB 2103 PG 3539
DB 1963 PG 1045

72 DALE V. WILSON
ANN H. WILSON

-BL-40

-BL-41

W/LT

PHYLLIS E. LONG
DB 1413 PG 1458
DB 1256 PG 795

30' ACCESS EASEMENT DB 1660 PG 2202

SR 2655 ELLIOT RD GR

MARY C. DUNLAP
DB 3071PG 2445

DAVID S. ELLIOTT
ANNE T. ELLIOTT
DB 1660 PG 2200

ISFD

SOIL

48" CONC

36" WD

POOL

-L-

PIs Sta 543+50.33	PI Sta 576+22.74
Θs = 1° 11' 52.2"	Δ = 58° 09' 46.4" (RT)
Ls = 240.00'	D = 0° 59' 53.5"
LT = 160.00'	L = 5,826.87'
ST = 80.00'	T = 3,192.41'
	R = 5,740.00'
	SE = .04

PIs Sta 603+37.20
Θs = 1° 11' 52.2"
Ls = 240.00'
LT = 160.00'
ST = 80.00'

-DR5-

PI Sta 13+38.58	PI Sta 19+01.08
Δ = 32° 19' 01.0" (LT)	Δ = 23° 36' 42.6" (RT)
D = 57° 17' 44.8"	D = 57° 17' 44.8"
L = 56.40'	L = 41.21'
T = 28.97'	T = 20.90'
R = 100.00'	R = 100.00'

PI Sta 22+00.44
Δ = 81° 39' 18.1" (LT)
D = 57° 17' 44.8"
L = 142.51'
T = 86.40'
R = 100.00'

PAVED SHOULDER

FOR -DR5- PROFILE, SEE SHEET 97
FOR -L- PROFILE, SEE SHEET 37

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS 8/17/99

MATCHLINE – L – STA. 599+00 SHEET 13

MATCHLINE –L– STA. 609+52 SHEET 15

DETAIL #14
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2H, D, 2H, b, 1'/Ft., Fill Slope, Filter Fabric

Min. D= 2 Ft.
Max. d= 2 Ft.
b= 5 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA 601+00 TO 602+90 –L– LT

DALE V. WILSON
ANN H. WILSON
DB 2103 PG 3539
DB 1963 PG 1045

72

600

605

-BL-42

+57.20 –L–
237.00'

LATERAL 'V' DITCH W/CLASS 'B' RIP RAP
EST. 118 TONS
W/293 SY FF
SEE DETAIL#14

+66.00 –L–
200.00'

CHORD

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP
EST. 171 TONS
W/450 SY FF
SEE DETAIL#12

+00.00 –L–
237.00'

-Y4CD- PC Sta. 10+00.00
-L- STA. 606+00.00 (59' LT)

CLASS 'I'
RIP RAP W/FILTER FABRIC
EST. 15 TONS
EST. 30 SY

+98.82 –L–
200.41'

CHORD

REMOVE

300' TAPER

F

73

BEGIN SHOULDER BERM GUTTER
STA 605+00 –L– LT

END SHOULDER BERM GUTTER
STA 607+18.45 –L– LT
BEG NOISE WALL
-NWL3-

PAVE TO BARRIER FACE

12" P.S.

36" RCP-V

TYPE III

164

-NWL3-

15" RCP

2GI W/FLAT GRATE

-Y4CD-

162

N 25°08'08" W
168.32'

2GI

FS

15" RCP-III

S 1° 50' 32.0" W

GRAU=350

CAT =

161

163

451

452

453

454

18" RCP-V

15" RCP-III

60' INC

3:1 R.S.

PROP. NOISE WALL
-NWL2-

-NWL2-

PAVE TO BARRIER FACE

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

18" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

2800' FULL LANE

HW

CLASS 'B'
RIP RAP
EST 2 TONS
EST 7 SY FF

CHORD

-L-CSSta. 602+57.20

-L-STSta. 604+97.20

+57.20 –L–
200.00'

+97.20 –L–
200.00'

CLASS 'B'
RIP RAP
EST 2 TONS
EST 7 SY FF

CLASS 'B'
RIP RAP
EST 2 TONS
EST 7 SY FF

HELEN ELLIOTT
DB 193 PG 290

73

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP
EST. 171 TONS
W/450 SY FF
SEE DETAIL#12

LATERAL 2' BASE DITCH
SEE DETAIL#3

HELEN ELLIOTT

73

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2H, D, 2H, b, 1'/Ft., Fill Slope, Filter Fabric, d, B

Min. D= 2 Ft.
Max. d= 2 Ft.
B= 2 Ft.
b= 5 Ft.

•When B is < 6.0'

Type of Liner= Class 'B' Rip-Rap

FROM STA 600+00 TO 602+55 –L– RT
FROM STA 603+90 TO 605+90 –L– LT

DETAIL #3
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2H, D, 2H, b, 1'/Ft., Fill Slope, B

Min. D= 2 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA 602+60 TO 605+00 –L– RT

SR 2655 ELLIOT RD GR

HTR

25FD

S 00°16'35" W
289.16'

-L-

PIs Sta 543+50.33	PI Sta 576+22.74	PIs Sta 603+37.20
Θs = 1° 11' 52.2"	Δ = 58° 09' 46.4" (RT)	Θs = 1° 11' 52.2"
Ls = 240.00'	D = 0° 59' 53.5"	Ls = 240.00'
LT = 160.00'	L = 5,826.87'	LT = 160.00'
ST = 80.00'	T = 3,192.41'	ST = 80.00'
	R = 5,740.00'	
	SE = 0.04	

-Y4CD-

PI Sta 13+57.81
Δ = 3° 24' 57.0" (LT)
D = 0° 28' 38.9"
L = 715.41'
T = 357.81'
R = 12,000.00'

PAVED SHOULDER

NOTE :
FOR -L- PROFILE, SEE SHEET 37 - 38
FOR -Y4CD- PROFILE, SEE SHEET 60

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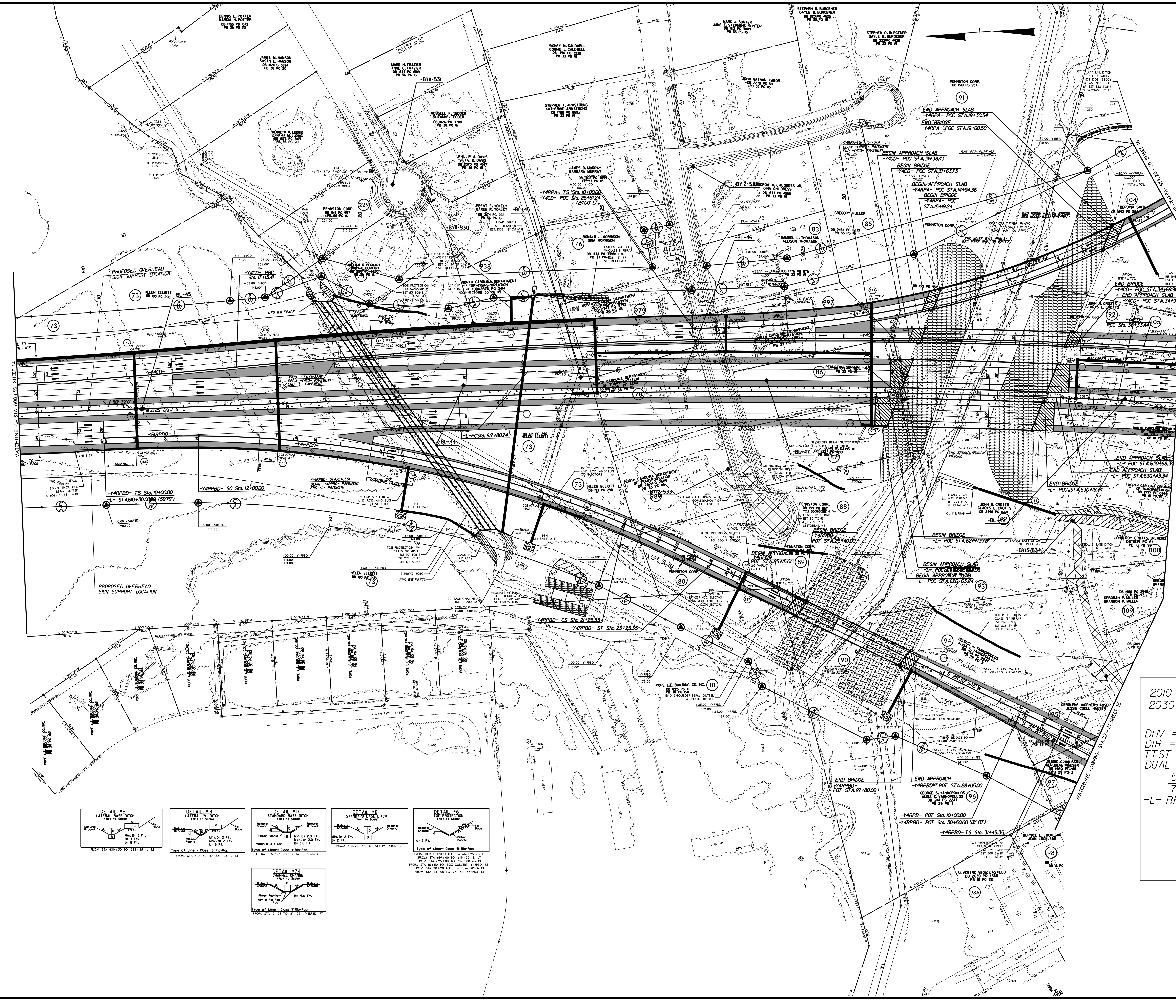
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

RIGHT OF WAY REVISION,11/5/12 - PARCEL 98 ADJUSTED ON PLANS TO MAKE IT VISIBLE
RIGHT OF WAY REVISION,11/5/12 - PARCEL 98A ADDED



Y4CD

PI Sta 13+57.81	PI Sta 26+76.17	PI Sta 45+09.60
Δ = 3° 24' 57.0" (LT)	Δ = 8° 27' 12.4" (RT)	Δ = 6° 04' 22.6" (RT)
D = 0° 28' 38.9"	D = 0° 26' 26.7"	D = 0° 20' 48.8"
L = 715.41'	L = 1,918.03'	L = 1,750.69'
T = 357.81'	T = 960.76'	T = 876.16'
R = 12,000.00'	R = 13,000.00'	R = 16,517.00'
SE = NC	SE = NC	SE = NC

Y4RPA

PIs Sta 11+33.35	PI Sta 28+67.56	PIs Sta 40+08.43
θs = 2° 59' 59.2"	Δ = 82° 14' 46.6" (LT)	θs = 2° 59' 59.2"
Ls = 200.00'	D = 2° 59' 59.2"	Ls = 200.00'
LT = 133.35'	L = 2,741.74'	LT = 133.35'
ST = 66.68'	T = 1,667.56'	ST = 66.68'
	R = 1,910.00'	
	SE = .06	

-Y4RPBD-

PIs Sta 11+33.35	PI Sta 16+68.86	PIs Sta 21+92.03
θs = 2° 27' 32.6"	Δ = 22° 45' 17.5" (RT)	θs = 2° 27' 32.6"
Ls = 200.00'	D = 2° 27' 32.6"	Ls = 200.00'
LT = 133.35'	L = 925.35'	LT = 133.35'
ST = 66.68'	T = 468.86'	ST = 66.68'
	R = 2,330.00'	
	SE = .05	

PIs Sta 33+05.42	PI Sta 61+52.40	PIs Sta 64+51.91
θs = 5° 10' 10.4"	Δ = 128° 39' 24.8" (LT)	θs = 5° 10' 10.4"
Ls = 240.00'	D = 4° 18' 28.6"	Ls = 240.00'
LT = 160.07'	L = 2,986.50'	LT = 160.07'
ST = 80.06'	T = 2,767.05'	ST = 80.06'
	R = 1,330.00'	
	SE = .06	

-L-

PI Sta 633+75.85
Δ = 11° 06' 38.0" (RT)
D = 0° 20' 57.7"
L = 3,180.22'
T = 1,595.11'
R = 16,400.00'
SE = NC

TRAFFIC DIAGRAM

2010 ADT / 2030 ADT

47,720 / 61,160

DHV = 10%
DIR = 60%
TTST = 12%
DUAL = 6%

32,600 / 43,800
5,360 / 7,280
53,560 / 79,880
24,660 / 36,980

-L- BELTLINE

6,600 / 11,800
4,940 / 5,420

DHV = 10%
DIR = 60%
TTST = 6%
DUAL = 5%

21,300 / 27,300

-Y4- (US 421/I-40 BUS.)

PAVED SHOULDER
PAVEMENT TO BE OBLITERATED

NOTE :
FOR -L- PROFILE,SEE SHEET 38
FOR -Y4CD- PROFILE,SEE SHEET 60-61
FOR -Y4RPA- PROFILE,SEE SHEET 69
FOR -Y4RPB- PROFILE,SEE SHEET 71
FOR -Y4RPBD- PROFILE,SEE SHEET 72-73

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99 RIGHT OF WAY REVISION 11/5/12 - PLANS ADJUSTED SO THAT PARCEL 98 IS VISBLE ON PLANS

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MATCHLINE -Y4RPA- STA.26+95 SHEET 27

MATCHLINE -Y4- STA.82+26 SHEET 27

MATCHLINE -Y4RPBD- STA.63+00.00 SHEET 27

MATCHLINE -Y5- STA.18+00.00 SHEET 27

MATCHLINE -L- STA.633+00 SHEET 15

MATCHLINE -L- STA.656+31 SHEET 17

MATCHLINE -Y4RPB- STA.19+00 SHEET 28

MATCHLINE -Y4- STA.102+90 SHEET 28

MATCHLINE -Y5- STA.18+50 SHEET 28

DETAIL #25
STANDARD BASE DITCH
(NOT to Scale)

DETAIL #27
TOE PROTECTION
(Not to Scale)

DETAIL #6
TOE PROTECTION
(Not to Scale)

DETAIL #19
LATERAL DITCH
(Not to Scale)

DETAIL #20
SPECIAL LATERAL 'Y' DITCH
(Not to Scale)

Type of Liner Class 'B' Rip-Rap

Type of Liner Class 'I' Rip-Rap

Y4LPA
PI Sta 11+41.20	PI Sta 13+63.56	PI Sta 22+81.70
Gs = 22° 57' 43.4"	Δ = 89° 59' 16" (RT)	Gs = 22° 57' 43.4"
Ls = 210.00'	D = 21° 52' 01.0"	Ls = 210.00'
LT = 141.20'	L = 1,200.62'	LT = 141.20'
ST = 71.09'	T = 743.56'	ST = 71.09'
	R = 262.00'	
	SE = .08	

Y4LPB
PI Sta 11+40.15	PI Sta 17+82.33	PI Sta 23+29.14
Gs = 23° 12' 48.7"	Δ = 23° 11' 41.4" (LT)	Gs = 22° 57' 43.4"
Ls = 210.00'	D = 21° 52' 01.0"	Ls = 210.00'
LT = 141.15'	L = 1,048.05'	LT = 141.20'
ST = 72.25'	T = 572.33'	ST = 71.09'
	R = 262.00'	
	SE = .08	

Y4LPD
PI Sta 11+41.20	PI Sta 17+62.12	PI Sta 23+36.36
Gs = 22° 57' 43.4"	Δ = 23° 46' 30.2" (LT)	Gs = 22° 57' 43.4"
Ls = 210.00'	D = 21° 52' 01.0"	Ls = 210.00'
LT = 141.20'	L = 1,065.32'	LT = 141.20'
ST = 71.09'	T = 542.25'	ST = 71.09'
	R = 262.00'	
	SE = .08	

Y4RPA
PI Sta 11+33.35	PI Sta 28+67.56	PI Sta 40+08.43
Gs = 2° 59' 59.2"	Δ = 82° 14' 46.5" (LT)	Gs = 2° 59' 59.2"
Ls = 200.00'	D = 2° 59' 59.2"	Ls = 200.00'
LT = 133.35'	L = 2,740.41'	LT = 133.35'
ST = 66.68'	T = 1,667.56'	ST = 66.68'
	R = 1,910.00'	
	SE = .06	

Y4RPB
PI Sta 15+47.32	PI Sta 23+89.01	PI Sta 31+20.86
Gs = 4° 29' 31.6"	Δ = 52° 56' 04.3" (RT)	Gs = 4° 29' 31.6"
Ls = 240.00'	D = 4° 44' 40.4"	Ls = 240.00'
LT = 160.05'	L = 1,413.54'	LT = 160.05'
ST = 80.05'	T = 762.74'	ST = 80.05'
	R = 1,530.00'	
	SE = .08	

Y4RPC
PI Sta 11+60.08	PI Sta 23+02.72	PI Sta 30+59.60
Gs = 3° 43' 46.5"	Δ = 83° 13' 22.8" (LT)	Gs = 3° 43' 46.5"
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'
LT = 160.08'	L = 1,339.53'	LT = 160.08'
ST = 80.08'	T = 1,050.72'	ST = 80.08'
	R = 1,200.00'	
	SE = .06	

Y4RPD
PI Sta 11+45.29	PI Sta 22+29.62	PI Sta 26+83.62
Gs = 3° 43' 46.5"	Δ = 87° 09' 45.4" (RT)	Gs = 3° 43' 46.5"
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'
LT = 160.08'	L = 1,778.34'	LT = 160.08'
ST = 80.08'	T = 1,003.64'	ST = 80.08'
	R = 1,200.00'	
	SE = .06	

Y4RPBD
PI Sta 33+05.42	PI Sta 61+52.40	PI Sta 64+51.91
Gs = 3° 10' 10.4"	Δ = 128° 39' 24.8" (LT)	Gs = 3° 10' 10.4"
Ls = 240.00'	D = 2° 08' 38.9"	Ls = 240.00'
LT = 160.07'	L = 2,986.50'	LT = 160.07'
ST = 80.06'	T = 2,767.05'	ST = 80.06'
	R = 1,330.00'	
	SE = .06	

Y4CD
PI Sta 45+09.60	
Δ = 6° 04' 22.2" (RT)	
D = 1° 20' 49.8"	
L = 170.69'	
T = 85.48'	
R = 4,257.00'	
SE = NC	

Y5
PI Sta 26+96.77	PI Sta 63+75.85
Δ = 5° 18' 04.7" (LT)	Δ = 11° 06' 38.7" (RT)
D = 0° 28' 38.9"	D = 0° 57' 32.7"
L = 140.34'	L = 3,810.25'
T = 70.21'	T = 1,596.01'
R = 12,000.00'	R = 6,000.00'
SE = NC	SE = NC

TRAFFIC DIAGRAM

2010 ADT	47,720		
2030 ADT	61,160		
DHV = 10%			
DIR = 60%	32,600		5,360
TTST = 12%	43,800		7,280
DUAL = 6%			
	53,560		24,660
	79,980		36,980
-L- BELTLINE	6,600		4,940
	11,800		5,420
DHV = 10%			
DIR = 60%			
TTST = 6%	21,300		
DUAL = 5%	27,300		

-Y4- (US 421/I-40 BUS.)

PAVED SHOULDER

PAVEMENT TO BE OBLITERATED

NOTE:
- FOR -L- PROFILE, SEE SHEET 38 - 40
- FOR -Y4EB- PROFILE, SEE SHEET 52
- FOR -Y4WB- PROFILE, SEE SHEET 57
- FOR -Y4CD- PROFILE, SEE SHEET 61-63
- FOR -Y4LPA- PROFILE, SEE SHEET 66
- FOR -Y4LPB- PROFILE, SEE SHEET 67
- FOR -Y4LPD- PROFILE, SEE SHEET 68
- FOR -Y4RPA- PROFILE, SEE SHEET 69-70
- FOR -Y4RPB- PROFILE, SEE SHEET 71
- FOR -Y4RPBD- PROFILE, SEE SHEET 73 - 75
- FOR -Y4RPC- PROFILE, SEE SHEET 78
- FOR -Y4RPD- PROFILE, SEE SHEET 80-81
- FOR -Y5- PROFILE, SEE SHEET 82

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REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Y4RPD

PIs Sta 17+45.29
Θs = 5° 43' 46.5"
Ls = 240.00'
LT = 160.08'
ST = 80.08'

PI Sta 22+28.62
Δ = 37° 09' 46.4" (RT)
D = 4° 46' 28.7"
L = 778.34'
T = 403.41'
R = 1,200.00'
SE = 08

PIs Sta 26+83.62
Θs = 5° 43' 46.5"
Ls = 240.00'
LT = 160.08'
ST = 80.08'

Y4RPC

PIs Sta 11+60.08
Θs = 5° 43' 46.5"
Ls = 240.00'
LT = 160.08'
ST = 80.08'

PI Sta 23+02.72
Δ = 83° 03' 22.8" (LT)
D = 4° 46' 28.7"
L = 1,739.53'
T = 1,062.72'
R = 1,200.00'
SE = 08

PIs Sta 30+59.60
Θs = 5° 43' 46.5"
Ls = 240.00'
LT = 160.08'
ST = 80.08'

L

PIs Sta 661+50.31
Θs = 1° 52' 13.3"
Ls = 300.00'
LT = 200.01'
ST = 100.01'

PI Sta 633+75.85
Δ = 11° 06' 38.0" (RT)
D = 0° 20' 57.7"
L = 3,180.22'
T = 1,595.11'
R = 16,400.00'
SE = NC

PIs Sta 677+38.67
Θs = 1° 52' 13.3"
Ls = 300.00'
LT = 200.01'
ST = 100.01'

PI Sta 669+49.81
Δ = 17° 18' 41.9" (RT)
D = 1° 14' 48.9"
L = 1,388.36'
T = 699.51'
R = 4,595.00'
SE = 05

Y4CD

PIs Sta 65+57.81
Θs = 1° 42' 08.4"
Ls = 280.00'
LT = 186.68'
ST = 93.34'

PI Sta 75+48.93
Δ = 21° 34' 30.0" (RT)
D = 1° 12' 57.4"
L = 1,774.33'
T = 897.80'
R = 4,712.00'
SE = 04

PIs Sta 85+18.80
Θs = 1° 42' 08.4"
Ls = 280.00'
LT = 186.68'
ST = 93.34'

DETAIL #4
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 2H, D, 2H, b, 1'/Ft., Fill Slope
Min. D= 2 Ft.
b= 5 Ft.
FROM STA 18+25 TO 19+25 –Y4RPD– LT

DETAIL #6
TOE PROTECTION
(Not to Scale)
Natural Ground, d, 2.0H FLATTER, Fill Slope, Filter Fabric
d= 2 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA 659+00 TO 661+00 –L– RT

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)
Natural Ground, d, Filter Fabric, D, 2H, B, 1'/Ft., b, Fill Slope
•When B Is < 6.0'
Min. D= 2 Ft.
Max. d= 2 Ft.
B= 2 Ft.
b= 5 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA 657+60 TO 663+80 –L– LT

DETAIL #2
LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 2H, d, Filter Fabric, D, 2H, B, 1'/Ft., b, Fill Slope
•When B Is < 6.0'
Min. D= 2 Ft.
Max. d= 2 Ft.
B= 3 Ft.
b= 5 Ft.
Type of Liner= Class 'I' Rip-Rap
FROM STA 663+80 TO 666+70 –L– LT

–Y4RPD– TS Sta. 15+85.20
–Y4CD– SC Sta. 66+51.14
–Y4RPD– POT Sta. 10+00.00
–Y4CD– POC Sta. 70+00.00 (12' LT)
–Y4RPD– SC Sta. 18+25.20
–Y4CD– TS Sta. 63+71.14
–Y4RPD– STA.13+97.64
BEGIN –Y4RPD– PAVEMENT
END –Y4CD– PAVEMENT
–Y4RPC– SC Sta. 12+40.00
–Y4RPC– TS Sta. 10+00.00
–L– POT STA.659+03.90 (59' RT)
–L– TS Sta. 659+50.30
–L– SC Sta. 662+50.30
–L– STA 64+73.00 OFFSET 82' LT
BEGIN SPECIAL MEDIAN GRADING
OFFSET 82' LT
END SPECIAL MEDIAN GRADING
BEG. NOISE WALL –NWCD2–
END W.W.FENCE
PROP. NOISE WALL –NWCD2–
PROPOSED OVERHEAD SIGN SUPPORT LOCATION
–BL–58
–BL–57
–BL–56
BEGIN SHOULDER BERM GUTTER STA 666+25 –L– RT

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP EST. 417 TONS W/957 SY FF SEE DETAIL#12
LATERAL 3' BASE DITCH W/CLASS 'I' RIP RAP EST. 209 TONS W/544 SY FF SEE DETAIL #21
CLASS 'B' RIP RAP EST 3 TONS EST 10 SY FF
CLASS 'B' RIP RAP EST 8 TONS EST 21 SY FF
CLASS 'I' RIP RAP
LATERAL V-DITCH SEE DETAIL#4
JB wMH
SPRING BOX
20' TRANSITION
PAVE TO FACE OF GUARDRAIL
2GI W/FLAT GRATE
ATTENUATOR TYPE 350
3@12'x10' RCBC
30" RCP-III
24" RCP-III
18" RCP-III
15" RCP-III
8" DIP
4' P.S.
12' P.S.
GRAU-350
2GI
2GI-A
FS
SCRUB
SCRUB OAK
HW
SILL
TIDE
CHORD
EIP
PUE

BOBBY F. GORDON
BETSY GORDON
(165)
DB 2356 PG 43
GROUP GGK, LLC
FORSYTH COUNTY
CITY OF WINSTON-SALEM
DB 2356 PG 1598
(208)
GLENN D. HART
(166)
REX L. PEDDYCORD
FAYE G. PEDDYCORD
DB 1477 PG 1552
(167)
KENNETH ANDREW HOLDER
(207)
CHARLES SPENCER LADD JR. & WIFE
REBECCA WHITLEY LADD
DB 2143 PG 1780
DB 1634 PG 2325
DB 1489 PG 797
DB 2112 PG 1746
DB 1538 PG 142
DB 1477 PG 1552

N 21°53' 49.7" E
S 12° 57' 10.0" W
N 08°25'12" E
N 08°34'58" E
S 07°40'11" W
N 09°32'12" E
S 07°46'29" W
N 80°54'40" W
S 06°28'08" W
S 07°10' W
S 08°18'17" W

MATCHLINE –L– STA.656+51 SHEET 16
MATCHLINE –L– STA.668+17 SHEET 18

PAVED SHOULDER

NOTE :
FOR –L– PROFILE, SEE SHEET 40,41
FOR –Y4CD– PROFILE, SEE SHEET 63-64
FOR –Y4RPC– PROFILE, SEE SHEET 78
FOR –Y4RPD– PROFILE, SEE SHEET 80

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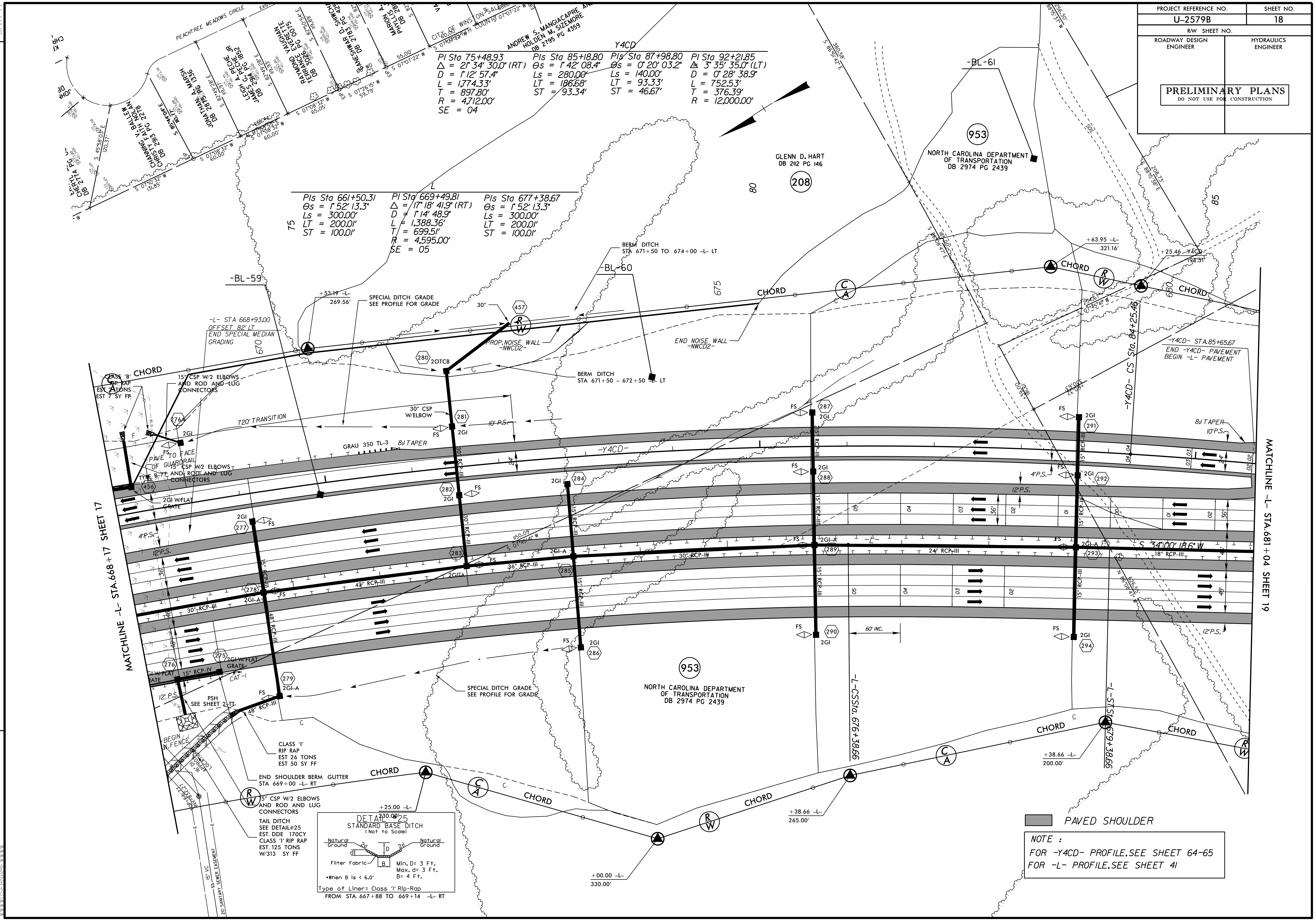
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS 8/17/99

MATCHLINE –L– STA.681+04 SHEET 18

-Y4CD-

PI Sta 75+48.93
Δ = 21° 34' 30.0" (RT)
D = 1° 12' 57.4"
L = 1,774.33'
T = 897.80'
R = 4,712.00'

PIs Sta 85+18.80
Θs = 1° 42' 08.4"
Ls = 280.00'
LT = 186.68'
ST = 93.34'

PIs Sta 87+98.80
Θs = 0° 20' 03.2"
Ls = 140.00'
LT = 93.33'
ST = 46.67'

PI Sta 92+21.85
Δ = 30° 35' 35.0" (LT)
D = 0° 28' 38.9"
L = 752.53'
T = 376.39'
R = 12,000.00'
SE = NC

RANDY NELSON WEAVIL & WIFE
MARCIA S. WEAVIL
DB 1709 PG 1194

-BL-62

DB 2673 PG 1185
RANDY NELSON WEAVIL & WIFE
MARCIA S WEAVIL

PATTY WEAVIL MABE
GLENDA JUNE COCKERHAM
DB 2673 PG 1187

JONAH RAY MOTSINGER JR
KATHRYN GRAY MOTSINGER
DB 3096 PG 1416
PB 9 PG 98

WANDA L. BOOTH
DB 1006 PG 551

DB 1029 PG 918
CHARLES JERRY HART

CHARLES JERRY HART

DB 954 PG 8

BOBBY LEE MOORE
DB 1250 PG 44

CHARLES JERRY HART
SANDRA B. HART
DB 0954 PG 0008

DB 1257 PG 1282
DB 1211PG 125
DB 937 PG 28

FRANCIS L. MANUEL
BILLIE MANUEL

-Y4CD- SRS Sta. 87+05.46
-Y4CD- SC Sta. 88+45.46
-Y4CD- PT Sta. 95+97.99
-L- TS Sta. 693+52.98

+45.46 -Y4CD- 141.00'
+50.00 -Y4CD- 141.00'
+33.00 -L- 500.00'
+33.00 -L- 200.00'
+30.00 -L- 500.00'
+15.00 -L- 245.00'
+25.00 -L- 200.00'
ON PL -L- 200.00'
END WW FENCE +52.98 -L- 200.00'

PROPOSED OVERHEAD SIGN SUPPORT LOCATION

SPECIAL DITCH GRADE SEE PROFILE FOR GRADE

DE-WATER USE FOR ON-SITE MITIGATION

42" CSP W/ELBOW

CLASS 'B' RIP RAP EST 2 TONS EST 7 SY FF

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

BEGIN SHOULDER BERM GUTTER STA 687+90 -L- LT

END SHOULDER BERM GUTTER STA 690+50 -L- LT

BEGIN SHOULDER BERM GUTTER STA 686+50 -L- RT

END SHOULDER BERM GUTTER STA 692+33 -L- RT

18" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP EST 2 TONS EST 8 SY FF

PSH SEE SHEET 2-TT

ROCK FILL IN POND SEE DETAIL #31

CLASS 'I' RIP RAP EST 51 TONS EST 108 SY FF

REVISE FILL SLOPE 2.75:1 STA 688+00 -L- RT

DETAIL #31
ROCK FILL IN POND
(Not to Scale)
Proposed
NG
Earth Fill
Rock Fill To Berm
2.5:1
10.0'
Elev.= 850.0
N.W.S. Elev.= 845.7
STA. 687+90 TO 688+98 -L- RT

END TIP PROJECT U-2579B
BEGIN TIP PROJECT U-2579AB
-L- POT STA. 692+32.98

PAVED SHOULDER

NOTE :
FOR -L- PROFILE, SEE SHEET 41-42
FOR -Y4CD- PROFILE, SEE SHEET 65

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

-DRI-
PI Sta 10+14.44
Δ = 10° 59' 53.6" (LT)
D = 38° 11' 49.9"
L = 28.79'
T = 14.44'
R = 150.00'

PI Sta 16+19.17
Δ = 3° 08' 19.0" (RT)
D = 0° 42' 58.3"
L = 438.23'
T = 219.17'
R = 8000.00'
SE = 0.08
RO = 5.50

PI Sta 20+57.40
Δ = 3° 08' 19.0" (LT)
D = 0° 42' 58.3"
L = 438.23'
T = 219.17'
R = 8000.00'
SE = 0.08
RO = 5.50

PI Sta 12+30.02
Δ = 25° 54' 27.3" (LT)
D = 5° 43' 46.5"
L = 452.17'
T = 230.02'
R = 1000.00'

PI Sta 16+82.19
Δ = 25° 54' 27.3" (RT)
D = 5° 43' 46.5"
L = 452.17'
T = 230.02'
R = 1000.00'

BEGIN CONSTRUCTION
-Y1-POTSta. 10+00.00

-Y1DET- PC Sta. 10+00.00
-Y1- POT Sta. 11+88.83

-Y1PCSta. 14+00.00
-Y1- POT Sta. 14+44.98
-DR3- POT Sta. 11+72.16

-Y1DET- PRC Sta. 14+52.17

-Y1PRCSta. 18+38.23
-Y1- POC Sta. 18+88.07
-DR2- POT Sta. 11+90.74

-Y1-PT
Sta. 22+76.47

-Y1- POC Sta. 22+31.99
-Y7- POT Sta. 13+93.72
END CONSTRUCTION

-Y1DET- PT Sta. 19+04.35

-Y1DET-

END PAVEMENT MARKING FOR RAISED MEDIAN
-Y1- STA. 21+71.59

BEGIN SHOULDER BERM GUTTER STA 18+50 -Y1- LT

BEGIN W.W.FENCE
BEG. C/A
+70.00 -Y1-
53.93'

BEGIN MEDIAN PAVEMENT MARKINGS
-Y1- STA. 14+32.71

-DR1- POT Sta. 11+02.70
-Y7- POT Sta. 12+30.52
N 49° 22' 56.9" E

-Y1- POT Sta. 10+00.00
BEGIN CONSTRUCTION

-DR3- POT Sta. 10+00.00
-DR2- POT Sta. 10+00.00

S 39° 49' 20.3" W
S 79° 36' 04.1" E
S 69° 30' 22.1" W
S 39° 49' 20.3" W
S 46° 58' 57.7" E

MATCHLINE -Y1- STA. 23+65 SHEET 5

SONNY BOUTDAVONG
DB 3083 PG 3647
PB 59 PG 82

MADE JURNEY HOMES, INC
DB 3076 PG 82
PB 59 PG 82

MADE JURNEY HOMES, INC
DB 3076 PG 82
PB 59 PG 82

MADE JURNEY HOMES, INC
DB 3076 PG 82
PB 59 PG 82

MADE JURNEY HOMES, INC
DB 3076 PG 82
PB 59 PG 82

ROBINS WALK SUBDIVISION HOMEOWNERS ASSOCIATION INC.

VAN MAULDIN & KERI MAULDIN

ROBERT REYNOLDS
DB 2787 PG 3744
PB 52 PG 98

ROBERT DWYERS & ADRIANNE STYERS
DB 2921 PG 2783
PB 52 PG 280
DB 2787 PG 3756
PB 52 PG 98

WILLIAM REYNOLDS & JAMIE REYNOLDS
DB 2787 PG 3764
PB 52 PG 98

DB 2899 PG 1798
KRYSTAL R. WOOD

DB 3911PG 1557
JAMES R. MYERS, III
MARY MYERS

JAMES R. MYERS III &
MARY B. MYERS
DB 1585 PG 1013
PB 27 PG 138
PB 31PG 167

WAYNE E. PHILLIPS, JR.
MARY ANN PHILLIPS
DB 1953 PG 2287
PB 31PG 167

JAMES N. WHICKER
FRANCES B. WHICKER
DB 2075 PG 1235

REBECCA ANN FREEMAN

DB 2075 PG 1238
SPECIAL 2' CUT BASE DITCH
SEE DETAIL#19

DB 2261PG 3390

DB 2390 PG 480

DB 2487 PG 3598
PB 33 PG 197

TERRY K. CUSTER
JACQUELINE CUSTER

MARSHALL S. BROWN

RAMOND F. HARDY
MEARILEASE HARDY, TRUSTEES

KEITH E. STRAUSS
REBECCA C. STRAUSS

DB 2487 PG 3598
PB 33 PG 197
TERRY K. CUSTER
JACQUELINE CUSTER

DB 2261PG 3390
PB 27 PG 138

TOWN OF WALKERTOWN
FORSYTH COUNTY

CLASS 'B' RIP RAP
EST 3 TONS
EST 11 SY FF

CLASS 'B' RIPRAP
EST. 3 TONS

HEAD DITCH
SEE DETAIL#18
EST. DDE=24CY

NARROW SLOT GRATES

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

15" RCP-IV

NARROW SLOT W/FLAT GRATE

2@7'x6' RCBC

CLASS 'B' RIP RAP
EST 11 TONS
EST 28 SY FF

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP
EST. 165 TONS
W/432 SY FF
SEE DETAIL#12

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP
EST. 151 TONS
W/397 SY FF
SEE DETAIL#3

LATERAL 2' BASE DITCH W/CLASS 'B' RIP RAP
EST. 114 TONS
W/300 SY FF
SEE DETAIL#12

TOE PROTECTION
SEE DETAIL#6

PAVE TO FACE OF GUARDRAIL

PSH
SEE SHEET 2-TT

550' TRANSITION LT OUTSIDE LANE

400' TRANSITION RT OUTSIDE LANE

675' MEDIAN TRANSITION RT.SIDE

67.5' MEDIAN TRANSITION LT.SIDE

100' TAPER

8:1 TAPER

REMOVE

PAVED SHOULDER

NOTE:
FOR -Y1- PROFILE, SEE SHEET 43
FOR -Y7- PROFILE, SEE SHEET 92
FOR -DRI- PROFILE, SEE SHEET 93
FOR -DR2- PROFILE, SEE SHEET 93
FOR -DR3- PROFILE, SEE SHEET 93

DETAIL #18
STANDARD BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
B= 2 Ft.
FROM STA. 11+31 TO 11+51 -Y1- RT

DETAIL #19
SPECIAL CUT BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
B= 2 Ft.
FROM STA 17+00 TO 19+00 -Y1- RT

DETAIL #6
TOE PROTECTION
(Not to Scale)
d= 2 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA 23+00 TO 26+00 -Y1- LT

DETAIL #12
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
Max. d= 2 Ft.
B= 2 Ft.
b= 5 Ft.
*When B Is < 6.0'
Type of Liner= Class 'B' Rip-Rap
FROM STA 19+35 TO 21+80 -Y1- RT
FROM STA 22+90 TO 24+60 -Y1- RT

DETAIL #3
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
B= 2 Ft.
b= 5 Ft.
FROM STA 10+65 TO 12+90 -Y7- LT

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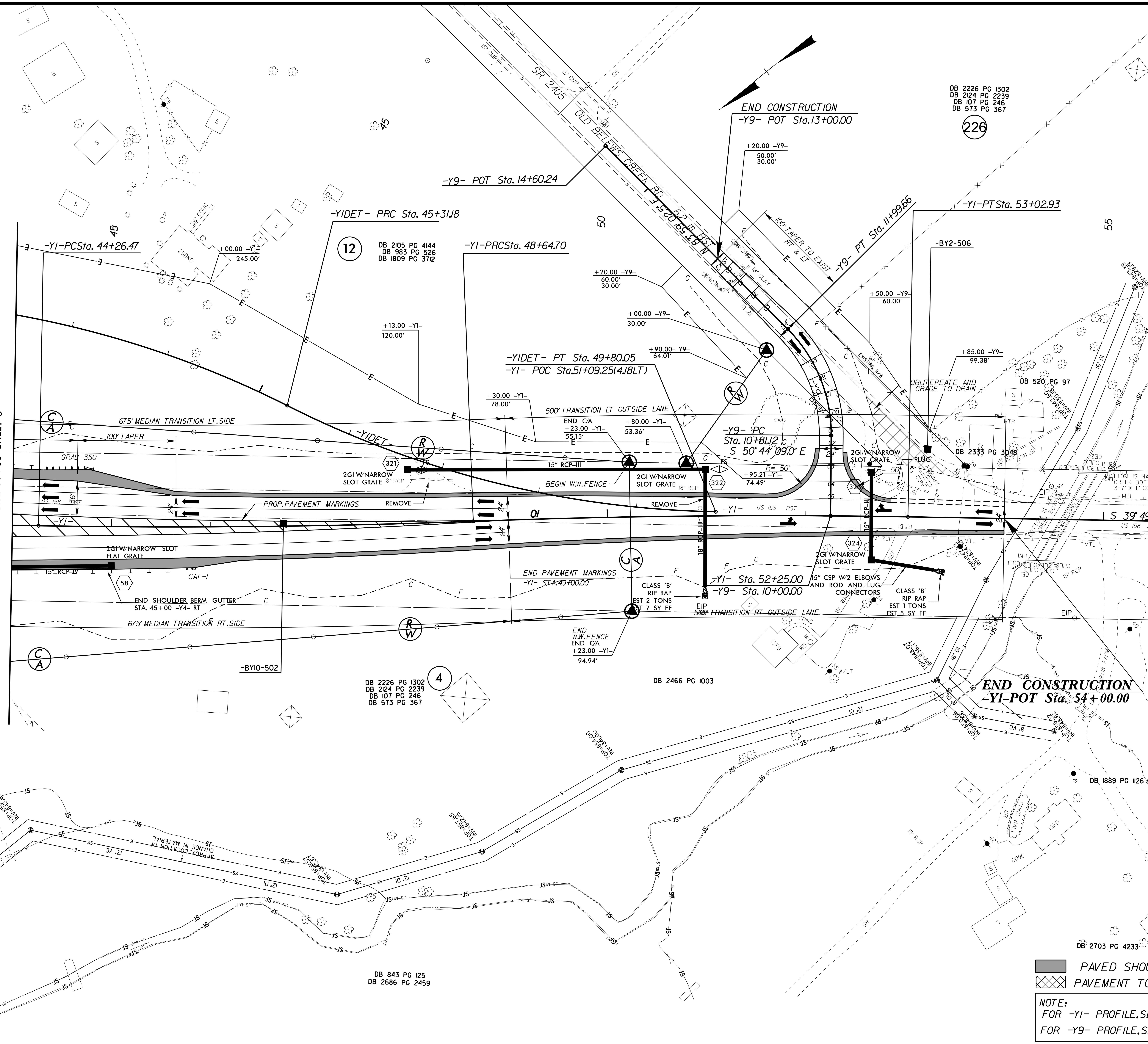
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99



-Y1-

PI Sta 50+83.87	PI Sta 46+45.64
Δ = 3° 08' 19.0" (RT)	Δ = 3° 08' 19.0" (LT)
D = 0° 42' 58.3"	D = 0° 42' 58.3"
L = 438.23'	L = 438.23'
T = 219.17'	T = 219.17'
R = 8,000.00'	R = 8,000.00'
SE = NC	SE = NC
RO = 0	RO = 0

-YIDET-

PI Sta 43+10.02
Δ = 25° 47' 14.0" (RT)
D = 5° 43' 46.5"
L = 450.07'
T = 228.91'
R = 1,000.00'

-YIDET-

PI Sta 47+59.46
Δ = 25° 43' 04.9" (LT)
D = 5° 43' 46.5"
L = 448.86'
T = 228.28'
R = 1,000.00'

-Y9-

PI Sta 11+43.68
Δ = 45° 16' 48.5" (LT)
D = 38° 11' 49.9"
L = 118.54'
T = 62.56'
R = 150.00'

NOTE:
FOR -Y1- PROFILE, SEE SHEET 44
FOR -Y9- PROFILE, SEE SHEET 92

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

BEGIN CONSTRUCTION
-Y2-POTSta. 10+00.00

-Y2-
PI Sta 14+90.64
△ = 44° 24' 52.1" (RT)
D = 7° 33' 31.7"
L = 587.59'
T = 309.45'
R = 758.00'
SE = .08
RO = SEE PLANS

-Y2-PCSta. 11+81.19

MATCHLINE - Y2 - STA. 15+61 SHEET 7

-BY4-512
-BY3-507
-BY3-508

ROBERT WAYNE BIBY
LOUISE BEESON BIBY
DB 1302 PG 145 (20)

ROBERT W. BIBY
MARGARET B. BIBY
DB 1117 PG 543
DB 1039 PG 1668 (19)

ROBERT W. BIBY
DB 1588 PG 1492

GOSPEL LIGHT BAPTIST CHURCH
DB 1939 PG 3471
DB 1939 PG 3472

JEFFREY KYLE JOHNSON
STEPHANIE L. JOHNSON
DB 1912 PG 25
PB 25 PG 257

GOSPEL LIGHT BAPTIST CHURCH
DB 1244 PG 471
DB 1342 PG 115
DB 1560 PG 1136
DB 1684 PG 2508
DB 1684 PG 3098
DB 1872 PG 3238
DB 1948 PG 287
DB 1948 PG 290
DB 2044 PG 3201

ROBERT E. ROBERSON &
JACQUELYN W. ROBERSON
DB 2731 PG 1048

17

PAVED SHOULDER

NOTE :
FOR -Y2- PROFILE, SEE SHEET 49

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y2-
PI Sta 27+32.39
△ = 27° 06' 16.2" (LT)
D = 7° 33' 31.7"
L = 358.58'
T = 182.71'
R = 758.00'
SE = .08
RO = SEE PLANS

8/17/99

REVISIONS

MATCHLINE -Y2- STA. 24+81 SHEET 7

-Y2-PCSta. 25+49.68

-BY3-509

-BY3B-511

DB 3068 PG 1900 (28)
SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE

DB 3052 PG 3573
PB 27 PG 30

DB 2598 PG 3575
DB 2632 PG 3923
DB 2632 PG 3938
DB 2632 PG 3941

DB 2862 PG 388

DB 1030 PG 552

DB 1741 PG 1708

DB 1850 PG 990

DB 656 PG 27

DB 2731 PG 1582

FORSYTH COUNTY
TOWN OF WALKERTOWN

SR 2385 WALKERTOWN / GUTHRIE RD

S 22° 14' 44.8" W

-Y2-PTSta. 29+08.26

-Y2- POT STA. 29+75.00
END CONSTRUCTION

-Y2-POTSta. 30+30.91

PAVED SHOULDER

NOTE :
FOR -Y2- PROFILE, SEE SHEET 49

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS
8/17/99

MATCHLINE -Y4- STA. 30+50 SHEET 25

20 | 25 | 30

ARNOLD G. KING
HELEN H. PRINCE
DB 2250 PG 829

ARNOLD G. KING
HELEN H. PRINCE
DB 2250 PG 829
119

ROSS D. WALL
PATRICIA O. WALL
DB 2188 PG 355

TOWN OF KERNERSVILLE
FORSYTH COUNTY

TOWN OF KERNERSVILLE
DB 2065 PG 1771
215

ROSS D. WALL
PATRICIA O. WALL
DB 2188 PG 355

THOMAS W. PRINCE
ARNOLD G. KING
DB 2056 PG 1319

BEGIN W.W. FENCE
+47.29 -Y4EB-
99.18'
123.00'

177.98'
S 77°50'20" W

175.32' COR TO EIP
174.59' COR TO R/W

S 05°54'43" E
225.22'
52.52'

S 05°23'20" W
246.32' COR TO R/W
246.62' COR TO EIP

S 55°27'20" W

N 80°27'50" E 410.54'
5.0' NEGATIVE ACCESS EASEMENT

N 42°27'50" E
5.73'

S 57°47'59" E
272.26'

-Y4EB-
-Y4-
-Y4WB-

I-40 BUS EBL US 421 SBL 26' BST
I-40 BUS EBL US 421 SBL 24' BST
I-40 BUS WBL US 421 NBL 26' BST
I-40 BUS WBL US 421 NBL 24' BST
N 85° 33' 45.8" W
4' BST
8' BST
10' BST

300.00'
268.00'

300' TAPER
50:1 TRANSITION
PROP. MEDIAN GUARDRAIL
TIE TO EXISTING
10' P.S.
4' P.S.
Conv. OTCB To 2GI
RETAIN
RETAIN AND EXTEND
REMOVE
18" RCP-III
15" RCP
COLLAR
FS
2GI
20' INC.
24"
30"

-Y4EB-POT Sta. 26+80.00
-Y4WB-POT Sta. 26+80.00
BEGIN CONSTRUCTION

EXISTING R/W
EXISTING FORSYTH COUNTY
TOWN OF KERNERSVILLE
60' CHL
EIP
CUL 2 HW2
CUL 3 CE2
CUL 4 HW2
FREE MATRAL ROCK BOTTOM
CABLE BARRIER SYS. (MEDIAN)
SF
W/L

PAVED SHOULDER

NOTE :
1. FOR - Y4EB - PROFILE SEE SHEET 50
2. FOR - Y4WB - PROFILE SEE SHEET 55

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS 8/17/99

MATCHLINE -Y4 STA. 30+50 SHEET 24

MATCHLINE -Y4- STA. 43+65 SHEET 26

-BY16-

-Y4EB-

-Y4WB-

-Y4-

-L-

119
ARNOLD G. KING
HELEN H. PRINCE
DB 2056 PG 829

120
HAROLD DAVID HOPKINS
DB 3113 PG 1518

TOWN OF KERNERSVILLE

FORSYTH COUNTY

RIP RAP
EST 20 TONS
EST 39 SY FF
+00.00
138.00'
123.00'

+35.00
138.00'
123.00'

TAIL DITCH
SEE DETAIL#9
EST. DDE 17CY

+59.80 -Y4EB-
123.00'

TDE

HEAD DITCH
SEE DETAIL#9
EST. DDE 40CY

+05.00
128.00'
105.06'

+52.98 -Y4WB-
107.39'

32+35.00
128.00'

DITCH BLOCK
MIN. HEIGHT 1.0'

15" CSP W/2 ELBOWS
AND ROD AND LUG
CONNECTORS

CLASS 'B'
RIP RAP
EST 1 TONS
EST 5 SY FF

CLASS 'B'
RIP RAP
EST 2 TONS
EST 7 SY FF

TOE PROTECTION W/
CLASS "I" RIPRAP
EST 380 TONS
EST 779 SY FF
SEE DETAIL#27

BEGIN SHOULDER BERM GUTTER
STA 41+00 -Y4- LT

PSH
SEE SHEET 2-11

300' TAPER

1300' FULL LANE

10' P.S.

4' P.S.

24" RCP-III

42" RCP-III

15" RCP-III

36" RCP-III

36" WELDED STEEL

TRENCHLESS INSTALLATION

REMOVE FES

RETAIN

RETAIN AND EXTEND

COLLAR

Conv. OTCB To 2GI

2GI

2GI W/FLAT GRATE

JB w/MH

FS

CAT-1

REMOVE -GRAU-350

FILL W/FLOWABLE MATERIAL

GRAU-350

18" RCP-III

18" CMP

I-40 BUS EBL US 421 SBL 26' BST

I-40 BUS WBL US 421 NBL 26' BST

N 85° 33' 45.8" W

N 85°33'45.8" W

EXISTING R/W

R/W MON

EIP

PIPE

PIN

PK NAIL

CMP

CHL

20' SANITARY SEWER EASEMENT

20' STORM SEWER EASEMENT PB 34 PG 134

60' CHL

N 80°27'50" E
514.38'
5.0' PERPETUAL ACCESS EASEMENT

N 54°09'30" E
13.24'

S 28°37'18" E
58.15'

S 28°37'18" E
182.40'

N 80°11'53" E
123.28'

N 54°09'30" E
107.15'

S 87°42'08" E
28.88'

N 80°56'56" E
86.25'

N 51°17'06" E
185.31'

S 54°18'28" W
99.95'

S 54°18'28" W
58.83'

S 32°45'28" W
124.90'

N 27°18'10" W
60.70'

N 27°18'10" W
136.88'

N 39°53'11" E
280.82'

N 27°18'10" W
125.59'

S 15°41'26" W
141.46'

S 81°01'46" W
152.70'

N 47°38'24" E
102.92'

N 15°58'38" W
108.10'

N 29°38'57" W
127.85'

N 14°16'50" W
144.55'

N 49°44'20" W
101.01'

N 41°00'34" W
101.01'

N 54°09'30" E
514.38'

N 80°27'50" E

S 87°42'08" E
28.88'

N 54°09'30" E
107.15'

S 28°37'18" E
182.40'

N 80°11'53" E
123.28'

N 80°56'56" E
86.25'

N 51°17'06" E
185.31'

S 54°18'28" W
99.95'

S 54°18'28" W
58.83'

S 32°45'28" W
124.90'

N 27°18'10" W
60.70'

N 27°18'10" W
136.88'

N 39°53'11" E
280.82'

N 27°18'10" W
125.59'

S 15°41'26" W
141.46'

S 81°01'46" W
152.70'

N 47°38'24" E
102.92'

N 15°58'38" W
108.10'

N 29°38'57" W
127.85'

N 14°16'50" W
144.55'

N 49°44'20" W
101.01'

N 41°00'34" W
101.01'

WHITE WALNUT, LLC
DB 3078 PG 0373

WHITE WALNUT, LLC
DB 3054 PG 1059

WHITE WALNUT, LLC
DB 3054 PG 1059

WHITE WALNUT, LLC
DB 2858 PG 0267
PB 42 PG 137

DENNIS H. PAYNE, JR.
DAWN A. PAYNE
DB 2797 PG 2978

DENNIS H. PAYNE, JR.
DAWN A. PAYNE
DB 2797 PG 2978

DON ALLEN HARRIS
LEXA LEIGH HARRIS
DB 3084 PG 4432

PAGE AND ASSOCIATES, INC.
DB 2704 PG 784

THEODORE R. MEAD
AMY J. MEAD
DB 1862 PG 3875
PB 34 PG 103

DAVID D. WEAVER
DB 2480 PG 28
PB 34 PG 103

TIMOTHY A. KUBIAK
SUSAN E. KUBIAK
DB 1813 PG 130
PB 34 PG 103

THOMAS W. PRINCE
ARNOLD G. KING
DB 2056 PG 1310

WHITE WALNUT, LLC
DB 2858 PG 0267
PB 42 PG 137

TWO DKL HTR

W/LT

2SBKD

POND
W.E. 8597
FISH HATCHERY

DETAIL #27
TOE PROTECTION
(Not to Scale)

2:1OR FLATTER
Fill Slope
d
d= 1Ft.
Type of Liner= Class 'I' Rip-Rap

FROM STA. 40+30 TO RCBC -Y4- RT

DETAIL #9
STANDARD BASE DITCH
(Not to Scale)

Natural Ground
2:1
D
2:1
Natural Ground
B
Min. D= 2 Ft.
B= 3 Ft.

FROM STA. 35+02 TO 35+27 -Y4- LT

PAVED SHOULDER

NOTE :
1.FOR - Y4EB - PROFILE SEE SHEET 50
2.FOR - Y4WB - PROFILE SEE SHEET 55

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mbrown

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

MATCHLINE –Y4– STA. 43+65 SHEET 25

MATCHLINE –Y4– STA.56+61 SHEET 27

DETAIL #16
EARTH BERM
(Not to Scale)

STA. 47+93 –Y4– LT

DETAIL #17
STANDARD BASE DITCH
(Not to Scale)

Type of Liner: Class 'I' Rip-Rap
FROM STA. 44+68 TO 47+53 –Y4– LT

DETAIL #3
LATERAL BASE DITCH
(Not to Scale)

FROM STA 53+85 TO 54+50 –Y4– LT

DETAIL #27
TOE PROTECTION
(Not to Scale)

Type of Liner: Class 'I' Rip-Rap
FROM STA. 40+30 TO RCBC –Y4– RT

DETAIL #6
TOE PROTECTION
(Not to Scale)

Type of Liner: Class 'B' Rip-Rap
FROM STA. 53+05 TO 53+85 –Y4– LT

PAVED SHOULDER

NOTE :
1. FOR –Y4EB– PROFILE SEE SHEET 50-51
2. FOR –Y4WB– PROFILE SEE SHEET 55-56

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Y4RPBO

Pts Sta 33+05.42	PI Sta 61+52.40	Pts Sta 64+15.91
θs = 5° 01' 10.4"	Δ = 128° 39' 24.8" (LT)	θs = 5° 01' 10.4"
Ls = 240.00'	D = 4° 18' 28.6"	Ls = 240.00'
LT = 160.07'	L = 2,985.50'	LT = 160.07'
ST = 80.06'	T = 2,167.05'	ST = 80.06'
	R = 1,330.00'	
	SE = 0.06	

Y4RPBO

Pts Sta 75+65.20	PI Sta 80+29.76	Pts Sta 84+71.19
θs = 2° 27' 32.6"	Δ = 19° 00' 00.0" (RT)	θs = 2° 27' 32.6"
Ls = 200.00'	D = 2° 27' 32.6"	Ls = 200.00'
LT = 133.35'	L = 717.66'	LT = 133.35'
ST = 66.68'	T = 361.91'	ST = 66.68'
	R = 2,330.00'	
	SE = 0.05	

Y4RPA

Pts Sta 11+33.35	PI Sta 28+67.56	Pts Sta 40+08.43
θs = 2° 59' 59.2"	Δ = 82° 14' 46.2" (LT)	θs = 2° 59' 59.2"
Ls = 200.00'	D = 2° 59' 59.2"	Ls = 200.00'
LT = 133.35'	L = 2,740.74'	LT = 133.35'
ST = 66.68'	T = 1,667.56'	ST = 66.68'
	R = 1,910.00'	
	SE = 0.06	

Y5DET

PI Sta 11+39.44
Δ = 14° 54' 48.5" (RT)
D = 5° 15' 23.4"
L = 277.37'
T = 139.44'
R = 1,090.00'

PAVED SHOULDER

PAVEMENT TO BE OBLITERATED

NOTE !
FOR -Y4EB- PROFILE, SEE SHEET 51-52
FOR -Y4NB- PROFILE, SEE SHEET 56-57
FOR -Y4RPA- PROFILE, SEE SHEET 70
FOR -Y4RPBO- PROFILE, SEE SHEET 75-77
FOR -Y4RPO- PROFILE, SEE SHEET 81
FOR -Y5- PROFILE, SEE SHEET 82

REVISIONS

8/17/99

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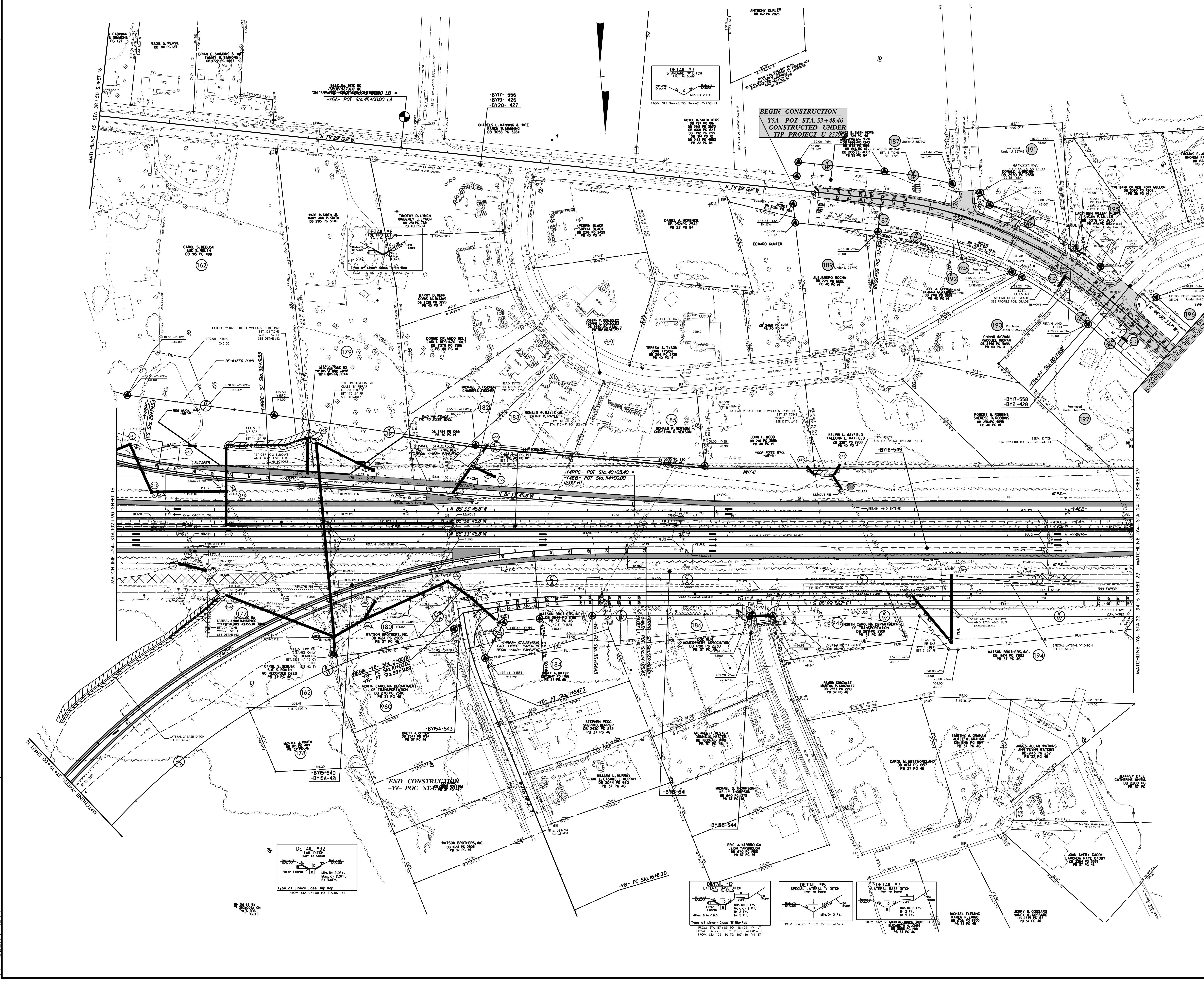
PROJECT REFERENCE NO.	SHEET NO.
U-2579B	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS



Y4RPC

PIs Sta 30+59.60	PI Sta 23+02.72	PIs Sta 11+60.08
θs = 5° 43' 46.5"	Δ = 83° 03' 22.8" (LT)	θs = 5° 43' 46.5"
Ls = 240.00'	D = 4° 46' 28.7"	Ls = 240.00'
LT = 160.08'	L = 1,739.53'	LT = 160.08'
ST = 80.08'	T = 1,062.72'	ST = 80.08'
	R = 1,200.00'	

Y4RPB

PIs Sta 15+47.32	PI Sta 23+89.01	PIs Sta 31+20.86
θs = 4° 29' 37.6"	Δ = 52° 56' 04.3" (RT)	θs = 4° 29' 37.6"
Ls = 240.00'	D = 3° 44' 41.4"	Ls = 240.00'
LT = 160.05'	L = 1,413.54'	LT = 160.05'
ST = 80.05'	T = 761.74'	ST = 80.05'
	R = 1,530.00'	

Y5A

PI Sta 58+16.25
Δ = 35° 22' 46.1" (RT)
D = 6° 30' 39.2"
L = 543.39'
T = 280.67'
R = 880.00'
SE = 0.06
RO = SEE PLANS

Y6

PI Sta 21+34.27	PI Sta 36+88.22
Δ = 48° 34' 21.9" (LT)	Δ = 10° 45' 54.0" (LT)
D = 10° 44' 58.8"	D = 4° 02' 05.7"
L = 451.85'	L = 266.80'
T = 240.51'	T = 133.79'
R = 533.00'	R = 1,420.00'
SE = 0.06	SE = 0.04
RO = SEE PLANS	RO = SEE PLANS

Y8

PI Sta 10+77.83	PI Sta 17+23.06
Δ = 15° 25' 04.1" (LT)	Δ = 4° 44' 11.6" (RT)
D = 9° 57' 52.1"	D = 5° 43' 46.5"
L = 154.73'	L = 82.67'
T = 77.83'	T = 41.36'
R = 575.00'	R = 1,000.00'

DUE — PERAMENT DRAINAGE/UTILITY EASEMENT TO BE PURCHASED UNDER TIP PROJECT U-2579G
PDE — PERAMENT DRAINAGE EASEMENT TO BE PURCHASED UNDER TIP PROJECT U-2579G
RIGHT OF WAY TO BE PURCHASED UNDER TIP PROJECT U-2579G
PARCELS IMPACTED UNDER TIP PROJECT U-2579G
DRAINAGE TO BE CONSTRUCTED UNDER TIP PROJECT U-2579G
TO BE CONSTRUCTED UNDER TIP PROJECT U-2579G (GRADING, PAVING, DRAINAGE, & STRUCTURE)
PAVED SHOULDER
PAVEMENT TO BE OBLITERATED

NOTE :
FOR -Y4EB- PROFILE, SEE SHEET 52-53
FOR -Y4WB- PROFILE, SEE SHEET 57-58
FOR -Y4RPB- PROFILE, SEE SHEET 71
FOR -Y4RPC- PROFILE, SEE SHEET 78-79
FOR -Y6- PROFILE, SEE SHEET 89-91
FOR TIP PROJECT U-2579G, SEE U-2579G PLAN SHEET 4

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

(CONSTRUCTED UNDER TIP PROJECT U-2579G)
MATCHLINE -Y5A- STA.62+50 SHEET 28

MATCHLINE -Y4- STA.124+70 SHEET 28

MATCHLINE -Y6- STA.23+94.15 SHEET 28

MATCHLINE -Y4- STA.137+32 SHEET 30

MATCHLINE -Y6- STA 18+30 SHEET 31

MATCHLINE -Y5A- STA 73+00 SHEET 31
(CONSTRUCTED UNDER TIP PROJECT U-2579G)

DETAIL #6
TOE PROTECTION
(Not to Scale)

Natural Ground — d — 2:1 FLATTER — Fill Slope — Filter Fabric

d= 2 Ft.

Type of Liner= Class 'B' Rip-Rap
FROM STA. 129+00 TO 130+00 -Y4- LT

Y6
PI Sta 21+34.27
Δ = 48° 34' 21.9" (LT)
D = 10° 44' 58.8"
L = 451.85'
T = 240.51'
R = 533.00'
SE = 0.06
RO = SEE PLANS

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 3009 PG 1962
PB 22 PG 84
PB 25 PG 114

196 Purchased Under U-2579G

199 Purchased Under U-2579G

197 J. MILLER
DB 2595 PG 1797
PB 22 PG 84

198 KEITH A. L. MORROW
RACHEL L. MORROW
DB 2935 PG 1763
PB 22 PG 84

200 Partial Purchase Under U-2579G
LARRY D. THOMPSON
JANET THOMPSON
DB 283 PG 1940

201 DENNIS W. CARTER
SUSAN CARTER
DB 1755 PG 2672
PB 22 PG 84

202 TIMOTHY A. MONTGOMERY
CINDY B. MONTGOMERY
DB 3035 PG 4335
PB 22 PG 84

JAMES O. SELLARS & WIFE
RUTH C. SELLARS
DB 2239 PG 119
PB 25 PG 114

JARED W. TERRY & WIFE
SUSAN D. TERRY
DB 2535 PG 2302
PB 25 PG 114

PREMIER STORES
DB 2954 PG 19
PB 25 PG 114

BEGIN APPROACH SLAB
-Y5A- POT STA.66+83.52
CONSTRUCTED UNDER
TIP PROJECT U-2579G

END BRIDGE
-Y5A- POT STA.67+07.01
CONSTRUCTED UNDER
TIP PROJECT U-2579G

END APPROACH SLAB
-Y5A- POT STA.69+47.75
CONSTRUCTED UNDER
TIP PROJECT U-2579G

END BRIDGE
-Y5A- POT STA.69+24.26
CONSTRUCTED UNDER
TIP PROJECT U-2579G

-BY16-550
-BY15-420
-BY17-559
-BY15-542
-BY15B-422

-Y4- POT STA.129+64.57
-Y5A- POT STA.68+06.51

TOE PROTECTION W/ CLASS "B" RIPRAP
EST 149 TONS
EST 401 SY FF
SEE DETAIL#6

CLASS 'B' RIP RAP
EST 2 TONS
EST 7 SY FF

CLASS 'B' RIP RAP
EST 8 TONS
EST 21 SY FF

END MSE WALL
BEG NOISE WALL -NWY42-

END W.W.FENCE
TIE TO EXISTING
-Y4- STA.129+50.00

PROP NOISE WALL
-NWY42-

PAVE TO BARRIER FACE

FULL DEPTH PAVEMENT (CONSTRUCTED UNDER TIP PROJECT U-2579G)

OBLITERATE AND GRADE TO DRAIN

REMOVE FES 24" RCP

CONVERT JB W/MH TO 2GI W/FLAT GRATE

REMOVE +/-20' 15" RCP

REMOVE COLLAR

RETAIN

REMOVE

GUARDRAIL TO BE RESET

RETAIN AND EXTEND

SHOULDER BERM GUTTER

END W.W.FENCE

BEGIN W.W.FENCE

TYPE B-77

2GI W/ FLAT GRATE

2GI NARROW SLOT W/FLAT GRATE

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

END BRIDGE TO 70+17 -Y5A- LT

END W.W.FENCE TIE TO EXISTING

1000' FULL LANE

Conv. OTCB To 2GI

I-40 BUS EAST US 421 SOUTH 24' EST

I-40 BUS WEST US 421 NORTH 24' EST

N 85° 33' 45.8" W

N 44° 06' 33" W

S 36° 55' 34.8" E

PC Sta.18+93.77

-Y6- PT Sta. 23+45.62

PI Sta 21+34.27

MATCHLINE -Y6- STA 18+30 SHEET 31

MATCHLINE -Y5A- STA 73+00 SHEET 31 (CONSTRUCTED UNDER TIP PROJECT U-2579G)

DUE PERAMENT DRAINAGE/UTILITY EASEMENT TO BE PURCHASED UNDER TIP PROJECT U-2579G

PDE PERAMENT DRAINAGE EASEMENT TO BE PURCHASED UNDER TIP PROJECT U-2579G

RIGHT OF WAY TO BE PURCHASED UNDER TIP PROJECT U-2579G

PARCELS IMPACTED UNDER TIP PROJECT U-2579G

DRAINAGE TO BE CONSTRUCTED UNDER TIP PROJECT U-2579G

TO BE CONSTRUCTED UNDER TIP PROJECT U-2579G (GRADING, PAVING, DRAINAGE, & STRUCTURE)

PAVED SHOULDER

PAVEMENT TO BE OBLITERATED

NOTE :
FOR -Y4EB- PROFILE, SEE SHEET 53-54
FOR -Y4WB- PROFILE, SEE SHEET 58-59
FOR -Y5A- PROFILE, SEE SHEET 83-84
FOR -Y6- PROFILE, SEE SHEET 89
FOR TIP PROJECT U-2579G, SEE U-2579G PLAN SHEET 5

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RSELLERS

PROJECT REFERENCE NO.	SHEET NO.
U-2579B	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

MATCHLINE -Y4- STA.137+32 SHEET 29

MATCHLINE -Y4- STA.137+32 SHEET 29

GERALD W. MCGEE
DB 1297 PG 570
PB 25 PG 114

MACK D. WILLIAMS & WIFE
JENNIFER WILLIAMS
DB 1151 PG 1549
PB 25 PG 114

FRANK J. PERRY JR. & WIFE
CAROL PERRY
DB 1314 PG 1159
PB 25 PG 114

TOMMY MILLS GUNN & WIFE
PEGGY PAULINE GUNN
DB 1710 PG 960
PB 25 PG 114

NORMAN G. MORRELL & WIFE
LINDA M. MORRELL
DB 2017 PG 741
PB 25 PG 114

CITY OF WINSTON-SALEM
NO DB REFERENCE
UNRECORDED MAP FOR
CITY OF WINSTON SALEM, N.C.
SHOWING SALEM WATER SHED

THE FORSYTH COUNTY BOARD OF EDUCATION

-BY16- PINC 128+79.75 =
-Y4- STA. 139+04.09, 2.45 LT.

-BY16- POT 129+65.46 =

-Y4EB- POT Sta. 150+22.89

-Y4WB- POT Sta. 150+22.89

-BY16-551

1.5:1 FILL SLOPES W/ROCK PLATING STA 139+00 TO 140+00 -Y4- LT

1.5:1 FILL SLOPES W/ROCK PLATING STA 140+00 TO 142+00 -Y4- LT

1.5:1 FILL SLOPES W/ROCK PLATING STA 142+00 TO 142+50 -Y4- LT

15" CSP W/2 ELBOWS AND ROD AND LUG CONNECTORS

CLASS 'B' RIP RAP EST 2 TONS EST 7 SY FF

PROP NOISE WALL -NWY42-

END NOISE WALL -NWY42- PAVE TO BARRIER FACE

PAVE TO BARRIER FACE

120' TAPER TO EXIST

30:1 TAPER

-NWY42-

-Y4EB-

-Y4WB-

N 85° 33' 45.8" W

Conv. OTCB to 2GI

REMOVE 8ft OF EXIST. 18" CMP

50:1 TRANSITION PROP. GUARDRAIL TIE TO EXISTING

18" CSP

ELBOW

DAYLIGHT

CLASS 'B' RIP RAP EST. 3 TONS

TAIL DITCH SEE DETAIL#8 EST. DDE 25CY

CLASS 'B' RIP RAP EST 3 TONS EST 10 SY FF

LATERAL 'V' DITCH W/CLASS 'B' RIP RAP EST. 156 TONS W/386 SY FF SEE DETAIL#14

300' TAPER

RETAIN AND EXTEND

GRAU-350

END GRADE
-Y4EB-POT Sta. 143+00.00

BEGIN 3" OVERLAY
-Y4WB-POT Sta. 143+00.00

-Y4EB-POT Sta. 148+00.00
-Y4WB-POT Sta. 148+00.00

END CONSTRUCTION
END 3" OVERLAY

NO DB REFERENCE
UNRECORDED MAP FOR
CITY OF WINSTON SALEM, N.C.
SHOWING SALEM WATER SHED

CITY OF WINSTON-SALEM 205

TOWN OF KERNERSVILLE
CITY OF WINSTON-SALEM

348.71'
S 14°28'13" W

DETAIL #8
STANDARD BASE DITCH
(Not to Scale)

Natural Ground 2:1 D 2:1 Natural Ground
Min. D= 2 Ft.
B= 2 Ft.
B

FROM STA. 140+48 TO 141+20 -Y4- RT

DETAIL #14
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground 2:1 d1 D 2:1 b 1':Ft. Fill Slope
Filter Fabric
Min. D= 2 Ft.
Max. d= 2 Ft.
b= 5 Ft.
Type of Liner= Class 'B' Rip-Rap

FROM STA 138+00 TO 140+50 -Y4- RT

PAVED SHOULDER

NOTE :
1. FOR -Y4EB- PROFILE, SEE SHEET 54
2. FOR -Y4WB- PROFILE, SEE SHEET 59

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	31
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y6-
PI Sta 13+91.60
△ = 71° 04' 40.0" (RT)
D = 11° 48' 48.8"
L = 601.66'
T = 346.44'
R = 485.00'
SE = 06
RO = SEE PLANS

-Y5A-
PI Sta 77+45.60
△ = 8° 32' 22.4" (RT)
D = 1° 28' 22.4"
L = 579.78'
T = 290.43'
R = 3,890.00'
SE = 03
RO = SEE PLANS

-BYI7-561

-Y6- PT Sta. 16+46.82

MATCHLINE -Y6- STA. 18+30 SHEET 29 (CONSTRUCTED UNDER TIP PROJECT U-2579B)

MATCHLINE -Y5A- STA. 73+00 SHEET 29 (CONSTRUCTED UNDER TIP PROJECT U-2579G)

-BYI7-560

-Y6- PC Sta. 10+45.15

-Y5A- PT Sta. 80+34.95

END CONSTRUCTION (TIP PROJECT U-2579G) -Y5A- STA. 81+25.00

-Y5A- POC STA.77+61.41 = -Y6- POT STA.10+00.00

N 71° 59' 45.2" E

N 35° 34' 11.3" W

N 44° 06' 33.7" W

S 36° 55' 34.8" E

S 36°05'25" E 209.58'

N 53°51'01" E 203.96'

S 53°54'36" W 184.70'

N 53°38'40" E 196.81'

S 53°51'01" W 203.96'

N 53°51'01" E 203.96'

S 53°54'36" W 184.70'

N 53°38'40" E 196.81'

-Y6- STA. 17+25.77 CONSTRUCTED UNDER (TIP PROJECT U-2579G) ◄	-Y6- STA. 17+25.77 CONSTRUCTED UNDER (TIP PROJECT U-2579B) ►

205 Purchased Under U-2579G
CITY OF WINSTON-SALEM
DB 2183 PG 3156

204 Purchased Under U-2579G
MELVIN LEE SWISHER
JAMES LAWRENCE SWISHER
DB 3093 PG 3506
PB 22 PG 84

206 Purchased Under U-2579G
RPP DIVERSIFIED INC.
DB 3095 PG 0068
PB 22 PG 84

202 Purchased Under U-2579G
TIMOTHY A. MONTGOMERY
CINDY B. MONTGOMERY
DB 3085 PG 4335
PB 22 PG 84

203 Purchased Under U-2579G
CHRISTOPHER DECOSKEY
CARLA J. DEOSKEY
DB 2838 PG 877

MELVIN LEE SWISHER
JAMES LAWRENCE SWISHER
DB 3093 PG 3506
PB 22 PG 84

REVISE FILL SLOPE TO 4:1 STA. 80+00 TO 80+50 -Y5A- RT

100' TAPER TO EXIST. RT. & LT. SIDE

ELIMINATE CUT DITCH STA. 79+50 -Y5A- RT

OBLITERATE AND GRADE TO DRAIN

NO DB REFERENCE UNRECORDED MAP FOR -Y5A- CITY OF WINSTON SALEM, N.C. SHOWING SALEM WATERSHED CITY OF WINSTON-SALEM

ENERGY DISSIPATOR BASIN # EST. CLASS I RIPRAP +/- 70 TONS EST. DDE +/- 80 CY EST. FF +/- 70 SY

FALSE CUT SEE DETAIL#1

DETAIL #1
FALSE CUT
(Not to Scale)
W
D
6:1
2:1
N.G.
Fill Slope
W = 5' Min.
Min. D = 2'
FROM STA. 78+50 TO 79+50 -Y5A- LT

2GI W/NARROW SLOTS

2GI-A W/ NARROW SLOTS

SEAT ELEVATIONS

WOODS

Sollom Creek

SR 2667 HASTINGS HILL RD

BRIDGE #201 20'-0" I.B. STEEL

30' TYPE UNKNOWN

100' SANITARY SEWER EASEMENT

DUE PERAMENT DRAINAGE/UTILITY EASEMENT TO BE PURCHASED UNDER TIP PROJECT U-2579G

PDE PERAMENT DRAINAGE EASEMENT TO BE PURCHASED UNDER TIP PROJECT U-2579G

RIGHT OF WAY TO BE PURCHASED UNDER TIP PROJECT U-2579G

PARCELS IMPACTED UNDER TIP PROJECT U-2579G

DRAINAGE TO BE CONSTRUCTED UNDER TIP PROJECT U-2579G

TO BE CONSTRUCTED UNDER TIP PROJECT U-2579G (GRADING, PAVING, DRAINAGE, & STRUCTURE)

PAVED SHOULDER

PAVEMENT TO BE OBLITERATED

NOTE :
FOR -Y5A- PROFILE, SEE SHEET 84-85
FOR -Y6- PROFILE, SEE SHEET 89
FOR TIP PROJECT U-2579G, SEE U-2579G PLAN SHEET 5-6

REVISIONS 8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-2579B	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS SECTION INDEX

	X-SECTION EARTHWORK SUMMARY	SHEET #
-L-RT	478 + 00.00 TO 692 + 00.00	1 - 148
-L-LT	478 + 00.00 TO 692 + 00.00	149 - 322
-Y1-	10 + 00.00 TO 54 + 00.00	323 - 344
-Y1RPA-	16 + 94.00 TO 30 + 50.00	345 - 355
-Y1RPD-	17 + 88.00 TO 31 + 99.00	356 - 364
-Y1LPA-	13 + 18.00 TO 18 + 50.00	365 - 369
-Y1LPD-	13 + 45.00 TO 18 + 60.00	370 - 374
-Y2-	10 + 00.00 TO 30 + 00.00	375 - 381
-Y4EB-	26 + 80.00 TO 149 + 00.00	382 - 448D
-Y4WB-	26 + 80.00 TO 149 + 00.00	449 - 519G
-Y4RPA-	15 + 24.00 TO 34 + 36.00	520 - 537
-Y4RPB-	15 + 04.00 TO 26 + 63.00	538 - 544
-Y4RPBD-	17 + 66.00 TO 80 + 12.00	544A - 577
-Y4RPC-	15 + 98.00 TO 30 + 55.00	578 - 585
-Y4RPD-	16 + 78.00 TO 28 + 02.00	586 - 590
-Y4LPA-	13 + 12.00 TO 21 + 34.00	591 - 597
-Y4LPB-	13 + 29.00 TO 18 + 85.00	598 - 601
-Y4LPD-	16 + 21.38 TO 20 + 00.00	602 - 604
-Y5-	14 + 50.00 TO 39 + 00.00	605 - 613
-Y5A-	51 + 00.00 TO 87 + 00.00	614 - 627
-Y6-	10 + 75.00 TO 22 + 25.00	628 - 633
-Y7-	10 + 00.00 TO 13 + 50.00	634 - 635
-Y1DET-	12 + 00.00 TO 46 + 00.00	636 - 651
-Y5DET-	10 + 00.00 TO 32 + 00.00	652 - 660
-Y2A-	13 + 00.00 TO 24 + 00	661 - 665
-Y3-	17 + 00.00 TO 28 + 00.00	666 - 669
-Y9-	10 + 00.00 TO 13 + 00.00	670 - 671
-DR5-	10 + 00.00 TO 22 + 96.07	672 - 675

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